Department of Energy

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

May 27, 2025

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

PPPO-02-10032946-25

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

Dear Mr. Anderson and Mr. Hendricks:

C-746-S&T LANDFILLS FIRST QUARTER CALENDAR YEAR 2025 (JANUARY–MARCH) COMPLIANCE MONITORING REPORT, PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, FRNP-RPT-0386/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 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 of the first quarter CY 2025 monitoring well (MW) data collected from the C-746-S&T Landfills were performed in accordance with Monitoring Condition GSTR0003, 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).

A statistically significant exceedance was indicated for calcium, conductivity, dissolved solids, sodium, and sulfate in MW373. These statistical exceedances are Type 2 Exceedances—Source Unknown. Continued evaluation of calcium, conductivity, dissolved solids, sodium, and sulfate levels through future quarterly monitoring events is recommended. 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 Digitally signed by APRIL LADD Date: 2025.05.27 10:11:25 -05'00'

April Ladd
Paducah Site Lead
Portsmouth/Paducah Project Office

Enclosure:
C-746-S&T Landfills First Quarter Calendar Year 2025 (January–March) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, FRNP-RPT-0386/V1

cc w/enclosure:
abigail.parish@pppo.gov, PPPO
angus.mackelvey@pppo.gov, PPPO
april.ladd@pppo.gov, PPPO
april.webb@ky.gov, KDEP
bruce.ford@pad.pppo.gov, FRNP
bryan.smith@pad.pppo.gov FRNP
dennis.greene@pad.pppo.gov, FRNP
frnpcorrespondence@pad.pppo.gov
jaime.morrow@pad.pppo.gov, FRNP
joel.bradburne@pppo.gov, PPPO
ken.davis@pad.pppo.gov, FRNP
leo.williamson@ky.gov, KDEP
mary.evans@ky.gov, KDEP
myrna.redfield@pad.pppo.gov, FRNP
pad.rmc@pad.pppo.gov
reinhard.knerr@pppo.gov, PPPO
ryan.callihan@pppo.gov, PPPO
sonja.smiley@ky.gov, KDEP
stephaniec.brock@ky.gov, KYRHB

cc: via KY eForms portal:
danny.anderson@ky.gov, KDEP
lauren.linehan@ky.gov, KDEP
teresa.osborne@ky.gov, KDEP
todd.hendricks@ky.gov, KDEP

FRNP-RPT-0386/V1

C-746-S&T Landfills
First Quarter Calendar Year 2025
(January–March)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky

FOUR RIVERS
NUCLEAR PARTNERSHIP, LLC

CLEARED FOR PUBLIC RELEASE

FRNP-RPT-0386/V1

C-746-S&T Landfills
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

CLEARED FOR PUBLIC RELEASE

THIS PAGE INTENTIONALLY LEFT BLANK

CONTENTS

FIGURES

TABLES

THIS PAGE INTENTIONALLY LEFT BLANK

ACRONYMS

CFR	*Code of Federal Regulations*
KAR	*Kentucky Administrative Regulations*
KRS	*Kentucky Revised Statutes*
LEL	lower explosive limit
LRGA	Lower Regional Gravel Aquifer
LTL	lower tolerance limit
MCL	maximum contaminant level
MW	monitoring well
RGA	Regional Gravel Aquifer
UCRS	Upper Continental Recharge System
URGA	Upper Regional Gravel Aquifer
UTL	upper tolerance limit

THIS PAGE INTENTIONALLY LEFT BLANK

1. INTRODUCTION

This report, *C-746-S&T Landfills First Quarter Calendar Year 2025 (January–March) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky,* is being submitted in accordance with Solid Waste Landfill 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 that 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 and for all permit required parameters listed in 40 *CFR* § 302.4, Appendix A, 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 exceedances of the MCL and historical UTL that have occurred since the fourth quarter calendar year 2002. Methane monitoring results are documented on the approved C-746-S&T Landfills Methane Monitoring Report form provided in Appendix H. The form includes pertinent remarks/observations as required by 401 *KAR* 48:090 § 5. Surface water results 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-S&T Landfills are closed, solid waste landfills located north of the Paducah Site and south of the C-746-U Landfill. Construction and operation of the C-746-S Residential Landfill were permitted in April 1981 under Solid Waste Landfill Permit No. 073-00014. The permitted C-746-S Landfill area covers about 16 acres and contains a clay liner with a final cover of compacted soil. The C-746-S Landfill was a sanitary landfill for the Paducah Gaseous Diffusion Plant operations. The C-746-S Landfill is closed and has been inactive since July 1995.

Construction and operation of the C-746-T Inert Landfill were permitted in February 1985 under Solid Waste Landfill Permit No. 073-00015. The permitted C-746-T Landfill area covers about 20 acres and contains a clay liner with a final cover of compacted soil. The C-746-T Landfill was used to dispose of construction debris (e.g., concrete, wood, rock) and steam plant fly ash from the Paducah Gaseous Diffusion Plant operations. The C-746-T Landfill is closed and has been inactive since June 1992.

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 23 monitoring wells (MWs) under permit for the C-746-S&T Landfills: 5 UCRS wells, 11 URGA wells, and 7 LRGA wells. A map of the MW locations is presented in Figure 1. All MWs listed on the permit were sampled this quarter, except MW389 (screened in the UCRS), which had insufficient amounts of water to obtain samples.

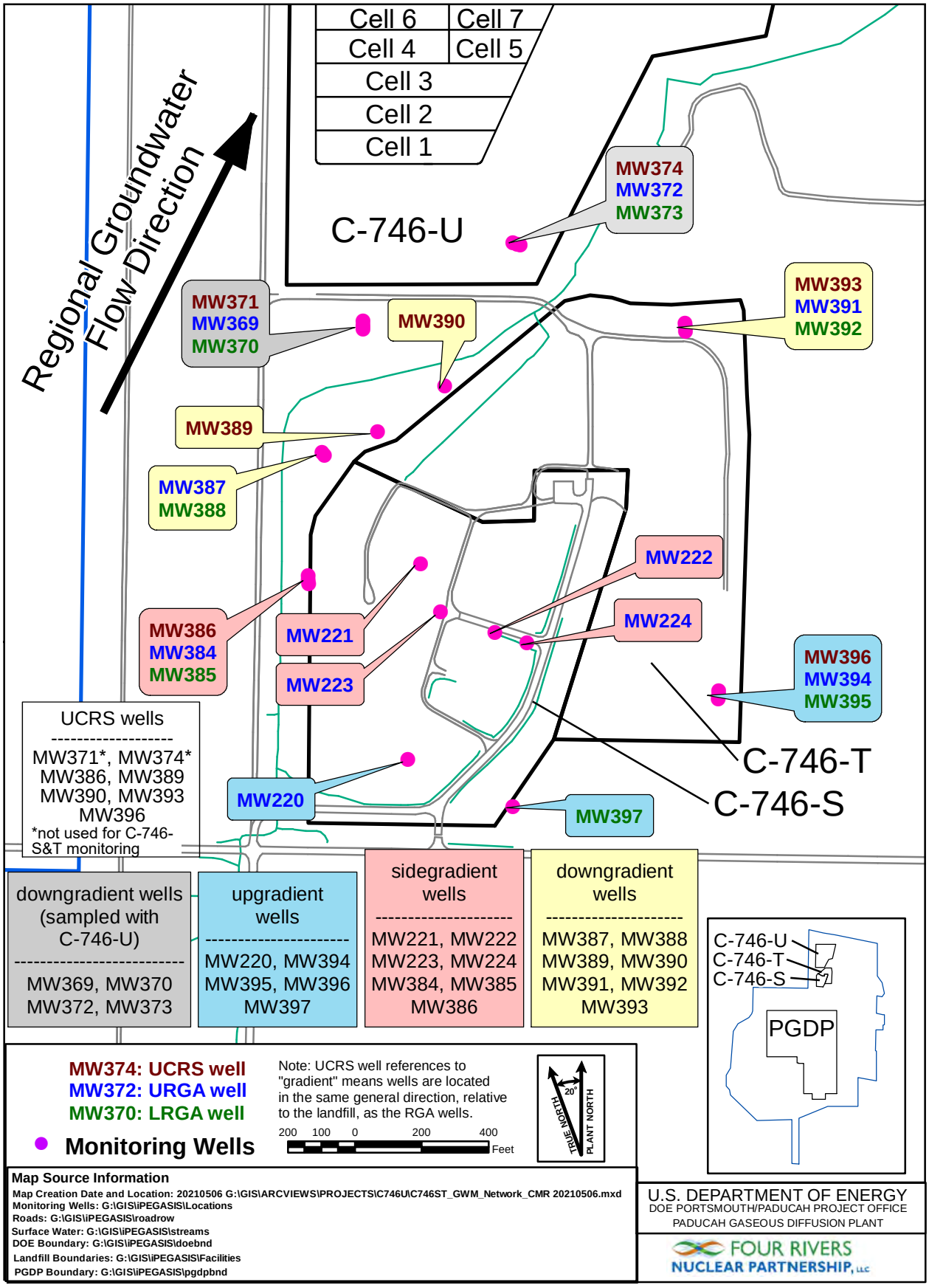


Figure 1. C-746-S&T Landfills Groundwater Monitoring Well Network

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,* PAD-PROJ-0139 (Groundwater Monitoring Plan), UCRS wells are included in the monitoring program (LATA Kentucky 2014). Groundwater flow gradients are downward through the UCRS, but the underlying Regional Gravel Aquifer (RGA) flows laterally. Groundwater flow in the RGA is typically in a north-northeasterly direction in the vicinity of the C-746-S&T Landfills. 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 (for background), 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 28–30, 2025. The analytical laboratory used U.S. Environmental Protection Agency-approved methods, as applicable. The parameters specified in Permit Condition GSTR0003, Special Condition 3, 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-S&T Landfills (see Appendix E, Table E.1); in MWs of the C-746-U Landfill; and in MWs of the surrounding region (shown on Appendix E, Figure E.3). 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 was directed inward and then north towards the Ohio River. The hydraulic gradient for the RGA in the vicinity of the C-746-S&T Landfills in January 2025 was 3.16×10^{-4} ft/ft, while the gradient beneath the C-746-S&T Landfills was approximately 3.81×10^{-4} ft/ft (see Appendix E, Table E.2). Calculated groundwater flow rates (average linear velocities) for the RGA at the C-746-S&T Landfills ranged from 6.47×10^{-1} to 1.10 ft/day (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 Solid Waste Landfill Permit. Industrial Hygiene staff monitored for the occurrence of methane in one on-site building location, four locations along the landfill boundary, and 27 passive gas vents located in Cells 1, 2, and 3 of the C-746-S Landfill 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-S&T Landfills Methane Monitoring Report provided in Appendix H.

1.2.3 Surface Water Monitoring

Surface water sampling was performed on January 31, 2025, at the three locations monitored for the C-746-S&T Landfills: (1) upstream location L135, (2) instream location L154, and (3) instream location L136 (Figure 2). Surface water was monitored, as specified in 401 *KAR* 48:300 § 2, 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 results are provided in Appendix I.

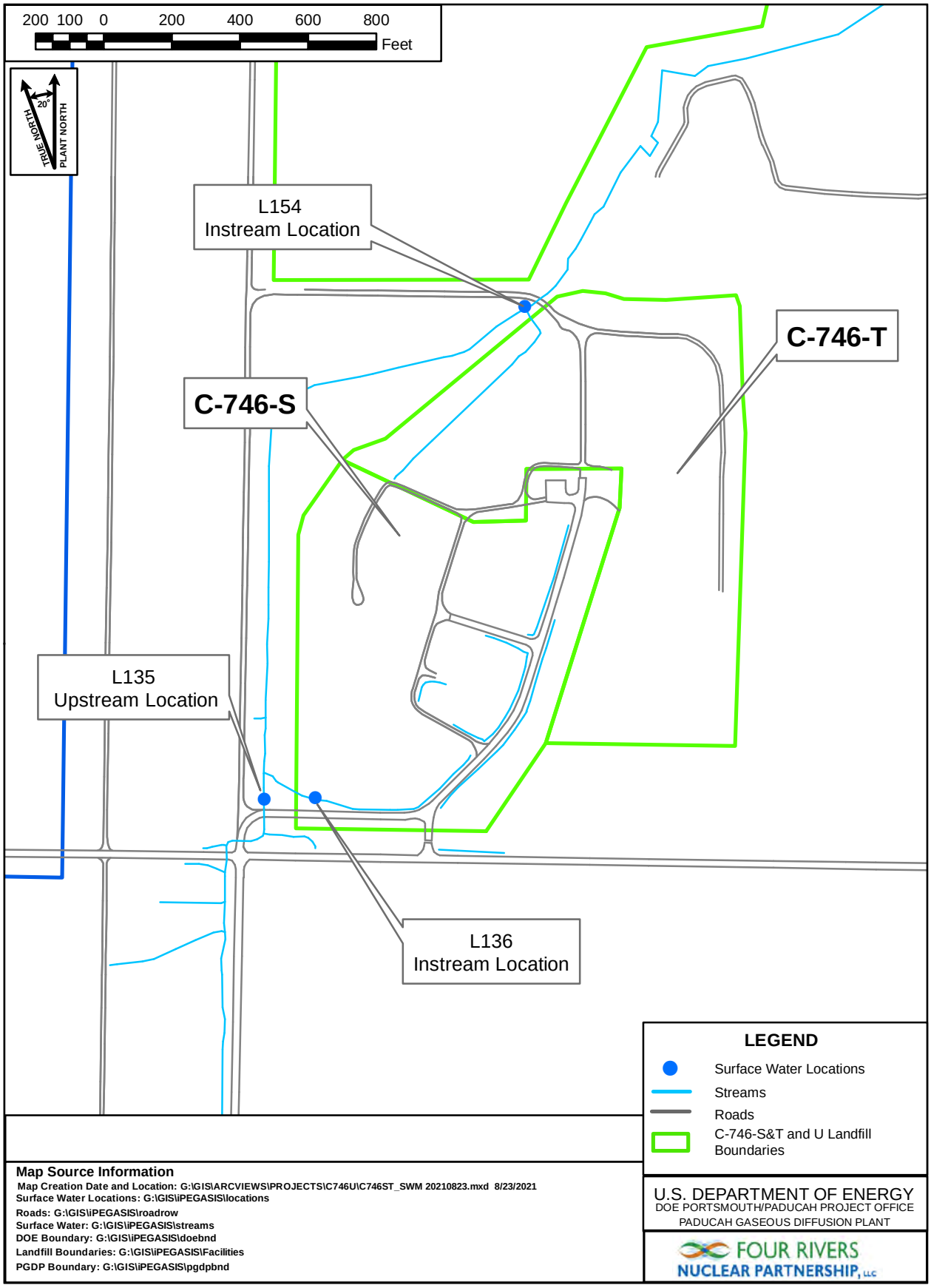


Figure 2. C-746-S&T Landfill Surface Water Monitoring Locations

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. MCL exceedances are listed in Table 1. Those constituents that exceeded their respective MCL were evaluated further against their historical background UTL. Table 2 identifies parameters that have concentrations that exceeded the statistically derived historical background UTL during the first quarter 2025.[1] 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 designated as background wells (Table 3).

Table 1. Summary of MCL Exceedances

UCRS	URGA	LRGA
None	MW387: Beta Activity	None

The notification of parameters that exceeded the MCL has been submitted electronically to the Kentucky Division of Waste Management, in accordance with 401 *KAR* 48:300 § 7, prior to the submittal of this report.

The constituents that exceeded their MCL were subjected to a comparison against the UTL concentrations calculated using historical concentrations from wells identified as background. In accordance with the approved groundwater monitoring plan (LATA Kentucky 2014), the MCL exceedance for beta activity in downgradient well MW387 exceeds the historical background concentration and is further compared to the current background UTL.

Table 2. Exceedances of Statistically Derived Historical Background Concentrations

UCRS[a]	URGA	LRGA
MW386: Oxidation-reduction potential[b]	MW220: Oxidation-reduction potential[b] and sulfate	MW370: Oxidation-reduction potential[b] and sulfate
MW390: Oxidation-reduction potential[b] and technetium-99	MW221: Oxidation-reduction potential[b]	MW373: Calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential,[b] sodium, and sulfate
MW393: Oxidation-reduction potential[b]	MW222: Oxidation-reduction potential[b]	MW385: Oxidation-reduction potential,[b] sulfate, and technetium-99
MW396: Oxidation-reduction potential[b]	MW223: Oxidation-reduction potential[b]	MW388: Conductivity, oxidation-reduction potential,[b] sulfate, and technetium-99
	MW224: Oxidation-reduction potential,[b] sodium, and sulfate	MW392: Oxidation-reduction potential[b]
	MW369: Oxidation-reduction potential[b] and technetium-99	MW395: Oxidation-reduction potential[b]

[1] The UTL comparison for pH uses a two-sided test, both UTL and LTL.

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

UCRS[a]	URGA	LRGA
	MW372: Calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential,[b] sodium, and sulfate	MW397: Oxidation-reduction potential[b] and sodium
	MW384: Oxidation-reduction potential,[b] sulfate, and technetium-99	
	MW387: Beta activity, magnesium, oxidation-reduction potential,[b] sulfate, and technetium-99	

[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: MW221, MW222, MW223, MW224, MW384, MW385, and MW386.
Downgradient wells: MW369, MW370, MW372, MW373, MW387, MW388, MW389, MW390, MW391, MW392, and MW393.
Background wells: MW220, MW394, MW395, MW396, and MW397.

Table 3. Exceedances of Current Background UTL in Downgradient Wells

URGA	LRGA
MW369: Technetium-99	MW370: Sulfate
MW372: Calcium, conductivity, dissolved solids, magnesium, sodium, and sulfate	MW373: Calcium, conductivity, dissolved solids, magnesium, sodium, and sulfate
MW387: Beta activity, magnesium, sulfate, and technetium-99	MW388: Conductivity, sulfate, and technetium-99

This report serves as the notification of parameters that had statistically significant increased concentrations relative to historical background concentrations, as required by Permit No. SW07300014, SW07300015, SW07300045, Condition GSTR0003, Standard Requirement 5, and 401 *KAR* 48:300 § 7.

The constituents listed in Table 2 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 to identify if the current downgradient well concentrations are consistent with current background values. The current background UTL was developed using the most recent eight quarters of data from wells identified as background wells. Table 3 summarizes the evaluation against current background UTL for those constituents present in downgradient wells with historical UTL exceedances. In accordance with the approved Groundwater Monitoring Plan (LATA Kentucky 2014), constituents in downgradient wells that exceed the historical UTL, but do not exceed the current UTL, are considered not to have a C-746-S&T Landfills source; therefore, they are Type 1 exceedances—not attributable to the C-746-S&T Landfills.

The constituents listed in Table 3 that exceed both the historical UTL and the current UTL and do not have an identified source are considered preliminarily to be Type 2 exceedances, per the approved Groundwater Monitoring Plan (LATA Kentucky 2014). To evaluate these preliminary Type 2 exceedances further, the parameters were subjected to the Mann-Kendall statistical test for trend using the most recent eight quarters of data. The results are summarized in Table 4. Sixteen of the 21 preliminary Type 2 exceedances in downgradient wells do not have increasing trends and are considered to be Type 1 exceedances—not attributable to the C-746-S&T Landfills.

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

Location	Well ID	Parameter	Sample Size	Alpha[a]	p-Value[b]	S[c]	Decision
C-746-S&T Landfills	MW369	Technetium-99	8	0.05	0.274	6	No Trend
	MW370	Sulfate	8	0.05	0.36	5	No Trend
	MW372	Calcium	8	0.05	0.089	12	No Trend
		Conductivity	8	0.05	0.119	9	No Trend
		Dissolved Solids	8	0.05	0.089	12	No Trend
		Magnesium	8	0.05	0.274	6	No Trend
		Sodium	8	0.05	0.138	11	No Trend
		Sulfate	8	0.05	0.452	2	No Trend
	MW373	Calcium	8	0.05	0.007	20	Increasing
		Conductivity	8	0.05	0.002	22	Increasing
		Dissolved Solids	8	0.05	0.001	24	Increasing
		Magnesium	8	0.05	0.054	15	No Trend
		Sodium	8	0.05	0.002	22	Increasing
		Sulfate	8	0.05	0.007	20	Increasing
	MW387	Beta Activity	8	0.05	0.089	12	No Trend
		Magnesium	8	0.05	0.452	-3	No Trend
		Sulfate	8	0.05	0.119	-9	No Trend
		Technetium-99	8	0.05	0.452	2	No Trend
	MW388	Conductivity	8	0.05	0.138	10	No Trend
		Sulfate	8	0.05	0.274	-6	No Trend
		Technetium-99	8	0.05	0.274	-6	No Trend

[a] An alpha of 0.05 represents a 95% confidence interval.
[b] The p-value represents the risk of acceptance of 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 (i.e., 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.
NOTE: Statistics were generated using ProUCL.

Five of the 21 preliminary Type 2 exceedances in downgradient wells had an increasing trend. Specifically, the Mann-Kendall statistical test indicates increasing trends for calcium, conductivity, dissolved solids, sodium, and sulfate in LRGA well MW373. It should be noted that over the past eight quarters concentrations of calcium, conductivity, dissolved solids, sodium, and sulfate in URGA well MW372 are consistently lower than those shown in collocated LRGA well MW373. Since calcium, conductivity, dissolved solids, sodium, and sulfate concentrations are lower in the shallower screened well at this location, the C-746-S&T Landfills are likely not the source of the concentrations observed in the deeper screened well. Therefore, the observed trends in MW373 should be considered Type 2 exceedances—sources undetermined. Evaluation of calcium, conductivity, dissolved solids, sodium, and sulfate trends through future quarterly monitoring events is recommended.

In accordance with Permit Condition GSTR0003, Special Condition 2, of the Solid Waste Landfill Permit, the groundwater assessment and corrective action requirements of 401 *KAR* 48:300 § 8 shall not apply to

the C-746-S Residential Landfill and the C-746-T Inert Landfill. This variance in the permit provides that groundwater assessment and corrective actions for these landfills will be conducted in accordance with the corrective action requirements of 401 *KAR* 39:090.

The statistical evaluation of UCRS concentrations against the current UCRS background UTL identified one downgradient UCRS well exceeding both the historical and current backgrounds (Table 5).

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

UCRS
MW390: Technetium-99

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

All MCL and UTL exceedances reported for this quarter, except for calcium, conductivity, dissolved solids, sodium, and sulfate in MW373, were evaluated and considered to be Type 1 exceedances—not attributable to the C-746-S&T Landfills.

THIS PAGE INTENTIONALLY LEFT BLANK

2. DATA EVALUATION/STATISTICAL SYNOPSIS

The statistical analyses conducted on the first quarter 2025 groundwater data collected from the C-746-S&T Landfill MWs were performed in accordance with the Groundwater Monitoring Plan (LATA Kentucky 2014). The statistical analyses for this report utilize data from the first eight quarters that were sampled for each parameter, beginning with the first two 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).

For those parameters that exceed the MCL for Kentucky solid waste facilities found in 401 *KAR* 47:030 § 6, exceedances are documented and evaluated further as follows. Exceedances are reviewed against historical background results (UTL). If the MCL exceedance is found not to exceed the historical UTL, the exceedance is noted as a Type 1 exceedance—an exceedance not attributable to the landfills. If there is an exceedance of the MCL in a downgradient well and this constituent also exceeds the historical background, the quarterly result is compared to the current background UTL (developed using the most recent eight quarters of data from wells identified as downgradient wells) to identify if this exceedance is attributable to upgradient/non-landfill sources. If the downgradient well concentration is less than the current background, the exceedance is noted as a Type 1 exceedance. If a constituent exceeds its Kentucky solid waste facility MCL, historical background UTL, and current background UTL, it is reported as a Type 2 exceedance—source undetermined. Type 2 exceedances (undetermined source) are further evaluated using the Mann-Kendall test for trend. If there is not a statistically significant increasing trend for a constituent in a downgradient well, the exceedance is reclassified as a Type 1 exceedance—not attributable to the landfills.

For those parameters that do not have a Kentucky solid waste facility MCL, the same process is used. If a constituent without an MCL exceeds its historical background UTL and its current background UTL, it is evaluated further to identify the source of the exceedance, if possible. If the source of the exceedance cannot be identified, it is reported as a Type 2 exceedance—source undetermined. Type 2 exceedances (undetermined source) are further evaluated using the Mann-Kendall test for trend. If there is not a statistically significant increasing trend for a constituent in a downgradient well, the exceedance is reclassified as a Type 1 exceedance—not attributable to the landfills.

To calculate the UTL, the data are divided into censored (nondetects) and uncensored (detected) observations. The one-sided tolerance interval statistical test is conducted only on parameters that have at least one uncensored observation. Results of the one-sided tolerance interval statistical test are used to determine whether the data show 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 is conducted. The test well results are compared to both the UTL and LTL to determine if statistically significant deviations in concentrations exist 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
MW386	MW220 (background)	MW370
MW389[b]	MW221	MW373
MW390	MW222	MW385
MW393	MW223	MW388
MW396[c]	MW224	MW392
	MW369	MW395 (background)
	MW372	MW397 (background)
	MW384	
	MW387	
	MW391	
	MW394 (background)	

[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 background.

2.1 STATISTICAL ANALYSIS OF GROUNDWATER DATA

Parameters requiring statistical analysis are summarized in Appendix D for each hydrological 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 exceedances 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 background in order to determine if the current downgradient well concentrations are consistent with current background values. Table 3 summarizes the constituents present in downgradient wells with historical UTL exceedances that are above the current UTL. Those constituents that have exceeded both the historical and current background UTLs in downgradient wells were further evaluated for increasing trends and are listed in Table 4.

2.1.1 Upper Continental Recharge System

In this quarter, 25 parameters, including those with MCLs, required statistical analysis in the UCRS. During the first quarter, oxidation-reduction potential and technetium-99 concentrations exceeded the respective historical UTL and are listed in Table 2. Technetium-99 exceeded the current background UTL in downgradient UCRS well MW390 and is shown in Table 5.

2.1.2 Upper Regional Gravel Aquifer

In this quarter, 25 parameters, including those with MCLs, required statistical analysis in the URGA. During the first quarter, beta activity, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99 displayed concentrations that exceeded their respective historical UTLs and are listed in Table 2. Beta activity, calcium, conductivity, dissolved solids, magnesium, sodium, sulfate, and technetium-99 exceeded the current background UTL in downgradient URGA wells and are included in Table 3.

2.1.3 Lower Regional Gravel Aquifer

In this quarter, 25 parameters, including those with MCLs, required statistical analysis in the LRGA. During the first quarter, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99 displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. Calcium, conductivity, dissolved solids, magnesium, sodium, sulfate, and technetium-99 exceeded the current background UTL in downgradient wells and are included in Table 3.

2.2 DATA VERIFICATION AND VALIDATION

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

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

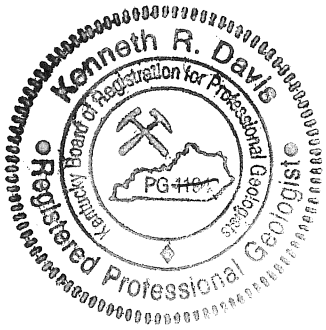
Data verification and validation results for this data set indicated that all data were considered usable.

THIS PAGE INTENTIONALLY LEFT BLANK

3. PROFESSIONAL GEOLOGIST AUTHORIZATION

DOCUMENT IDENTIFICATION: *C-746-S&T Landfills First Quarter Calendar Year 2025 (January–March) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (FRNP-RPT-0386/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

THIS PAGE INTENTIONALLY LEFT BLANK

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.

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.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

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

THIS PAGE INTENTIONALLY LEFT BLANK

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 (As officially shown on DWM Permit Face)

Activity: C-746-S&T Landfills

Permit No: SW07300014, SW07300015, SW07300045

Finds/Unit No: _____

Quarter & Year: 1st Qtr. CY 2025

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 Statues 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

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B

FACILITY INFORMATION SHEET

THIS PAGE INTENTIONALLY LEFT BLANK

FACILITY INFORMATION SHEET

Sampling Date: Groundwater: January 2025; Methane: January 2025; Surface Water: 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 (Street) | Kevil, Kentucky (City/State) | 42053 (Zip)

Phone No: (270) 441-6800 | Latitude: N 37° 07' 37.70" | Longitude: W 88° 47' 55.41"

OWNER INFORMATION

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

Contact Person: Bruce Ford | Phone No: (270) 441-5357

Contact Person Title: Director, Environmental Services, Four Rivers Nuclear Partnership, LLC

Mailing Address: 5511 Hobbs Road (Street) | Kevil, Kentucky (City/State) | 42053 (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 (Street) | Kevil, Kentucky (City/State) | 42053 (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 (Street) | Charleston, South Carolina (City/State) | 29407 (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

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C

GROUNDWATER SAMPLE ANALYSES AND LABORATORY REPORTS

THIS PAGE INTENTIONALLY LEFT BLANK

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW220 UP **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8000-5201 **SAMPLE ID:** MW220SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	J	0.197	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	16.5	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.217	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.934	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		19.1	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		463	µmhos/cm		1/29/2025				X
Depth to Water		58.28	ft		1/29/2025				X
Dissolved Oxygen		5.36	mg/L		1/29/2025				X
Eh (approx)		439.4	mV		1/29/2025				X
pH		5.98	Std Unit		1/29/2025				X
Temperature		60.6	deg F		1/29/2025				X
Turbidity		1.26	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.204	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron	J	0.00658	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		24	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	J	0.00575	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.000984	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		9.82	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	J	0.000824	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel		0.00572	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		2.18	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	J	0.0016	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		41.2	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	J	0.00471	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.209	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	J	0.00579	mg/L	0.01	1/29/2025			SW846-6020B	J
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.771	pCi/L	1.39	1/29/2025	1.12	1.12	AN-1418	=

Strontium-90	U	-0.307	pCi/L	3.55	1/29/2025	1.9	1.9	EPA-905.0-M	=
Tritium	U	-43.8	pCi/L	172	1/29/2025	90.8	90.8	EPA-906.0-M	=
Technetium-99	U	8.02	pCi/L	19	1/29/2025	11.2	11.3	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.292	pCi/L	1.91	1/29/2025	0.999	1	HASL 300, Th-01-RC M	=
Alpha activity	U	3.36	pCi/L	5.03	1/29/2025	3.45	3.5	SW846-9310	=
Beta activity		9.86	pCi/L	8.93	1/29/2025	5.98	6.2	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0193	ug/L	0.0193	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids	B	205	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	HJ	4.84	ug/L	10	1/29/2025	SW846-9020B	J
Total Organic Carbon (TOC)	J	0.595	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW221 SIDE **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8000-5202 **SAMPLE ID:** MW221SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.421	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	33	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.216	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.88	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		15.2	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30	Inches/Hg		1/29/2025				X
Conductivity		494	µmhos/cm		1/29/2025				X
Depth to Water		67.83	ft		1/29/2025				X
Dissolved Oxygen		5.24	mg/L		1/29/2025				X
Eh (approx)		477.2	mV		1/29/2025				X
pH		5.72	Std Unit		1/29/2025				X
Temperature		55.9	deg F		1/29/2025				X
Turbidity		1.46	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.213	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0211	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		21.9	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	J	0.00409	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	J	0.000396	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00129	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		9.4	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	J	0.00322	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum		0.00402	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel		0.02	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		7.24	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		47.3	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	J	0.00336	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.216	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	J	0.00367	mg/L	0.01	1/29/2025			SW846-6020B	J
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.213	pCi/L	0.442	1/29/2025	0.296	0.297	AN-1418	=

Strontium-90	U	-1.26	pCi/L	2.56	1/29/2025	1.24	1.24	EPA-905.0-M	UJ
Tritium	U	77.6	pCi/L	172	1/29/2025	101	102	EPA-906.0-M	=
Technetium-99	U	8.82	pCi/L	19.3	1/29/2025	11.4	11.5	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.336	pCi/L	1.87	1/29/2025	0.995	0.999	HASL 300, Th-01-RC M	=
Alpha activity	U	1.12	pCi/L	6.78	1/29/2025	3.34	3.35	SW846-9310	=
Beta activity		11.4	pCi/L	10.6	1/29/2025	6.98	7.23	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0187	ug/L	0.0187	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids	B	218	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	HJ	5.1	ug/L	10	1/29/2025	SW846-9020B	J
Total Organic Carbon (TOC)	J	0.572	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW222 SIDE **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8000-5242 **SAMPLE ID:** MW222SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.4	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	32.9	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.247	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.852	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		12.9	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/29/2025				X
Conductivity		484	µmhos/cm		1/29/2025				X
Depth to Water		71.65	ft		1/29/2025				X
Dissolved Oxygen		4.44	mg/L		1/29/2025				X
Eh (approx)		426.3	mV		1/29/2025				X
pH		5.96	Std Unit		1/29/2025				X
Temperature		60.3	deg F		1/29/2025				X
Turbidity		1.05	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.287	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron	J	0.00873	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		22.6	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium		0.0111	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt		0.00128	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00139	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0543	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		9.41	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese		0.0186	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum		0.00637	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel		0.14	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		0.735	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		45.9	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	J	0.00471	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.281	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	J	0.00339	mg/L	0.01	1/29/2025			SW846-6020B	J
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.247	pCi/L	0.646	1/29/2025	0.431	0.431	AN-1418	=

Strontium-90	U	0.134	pCi/L	2.47	1/29/2025	1.33	1.33	EPA-905.0-M	=
Tritium	U	10.8	pCi/L	179	1/29/2025	99.7	99.7	EPA-906.0-M	=
Technetium-99	U	7.13	pCi/L	20.1	1/29/2025	11.8	11.8	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.14	pCi/L	1.76	1/29/2025	1.21	1.22	HASL 300, Th-01-RC M	=
Alpha activity	U	1.2	pCi/L	8.36	1/29/2025	4.24	4.24	SW846-9310	=
Beta activity	U	6.41	pCi/L	8.69	1/29/2025	5.43	5.53	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		202	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	HU	10	ug/L	10	1/29/2025	SW846-9020B	UJ
Total Organic Carbon (TOC)	J	0.534	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW223 SIDE **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8000-5243 **SAMPLE ID:** MW223SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.418	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	35.2	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.207	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.797	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		14.4	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/29/2025				X
Conductivity		497	µmhos/cm		1/29/2025				X
Depth to Water		70.68	ft		1/29/2025				X
Dissolved Oxygen		3.71	mg/L		1/29/2025				X
Eh (approx)		410.7	mV		1/29/2025				X
pH		5.94	Std Unit		1/29/2025				X
Temperature		59.5	deg F		1/29/2025				X
Turbidity		1.81	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.251	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron	J	0.00787	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		22.5	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium		0.0198	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt		0.0024	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper		0.00304	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0756	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		9.37	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese		0.0256	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum		0.00275	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel		0.606	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		4.78	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		44.5	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	J	0.00383	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.246	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved		0.0102	mg/L	0.01	1/29/2025			SW846-6020B	J
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.389	pCi/L	0.598	1/29/2025	0.487	0.488	AN-1418	=

Strontium-90	U	-0.269	pCi/L	2.98	1/29/2025	1.57	1.57	EPA-905.0-M	=
Tritium	U	59.2	pCi/L	170	1/29/2025	98.4	99.1	EPA-906.0-M	=
Technetium-99	U	7.48	pCi/L	20.8	1/29/2025	12.2	12.2	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.162	pCi/L	1.69	1/29/2025	0.852	0.854	HASL 300, Th-01-RC M	=
Alpha activity	U	0.824	pCi/L	6.25	1/29/2025	2.97	2.98	SW846-9310	=
Beta activity		16	pCi/L	9.83	1/29/2025	7.06	7.53	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.019	ug/L	0.019	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	UJ
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		200	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	BN1	27	ug/L	10	1/29/2025	SW846-9020B	UJ
Total Organic Carbon (TOC)	J	0.516	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW224 SIDE **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8000-5244 **SAMPLE ID:** MW224SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.298	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	22.1	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.284	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.616	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		19.3	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.06	Inches/Hg		1/29/2025				X
Conductivity		550	µmhos/cm		1/29/2025				X
Depth to Water		72.22	ft		1/29/2025				X
Dissolved Oxygen		3.7	mg/L		1/29/2025				X
Eh (approx)		435.7	mV		1/29/2025				X
pH		6	Std Unit		1/29/2025				X
Temperature		60.1	deg F		1/29/2025				X
Turbidity		0.83	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.248	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0274	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		26.9	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.000753	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		11.6	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese		0.00638	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum		0.00119	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel		0.00993	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.08	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		61.9	mg/L	1.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury		0.00024	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.251	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.322	pCi/L	0.372	1/29/2025	0.321	0.322	AN-1418	=

Strontium-90	U	1.03	pCi/L	3.23	1/29/2025	1.86	1.87	EPA-905.0-M	=
Tritium	U	7.73	pCi/L	170	1/29/2025	94.1	94.1	EPA-906.0-M	=
Technetium-99	U	-4.06	pCi/L	22.4	1/29/2025	12.6	12.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	-0.0319	pCi/L	1.62	1/29/2025	0.74	0.741	HASL 300, Th-01-RC M	=
Alpha activity	U	2.77	pCi/L	7.45	1/29/2025	4.25	4.28	SW846-9310	=
Beta activity	U	3.83	pCi/L	13.1	1/29/2025	7.51	7.54	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0196	ug/L	0.0196	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		239	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	U	10	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.923	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW369 DOWN **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-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW370 DOWN **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-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW372 DOWN **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-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW373 DOWN **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-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW384 SIDE **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4809 **SAMPLE ID:** MW384DSG2-25 Sample Type: FR

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.264	mg/L	0.2	1/30/2025			SW846-9056A	=
Chloride	J	21.6	mg/L	250	1/30/2025			SW846-9056A	=
Fluoride	J	0.172	mg/L	4	1/30/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.807	mg/L	10	1/30/2025			SW846-9056A	=
Sulfate		18.9	mg/L	0.4	1/30/2025			SW846-9056A	=
Aluminum	U	0.05	mg/L	0.05	1/30/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/30/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Barium		0.194	mg/L	0.004	1/30/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/30/2025			SW846-6020B	=
Boron		0.0803	mg/L	0.015	1/30/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Calcium		23.1	mg/L	0.2	1/30/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Copper	J	0.000686	mg/L	0.002	1/30/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/30/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Magnesium		9.96	mg/L	0.03	1/30/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Nickel	J	0.000782	mg/L	0.002	1/30/2025			SW846-6020B	=
Potassium		1.36	mg/L	0.3	1/30/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Sodium		44.4	mg/L	0.25	1/30/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Mercury	J	0.00017	mg/L	0.0002	1/30/2025			SW846-7470A	J
Barium, Dissolved		0.195	mg/L	0.004	1/30/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	UJ
Radium-226	U	0.309	pCi/L	0.795	1/30/2025	0.487	0.488	AN-1418	=
Strontium-90	U	-0.605	pCi/L	1.98	1/30/2025	0.931	0.931	EPA-905.0-M	=
Tritium	U	64.5	pCi/L	235	1/30/2025	136	136	EPA-906.0-M	=
Technetium-99		46.8	pCi/L	17	1/30/2025	12.3	13.3	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.692	pCi/L	1.85	1/30/2025	1.13	1.14	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.452	pCi/L	8.05	1/30/2025	3.44	3.44	SW846-9310	=
Beta activity		34.5	pCi/L	8.97	1/30/2025	8.47	10.2	SW846-9310	J

1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/30/2025	SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Acetone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Acrylonitrile	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Benzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromoform	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloroform	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloromethane	UQ	1	ug/L	1	1/30/2025	SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Styrene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Toluene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/30/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Trichloroethene	J	0.87	ug/L	1	1/30/2025	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Vinyl acetate	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dissolved Solids		185	mg/L	10	1/30/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/30/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/30/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/30/2025	SW846-9012B	=
Total Organic Halides (TOX)	U	10	ug/L	10	1/30/2025	SW846-9020B	=

Total Organic Carbon (TOC)	J	0.836	mg/L	2	1/30/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW384 SIDE **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4809 **SAMPLE ID:** MW384SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.277	mg/L	0.2	1/30/2025			SW846-9056A	=
Chloride	J	21.8	mg/L	250	1/30/2025			SW846-9056A	=
Fluoride	J	0.173	mg/L	4	1/30/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.792	mg/L	10	1/30/2025			SW846-9056A	=
Sulfate		19.5	mg/L	0.4	1/30/2025			SW846-9056A	=
Barometric Pressure Reading		30.07	Inches/Hg		1/30/2025				X
Conductivity		499	µmhos/cm		1/30/2025				X
Depth to Water		41.46	ft		1/30/2025				X
Dissolved Oxygen		5.03	mg/L		1/30/2025				X
Eh (approx)		469.2	mV		1/30/2025				X
pH		5.8	Std Unit		1/30/2025				X
Temperature		56.5	deg F		1/30/2025				X
Turbidity		0	NTU		1/30/2025				X
Aluminum	U	0.05	mg/L	0.05	1/30/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/30/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Barium		0.197	mg/L	0.004	1/30/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/30/2025			SW846-6020B	=
Boron		0.0818	mg/L	0.015	1/30/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Calcium		23.3	mg/L	0.2	1/30/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Copper	J	0.000866	mg/L	0.002	1/30/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/30/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Magnesium		10.1	mg/L	0.03	1/30/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Potassium		1.4	mg/L	0.3	1/30/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Sodium		44.9	mg/L	0.25	1/30/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/30/2025			SW846-7470A	UJ
Barium, Dissolved		0.199	mg/L	0.004	1/30/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	UJ
Radium-226	U	0.313	pCi/L	0.524	1/30/2025	0.357	0.357	AN-1418	=

Strontium-90	U	1.31	pCi/L	2.74	1/30/2025	1.62	1.63	EPA-905.0-M	=
Tritium	U	39.4	pCi/L	233	1/30/2025	133	134	EPA-906.0-M	=
Technetium-99		37.1	pCi/L	17.4	1/30/2025	12	12.7	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.299	pCi/L	2.31	1/30/2025	1.19	1.19	HASL 300, Th-01-RC M	=
Alpha activity	U	0.0458	pCi/L	7.06	1/30/2025	3.07	3.08	SW846-9310	=
Beta activity		24	pCi/L	11	1/30/2025	8.29	9.2	SW846-9310	J
1,2-Dibromo-3-chloropropane	U	0.019	ug/L	0.019	1/30/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Acrylonitrile	UQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Benzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloromethane	UQ	1	ug/L	1	1/30/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/30/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Trichloroethene	J	0.6	ug/L	1	1/30/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=

Vinyl acetate	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dissolved Solids		200	mg/L	10	1/30/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/30/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/30/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/30/2025	SW846-9012B	=
Total Organic Halides (TOX)		12.3	ug/L	10	1/30/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.826	mg/L	2	1/30/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW385 SIDE **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4810 **SAMPLE ID:** MW385SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.256	mg/L	0.2	1/30/2025			SW846-9056A	=
Chloride	J	21.9	mg/L	250	1/30/2025			SW846-9056A	=
Fluoride	J	0.145	mg/L	4	1/30/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.821	mg/L	10	1/30/2025			SW846-9056A	=
Sulfate		19.4	mg/L	0.4	1/30/2025			SW846-9056A	=
Barometric Pressure Reading		30.04	Inches/Hg		1/30/2025				X
Conductivity		491	µmhos/cm		1/30/2025				X
Depth to Water		41.85	ft		1/30/2025				X
Dissolved Oxygen		3.54	mg/L		1/30/2025				X
Eh (approx)		433.7	mV		1/30/2025				X
pH		5.91	Std Unit		1/30/2025				X
Temperature		57	deg F		1/30/2025				X
Turbidity		0	NTU		1/30/2025				X
Aluminum	U	0.05	mg/L	0.05	1/30/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/30/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Barium		0.209	mg/L	0.004	1/30/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/30/2025			SW846-6020B	=
Boron		0.0823	mg/L	0.015	1/30/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Calcium		23.4	mg/L	0.2	1/30/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	=
Cobalt		0.00154	mg/L	0.001	1/30/2025			SW846-6020B	=
Copper	J	0.00079	mg/L	0.002	1/30/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/30/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Magnesium		9.82	mg/L	0.03	1/30/2025			SW846-6020B	=
Manganese	J	0.00105	mg/L	0.005	1/30/2025			SW846-6020B	=
Molybdenum	J	0.000218	mg/L	0.001	1/30/2025			SW846-6020B	=
Nickel	J	0.00108	mg/L	0.002	1/30/2025			SW846-6020B	=
Potassium		1.56	mg/L	0.3	1/30/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Sodium		45.2	mg/L	0.25	1/30/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	=
Vanadium	J	0.00337	mg/L	0.02	1/30/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/30/2025			SW846-7470A	UJ
Barium, Dissolved		0.205	mg/L	0.004	1/30/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	UJ
Radium-226	U	0.38	pCi/L	0.604	1/30/2025	0.404	0.404	AN-1418	=

Strontium-90	U	-0.105	pCi/L	3.98	1/30/2025	2.12	2.12	EPA-905.0-M	=
Tritium	U	38.8	pCi/L	227	1/30/2025	130	130	EPA-906.0-M	=
Technetium-99		43.6	pCi/L	17.3	1/30/2025	12.3	13.2	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.14	pCi/L	1.87	1/30/2025	1.27	1.29	HASL 300, Th-01-RC M	=
Alpha activity	U	1.02	pCi/L	7.36	1/30/2025	3.6	3.6	SW846-9310	=
Beta activity		33	pCi/L	8.99	1/30/2025	8.29	9.93	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/30/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Acrylonitrile	UQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Benzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloromethane	UQ	1	ug/L	1	1/30/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/30/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=

Vinyl acetate	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dissolved Solids		193	mg/L	10	1/30/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/30/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/30/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/30/2025	SW846-9012B	=
Total Organic Halides (TOX)		16.7	ug/L	10	1/30/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.8	mg/L	2	1/30/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW386 SIDE **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4804 **SAMPLE ID:** MW386SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/30/2025			SW846-9056A	=
Chloride	J	9.52	mg/L	250	1/30/2025			SW846-9056A	=
Fluoride	J	0.887	mg/L	4	1/30/2025			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/30/2025			SW846-9056A	=
Sulfate		31	mg/L	0.8	1/30/2025			SW846-9056A	=
Barometric Pressure Reading		30.01	Inches/Hg		1/30/2025				X
Conductivity		694	µmhos/cm		1/30/2025				X
Depth to Water		19.16	ft		1/30/2025				X
Dissolved Oxygen		0.99	mg/L		1/30/2025				X
Eh (approx)		168.2	mV		1/30/2025				X
pH		6.55	Std Unit		1/30/2025				X
Temperature		59.1	deg F		1/30/2025				X
Turbidity		0.08	NTU		1/30/2025				X
Aluminum	U	0.05	mg/L	0.05	1/30/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/30/2025			SW846-6020B	=
Arsenic	J	0.00284	mg/L	0.005	1/30/2025			SW846-6020B	=
Barium		0.19	mg/L	0.004	1/30/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/30/2025			SW846-6020B	=
Boron		0.0231	mg/L	0.015	1/30/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Calcium		20.2	mg/L	0.2	1/30/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	=
Cobalt		0.00943	mg/L	0.001	1/30/2025			SW846-6020B	=
Copper	J	0.00047	mg/L	0.002	1/30/2025			SW846-6020B	=
Iron		1.52	mg/L	0.1	1/30/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Magnesium		8.63	mg/L	0.03	1/30/2025			SW846-6020B	=
Manganese		0.87	mg/L	0.005	1/30/2025			SW846-6020B	=
Molybdenum	J	0.000947	mg/L	0.001	1/30/2025			SW846-6020B	=
Nickel		0.0026	mg/L	0.002	1/30/2025			SW846-6020B	=
Potassium	J	0.297	mg/L	0.3	1/30/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Sodium		111	mg/L	5	1/30/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	=
Vanadium	J	0.00367	mg/L	0.02	1/30/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/30/2025			SW846-7470A	UJ
Barium, Dissolved		0.128	mg/L	0.004	1/30/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	UJ
Radium-226	U	0.536	pCi/L	0.541	1/30/2025	0.435	0.436	AN-1418	=

Strontium-90	U	0.652	pCi/L	2.97	1/30/2025	1.66	1.66	EPA-905.0-M	=
Tritium	U	133	pCi/L	236	1/30/2025	141	143	EPA-906.0-M	=
Technetium-99	U	4.16	pCi/L	17.3	1/30/2025	9.99	10	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.42	pCi/L	1.65	1/30/2025	1.33	1.35	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.317	pCi/L	8.23	1/30/2025	3.46	3.46	SW846-9310	=
Beta activity	U	3.88	pCi/L	9.13	1/30/2025	5.33	5.37	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0188	ug/L	0.0188	1/30/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Acrylonitrile	UQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Benzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Chloromethane	UQ	1	ug/L	1	1/30/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/30/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/30/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=

Vinyl acetate	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dissolved Solids		341	mg/L	10	1/30/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/30/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/30/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/30/2025	SW846-9012B	=
Total Organic Halides (TOX)		135	ug/L	10	1/30/2025	SW846-9020B	=
Total Organic Carbon (TOC)		6.54	mg/L	2	1/30/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW387 DOWN **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4815 **SAMPLE ID:** MW387SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.479	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	35.7	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.879	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.27	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		25.7	mg/L	2	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		601	µmhos/cm		1/29/2025				X
Depth to Water		39.82	ft		1/29/2025				X
Dissolved Oxygen		3.99	mg/L		1/29/2025				X
Eh (approx)		457	mV		1/29/2025				X
pH		6.11	Std Unit		1/29/2025				X
Temperature		60.7	deg F		1/29/2025				X
Turbidity		2.35	NTU		1/29/2025				X
Aluminum	J	0.0218	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.107	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0334	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		39.1	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	J	0.00406	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.000463	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0693	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		16.1	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	J	0.00207	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.74	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		53.5	mg/L	1.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.105	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	J	0.00392	mg/L	0.01	1/29/2025			SW846-6020B	J
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.00588	pCi/L	0.594	1/29/2025	0.27	0.27	AN-1418	=

Strontium-90	U	-0.741	pCi/L	1.94	1/29/2025	0.868	0.869	EPA-905.0-M	=
Tritium	U	3.57	pCi/L	179	1/29/2025	99.1	99.1	EPA-906.0-M	=
Technetium-99		88.6	pCi/L	20.8	1/29/2025	15.5	19	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.921	pCi/L	1.67	1/29/2025	1.07	1.09	HASL 300, Th-01-RC M	=
Alpha activity	U	6.06	pCi/L	6.38	1/29/2025	4.87	4.98	SW846-9310	=
Beta activity		74.1	pCi/L	10.5	1/29/2025	12	17.1	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	J	0.37	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		250	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)		21.2	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.05	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW388 DOWN **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4816 **SAMPLE ID:** MW388SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.435	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	34.1	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.307	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.928	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		20.7	mg/L	2	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		529	µmhos/cm		1/29/2025				X
Depth to Water		39.69	ft		1/29/2025				X
Dissolved Oxygen		4.69	mg/L		1/29/2025				X
Eh (approx)		403.7	mV		1/29/2025				X
pH		5.97	Std Unit		1/29/2025				X
Temperature		59.9	deg F		1/29/2025				X
Turbidity		1.17	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.18	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0268	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		28.9	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.000645	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0387	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		12.4	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.75	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		45.3	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.189	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.315	pCi/L	0.767	1/29/2025	0.464	0.464	AN-1418	=

Strontium-90	U	-0.122	pCi/L	2.9	1/29/2025	1.51	1.51	EPA-905.0-M	=
Tritium	U	2.03	pCi/L	179	1/29/2025	98.5	98.6	EPA-906.0-M	=
Technetium-99		35.5	pCi/L	19.8	1/29/2025	12.9	13.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.298	pCi/L	1.5	1/29/2025	0.81	0.814	HASL 300, Th-01-RC M	=
Alpha activity	U	5.82	pCi/L	7.76	1/29/2025	5.25	5.35	SW846-9310	=
Beta activity		28.1	pCi/L	10.1	1/29/2025	8.4	9.58	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0192	ug/L	0.0192	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	US	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	US	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	US	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		199	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	U	10	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.795	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW390 DOWN **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4811 **SAMPLE ID:** MW390SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.263	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	18.9	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.313	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.99	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		33	mg/L	2	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		665	µmhos/cm		1/29/2025				X
Depth to Water		36.83	ft		1/29/2025				X
Dissolved Oxygen		3.34	mg/L		1/29/2025				X
Eh (approx)		435.9	mV		1/29/2025				X
pH		6.21	Std Unit		1/29/2025				X
Temperature		60	deg F		1/29/2025				X
Turbidity		1.94	NTU		1/29/2025				X
Aluminum		0.098	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.227	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0235	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		28	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00105	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0813	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		11.8	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	J	0.000213	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	J	0.00106	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		0.348	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		99.8	mg/L	1.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium		0.000207	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.239	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved		0.000211	mg/L	0.0002	1/29/2025			SW846-6020B	J
Radium-226	U	0.437	pCi/L	0.639	1/29/2025	0.597	0.598	AN-1418	=

Strontium-90	U	2.23	pCi/L	3.18	1/29/2025	1.94	1.97	EPA-905.0-M	=
Tritium	U	7.67	pCi/L	178	1/29/2025	98.6	98.6	EPA-906.0-M	=
Technetium-99		77.5	pCi/L	19.3	1/29/2025	14.2	17.1	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.763	pCi/L	1.31	1/29/2025	0.891	0.9	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.164	pCi/L	7.53	1/29/2025	3.28	3.28	SW846-9310	=
Beta activity		48.9	pCi/L	9.85	1/29/2025	9.86	12.7	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0187	ug/L	0.0187	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		319	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	7.74	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)		2.07	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW391 DOWN **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4805 **SAMPLE ID:** MW391SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.515	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	40.6	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.172	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.1	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		12.1	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.06	Inches/Hg		1/29/2025				X
Conductivity		373	µmhos/cm		1/29/2025				X
Depth to Water		42.95	ft		1/29/2025				X
Dissolved Oxygen		4.4	mg/L		1/29/2025				X
Eh (approx)		322	mV		1/29/2025				X
pH		6	Std Unit		1/29/2025				X
Temperature		56.6	deg F		1/29/2025				X
Turbidity		2.8	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.21	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0222	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		25.2	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.0015	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0635	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		10.6	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.51	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		32.5	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.22	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.351	pCi/L	0.855	1/29/2025	0.558	0.559	AN-1418	=

Strontium-90	U	-1	pCi/L	2.87	1/29/2025	1.41	1.41	EPA-905.0-M	=
Tritium	U	5.1	pCi/L	171	1/29/2025	94.8	94.8	EPA-906.0-M	=
Technetium-99	U	3.71	pCi/L	19.5	1/29/2025	11.3	11.3	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.1	pCi/L	1.55	1/29/2025	1.11	1.13	HASL 300, Th-01-RC M	=
Alpha activity	U	1.82	pCi/L	5.72	1/29/2025	3.13	3.15	SW846-9310	=
Beta activity	U	9.85	pCi/L	9.97	1/29/2025	6.49	6.69	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	US	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	US	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	JS	0.42	ug/L	1	1/29/2025			SW846-8260D	J
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	US	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		164	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	4.78	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.71	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW392 DOWN **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4806 **SAMPLE ID:** MW392SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.558	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	43	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.199	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.806	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		7.43	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/29/2025				X
Conductivity		338	µmhos/cm		1/29/2025				X
Depth to Water		42.14	ft		1/29/2025				X
Dissolved Oxygen		2.56	mg/L		1/29/2025				X
Eh (approx)		471	mV		1/29/2025				X
pH		5.74	Std Unit		1/29/2025				X
Temperature		55.8	deg F		1/29/2025				X
Turbidity		2.77	NTU		1/29/2025				X
Aluminum	J	0.0197	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.252	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0214	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		24.3	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper		0.00205	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0479	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		10.4	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese		0.0177	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	J	0.00124	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		2.07	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		24.4	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	J	0.00337	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.257	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.355	pCi/L	0.701	1/29/2025	0.447	0.448	AN-1418	=

Strontium-90	U	1.42	pCi/L	2.76	1/29/2025	1.64	1.66	EPA-905.0-M	=
Tritium	U	-19.1	pCi/L	178	1/29/2025	96.2	96.2	EPA-906.0-M	=
Technetium-99	U	-5.13	pCi/L	19.7	1/29/2025	11	11	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.21	pCi/L	2.35	1/29/2025	1.52	1.54	HASL 300, Th-01-RC M	=
Alpha activity	U	-2.67	pCi/L	7.52	1/29/2025	2.11	2.11	SW846-9310	UJ
Beta activity	U	0.287	pCi/L	10.1	1/29/2025	5.35	5.35	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1,1-Trichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1,2,2-Tetrachloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1,2-Trichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1-Dichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1-Dichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2,3-Trichloropropane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dibromoethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichlorobenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichloropropane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,4-Dichlorobenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
2-Butanone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
2-Hexanone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
4-Methyl-2-pentanone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acetone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrolein	HUQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	HUQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Benzene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromochloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromodichloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromoform	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromomethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Carbon disulfide	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Carbon tetrachloride	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chloroform	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chloromethane	HUQ	1	ug/L	1	1/29/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
cis-1,3-Dichloropropene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Dibromochloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Dibromomethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Ethylbenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Iodomethane	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Methylene chloride	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Styrene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Tetrachloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Toluene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Total Xylene	HUY1	3	ug/L	3	1/29/2025			SW846-8260D	UJ
trans-1,2-Dichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
trans-1,3-Dichloropropene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
trans-1,4-Dichloro-2-butene	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Trichloroethene	HJ	0.65	ug/L	1	1/29/2025			SW846-8260D	J
Trichlorofluoromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	HUQ	5	ug/L	5	1/29/2025	SW846-8260D	UJ
Vinyl chloride	HU	1	ug/L	1	1/29/2025	SW846-8260D	UJ
Dissolved Solids		149	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)		21.1	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.437	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW393 DOWN **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4807 **SAMPLE ID:** MW393SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	7.85	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.253	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		27	mg/L	0.8	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/29/2025				X
Conductivity		427	µmhos/cm		1/29/2025				X
Depth to Water		28.83	ft		1/29/2025				X
Dissolved Oxygen		1.8	mg/L		1/29/2025				X
Eh (approx)		229	mV		1/29/2025				X
pH		6.16	Std Unit		1/29/2025				X
Temperature		57.1	deg F		1/29/2025				X
Turbidity		7.68	NTU		1/29/2025				X
Aluminum	J	0.0363	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	J	0.00421	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.153	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0176	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		18.4	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00107	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron		2.77	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		4.56	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese		0.0745	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	J	0.000583	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		0.58	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		91	mg/L	1.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	J	0.000156	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.0897	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	J	0.000107	mg/L	0.0002	1/29/2025			SW846-6020B	J
Radium-226	U	0.274	pCi/L	0.727	1/29/2025	0.434	0.434	AN-1418	=

Strontium-90	U	0.186	pCi/L	2.95	1/29/2025	1.56	1.56	EPA-905.0-M	=
Tritium	U	31	pCi/L	177	1/29/2025	100	101	EPA-906.0-M	=
Technetium-99	U	-4.56	pCi/L	19.4	1/29/2025	10.9	10.9	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.533	pCi/L	1.77	1/29/2025	1.02	1.02	HASL 300, Th-01-RC M	=
Alpha activity	U	0.223	pCi/L	5.76	1/29/2025	2.27	2.28	SW846-9310	=
Beta activity		10.1	pCi/L	9.62	1/29/2025	6.3	6.52	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	US	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	US	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	US	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		265	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	9.2	ug/L	10	1/29/2025	SW846-9020B	=
Total Organic Carbon (TOC)		2.27	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW394 UP **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4802 **SAMPLE ID:** MW394SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.574	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	46.7	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.129	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.42	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		11.6	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		436	µmhos/cm		1/29/2025				X
Depth to Water		54.65	ft		1/29/2025				X
Dissolved Oxygen		4.8	mg/L		1/29/2025				X
Eh (approx)		378	mV		1/29/2025				X
pH		5.99	Std Unit		1/29/2025				X
Temperature		58.8	deg F		1/29/2025				X
Turbidity		1.45	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.263	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0191	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		27.9	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00174	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0418	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		11.7	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel		0.00685	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.44	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		33.6	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	J	0.012	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.287	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.586	pCi/L	0.665	1/29/2025	0.505	0.506	AN-1418	=

Strontium-90	U	0.107	pCi/L	1.85	1/29/2025	0.963	0.963	EPA-905.0-M	=
Tritium	U	21.7	pCi/L	179	1/29/2025	100	100	EPA-906.0-M	=
Technetium-99	U	9.28	pCi/L	18.9	1/29/2025	11.2	11.3	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.06	pCi/L	1.68	1/29/2025	1.17	1.19	HASL 300, Th-01-RC M	=
Alpha activity	U	1.17	pCi/L	5.7	1/29/2025	2.86	2.87	SW846-9310	=
Beta activity	U	4.58	pCi/L	9.62	1/29/2025	5.68	5.73	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	US	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	US	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	S	3.07	ug/L	1	1/29/2025			SW846-8260D	J
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	US	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids	U	10	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	HU	10	ug/L	10	1/29/2025	SW846-9020B	UJ
Total Organic Carbon (TOC)	J	0.534	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW395 UP **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4801 **SAMPLE ID:** MW395SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.544	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	48.4	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.132	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.28	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		11.1	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		387	µmhos/cm		1/29/2025				X
Depth to Water		55.31	ft		1/29/2025				X
Dissolved Oxygen		5.05	mg/L		1/29/2025				X
Eh (approx)		384	mV		1/29/2025				X
pH		5.97	Std Unit		1/29/2025				X
Temperature		58.7	deg F		1/29/2025				X
Turbidity		1.05	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.262	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron		0.0196	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		27.9	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00157	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron	J	0.0415	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		11.8	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	J	0.00134	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	J	0.000671	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.63	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		31.1	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.267	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.379	pCi/L	0.748	1/29/2025	0.477	0.478	AN-1418	=

Strontium-90	U	-1.52	pCi/L	2.82	1/29/2025	1.28	1.28	EPA-905.0-M	UJ
Tritium	U	56.5	pCi/L	173	1/29/2025	100	101	EPA-906.0-M	=
Technetium-99	U	2.8	pCi/L	20.6	1/29/2025	11.9	11.9	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.822	pCi/L	1.98	1/29/2025	1.2	1.21	HASL 300, Th-01-RC M	=
Alpha activity	U	1.71	pCi/L	6.5	1/29/2025	3.44	3.46	SW846-9310	=
Beta activity		11.5	pCi/L	9.81	1/29/2025	6.58	6.86	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene		3.81	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		178	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	HU	10	ug/L	10	1/29/2025	SW846-9020B	UJ
Total Organic Carbon (TOC)	J	0.524	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW396 UP **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4803 **SAMPLE ID:** MW396SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.882	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	57.4	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.569	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		27.6	mg/L	0.8	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.09	Inches/Hg		1/29/2025				X
Conductivity		686	µmhos/cm		1/29/2025				X
Depth to Water		10.63	ft		1/29/2025				X
Dissolved Oxygen		1.06	mg/L		1/29/2025				X
Eh (approx)		369	mV		1/29/2025				X
pH		6.43	Std Unit		1/29/2025				X
Temperature		60.1	deg F		1/29/2025				X
Turbidity		4.17	NTU		1/29/2025				X
Aluminum		0.0647	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.135	mg/L	0.004	1/29/2025			SW846-6020B	J
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron	J	0.00715	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		18.6	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00142	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron		0.157	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		7.84	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese	J	0.00363	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	J	0.000214	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	J	0.00196	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		1.82	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		32.6	mg/L	0.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.391	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	-0.0531	pCi/L	0.921	1/29/2025	0.426	0.426	AN-1418	=

Strontium-90	U	-1.2	pCi/L	3.23	1/29/2025	1.65	1.65	EPA-905.0-M	=
Tritium	U	36.3	pCi/L	177	1/29/2025	101	101	EPA-906.0-M	=
Technetium-99	U	-4.73	pCi/L	19.8	1/29/2025	11.1	11.1	HASL 300, Tc-02-RC M	=
Thorium-230	U	-0.173	pCi/L	1.94	1/29/2025	0.862	0.863	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.598	pCi/L	7.37	1/29/2025	2.91	2.91	SW846-9310	=
Beta activity	U	-1.26	pCi/L	9.34	1/29/2025	4.75	4.75	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0192	ug/L	0.0192	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	US	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	US	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	US	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	US	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	US	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		376	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	J	0.465	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	H	33.7	ug/L	10	1/29/2025	SW846-9020B	J
Total Organic Carbon (TOC)		3.59	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: MW397 UP **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4817 **SAMPLE ID:** MW397SG2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.393	mg/L	0.2	1/29/2025			SW846-9056A	=
Chloride	J	32.8	mg/L	250	1/29/2025			SW846-9056A	=
Fluoride	J	0.186	mg/L	4	1/29/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.05	mg/L	10	1/29/2025			SW846-9056A	=
Sulfate		11.4	mg/L	0.4	1/29/2025			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/29/2025				X
Conductivity		316	µmhos/cm		1/29/2025				X
Depth to Water		63.2	ft		1/29/2025				X
Dissolved Oxygen		6.38	mg/L		1/29/2025				X
Eh (approx)		389	mV		1/29/2025				X
pH		6	Std Unit		1/29/2025				X
Temperature		60.4	deg F		1/29/2025				X
Turbidity		3.17	NTU		1/29/2025				X
Aluminum	U	0.05	mg/L	0.05	1/29/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/29/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Barium		0.386	mg/L	0.004	1/29/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/29/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/29/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Calcium		31.8	mg/L	0.2	1/29/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	=
Cobalt	J	0.000406	mg/L	0.001	1/29/2025			SW846-6020B	=
Copper	J	0.00165	mg/L	0.002	1/29/2025			SW846-6020B	=
Iron		0.266	mg/L	0.1	1/29/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Magnesium		14.2	mg/L	0.03	1/29/2025			SW846-6020B	=
Manganese		0.287	mg/L	0.005	1/29/2025			SW846-6020B	=
Molybdenum	J	0.000359	mg/L	0.001	1/29/2025			SW846-6020B	=
Nickel	J	0.00137	mg/L	0.002	1/29/2025			SW846-6020B	=
Potassium		0.79	mg/L	0.3	1/29/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/29/2025			SW846-6020B	=
Sodium		99.2	mg/L	1.25	1/29/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/29/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/29/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/29/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/29/2025			SW846-7470A	=
Barium, Dissolved		0.133	mg/L	0.004	1/29/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/29/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/29/2025			SW846-6020B	UJ
Radium-226	U	0.234	pCi/L	0.671	1/29/2025	0.431	0.431	AN-1418	=

Strontium-90	U	-1.09	pCi/L	2.36	1/29/2025	1.07	1.07	EPA-905.0-M	UJ
Tritium	U	17.1	pCi/L	172	1/29/2025	96	96.1	EPA-906.0-M	=
Technetium-99	U	19	pCi/L	19.7	1/29/2025	12.1	12.3	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.153	pCi/L	1.71	1/29/2025	0.847	0.85	HASL 300, Th-01-RC M	=
Alpha activity	U	2.09	pCi/L	7.45	1/29/2025	4.02	4.03	SW846-9310	=
Beta activity		15.3	pCi/L	8.59	1/29/2025	6.43	6.93	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0188	ug/L	0.0188	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=

Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Dissolved Solids		152	mg/L	10	1/29/2025	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/29/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/29/2025	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/29/2025	SW846-9012B	=
Total Organic Halides (TOX)	HJ	3.56	ug/L	10	1/29/2025	SW846-9020B	J
Total Organic Carbon (TOC)	J	0.444	mg/L	2	1/29/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

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

AKGWA Well Tag #: N/A **SAMPLE ID:** FB1SG2-25 **Sample Type:** FB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Aluminum	U	0.05	mg/L	0.05	1/30/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/30/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Barium	U	0.004	mg/L	0.004	1/30/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/30/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/30/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Calcium	U	0.2	mg/L	0.2	1/30/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Copper	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/30/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Magnesium	U	0.03	mg/L	0.03	1/30/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Potassium	U	0.3	mg/L	0.3	1/30/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Sodium	U	0.25	mg/L	0.25	1/30/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	=
Vanadium	J	0.00407	mg/L	0.02	1/30/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/30/2025			SW846-7470A	UJ
Radium-226	U	0.198	pCi/L	0.41	1/30/2025	0.275	0.275	AN-1418	=
Strontium-90	U	-0.986	pCi/L	2.64	1/30/2025	1.22	1.22	EPA-905.0-M	=
Tritium	U	75.3	pCi/L	231	1/30/2025	135	135	EPA-906.0-M	=
Technetium-99	U	-0.000827	pCi/L	17.6	1/30/2025	9.86	9.86	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.389	pCi/L	1.59	1/30/2025	0.886	0.891	HASL 300, Th-01-RC M	=
Alpha activity	U	-1.65	pCi/L	7.54	1/30/2025	2.71	2.71	SW846-9310	=
Beta activity	U	-1.73	pCi/L	9.37	1/30/2025	4.65	4.65	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/30/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,1-Trichloroethane	US	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethene	US	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=

1,2-Dichloroethane	US	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
2-Butanone	US	5	ug/L	5	1/30/2025	SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Acetone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Acrylonitrile	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Benzene	US	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromoform	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Carbon tetrachloride	US	1	ug/L	1	1/30/2025	SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloroform	US	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloromethane	UQ	1	ug/L	1	1/30/2025	SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Styrene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Toluene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/30/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Trichloroethene	US	1	ug/L	1	1/30/2025	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Vinyl acetate	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	US	1	ug/L	1	1/30/2025	SW846-8260D	=
Iodide	U	0.5	mg/L	0.5	1/30/2025	EPA-300.0	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

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

AKGWA Well Tag #: N/A **SAMPLE ID:** RI1SG2-25 **Sample Type:** RI

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Aluminum	U	0.05	mg/L	0.05	1/30/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/30/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Barium	U	0.004	mg/L	0.004	1/30/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/30/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/30/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Calcium	U	0.2	mg/L	0.2	1/30/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/30/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Copper	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/30/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Magnesium	U	0.03	mg/L	0.03	1/30/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Potassium	U	0.3	mg/L	0.3	1/30/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/30/2025			SW846-6020B	=
Sodium	U	0.25	mg/L	0.25	1/30/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/30/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/30/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/30/2025			SW846-6020B	=
Vanadium	J	0.00425	mg/L	0.02	1/30/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/30/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/30/2025			SW846-7470A	UJ
Radium-226	U	0.0823	pCi/L	0.542	1/30/2025	0.283	0.283	AN-1418	=
Strontium-90	U	0.118	pCi/L	1.48	1/30/2025	0.772	0.773	EPA-905.0-M	=
Tritium	U	23.7	pCi/L	225	1/30/2025	128	128	EPA-906.0-M	=
Technetium-99	U	3.36	pCi/L	17.2	1/30/2025	9.86	9.86	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.363	pCi/L	2.1	1/30/2025	1.12	1.12	HASL 300, Th-01-RC M	=
Alpha activity	U	0.585	pCi/L	5.4	1/30/2025	2.45	2.45	SW846-9310	=
Beta activity	U	2.57	pCi/L	8.82	1/30/2025	4.99	5.01	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/30/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/30/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/30/2025			SW846-8260D	=

1,2-Dichloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Acetone	J	2.66	ug/L	5	1/30/2025	SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Acrylonitrile	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Benzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromoform	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chlorobenzene	J	0.39	ug/L	1	1/30/2025	SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloroform	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Chloromethane	UQ	1	ug/L	1	1/30/2025	SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Styrene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Toluene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/30/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/30/2025	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Vinyl acetate	UQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	U	1	ug/L	1	1/30/2025	SW846-8260D	=
Iodide	U	0.5	mg/L	0.5	1/30/2025	EPA-300.0	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

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

AKGWA Well Tag #: N/A **SAMPLE ID:** TB1SG2-25 **Sample Type:** TB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	U	0.0193	ug/L	0.0193	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
1,4-Dichlorobenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chlorobenzene	JY1	0.39	ug/L	1	1/29/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Ethylbenzene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Styrene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
Toluene	UY1	1	ug/L	1	1/29/2025			SW846-8260D	=
Total Xylene	UY1	3	ug/L	3	1/29/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/29/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/29/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/29/2025			SW846-8260D	=

Trichlorofluoromethane	U	1	ug/L	1	1/29/2025	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/29/2025	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/29/2025	SW846-8260D	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

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

AKGWA Well Tag #: N/A **SAMPLE ID:** TB2SG2-25 **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	1/29/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1,1-Trichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1,2,2-Tetrachloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1,2-Trichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1-Dichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,1-Dichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2,3-Trichloropropane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dibromoethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichlorobenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,2-Dichloropropane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
1,4-Dichlorobenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
2-Butanone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
2-Hexanone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
4-Methyl-2-pentanone	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acetone	BHJ	1.76	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrolein	HUQ	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Acrylonitrile	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Benzene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromochloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromodichloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromoform	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Bromomethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Carbon disulfide	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Carbon tetrachloride	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chlorobenzene	HJY1	0.46	ug/L	1	1/29/2025			SW846-8260D	J
Chloroethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chloroform	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Chloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
cis-1,3-Dichloropropene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Dibromochloromethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Dibromomethane	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Ethylbenzene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Iodomethane	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Methylene chloride	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Styrene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Tetrachloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Toluene	HUY1	1	ug/L	1	1/29/2025			SW846-8260D	UJ
Total Xylene	HUY1	3	ug/L	3	1/29/2025			SW846-8260D	UJ
trans-1,2-Dichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
trans-1,3-Dichloropropene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ
trans-1,4-Dichloro-2-butene	HU	5	ug/L	5	1/29/2025			SW846-8260D	UJ
Trichloroethene	HU	1	ug/L	1	1/29/2025			SW846-8260D	UJ

Trichlorofluoromethane	HU	1	ug/L	1	1/29/2025	SW846-8260D	UJ
Vinyl acetate	HU	5	ug/L	5	1/29/2025	SW846-8260D	UJ
Vinyl chloride	HU	1	ug/L	1	1/29/2025	SW846-8260D	UJ

Paducah OREIS
GROUNDWATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

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

AKGWA Well Tag #: N/A **SAMPLE ID:** TB3SG2-25 **Sample Type:** TB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/30/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,1,1-Trichloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,1,2,2-Tetrachloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,1,2-Trichloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,1-Dichloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,1-Dichloroethene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,2,3-Trichloropropane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,2-Dibromoethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,2-Dichlorobenzene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,2-Dichloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,2-Dichloropropane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
1,4-Dichlorobenzene	HJ	0.35	ug/L	1	1/30/2025			SW846-8260D	J
2-Butanone	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
2-Hexanone	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
4-Methyl-2-pentanone	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Acetone	BHJ	3.66	ug/L	5	1/30/2025			SW846-8260D	UJ
Acrolein	HUQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Acrylonitrile	HUQ	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Benzene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Bromochloromethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Bromodichloromethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Bromoform	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Bromomethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Carbon disulfide	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Carbon tetrachloride	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Chlorobenzene	HJ	0.44	ug/L	1	1/30/2025			SW846-8260D	J
Chloroethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Chloroform	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Chloromethane	HUQ	1	ug/L	1	1/30/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
cis-1,3-Dichloropropene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Dibromochloromethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Dibromomethane	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Ethylbenzene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Iodomethane	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Methylene chloride	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Styrene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Tetrachloroethene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Toluene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
Total Xylene	HU	3	ug/L	3	1/30/2025			SW846-8260D	UJ
trans-1,2-Dichloroethene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
trans-1,3-Dichloropropene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ
trans-1,4-Dichloro-2-butene	HU	5	ug/L	5	1/30/2025			SW846-8260D	UJ
Trichloroethene	HU	1	ug/L	1	1/30/2025			SW846-8260D	UJ

Trichlorofluoromethane	HU	1	ug/L	1	1/30/2025	SW846-8260D	UJ
Vinyl acetate	HUQ	5	ug/L	5	1/30/2025	SW846-8260D	UJ
Vinyl chloride	HU	1	ug/L	1	1/30/2025	SW846-8260D	UJ

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

ATTACHMENT C1

GEL LABORATORIES CERTIFICATE OF ANALYSIS

THIS PAGE INTENTIONALLY LEFT BLANK

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

Certificate of Analysis

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

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

Client Sample ID: MW369UG2-25
Sample ID: 706092013
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.
Rad Alpha Spec Analysis														
AN-1418 AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.848	+/-1.34	2.03	+/-1.34	5.00	pCi/L			CM4	02/06/25	0911	2741552	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
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														
904.0Mod, Ra228, Liquid "As Received"														
Radium-228	U	3.06	+/-2.81	4.59	+/-2.92	4.99	pCi/L			ST2	02/14/25	0824	2741662	3
905.0Mod, Sr90, liquid "As Received"														
Strontium-90	U	-3.27	+/-2.79	5.65	+/-2.79	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
9310, Alpha/Beta Activity, liquid "As Received"														
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														
906.0M, Tritium Dist, Liquid "As Received"														
Tritium	U	-25.3	+/-96.6	197	+/-96.6	300	pCi/L			KXA1	02/09/25	1429	2741845	6
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
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%)

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: MW369UG2-25
Sample ID: 706092013

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, LLC
Address : 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
Sample ID: 706092015
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.
Rad Alpha Spec Analysis														
AN-1418 AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.550	+/-0.742	0.999	+/-0.743	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
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														
904.0Mod, Ra228, Liquid "As Received"														
Radium-228	U	0.0913	+/-2.12	4.12	+/-2.12	4.99	pCi/L			ST2	02/14/25	0817	2741072	3
905.0Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.674	+/-1.47	2.62	+/-1.48	8.00	pCi/L			ST2	02/11/25	1732	2741093	4
9310, Alpha/Beta Activity, liquid "As Received"														
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														
906.0M, Tritium Dist, Liquid "As Received"														
Tritium	U	38.2	+/-111	203	+/-111	300	pCi/L			KXA1	02/09/25	1455	2741845	6
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
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%)

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

Certificate of Analysis

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

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

Client Sample ID: MW370UG2-25
Sample ID: 706092015

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: MW372UG2-25
Sample ID: 706092019
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.
Rad Alpha Spec Analysis														
AN-1418 AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.143	+/-0.538	1.03	+/-0.539	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
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														
904.0Mod, Ra228, Liquid "As Received"														
Radium-228	U	-0.189	+/-2.44	4.97	+/-2.44	4.99	pCi/L			ST2	02/14/25	0950	2741662	3
905.0Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.214	+/-2.52	4.76	+/-2.52	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
9310, Alpha/Beta Activity, liquid "As Received"														
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														
906.0M, Tritium Dist, Liquid "As Received"														
Tritium	U	0.0328	+/-102	199	+/-102	300	pCi/L			KXA1	02/09/25	1549	2741845	6
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
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%)

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

Certificate of Analysis

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

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

Client Sample ID: MW372UG2-25
Sample ID: 706092019

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, LLC
Address : 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.
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
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
Thorium-232	U	-0.170	+/-0.449	1.30	+/-0.450		pCi/L							
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
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
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
Beta	U	3.62	+/-4.92	8.42	+/-4.96	50.0	pCi/L							
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
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

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	94.8	(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%)

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

Certificate of Analysis

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

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

Client Sample ID: MW373UG2-25
Sample ID: 706092021

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

Report Date: April 29, 2025

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: 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					

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

Kevil, Kentucky 42053
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	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

Kevil, Kentucky 42053
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	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					

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

Kevil, Kentucky 42053
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	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

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
	Kevil, Kentucky 42053
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	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

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

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	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

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: 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					

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

Kevil, Kentucky 42053
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	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"												

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

Kevil, Kentucky 42053
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	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					

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

Kevil, Kentucky 42053
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	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

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

Kevil, Kentucky 42053
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	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

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

Client Sample ID:	MW370UG2-25	Project:	FRNP00607
Sample ID:	706092016	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	28-JAN-25 08:52		
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	0.226	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	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

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

Client Sample ID: MW372UG2-25
Sample ID: 706092019
Matrix: WG
Collect Date: 28-JAN-25 14:24
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	0.953	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					

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

Kevil, Kentucky 42053
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	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"												

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

Kevil, Kentucky 42053
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	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					

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

Kevil, Kentucky 42053
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	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

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

Kevil, Kentucky 42053
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	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

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:

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
	Kevil, Kentucky 42053
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	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Column headers are defined as follows:

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

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: 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
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

Kevil, Kentucky 42053
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 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	0.0191	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					

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

Kevil, Kentucky 42053
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	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

Kevil, Kentucky 42053
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	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					

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

Kevil, Kentucky 42053
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	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

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

Kevil, Kentucky 42053
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	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

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:

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
	Kevil, Kentucky 42053
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	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Column headers are defined as follows:

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

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

Client Sample ID:	MW373UG2-25	Project:	FRNP00607
Sample ID:	706092022	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	0.0363	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	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

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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW220SG2-25
Sample ID: 706418001
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.771	+/-1.12	1.39	+/-1.12	5.00	pCi/L			CM4	02/20/25	0805	2751719	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.292	+/-0.999	1.91	+/-1.00	50.0	pCi/L			RM3	02/04/25	1021	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.307	+/-1.90	3.55	+/-1.90	8.00	pCi/L			HH3	02/13/25	0947	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	3.36	+/-3.45	5.03	+/-3.50	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta		9.86	+/-5.98	8.93	+/-6.20	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	-43.8	+/-90.8	172	+/-90.8	300	pCi/L			KXA1	02/09/25	1724	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	8.02	+/-11.2	19.0	+/-11.3	25.0	pCi/L			GS3	02/13/25	1541	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2751719	95.7	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	85	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	78	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	89.6	(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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW220SG2-25
Sample ID: 706418001

Project: FRNP00609
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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW221SG2-25
Sample ID: 706418003
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.213	+/-0.296	0.442	+/-0.297	5.00	pCi/L			CM4	02/07/25	0839	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.336	+/-0.995	1.87	+/-0.999	50.0	pCi/L			RM3	02/04/25	1021	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-1.26	+/-1.24	2.56	+/-1.24	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	1.12	+/-3.34	6.78	+/-3.35	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta		11.4	+/-6.98	10.6	+/-7.23	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	77.6	+/-101	172	+/-102	300	pCi/L			KXA1	02/09/25	1806	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	8.82	+/-11.4	19.3	+/-11.5	25.0	pCi/L			GS3	02/13/25	1603	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	99.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	73.6	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	105	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	88	(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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW221SG2-25
Sample ID: 706418003

Project: FRNP00609
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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW222SG2-25
Sample ID: 706418005
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.247	+/-0.431	0.646	+/-0.431	5.00	pCi/L			CM4	02/08/25	0917	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	1.14	+/-1.21	1.76	+/-1.22	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.134	+/-1.33	2.47	+/-1.33	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	1.20	+/-4.24	8.36	+/-4.24	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta	U	6.41	+/-5.43	8.69	+/-5.53	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	10.8	+/-99.7	179	+/-99.7	300	pCi/L			KXA1	02/09/25	1849	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	7.13	+/-11.8	20.1	+/-11.8	25.0	pCi/L			GS3	02/13/25	1624	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	101	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	68.9	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	95.1	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	84.1	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW222SG2-25 Project: FRNP00609
Sample ID: 706418005 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW223SG2-25
Sample ID: 706418007
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.389	+/-0.487	0.598	+/-0.488	5.00	pCi/L			CM4	02/08/25	0917	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.162	+/-0.852	1.69	+/-0.854	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.269	+/-1.57	2.98	+/-1.57	8.00	pCi/L			HH3	02/13/25	0947	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	0.824	+/-2.97	6.25	+/-2.98	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta		16.0	+/-7.06	9.83	+/-7.53	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	59.2	+/-98.4	170	+/-99.1	300	pCi/L			KXA1	02/09/25	1932	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	7.48	+/-12.2	20.8	+/-12.2	25.0	pCi/L			GS3	02/13/25	1646	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	100	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	80.9	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	80.5	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	81.5	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW223SG2-25 Project: FRNP00609
Sample ID: 706418007 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW224SG2-25
Sample ID: 706418009
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.322	+/-0.321	0.372	+/-0.322	5.00	pCi/L			CM4	02/07/25	0839	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	-0.0319	+/-0.740	1.62	+/-0.741	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	1.03	+/-1.86	3.23	+/-1.87	8.00	pCi/L			HH3	02/13/25	0951	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	2.77	+/-4.25	7.45	+/-4.28	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta	U	3.83	+/-7.51	13.1	+/-7.54	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	7.73	+/-94.1	170	+/-94.1	300	pCi/L			KXA1	02/09/25	2015	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	-4.06	+/-12.6	22.4	+/-12.6	25.0	pCi/L			GS3	02/13/25	1708	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	98.3	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	81.2	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	92.7	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	75.7	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW224SG2-25 Project: FRNP00609
Sample ID: 706418009 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW387SG2-25
Sample ID: 706418011
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.00588	+/-0.270	0.594	+/-0.270	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.921	+/-1.07	1.67	+/-1.09	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.741	+/-0.868	1.94	+/-0.869	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	6.06	+/-4.87	6.38	+/-4.98	15.0	pCi/L			AH4	02/07/25	1543	2746833	4
Beta		74.1	+/-12.0	10.5	+/-17.1	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	3.57	+/-99.1	179	+/-99.1	300	pCi/L			KXA1	02/09/25	2058	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99		88.6	+/-15.5	20.8	+/-19.0	25.0	pCi/L			GS3	02/13/25	1729	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	99.1	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	92.4	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	95.1	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	81.9	(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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053
Report Date: April 29, 2025
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW387SG2-25
Sample ID: 706418011
Project: FRNP00609
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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW388SG2-25
Sample ID: 706418013
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.315	+/-0.464	0.767	+/-0.464	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.298	+/-0.810	1.50	+/-0.814	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.122	+/-1.51	2.90	+/-1.51	8.00	pCi/L			HH3	02/13/25	0947	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	5.82	+/-5.25	7.76	+/-5.35	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta		28.1	+/-8.40	10.1	+/-9.58	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	2.03	+/-98.5	179	+/-98.6	300	pCi/L			KXA1	02/09/25	2140	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99		35.5	+/-12.9	19.8	+/-13.6	25.0	pCi/L			GS3	02/13/25	1751	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	101	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	82.6	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	73.2	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	85.5	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW388SG2-25 Project: FRNP00609
Sample ID: 706418013 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW390SG2-25
Sample ID: 706418015
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.437	+/-0.597	0.639	+/-0.598	5.00	pCi/L			CM4	02/19/25	1707	2751719	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.763	+/-0.891	1.31	+/-0.900	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	2.23	+/-1.94	3.18	+/-1.97	8.00	pCi/L			HH3	02/13/25	0951	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	-0.164	+/-3.28	7.53	+/-3.28	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta		48.9	+/-9.86	9.85	+/-12.7	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	7.67	+/-98.6	178	+/-98.6	300	pCi/L			KXA1	02/09/25	2223	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99		77.5	+/-14.2	19.3	+/-17.1	25.0	pCi/L			GS3	02/13/25	1813	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2751719	95.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	90.7	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	90.2	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	87.9	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW390SG2-25 Project: FRNP00609
Sample ID: 706418015 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW391SG2-25
Sample ID: 706418017
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.351	+/-0.558	0.855	+/-0.559	5.00	pCi/L			CM4	02/08/25	0917	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	1.10	+/-1.11	1.55	+/-1.13	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-1.00	+/-1.41	2.87	+/-1.41	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	1.82	+/-3.13	5.72	+/-3.15	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta	U	9.85	+/-6.49	9.97	+/-6.69	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	5.10	+/-94.8	171	+/-94.8	300	pCi/L			KXA1	02/09/25	2306	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	3.71	+/-11.3	19.5	+/-11.3	25.0	pCi/L			GS3	02/13/25	1834	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	98.7	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	73.4	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	85.4	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	87.2	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW391SG2-25 Project: FRNP00609
Sample ID: 706418017 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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW392SG2-25
Sample ID: 706418019
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.355	+/-0.447	0.701	+/-0.448	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	1.21	+/-1.52	2.35	+/-1.54	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	1.42	+/-1.64	2.76	+/-1.66	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	-2.67	+/-2.11	7.52	+/-2.11	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta	U	0.287	+/-5.35	10.1	+/-5.35	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	-19.1	+/-96.2	178	+/-96.2	300	pCi/L			KXA1	02/09/25	2349	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	-5.13	+/-11.0	19.7	+/-11.0	25.0	pCi/L			GS3	02/13/25	1856	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	100	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	52.6	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	75.6	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	85.8	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW392SG2-25 Project: FRNP00609
Sample ID: 706418019 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW393SG2-25
Sample ID: 706418021
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.274	+/-0.434	0.727	+/-0.434	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.533	+/-1.02	1.77	+/-1.02	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.186	+/-1.56	2.95	+/-1.56	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	0.223	+/-2.27	5.76	+/-2.28	15.0	pCi/L			AH4	02/05/25	1339	2742202	4
Beta		10.1	+/-6.30	9.62	+/-6.52	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	31.0	+/-100	177	+/-101	300	pCi/L			KXA1	02/10/25	0032	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	-4.56	+/-10.9	19.4	+/-10.9	25.0	pCi/L			GS3	02/13/25	1918	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	102	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	81.4	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	75.6	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	87.3	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW393SG2-25 Project: FRNP00609
Sample ID: 706418021 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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW394SG2-25
Sample ID: 706418023
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.586	+/-0.505	0.665	+/-0.506	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	1.06	+/-1.17	1.68	+/-1.19	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.107	+/-0.963	1.85	+/-0.963	8.00	pCi/L			HH3	02/13/25	0951	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	1.17	+/-2.86	5.70	+/-2.87	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta	U	4.58	+/-5.68	9.62	+/-5.73	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	21.7	+/-100	179	+/-100	300	pCi/L			KXA1	02/10/25	0115	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	9.28	+/-11.2	18.9	+/-11.3	25.0	pCi/L			GS3	02/13/25	1939	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	102	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	70.6	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	92.7	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	89.8	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW394SG2-25 Project: FRNP00609
Sample ID: 706418023 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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW395SG2-25
Sample ID: 706418025
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.379	+/-0.477	0.748	+/-0.478	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.822	+/-1.20	1.98	+/-1.21	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-1.52	+/-1.28	2.82	+/-1.28	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	1.71	+/-3.44	6.50	+/-3.46	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta		11.5	+/-6.58	9.81	+/-6.86	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	56.5	+/-100	173	+/-101	300	pCi/L			KXA1	02/10/25	0157	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	2.80	+/-11.9	20.6	+/-11.9	25.0	pCi/L			GS3	02/13/25	2001	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	99.4	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	71.9	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	80.5	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	82.4	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW395SG2-25 Project: FRNP00609
Sample ID: 706418025 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW396SG2-25
Sample ID: 706418027
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	-0.0531	+/-0.426	0.921	+/-0.426	5.00	pCi/L			CM4	02/07/25	0842	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	-0.173	+/-0.862	1.94	+/-0.863	50.0	pCi/L			RM3	02/04/25	1022	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-1.20	+/-1.65	3.23	+/-1.65	8.00	pCi/L			HH3	02/13/25	0951	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	-0.598	+/-2.91	7.37	+/-2.91	15.0	pCi/L			AH4	02/05/25	0844	2742202	4
Beta	U	-1.26	+/-4.75	9.34	+/-4.75	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	36.3	+/-101	177	+/-101	300	pCi/L			KXA1	02/10/25	0240	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	-4.73	+/-11.1	19.8	+/-11.1	25.0	pCi/L			GS3	02/13/25	2023	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	98.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	88.2	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	92.7	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	85.8	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW396SG2-25 Project: FRNP00609
Sample ID: 706418027 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW397SG2-25
Sample ID: 706418029
Matrix: WG
Collect Date: 29-JAN-25
Receive Date: 30-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.234	+/-0.431	0.671	+/-0.431	5.00	pCi/L			CM4	02/08/25	0917	2742615	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.153	+/-0.847	1.71	+/-0.850	50.0	pCi/L			RM3	02/04/25	1025	2742614	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-1.09	+/-1.07	2.36	+/-1.07	8.00	pCi/L			HH3	02/13/25	0948	2742199	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	2.09	+/-4.02	7.45	+/-4.03	15.0	pCi/L			AH4	02/05/25	0845	2742202	4
Beta		15.3	+/-6.43	8.59	+/-6.93	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	17.1	+/-96.0	172	+/-96.1	300	pCi/L			KXA1	02/10/25	0445	2741848	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	19.0	+/-12.1	19.7	+/-12.3	25.0	pCi/L			GS3	02/13/25	2044	2742289	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2742615	98.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2742614	87.3	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742199	92.7	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	86.4	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW397SG2-25 Project: FRNP00609
Sample ID: 706418029 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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053
Report Date: April 29, 2025
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384DSG2-25
Sample ID: 706672001
Matrix: WG
Collect Date: 30-JAN-25
Receive Date: 31-JAN-25
Collector: Client
Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.309	+/-0.487	0.795	+/-0.488	5.00	pCi/L			CM4	02/11/25	0804	2744338	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.692	+/-1.13	1.85	+/-1.14	50.0	pCi/L			RM3	02/06/25	0944	2744339	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.605	+/-0.931	1.98	+/-0.931	8.00	pCi/L			HH3	02/13/25	1330	2742835	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	-0.452	+/-3.44	8.05	+/-3.44	15.0	pCi/L			AH4	02/05/25	1251	2742848	4
Beta		34.5	+/-8.47	8.97	+/-10.2	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	64.5	+/-136	235	+/-136	300	pCi/L			KXA1	02/10/25	0856	2746544	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99		46.8	+/-12.3	17.0	+/-13.3	25.0	pCi/L			GS3	02/18/25	2237	2744824	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2744338	98.1	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2744339	83.7	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742835	107	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2744824	98.4	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384DSG2-25 Project: FRNP00609
Sample ID: 706672001 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384SG2-25
Sample ID: 706672003
Matrix: WG
Collect Date: 30-JAN-25
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.313	+/-0.357	0.524	+/-0.357	5.00	pCi/L			CM4	02/09/25	0910	2744338	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.299	+/-1.19	2.31	+/-1.19	50.0	pCi/L			RM3	02/06/25	0944	2744339	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	1.31	+/-1.62	2.74	+/-1.63	8.00	pCi/L			HH3	02/13/25	1330	2742835	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	0.0458	+/-3.07	7.06	+/-3.08	15.0	pCi/L			AH4	02/05/25	1251	2742848	4
Beta		24.0	+/-8.29	11.0	+/-9.20	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	39.4	+/-133	233	+/-134	300	pCi/L			KXA1	02/10/25	0938	2746544	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99		37.1	+/-12.0	17.4	+/-12.7	25.0	pCi/L			GS3	02/18/25	2253	2744824	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2744338	100	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2744339	83.3	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742835	100	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2744824	95.9	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384SG2-25 Project: FRNP00609
Sample ID: 706672003 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, LLC
Address : 5600 Hobbs Road
Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW385SG2-25
Sample ID: 706672005
Matrix: WG
Collect Date: 30-JAN-25
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.380	+/-0.404	0.604	+/-0.404	5.00	pCi/L			CM4	02/09/25	0910	2744338	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	1.14	+/-1.27	1.87	+/-1.29	50.0	pCi/L			RM3	02/06/25	0944	2744339	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.105	+/-2.12	3.98	+/-2.12	8.00	pCi/L			HH3	02/13/25	1330	2742835	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	1.02	+/-3.60	7.36	+/-3.60	15.0	pCi/L			AH4	02/05/25	1251	2742848	4
Beta		33.0	+/-8.29	8.99	+/-9.93	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	38.8	+/-130	227	+/-130	300	pCi/L			KXA1	02/10/25	1020	2746544	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99		43.6	+/-12.3	17.3	+/-13.2	25.0	pCi/L			GS3	02/18/25	2310	2744824	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2744338	101	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2744339	90.9	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742835	61	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2744824	96.8	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW385SG2-25 Project: FRNP00609
Sample ID: 706672005 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW386SG2-25
Sample ID: 706672007
Matrix: WG
Collect Date: 30-JAN-25
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.536	+/-0.435	0.541	+/-0.436	5.00	pCi/L			CM4	02/09/25	0910	2744338	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	1.42	+/-1.33	1.65	+/-1.35	50.0	pCi/L			RM3	02/06/25	1119	2744339	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.652	+/-1.66	2.97	+/-1.66	8.00	pCi/L			HH3	02/13/25	1330	2742835	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	-0.317	+/-3.46	8.23	+/-3.46	15.0	pCi/L			AH4	02/05/25	1251	2742848	4
Beta	U	3.88	+/-5.33	9.13	+/-5.37	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	133	+/-141	236	+/-143	300	pCi/L			KXA1	02/10/25	1102	2746544	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	4.16	+/-9.99	17.3	+/-10.0	25.0	pCi/L			GS3	02/18/25	2327	2744824	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2744338	97.5	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2744339	60.7	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742835	75.6	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2744824	96.4	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW386SG2-25 Project: FRNP00609
Sample ID: 706672007 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: RI1SG2-25
Sample ID: 706672009
Matrix: WATER
Collect Date: 30-JAN-25
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.0823	+/-0.283	0.542	+/-0.283	5.00	pCi/L			CM4	02/09/25	0910	2744338	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.363	+/-1.12	2.10	+/-1.12	50.0	pCi/L			RM3	02/06/25	1119	2744339	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	0.118	+/-0.772	1.48	+/-0.773	8.00	pCi/L			HH3	02/13/25	1330	2742835	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	0.585	+/-2.45	5.40	+/-2.45	15.0	pCi/L			AH4	02/05/25	1251	2742848	4
Beta	U	2.57	+/-4.99	8.82	+/-5.01	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	23.7	+/-128	225	+/-128	300	pCi/L			KXA1	02/10/25	1143	2746544	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	3.36	+/-9.86	17.2	+/-9.86	25.0	pCi/L			GS3	02/18/25	2343	2744824	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2744338	97.3	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2744339	67.6	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742835	107	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2744824	97.6	(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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: RI1SG2-25 Project: FRNP00609
Sample ID: 706672009 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-S&T Landfill Quarterly(SG25-02)

Client Sample ID: FB1SG2-25
Sample ID: 706672010
Matrix: WATER
Collect Date: 30-JAN-25
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
AlphaSpec Ra226, Liquid "As Received"														
Radium-226	U	0.198	+/-0.275	0.410	+/-0.275	5.00	pCi/L			CM4	02/09/25	0910	2744338	1
Th-01-RC M, Th Isotopes, Liquid "As Received"														
Thorium-230	U	0.389	+/-0.886	1.59	+/-0.891	50.0	pCi/L			RM3	02/06/25	1119	2744339	2
Rad Gas Flow Proportional Counting														
905.0 Mod, Sr90, liquid "As Received"														
Strontium-90	U	-0.986	+/-1.22	2.64	+/-1.22	8.00	pCi/L			HH3	02/13/25	1330	2742835	3
9310,Alpha/Beta Activity, liquid "As Received"														
Alpha	U	-1.65	+/-2.71	7.54	+/-2.71	15.0	pCi/L			AH4	02/05/25	1251	2742848	4
Beta	U	-1.73	+/-4.65	9.37	+/-4.65	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
906.0 Mod, Tritium Dist, Liquid "As Received"														
Tritium	U	75.3	+/-135	231	+/-135	300	pCi/L			KXA1	02/10/25	1225	2746544	5
Tc-02-RC-MOD, Tc99, Liquid "As Received"														
Technetium-99	U	-0.000827	+/-9.86	17.6	+/-9.86	25.0	pCi/L			GS3	02/19/25	0000	2744824	6

The following Analytical Methods were performed

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

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AlphaSpec Ra226, Liquid "As Received"	2744338	99.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2744339	82.4	(30%-110%)
Strontium Carrier	905.0 Mod, Sr90, liquid "As Received"	2742835	75.6	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2744824	95.2	(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, LLC
Address : 5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: FB1SG2-25
Sample ID: 706672010

Project: FRNP00609
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

Report Date: April 29, 2025

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384DSG2-25
Sample ID: 706672001
Matrix: WG
Collect Date: 30-JAN-25 08:28
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0191	0.00858	0.0191	ug/L	0.953	1	LOF	02/04/25	2338	2743489	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.836	0.330	2.00	mg/L		1	KB3	02/05/25	2350	2743992	3
Flow Injection Analysis												
9012B, Total Cyanide "As Received"												
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	JLD1	02/04/25	1343	2743257	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	JS13	02/26/25	1044	2755261	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/31/25	1158	2742700	6
SW846 9056A Anions (5) "As Received"												
Bromide		0.264	0.0670	0.200	mg/L		1	CH6	01/31/25	1258	2742515	7
Fluoride	J	0.172	0.0330	4.00	mg/L		1					
Sulfate		18.9	0.133	0.400	mg/L		1					
Chloride	J	21.6	0.268	250	mg/L		4	CH6	01/31/25	1837	2742515	8
Nitrate-N	J	0.807	0.132	10.0	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	J	0.000170	0.0000670	0.000200	mg/L	1.00	1	JP2	02/04/25	1023	2743354	9
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/25	1906	2745300	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		0.194	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		23.1	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384DSG2-25 Project: FRNP00609
Sample ID: 706672001 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Copper	J	0.000686	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		9.96	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	J	0.000782	0.000600	0.00200	mg/L	1.00	1					
Potassium		1.36	0.0800	0.300	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		44.4	0.0800	0.250	mg/L	1.00	1					
Tantalum	U	0.00500	0.00100	0.00500	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					
Boron		0.0803	0.00520	0.0150	mg/L	1.00	1	PRB	04/02/25	2224	2773801	11
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		185	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	12
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	HH2	02/03/25	1309	2743441	13
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/06/25	1256	2745972	14
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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384DSG2-25 Project: FRNP00609
Sample ID: 706672001 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UQ	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	UQ	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	J	0.870	0.333	1.00	ug/L		1					
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1					
Vinyl acetate	UQ	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384DSG2-25 Project: FRNP00609
Sample ID: 706672001 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	02/03/25	1130	2743256
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/03/25	1100	2743352
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487
SW846 3005A	ICP-MS 3005A PREP	HS2	02/11/25	0930	2745299
SW846 3005A	ICP-MS 3005A PREP	HS2	04/01/25	1535	2773792

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	EPA 160.1	
13	EPA 410.4	
14	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011, VOA Compounds Liquid "As Received"	7.43 ug/L	6.81	109	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	51.4 ug/L	50.0	103	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	57.2 ug/L	50.0	114	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.8 ug/L	50.0	104	(89%-112%)

Notes:

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW384DSG2-25	Project:	FRNP00609
Sample ID:	706672001	Client ID:	FRNP006

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

Column headers are defined as follows:

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

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW384DSG2-25	Project:	FRNP00609
Sample ID:	706672002	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	30-JAN-25 08:28		
Receive Date:	31-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		0.195	0.000670	0.00400	mg/L	1.00	1	PRB	02/20/25	1909	2745300	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	02/05/25	1255	2742747
SW846 3005A	ICP-MS 3005A PREP	HS2	02/11/25	0930	2745299

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
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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384SG2-25
Sample ID: 706672003
Matrix: WG
Collect Date: 30-JAN-25 08:28
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0190	0.00853	0.0190	ug/L	0.948	1	LOF	02/05/25	0012	2743489	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.826	0.330	2.00	mg/L		1	KB3	02/06/25	0022	2743992	3
Flow Injection Analysis												
9012B, Total Cyanide "As Received"												
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	JLD1	02/04/25	1344	2743257	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens		12.3	3.33	10.0	ug/L		1	JS13	02/26/25	1138	2755261	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/31/25	1211	2742700	6
SW846 9056A Anions (5) "As Received"												
Bromide		0.277	0.0670	0.200	mg/L		1	CH6	01/31/25	1329	2742515	7
Fluoride	J	0.173	0.0330	4.00	mg/L		1					
Sulfate		19.5	0.133	0.400	mg/L		1					
Chloride	J	21.8	0.268	250	mg/L		4	CH6	01/31/25	1908	2742515	8
Nitrate-N	J	0.792	0.132	10.0	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	02/04/25	1025	2743354	9
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/25	1912	2745300	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		0.197	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		23.3	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384SG2-25 Project: FRNP00609
Sample ID: 706672003 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Copper	J	0.000866	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		10.1	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		1.40	0.0800	0.300	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		44.9	0.0800	0.250	mg/L	1.00	1					
Tantalum	U	0.00500	0.00100	0.00500	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					
Boron		0.0818	0.00520	0.0150	mg/L	1.00	1	PRB	04/02/25	2227	2773801	11
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		200	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	12
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	HH2	02/03/25	1309	2743441	13
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/06/25	1322	2745972	14
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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384SG2-25 Project: FRNP00609
Sample ID: 706672003 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UQ	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	UQ	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	J	0.600	0.333	1.00	ug/L		1					
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1					
Vinyl acetate	UQ	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW384SG2-25 Project: FRNP00609
Sample ID: 706672003 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	HS2	02/11/25	0930	2745299
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/03/25	1100	2743352
SW846 9010C Distillation	SW846 9010C Prep	ES2	02/03/25	1130	2743256
SW846 3005A	ICP-MS 3005A PREP	HS2	04/01/25	1535	2773792
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487

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	EPA 160.1	
13	EPA 410.4	
14	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011, VOA Compounds Liquid "As Received"	6.55 ug/L	6.77	97	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	50.9 ug/L	50.0	102	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	58.5 ug/L	50.0	117	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	52.7 ug/L	50.0	105	(89%-112%)

Notes:

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW384SG2-25	Project:	FRNP00609
Sample ID:	706672003	Client ID:	FRNP006

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

Column headers are defined as follows:

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

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW384SG2-25	Project:	FRNP00609
Sample ID:	706672004	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	30-JAN-25 08:28		
Receive Date:	31-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		0.199	0.000670	0.00400	mg/L	1.00	1	PRB	02/20/25	1915	2745300	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	02/05/25	1255	2742747
SW846 3005A	ICP-MS 3005A PREP	HS2	02/11/25	0930	2745299

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
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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW385SG2-25
Sample ID: 706672005
Matrix: WG
Collect Date: 30-JAN-25 09:31
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0189	0.00850	0.0189	ug/L	0.944	1	LOF	02/05/25	0046	2743489	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.800	0.330	2.00	mg/L		1	KB3	02/06/25	0054	2743992	3
Flow Injection Analysis												
9012B, Total Cyanide "As Received"												
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	JLD1	02/04/25	1345	2743257	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens		16.7	3.33	10.0	ug/L		1	JS13	02/26/25	1208	2755261	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/31/25	1224	2742700	6
SW846 9056A Anions (5) "As Received"												
Bromide		0.256	0.0670	0.200	mg/L		1	CH6	01/31/25	1359	2742515	7
Fluoride	J	0.145	0.0330	4.00	mg/L		1					
Sulfate		19.4	0.133	0.400	mg/L		1					
Chloride	J	21.9	0.268	250	mg/L		4	CH6	01/31/25	1939	2742515	8
Nitrate-N	J	0.821	0.132	10.0	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	02/04/25	1026	2743354	9
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/25	1918	2745300	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					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		23.4	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00154	0.000300	0.00100	mg/L	1.00	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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW385SG2-25 Project: FRNP00609
Sample ID: 706672005 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Copper	J	0.000790	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		9.82	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00105	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000218	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.00108	0.000600	0.00200	mg/L	1.00	1					
Potassium		1.56	0.0800	0.300	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	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		45.2	0.0800	0.250	mg/L	1.00	1					
Tantalum	U	0.00500	0.00100	0.00500	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	0.00337	0.00330	0.0200	mg/L	1.00	1					
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Boron		0.0823	0.00520	0.0150	mg/L	1.00	1	PRB	04/02/25	2230	2773801	11
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		193	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	12
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	HH2	02/03/25	1309	2743441	13
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/06/25	1349	2745972	14
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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW385SG2-25 Project: FRNP00609
Sample ID: 706672005 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UQ	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	UQ	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	UQ	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW385SG2-25 Project: FRNP00609
Sample ID: 706672005 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	HS2	04/01/25	1535	2773792
SW846 9010C Distillation	SW846 9010C Prep	ES2	02/03/25	1130	2743256
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/03/25	1100	2743352
SW846 3005A	ICP-MS 3005A PREP	HS2	02/11/25	0930	2745299

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	EPA 160.1	
13	EPA 410.4	
14	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011, VOA Compounds Liquid "As Received"	7.18 ug/L	6.74	106	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	51.6 ug/L	50.0	103	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	58.3 ug/L	50.0	117	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	52.0 ug/L	50.0	104	(89%-112%)

Notes:

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW385SG2-25	Project:	FRNP00609
Sample ID:	706672005	Client ID:	FRNP006

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

Column headers are defined as follows:

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

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW385SG2-25	Project:	FRNP00609
Sample ID:	706672006	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	30-JAN-25 09:31		
Receive Date:	31-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		0.205	0.000670	0.00400	mg/L	1.00	1	PRB	02/20/25	1940	2745300	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	HS2	02/11/25	0930	2745299
EPA 160	Laboratory Filtration	SD	02/05/25	1255	2742747

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
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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW386SG2-25
Sample ID: 706672007
Matrix: WG
Collect Date: 30-JAN-25 10:17
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0188	0.00847	0.0188	ug/L	0.941	1	LOF	02/05/25	0228	2743489	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average		6.54	0.330	2.00	mg/L		1	KB3	02/06/25	0230	2743992	3
Flow Injection Analysis												
9012B, Total Cyanide "As Received"												
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	JLD1	02/04/25	1354	2743257	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens		135	3.33	10.0	ug/L		1	JS13	02/26/25	1331	2755261	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/31/25	1302	2742700	6
SW846 9056A Anions (5) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/31/25	1634	2742515	7
Chloride	J	9.52	0.0670	250	mg/L		1					
Fluoride	J	0.887	0.0330	4.00	mg/L		1					
Nitrate-N	U	10.0	0.0330	10.0	mg/L		1					
Sulfate		31.0	0.266	0.800	mg/L		2	CH6	01/31/25	2112	2742515	8
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/04/25	1034	2743354	9
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/25	1943	2745300	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00284	0.00200	0.00500	mg/L	1.00	1					
Barium		0.190	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		20.2	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00943	0.000300	0.00100	mg/L	1.00	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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW386SG2-25 Project: FRNP00609
Sample ID: 706672007 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Copper	J	0.000470	0.000300	0.00200	mg/L	1.00	1					
Iron		1.52	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		8.63	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.870	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000947	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.00260	0.000600	0.00200	mg/L	1.00	1					
Potassium	J	0.297	0.0800	0.300	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	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					
Tantalum	U	0.00500	0.00100	0.00500	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	0.00367	0.00330	0.0200	mg/L	1.00	1					
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Sodium		111	1.60	5.00	mg/L	1.00	20	PRB	02/21/25	0807	2745300	11
Boron		0.0231	0.00520	0.0150	mg/L	1.00	1	PRB	04/02/25	2251	2773801	12
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		341	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	13
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	HH2	02/03/25	1309	2743441	14
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/06/25	1415	2745972	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW386SG2-25 Project: FRNP00609
Sample ID: 706672007 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UQ	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	UQ	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	UQ	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: MW386SG2-25 Project: FRNP00609
Sample ID: 706672007 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	HS2	02/11/25	0930	2745299
SW846 9010C Distillation	SW846 9010C Prep	ES2	02/03/25	1130	2743256
SW846 3005A	ICP-MS 3005A PREP	HS2	04/01/25	1535	2773792
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/03/25	1100	2743352
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487

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	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 Compounds Liquid "As Received"	6.59 ug/L	6.72	98	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	51.4 ug/L	50.0	103	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	58.6 ug/L	50.0	117	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.2 ug/L	50.0	102	(89%-112%)

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW386SG2-25	Project:	FRNP00609
Sample ID:	706672007	Client ID:	FRNP006

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

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	MW386SG2-25	Project:	FRNP00609
Sample ID:	706672008	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	30-JAN-25 10:17		
Receive Date:	31-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		0.128	0.000670	0.00400	mg/L	1.00	1	PRB	02/20/25	1946	2745300	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	HS2	02/11/25	0930	2745299
EPA 160	Laboratory Filtration	SD	02/05/25	1255	2742747

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

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: RI1SG2-25
Sample ID: 706672009
Matrix: WATER
Collect Date: 30-JAN-25 06:35
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0189	0.00850	0.0189	ug/L	0.944	1	LOF	02/05/25	0301	2743489	1
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/31/25	1315	2742700	3
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/04/25	1036	2743354	4
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/25	1950	2745300	5
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					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium	U	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					
Rhodium	U	0.00500	0.00160	0.00500	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					
Tantalum	U	0.00500	0.00100	0.00500	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	0.00425	0.00330	0.0200	mg/L	1.00	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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: RI1SG2-25 Project: FRNP00609
Sample ID: 706672009 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Boron	U	0.0150	0.00520	0.0150	mg/L	1.00	1	PRB	04/02/25	2254	2773801	6
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/06/25	1441	2745972	7
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	2.66	1.74	5.00	ug/L		1					
Acrolein	UQ	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	UQ	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	0.390	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	UQ	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: RI1SG2-25 Project: FRNP00609
Sample ID: 706672009 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UQ	5.00	1.67	5.00	ug/L		1					
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1					
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1					
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1					
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1					
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487
SW846 3005A	ICP-MS 3005A PREP	HS2	04/01/25	1535	2773792
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/03/25	1100	2743352
SW846 3005A	ICP-MS 3005A PREP	HS2	02/11/25	0930	2745299

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011, VOA Compounds Liquid "As Received"	6.84 ug/L	6.74	101	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.5 ug/L	50.0	105	(85%-114%)

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	RI1SG2-25	Project:	FRNP00609
Sample ID:	706672009	Client ID:	FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time	Batch	Method
1,2-Dichloroethane-d4		8260D, Volatiles- full suite "As Received"		58.0	ug/L	50.0		116		(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

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: FB1SG2-25
Sample ID: 706672010
Matrix: WATER
Collect Date: 30-JAN-25 08:30
Receive Date: 31-JAN-25
Collector: Client

Project: FRNP00609
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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0189	0.00853	0.0189	ug/L	0.947	1	LOF	02/05/25	0335	2743489	1
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/31/25	1328	2742700	3
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/04/25	1038	2743354	4
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/25	1953	2745300	5
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					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium	U	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					
Rhodium	U	0.00500	0.00160	0.00500	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					
Tantalum	U	0.00500	0.00100	0.00500	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	0.00407	0.00330	0.0200	mg/L	1.00	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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: FB1SG2-25 Project: FRNP00609
Sample ID: 706672010 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+) "As Received"												
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Boron	U	0.0150	0.00520	0.0150	mg/L	1.00	1	PRB	04/10/25	1640	2779460	6
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/06/25	1508	2745972	7
1,1,1-Trichloroethane	US	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	US	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	US	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	US	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	UQ	5.00	1.67	5.00	ug/L		1					
Benzene	US	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	US	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	US	1.00	0.333	1.00	ug/L		1					
Chloromethane	UQ	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					

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: FB1SG2-25 Project: FRNP00609
Sample ID: 706672010 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	US	1.00	0.333	1.00	ug/L		1					
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1					
Vinyl acetate	UQ	5.00	1.67	5.00	ug/L		1					
Vinyl chloride	US	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	HS2	02/11/25	0930	2745299
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487
SW846 3005A	ICP-MS 3005A PREP	TB2	04/10/25	0955	2779459
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/03/25	1100	2743352

The following Analytical Methods were performed:

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

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011, VOA Compounds Liquid "As Received"	6.92 ug/L	6.77	102	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.5 ug/L	50.0	105	(85%-114%)

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: FB1SG2-25 Project: FRNP00609
Sample ID: 706672010 Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time	Batch	Method
1,2-Dichloroethane-d4		8260D, Volatiles- full suite "As Received"		60.1	ug/L	50.0		120*		(81%-118%)	
Toluene-d8		8260D, Volatiles- full suite "As Received"		52.3	ug/L	50.0		105		(89%-112%)	

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	TB3SG2-25	Project:	FRNP00609
Sample ID:	706672011	Client ID:	FRNP006
Matrix:	WATER		
Collect Date:	30-JAN-25 06:30		
Receive Date:	31-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 Compounds Liquid "As Received"												
1,2-Dibromo-3-chloropropane	U	0.0189	0.00850	0.0189	ug/L	0.944	1	LOF	02/05/25	0409	2743489	1
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	HU	1.00	0.333	1.00	ug/L		1	PXY1	02/07/25	1156	2745972	3
1,1,1-Trichloroethane	HU	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	HU	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	HU	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	HU	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	HU	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	HU	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	HU	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	HU	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	HU	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	HU	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	HJ	0.350	0.333	1.00	ug/L		1					
2-Butanone	HU	5.00	1.67	5.00	ug/L		1					
2-Hexanone	HU	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	HU	5.00	1.67	5.00	ug/L		1					
Acetone	BHJ	3.66	1.74	5.00	ug/L		1					
Acrolein	HUQ	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	HUQ	5.00	1.67	5.00	ug/L		1					
Benzene	HU	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	HU	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	HU	1.00	0.333	1.00	ug/L		1					
Bromoform	HU	1.00	0.333	1.00	ug/L		1					
Bromomethane	HU	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	HU	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	HU	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	HJ	0.440	0.333	1.00	ug/L		1					
Chloroethane	HU	1.00	0.333	1.00	ug/L		1					
Chloroform	HU	1.00	0.333	1.00	ug/L		1					
Chloromethane	HUQ	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	HU	1.00	0.333	1.00	ug/L		1					
Dibromomethane	HU	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	HU	1.00	0.333	1.00	ug/L		1					
Iodomethane	HU	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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID: TB3SG2-25 Project: FRNP00609
Sample ID: 706672011 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	HU	5.00	0.500	5.00	ug/L		1					
Styrene	HU	1.00	0.333	1.00	ug/L		1					
Tetrachloroethylene	HU	1.00	0.333	1.00	ug/L		1					
Toluene	HU	1.00	0.333	1.00	ug/L		1					
Trichloroethylene	HU	1.00	0.333	1.00	ug/L		1					
Trichlorofluoromethane	HU	1.00	0.333	1.00	ug/L		1					
Vinyl acetate	HUQ	5.00	1.67	5.00	ug/L		1					
Vinyl chloride	HU	1.00	0.333	1.00	ug/L		1					
Xylenes (total)	HU	3.00	1.00	3.00	ug/L		1					
cis-1,2-Dichloroethylene	HU	1.00	0.333	1.00	ug/L		1					
cis-1,3-Dichloropropylene	HU	1.00	0.333	1.00	ug/L		1					
trans-1,2-Dichloroethylene	HU	1.00	0.333	1.00	ug/L		1					
trans-1,3-Dichloropropylene	HU	1.00	0.333	1.00	ug/L		1					
trans-1,4-Dichloro-2-butene	HU	5.00	1.67	5.00	ug/L		1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8011 PREP	8011 Prep	BM1	02/03/25	1239	2743487

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 Compounds Liquid "As Received"	7.31 ug/L	6.74	108	(56%-149%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	55.8 ug/L	50.0	112	(81%-118%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	51.5 ug/L	50.0	103	(85%-114%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	52.1 ug/L	50.0	104	(89%-112%)

Notes:

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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Quarterly(SG25-02)

Client Sample ID:	TB3SG2-25	Project:	FRNP00609
Sample ID:	706672011	Client ID:	FRNP006

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

Column headers are defined as follows:

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

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D

STATISTICAL ANALYSES AND QUALIFICATION STATEMENT

THIS PAGE INTENTIONALLY LEFT BLANK

RESIDENTIAL/INERT—QUARTERLY, 1st CY 2025 Finds/Unit: KY8-980-008-982/1
Facility: U.S. DOE—Paducah Gaseous Diffusion Plant Lab ID: None
Permit Number: SW07300014, SW07300015, SW07300045

GROUNDWATER STATISTICAL COMMENTS

Introduction

The statistical analyses conducted on the first quarter 2025 groundwater data collected from the C-746-S&T Landfills monitoring wells (MWs) were performed in accordance with Permit GSTR0003, Standard Requirement 3, using the U.S. Environmental Protection Agency (EPA) guidance document, *EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (1989).

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 initial 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 compliance well that 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. For parameters with no established MCL and for 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 for pH. The test well results are compared to both an upper tolerance limit (UTL) and lower tolerance limit (LTL) to determine if statistically significant deviations in concentrations exist with respect to upgradient (background) well data from the first eight quarters.

Statistical analyses are performed on the first eight quarters of historical background data, not on the data for the current quarter. Once a statistical result is obtained using the background data, the result for the current quarter is compared to that value. If the value is exceeded, the well is considered to have an exceedance of the statistically derived historical background concentration.

Exhibit D.1. Station Identification for Monitoring Wells Analyzed

Station	Type	Groundwater Unit
MW220	BG	URGA
MW221	SG	URGA
MW222	SG	URGA
MW223	SG	URGA
MW224	SG	URGA
MW369	TW	URGA
MW370	TW	LRGA
MW372	TW	URGA
MW373	TW	LRGA
MW384	SG	URGA
MW385	SG	LRGA
MW386[a]	SG	UCRS
MW387	TW	URGA
MW388	TW	LRGA
MW389[a,b]	TW	UCRS
MW390[a]	TW	UCRS
MW391	TW	URGA
MW392	TW	LRGA
MW393[a]	TW	UCRS
MW394	BG	URGA
MW395	BG	LRGA
MW396[a]	BG	UCRS
MW397	BG	LRGA

[a] The gradients in UCRS wells are downward. The UCRS wells identified as up-, side-, or downgradient are those wells located in the same general direction as the Regional Gravel Aquifer wells considered to be up-, side-, or downgradient.
[b] Well was dry this quarter and a groundwater sample could not be collected.
BG: upgradient or background wells
TW: compliance or test wells
SG: sidegradient wells

For those parameters that are determined to exceed the historical background concentration, a second one-sided tolerance interval statistical test, 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. 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, 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. Statistical analyses are performed on the last eight quarters of 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 (or is below the LTL for pH), the well has a statistically significant difference in concentration compared to the 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).

    - 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 ≤ 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 (or is below the LTL for pH), then there is statistically significant evidence that the well concentration exceeds the historical background.

Type of Data Used

Exhibit D.1 presents the background wells (identified as "BG"), the compliance or test wells (identified as "TW"), and the sidegradient wells (identified as "SG") for the C-746-S&T Residential and Inert Landfills. Exhibit D.2 presents the parameters from the available data set for which a statistical test was performed using the one-sided tolerance interval.

Exhibits D.3, D.4, and D.5 list the number of analyses (observations), nondetects (censored observations), and detects (uncensored observations) by parameter in the UCRS, the URGA, and the LRGA, respectively. Those parameters displayed with bold-face type indicate the one-sided tolerance interval statistical test was performed. The data presented in Exhibits D.3, D.4, and D.5 were collected during the current quarter, first quarter 2025. The observations are representative of the current quarter data. Historical background data are presented in Attachment D1. The sampling dates associated with background data are listed next to the result in Attachment D1. 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. A result has been considered a nondetect if it has a "U" validation code.

[1] For pH, two-sided tolerance limits (upper and lower) were calculated with an adjusted K factor using the following equations.
$UTL = X + (K \times S)$
$LTL = X - (K \times S)$

Exhibit D.2. List of Parameters Tested Using the One-Sided Upper Tolerance Level Test with Historical Background

Parameters
Aluminum
Beta Activity
Boron
Bromide
Calcium
Chloride
Cobalt
Conductivity
Copper
Dissolved Oxygen
Dissolved Solids
Iodide
Iron
Magnesium
Manganese
Molybdenum
Nickel
Oxidation-Reduction Potential[a]
pH[b]
Potassium
Sodium
Sulfate
Technetium-99
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	4	4	0	No
1,1,2,2-Tetrachloroethane	4	4	0	No
1,1,2-Trichloroethane	4	4	0	No
1,1-Dichloroethane	4	4	0	No
1,2,3-Trichloropropane	4	4	0	No
1,2-Dibromo-3-chloropropane	4	4	0	No
1,2-Dibromoethane	4	4	0	No
1,2-Dichlorobenzene	4	4	0	No
1,2-Dichloropropane	4	4	0	No
2-Butanone	4	4	0	No
2-Hexanone	4	4	0	No
4-Methyl-2-pentanone	4	4	0	No
Acetone	4	4	0	No
Acrolein	4	4	0	No
Acrylonitrile	4	4	0	No
Aluminum	**4**	**1**	**3**	**Yes**
Antimony	4	4	0	No
Beryllium	4	4	0	No
Boron	**4**	**0**	**4**	**Yes**
Bromide	**4**	**2**	**2**	**Yes**
Bromochloromethane	4	4	0	No
Bromodichloromethane	4	4	0	No
Bromoform	4	4	0	No
Bromomethane	4	4	0	No
Calcium	**4**	**0**	**4**	**Yes**
Carbon disulfide	4	4	0	No
Chemical Oxygen Demand (COD)	4	4	0	No
Chloride	**4**	**0**	**4**	**Yes**
Chlorobenzene	4	4	0	No
Chloroethane	4	4	0	No
Chloroform	4	4	0	No
Chloromethane	4	4	0	No
cis-1,2-Dichloroethene	4	4	0	No
cis-1,3-Dichloropropene	4	4	0	No
Cobalt	**4**	**3**	**1**	**Yes**
Conductivity	**4**	**0**	**4**	**Yes**
Copper	**4**	**0**	**4**	**Yes**
Cyanide	4	4	0	No
Dibromochloromethane	4	4	0	No
Dibromomethane	4	4	0	No
Dimethylbenzene, Total	4	4	0	No
Dissolved Oxygen	**4**	**0**	**4**	**Yes**
Dissolved Solids	**4**	**0**	**4**	**Yes**
Ethylbenzene	4	4	0	No
Iodide	**4**	**3**	**1**	**Yes**

Exhibit D.3. Summary of Censored and Uncensored Data—UCRS (Continued)

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
Iodomethane	4	4	0	No
Iron	**4**	**0**	**4**	**Yes**
Magnesium	**4**	**0**	**4**	**Yes**
Manganese	**4**	**1**	**3**	**Yes**
Methylene chloride	4	4	0	No
Molybdenum	**4**	**0**	**4**	**Yes**
Nickel	**4**	**1**	**3**	**Yes**
Oxidation-Reduction Potential	**4**	**0**	**4**	**Yes**
pH	**4**	**0**	**4**	**Yes**
Potassium	**4**	**0**	**4**	**Yes**
Radium-226	4	4	0	No
Rhodium	4	4	0	No
Sodium	**4**	**0**	**4**	**Yes**
Styrene	4	4	0	No
Sulfate	**4**	**0**	**4**	**Yes**
Tantalum	4	4	0	No
Technetium-99	**4**	**3**	**1**	**Yes**
Tetrachloroethene	4	4	0	No
Thallium	4	4	0	No
Thorium-230	4	4	0	No
Toluene	4	4	0	No
TOC	**4**	**0**	**4**	**Yes**
TOX	**4**	**0**	**4**	**Yes**
trans-1,2-Dichloroethene	4	4	0	No
trans-1,3-Dichloropropene	4	4	0	No
trans-1,4-Dichloro-2-Butene	4	4	0	No
Trichlorofluoromethane	4	4	0	No
Vanadium	**4**	**3**	**1**	**Yes**
Vinyl Acetate	4	4	0	No
Zinc	4	4	0	No

Bold denotes parameters with at least one uncensored observation.

Exhibit D.4. Summary of Censored and Uncensored Data—URGA

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	11	11	0	No
1,1,2,2-Tetrachloroethane	11	11	0	No
1,1,2-Trichloroethane	11	11	0	No
1,1-Dichloroethane	11	11	0	No
1,2,3-Trichloropropane	11	11	0	No
1,2-Dibromo-3-chloropropane	11	11	0	No
1,2-Dibromoethane	11	11	0	No
1,2-Dichlorobenzene	11	11	0	No
1,2-Dichloropropane	11	11	0	No
2-Butanone	11	11	0	No
2-Hexanone	11	11	0	No
4-Methyl-2-pentanone	11	11	0	No
Acetone	11	11	0	No
Acrolein	11	11	0	No
Acrylonitrile	11	11	0	No
Aluminum	**11**	**9**	**2**	**Yes**
Antimony	11	11	0	No
Beryllium	11	11	0	No
Beta activity	**11**	**4**	**7**	**Yes**
Boron	**11**	**0**	**11**	**Yes**
Bromide	**11**	**0**	**11**	**Yes**
Bromochloromethane	11	11	0	No
Bromodichloromethane	11	11	0	No
Bromoform	11	11	0	No
Bromomethane	11	11	0	No
Calcium	**11**	**0**	**11**	**Yes**
Carbon disulfide	11	11	0	No
COD	11	11	0	No
Chloride	**11**	**0**	**11**	**Yes**
Chlorobenzene	11	11	0	No
Chloroethane	11	11	0	No
Chloroform	11	11	0	No
Chloromethane	11	11	0	No
cis-1,2-Dichloroethene	11	11	0	No
cis-1,3-Dichloropropene	11	11	0	No
Cobalt	**11**	**7**	**4**	**Yes**
Conductivity	**11**	**0**	**11**	**Yes**
Copper	**11**	**0**	**11**	**Yes**
Cyanide	11	11	0	No
Dibromochloromethane	11	11	0	No
Dibromomethane	11	11	0	No
Dimethylbenzene, Total	11	11	0	No
Dissolved Oxygen	**11**	**0**	**11**	**Yes**
Dissolved Solids	**11**	**1**	**10**	**Yes**
Ethylbenzene	11	11	0	No

Exhibit D.4. Summary of Censored and Uncensored Data—URGA (Continued)

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
Iodide	11	11	0	No
Iodomethane	11	11	0	No
Iron	**11**	**5**	**6**	**Yes**
Magnesium	**11**	**0**	**11**	**Yes**
Manganese	**11**	**4**	**7**	**Yes**
Methylene chloride	11	11	0	No
Molybdenum	**11**	**6**	**5**	**Yes**
Nickel	**11**	**2**	**9**	**Yes**
Oxidation-Reduction Potential	**11**	**0**	**11**	**Yes**
pH	**11**	**0**	**11**	**Yes**
Potassium	**11**	**0**	**11**	**Yes**
Radium-226	11	11	0	No
Rhodium	11	11	0	No
Sodium	**11**	**0**	**11**	**Yes**
Styrene	11	11	0	No
Sulfate	**11**	**0**	**11**	**Yes**
Tantalum	11	11	0	No
Technetium-99	**11**	**8**	**3**	**Yes**
Tetrachloroethene	11	11	0	No
Thallium	11	11	0	No
Thorium-230	11	11	0	No
Toluene	11	11	0	No
TOC	**11**	**0**	**11**	**Yes**
TOX	**11**	**5**	**6**	**Yes**
trans-1,2-Dichloroethene	11	11	0	No
trans-1,3-Dichloropropene	11	11	0	No
trans-1,4-Dichloro-2-Butene	11	11	0	No
Trichlorofluoromethane	11	11	0	No
Vanadium	11	11	0	No
Vinyl Acetate	11	11	0	No
Zinc	**11**	**5**	**6**	**Yes**

Bold denotes parameters with at least one uncensored observation.

Exhibit D.5. Summary of Censored and Uncensored Data—LRGA

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	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**	**6**	**1**	**Yes**
Antimony	7	7	0	No
Beryllium	7	7	0	No
Boron	**7**	**1**	**6**	**Yes**
Bromide	**7**	**0**	**7**	**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	7	0	No
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
cis-1,2-Dichloroethene	7	7	0	No
cis-1,3-Dichloropropene	7	7	0	No
Cobalt	**7**	**4**	**3**	**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**

Exhibit D.5. Summary of Censored and Uncensored Data—LRGA (Continued)

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
Manganese	**7**	**2**	**5**	**Yes**
Methylene chloride	7	7	0	No
Molybdenum	**7**	**5**	**2**	**Yes**
Nickel	**7**	**2**	**5**	**Yes**
Oxidation-Reduction Potential	**7**	**0**	**7**	**Yes**
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**	**5**	**2**	**Yes**
Tetrachloroethene	7	7	0	No
Thallium	7	7	0	No
Thorium-230	7	7	0	No
Toluene	7	7	0	No
TOC	**7**	**0**	**7**	**Yes**
TOX	**7**	**2**	**5**	**Yes**
trans-1,2-Dichloroethene	7	7	0	No
trans-1,3-Dichloropropene	7	7	0	No
trans-1,4-Dichloro-2-Butene	7	7	0	No
Trichlorofluoromethane	7	7	0	No
Vanadium	**7**	**6**	**1**	**Yes**
Vinyl Acetate	7	7	0	No
Zinc	**7**	**4**	**3**	**Yes**

Bold denotes parameters with at least one uncensored observation.

Discussion of Results from Historical Background Comparison

For the UCRS, URGA, and LRGA, the concentrations of this quarter were compared to the results of the one-sided tolerance interval tests that were calculated using historical background and presented in Attachment D1. For the UCRS, URGA, and LRGA, the test was applied to 25, 25, and 25 parameters, respectively, including those listed in bold print in Exhibits D.3, D.4, and D.5. A summary of exceedances when compared to statistically derived historical background by well number is shown in Exhibit D.6.

UCRS

This quarter's results identified exceedances of historical background UTL for oxidation-reduction potential and technetium-99.

URGA

This quarter's results identified exceedances of historical background UTL for beta activity, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99.

LRGA

This quarter's results identified exceedances of historical background UTL for calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99.

Statistical Summary

Summaries of the results of the statistical tests conducted on data obtained from wells in the UCRS, the URGA, and in the LRGA 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
MW386: Oxidation-reduction potential*	**MW220:** Oxidation-reduction potential* and sulfate	**MW370:** Oxidation-reduction potential* and sulfate
MW390: Oxidation-reduction potential* and technetium-99	**MW221:** Oxidation-reduction potential*	**MW373:** Calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential,* sodium, and sulfate
MW393: Oxidation-reduction potential*	**MW222:** Oxidation-reduction potential*	**MW385:** Oxidation-reduction potential,* sulfate, and technetium-99
MW396: Oxidation-reduction potential*	**MW223:** Oxidation-reduction potential*	**MW388:** Conductivity, oxidation-reduction potential,* sulfate, and technetium-99
	MW224: Oxidation-reduction potential,* sodium, and sulfate	**MW392:** Oxidation-reduction potential*
	MW369: Oxidation-reduction potential* and technetium-99	**MW395:** Oxidation-reduction potential*
	MW372: Calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential,* sodium, and sulfate	**MW397:** Oxidation-reduction potential* and sodium
	MW384: Oxidation-reduction potential,* sulfate, and technetium-99	
	MW387: Beta activity**,** magnesium, oxidation-reduction potential,* sulfate, and technetium-99	

*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	0.57	No exceedance of statistically derived historical background concentration.
Boron	Tolerance Interval	1.28	No exceedance of statistically derived historical background concentration.
Bromide	Tolerance Interval	0.24	No exceedance of statistically derived historical background concentration.
Calcium	Tolerance Interval	0.20	No exceedance of statistically derived historical background concentration.
Chloride	Tolerance Interval	0.05	No exceedance of statistically derived historical background concentration.
Cobalt	Tolerance Interval	1.34	No exceedance of statistically derived historical background concentration.
Conductivity	Tolerance Interval	0.12	No exceedance of statistically derived historical background concentration.
Copper	Tolerance Interval	0.48	No exceedance of statistically derived historical background concentration.
Dissolved Oxygen	Tolerance Interval	1.20	No exceedance of statistically derived historical background concentration.
Dissolved Solids	Tolerance Interval	0.19	No exceedance of statistically derived historical background concentration.
Iodide	Tolerance Interval	0.13	No exceedance of statistically derived historical background concentration.
Iron	Tolerance Interval	0.48	No exceedance of statistically derived historical background concentration.
Magnesium	Tolerance Interval	0.20	No exceedance of statistically derived historical background concentration.
Manganese	Tolerance Interval	0.46	No exceedance of statistically derived historical background concentration.
Molybdenum	Tolerance Interval	1.51	No exceedance of statistically derived historical background concentration.
Nickel	Tolerance Interval	1.27	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential[b]	Tolerance Interval	4.77	Current results exceed statistically derived historical background concentration in MW386, MW390, MW393, and MW396.
pH	Tolerance Interval	0.05	No exceedance of statistically derived historical background concentration.
Potassium	Tolerance Interval	0.28	No exceedance of statistically derived historical background concentration.
Sodium	Tolerance Interval	0.30	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
Sulfate	Tolerance Interval	0.40	No exceedance of statistically derived historical background concentration.
Technetium-99	Tolerance Interval	0.86	Current results exceed statistically derived historical background concentration in MW390.
TOC	Tolerance Interval	0.47	No exceedance of statistically derived historical background concentration.
TOX	Tolerance Interval	0.38	No exceedance of statistically derived historical background concentration.
Vanadium	Tolerance Interval	0.11	No exceedance of statistically derived historical background concentration.

CV: coefficient of variation
[a] If CV > 1.0, used log-transformed data.
[b] Oxidation-reduction potential calibrated as Eh.

Exhibit D.8. Test Summaries for Qualified Parameters for Historical Background—URGA

Parameter	Performed Test	CV Normality Test[a]	Results of Tolerance Interval Test Conducted
Aluminum	Tolerance Interval	0.28	No exceedance of statistically derived historical background concentration.
Beta Activity	Tolerance Interval	0.97	Current results exceed statistically derived historical background concentration in MW387.
Boron	Tolerance Interval	1.45	No exceedance of statistically derived historical background concentration.
Bromide	Tolerance Interval	0.00	No exceedance of statistically derived historical background concentration.
Calcium	Tolerance Interval	0.17	Current results exceed statistically derived historical background concentrations in MW372.
Chloride	Tolerance Interval	0.23	No exceedance of statistically derived historical background concentration.
Cobalt	Tolerance Interval	2.44	No exceedance of statistically derived historical background concentration.
Conductivity	Tolerance Interval	0.28	Current results exceed statistically derived historical background concentration in MW372.
Copper	Tolerance Interval	0.43	No exceedance of statistically derived historical background concentration.
Dissolved Oxygen	Tolerance Interval	0.50	No exceedance of statistically derived historical background concentration.
Dissolved Solids	Tolerance Interval	0.12	Current results exceed statistically derived historical background concentration in MW372.
Iron	Tolerance Interval	1.17	No exceedance of statistically derived historical background concentration.
Magnesium	Tolerance Interval	0.16	Current results exceed statistically derived historical background concentration in MW372 and MW387.
Manganese	Tolerance Interval	2.16	No exceedance of statistically derived historical background concentration.
Molybdenum	Tolerance Interval	1.26	No exceedance of statistically derived historical background concentration.
Nickel	Tolerance Interval	1.79	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential[b]	Tolerance Interval	0.48	Current results exceed statistically derived historical background concentration in MW220, MW221, MW222, MW223, MW224, MW369, MW372, MW384, and MW387.
pH	Tolerance Interval	0.05	No exceedance of statistically derived historical background concentration.
Potassium	Tolerance Interval	1.40	No exceedance of statistically derived historical background concentration.
Sodium	Tolerance Interval	0.24	Current results exceed statistically derived historical background concentration in MW224 and MW372.

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	0.25	Current results exceed statistically derived historical background concentration in MW220, MW224, MW372, MW384, and MW387.
Technetium-99	Tolerance Interval	0.99	Current results exceed statistically derived historical background concentration in MW369, MW384, and MW387.
TOC	Tolerance Interval	0.49	No exceedance of statistically derived historical background concentration.
TOX	Tolerance Interval	2.57	No exceedance of statistically derived historical background concentration.
Zinc	Tolerance Interval	0.72	No exceedance of statistically derived historical background concentration.

CV: coefficient of variation
[a] If CV > 1.0, used log-transformed data.
[b] Oxidation-reduction potential calibrated as Eh.
[c] Tolerance interval was calculated based on an MCL exceedance.

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	0.86	No exceedance of statistically derived historical background concentration.
Boron	Tolerance Interval	1.24	No exceedance of statistically derived historical background concentration.
Bromide	Tolerance Interval	0.00	No exceedance of statistically derived historical background concentration.
Calcium	Tolerance Interval	0.50	Current results exceed statistically derived historical background concentration in MW373.
Chloride	Tolerance Interval	0.22	No exceedance of statistically derived historical background concentration.
Cobalt	Tolerance Interval	1.51	No exceedance of statistically derived historical background concentration.
Conductivity	Tolerance Interval	0.14	Current results exceed statistically derived historical background concentration in MW373 and MW388.
Copper	Tolerance Interval	0.47	No exceedance of statistically derived historical background concentration.
Dissolved Oxygen	Tolerance Interval	0.52	No exceedance of statistically derived historical background concentration.
Dissolved Solids	Tolerance Interval	0.16	Current results exceed statistically derived historical background concentration in MW373.
Iron	Tolerance Interval	1.29	No exceedance of statistically derived historical background concentration.
Magnesium	Tolerance Interval	0.51	Current results exceed statistically derived historical background concentration in MW373.
Manganese	Tolerance Interval	1.49	No exceedance of statistically derived historical background concentration.
Molybdenum	Tolerance Interval	1.45	No exceedance of statistically derived historical background concentration.
Nickel	Tolerance Interval	1.09	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential[b]	Tolerance Interval	0.33	Current results exceed statistically derived historical background concentration in MW370, MW373, MW385, MW388, MW392, MW395, and MW397.
pH	Tolerance Interval	0.04	No exceedance of statistically derived historical background concentration.
Potassium	Tolerance Interval	0.40	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
Sodium	Tolerance Interval	0.47	Current results exceed statistically derived historical background concentration in MW373 and MW397.
Sulfate	Tolerance Interval	0.20	Current results exceed statistically derived historical background concentration in MW370, MW373, MW385, and MW388.
Technetium-99	Tolerance Interval	0.80	Current results exceed statistically derived historical background concentration in MW385 and MW388.
TOC	Tolerance Interval	0.55	No exceedance of statistically derived historical background concentration.
TOX	Tolerance Interval	0.59	No exceedance of statistically derived historical background concentration.
Vanadium	Tolerance Interval	0.11	No exceedance of statistically derived historical background concentration.
Zinc	Tolerance Interval	0.76	No exceedance of statistically derived historical background concentration.

CV: coefficient of variation
[a] If CV > 1.0, used log-transformed data.
[b] Oxidation-reduction potential calibrated as Eh.

Discussion of Results from Current Background Comparison

For concentrations in wells in the UCRS, URGA, and LRGA that exceeded the tolerance limit test using historical background, the concentrations were compared to the one-sided tolerance limit calculated using the most recent eight quarters of data and are presented in Attachment D2. For the UCRS, URGA, and LRGA, the test was applied to 2, 9, and 8 parameters, respectively, because these parameter concentrations exceeded the historical background tolerance limit.

For downgradient wells only, a summary of instances where concentrations exceeded the tolerance limit calculated using current background data is shown in Exhibit D.10.

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 exceedances in downgradient UCRS well MW390 for technetium-99.

URGA

This quarter's results identified current background exceedances in downgradient wells for beta activity, calcium, conductivity, dissolved solids, magnesium, sodium, sulfate, and technetium-99.

LRGA

This quarter's results identified current background exceedances in downgradient wells for calcium, conductivity, dissolved solids, magnesium, sodium, sulfate, and technetium-99.

Statistical Summary

Summaries of the statistical tests conducted on data obtained from wells in the UCRS, the URGA, and the LRGA are presented in Exhibit D.11, Exhibit D.12, and Exhibit D.13, respectively.

Exhibit D.10. Summary of Exceedances (Downgradient Wells) of the Tolerance Limit Calculated Using Current Background Concentrations

URGA	LRGA
MW369: Technetium-99	**MW370:** Sulfate
MW372: Calcium, conductivity, dissolved solids, magnesium, sodium, and sulfate	**MW373:** Calcium, conductivity, dissolved solids, magnesium, sodium, and sulfate
MW387: Beta activity, magnesium, sulfate, and technetium-99	**MW388:** Conductivity, sulfate, and technetium-99

Exhibit D.11. Test Summaries for Qualified Parameters for Current Background—UCRS

Parameter	Performed Test	CV Normality Test[a]	Results of Tolerance Interval Test Conducted
Oxidation-Reduction Potential[b]	Tolerance Interval	0.22	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	-6.93	MW390 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.

[a] If CV > 1.0, used log-transformed data.
[b] Oxidation-reduction potential calibrated as Eh.

Exhibit D.12. Test Summaries for Qualified Parameters for Current Background—URGA

Parameter	Performed Test	CV Normality Test[a]	Results of Tolerance Interval Test Conducted
Beta Activity	Tolerance Interval	0.89	MW387 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Calcium	Tolerance Interval	0.12	MW372 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Conductivity	Tolerance Interval	0.09	MW372 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Dissolved Solids	Tolerance Interval	0.11	MW372 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Magnesium	Tolerance Interval	0.13	MW372 and MW387 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Oxidation-Reduction Potential[b]	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.
Sodium	Tolerance Interval	0.16	MW224 and MW372 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Sulfate	Tolerance Interval	0.23	MW372 and MW387 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Technetium-99	Tolerance Interval	0.68	MW369, MW384, and MW387 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.

CV: coefficient of variation
[a] If CV > 1.0, used log-transformed data.
[b] Oxidation-reduction potential calibrated as Eh.

Exhibit D.13. Test Summaries for Qualified Parameters for Current Background—LRGA

Parameter	Performed Test	CV Normality Test[a]	Results of Tolerance Interval Test Conducted
Calcium	Tolerance Interval	0.20	MW373 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Conductivity	Tolerance Interval	0.11	MW373 and MW388 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Dissolved Solids	Tolerance Interval	0.14	MW373 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Magnesium	Tolerance Interval	0.20	MW373 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Oxidation-Reduction Potential[b]	Tolerance Interval	0.21	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.
Sodium	Tolerance Interval	0.05	MW373 and MW397 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Sulfate	Tolerance Interval	0.03	MW370, MW373, MW385, and MW388 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Technetium-99	Tolerance Interval	0.69	MW385 and MW388 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.

[a] If CV > 1.0, used log-transformed data.
[b] Oxidation-reduction potential calibrated as Eh.

ATTACHMENT D1

COMPARISON OF CURRENT DATA TO ONE-SIDED UPPER TOLERANCE INTERVAL TEST CALCULATED USING HISTORICAL BACKGROUND DATA

THIS PAGE INTENTIONALLY LEFT BLANK

C-746-S/T 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=** 0.320	**S=** 0.182	**CV(1)=**0.567	**K factor**=** 3.188	**TL(1)=** 9.00E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -1.259	**S=** 0.503	**CV(2)=** -0.400	**K factor**=** 3.188	**TL(2)=** 3.45E-01	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	3.93E-01	-9.34E-01
9/16/2002	2.00E-01	-1.61E+00
10/16/2002	2.00E-01	-1.61E+00
1/13/2003	5.01E-01	-6.91E-01
4/8/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/14/2004	6.68E-01	-4.03E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW390	Downgradient	Yes	9.80E-02	NO	-2.32E+00	N/A
MW393	Downgradient	Yes	3.63E-02	NO	-3.32E+00	N/A
MW396	Upgradient	Yes	6.47E-02	NO	-2.74E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.833 **CV(1)=** 1.282 **K factor**=** 3.188 **TL(1)=** 3.31E+00 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** -1.034 **S=** 1.066 **CV(2)=** -1.031 **K factor**=** 3.188 **TL(2)=** 2.36E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	2.00E-01	-1.61E+00
1/13/2003	2.00E-01	-1.61E+00
4/8/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/14/2004	2.00E-01	-1.61E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	2.31E-02	N/A	-3.77E+00	NO
MW390	Downgradient	Yes	2.35E-02	N/A	-3.75E+00	NO
MW393	Downgradient	Yes	1.76E-02	N/A	-4.04E+00	NO
MW396	Upgradient	Yes	7.15E-03	N/A	-4.94E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 1.388	**S=** 0.327	**CV(1)=** 0.236	**K factor**=** 3.188	**TL(1)=** 2.43E+00	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 0.301	**S=** 0.252	**CV(2)=** 0.838	**K factor**=** 3.188	**TL(2)=** 1.10E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.50E+00	4.05E-01
9/16/2002	1.60E+00	4.70E-01
10/16/2002	1.60E+00	4.70E-01
1/13/2003	1.00E+00	0.00E+00
4/8/2003	1.00E+00	0.00E+00
7/16/2003	1.00E+00	0.00E+00
10/14/2003	1.70E+00	5.31E-01
1/14/2004	1.70E+00	5.31E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW390	Downgradient	Yes	2.63E-01	NO	-1.34E+00	N/A
MW393	Downgradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW396	Upgradient	Yes	8.82E-01	NO	-1.26E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis 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=** 41.825 **S=** 8.445 **CV(1)=** 0.202 **K factor**=** 3.188 **TL(1)=** 6.87E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 3.711 **S=** 0.241 **CV(2)=** 0.065 **K factor**=** 3.188 **TL(2)=** 4.48E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	3.84E+01	3.65E+00
9/16/2002	4.29E+01	3.76E+00
10/16/2002	4.02E+01	3.69E+00
1/13/2003	4.67E+01	3.84E+00
4/8/2003	4.98E+01	3.91E+00
7/16/2003	4.33E+01	3.77E+00
10/14/2003	4.97E+01	3.91E+00
1/14/2004	2.36E+01	3.16E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	2.02E+01	NO	3.01E+00	N/A
MW390	Downgradient	Yes	2.80E+01	NO	3.33E+00	N/A
MW393	Downgradient	Yes	1.84E+01	NO	2.91E+00	N/A
MW396	Upgradient	Yes	1.86E+01	NO	2.92E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 101.725 **S=** 5.245 **CV(1)=**0.052 **K factor**=** 3.188 **TL(1)=** 1.18E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 4.621 **S=** 0.053 **CV(2)=**0.011 **K factor**=** 3.188 **TL(2)=** 4.79E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	9.16E+01	4.52E+00
9/16/2002	9.83E+01	4.59E+00
10/16/2002	1.01E+02	4.62E+00
1/13/2003	1.08E+02	4.68E+00
4/8/2003	1.01E+02	4.61E+00
7/16/2003	1.03E+02	4.63E+00
10/14/2003	1.07E+02	4.67E+00
1/14/2004	1.04E+02	4.65E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	9.52E+00	NO	2.25E+00	N/A
MW390	Downgradient	Yes	1.89E+01	NO	2.94E+00	N/A
MW393	Downgradient	Yes	7.85E+00	NO	2.06E+00	N/A
MW396	Upgradient	Yes	5.74E+01	NO	4.05E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.008	**S=** 0.011	**CV(1)=** 1.340	**K factor**=** 3.188	**TL(1)=** 4.18E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -5.645	**S=** 1.339	**CV(2)=** -0.237	**K factor**=** 3.188	**TL(2)=** -1.38E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	1.00E-03	-6.91E+00
1/13/2003	3.24E-03	-5.73E+00
4/8/2003	4.36E-03	-5.44E+00
7/16/2003	2.76E-03	-5.89E+00
10/14/2003	1.00E-03	-6.91E+00
1/14/2004	1.00E-03	-6.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	9.43E-03	N/A	-4.66E+00	NO
MW390	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW393	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW396	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 922.500 **S=** 107.616 **CV(1)=**0.117 **K factor**=** 3.188 **TL(1)=** 1.27E+03 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 6.822 **S=** 0.111 **CV(2)=**0.016 **K factor**=** 3.188 **TL(2)=** 7.17E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	7.84E+02	6.66E+00
9/30/2002	8.71E+02	6.77E+00
10/16/2002	8.68E+02	6.77E+00
1/13/2003	9.12E+02	6.82E+00
4/8/2003	9.42E+02	6.85E+00
7/16/2003	9.10E+02	6.81E+00
10/14/2003	9.35E+02	6.84E+00
1/14/2004	1.16E+03	7.05E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	6.94E+02	NO	6.54E+00	N/A
MW390	Downgradient	Yes	6.65E+02	NO	6.50E+00	N/A
MW393	Downgradient	Yes	4.27E+02	NO	6.06E+00	N/A
MW396	Upgradient	Yes	6.86E+02	NO	6.53E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.028	**S=** 0.014	**CV(1)=**0.481	**K factor**=** 3.188	**TL(1)=** 7.16E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.650	**S=** 0.414	**CV(2)=** -0.113	**K factor**=** 3.188	**TL(2)=** -2.33E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/16/2002	2.60E-02	-3.65E+00
1/13/2003	2.00E-02	-3.91E+00
4/8/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/14/2004	2.00E-02	-3.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	4.70E-04	NO	-7.66E+00	N/A
MW390	Downgradient	Yes	1.05E-03	NO	-6.86E+00	N/A
MW393	Downgradient	Yes	1.07E-03	NO	-6.84E+00	N/A
MW396	Upgradient	Yes	1.42E-03	NO	-6.56E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

Conclusion of Statistical Analysis on Historical Data

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 1.395 **S=** 1.677 **CV(1)=** 1.202 **K factor**=** 3.188 **TL(1)=** 6.74E+00 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** -0.043 **S=** 0.814 **CV(2)=** -18.867 **K factor**=** 3.188 **TL(2)=** 2.55E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	5.45E+00	1.70E+00
9/16/2002	4.00E-01	-9.16E-01
10/16/2002	5.40E-01	-6.16E-01
1/13/2003	7.20E-01	-3.29E-01
4/8/2003	6.90E-01	-3.71E-01
7/16/2003	1.10E+00	9.53E-02
10/14/2003	7.10E-01	-3.42E-01
1/14/2004	1.55E+00	4.38E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	9.90E-01	N/A	-1.01E-02	NO
MW390	Downgradient	Yes	3.34E+00	N/A	1.21E+00	NO
MW393	Downgradient	Yes	1.80E+00	N/A	5.88E-01	NO
MW396	Upgradient	Yes	1.06E+00	N/A	5.83E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 550.375	**S=**	104.330	**CV(1)=** 0.190	**K factor**=** 3.188	**TL(1)=** 8.83E+02	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 6.298	**S=**	0.162	**CV(2)=** 0.026	**K factor**=** 3.188	**TL(2)=** 6.82E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	5.02E+02	6.22E+00
9/16/2002	5.06E+02	6.23E+00
10/16/2002	5.43E+02	6.30E+00
1/13/2003	5.21E+02	6.26E+00
4/8/2003	5.04E+02	6.22E+00
7/16/2003	5.32E+02	6.28E+00
10/14/2003	4.90E+02	6.19E+00
1/14/2004	8.05E+02	6.69E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	3.41E+02	NO	5.83E+00	N/A
MW390	Downgradient	Yes	3.19E+02	NO	5.77E+00	N/A
MW393	Downgradient	Yes	2.65E+02	NO	5.58E+00	N/A
MW396	Upgradient	Yes	3.76E+02	NO	5.93E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Iodide 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=** 2.150	**S=** 0.283	**CV(1)=**0.132	**K factor**=** 3.188	**TL(1)=** 3.05E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 0.759	**S=** 0.123	**CV(2)=**0.162	**K factor**=** 3.188	**TL(2)=** 1.15E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	2.00E+00	6.93E-01
1/13/2003	2.00E+00	6.93E-01
4/8/2003	2.00E+00	6.93E-01
7/16/2003	2.70E+00	9.93E-01
10/14/2003	2.50E+00	9.16E-01
1/14/2004	2.00E+00	6.93E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	No	5.00E-01	N/A	-6.93E-01	N/A
MW390	Downgradient	No	5.00E-01	N/A	-6.93E-01	N/A
MW393	Downgradient	No	5.00E-01	N/A	-6.93E-01	N/A
MW396	Upgradient	Yes	4.65E-01	NO	-7.66E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 7.796	**S=** 3.723	**CV(1)=** 0.478	**K factor**=** 3.188	**TL(1)=** 1.97E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 1.880	**S=** 0.723	**CV(2)=** 0.384	**K factor**=** 3.188	**TL(2)=** 4.18E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.80E+00	5.88E-01
9/16/2002	9.53E+00	2.25E+00
10/16/2002	7.43E+00	2.01E+00
1/13/2003	9.93E+00	2.30E+00
4/8/2003	1.02E+01	2.32E+00
7/16/2003	9.16E+00	2.21E+00
10/14/2003	1.19E+01	2.48E+00
1/14/2004	2.42E+00	8.84E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	1.52E+00	NO	4.19E-01	N/A
MW390	Downgradient	Yes	8.13E-02	NO	-2.51E+00	N/A
MW393	Downgradient	Yes	2.77E+00	NO	1.02E+00	N/A
MW396	Upgradient	Yes	1.57E-01	NO	-1.85E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 16.876 **S=** 3.313 **CV(1)=**0.196 **K factor**=** 3.188 **TL(1)=** 2.74E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 2.804 **S=** 0.240 **CV(2)=**0.086 **K factor**=** 3.188 **TL(2)=** 3.57E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.55E+01	2.74E+00
9/16/2002	1.73E+01	2.85E+00
10/16/2002	1.78E+01	2.88E+00
1/13/2003	1.92E+01	2.95E+00
4/8/2003	1.78E+01	2.88E+00
7/16/2003	1.78E+01	2.88E+00
10/14/2003	2.02E+01	3.01E+00
1/14/2004	9.41E+00	2.24E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	8.63E+00	NO	2.16E+00	N/A
MW390	Downgradient	Yes	1.18E+01	NO	2.47E+00	N/A
MW393	Downgradient	Yes	4.56E+00	NO	1.52E+00	N/A
MW396	Upgradient	Yes	7.84E+00	NO	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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.774	**S=** 0.353	**CV(1)=**0.456	**K factor**=** 3.188	**TL(1)=** 1.90E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -0.566	**S=** 1.192	**CV(2)=** -2.105	**K factor**=** 3.188	**TL(2)=** 3.23E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	5.70E-01	-5.62E-01
9/16/2002	6.47E-01	-4.35E-01
10/16/2002	8.80E-01	-1.28E-01
1/13/2003	1.13E+00	1.24E-01
4/8/2003	9.65E-01	-3.56E-02
7/16/2003	9.83E-01	-1.71E-02
10/14/2003	9.84E-01	-1.61E-02
1/14/2004	3.14E-02	-3.46E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	8.70E-01	NO	-1.39E-01	N/A
MW390	Downgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW393	Downgradient	Yes	7.45E-02	NO	-2.60E+00	N/A
MW396	Upgradient	Yes	3.63E-03	NO	-5.62E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Molybdenum **UNITS: mg/L** **UCRS**

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 0.007	**S=** 0.011	**CV(1)=** 1.507	**K factor**=** 3.188	**TL(1)=** 4.22E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -5.928	**S=** 1.420	**CV(2)=** -0.240	**K factor**=** 3.188	**TL(2)=** -1.40E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	1.00E-03	-6.91E+00
1/13/2003	1.28E-03	-6.66E+00
4/8/2003	2.71E-03	-5.91E+00
7/16/2003	1.17E-03	-6.75E+00
10/14/2003	1.00E-03	-6.91E+00
1/14/2004	1.00E-03	-6.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	9.47E-04	N/A	-6.96E+00	NO
MW390	Downgradient	Yes	2.13E-04	N/A	-8.45E+00	NO
MW393	Downgradient	Yes	5.83E-04	N/A	-7.45E+00	NO
MW396	Upgradient	Yes	2.14E-04	N/A	-8.45E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.016 **S=** 0.021 **CV(1)=** 1.272 **K factor**=** 3.188 **TL(1)=** 8.26E-02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** -4.706 **S=** 1.057 **CV(2)=** -0.225 **K factor**=** 3.188 **TL(2)=** -1.34E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/16/2002	5.00E-03	-5.30E+00
1/13/2003	5.00E-03	-5.30E+00
4/8/2003	5.71E-03	-5.17E+00
7/16/2003	5.00E-03	-5.30E+00
10/14/2003	5.00E-03	-5.30E+00
1/14/2004	5.00E-03	-5.30E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	2.60E-03	N/A	-5.95E+00	NO
MW390	Downgradient	Yes	1.06E-03	N/A	-6.85E+00	NO
MW393	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW396	Upgradient	Yes	1.96E-03	N/A	-6.23E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

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=** 13.000	**S=** 61.952	**CV(1)=**4.766	**K factor**=** 3.188	**TL(1)=** 2.11E+02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 4.364	**S=** 0.333	**CV(2)=** 0.076	**K factor**=** 3.188	**TL(2)=** 4.74E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	6.00E+01	4.09E+00
4/8/2003	7.10E+01	4.26E+00
7/16/2003	-5.60E+01	#Func!
10/14/2003	-5.40E+01	#Func!
1/14/2004	-2.20E+01	#Func!
4/12/2004	-6.00E+00	#Func!
7/20/2004	-3.00E+00	#Func!
10/12/2004	1.14E+02	4.74E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	1.68E+02	N/A	5.13E+00	YES
MW390	Downgradient	Yes	4.36E+02	N/A	6.08E+00	YES
MW393	Downgradient	Yes	2.29E+02	N/A	5.43E+00	YES
MW396	Upgradient	Yes	3.69E+02	N/A	5.91E+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

MW386
MW390
MW393
MW396

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

pH UNITS: Std Unit UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 6.460	**S=** 0.350	**CV(1)=**0.054	**K factor**=** 3.736	**TL(1)=** 7.77E+00	**LL(1)=**5.15E+00
Statistics-Transformed Background Data	**X=** 1.864	**S=** 0.054	**CV(2)=**0.029	**K factor**=** 3.736	**TL(2)=** 2.07E+00	**LL(2)=**1.66E+00

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	6.17E+00	1.82E+00
9/16/2002	6.40E+00	1.86E+00
10/16/2002	5.90E+00	1.77E+00
1/13/2003	6.40E+00	1.86E+00
4/8/2003	6.65E+00	1.89E+00
7/16/2003	6.40E+00	1.86E+00
10/14/2003	6.71E+00	1.90E+00
1/14/2004	7.05E+00	1.95E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)?
MW386	Sidegradient	Yes	6.55E+00	NO	1.88E+00	N/A
MW390	Downgradient	Yes	6.21E+00	NO	1.83E+00	N/A
MW393	Downgradient	Yes	6.16E+00	NO	1.82E+00	N/A
MW396	Upgradient	Yes	6.43E+00	NO	1.86E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

Conclusion of Statistical Analysis on Historical Data

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 1.411	**S=** 0.399	**CV(1)=** 0.282	**K factor**=** 3.188	**TL(1)=** 2.68E+00	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 0.311	**S=** 0.271	**CV(2)=** 0.870	**K factor**=** 3.188	**TL(2)=** 1.18E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	9.78E-01	-2.22E-02
1/13/2003	1.08E+00	7.70E-02
4/8/2003	1.12E+00	1.13E-01
7/16/2003	1.38E+00	3.22E-01
10/14/2003	1.24E+00	2.15E-01
1/14/2004	1.49E+00	3.99E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	2.97E-01	NO	-1.21E+00	N/A
MW390	Downgradient	Yes	3.48E-01	NO	-1.06E+00	N/A
MW393	Downgradient	Yes	5.80E-01	NO	-5.45E-01	N/A
MW396	Upgradient	Yes	1.82E+00	NO	5.99E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 106.825 **S=** 32.041 **CV(1)=** 0.300 **K factor**=** 3.188 **TL(1)=** 2.09E+02 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 4.595 **S=** 0.492 **CV(2)=** 0.107 **K factor**=** 3.188 **TL(2)=** 6.16E+00 **LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.15E+02	4.74E+00
9/16/2002	1.16E+02	4.75E+00
10/16/2002	1.17E+02	4.76E+00
1/13/2003	1.22E+02	4.80E+00
4/8/2003	1.06E+02	4.66E+00
7/16/2003	1.17E+02	4.76E+00
10/14/2003	1.32E+02	4.88E+00
1/14/2004	2.96E+01	3.39E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	1.11E+02	NO	4.71E+00	N/A
MW390	Downgradient	Yes	9.98E+01	NO	4.60E+00	N/A
MW393	Downgradient	Yes	9.10E+01	NO	4.51E+00	N/A
MW396	Upgradient	Yes	3.26E+01	NO	3.48E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 22.463	**S=** 8.876	**CV(1)=** 0.395	**K factor**=** 3.188	**TL(1)=** 5.08E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.054	**S=** 0.351	**CV(2)=** 0.115	**K factor**=** 3.188	**TL(2)=** 4.17E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	4.19E+01	3.74E+00
9/16/2002	2.63E+01	3.27E+00
10/16/2002	2.06E+01	3.03E+00
1/13/2003	1.66E+01	2.81E+00
4/8/2003	2.39E+01	3.17E+00
7/16/2003	1.88E+01	2.93E+00
10/14/2003	1.29E+01	2.56E+00
1/14/2004	1.87E+01	2.93E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	3.10E+01	NO	3.43E+00	N/A
MW390	Downgradient	Yes	3.30E+01	NO	3.50E+00	N/A
MW393	Downgradient	Yes	2.70E+01	NO	3.30E+00	N/A
MW396	Upgradient	Yes	2.76E+01	NO	3.32E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Technetium-99 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=** 7.624	**S=** 6.558	**CV(1)=** 0.860	**K factor**=** 3.188	**TL(1)=** 2.85E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 1.498	**S=** 1.321	**CV(2)=** 0.882	**K factor**=** 3.188	**TL(2)=** 5.71E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.67E+01	2.82E+00
9/16/2002	6.39E+00	1.85E+00
10/16/2002	4.55E+00	1.52E+00
1/13/2003	1.65E+01	2.80E+00
4/8/2003	3.04E+00	1.11E+00
7/16/2003	3.54E-01	-1.04E+00
10/14/2003	1.19E+01	2.48E+00
1/14/2004	1.56E+00	4.45E-01

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	No	4.16E+00	N/A	1.43E+00	N/A
MW390	Downgradient	Yes	7.75E+01	YES	4.35E+00	N/A
MW393	Downgradient	No	-4.56E+00	N/A	#Error	N/A
MW396	Upgradient	No	-4.73E+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

MW390

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 9.988	**S=** 4.696	**CV(1)=** 0.470	**K factor**=** 3.188	**TL(1)=** 2.50E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 2.210	**S=** 0.454	**CV(2)=** 0.205	**K factor**=** 3.188	**TL(2)=** 3.66E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.90E+01	2.94E+00
9/16/2002	1.46E+01	2.68E+00
10/16/2002	1.04E+01	2.34E+00
1/13/2003	4.40E+00	1.48E+00
4/8/2003	7.00E+00	1.95E+00
7/16/2003	7.30E+00	1.99E+00
10/14/2003	9.10E+00	2.21E+00
1/14/2004	8.10E+00	2.09E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	6.54E+00	NO	1.88E+00	N/A
MW390	Downgradient	Yes	2.07E+00	NO	7.28E-01	N/A
MW393	Downgradient	Yes	2.27E+00	NO	8.20E-01	N/A
MW396	Upgradient	Yes	3.59E+00	NO	1.28E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 142.650 **S=** 53.533 **CV(1)=** 0.375 **K factor**=** 3.188 **TL(1)=** 3.13E+02 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 4.896 **S=** 0.390 **CV(2)=** 0.080 **K factor**=** 3.188 **TL(2)=** 6.14E+00 **LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	1.93E+02	5.26E+00
9/16/2002	1.90E+02	5.25E+00
10/16/2002	2.21E+02	5.40E+00
1/13/2003	1.06E+02	4.66E+00
4/8/2003	7.78E+01	4.35E+00
7/16/2003	1.22E+02	4.80E+00
10/14/2003	8.64E+01	4.46E+00
1/14/2004	1.45E+02	4.98E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	1.35E+02	NO	4.91E+00	N/A
MW390	Downgradient	Yes	7.74E+00	NO	2.05E+00	N/A
MW393	Downgradient	Yes	9.20E+00	NO	2.22E+00	N/A
MW396	Upgradient	Yes	3.37E+01	NO	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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.021 **S=** 0.002 **CV(1)=**0.109 **K factor**=** 3.188 **TL(1)=** 2.86E-02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** -3.856 **S=** 0.103 **CV(2)=** -0.027 **K factor**=** 3.188 **TL(2)=** -3.53E+00 **LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW396	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	2.00E-02	-3.91E+00
1/13/2003	2.00E-02	-3.91E+00
4/8/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/14/2004	2.00E-02	-3.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

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)
MW386	Sidegradient	Yes	3.67E-03	NO	-5.61E+00	N/A
MW390	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW393	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW396	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.221	**S=** 0.061	**CV(1)=** 0.277	**K factor**=** 2.523	**TL(1)=** 3.76E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -1.534	**S=** 0.212	**CV(2)=** -0.138	**K factor**=** 2.523	**TL(2)=** -9.99E-01	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.00E-01	-1.61E+00
1/15/2003	2.00E-01	-1.61E+00
4/10/2003	2.00E-01	-1.61E+00
7/14/2003	2.00E-01	-1.61E+00
10/13/2003	4.27E-01	-8.51E-01
1/13/2004	3.09E-01	-1.17E+00
4/13/2004	2.00E-01	-1.61E+00
7/21/2004	2.02E-01	-1.60E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.00E-01	-1.61E+00
9/16/2002	2.00E-01	-1.61E+00
10/16/2002	2.00E-01	-1.61E+00
1/13/2003	2.00E-01	-1.61E+00
4/10/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW221	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW222	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW223	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW224	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW369	Downgradient	Yes	5.55E-02	NO	-2.89E+00	N/A
MW372	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW384	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW387	Downgradient	Yes	2.18E-02	NO	-3.83E+00	N/A
MW391	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW394	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Beta activity 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=** 14.273 **S=** 13.883 **CV(1)=** 0.973 **K factor**=** 2.523 **TL(1)=** 4.93E+01 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 2.213 **S=** 1.033 **CV(2)=** 0.467 **K factor**=** 2.523 **TL(2)=** 4.82E+00 **LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	1.52E+01	2.72E+00
1/15/2003	4.25E+01	3.75E+00
4/10/2003	4.54E+01	3.82E+00
7/14/2003	8.53E+00	2.14E+00
10/13/2003	1.17E+01	2.46E+00
1/13/2004	1.35E+01	2.60E+00
4/13/2004	3.35E+01	3.51E+00
7/21/2004	1.37E+01	2.62E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	5.03E+00	1.62E+00
9/16/2002	5.57E+00	1.72E+00
10/16/2002	1.28E+01	2.55E+00
1/13/2003	4.30E+00	1.46E+00
4/10/2003	9.52E+00	2.25E+00
7/16/2003	3.92E+00	1.37E+00
10/14/2003	1.06E+00	5.83E-02
1/13/2004	2.14E+00	7.61E-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)
MW220	Upgradient	Yes	9.86E+00	N/A	2.29E+00	N/A
MW221	Sidegradient	Yes	1.14E+01	N/A	2.43E+00	N/A
MW222	Sidegradient	No	6.41E+00	N/A	1.86E+00	N/A
MW223	Sidegradient	Yes	1.60E+01	N/A	2.77E+00	N/A
MW224	Sidegradient	No	3.83E+00	N/A	1.34E+00	N/A
MW369	Downgradient	Yes	4.79E+01	N/A	3.87E+00	N/A
MW372	Downgradient	Yes	2.47E+01	N/A	3.21E+00	N/A
MW384	Sidegradient	Yes	3.45E+01	N/A	3.54E+00	N/A
MW387	Downgradient	Yes	7.41E+01	YES	4.31E+00	N/A
MW391	Downgradient	No	9.85E+00	N/A	2.29E+00	N/A
MW394	Upgradient	No	4.58E+00	N/A	1.52E+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

MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.425	**S=** 0.615	**CV(1)=** 1.447	**K factor**=** 2.523	**TL(1)=** 1.98E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -1.322	**S=** 0.786	**CV(2)=** -0.595	**K factor**=** 2.523	**TL(2)=** 6.63E-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:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.00E-01	-1.61E+00
1/15/2003	2.00E-01	-1.61E+00
4/10/2003	2.00E-01	-1.61E+00
7/14/2003	2.00E-01	-1.61E+00
10/13/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00
4/13/2004	2.00E-01	-1.61E+00
7/21/2004	2.00E-01	-1.61E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	2.00E-01	-1.61E+00
1/13/2003	2.00E-01	-1.61E+00
4/10/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	6.58E-03	N/A	-5.02E+00	NO
MW221	Sidegradient	Yes	2.11E-02	N/A	-3.86E+00	NO
MW222	Sidegradient	Yes	8.73E-03	N/A	-4.74E+00	NO
MW223	Sidegradient	Yes	7.87E-03	N/A	-4.84E+00	NO
MW224	Sidegradient	Yes	2.74E-02	N/A	-3.60E+00	NO
MW369	Downgradient	Yes	1.53E-02	N/A	-4.18E+00	NO
MW372	Downgradient	Yes	1.54E+00	N/A	4.32E-01	NO
MW384	Sidegradient	Yes	8.18E-02	N/A	-2.50E+00	NO
MW387	Downgradient	Yes	3.34E-02	N/A	-3.40E+00	NO
MW391	Downgradient	Yes	2.22E-02	N/A	-3.81E+00	NO
MW394	Upgradient	Yes	1.91E-02	N/A	-3.96E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	1.00E+00	0.00E+00
1/15/2003	1.00E+00	0.00E+00
4/10/2003	1.00E+00	0.00E+00
7/14/2003	1.00E+00	0.00E+00
10/13/2003	1.00E+00	0.00E+00
1/13/2004	1.00E+00	0.00E+00
4/13/2004	1.00E+00	0.00E+00
7/21/2004	1.00E+00	0.00E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	1.00E+00	0.00E+00
9/16/2002	1.00E+00	0.00E+00
10/16/2002	1.00E+00	0.00E+00
1/13/2003	1.00E+00	0.00E+00
4/10/2003	1.00E+00	0.00E+00
7/16/2003	1.00E+00	0.00E+00
10/14/2003	1.00E+00	0.00E+00
1/13/2004	1.00E+00	0.00E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	1.97E-01	NO	-1.62E+00	N/A
MW221	Sidegradient	Yes	4.21E-01	NO	-8.65E-01	N/A
MW222	Sidegradient	Yes	4.00E-01	NO	-9.16E-01	N/A
MW223	Sidegradient	Yes	4.18E-01	NO	-8.72E-01	N/A
MW224	Sidegradient	Yes	2.98E-01	NO	-1.21E+00	N/A
MW369	Downgradient	Yes	3.54E-01	NO	-1.04E+00	N/A
MW372	Downgradient	Yes	4.83E-01	NO	-7.28E-01	N/A
MW384	Sidegradient	Yes	2.77E-01	NO	-1.28E+00	N/A
MW387	Downgradient	Yes	4.79E-01	NO	-7.36E-01	N/A
MW391	Downgradient	Yes	5.15E-01	NO	-6.64E-01	N/A
MW394	Upgradient	Yes	5.74E-01	NO	-5.55E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 27.638	**S=** 4.743	**CV(1)=** 0.172	**K factor**=** 2.523	**TL(1)=** 3.96E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.304	**S=** 0.183	**CV(2)=** 0.055	**K factor**=** 2.523	**TL(2)=** 3.76E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.36E+01	3.16E+00
1/15/2003	2.59E+01	3.25E+00
4/10/2003	3.04E+01	3.41E+00
7/14/2003	3.39E+01	3.52E+00
10/13/2003	2.13E+01	3.06E+00
1/13/2004	2.03E+01	3.01E+00
4/13/2004	2.38E+01	3.17E+00
7/21/2004	1.90E+01	2.94E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.95E+01	3.38E+00
9/16/2002	2.99E+01	3.40E+00
10/16/2002	3.12E+01	3.44E+00
1/13/2003	3.07E+01	3.42E+00
4/10/2003	3.44E+01	3.54E+00
7/16/2003	2.96E+01	3.39E+00
10/14/2003	3.03E+01	3.41E+00
1/13/2004	2.84E+01	3.35E+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)
MW220	Upgradient	Yes	2.40E+01	NO	3.18E+00	N/A
MW221	Sidegradient	Yes	2.19E+01	NO	3.09E+00	N/A
MW222	Sidegradient	Yes	2.26E+01	NO	3.12E+00	N/A
MW223	Sidegradient	Yes	2.25E+01	NO	3.11E+00	N/A
MW224	Sidegradient	Yes	2.69E+01	NO	3.29E+00	N/A
MW369	Downgradient	Yes	1.62E+01	NO	2.79E+00	N/A
MW372	Downgradient	Yes	6.69E+01	YES	4.20E+00	N/A
MW384	Sidegradient	Yes	2.33E+01	NO	3.15E+00	N/A
MW387	Downgradient	Yes	3.91E+01	NO	3.67E+00	N/A
MW391	Downgradient	Yes	2.52E+01	NO	3.23E+00	N/A
MW394	Upgradient	Yes	2.79E+01	NO	3.33E+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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Chloride UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 49.044	**S=** 11.278	**CV(1)=** 0.230	**K factor**=** 2.523	**TL(1)=** 7.75E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.866	**S=** 0.244	**CV(2)=** 0.063	**K factor**=** 2.523	**TL(2)=** 4.48E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	4.46E+01	3.80E+00
1/15/2003	4.32E+01	3.77E+00
4/10/2003	3.15E+01	3.45E+00
7/14/2003	3.08E+01	3.43E+00
10/13/2003	4.09E+01	3.71E+00
1/13/2004	4.08E+01	3.71E+00
4/13/2004	3.75E+01	3.62E+00
7/21/2004	4.08E+01	3.71E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	6.04E+01	4.10E+00
9/16/2002	6.03E+01	4.10E+00
10/16/2002	5.80E+01	4.06E+00
1/13/2003	6.07E+01	4.11E+00
4/10/2003	6.29E+01	4.14E+00
7/16/2003	5.81E+01	4.06E+00
10/14/2003	5.82E+01	4.06E+00
1/13/2004	5.60E+01	4.03E+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)
MW220	Upgradient	Yes	1.65E+01	NO	2.80E+00	N/A
MW221	Sidegradient	Yes	3.30E+01	NO	3.50E+00	N/A
MW222	Sidegradient	Yes	3.29E+01	NO	3.49E+00	N/A
MW223	Sidegradient	Yes	3.52E+01	NO	3.56E+00	N/A
MW224	Sidegradient	Yes	2.21E+01	NO	3.10E+00	N/A
MW369	Downgradient	Yes	2.75E+01	NO	3.31E+00	N/A
MW372	Downgradient	Yes	3.75E+01	NO	3.62E+00	N/A
MW384	Sidegradient	Yes	2.18E+01	NO	3.08E+00	N/A
MW387	Downgradient	Yes	3.57E+01	NO	3.58E+00	N/A
MW391	Downgradient	Yes	4.06E+01	NO	3.70E+00	N/A
MW394	Upgradient	Yes	4.67E+01	NO	3.84E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.016	**S=** 0.040	**CV(1)=**2.440	**K factor**=** 2.523	**TL(1)=** 1.16E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -5.582	**S=** 1.573	**CV(2)=** -0.282	**K factor**=** 2.523	**TL(2)=** -1.61E+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:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	4.10E-03	-5.50E+00
1/15/2003	4.96E-03	-5.31E+00
4/10/2003	2.89E-03	-5.85E+00
7/14/2003	1.61E-01	-1.83E+00
10/13/2003	2.26E-02	-3.79E+00
1/13/2004	4.64E-03	-5.37E+00
4/13/2004	1.00E-03	-6.91E+00
7/21/2004	2.64E-03	-5.94E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	1.00E-03	-6.91E+00
1/13/2003	1.00E-03	-6.91E+00
4/10/2003	1.00E-03	-6.91E+00
7/16/2003	1.00E-03	-6.91E+00
10/14/2003	1.00E-03	-6.91E+00
1/13/2004	1.00E-03	-6.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW221	Sidegradient	Yes	3.96E-04	N/A	-7.83E+00	NO
MW222	Sidegradient	Yes	1.28E-03	N/A	-6.66E+00	NO
MW223	Sidegradient	Yes	2.40E-03	N/A	-6.03E+00	NO
MW224	Sidegradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW369	Downgradient	Yes	4.42E-03	N/A	-5.42E+00	NO
MW372	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW384	Sidegradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW387	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW391	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW394	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Conductivity UNITS: umho/cm URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data **X=** 382.132 **S=** 107.134 **CV(1)=** 0.280 **K factor**=** 2.523 **TL(1)=** 6.52E+02 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 5.716 **S=** 1.164 **CV(2)=** 0.204 **K factor**=** 2.523 **TL(2)=** 8.65E+00 **LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
10/14/2002	3.68E+02	5.91E+00
1/15/2003	4.33E+02	6.07E+00
4/10/2003	4.89E+02	6.19E+00
7/14/2003	4.30E+02	6.06E+00
10/13/2003	3.46E+02	5.85E+00
1/13/2004	3.65E+02	5.90E+00
4/13/2004	4.16E+02	6.03E+00
7/21/2004	3.53E+02	5.87E+00

Well Number: MW394

Date Collected	Result	LN(Result)
8/13/2002	4.06E+02	6.01E+00
9/16/2002	4.18E+02	6.04E+00
10/16/2002	4.11E+02	6.02E+00
1/13/2003	4.22E+02	6.05E+00
4/10/2003	4.20E+02	6.04E+00
7/16/2003	4.38E+02	6.08E+00
10/14/2003	3.91E+00	1.36E+00
1/13/2004	3.95E+02	5.98E+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)
MW220	Upgradient	Yes	4.63E+02	NO	6.14E+00	N/A
MW221	Sidegradient	Yes	4.94E+02	NO	6.20E+00	N/A
MW222	Sidegradient	Yes	4.84E+02	NO	6.18E+00	N/A
MW223	Sidegradient	Yes	4.97E+02	NO	6.21E+00	N/A
MW224	Sidegradient	Yes	5.50E+02	NO	6.31E+00	N/A
MW369	Downgradient	Yes	3.43E+02	NO	5.84E+00	N/A
MW372	Downgradient	Yes	7.58E+02	YES	6.63E+00	N/A
MW384	Sidegradient	Yes	4.99E+02	NO	6.21E+00	N/A
MW387	Downgradient	Yes	6.01E+02	NO	6.40E+00	N/A
MW391	Downgradient	Yes	3.73E+02	NO	5.92E+00	N/A
MW394	Upgradient	Yes	4.36E+02	NO	6.08E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.024	**S=** 0.010	**CV(1)=**0.429	**K factor**=** 2.523	**TL(1)=** 4.96E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.794	**S=** 0.312	**CV(2)=** -0.082	**K factor**=** 2.523	**TL(2)=** -3.01E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.11E-02	-3.86E+00
1/15/2003	2.00E-02	-3.91E+00
4/10/2003	2.00E-02	-3.91E+00
7/14/2003	2.00E-02	-3.91E+00
10/13/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00
4/13/2004	2.00E-02	-3.91E+00
7/21/2004	2.00E-02	-3.91E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/16/2002	2.00E-02	-3.91E+00
1/13/2003	2.00E-02	-3.91E+00
4/10/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	9.84E-04	NO	-6.92E+00	N/A
MW221	Sidegradient	Yes	1.29E-03	NO	-6.65E+00	N/A
MW222	Sidegradient	Yes	1.39E-03	NO	-6.58E+00	N/A
MW223	Sidegradient	Yes	3.04E-03	NO	-5.80E+00	N/A
MW224	Sidegradient	Yes	7.53E-04	NO	-7.19E+00	N/A
MW369	Downgradient	Yes	2.37E-03	NO	-6.04E+00	N/A
MW372	Downgradient	Yes	1.62E-03	NO	-6.43E+00	N/A
MW384	Sidegradient	Yes	8.66E-04	NO	-7.05E+00	N/A
MW387	Downgradient	Yes	4.63E-04	NO	-7.68E+00	N/A
MW391	Downgradient	Yes	1.50E-03	NO	-6.50E+00	N/A
MW394	Upgradient	Yes	1.74E-03	NO	-6.35E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 3.784	**S=** 1.887	**CV(1)=** 0.499	**K factor**=** 2.523	**TL(1)=** 8.54E+00	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 1.182	**S=** 0.612	**CV(2)=** 0.518	**K factor**=** 2.523	**TL(2)=** 2.73E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	6.79E+00	1.92E+00
1/15/2003	7.25E+00	1.98E+00
4/10/2003	3.60E+00	1.28E+00
7/14/2003	9.40E-01	-6.19E-02
10/13/2003	1.65E+00	5.01E-01
1/13/2004	3.48E+00	1.25E+00
4/13/2004	1.05E+00	4.88E-02
7/21/2004	4.46E+00	1.50E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	6.09E+00	1.81E+00
9/16/2002	3.85E+00	1.35E+00
10/16/2002	5.11E+00	1.63E+00
1/13/2003	3.83E+00	1.34E+00
4/10/2003	4.15E+00	1.42E+00
7/16/2003	1.83E+00	6.04E-01
10/14/2003	3.33E+00	1.20E+00
1/13/2004	3.14E+00	1.14E+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)
MW220	Upgradient	Yes	5.36E+00	NO	1.68E+00	N/A
MW221	Sidegradient	Yes	5.24E+00	NO	1.66E+00	N/A
MW222	Sidegradient	Yes	4.44E+00	NO	1.49E+00	N/A
MW223	Sidegradient	Yes	3.71E+00	NO	1.31E+00	N/A
MW224	Sidegradient	Yes	3.70E+00	NO	1.31E+00	N/A
MW369	Downgradient	Yes	4.72E+00	NO	1.55E+00	N/A
MW372	Downgradient	Yes	3.71E+00	NO	1.31E+00	N/A
MW384	Sidegradient	Yes	5.03E+00	NO	1.62E+00	N/A
MW387	Downgradient	Yes	3.99E+00	NO	1.38E+00	N/A
MW391	Downgradient	Yes	4.40E+00	NO	1.48E+00	N/A
MW394	Upgradient	Yes	4.80E+00	NO	1.57E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 232.688	**S=** 27.490	**CV(1)=** 0.118	**K factor**=** 2.523	**TL(1)=** 3.02E+02	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 5.443	**S=** 0.118	**CV(2)=** 0.022	**K factor**=** 2.523	**TL(2)=** 5.74E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.08E+02	5.34E+00
1/15/2003	2.57E+02	5.55E+00
4/10/2003	2.88E+02	5.66E+00
7/14/2003	2.62E+02	5.57E+00
10/13/2003	1.97E+02	5.28E+00
1/13/2004	1.98E+02	5.29E+00
4/13/2004	2.45E+02	5.50E+00
7/21/2004	2.04E+02	5.32E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.47E+02	5.51E+00
9/16/2002	2.59E+02	5.56E+00
10/16/2002	2.01E+02	5.30E+00
1/13/2003	2.28E+02	5.43E+00
4/10/2003	2.49E+02	5.52E+00
7/16/2003	2.40E+02	5.48E+00
10/14/2003	2.30E+02	5.44E+00
1/13/2004	2.10E+02	5.35E+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)
MW220	Upgradient	Yes	2.05E+02	NO	5.32E+00	N/A
MW221	Sidegradient	Yes	2.18E+02	NO	5.38E+00	N/A
MW222	Sidegradient	Yes	2.02E+02	NO	5.31E+00	N/A
MW223	Sidegradient	Yes	2.00E+02	NO	5.30E+00	N/A
MW224	Sidegradient	Yes	2.39E+02	NO	5.48E+00	N/A
MW369	Downgradient	Yes	2.05E+02	NO	5.32E+00	N/A
MW372	Downgradient	Yes	4.46E+02	YES	6.10E+00	N/A
MW384	Sidegradient	Yes	2.00E+02	NO	5.30E+00	N/A
MW387	Downgradient	Yes	2.50E+02	NO	5.52E+00	N/A
MW391	Downgradient	Yes	1.64E+02	NO	5.10E+00	N/A
MW394	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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.897	**S=** 1.050	**CV(1)=** 1.170	**K factor**=** 2.523	**TL(1)=** 3.55E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -0.565	**S=** 0.951	**CV(2)=** -1.683	**K factor**=** 2.523	**TL(2)=** 1.83E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.00E-01	-1.61E+00
1/15/2003	2.00E-01	-1.61E+00
4/10/2003	4.29E-01	-8.46E-01
7/14/2003	4.33E+00	1.47E+00
10/13/2003	1.81E+00	5.93E-01
1/13/2004	7.93E-01	-2.32E-01
4/13/2004	1.30E-01	-2.04E+00
7/21/2004	3.82E-01	-9.62E-01

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	1.34E+00	2.93E-01
9/16/2002	3.28E-01	-1.11E+00
10/16/2002	1.38E+00	3.22E-01
1/13/2003	1.30E+00	2.62E-01
4/10/2003	4.94E-01	-7.05E-01
7/16/2003	6.20E-01	-4.78E-01
10/14/2003	3.70E-01	-9.94E-01
1/13/2004	2.51E-01	-1.38E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW221	Sidegradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW222	Sidegradient	Yes	5.43E-02	N/A	-2.91E+00	NO
MW223	Sidegradient	Yes	7.56E-02	N/A	-2.58E+00	NO
MW224	Sidegradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW369	Downgradient	Yes	6.52E-02	N/A	-2.73E+00	NO
MW372	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW384	Sidegradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW387	Downgradient	Yes	6.93E-02	N/A	-2.67E+00	NO
MW391	Downgradient	Yes	6.35E-02	N/A	-2.76E+00	NO
MW394	Upgradient	Yes	4.18E-02	N/A	-3.17E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 10.796	**S=** 1.703	**CV(1)=** 0.158	**K factor**=** 2.523	**TL(1)=** 1.51E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 2.368	**S=** 0.158	**CV(2)=** 0.067	**K factor**=** 2.523	**TL(2)=** 2.77E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	9.16E+00	2.21E+00
1/15/2003	1.00E+01	2.30E+00
4/10/2003	1.08E+01	2.38E+00
7/14/2003	1.47E+01	2.69E+00
10/13/2003	9.03E+00	2.20E+00
1/13/2004	8.49E+00	2.14E+00
4/13/2004	9.70E+00	2.27E+00
7/21/2004	8.06E+00	2.09E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	1.18E+01	2.47E+00
9/16/2002	1.21E+01	2.49E+00
10/16/2002	1.13E+01	2.42E+00
1/13/2003	1.03E+01	2.33E+00
4/10/2003	1.17E+01	2.46E+00
7/16/2003	1.20E+01	2.48E+00
10/14/2003	1.22E+01	2.50E+00
1/13/2004	1.14E+01	2.43E+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)
MW220	Upgradient	Yes	9.82E+00	NO	2.28E+00	N/A
MW221	Sidegradient	Yes	9.40E+00	NO	2.24E+00	N/A
MW222	Sidegradient	Yes	9.41E+00	NO	2.24E+00	N/A
MW223	Sidegradient	Yes	9.37E+00	NO	2.24E+00	N/A
MW224	Sidegradient	Yes	1.16E+01	NO	2.45E+00	N/A
MW369	Downgradient	Yes	6.91E+00	NO	1.93E+00	N/A
MW372	Downgradient	Yes	2.43E+01	YES	3.19E+00	N/A
MW384	Sidegradient	Yes	1.01E+01	NO	2.31E+00	N/A
MW387	Downgradient	Yes	1.61E+01	YES	2.78E+00	N/A
MW391	Downgradient	Yes	1.06E+01	NO	2.36E+00	N/A
MW394	Upgradient	Yes	1.17E+01	NO	2.46E+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
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.287	**S=** 0.619	**CV(1)=**2.156	**K factor**=** 2.523	**TL(1)=** 1.85E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -2.455	**S=** 1.619	**CV(2)=** -0.659	**K factor**=** 2.523	**TL(2)=** 1.63E+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:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	3.06E-02	-3.49E+00
1/15/2003	2.91E-02	-3.54E+00
4/10/2003	1.37E-02	-4.29E+00
7/14/2003	2.54E+00	9.32E-01
10/13/2003	3.78E-01	-9.73E-01
1/13/2004	1.59E-01	-1.84E+00
4/13/2004	7.07E-03	-4.95E+00
7/21/2004	8.41E-02	-2.48E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	5.42E-01	-6.12E-01
9/16/2002	1.55E-01	-1.86E+00
10/16/2002	1.03E-01	-2.27E+00
1/13/2003	1.28E-01	-2.06E+00
4/10/2003	5.00E-03	-5.30E+00
7/16/2003	2.72E-01	-1.30E+00
10/14/2003	7.95E-02	-2.53E+00
1/13/2004	6.58E-02	-2.72E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW221	Sidegradient	Yes	3.22E-03	N/A	-5.74E+00	NO
MW222	Sidegradient	Yes	1.86E-02	N/A	-3.98E+00	NO
MW223	Sidegradient	Yes	2.56E-02	N/A	-3.67E+00	NO
MW224	Sidegradient	Yes	6.38E-03	N/A	-5.05E+00	NO
MW369	Downgradient	Yes	1.41E-03	N/A	-6.56E+00	NO
MW372	Downgradient	Yes	2.15E-03	N/A	-6.14E+00	NO
MW384	Sidegradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW387	Downgradient	Yes	2.07E-03	N/A	-6.18E+00	NO
MW391	Downgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW394	Upgradient	No	5.00E-03	N/A	-5.30E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

Conclusion of Statistical Analysis on Historical Data

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Molybdenum UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 0.006	**S=** 0.008	**CV(1)=** 1.261	**K factor**=** 2.523	**TL(1)=** 2.64E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -5.747	**S=** 1.205	**CV(2)=** -0.210	**K factor**=** 2.523	**TL(2)=** -2.71E+00	**LL(2)=**N/A

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	5.58E-03	-5.19E+00
1/15/2003	9.83E-03	-4.62E+00
4/10/2003	1.09E-02	-4.52E+00
7/14/2003	2.45E-03	-6.01E+00
10/13/2003	5.66E-03	-5.17E+00
1/13/2004	5.72E-03	-5.16E+00
4/13/2004	1.00E-03	-6.91E+00
7/21/2004	3.92E-03	-5.54E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	1.00E-03	-6.91E+00
1/13/2003	1.00E-03	-6.91E+00
4/10/2003	1.00E-03	-6.91E+00
7/16/2003	1.00E-03	-6.91E+00
10/14/2003	1.00E-03	-6.91E+00
1/13/2004	1.00E-03	-6.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	8.24E-04	N/A	-7.10E+00	NO
MW221	Sidegradient	Yes	4.02E-03	N/A	-5.52E+00	NO
MW222	Sidegradient	Yes	6.37E-03	N/A	-5.06E+00	NO
MW223	Sidegradient	Yes	2.75E-03	N/A	-5.90E+00	NO
MW224	Sidegradient	Yes	1.19E-03	N/A	-6.73E+00	NO
MW369	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW372	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW384	Sidegradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW387	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW391	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW394	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.127	**S=** 0.228	**CV(1)=** 1.790	**K factor**=** 2.523	**TL(1)=** 7.01E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.617	**S=** 1.837	**CV(2)=** -0.508	**K factor**=** 2.523	**TL(2)=** 1.02E+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:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	4.18E-01	-8.72E-01
1/15/2003	7.38E-01	-3.04E-01
4/10/2003	5.44E-01	-6.09E-01
7/14/2003	1.06E-01	-2.24E+00
10/13/2003	5.29E-02	-2.94E+00
1/13/2004	2.09E-02	-3.87E+00
4/13/2004	5.00E-03	-5.30E+00
7/21/2004	1.92E-02	-3.95E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/16/2002	5.00E-03	-5.30E+00
1/13/2003	5.00E-03	-5.30E+00
4/10/2003	5.00E-03	-5.30E+00
7/16/2003	5.00E-03	-5.30E+00
10/14/2003	5.00E-03	-5.30E+00
1/13/2004	5.00E-03	-5.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	5.72E-03	N/A	-5.16E+00	NO
MW221	Sidegradient	Yes	2.00E-02	N/A	-3.91E+00	NO
MW222	Sidegradient	Yes	1.40E-01	N/A	-1.97E+00	NO
MW223	Sidegradient	Yes	6.06E-01	N/A	-5.01E-01	NO
MW224	Sidegradient	Yes	9.93E-03	N/A	-4.61E+00	NO
MW369	Downgradient	Yes	3.14E-03	N/A	-5.76E+00	NO
MW372	Downgradient	Yes	6.43E-04	N/A	-7.35E+00	NO
MW384	Sidegradient	Yes	7.82E-04	N/A	-7.15E+00	NO
MW387	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW391	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW394	Upgradient	Yes	6.85E-03	N/A	-4.98E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Oxidation-Reduction Potential UNITS: mV URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 179.872	**S=**	86.318	**CV(1)=** 0.480	**K factor**=** 2.523	**TL(1)=** 3.98E+02	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 4.861	**S=**	1.252	**CV(2)=** 0.258	**K factor**=** 2.523	**TL(2)=** 8.02E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.05E+02	5.32E+00
1/15/2003	1.95E+00	6.68E-01
4/10/2003	2.03E+02	5.31E+00
7/14/2003	3.00E+01	3.40E+00
10/13/2003	1.07E+02	4.67E+00
1/13/2004	2.95E+02	5.69E+00
4/13/2004	1.90E+02	5.25E+00
7/21/2004	3.19E+02	5.77E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	9.00E+01	4.50E+00
9/16/2002	2.40E+02	5.48E+00
10/16/2002	1.85E+02	5.22E+00
1/13/2003	2.20E+02	5.39E+00
4/10/2003	1.96E+02	5.28E+00
7/16/2003	1.72E+02	5.15E+00
10/14/2003	1.75E+02	5.16E+00
1/13/2004	2.49E+02	5.52E+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)
MW220	Upgradient	Yes	4.39E+02	YES	6.09E+00	N/A
MW221	Sidegradient	Yes	4.77E+02	YES	6.17E+00	N/A
MW222	Sidegradient	Yes	4.26E+02	YES	6.06E+00	N/A
MW223	Sidegradient	Yes	4.11E+02	YES	6.02E+00	N/A
MW224	Sidegradient	Yes	4.36E+02	YES	6.08E+00	N/A
MW369	Downgradient	Yes	4.63E+02	YES	6.14E+00	N/A
MW372	Downgradient	Yes	4.10E+02	YES	6.02E+00	N/A
MW384	Sidegradient	Yes	4.69E+02	YES	6.15E+00	N/A
MW387	Downgradient	Yes	4.57E+02	YES	6.12E+00	N/A
MW391	Downgradient	Yes	3.22E+02	NO	5.77E+00	N/A
MW394	Upgradient	Yes	3.78E+02	NO	5.93E+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.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

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
MW220
MW221
MW222
MW223
MW224
MW369
MW372
MW384
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

pH UNITS: Std Unit URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 6.138	**S=** 0.282	**CV(1)=** 0.046	**K factor**=** 2.904	**TL(1)=** 6.96E+00	**LL(1)=** 5.32E+00
Statistics-Transformed Background Data	**X=** 1.813	**S=** 0.047	**CV(2)=** 0.026	**K factor**=** 2.904	**TL(2)=** 1.95E+00	**LL(2)=** 1.68E+00

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	6.04E+00	1.80E+00
1/15/2003	6.31E+00	1.84E+00
4/10/2003	6.50E+00	1.87E+00
7/14/2003	6.30E+00	1.84E+00
10/13/2003	6.34E+00	1.85E+00
1/13/2004	6.33E+00	1.85E+00
4/13/2004	6.30E+00	1.84E+00
7/21/2004	5.90E+00	1.77E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	5.80E+00	1.76E+00
9/30/2002	5.93E+00	1.78E+00
10/16/2002	5.42E+00	1.69E+00
1/13/2003	6.00E+00	1.79E+00
4/10/2003	6.04E+00	1.80E+00
7/16/2003	6.20E+00	1.82E+00
10/14/2003	6.40E+00	1.86E+00
1/13/2004	6.39E+00	1.85E+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)?
MW220	Upgradient	Yes	5.98E+00	NO	1.79E+00	N/A
MW221	Sidegradient	Yes	5.72E+00	NO	1.74E+00	N/A
MW222	Sidegradient	Yes	5.96E+00	NO	1.79E+00	N/A
MW223	Sidegradient	Yes	5.94E+00	NO	1.78E+00	N/A
MW224	Sidegradient	Yes	6.00E+00	NO	1.79E+00	N/A
MW369	Downgradient	Yes	6.25E+00	NO	1.83E+00	N/A
MW372	Downgradient	Yes	6.27E+00	NO	1.84E+00	N/A
MW384	Sidegradient	Yes	5.80E+00	NO	1.76E+00	N/A
MW387	Downgradient	Yes	6.11E+00	NO	1.81E+00	N/A
MW391	Downgradient	Yes	6.00E+00	NO	1.79E+00	N/A
MW394	Upgradient	Yes	5.99E+00	NO	1.79E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 6.654	**S=** 9.310	**CV(1)=** 1.399	**K factor**=** 2.523	**TL(1)=** 3.01E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 1.130	**S=** 1.208	**CV(2)=** 1.069	**K factor**=** 2.523	**TL(2)=** 4.18E+00	**LL(2)=**N/A

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	6.70E+00	1.90E+00
1/15/2003	2.97E+01	3.39E+00
4/10/2003	2.49E+01	3.21E+00
7/14/2003	1.13E+00	1.22E-01
10/13/2003	3.43E+00	1.23E+00
1/13/2004	6.71E+00	1.90E+00
4/13/2004	1.93E+01	2.96E+00
7/21/2004	3.97E+00	1.38E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	1.03E+00	2.96E-02
1/13/2003	1.10E+00	9.53E-02
4/10/2003	1.24E+00	2.15E-01
7/16/2003	1.14E+00	1.31E-01
10/14/2003	1.05E+00	4.88E-02
1/13/2004	1.07E+00	6.77E-02

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	2.18E+00	N/A	7.79E-01	NO
MW221	Sidegradient	Yes	7.24E+00	N/A	1.98E+00	NO
MW222	Sidegradient	Yes	7.35E-01	N/A	-3.08E-01	NO
MW223	Sidegradient	Yes	4.78E+00	N/A	1.56E+00	NO
MW224	Sidegradient	Yes	1.08E+00	N/A	7.70E-02	NO
MW369	Downgradient	Yes	5.76E-01	N/A	-5.52E-01	NO
MW372	Downgradient	Yes	2.27E+00	N/A	8.20E-01	NO
MW384	Sidegradient	Yes	1.40E+00	N/A	3.36E-01	NO
MW387	Downgradient	Yes	1.74E+00	N/A	5.54E-01	NO
MW391	Downgradient	Yes	1.51E+00	N/A	4.12E-01	NO
MW394	Upgradient	Yes	1.44E+00	N/A	3.65E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Sodium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 36.363	**S=** 8.666	**CV(1)=** 0.238	**K factor**=** 2.523	**TL(1)=** 5.82E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.570	**S=** 0.222	**CV(2)=** 0.062	**K factor**=** 2.523	**TL(2)=** 4.13E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	3.54E+01	3.57E+00
1/15/2003	4.06E+01	3.70E+00
4/10/2003	5.10E+01	3.93E+00
7/14/2003	5.82E+01	4.06E+00
10/13/2003	3.81E+01	3.64E+00
1/13/2004	3.70E+01	3.61E+00
4/13/2004	4.32E+01	3.77E+00
7/21/2004	3.38E+01	3.52E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	3.29E+01	3.49E+00
9/16/2002	2.99E+01	3.40E+00
10/16/2002	2.90E+01	3.37E+00
1/13/2003	2.71E+01	3.30E+00
4/10/2003	2.48E+01	3.21E+00
7/16/2003	3.56E+01	3.57E+00
10/14/2003	3.39E+01	3.52E+00
1/13/2004	3.13E+01	3.44E+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)
MW220	Upgradient	Yes	4.12E+01	NO	3.72E+00	N/A
MW221	Sidegradient	Yes	4.73E+01	NO	3.86E+00	N/A
MW222	Sidegradient	Yes	4.59E+01	NO	3.83E+00	N/A
MW223	Sidegradient	Yes	4.45E+01	NO	3.80E+00	N/A
MW224	Sidegradient	Yes	6.19E+01	YES	4.13E+00	N/A
MW369	Downgradient	Yes	4.77E+01	NO	3.86E+00	N/A
MW372	Downgradient	Yes	5.95E+01	YES	4.09E+00	N/A
MW384	Sidegradient	Yes	4.49E+01	NO	3.80E+00	N/A
MW387	Downgradient	Yes	5.35E+01	NO	3.98E+00	N/A
MW391	Downgradient	Yes	3.25E+01	NO	3.48E+00	N/A
MW394	Upgradient	Yes	3.36E+01	NO	3.51E+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

MW224
MW372

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *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-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Sulfate UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 10.481	**S=** 2.648	**CV(1)=** 0.253	**K factor**=** 2.523	**TL(1)=** 1.72E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 2.322	**S=** 0.239	**CV(2)=** 0.103	**K factor**=** 2.523	**TL(2)=** 2.92E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	1.04E+01	2.34E+00
1/15/2003	9.80E+00	2.28E+00
4/10/2003	1.54E+01	2.73E+00
7/14/2003	1.49E+01	2.70E+00
10/13/2003	1.35E+01	2.60E+00
1/13/2004	1.03E+01	2.33E+00
4/13/2004	1.43E+01	2.66E+00
7/21/2004	1.05E+01	2.35E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	1.12E+01	2.42E+00
9/16/2002	8.30E+00	2.12E+00
10/16/2002	8.00E+00	2.08E+00
1/13/2003	8.50E+00	2.14E+00
4/10/2003	7.90E+00	2.07E+00
7/16/2003	8.40E+00	2.13E+00
10/14/2003	8.20E+00	2.10E+00
1/13/2004	8.10E+00	2.09E+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)
MW220	Upgradient	Yes	1.91E+01	YES	2.95E+00	N/A
MW221	Sidegradient	Yes	1.52E+01	NO	2.72E+00	N/A
MW222	Sidegradient	Yes	1.29E+01	NO	2.56E+00	N/A
MW223	Sidegradient	Yes	1.44E+01	NO	2.67E+00	N/A
MW224	Sidegradient	Yes	1.93E+01	YES	2.96E+00	N/A
MW369	Downgradient	Yes	8.48E+00	NO	2.14E+00	N/A
MW372	Downgradient	Yes	1.49E+02	YES	5.00E+00	N/A
MW384	Sidegradient	Yes	1.95E+01	YES	2.97E+00	N/A
MW387	Downgradient	Yes	2.57E+01	YES	3.25E+00	N/A
MW391	Downgradient	Yes	1.21E+01	NO	2.49E+00	N/A
MW394	Upgradient	Yes	1.16E+01	NO	2.45E+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

MW220
MW224
MW372
MW384
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Technetium-99 UNITS: pCi/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 9.354	**S=** 9.280	**CV(1)=** 0.992	**K factor**=** 2.523	**TL(1)=** 3.28E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 2.270	**S=** 0.849	**CV(2)=** 0.374	**K factor**=** 2.523	**TL(2)=** 3.26E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	1.97E+01	2.98E+00
1/15/2003	2.61E+01	3.26E+00
4/10/2003	3.56E+00	1.27E+00
7/14/2003	0.00E+00	#Func!
10/13/2003	2.10E+01	3.04E+00
1/13/2004	6.32E+00	1.84E+00
4/13/2004	3.00E+00	1.10E+00
7/21/2004	1.46E+01	2.68E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	1.40E+01	2.64E+00
9/16/2002	5.45E+00	1.70E+00
10/16/2002	2.49E+00	9.12E-01
1/13/2003	1.83E+01	2.91E+00
4/10/2003	-1.45E+00	#Func!
7/16/2003	-1.71E+00	#Func!
10/14/2003	1.83E+01	2.91E+00
1/13/2004	0.00E+00	#Func!

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)
MW220	Upgradient	No	8.02E+00	N/A	2.08E+00	N/A
MW221	Sidegradient	No	8.82E+00	N/A	2.18E+00	N/A
MW222	Sidegradient	No	7.13E+00	N/A	1.96E+00	N/A
MW223	Sidegradient	No	7.48E+00	N/A	2.01E+00	N/A
MW224	Sidegradient	No	-4.06E+00	N/A	#Error	N/A
MW369	Downgradient	Yes	5.27E+01	YES	3.96E+00	N/A
MW372	Downgradient	No	7.82E+00	N/A	2.06E+00	N/A
MW384	Sidegradient	Yes	4.68E+01	YES	3.85E+00	N/A
MW387	Downgradient	Yes	8.86E+01	YES	4.48E+00	N/A
MW391	Downgradient	No	3.71E+00	N/A	1.31E+00	N/A
MW394	Upgradient	No	9.28E+00	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

MW369
MW384
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Total Organic Carbon (TOC) UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data **X=** 1.494 **S=** 0.737 **CV(1)=**0.493 **K factor**=** 2.523 **TL(1)=** 3.35E+00 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 0.315 **S=** 0.402 **CV(2)=** 1.279 **K factor**=** 2.523 **TL(2)=** 1.33E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
10/14/2002	1.00E+00	0.00E+00
1/15/2003	1.10E+00	9.53E-02
4/10/2003	1.00E+00	0.00E+00
7/14/2003	3.30E+00	1.19E+00
10/13/2003	1.80E+00	5.88E-01
1/13/2004	1.00E+00	0.00E+00
4/13/2004	2.00E+00	6.93E-01
7/21/2004	3.10E+00	1.13E+00

Well Number: MW394

Date Collected	Result	LN(Result)
8/13/2002	1.30E+00	2.62E-01
9/16/2002	1.00E+00	0.00E+00
10/16/2002	1.00E+00	0.00E+00
1/13/2003	1.60E+00	4.70E-01
4/10/2003	1.00E+00	0.00E+00
7/16/2003	1.40E+00	3.36E-01
10/14/2003	1.30E+00	2.62E-01
1/13/2004	1.00E+00	0.00E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	5.95E-01	NO	-5.19E-01	N/A
MW221	Sidegradient	Yes	5.72E-01	NO	-5.59E-01	N/A
MW222	Sidegradient	Yes	5.34E-01	NO	-6.27E-01	N/A
MW223	Sidegradient	Yes	5.16E-01	NO	-6.62E-01	N/A
MW224	Sidegradient	Yes	9.23E-01	NO	-8.01E-02	N/A
MW369	Downgradient	Yes	6.57E-01	NO	-4.20E-01	N/A
MW372	Downgradient	Yes	7.72E-01	NO	-2.59E-01	N/A
MW384	Sidegradient	Yes	8.36E-01	NO	-1.79E-01	N/A
MW387	Downgradient	Yes	1.05E+00	NO	4.88E-02	N/A
MW391	Downgradient	Yes	7.10E-01	NO	-3.42E-01	N/A
MW394	Upgradient	Yes	5.34E-01	NO	-6.27E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Total Organic Halides (TOX) UNITS: ug/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data **X=** 63.475 **S=** 163.135 **CV(1)=**2.570 **K factor**=** 2.523 **TL(1)=** 4.75E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 3.103 **S=** 1.145 **CV(2)=**0.369 **K factor**=** 2.523 **TL(2)=** 5.99E+00 **LL(2)=**N/A

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
10/14/2002	5.00E+01	3.91E+00
1/15/2003	1.00E+01	2.30E+00
4/10/2003	1.00E+01	2.30E+00
7/14/2003	1.00E+01	2.30E+00
10/13/2003	1.00E+01	2.30E+00
1/13/2004	1.00E+01	2.30E+00
4/13/2004	1.00E+01	2.30E+00
7/21/2004	1.00E+01	2.30E+00

Well Number: MW394

Date Collected	Result	LN(Result)
8/13/2002	5.00E+01	3.91E+00
9/16/2002	6.72E+02	6.51E+00
10/16/2002	5.00E+01	3.91E+00
1/13/2003	3.61E+01	3.59E+00
4/10/2003	1.00E+01	2.30E+00
7/16/2003	4.27E+01	3.75E+00
10/14/2003	2.20E+01	3.09E+00
1/13/2004	1.28E+01	2.55E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	4.84E+00	N/A	1.58E+00	NO
MW221	Sidegradient	Yes	5.10E+00	N/A	1.63E+00	NO
MW222	Sidegradient	No	1.00E+01	N/A	2.30E+00	N/A
MW223	Sidegradient	No	2.70E+01	N/A	3.30E+00	N/A
MW224	Sidegradient	No	1.00E+01	N/A	2.30E+00	N/A
MW369	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW372	Downgradient	Yes	2.51E+01	N/A	3.22E+00	NO
MW384	Sidegradient	Yes	1.23E+01	N/A	2.51E+00	NO
MW387	Downgradient	Yes	2.12E+01	N/A	3.05E+00	NO
MW391	Downgradient	Yes	4.78E+00	N/A	1.56E+00	NO
MW394	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.036	**S=** 0.026	**CV(1)=**0.722	**K factor**=** 2.523	**TL(1)=** 1.01E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.485	**S=** 0.525	**CV(2)=** -0.151	**K factor**=** 2.523	**TL(2)=** -2.16E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW220	
Date Collected	Result	LN(Result)
10/14/2002	2.50E-02	-3.69E+00
1/15/2003	3.50E-02	-3.35E+00
4/10/2003	3.50E-02	-3.35E+00
7/14/2003	3.89E-02	-3.25E+00
10/13/2003	2.60E-02	-3.65E+00
1/13/2004	2.00E-02	-3.91E+00
4/13/2004	2.00E-02	-3.91E+00
7/21/2004	2.00E-02	-3.91E+00

Well Number:	MW394	
Date Collected	Result	LN(Result)
8/13/2002	1.00E-01	-2.30E+00
9/16/2002	1.00E-01	-2.30E+00
10/16/2002	2.50E-02	-3.69E+00
1/13/2003	3.50E-02	-3.35E+00
4/10/2003	3.50E-02	-3.35E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	4.71E-03	NO	-5.36E+00	N/A
MW221	Sidegradient	Yes	3.36E-03	NO	-5.70E+00	N/A
MW222	Sidegradient	Yes	4.71E-03	NO	-5.36E+00	N/A
MW223	Sidegradient	Yes	3.83E-03	NO	-5.56E+00	N/A
MW224	Sidegradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW369	Downgradient	Yes	4.23E-03	NO	-5.47E+00	N/A
MW372	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW384	Sidegradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW387	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW391	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW394	Upgradient	Yes	1.20E-02	NO	-4.42E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.258	**S=** 0.221	**CV(1)=**0.856	**K factor**=** 2.523	**TL(1)=** 8.15E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -2.266	**S=** 2.485	**CV(2)=** -1.097	**K factor**=** 2.523	**TL(2)=** 4.00E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.00E-01	-1.61E+00
9/16/2002	2.00E-01	-1.61E+00
10/16/2002	2.00E-04	-8.52E+00
1/13/2003	7.37E-01	-3.05E-01
4/10/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	8.24E-01	-1.94E-01
9/16/2002	2.00E-01	-1.61E+00
10/17/2002	2.00E-04	-8.52E+00
1/13/2003	3.63E-01	-1.01E+00
4/8/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW373	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW385	Sidegradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW388	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW392	Downgradient	Yes	1.97E-02	NO	-3.93E+00	N/A
MW395	Upgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW397	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	2.00E-01	-1.61E+00
1/13/2003	2.00E-01	-1.61E+00
4/10/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/17/2002	2.00E-01	-1.61E+00
1/13/2003	2.00E-01	-1.61E+00
4/8/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	2.00E-01	-1.61E+00
1/13/2004	2.00E-01	-1.61E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	8.26E-02	N/A	-2.49E+00	NO
MW373	Downgradient	Yes	2.47E+00	N/A	9.04E-01	NO
MW385	Sidegradient	Yes	8.23E-02	N/A	-2.50E+00	NO
MW388	Downgradient	Yes	2.68E-02	N/A	-3.62E+00	NO
MW392	Downgradient	Yes	2.14E-02	N/A	-3.84E+00	NO
MW395	Upgradient	Yes	1.96E-02	N/A	-3.93E+00	NO
MW397	Upgradient	No	1.50E-02	N/A	-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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
8/13/2002	1.00E+00	0.00E+00
9/16/2002	1.00E+00	0.00E+00
10/16/2002	1.00E+00	0.00E+00
1/13/2003	1.00E+00	0.00E+00
4/10/2003	1.00E+00	0.00E+00
7/16/2003	1.00E+00	0.00E+00
10/14/2003	1.00E+00	0.00E+00
1/13/2004	1.00E+00	0.00E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	1.00E+00	0.00E+00
9/16/2002	1.00E+00	0.00E+00
10/17/2002	1.00E+00	0.00E+00
1/13/2003	1.00E+00	0.00E+00
4/8/2003	1.00E+00	0.00E+00
7/16/2003	1.00E+00	0.00E+00
10/14/2003	1.00E+00	0.00E+00
1/13/2004	1.00E+00	0.00E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	5.51E-01	NO	-5.96E-01	N/A
MW373	Downgradient	Yes	4.48E-01	NO	-8.03E-01	N/A
MW385	Sidegradient	Yes	2.56E-01	NO	-1.36E+00	N/A
MW388	Downgradient	Yes	4.35E-01	NO	-8.32E-01	N/A
MW392	Downgradient	Yes	5.58E-01	NO	-5.83E-01	N/A
MW395	Upgradient	Yes	5.44E-01	NO	-6.09E-01	N/A
MW397	Upgradient	Yes	3.93E-01	NO	-9.34E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 23.103	**S=** 11.538	**CV(1)=** 0.499	**K factor**=** 2.523	**TL(1)=** 5.22E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 2.357	**S=** 2.411	**CV(2)=** 1.023	**K factor**=** 2.523	**TL(2)=** 8.44E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	3.22E+01	3.47E+00
9/16/2002	3.30E+01	3.50E+00
10/16/2002	2.95E-02	-3.52E+00
1/13/2003	3.21E+01	3.47E+00
4/10/2003	4.02E+01	3.69E+00
7/16/2003	3.24E+01	3.48E+00
10/14/2003	3.39E+01	3.52E+00
1/13/2004	3.12E+01	3.44E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	1.94E+01	2.97E+00
9/16/2002	1.90E+01	2.94E+00
10/17/2002	1.79E-02	-4.02E+00
1/13/2003	1.78E+01	2.88E+00
4/8/2003	2.03E+01	3.01E+00
7/16/2003	1.94E+01	2.97E+00
10/14/2003	1.99E+01	2.99E+00
1/13/2004	1.88E+01	2.93E+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)
MW370	Downgradient	Yes	2.92E+01	NO	3.37E+00	N/A
MW373	Downgradient	Yes	9.10E+01	YES	4.51E+00	N/A
MW385	Sidegradient	Yes	2.34E+01	NO	3.15E+00	N/A
MW388	Downgradient	Yes	2.89E+01	NO	3.36E+00	N/A
MW392	Downgradient	Yes	2.43E+01	NO	3.19E+00	N/A
MW395	Upgradient	Yes	2.79E+01	NO	3.33E+00	N/A
MW397	Upgradient	Yes	3.18E+01	NO	3.46E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 51.844	**S=** 11.652	**CV(1)=** 0.225	**K factor**=** 2.523	**TL(1)=** 8.12E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.924	**S=** 0.229	**CV(2)=** 0.058	**K factor**=** 2.523	**TL(2)=** 4.50E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	6.22E+01	4.13E+00
9/16/2002	6.47E+01	4.17E+00
10/16/2002	6.22E+01	4.13E+00
1/13/2003	6.35E+01	4.15E+00
4/10/2003	6.41E+01	4.16E+00
7/16/2003	6.40E+01	4.16E+00
10/14/2003	6.32E+01	4.15E+00
1/13/2004	6.06E+01	4.10E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	3.89E+01	3.66E+00
9/16/2002	3.98E+01	3.68E+00
10/17/2002	3.93E+01	3.67E+00
1/13/2003	4.05E+01	3.70E+00
4/8/2003	4.21E+01	3.74E+00
7/16/2003	4.20E+01	3.74E+00
10/14/2003	4.08E+01	3.71E+00
1/13/2004	4.16E+01	3.73E+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)
MW370	Downgradient	Yes	4.15E+01	NO	3.73E+00	N/A
MW373	Downgradient	Yes	3.05E+01	NO	3.42E+00	N/A
MW385	Sidegradient	Yes	2.19E+01	NO	3.09E+00	N/A
MW388	Downgradient	Yes	3.41E+01	NO	3.53E+00	N/A
MW392	Downgradient	Yes	4.30E+01	NO	3.76E+00	N/A
MW395	Upgradient	Yes	4.84E+01	NO	3.88E+00	N/A
MW397	Upgradient	Yes	3.28E+01	NO	3.49E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.007	**S=** 0.011	**CV(1)=** 1.515	**K factor**=** 2.523	**TL(1)=** 3.41E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -6.053	**S=** 1.416	**CV(2)=** -0.234	**K factor**=** 2.523	**TL(2)=** -2.48E+00	**LL(2)=**N/A

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	1.00E-03	-6.91E+00
1/13/2003	1.48E-03	-6.52E+00
4/10/2003	1.51E-03	-6.50E+00
7/16/2003	1.00E-03	-6.91E+00
10/14/2003	1.00E-03	-6.91E+00
1/13/2004	1.00E-03	-6.91E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/17/2002	1.00E-03	-6.91E+00
1/13/2003	1.00E-03	-6.91E+00
4/8/2003	1.00E-03	-6.91E+00
7/16/2003	1.00E-03	-6.91E+00
10/14/2003	1.00E-03	-6.91E+00
1/13/2004	1.00E-03	-6.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW373	Downgradient	Yes	8.77E-04	N/A	-7.04E+00	NO
MW385	Sidegradient	Yes	1.54E-03	N/A	-6.48E+00	NO
MW388	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW392	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW395	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW397	Upgradient	Yes	4.06E-04	N/A	-7.81E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 377.875 **S=** 52.101 **CV(1)=** 0.138 **K factor**=** 2.523 **TL(1)=** 5.09E+02 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 5.926 **S=** 0.136 **CV(2)=** 0.023 **K factor**=** 2.523 **TL(2)=** 6.27E+00 **LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	4.05E+02	6.00E+00
9/16/2002	4.01E+02	5.99E+00
10/16/2002	3.92E+02	5.97E+00
1/13/2003	4.04E+02	6.00E+00
4/10/2003	4.88E+02	6.19E+00
7/16/2003	4.50E+02	6.11E+00
10/14/2003	4.10E+02	6.02E+00
1/13/2004	4.13E+02	6.02E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	3.22E+02	5.77E+00
9/16/2002	3.15E+02	5.75E+00
10/17/2002	3.17E+02	5.76E+00
1/13/2003	3.20E+02	5.77E+00
4/8/2003	3.90E+02	5.97E+00
7/16/2003	3.54E+02	5.87E+00
10/14/2003	3.31E+02	5.80E+00
1/13/2004	3.34E+02	5.81E+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)
MW370	Downgradient	Yes	4.16E+02	NO	6.03E+00	N/A
MW373	Downgradient	Yes	9.45E+02	YES	6.85E+00	N/A
MW385	Sidegradient	Yes	4.91E+02	NO	6.20E+00	N/A
MW388	Downgradient	Yes	5.29E+02	YES	6.27E+00	N/A
MW392	Downgradient	Yes	3.38E+02	NO	5.82E+00	N/A
MW395	Upgradient	Yes	3.87E+02	NO	5.96E+00	N/A
MW397	Upgradient	Yes	3.16E+02	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

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
MW388

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.028	**S=** 0.013	**CV(1)=** 0.474	**K factor**=** 2.523	**TL(1)=** 6.15E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.662	**S=** 0.406	**CV(2)=** -0.111	**K factor**=** 2.523	**TL(2)=** -2.64E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/16/2002	2.81E-02	-3.57E+00
1/13/2003	2.00E-02	-3.91E+00
4/10/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/17/2002	2.00E-02	-3.91E+00
1/13/2003	2.00E-02	-3.91E+00
4/8/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	3.60E-03	NO	-5.63E+00	N/A
MW373	Downgradient	Yes	3.26E-03	NO	-5.73E+00	N/A
MW385	Sidegradient	Yes	7.90E-04	NO	-7.14E+00	N/A
MW388	Downgradient	Yes	6.45E-04	NO	-7.35E+00	N/A
MW392	Downgradient	Yes	2.05E-03	NO	-6.19E+00	N/A
MW395	Upgradient	Yes	1.57E-03	NO	-6.46E+00	N/A
MW397	Upgradient	Yes	1.65E-03	NO	-6.41E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Dissolved Oxygen UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 4.678	**S=** 2.431	**CV(1)=** 0.520	**K factor**=** 2.523	**TL(1)=** 1.08E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 1.414	**S=** 0.550	**CV(2)=** 0.389	**K factor**=** 2.523	**TL(2)=** 2.80E+00	**LL(2)=** N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
8/13/2002	7.29E+00	1.99E+00
9/30/2002	4.03E+00	1.39E+00
10/16/2002	3.85E+00	1.35E+00
1/13/2003	2.36E+00	8.59E-01
4/10/2003	1.14E+00	1.31E-01
7/16/2003	1.76E+00	5.65E-01
10/14/2003	4.05E+00	1.40E+00
1/13/2004	4.26E+00	1.45E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	1.16E+01	2.45E+00
9/16/2002	5.86E+00	1.77E+00
10/17/2002	5.94E+00	1.78E+00
1/13/2003	4.66E+00	1.54E+00
4/8/2003	3.77E+00	1.33E+00
7/16/2003	3.47E+00	1.24E+00
10/14/2003	5.34E+00	1.68E+00
1/13/2004	5.51E+00	1.71E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	6.23E+00	NO	1.83E+00	N/A
MW373	Downgradient	Yes	2.08E+00	NO	7.32E-01	N/A
MW385	Sidegradient	Yes	3.54E+00	NO	1.26E+00	N/A
MW388	Downgradient	Yes	4.69E+00	NO	1.55E+00	N/A
MW392	Downgradient	Yes	2.56E+00	NO	9.40E-01	N/A
MW395	Upgradient	Yes	5.05E+00	NO	1.62E+00	N/A
MW397	Upgradient	Yes	6.38E+00	NO	1.85E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Dissolved Solids UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 219.250	**S=** 34.107	**CV(1)=** 0.156	**K factor**=** 2.523	**TL(1)=** 3.05E+02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 5.379	**S=** 0.152	**CV(2)=** 0.028	**K factor**=** 2.523	**TL(2)=** 5.76E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.49E+02	5.52E+00
9/16/2002	2.72E+02	5.61E+00
10/16/2002	2.55E+02	5.54E+00
1/13/2003	2.11E+02	5.35E+00
4/10/2003	2.89E+02	5.67E+00
7/16/2003	2.36E+02	5.46E+00
10/14/2003	2.24E+02	5.41E+00
1/13/2004	2.35E+02	5.46E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	1.87E+02	5.23E+00
9/16/2002	1.97E+02	5.28E+00
10/17/2002	1.83E+02	5.21E+00
1/13/2003	1.82E+02	5.20E+00
4/8/2003	2.17E+02	5.38E+00
7/16/2003	1.96E+02	5.28E+00
10/14/2003	1.98E+02	5.29E+00
1/13/2004	1.77E+02	5.18E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	2.12E+02	NO	5.36E+00	N/A
MW373	Downgradient	Yes	5.62E+02	YES	6.33E+00	N/A
MW385	Sidegradient	Yes	1.93E+02	NO	5.26E+00	N/A
MW388	Downgradient	Yes	1.99E+02	NO	5.29E+00	N/A
MW392	Downgradient	Yes	1.49E+02	NO	5.00E+00	N/A
MW395	Upgradient	Yes	1.78E+02	NO	5.18E+00	N/A
MW397	Upgradient	Yes	1.52E+02	NO	5.02E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

Conclusion of Statistical Analysis on Historical Data

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.400	**S=** 0.514	**CV(1)=** 1.286	**K factor**=** 2.523	**TL(1)=** 1.70E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -2.197	**S=** 2.634	**CV(2)=** -1.199	**K factor**=** 2.523	**TL(2)=** 4.45E+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: MW395

Date Collected	Result	LN(Result)
8/13/2002	2.94E-01	-1.22E+00
9/16/2002	2.00E-01	-1.61E+00
10/16/2002	2.00E-04	-8.52E+00
1/13/2003	1.33E+00	2.85E-01
4/10/2003	1.31E+00	2.70E-01
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	1.00E-01	-2.30E+00
1/13/2004	1.00E-01	-2.30E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	1.58E+00	4.57E-01
9/16/2002	2.32E-01	-1.46E+00
10/17/2002	2.00E-04	-8.52E+00
1/13/2003	4.53E-01	-7.92E-01
4/8/2003	2.00E-01	-1.61E+00
7/16/2003	2.00E-01	-1.61E+00
10/14/2003	1.00E-01	-2.30E+00
1/13/2004	1.00E-01	-2.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW373	Downgradient	Yes	5.62E-02	N/A	-2.88E+00	NO
MW385	Sidegradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW388	Downgradient	Yes	3.87E-02	N/A	-3.25E+00	NO
MW392	Downgradient	Yes	4.79E-02	N/A	-3.04E+00	NO
MW395	Upgradient	Yes	4.15E-02	N/A	-3.18E+00	NO
MW397	Upgradient	Yes	2.66E-01	N/A	-1.32E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 9.102	**S=** 4.685	**CV(1)=** 0.515	**K factor**=** 2.523	**TL(1)=** 2.09E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 1.423	**S=** 2.408	**CV(2)=** 1.692	**K factor**=** 2.523	**TL(2)=** 7.50E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	1.25E+01	2.53E+00
9/16/2002	1.30E+01	2.56E+00
10/16/2002	1.27E-02	-4.37E+00
1/13/2003	1.12E+01	2.42E+00
4/10/2003	1.75E+01	2.86E+00
7/16/2003	1.29E+01	2.56E+00
10/14/2003	1.34E+01	2.60E+00
1/13/2004	1.24E+01	2.52E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	7.83E+00	2.06E+00
9/16/2002	7.64E+00	2.03E+00
10/17/2002	6.58E-03	-5.02E+00
1/13/2003	6.69E+00	1.90E+00
4/8/2003	7.28E+00	1.99E+00
7/16/2003	7.82E+00	2.06E+00
10/14/2003	7.94E+00	2.07E+00
1/13/2004	7.51E+00	2.02E+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)
MW370	Downgradient	Yes	1.29E+01	NO	2.56E+00	N/A
MW373	Downgradient	Yes	3.39E+01	YES	3.52E+00	N/A
MW385	Sidegradient	Yes	9.82E+00	NO	2.28E+00	N/A
MW388	Downgradient	Yes	1.24E+01	NO	2.52E+00	N/A
MW392	Downgradient	Yes	1.04E+01	NO	2.34E+00	N/A
MW395	Upgradient	Yes	1.18E+01	NO	2.47E+00	N/A
MW397	Upgradient	Yes	1.42E+01	NO	2.65E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Manganese UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 0.131	**S=** 0.195	**CV(1)=** 1.487	**K factor**=** 2.523	**TL(1)=** 6.24E-01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.104	**S=** 1.529	**CV(2)=** -0.493	**K factor**=** 2.523	**TL(2)=** 7.55E-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:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	3.61E-01	-1.02E+00
9/16/2002	2.80E-02	-3.58E+00
10/16/2002	2.60E-02	-3.65E+00
1/13/2003	7.13E-02	-2.64E+00
4/10/2003	6.29E-01	-4.64E-01
7/16/2003	2.97E-01	-1.21E+00
10/14/2003	1.98E-02	-3.92E+00
1/13/2004	1.26E-02	-4.37E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	4.66E-01	-7.64E-01
9/16/2002	7.70E-02	-2.56E+00
10/17/2002	2.80E-02	-3.58E+00
1/13/2003	1.64E-02	-4.11E+00
4/8/2003	4.07E-02	-3.20E+00
7/16/2003	1.67E-02	-4.09E+00
10/14/2003	5.55E-03	-5.19E+00
1/13/2004	5.00E-03	-5.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW373	Downgradient	Yes	1.36E-01	N/A	-2.00E+00	NO
MW385	Sidegradient	Yes	1.05E-03	N/A	-6.86E+00	NO
MW388	Downgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW392	Downgradient	Yes	1.77E-02	N/A	-4.03E+00	NO
MW395	Upgradient	Yes	1.34E-03	N/A	-6.62E+00	NO
MW397	Upgradient	Yes	2.87E-01	N/A	-1.25E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Molybdenum UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 0.007	**S=** 0.011	**CV(1)=** 1.451	**K factor**=** 2.523	**TL(1)=** 3.41E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -5.990	**S=** 1.443	**CV(2)=** -0.241	**K factor**=** 2.523	**TL(2)=** -2.35E+00	**LL(2)=**N/A

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	1.00E-03	-6.91E+00
1/13/2003	6.09E-03	-5.10E+00
4/10/2003	1.00E-03	-6.91E+00
7/16/2003	1.00E-03	-6.91E+00
10/14/2003	1.00E-03	-6.91E+00
1/13/2004	1.00E-03	-6.91E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/17/2002	1.00E-03	-6.91E+00
1/13/2003	1.00E-03	-6.91E+00
4/8/2003	1.00E-03	-6.91E+00
7/16/2003	1.00E-03	-6.91E+00
10/14/2003	1.00E-03	-6.91E+00
1/13/2004	1.00E-03	-6.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW373	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW385	Sidegradient	Yes	2.18E-04	N/A	-8.43E+00	NO
MW388	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW392	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW395	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW397	Upgradient	Yes	3.59E-04	N/A	-7.93E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Nickel UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 0.018	**S=** 0.020	**CV(1)=** 1.089	**K factor**=** 2.523	**TL(1)=** 6.83E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -4.540	**S=** 1.020	**CV(2)=** -0.225	**K factor**=** 2.523	**TL(2)=** -1.97E+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: MW395

Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/16/2002	7.02E-03	-4.96E+00
1/13/2003	2.90E-02	-3.54E+00
4/10/2003	9.10E-03	-4.70E+00
7/16/2003	6.27E-03	-5.07E+00
10/14/2003	5.00E-03	-5.30E+00
1/13/2004	5.00E-03	-5.30E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	5.00E-02	-3.00E+00
9/16/2002	5.00E-02	-3.00E+00
10/17/2002	5.00E-03	-5.30E+00
1/13/2003	5.02E-03	-5.29E+00
4/8/2003	5.00E-03	-5.30E+00
7/16/2003	5.00E-03	-5.30E+00
10/14/2003	5.00E-03	-5.30E+00
1/13/2004	5.00E-03	-5.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW373	Downgradient	Yes	2.12E-03	N/A	-6.16E+00	NO
MW385	Sidegradient	Yes	1.08E-03	N/A	-6.83E+00	NO
MW388	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW392	Downgradient	Yes	1.24E-03	N/A	-6.69E+00	NO
MW395	Upgradient	Yes	6.71E-04	N/A	-7.31E+00	NO
MW397	Upgradient	Yes	1.37E-03	N/A	-6.59E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Oxidation-Reduction Potential UNITS: mV LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data **X=** 157.250 **S=** 52.376 **CV(1)=** 0.333 **K factor**=** 2.523 **TL(1)=** 2.89E+02 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 5.003 **S=** 0.348 **CV(2)=** 0.069 **K factor**=** 2.523 **TL(2)=** 5.88E+00 **LL(2)=** N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
8/13/2002	8.00E+01	4.38E+00
9/16/2002	1.45E+02	4.98E+00
10/16/2002	1.25E+02	4.83E+00
1/13/2003	8.50E+01	4.44E+00
4/10/2003	1.59E+02	5.07E+00
7/16/2003	9.80E+01	4.58E+00
10/14/2003	1.38E+02	4.93E+00
1/13/2004	2.33E+02	5.45E+00

Well Number: MW397

Date Collected	Result	LN(Result)
8/13/2002	1.15E+02	4.74E+00
9/30/2002	1.40E+02	4.94E+00
10/17/2002	1.85E+02	5.22E+00
1/13/2003	2.30E+02	5.44E+00
4/8/2003	1.55E+02	5.04E+00
7/16/2003	1.88E+02	5.24E+00
10/14/2003	1.87E+02	5.23E+00
1/13/2004	2.53E+02	5.53E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	6.02E+02	YES	6.40E+00	N/A
MW373	Downgradient	Yes	4.28E+02	YES	6.06E+00	N/A
MW385	Sidegradient	Yes	4.34E+02	YES	6.07E+00	N/A
MW388	Downgradient	Yes	4.04E+02	YES	6.00E+00	N/A
MW392	Downgradient	Yes	4.71E+02	YES	6.15E+00	N/A
MW395	Upgradient	Yes	3.84E+02	YES	5.95E+00	N/A
MW397	Upgradient	Yes	3.89E+02	YES	5.96E+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

MW370
MW373
MW385
MW388
MW392
MW395
MW397

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

pH UNITS: Std Unit LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 6.048	**S=** 0.248	**CV(1)=**0.041	**K factor**=** 2.904	**TL(1)=** 6.77E+00	**LL(1)=**5.33E+00
Statistics-Transformed Background Data	**X=** 1.799	**S=** 0.042	**CV(2)=**0.023	**K factor**=** 2.904	**TL(2)=** 1.92E+00	**LL(2)=**1.68E+00

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	5.80E+00	1.76E+00
9/16/2002	6.00E+00	1.79E+00
10/16/2002	5.47E+00	1.70E+00
1/13/2003	6.00E+00	1.79E+00
4/10/2003	6.18E+00	1.82E+00
7/16/2003	6.00E+00	1.79E+00
10/14/2003	6.31E+00	1.84E+00
1/13/2004	6.24E+00	1.83E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	5.84E+00	1.76E+00
9/30/2002	6.00E+00	1.79E+00
10/17/2002	5.75E+00	1.75E+00
1/13/2003	6.00E+00	1.79E+00
4/8/2003	6.30E+00	1.84E+00
7/16/2003	6.20E+00	1.82E+00
10/14/2003	6.36E+00	1.85E+00
1/13/2004	6.32E+00	1.84E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)? Result <LL(1)?	LN(Result)	LN(Result) >TL(2)? LN(Result) <LL(2)?
MW370	Downgradient	Yes	6.28E+00	NO	1.84E+00	N/A
MW373	Downgradient	Yes	6.14E+00	NO	1.81E+00	N/A
MW385	Sidegradient	Yes	5.91E+00	NO	1.78E+00	N/A
MW388	Downgradient	Yes	5.97E+00	NO	1.79E+00	N/A
MW392	Downgradient	Yes	5.74E+00	NO	1.75E+00	N/A
MW395	Upgradient	Yes	5.97E+00	NO	1.79E+00	N/A
MW397	Upgradient	Yes	6.00E+00	NO	1.79E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Potassium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 1.590	**S=** 0.642	**CV(1)=** 0.404	**K factor**=** 2.523	**TL(1)=** 3.21E+00	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** -0.306	**S=** 2.457	**CV(2)=** -8.028	**K factor**=** 2.523	**TL(2)=** 5.89E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.00E+00	6.93E-01
9/16/2002	2.00E+00	6.93E-01
10/16/2002	1.29E-03	-6.65E+00
1/13/2003	1.51E+00	4.12E-01
4/10/2003	1.67E+00	5.13E-01
7/16/2003	1.73E+00	5.48E-01
10/14/2003	1.70E+00	5.31E-01
1/13/2004	1.58E+00	4.57E-01

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	2.03E+00	7.08E-01
9/16/2002	2.00E+00	6.93E-01
10/17/2002	1.45E-03	-6.54E+00
1/13/2003	1.69E+00	5.25E-01
4/8/2003	1.73E+00	5.48E-01
7/16/2003	2.00E+00	6.93E-01
10/14/2003	1.92E+00	6.52E-01
1/13/2004	1.87E+00	6.26E-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)
MW370	Downgradient	Yes	2.47E+00	NO	9.04E-01	N/A
MW373	Downgradient	Yes	3.03E+00	NO	1.11E+00	N/A
MW385	Sidegradient	Yes	1.56E+00	NO	4.45E-01	N/A
MW388	Downgradient	Yes	1.75E+00	NO	5.60E-01	N/A
MW392	Downgradient	Yes	2.07E+00	NO	7.28E-01	N/A
MW395	Upgradient	Yes	1.63E+00	NO	4.89E-01	N/A
MW397	Upgradient	Yes	7.90E-01	NO	-2.36E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Sodium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 29.560	**S=** 13.894	**CV(1)=** 0.470	**K factor**=** 2.523	**TL(1)=** 6.46E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 2.615	**S=** 2.411	**CV(2)=** 0.922	**K factor**=** 2.523	**TL(2)=** 8.70E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.70E+01	3.30E+00
9/16/2002	2.72E+01	3.30E+00
10/16/2002	2.53E-02	-3.68E+00
1/13/2003	2.26E+01	3.12E+00
4/10/2003	5.39E+01	3.99E+00
7/16/2003	3.00E+01	3.40E+00
10/14/2003	2.91E+01	3.37E+00
1/13/2004	2.64E+01	3.27E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	3.52E+01	3.56E+00
9/16/2002	3.43E+01	3.54E+00
10/17/2002	3.36E-02	-3.39E+00
1/13/2003	3.13E+01	3.44E+00
4/8/2003	4.61E+01	3.83E+00
7/16/2003	3.84E+01	3.65E+00
10/14/2003	3.71E+01	3.61E+00
1/13/2004	3.43E+01	3.54E+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)
MW370	Downgradient	Yes	4.59E+01	NO	3.83E+00	N/A
MW373	Downgradient	Yes	7.32E+01	YES	4.29E+00	N/A
MW385	Sidegradient	Yes	4.52E+01	NO	3.81E+00	N/A
MW388	Downgradient	Yes	4.53E+01	NO	3.81E+00	N/A
MW392	Downgradient	Yes	2.44E+01	NO	3.19E+00	N/A
MW395	Upgradient	Yes	3.11E+01	NO	3.44E+00	N/A
MW397	Upgradient	Yes	9.92E+01	YES	4.60E+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

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
MW397

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Sulfate UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 10.756	**S=** 2.147	**CV(1)=** 0.200	**K factor**=** 2.523	**TL(1)=** 1.62E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 2.356	**S=** 0.203	**CV(2)=** 0.086	**K factor**=** 2.523	**TL(2)=** 2.87E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	1.03E+01	2.33E+00
9/16/2002	9.10E+00	2.21E+00
10/16/2002	8.80E+00	2.17E+00
1/13/2003	9.00E+00	2.20E+00
4/10/2003	8.30E+00	2.12E+00
7/16/2003	8.20E+00	2.10E+00
10/14/2003	8.30E+00	2.12E+00
1/13/2004	8.20E+00	2.10E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	1.40E+01	2.64E+00
9/16/2002	1.28E+01	2.55E+00
10/17/2002	1.23E+01	2.51E+00
1/13/2003	1.27E+01	2.54E+00
4/8/2003	1.28E+01	2.55E+00
7/16/2003	1.31E+01	2.57E+00
10/14/2003	1.21E+01	2.49E+00
1/13/2004	1.21E+01	2.49E+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)
MW370	Downgradient	Yes	2.03E+01	YES	3.01E+00	N/A
MW373	Downgradient	Yes	2.11E+02	YES	5.35E+00	N/A
MW385	Sidegradient	Yes	1.94E+01	YES	2.97E+00	N/A
MW388	Downgradient	Yes	2.07E+01	YES	3.03E+00	N/A
MW392	Downgradient	Yes	7.43E+00	NO	2.01E+00	N/A
MW395	Upgradient	Yes	1.11E+01	NO	2.41E+00	N/A
MW397	Upgradient	Yes	1.14E+01	NO	2.43E+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

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

MW370
MW373
MW385
MW388

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Technetium-99 UNITS: pCi/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 11.359	**S=** 9.138	**CV(1)=** 0.805	**K factor**=** 2.523	**TL(1)=** 3.44E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 2.398	**S=** 0.859	**CV(2)=** 0.358	**K factor**=** 2.523	**TL(2)=** 3.25E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.08E+01	3.03E+00
9/16/2002	1.62E+01	2.79E+00
10/16/2002	8.28E+00	2.11E+00
1/13/2003	1.30E+01	2.56E+00
4/10/2003	-9.37E+00	#Func!
7/16/2003	8.26E-01	-1.91E-01
10/14/2003	1.41E+01	2.65E+00
1/13/2004	0.00E+00	#Func!

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	6.06E+00	1.80E+00
9/16/2002	1.73E+01	2.85E+00
10/17/2002	2.57E+01	3.25E+00
1/13/2003	2.09E+01	3.04E+00
4/8/2003	2.01E+01	3.00E+00
7/16/2003	9.20E+00	2.22E+00
10/14/2003	1.01E+01	2.31E+00
1/13/2004	8.54E+00	2.14E+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)
MW370	Downgradient	No	1.10E+01	N/A	2.40E+00	N/A
MW373	Downgradient	No	-6.18E+00	N/A	#Error	N/A
MW385	Sidegradient	Yes	4.36E+01	YES	3.78E+00	N/A
MW388	Downgradient	Yes	3.55E+01	YES	3.57E+00	N/A
MW392	Downgradient	No	-5.13E+00	N/A	#Error	N/A
MW395	Upgradient	No	2.80E+00	N/A	1.03E+00	N/A
MW397	Upgradient	No	1.90E+01	N/A	2.94E+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

MW385
MW388

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Total Organic Carbon (TOC) UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 1.544	**S=** 0.856	**CV(1)=**0.554	**K factor**=** 2.523	**TL(1)=** 3.70E+00	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 0.325	**S=** 0.452	**CV(2)=** 1.393	**K factor**=** 2.523	**TL(2)=** 1.46E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	1.60E+00	4.70E-01
9/16/2002	1.10E+00	9.53E-02
10/16/2002	1.00E+00	0.00E+00
1/13/2003	2.00E+00	6.93E-01
4/10/2003	3.40E+00	1.22E+00
7/16/2003	2.00E+00	6.93E-01
10/14/2003	1.00E+00	0.00E+00
1/13/2004	1.00E+00	0.00E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	1.00E+00	0.00E+00
9/16/2002	1.00E+00	0.00E+00
10/17/2002	1.00E+00	0.00E+00
1/13/2003	3.60E+00	1.28E+00
4/8/2003	1.90E+00	6.42E-01
7/16/2003	1.10E+00	9.53E-02
10/14/2003	1.00E+00	0.00E+00
1/13/2004	1.00E+00	0.00E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	6.36E-01	NO	-4.53E-01	N/A
MW373	Downgradient	Yes	9.53E-01	NO	-4.81E-02	N/A
MW385	Sidegradient	Yes	8.00E-01	NO	-2.23E-01	N/A
MW388	Downgradient	Yes	7.95E-01	NO	-2.29E-01	N/A
MW392	Downgradient	Yes	4.37E-01	NO	-8.28E-01	N/A
MW395	Upgradient	Yes	5.24E-01	NO	-6.46E-01	N/A
MW397	Upgradient	Yes	4.44E-01	NO	-8.12E-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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Total Organic Halides (TOX) UNITS: ug/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 31.513	**S=** 18.609	**CV(1)=** 0.591	**K factor**=** 2.523	**TL(1)=** 7.85E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.240	**S=** 0.707	**CV(2)=** 0.218	**K factor**=** 2.523	**TL(2)=** 5.02E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	5.00E+01	3.91E+00
9/16/2002	5.00E+01	3.91E+00
10/16/2002	5.00E+01	3.91E+00
1/13/2003	1.83E+01	2.91E+00
4/10/2003	5.12E+01	3.94E+00
7/16/2003	4.26E+01	3.75E+00
10/14/2003	1.23E+01	2.51E+00
1/13/2004	1.00E+01	2.30E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	5.00E+01	3.91E+00
9/16/2002	5.00E+01	3.91E+00
10/17/2002	5.00E+01	3.91E+00
1/13/2003	1.20E+01	2.48E+00
4/8/2003	1.99E+01	2.99E+00
7/16/2003	1.79E+01	2.88E+00
10/14/2003	1.00E+01	2.30E+00
1/13/2004	1.00E+01	2.30E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	5.23E+01	NO	3.96E+00	N/A
MW373	Downgradient	Yes	3.57E+01	NO	3.58E+00	N/A
MW385	Sidegradient	Yes	1.67E+01	NO	2.82E+00	N/A
MW388	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW392	Downgradient	Yes	2.11E+01	NO	3.05E+00	N/A
MW395	Upgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW397	Upgradient	Yes	3.56E+00	NO	1.27E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Historical Background Comparison

Vanadium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 0.021	**S=** 0.002	**CV(1)=**0.105	**K factor**=** 2.523	**TL(1)=** 2.69E-02	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** -3.856	**S=** 0.100	**CV(2)=** -0.026	**K factor**=** 2.523	**TL(2)=** -3.60E+00	**LL(2)=**N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/16/2002	2.00E-02	-3.91E+00
1/13/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00
4/12/2004	2.00E-02	-3.91E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	2.50E-02	-3.69E+00
9/16/2002	2.50E-02	-3.69E+00
10/17/2002	2.00E-02	-3.91E+00
1/13/2003	2.00E-02	-3.91E+00
4/8/2003	2.00E-02	-3.91E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW373	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW385	Sidegradient	Yes	3.37E-03	NO	-5.69E+00	N/A
MW388	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW392	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW395	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW397	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 0.044	**S=** 0.034	**CV(1)=** 0.760	**K factor**=** 2.523	**TL(1)=** 1.29E-01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** -3.342	**S=** 0.659	**CV(2)=** -0.197	**K factor**=** 2.523	**TL(2)=** -1.68E+00	**LL(2)=** N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW395	
Date Collected	Result	LN(Result)
8/13/2002	1.00E-01	-2.30E+00
9/16/2002	1.00E-01	-2.30E+00
10/16/2002	2.50E-02	-3.69E+00
1/13/2003	3.50E-02	-3.35E+00
4/10/2003	3.50E-02	-3.35E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Well Number:	MW397	
Date Collected	Result	LN(Result)
8/13/2002	1.00E-01	-2.30E+00
9/16/2002	1.00E-01	-2.30E+00
10/17/2002	2.50E-02	-3.69E+00
1/13/2003	3.50E-02	-3.35E+00
4/8/2003	3.50E-02	-3.35E+00
7/16/2003	2.00E-02	-3.91E+00
10/14/2003	2.00E-02	-3.91E+00
1/13/2004	2.00E-02	-3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	7.61E-03	NO	-4.88E+00	N/A
MW373	Downgradient	Yes	5.84E-03	NO	-5.14E+00	N/A
MW385	Sidegradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW388	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW392	Downgradient	Yes	3.37E-03	NO	-5.69E+00	N/A
MW395	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW397	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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

ATTACHMENT D2

COMPARISON OF CURRENT DATA TO ONE-SIDED UPPER TOLERANCE INTERVAL TEST CALCULATED USING CURRENT BACKGROUND DATA

THIS PAGE INTENTIONALLY LEFT BLANK

C-746-S/T First Quarter 2025 Statistical Analysis — Current Background Comparison

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 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=** 317.625 **S=** 68.750 **CV(1)=** 0.216 **K factor**=** 3.188 **TL(1)=** 5.37E+02 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 5.741 **S=** 0.212 **CV(2)=** 0.037 **K factor**=** 3.188 **TL(2)=** 6.42E+00 **LL(2)=** N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW396

Date Collected	Result	LN(Result)
1/25/2023	2.40E+02	5.48E+00
4/27/2023	2.50E+02	5.52E+00
7/27/2023	3.15E+02	5.75E+00
10/18/2023	2.62E+02	5.57E+00
1/30/2024	3.08E+02	5.73E+00
4/16/2024	3.53E+02	5.87E+00
7/24/2024	3.73E+02	5.92E+00
10/15/2024	4.40E+02	6.09E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW386	Sidegradient	Yes	1.68E+02	NO	5.13E+00	N/A
MW390	Downgradient	Yes	4.36E+02	NO	6.08E+00	N/A
MW393	Downgradient	Yes	2.29E+02	NO	5.43E+00	N/A
MW396	Upgradient	Yes	3.69E+02	NO	5.91E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Technetium-99 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=** -1.005	**S=** 6.961	**CV(1)=** -6.927	**K factor**=** 3.188	**TL(1)=** 2.12E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 1.480	**S=** 0.571	**CV(2)=** 0.386	**K factor**=** 3.188	**TL(2)=** 2.22E+00	**LL(2)=** N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW396

Date Collected	Result	LN(Result)
1/25/2023	-1.01E+01	#Func!
4/27/2023	9.19E+00	2.22E+00
7/27/2023	3.97E+00	1.38E+00
10/18/2023	4.46E+00	1.50E+00
1/30/2024	-5.21E+00	#Func!
4/16/2024	-3.78E+00	#Func!
7/24/2024	-8.86E+00	#Func!
10/15/2024	2.29E+00	8.29E-01

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)
MW390	Downgradient	Yes	7.75E+01	YES	4.35E+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

MW390

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Beta activity 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 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=** 11.726 **S=** 10.441 **CV(1)=** 0.890 **K factor**=** 2.523 **TL(1)=** 3.81E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 2.235 **S=** 0.796 **CV(2)=** 0.356 **K factor**=** 2.523 **TL(2)=** 3.64E+00 **LL(2)=**N/A

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 Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	3.82E+01	3.64E+00
5/1/2023	1.07E+01	2.37E+00
7/28/2023	6.86E+00	1.93E+00
10/16/2023	1.90E+01	2.94E+00
1/29/2024	1.82E+01	2.90E+00
4/11/2024	2.95E+01	3.38E+00
7/24/2024	1.76E+01	2.87E+00
10/14/2024	1.06E+01	2.36E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	-3.31E-01	#Func!
4/27/2023	7.26E+00	1.98E+00
7/27/2023	4.40E+00	1.48E+00
10/17/2023	2.65E+00	9.75E-01
1/30/2024	3.38E+00	1.22E+00
4/16/2024	7.19E+00	1.97E+00
7/24/2024	3.93E+00	1.37E+00
10/15/2024	8.47E+00	2.14E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW387	Downgradient	Yes	7.41E+01	YES	4.31E+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

MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 24.906	**S=** 3.042	**CV(1)=** 0.122	**K factor**=** 2.523	**TL(1)=** 3.26E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 3.208	**S=** 0.127	**CV(2)=** 0.040	**K factor**=** 2.523	**TL(2)=** 3.53E+00	**LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	2.01E+01	3.00E+00
5/1/2023	2.82E+01	3.34E+00
7/28/2023	2.21E+01	3.10E+00
10/16/2023	2.16E+01	3.07E+00
1/29/2024	2.02E+01	3.01E+00
4/11/2024	2.33E+01	3.15E+00
7/24/2024	2.55E+01	3.24E+00
10/14/2024	2.05E+01	3.02E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	2.69E+01	3.29E+00
4/27/2023	2.69E+01	3.29E+00
7/27/2023	2.65E+01	3.28E+00
10/17/2023	2.79E+01	3.33E+00
1/30/2024	2.68E+01	3.29E+00
4/16/2024	2.79E+01	3.33E+00
7/24/2024	2.75E+01	3.31E+00
10/15/2024	2.66E+01	3.28E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Downgradient	Yes	6.69E+01	YES	4.20E+00	N/A

Conclusion of Statistical Analysis on Current Data

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to current background data.

Wells with Exceedances

MW372

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *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-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Conductivity UNITS: umho/cm URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 384.500 **S=** 35.054 **CV(1)=** 0.091 **K factor**=** 2.523 **TL(1)=** 4.73E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 5.948 **S=** 0.094 **CV(2)=** 0.016 **K factor**=** 2.523 **TL(2)=** 6.19E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	3.34E+02	5.81E+00
5/1/2023	4.20E+02	6.04E+00
7/31/2023	3.54E+02	5.87E+00
10/16/2023	3.23E+02	5.78E+00
1/29/2024	3.31E+02	5.80E+00
4/11/2024	3.78E+02	5.93E+00
7/24/2024	4.17E+02	6.03E+00
10/14/2024	3.42E+02	5.83E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	4.04E+02	6.00E+00
4/27/2023	4.09E+02	6.01E+00
7/27/2023	4.15E+02	6.03E+00
10/17/2023	4.03E+02	6.00E+00
1/30/2024	4.07E+02	6.01E+00
4/16/2024	4.14E+02	6.03E+00
7/24/2024	4.00E+02	5.99E+00
10/15/2024	4.01E+02	5.99E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Downgradient	Yes	7.58E+02	YES	6.63E+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

MW372

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *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-S/T 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=** 193.375 **S=** 21.061 **CV(1)=** 0.109 **K factor**=** 2.523 **TL(1)=** 2.47E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 5.259 **S=** 0.107 **CV(2)=** 0.020 **K factor**=** 2.523 **TL(2)=** 5.53E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	1.72E+02	5.15E+00
5/1/2023	2.02E+02	5.31E+00
7/31/2023	1.76E+02	5.17E+00
10/16/2023	1.58E+02	5.06E+00
1/29/2024	1.90E+02	5.25E+00
4/11/2024	1.98E+02	5.29E+00
7/24/2024	2.46E+02	5.51E+00
10/14/2024	1.81E+02	5.20E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	1.84E+02	5.21E+00
4/27/2023	1.96E+02	5.28E+00
7/27/2023	2.01E+02	5.30E+00
10/17/2023	1.70E+02	5.14E+00
1/30/2024	2.00E+02	5.30E+00
4/16/2024	1.92E+02	5.26E+00
7/24/2024	2.17E+02	5.38E+00
10/15/2024	2.11E+02	5.35E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Downgradient	Yes	4.46E+02	YES	6.10E+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

MW372

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *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-S/T 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=** 10.353 **S=** 1.337 **CV(1)=** 0.129 **K factor**=** 2.523 **TL(1)=** 1.37E+01 **LL(1)=** N/A

Statistics-Transformed Background Data **X=** 2.329 **S=** 0.135 **CV(2)=** 0.058 **K factor**=** 2.523 **TL(2)=** 2.67E+00 **LL(2)=** N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	8.28E+00	2.11E+00
5/1/2023	1.19E+01	2.48E+00
7/28/2023	8.97E+00	2.19E+00
10/16/2023	8.85E+00	2.18E+00
1/29/2024	8.23E+00	2.11E+00
4/11/2024	9.96E+00	2.30E+00
7/24/2024	1.04E+01	2.34E+00
10/14/2024	8.55E+00	2.15E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	1.14E+01	2.43E+00
4/27/2023	1.13E+01	2.42E+00
7/27/2023	1.07E+01	2.37E+00
10/17/2023	1.16E+01	2.45E+00
1/30/2024	1.10E+01	2.40E+00
4/16/2024	1.16E+01	2.45E+00
7/24/2024	1.15E+01	2.44E+00
10/15/2024	1.14E+01	2.43E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Downgradient	Yes	2.43E+01	YES	3.19E+00	N/A
MW387	Downgradient	Yes	1.61E+01	YES	2.78E+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

MW372
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Oxidation-Reduction Potential UNITS: mV URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 443.125 **S=** 54.798 **CV(1)=** 0.124 **K factor**=** 2.523 **TL(1)=** 5.81E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 6.087 **S=** 0.125 **CV(2)=** 0.020 **K factor**=** 2.523 **TL(2)=** 6.40E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	3.66E+02	5.90E+00
5/1/2023	4.77E+02	6.17E+00
7/31/2023	3.77E+02	5.93E+00
10/16/2023	4.06E+02	6.01E+00
1/29/2024	4.63E+02	6.14E+00
4/11/2024	3.66E+02	5.90E+00
7/24/2024	3.92E+02	5.97E+00
10/14/2024	5.00E+02	6.21E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	4.69E+02	6.15E+00
4/27/2023	4.51E+02	6.11E+00
7/27/2023	4.94E+02	6.20E+00
10/17/2023	4.61E+02	6.13E+00
1/30/2024	5.18E+02	6.25E+00
4/16/2024	4.12E+02	6.02E+00
7/24/2024	4.04E+02	6.00E+00
10/15/2024	5.34E+02	6.28E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	4.39E+02	NO	6.09E+00	N/A
MW221	Sidegradient	Yes	4.77E+02	NO	6.17E+00	N/A
MW222	Sidegradient	Yes	4.26E+02	NO	6.06E+00	N/A
MW223	Sidegradient	Yes	4.11E+02	NO	6.02E+00	N/A
MW224	Sidegradient	Yes	4.36E+02	NO	6.08E+00	N/A
MW369	Downgradient	Yes	4.63E+02	NO	6.14E+00	N/A
MW372	Downgradient	Yes	4.10E+02	NO	6.02E+00	N/A
MW384	Sidegradient	Yes	4.69E+02	NO	6.15E+00	N/A
MW387	Downgradient	Yes	4.57E+02	NO	6.12E+00	N/A

Conclusion of Statistical Analysis on Current Data

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Sodium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 37.113 **S=** 5.817 **CV(1)=** 0.157 **K factor**=** 2.523 **TL(1)=** 5.18E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 3.604 **S=** 0.143 **CV(2)=** 0.040 **K factor**=** 2.523 **TL(2)=** 3.97E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	3.77E+01	3.63E+00
5/1/2023	5.30E+01	3.97E+00
7/28/2023	3.85E+01	3.65E+00
10/16/2023	3.72E+01	3.62E+00
1/29/2024	3.58E+01	3.58E+00
4/11/2024	4.34E+01	3.77E+00
7/24/2024	4.60E+01	3.83E+00
10/14/2024	3.69E+01	3.61E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	3.40E+01	3.53E+00
4/27/2023	3.32E+01	3.50E+00
7/27/2023	3.18E+01	3.46E+00
10/17/2023	3.45E+01	3.54E+00
1/30/2024	3.16E+01	3.45E+00
4/16/2024	3.41E+01	3.53E+00
7/24/2024	3.32E+01	3.50E+00
10/15/2024	3.29E+01	3.49E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW224	Sidegradient	Yes	6.19E+01	YES	4.13E+00	N/A
MW372	Downgradient	Yes	5.95E+01	YES	4.09E+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

MW224
MW372

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *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-S/T 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=** 14.744	**S=** 3.401	**CV(1)=** 0.231	**K factor**=** 2.523	**TL(1)=** 2.33E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 2.667	**S=** 0.222	**CV(2)=** 0.083	**K factor**=** 2.523	**TL(2)=** 3.23E+00	**LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	1.64E+01	2.80E+00
5/1/2023	2.00E+01	3.00E+00
7/31/2023	1.78E+01	2.88E+00
10/16/2023	1.55E+01	2.74E+00
1/29/2024	1.47E+01	2.69E+00
4/11/2024	1.86E+01	2.92E+00
7/24/2024	2.16E+01	3.07E+00
10/14/2024	1.66E+01	2.81E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	1.21E+01	2.49E+00
4/27/2023	1.17E+01	2.46E+00
7/27/2023	1.22E+01	2.50E+00
10/17/2023	1.17E+01	2.46E+00
1/30/2024	1.16E+01	2.45E+00
4/16/2024	1.20E+01	2.48E+00
7/24/2024	1.17E+01	2.46E+00
10/15/2024	1.17E+01	2.46E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW220	Upgradient	Yes	1.91E+01	NO	2.95E+00	N/A
MW224	Sidegradient	Yes	1.93E+01	NO	2.96E+00	N/A
MW372	Downgradient	Yes	1.49E+02	YES	5.00E+00	N/A
MW384	Sidegradient	Yes	1.95E+01	NO	2.97E+00	N/A
MW387	Downgradient	Yes	2.57E+01	YES	3.25E+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

MW372
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Technetium-99 UNITS: pCi/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 9.912 **S=** 6.767 **CV(1)=** 0.683 **K factor**=** 2.523 **TL(1)=** 2.70E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 1.849 **S=** 1.283 **CV(2)=** 0.694 **K factor**=** 2.523 **TL(2)=** 5.09E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW220

Date Collected	Result	LN(Result)
1/23/2023	1.42E+01	2.65E+00
5/1/2023	1.13E+01	2.42E+00
7/28/2023	1.91E+01	2.95E+00
10/16/2023	1.58E+01	2.76E+00
1/29/2024	2.00E+01	3.00E+00
4/11/2024	1.64E+01	2.80E+00
7/24/2024	2.79E+00	1.03E+00
10/14/2024	1.48E+01	2.69E+00

Well Number: MW394

Date Collected	Result	LN(Result)
1/25/2023	1.64E+00	4.95E-01
4/27/2023	6.79E+00	1.92E+00
7/27/2023	4.32E+00	1.46E+00
10/17/2023	1.63E+01	2.79E+00
1/30/2024	2.34E+00	8.50E-01
4/16/2024	5.85E+00	1.77E+00
7/24/2024	6.82E+00	1.92E+00
10/15/2024	1.47E-01	-1.92E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW369	Downgradient	Yes	5.27E+01	YES	3.96E+00	N/A
MW384	Sidegradient	Yes	4.68E+01	YES	3.85E+00	N/A
MW387	Downgradient	Yes	8.86E+01	YES	4.48E+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

MW369
MW384
MW387

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis — 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=** 22.644 **S=** 4.621 **CV(1)=** 0.204 **K factor**=** 2.523 **TL(1)=** 3.43E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 3.100 **S=** 0.207 **CV(2)=** 0.067 **K factor**=** 2.523 **TL(2)=** 3.62E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	2.69E+01	3.29E+00
4/27/2023	2.71E+01	3.30E+00
7/27/2023	2.62E+01	3.27E+00
10/18/2023	2.78E+01	3.33E+00
1/30/2024	2.66E+01	3.28E+00
4/16/2024	2.78E+01	3.33E+00
7/24/2024	2.69E+01	3.29E+00
10/15/2024	2.74E+01	3.31E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	1.81E+01	2.90E+00
5/1/2023	1.87E+01	2.93E+00
7/27/2023	1.76E+01	2.87E+00
10/16/2023	1.86E+01	2.92E+00
1/30/2024	1.73E+01	2.85E+00
4/15/2024	1.89E+01	2.94E+00
7/22/2024	1.84E+01	2.91E+00
10/16/2024	1.80E+01	2.89E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW373	Downgradient	Yes	9.10E+01	YES	4.51E+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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current 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 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=** 360.563 **S=** 40.759 **CV(1)=** 0.113 **K factor**=** 2.523 **TL(1)=** 4.63E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 5.882 **S=** 0.114 **CV(2)=** 0.019 **K factor**=** 2.523 **TL(2)=** 6.17E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	3.93E+02	5.97E+00
4/27/2023	4.05E+02	6.00E+00
7/27/2023	3.85E+02	5.95E+00
10/18/2023	3.83E+02	5.95E+00
1/30/2024	3.88E+02	5.96E+00
4/16/2024	4.01E+02	5.99E+00
7/24/2024	3.91E+02	5.97E+00
10/15/2024	3.84E+02	5.95E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	3.22E+02	5.77E+00
5/1/2023	3.20E+02	5.77E+00
7/27/2023	3.19E+02	5.77E+00
10/16/2023	3.09E+02	5.73E+00
1/30/2024	3.17E+02	5.76E+00
4/15/2024	3.14E+02	5.75E+00
7/22/2024	3.18E+02	5.76E+00
10/16/2024	4.20E+02	6.04E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW373	Downgradient	Yes	9.45E+02	YES	6.85E+00	N/A
MW388	Downgradient	Yes	5.29E+02	YES	6.27E+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

MW373
MW388

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Dissolved Solids UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 176.500 **S=** 24.083 **CV(1)=** 0.136 **K factor**=** 2.523 **TL(1)=** 2.37E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 5.164 **S=** 0.139 **CV(2)=** 0.027 **K factor**=** 2.523 **TL(2)=** 5.52E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	1.80E+02	5.19E+00
4/27/2023	1.94E+02	5.27E+00
7/27/2023	1.88E+02	5.24E+00
10/18/2023	1.76E+02	5.17E+00
1/30/2024	2.07E+02	5.33E+00
4/16/2024	2.02E+02	5.31E+00
7/24/2024	2.14E+02	5.37E+00
10/15/2024	2.09E+02	5.34E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	1.58E+02	5.06E+00
5/1/2023	1.28E+02	4.85E+00
7/27/2023	1.52E+02	5.02E+00
10/16/2023	1.65E+02	5.11E+00
1/30/2024	1.61E+02	5.08E+00
4/15/2024	1.66E+02	5.11E+00
7/22/2024	1.60E+02	5.08E+00
10/16/2024	1.64E+02	5.10E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW373	Downgradient	Yes	5.62E+02	YES	6.33E+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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T 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=** 9.426	**S=** 1.911	**CV(1)=** 0.203	**K factor**=** 2.523	**TL(1)=** 1.42E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 2.224	**S=** 0.205	**CV(2)=** 0.092	**K factor**=** 2.523	**TL(2)=** 2.74E+00	**LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	1.14E+01	2.43E+00
4/27/2023	1.14E+01	2.43E+00
7/27/2023	1.05E+01	2.35E+00
10/18/2023	1.15E+01	2.44E+00
1/30/2024	1.08E+01	2.38E+00
4/16/2024	1.16E+01	2.45E+00
7/24/2024	1.13E+01	2.42E+00
10/15/2024	1.15E+01	2.44E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	7.66E+00	2.04E+00
5/1/2023	7.95E+00	2.07E+00
7/27/2023	7.07E+00	1.96E+00
10/16/2023	7.83E+00	2.06E+00
1/30/2024	7.49E+00	2.01E+00
4/15/2024	7.73E+00	2.05E+00
7/22/2024	7.52E+00	2.02E+00
10/16/2024	7.57E+00	2.02E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW373	Downgradient	Yes	3.39E+01	YES	3.52E+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

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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Oxidation-Reduction Potential UNITS: mV LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 403.500 **S=** 86.216 **CV(1)=** 0.214 **K factor**=** 2.523 **TL(1)=** 6.21E+02 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 5.974 **S=** 0.250 **CV(2)=** 0.042 **K factor**=** 2.523 **TL(2)=** 6.60E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	4.25E+02	6.05E+00
4/27/2023	1.90E+02	5.25E+00
7/27/2023	3.02E+02	5.71E+00
10/18/2023	4.09E+02	6.01E+00
1/30/2024	5.09E+02	6.23E+00
4/16/2024	3.99E+02	5.99E+00
7/24/2024	3.93E+02	5.97E+00
10/15/2024	4.60E+02	6.13E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	3.77E+02	5.93E+00
5/1/2023	4.76E+02	6.17E+00
7/27/2023	4.05E+02	6.00E+00
10/16/2023	4.87E+02	6.19E+00
1/30/2024	5.40E+02	6.29E+00
4/15/2024	3.74E+02	5.92E+00
7/22/2024	3.97E+02	5.98E+00
10/16/2024	3.13E+02	5.75E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	6.02E+02	NO	6.40E+00	N/A
MW373	Downgradient	Yes	4.28E+02	NO	6.06E+00	N/A
MW385	Sidegradient	Yes	4.34E+02	NO	6.07E+00	N/A
MW388	Downgradient	Yes	4.04E+02	NO	6.00E+00	N/A
MW392	Downgradient	Yes	4.71E+02	NO	6.15E+00	N/A
MW395	Upgradient	Yes	3.84E+02	NO	5.95E+00	N/A
MW397	Upgradient	Yes	3.89E+02	NO	5.96E+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 = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis — Current Background Comparison

Sodium — UNITS: mg/L — LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 31.294 **S=** 1.680 **CV(1)=** 0.054 **K factor**=** 2.523 **TL(1)=** 3.55E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 3.442 **S=** 0.053 **CV(2)=** 0.015 **K factor**=** 2.523 **TL(2)=** 3.58E+00 **LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	3.24E+01	3.48E+00
4/27/2023	3.10E+01	3.43E+00
7/27/2023	2.85E+01	3.35E+00
10/18/2023	3.06E+01	3.42E+00
1/30/2024	2.92E+01	3.37E+00
4/16/2024	3.14E+01	3.45E+00
7/24/2024	3.08E+01	3.43E+00
10/15/2024	3.06E+01	3.42E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	3.31E+01	3.50E+00
5/1/2023	3.57E+01	3.58E+00
7/27/2023	3.00E+01	3.40E+00
10/16/2023	3.15E+01	3.45E+00
1/30/2024	3.00E+01	3.40E+00
4/15/2024	3.19E+01	3.46E+00
7/22/2024	3.23E+01	3.48E+00
10/16/2024	3.17E+01	3.46E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW373	Downgradient	Yes	7.32E+01	YES	4.29E+00	N/A
MW397	Upgradient	Yes	9.92E+01	YES	4.60E+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

MW373
MW397

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis — Current Background Comparison

Sulfate — **UNITS: mg/L** — **LRGA**

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is 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=** 11.500	**S=** 0.383	**CV(1)=** 0.033	**K factor**=** 2.523	**TL(1)=** 1.25E+01	**LL(1)=** N/A
Statistics-Transformed Background Data	**X=** 2.442	**S=** 0.033	**CV(2)=** 0.014	**K factor**=** 2.523	**TL(2)=** 2.53E+00	**LL(2)=** N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	1.17E+01	2.46E+00
4/27/2023	1.10E+01	2.40E+00
7/27/2023	1.15E+01	2.44E+00
10/18/2023	1.10E+01	2.40E+00
1/30/2024	1.12E+01	2.42E+00
4/16/2024	1.13E+01	2.42E+00
7/24/2024	1.11E+01	2.41E+00
10/15/2024	1.10E+01	2.40E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	1.20E+01	2.48E+00
5/1/2023	1.21E+01	2.49E+00
7/27/2023	1.21E+01	2.49E+00
10/16/2023	1.15E+01	2.44E+00
1/30/2024	1.16E+01	2.45E+00
4/15/2024	1.17E+01	2.46E+00
7/22/2024	1.18E+01	2.47E+00
10/16/2024	1.14E+01	2.43E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW370	Downgradient	Yes	2.03E+01	YES	3.01E+00	N/A
MW373	Downgradient	Yes	2.11E+02	YES	5.35E+00	N/A
MW385	Sidegradient	Yes	1.94E+01	YES	2.97E+00	N/A
MW388	Downgradient	Yes	2.07E+01	YES	3.03E+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
MW373
MW385
MW388

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

C-746-S/T First Quarter 2025 Statistical Analysis Current Background Comparison

Technetium-99 UNITS: pCi/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	**X=** 10.666	**S=** 7.380	**CV(1)=** 0.692	**K factor**=** 2.523	**TL(1)=** 2.93E+01	**LL(1)=**N/A
Statistics-Transformed Background Data	**X=** 2.112	**S=** 0.781	**CV(2)=** 0.370	**K factor**=** 2.523	**TL(2)=** 4.08E+00	**LL(2)=**N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW395

Date Collected	Result	LN(Result)
1/25/2023	1.25E+01	2.53E+00
4/27/2023	2.51E+00	9.20E-01
7/27/2023	3.76E+00	1.32E+00
10/18/2023	1.64E+01	2.80E+00
1/30/2024	5.75E+00	1.75E+00
4/16/2024	2.17E+00	7.75E-01
7/24/2024	3.05E+00	1.12E+00
10/15/2024	1.07E+01	2.37E+00

Well Number: MW397

Date Collected	Result	LN(Result)
1/23/2023	8.51E+00	2.14E+00
5/1/2023	1.41E+01	2.65E+00
7/27/2023	2.77E+01	3.32E+00
10/16/2023	2.29E+01	3.13E+00
1/30/2024	1.08E+01	2.38E+00
4/15/2024	5.18E+00	1.64E+00
7/22/2024	9.13E+00	2.21E+00
10/16/2024	1.55E+01	2.74E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW385	Sidegradient	Yes	4.36E+01	YES	3.78E+00	N/A
MW388	Downgradient	Yes	3.55E+01	YES	3.57E+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

MW385
MW388

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)

X Mean, X = (sum of background results)/(count of background results)

** *Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.*

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT D3

STATISTICIAN QUALIFICATION STATEMENT

THIS PAGE INTENTIONALLY LEFT BLANK

FOUR RIVERS
NUCLEAR PARTNERSHIP, LLC

Four Rivers Nuclear Partnership, LLC
5511 Hobbs Road
Kevil, KY 42053
www.fourriversnuclearpartnership.com

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

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX E

GROUNDWATER FLOW RATE AND DIRECTION

THIS PAGE INTENTIONALLY LEFT BLANK

GROUNDWATER FLOW RATE AND DIRECTION

Whenever monitoring wells (MWs) are sampled, 401 *KAR* 48:300, Section 11, requires determination of groundwater flow rate and direction of flow in the uppermost aquifer. The uppermost aquifer below the C-746-S&T Landfills 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 to determine the groundwater flow rate and direction.

Water levels during this reporting period were measured on January 21–22, 2025. As shown on Figure E.1, MW389, screened in the Upper Continental Recharge System (UCRS), is usually dry, while other UCRS wells have recordable water levels. During this reporting period, MW389 did not have sufficient water for a water level measurement.

The UCRS has a strong vertical hydraulic gradient; therefore, the limited number of available UCRS wells, screened over different elevations, is not sufficient for mapping the potentiometric surface. Figure E.1 shows the location of UCRS MWs. The Upper Regional Gravel Aquifer (URGA) and Lower Regional Gravel Aquifer (LRGA) data were corrected for barometric pressure, if necessary, and converted to elevations to plot the potentiometric surface of the RGA, as a whole, as shown on Table E.1. Figure E.2 is a composite or average map of the URGA and LRGA elevations where well clusters exist. The contour lines are placed based on the average water level elevations of the clusters.[1] During October, RGA groundwater flow was directed inward and then northeast towards the Ohio River. Based on the site potentiometric map (Figure E.2), the hydraulic gradient beneath the landfill, as measured along the defined groundwater flow directions, is 3.81×10^{-4} ft/ft. Additional water level measurements in October (Figure E.3) document the vicinity groundwater hydraulic gradient for the RGA to be 3.16×10^{-4} ft/ft, northeastward. 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. 073-00045NWC1 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 effective porosity is assumed to be 25%. Vicinity and site flow velocities were calculated using the low and high values for hydraulic conductivity, as shown in Table E.3.

Regional groundwater flow near the C-746-S&T Landfills typically trends northeastward toward the Ohio River. As demonstrated on the potentiometric map for January 2025, RGA groundwater flow from the landfill area was directed to the north.

[1] Additional 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), were used to contour the RGA potentiometric surface.

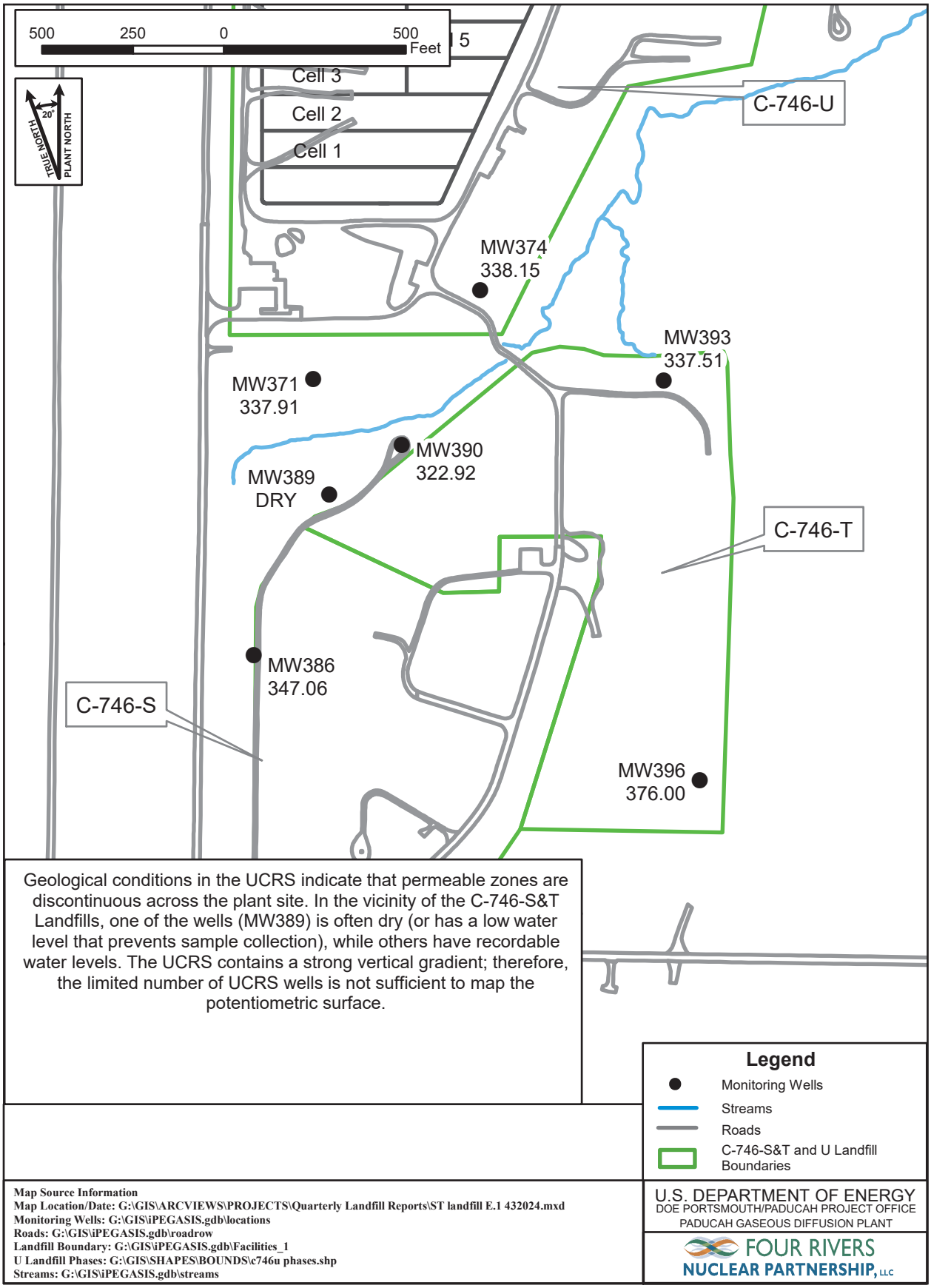


Figure E.1. Potentiometric Measurements of the Upper Continental Recharge System at the C-746-S&T Landfills, January 21–22, 2025

Table E.1. C-746-S&T Landfills First Quarter 2025 (January) Water Levels

C-746-S&T Landfills (January 2025) Water Levels										
							Raw Data		*Corrected Data	
Date	Time	Well	Formation	Datum Elev (ft amsl)	BP (in Hg)	Delta BP (ft H20)	DTW (ft)	Elev (ft amsl)	DTW (ft)	Elev (ft amsl)
1/21/2025	10:36	MW220	URGA	382.01	30.66	0.00	59.05	322.96	59.05	322.96
1/21/2025	10:42	MW221	URGA	391.38	30.66	0.00	68.40	322.98	68.40	322.98
1/21/2025	10:46	MW222	URGA	395.27	30.66	0.00	72.41	322.86	72.41	322.86
1/21/2025	10:44	MW223	URGA	394.38	30.66	0.00	73.46	320.92	73.46	320.92
1/21/2025	10:48	MW224	URGA	395.69	30.66	0.00	72.86	322.83	72.86	322.83
1/21/2025	10:39	MW225	URGA	385.73	30.66	0.00	62.86	322.87	62.86	322.87
1/22/2025	9:29	MW353	LRGA	375.05	30.46	0.23	51.64	323.41	51.87	323.18
1/21/2025	10:04	MW369	URGA	364.23	30.66	0.00	41.23	323.00	41.23	323.00
1/21/2025	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
1/22/2025	9:37	MW384	URGA	365.29	30.46	0.23	41.99	323.30	42.22	323.07
1/21/2025	10:30	MW385	LRGA	365.74	30.66	0.00	42.66	323.08	42.66	323.08
1/21/2025	10:29	MW386	UCRS	365.32	30.66	0.00	18.26	347.06	18.26	347.06
1/21/2025	10:31	MW387	URGA	363.48	30.66	0.00	40.50	322.98	40.50	322.98
1/21/2025	10:32	MW388	LRGA	363.45	30.66	0.00	40.48	322.97	40.48	322.97
1/21/2025	10:34	MW389	UCRS	364.11			NA			
1/21/2025	10:33	MW390	UCRS	360.39	30.66	0.00	37.47	322.92	37.47	322.92
1/21/2025	10:13	MW391	URGA	366.67	30.66	0.00	43.74	322.93	43.74	322.93
1/21/2025	10:12	MW392	LRGA	365.85	30.66	0.00	42.95	322.90	42.95	322.90
1/21/2025	10:11	MW393	UCRS	366.62	30.66	0.00	29.11	337.51	29.11	337.51
1/21/2025	10:18	MW394	URGA	378.46	30.66	0.00	55.44	323.02	55.44	323.02
1/21/2025	10:20	MW395	LRGA	379.12	30.66	0.00	56.13	322.99	56.13	322.99
1/21/2025	10:19	MW396	UCRS	378.75	30.66	0.00	2.75	376.00	2.75	376.00
1/21/2025	10:24	MW397	LRGA	387.00	30.66	0.00	64.00	323.00	64.00	323.00
1/21/2025	10:15	MW418	URGA	367.21	30.66	0.00	44.21	323.00	44.21	323.00
1/21/2025	10:16	MW419	LRGA	367.05	30.66	0.00	44.10	322.95	44.10	322.95
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

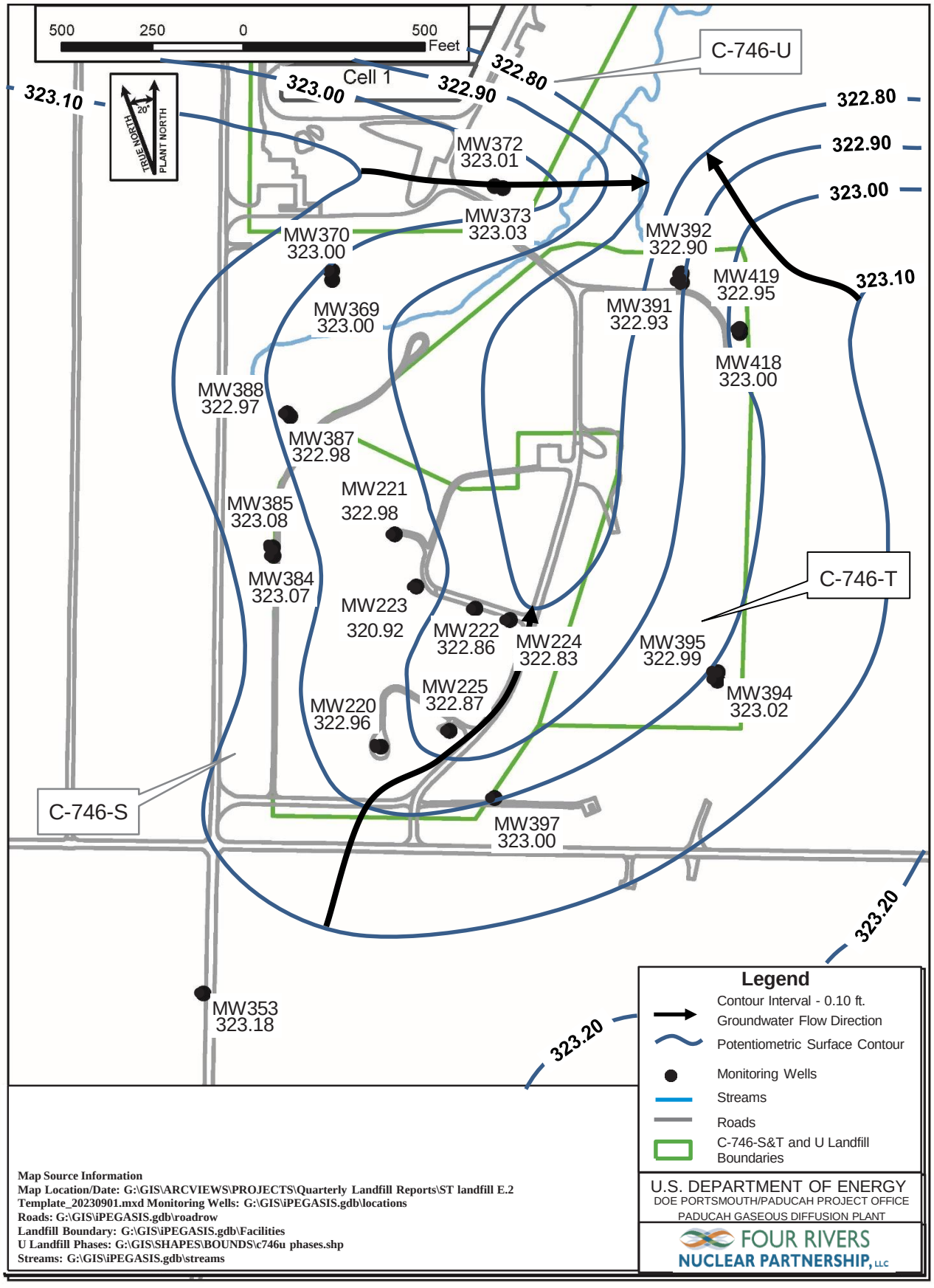


Figure E.2. Composite Potentiometric Surface of the Regional Gravel Aquifer at the C-746-S&T Landfills, January 21–22, 2025

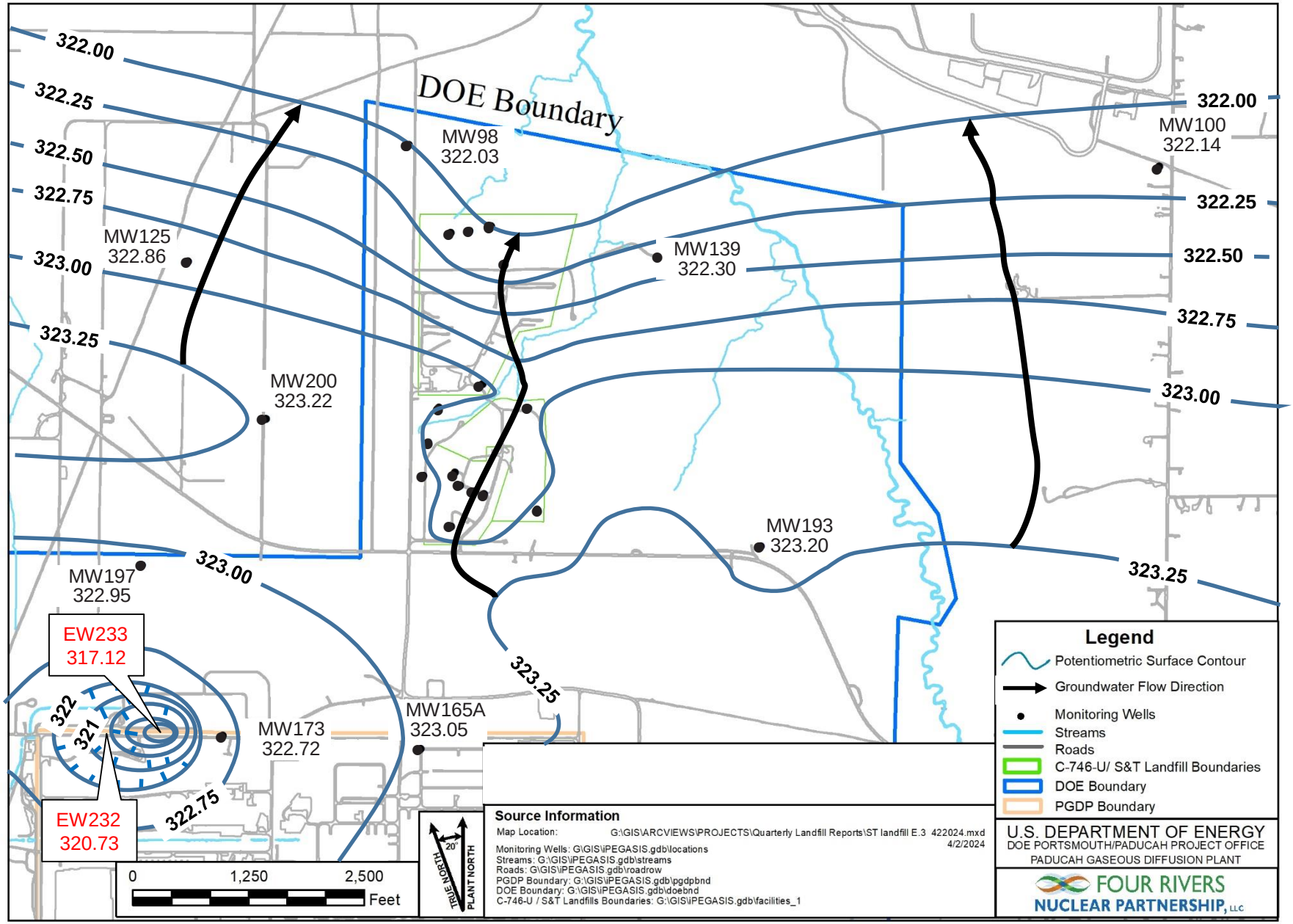


Figure E.3. Vicinity Potentiometric Surface of the Regional Gravel Aquifer, January 21–22, 2025

Table E.2. C-746-S&T Landfills Hydraulic Gradients

	ft/ft
Beneath Landfill Mound	3.81×10^{-4}
Vicinity	3.16×10^{-4}

Table E.3. C-746-S&T Landfills 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
Beneath Landfill Mound					
7.25×10^{2}	2.56×10^{-1}	2.76×10^{-1}	9.75×10^{-5}	1.10	3.90×10^{-4}
4.25×10^{2}	1.50×10^{-1}	1.62×10^{-1}	5.71×10^{-5}	6.47×10^{-1}	2.28×10^{-4}
Vicinity					
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										
							Raw Data		***Corrected Data**	
Date	**Time**	**Well**	**Aquifer**	**Datum Elev (ft amsl)**	**BP (in Hg)**	**Delta BP (ft H20)**	**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

THIS PAGE INTENTIONALLY LEFT BLANK

NOTIFICATIONS

In accordance with 401 *KAR* 48:300 § 7, the notification for parameters that exceed the maximum contaminant level (MCL) has been submitted to the Kentucky Division of Waste Management. The parameters 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-S&T Landfills 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.

	Parameter	**Monitoring Well**
Upper Continental Recharge System	Technetium-99	MW390
Upper Regional Gravel Aquifer	Sodium	MW224, MW372
	Technetium-99	MW369, MW384, MW387
Lower Regional Gravel Aquifer	Sodium	MW373, MW397
	Technetium-99	MW385, MW388

NOTE: Although technetium-99 is not cited in 40 *CFR* § 302.4, Appendix A, 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-S&T LANDFILLS
SOLID WASTE PERMIT NUMBER SW07300014, SW07300015, SW07300045
MAXIMUM CONTAMINANT LEVEL (MCL) EXCEEDANCE REPORT
Quarterly Groundwater Sampling

AKGWA	Station	Analysis	Method	Results	Units	MCL
8004-4815	MW387	Beta activity	9310	74.1	pCi/L	50

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

THIS PAGE INTENTIONALLY LEFT BLANK

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA										LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
ACETONE																							
Quarter 3, 2003							✱					✱											
Quarter 4, 2003											✱								✱				
Quarter 1, 2005									✱														
Quarter 4, 2019																✱							
ALPHA ACTIVITY																							
Quarter 4, 2002				■	■								■										
Quarter 4, 2008										■													
Quarter 4, 2010										■													
ALUMINUM																							
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 4, 2008							✱																
Quarter 1, 2009			✱				✱				✱												
Quarter 1, 2010			✱				✱				✱												
Quarter 2, 2010			✱								✱												
Quarter 3, 2010			✱								✱			✱			✱			✱			
Quarter 1, 2011							✱				✱												
Quarter 2, 2011			✱								✱												
Quarter 2, 2012			✱																				
Quarter 3, 2012							✱																
Quarter 1, 2013							✱				✱												
Quarter 3, 2013			✱																				
Quarter 1, 2014							✱																
Quarter 2, 2014											✱												
Quarter 4, 2014			✱																				
Quarter 1, 2016							✱																
Quarter 2, 2016														✱									
Quarter 1, 2017							✱																
Quarter 4, 2017																							✱
Quarter 1, 2018							✱																
Quarter 1, 2020													✱										
BARIUM																							
Quarter 3, 2003							■	■															
Quarter 4, 2003							■	■															
BETA ACTIVITY																							
Quarter 4, 2002													■										
Quarter 1, 2003													■				■						

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
BETA ACTIVITY																							
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										■		■	■				■			■			
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			■							■			■				■	■		■			

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
BETA ACTIVITY																							
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, 2025													■										
BROMIDE																							
Quarter 1, 2003			✱																				
Quarter 4, 2003			✱																				
Quarter 1, 2004			✱																				
Quarter 2, 2004			✱																				
Quarter 3, 2004			✱																				
Quarter 4, 2004			✱																				
Quarter 1, 2005			✱																				
Quarter 3, 2006			✱																				
CALCIUM																							
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 1, 2011												✱							✱				
Quarter 2, 2011												✱	✱						✱				
Quarter 3, 2011												✱							✱				
Quarter 4, 2011												✱							✱				
Quarter 1, 2012												✱							✱				
Quarter 2, 2012												✱							✱				
Quarter 3, 2012												✱							✱				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
CALCIUM																							
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												*							*				
Quarter 2, 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												*							*				
CARBON DISULFIDE																							
Quarter 4, 2010											*												
Quarter 1, 2011												*									*		
Quarter 2, 2017												*	*						*				
CHEMICAL OXYGEN DEMAND																							
Quarter 1, 2003				*																			
Quarter 2, 2003				*																			
Quarter 3, 2003				*			*			*													
Quarter 4, 2003				*																			
Quarter 1, 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	*																						

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
CHEMICAL OXYGEN DEMAND																							
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 3, 2011	*																						
Quarter 4, 2011	*																						
Quarter 1, 2012	*																						
Quarter 1, 2013	*																						
Quarter 3, 2013	*																						
Quarter 3, 2014	*								*				*					*					
Quarter 4, 2014							*																
Quarter 2, 2015																*							
Quarter 3, 2015															*								
Quarter 3, 2016			*								*												
Quarter 4, 2016																	*						
Quarter 2, 2017							*																
Quarter 3, 2017	*														*								
Quarter 4, 2017						*																	
Quarter 2, 2018														*								*	
Quarter 3, 2018												*											
Quarter 4, 2018																							*
Quarter 2, 2019					*							*		*					*				
Quarter 3, 2019												*	*						*			*	*
Quarter 4, 2019	*			*				*			*	*				*							
Quarter 1, 2020					*				*												*		
Quarter 2, 2020															*								
Quarter 4, 2020																*							
Quarter 1, 2021												*											
Quarter 2, 2021						*									*								
Quarter 4, 2021	*																						
Quarter 1, 2022						*		*	*					*	*					*	*		
Quarter 2, 2022						*								*									
Quarter 4, 2022	*																						
Quarter 1, 2023																	*						
Quarter 2, 2023					*								*										
Quarter 2, 2024																*							
Quarter 3, 2024													*										
CHLORIDE																							
Quarter 1, 2003			*																				
Quarter 4, 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			*																				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
CHLORIDE																							
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 3, 2012			✱																				
Quarter 3, 2013			✱																				
Quarter 4, 2013			✱																				
Quarter 4, 2014			✱																				
Quarter 2, 2019																					✱		
CHROMIUM																							
Quarter 4, 2002								■															
Quarter 1, 2003								■														■	
Quarter 2, 2003							■	■															
Quarter 3, 2009						■																	
Quarter 1, 2019						■																	
COBALT																							
Quarter 3, 2003							✱																
CONDUCTIVITY																							
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 1, 2011										✱		✱							✱				
Quarter 2, 2011												✱							✱				
Quarter 3, 2011												✱							✱				
Quarter 4, 2011												✱							✱				
Quarter 1, 2012											✱	✱							✱				
Quarter 2, 2012												✱							✱				
Quarter 3, 2012												✱							✱				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
CONDUCTIVITY																							
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																			*				
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												*							*	*			
DISSOLVED OXYGEN																							
Quarter 3, 2006			*					*															
DISSOLVED SOLIDS																							
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												*							*				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
DISSOLVED SOLIDS																							
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									*			*						*	*				
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 2, 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												*							*				
IODIDE																							
Quarter 4, 2002																					*		
Quarter 2, 2003						*																	
Quarter 3, 2003													*										
Quarter 1, 2004				*																			
Quarter 3, 2010																					*		
Quarter 2, 2013										*													

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
IRON																							
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 1, 2006							*																
Quarter 2, 2006												*											
Quarter 3, 2006											*												
Quarter 1, 2007											*	*											
Quarter 2, 2007											*												
Quarter 2, 2008												*											
Quarter 3, 2008												*											
MAGNESIUM																							
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 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																		*	*				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
MAGNESIUM																							
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 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												*	*						*				
MANGANESE																							
Quarter 4, 2002																					*		
Quarter 3, 2003							*	*															
Quarter 4, 2003							*	*															
Quarter 1, 2004							*																
Quarter 2, 2004							*																
Quarter 4, 2004							*	*															
Quarter 1, 2005							*																
Quarter 3, 2005																					*		
Quarter 3, 2009	*																						
Quarter 1, 2022	*																						
OXIDATION-REDUCTION POTENTIAL																							
Quarter 4, 2003			*																				
Quarter 2, 2004			*																				
Quarter 3, 2004			*															*					
Quarter 4, 2004			*			*																	
Quarter 1, 2005			*															*					
Quarter 2, 2005	*		*																				
Quarter 3, 2005	*		*																				
Quarter 4, 2005			*																				
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			*	*		*	*	*	*				*				*	*		*			

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
OXIDATION-REDUCTION POTENTIAL																							
Quarter 1, 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	*		*	*	*	*	*	*	*	*			*		*	*	*	*	*	*	*	*	*
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-1016																							
Quarter 4, 2003							*	*	*		*							*					
Quarter 3, 2004											*												
Quarter 3, 2005							*				*												
Quarter 1, 2006											*												
Quarter 2, 2006											*												
Quarter 4, 2006											*												
Quarter 1, 2007											*	*											
Quarter 2, 2007												*											
Quarter 3, 2007											*												
Quarter 2, 2008											*	*											
Quarter 3, 2008											*												
Quarter 4, 2008											*												

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA										LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
PCB-1016																							
Quarter 1, 2009											*												
Quarter 2, 2009											*												
Quarter 3, 2009											*												
Quarter 4, 2009											*												
Quarter 1, 2010											*												
Quarter 2, 2010											*												
Quarter 3, 2010											*												
Quarter 4, 2010											*												
PCB-1232																							
Quarter 1, 2011											*												
PCB-1248																							
Quarter 2, 2008												*											
PCB-1260																							
Quarter 2, 2006																		*					
pH																							
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 3, 2005										*							*				*		
Quarter 4, 2005										*							*						
Quarter 1, 2006																	*						
Quarter 2, 2006																	*						
Quarter 3, 2006																	*						
Quarter 3, 2007																	*						
Quarter 4, 2007																	*						
Quarter 4, 2008																	*						
Quarter 1, 2009																	*						
Quarter 1, 2011																	*						
Quarter 2, 2011											*												
Quarter 3, 2011											*												
Quarter 1, 2012														*									
Quarter 1, 2013										*			*				*						
Quarter 4, 2014																					*		
Quarter 2, 2016																		*	*				
POTASSIUM																							
Quarter 4, 2002																		*	*				
Quarter 3, 2004																			*				
Quarter 2, 2005																			*				
Quarter 3, 2005																			*				
Quarter 4, 2005																			*				
Quarter 2, 2006																			*				
Quarter 3, 2006																			*				
Quarter 4, 2006																			*				
Quarter 4, 2008																			*				
Quarter 3, 2012																			*				
Quarter 1, 2013																			*				
Quarter 2, 2013																			*				
Quarter 3, 2013																			*				
RADIUM-226																							
Quarter 4, 2002			*										*	*							*		
Quarter 2, 2004																			*				
Quarter 2, 2005									*														
Quarter 1, 2009											*												
Quarter 3, 2014									*			*											
Quarter 4, 2014			*								*							*					
Quarter 1, 2015			*				*			*		*						*					
Quarter 2, 2015			*				*			*		*						*					
Quarter 3, 2015			*																				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
RADIUM-226																							
Quarter 4, 2015					✱	✱									✱		✱				✱	✱	
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 4, 2018													✱				✱						
Quarter 1, 2020																	✱						
Quarter 2, 2020															✱								
Quarter 2, 2024																	✱			✱	✱		
Quarter 3, 2024			✱		✱	✱				✱										✱			✱
RADIUM-228																							
Quarter 2, 2005							■				■												
Quarter 3, 2005			■																				
Quarter 4, 2005							■		■														
Quarter 1, 2006					■																		
SELENIUM																							
Quarter 4, 2002			■		■																		
Quarter 1, 2003					■																	■	
Quarter 2, 2003			■																				
Quarter 3, 2003			■		■																		
Quarter 4, 2003			■																				
SODIUM																							
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 3, 2008												✱											
Quarter 4, 2008									✱	✱													
Quarter 1, 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 4, 2011																			✱				
Quarter 1, 2012											✱												
Quarter 3, 2012												✱							✱				
Quarter 4, 2012												✱											

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
SODIUM																							
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 2, 2016											*												
Quarter 3, 2016											*												*
Quarter 1, 2017										*	*		*					*					
Quarter 2, 2017									*	*	*												
Quarter 2, 2018													*										
Quarter 3, 2018														*									
Quarter 1, 2019													*										
Quarter 2, 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 4, 2023										*		*											
Quarter 1, 2024												*											
Quarter 2, 2024									*			*							*				
Quarter 3, 2024									*										*				
Quarter 4, 2024												*							*				
Quarter 1, 2025									*			*							*				*
STRONTIUM-90																							
Quarter 2, 2003										■													
Quarter 1, 2004										■													
SULFATE																							
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	*								*	*		*	*				*		*				

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
SULFATE																							
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										*		*	*	*			*		*	*			
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 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			*							*		*	*				*		*	*			

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
TECHNETIUM-99																							
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			*							*	*	*	*				*	*		*			
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			*							*	*	*	*					*					

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA										LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
TECHNETIUM-99																							
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 1, 2012	*								*					*									
Quarter 4, 2014	*		*																				
Quarter 3, 2015	*								*	*			*		*								
Quarter 1, 2017			*							*							*						
Quarter 4, 2024	*												*							*			
THORIUM-234																							
Quarter 2, 2003						*			*					*									
Quarter 4, 2007									*														
TOLUENE																							
Quarter 2, 2014										*	*		*										
TOTAL ORGANIC CARBON																							
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 4, 2006																	*						
Quarter 1, 2007	*									*													
Quarter 3, 2007	*					*	*	*	*	*			*	*			*						
Quarter 2, 2011											*												
Quarter 3, 2012	*																						
Quarter 3, 2016																			*				
TOTAL ORGANIC HALIDES																							
Quarter 4, 2002																		*	*		*		
Quarter 1, 2003				*														*			*		
Quarter 3, 2003				*																	*		
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 4, 2006																	*						
Quarter 1, 2007	*																						
Quarter 2, 2007	*																						
Quarter 3, 2007	*																						
Quarter 4, 2007	*																				*		
Quarter 1, 2008	*																						
Quarter 4, 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	*																						

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
TOTAL ORGANIC HALIDES																							
Quarter 4, 2010	✱																						
Quarter 1, 2011	✱																						
Quarter 3, 2013																					✱		
Quarter 4, 2024																						✱	
TRICHLOROETHENE																							
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 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												■		■		■			■		■		
Quarter 1, 2016												■		■		■			■		■		
Quarter 2, 2016												■		■					■		■		
Quarter 3, 2016												■		■		■			■		■		
Quarter 4, 2016												■		■		■			■		■		

Chart of MCL and Historical UTL Exceedances for the C-746-S&T Landfills (Continued)

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
TRICHLOROETHENE																							
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 3, 2024																						■	
TURBIDITY																							
Quarter 4, 2002																					✱		
Quarter 1, 2003							✱					✱		✱									
URANIUM																							
Quarter 4, 2002																		✱	✱				
Quarter 1, 2003																			✱				
Quarter 4, 2003							✱																
Quarter 1, 2004							✱	✱	✱					✱			✱						
Quarter 4, 2004																	✱						
Quarter 4, 2006																			✱		✱		
ZINC																							
Quarter 3, 2003												✱											
Quarter 4, 2003							✱		✱			✱											
Quarter 4, 2004							✱																
Quarter 4, 2007							✱	✱	✱														

✱ Statistical test results indicate an elevated concentration (i.e., a statistically significant increase).

■ 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

S = Sidegradient; D = Downgradient; U = Upgradient

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX H

METHANE MONITORING DATA

THIS PAGE INTENTIONALLY LEFT BLANK

CP3-WM-0017-F03 - C-746-S & T LANDFILL METHANE MONITORING REPORT

Date:	January 29, 2025	Time:	1315	Monitor:	Michael Hideg

Weather Conditions: Sunny, Approximately 59° F, humidity: 30%

Monitoring Equipment: Multi RAE – Serial # 11881

Monitoring Location		Reading (% LEL)
Ogden Landing Road Entrance	Checked at ground level	0
North Landfill Gate	Checked at ground level	0
West Side of Landfill: North 37° 07.652' West 88° 48.029'	Checked at ground level	0
East Side of Landfill: North 37° 07.628' West 88° 47.798'	Checked at ground level	0
Cell 1 Gas Vent (17)	10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170	0
Cell 2 Gas Vent (3)	10 20 30	0
Cell 3 Gas Vent (7)	10 20 30 40 50 60 70	0
Landfill Office	Checked at ground level	0
Suspect or Problem Areas	None noted	N/A

Remarks:

All gas vents checked 1" from opening.

Performed by: Michael Hideg 2/3/2025

Signature **Date**

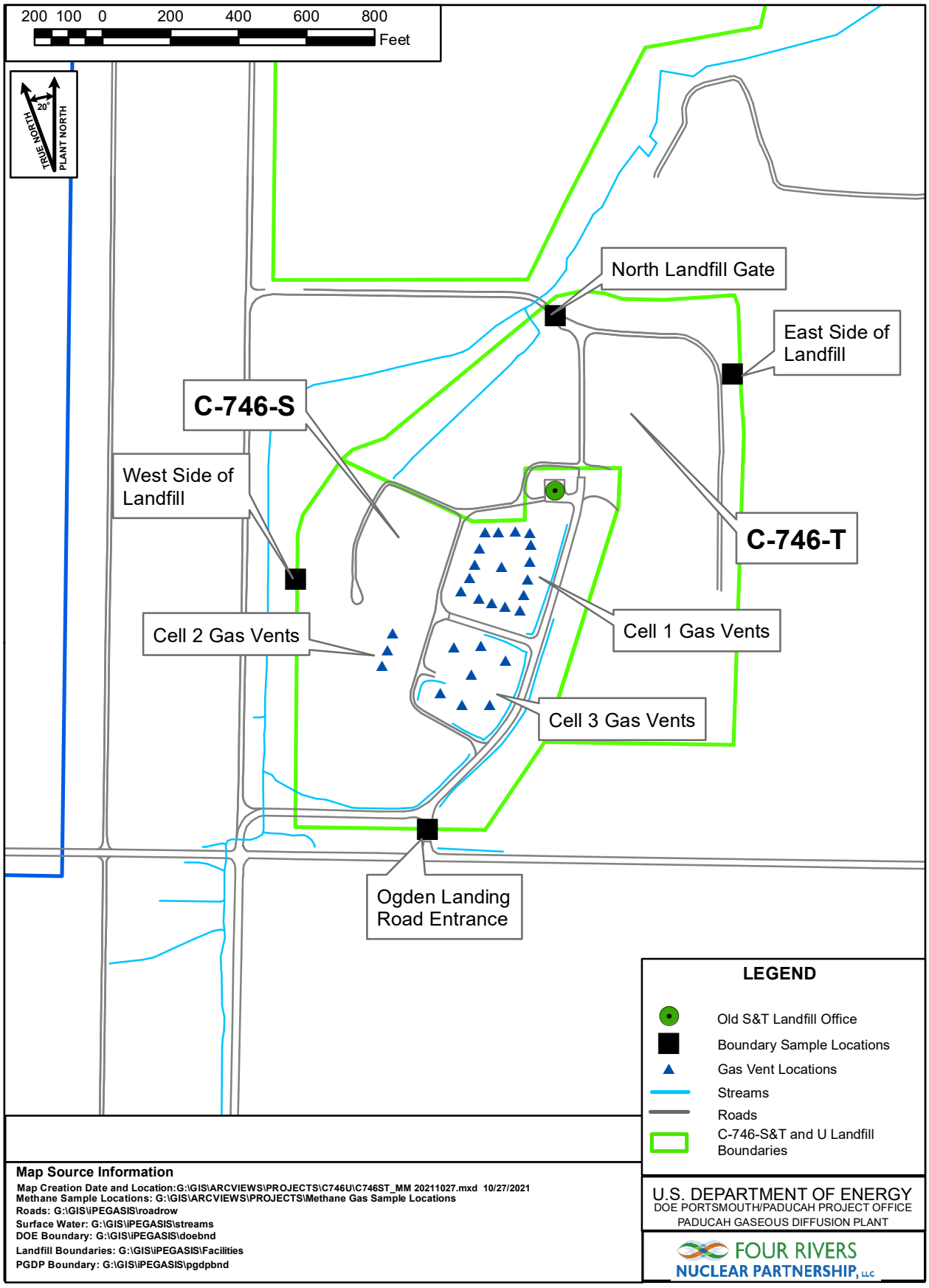


Figure H.1. C-746-S&T Landfill Methane Monitoring Locations

APPENDIX I

SURFACE WATER ANALYSES AND LABORATORY REPORTS

THIS PAGE INTENTIONALLY LEFT BLANK

Paducah OREIS
SURFACE WATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: L135 UPSTREAM **Period:** 1st Quarter 2025

SAMPLE ID: L135SS2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride	W	4.68	mg/L	0.2	1/31/2025			EPA-300.0	X
Sulfate		2.49	mg/L	0.4	1/31/2025			EPA-300.0	X
Conductivity		86	µmhos/cm		1/31/2025				X
pH		7.86	Std Unit		1/31/2025				X
Iron		2.03	mg/L	0.1	1/31/2025			EPA-200.8	X
Sodium		3.33	mg/L	0.25	1/31/2025			EPA-200.8	X
Uranium		0.00145	mg/L	0.0002	1/31/2025			EPA-200.8	X
Alpha activity	U	-1.25	pCi/L	6.72	1/31/2025	2.43	2.44	SW846-9310	X
Beta activity	U	6.6	pCi/L	9.76	1/31/2025	6	6.1	SW846-9310	X
Dissolved Solids		84	mg/L	10	1/31/2025			EPA-160.1	X
Suspended Solids		16.1	mg/L	2.5	1/31/2025			EPA-160.2	X
Chemical Oxygen Demand (COD)		23.2	mg/L	20	1/31/2025			EPA-410.4	X
Total Solids		136	mg/L	10	1/31/2025			SM-2540B	X
Total Organic Carbon (TOC)		10.1	mg/L	2	1/31/2025			SW846-9060A	X

Paducah OREIS
SURFACE WATER MONITORING REPORT

Facility: C-746-S&T Landfill **County:** McCracken **Permit #:** SW07300014,SW07300015,SW07300045

Sampling Point: L136 INSTREAM **Period:** 1st Quarter 2025

SAMPLE ID: L136SS2-25 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride	W	2.16	mg/L	0.2	1/31/2025			EPA-300.0	X
Sulfate		21.7	mg/L	0.8	1/31/2025			EPA-300.0	X
Conductivity		358	µmhos/cm		1/31/2025				X
pH		7.68	Std Unit		1/31/2025				X
Iron		0.16	mg/L	0.1	1/31/2025			EPA-200.8	X
Sodium		2.27	mg/L	0.25	1/31/2025			EPA-200.8	X
Uranium		0.0069	mg/L	0.0002	1/31/2025			EPA-200.8	X
Alpha activity	U	5.47	pCi/L	6.42	1/31/2025	4.57	4.66	SW846-9310	X
Beta activity		13.2	pCi/L	12.1	1/31/2025	7.83	8.13	SW846-9310	X
Dissolved Solids		222	mg/L	10	1/31/2025			EPA-160.1	X
Suspended Solids		3.9	mg/L	2.5	1/31/2025			EPA-160.2	X
Chemical Oxygen Demand (COD)	J	14.1	mg/L	20	1/31/2025			EPA-410.4	X
Total Solids		270	mg/L	10	1/31/2025			SM-2540B	X
Total Organic Carbon (TOC)		7.65	mg/L	2	1/31/2025			SW846-9060A	X

Paducah OREIS
SURFACE WATER MONITORING REPORT

Facility: C-746-S&T 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

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

ATTACHMENT I1

GEL LABORATORIES CERTIFICATE OF ANALYSIS

THIS PAGE INTENTIONALLY LEFT BLANK

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
Sample ID: 707005002
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														
GFPC, Gross A/B, liquid "As Received"														
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
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

Report Date: April 29, 2025

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L154US2-25
Sample ID: 707005002
Matrix: WS
Collect Date: 31-JAN-25 08:10
Receive Date: 04-FEB-25
Collector: Client

Project: FRNP00612
Client ID: FRNP006

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
	Kevil, Kentucky 42053
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

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	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

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-S&T Landfill Surface Water Quarterly(SS25-02)

Client Sample ID: L135SS2-25
Sample ID: 707006001
Matrix: WS
Collect Date: 31-JAN-25
Receive Date: 04-FEB-25
Collector: Client

Project: FRNP00617
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Gross A/B, liquid "As Received"														
Alpha	U	-1.25	+/-2.43	6.72	+/-2.44	15.0	pCi/L			AH4	02/13/25	1619	2745852	1
Beta	U	6.60	+/-6.00	9.76	+/-6.10	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-S&T Landfill Surface Water Quarterly(SS25-02)

Client Sample ID: L136SS2-25 Project: FRNP00617
Sample ID: 707006002 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														
GFPC, Gross A/B, liquid "As Received"														
Alpha	U	5.47	+/-4.57	6.42	+/-4.66	15.0	pCi/L			AH4	02/13/25	1619	2745852	1
Beta		13.2	+/-7.83	12.1	+/-8.13	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

Report Date: April 29, 2025

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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Surface Water Quarterly(SS25-02)

Client Sample ID: L135SS2-25
Sample ID: 707006001
Matrix: WS
Collect Date: 31-JAN-25 08:45
Receive Date: 04-FEB-25
Collector: Client

Project: FRNP00617
Client ID: FRNP006

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		10.1	0.330	2.00	mg/L		1	KB3	02/20/25	1233	2753062	1
Ion Chromatography												
EPA 300.0 Anions (Chloride and Sulfate) "As Received"												
Chloride	W	4.68	0.0670	0.200	mg/L		1	CWW	02/08/25	0214	2744565	2
Sulfate		2.49	0.133	0.400	mg/L		1					
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals- Fe Na U "As Received"												
Iron		2.03	0.0330	0.100	mg/L	1.00	1	JD2	02/11/25	1842	2744698	3
Uranium		0.00145	0.0000670	0.000200	mg/L	1.00	1	JD2	02/12/25	1238	2744698	4
Sodium		3.33	0.0800	0.250	mg/L	1.00	1	BAJ	02/13/25	1524	2744698	5
Solids Analysis												
EPA 160.1 Solids, Dissolved "As Received"												
Total Dissolved Solids		84.0	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	6
EPA 160.2 Total Suspended Liq "As Received"												
Total Suspended Solids		16.1	0.570	2.50	mg/L			RR4	02/06/25	0816	2745761	7
SM 2540 B Solids, Total "As Received"												
Total Solids		136	6.29	10.0	mg/L			RR4	02/07/25	0937	2746633	8
Spectrometric Analysis												
EPA 410.4 Chem. Oxygen Demand "As Received"												
COD		23.2	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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Surface Water Quarterly(SS25-02)

Client Sample ID:	L135SS2-25	Project:	FRNP00617
Sample ID:	707006001	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	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

Kevil, Kentucky 42053
Contact: Ms. Jaime Morrow
Project: C-746-S&T Landfill Surface Water Quarterly(SS25-02)

Client Sample ID: L136SS2-25
Sample ID: 707006002
Matrix: WS
Collect Date: 31-JAN-25 08:25
Receive Date: 04-FEB-25
Collector: Client

Project: FRNP00617
Client ID: FRNP006

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		7.65	0.330	2.00	mg/L		1	KB3	02/20/25	1305	2753062	1
Ion Chromatography												
EPA 300.0 Anions (Chloride and Sulfate) "As Received"												
Chloride	W	2.16	0.0670	0.200	mg/L		1	CWW	02/08/25	0246	2744565	2
Sulfate		21.7	0.266	0.800	mg/L		2	CWW	02/08/25	1726	2744565	3
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals- Fe Na U "As Received"												
Iron		0.160	0.0330	0.100	mg/L	1.00	1	JD2	02/11/25	1846	2744698	4
Uranium		0.00690	0.0000670	0.000200	mg/L	1.00	1	JD2	02/12/25	1240	2744698	5
Sodium		2.27	0.0800	0.250	mg/L	1.00	1	BAJ	02/13/25	1525	2744698	6
Solids Analysis												
EPA 160.1 Solids, Dissolved "As Received"												
Total Dissolved Solids		222	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	7
EPA 160.2 Total Suspended Liq "As Received"												
Total Suspended Solids		3.90	0.570	2.50	mg/L			RR4	02/06/25	0816	2745761	8
SM 2540 B Solids, Total "As Received"												
Total Solids		270	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	14.1	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
	Kevil, Kentucky 42053
Contact:	Ms. Jaime Morrow
Project:	C-746-S&T Landfill Surface Water Quarterly(SS25-02)

Client Sample ID:	L136SS2-25	Project:	FRNP00617
Sample ID:	707006002	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

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX J

ANALYTICAL LABORATORY CERTIFICATION

THIS PAGE INTENTIONALLY LEFT BLANK

Accredited Laboratory

A2LA has accredited

GEL LABORATORIES, LLC

Charleston, SC

for technical competence in the field of

Environmental Testing

In recognition of the successful completion of the A2LA evaluation process that includes an assessment of the laboratory's compliance with ISO/IEC 17025:2017, the 2009 and 2016 TNI Environmental Testing Laboratory Standard, the requirements of the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP), and the requirements of the Department of Energy Consolidated Audit Program (DOECAP) as detailed in Version 5.4 of the DoD/DOE Quality System Manual for Environmental Laboratories (QSM), accreditation is granted to this laboratory to perform recognized EPA methods as defined on the associated A2LA Environmental Scope of Accreditation. This accreditation demonstrates technical competence for this defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

Presented this 26th day of June 2023.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2567.01
Valid to June 30, 2025

For the tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX K

LABORATORY ANALYTICAL METHODS

THIS PAGE INTENTIONALLY LEFT BLANK

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)

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX L

MICRO-PURGING STABILITY PARAMETERS

THIS PAGE INTENTIONALLY LEFT BLANK

Micro-Purge Stability Parameters
for the C-746-S&T Landfills

	Temperature (°F)	Conductivity (µmhos/cm)	pH (Std Unit)	Dissolved oxygen (mg/L)	Turbidity (NTU)
MW220					
Date Collected: 1/29/2025					
1004	60.9	461	5.97	5.93	3.31
1007	60.7	463	5.99	5.40	1.73
1010	60.6	463	5.98	5.36	1.26
MW222					
Date Collected: 1/29/2025					
0840	61.4	487	5.98	5.18	1.18
0843	60.6	485	5.99	4.50	1.04
0846	60.3	484	5.96	4.44	1.05
MW224					
Date Collected: 1/29/2025					
0923	61.5	550	6.02	4.87	1.05
0926	60.3	550	6.00	3.75	0.98
0929	60.1	550	6.00	3.70	0.83
MW370					
Date Collected: 1/28/2025					
0845	54.3	408	6.18	6.40	45.14
0848	53.5	416	6.22	6.11	45.36
0851	52.9	416	6.28	6.23	46.34
MW373					
Date Collected: 1/28/2025					
1231	58.6	941	6.15	2.37	1.01
1234	58.6	943	6.14	2.19	0.93
1237	58.6	945	6.14	2.08	0.99
MW385					
Date Collected: 1/30/2025					
0924	58.3	498	5.85	5.01	0.00
0927	57.2	492	5.90	3.57	0.01
0930	57.0	491	5.91	3.54	0.00
MW387					
Date Collected: 1/29/2025					
1302	61.0	601	6.12	5.40	2.55
1305	60.8	601	6.11	3.97	2.30
1308	60.7	601	6.11	3.99	2.35
MW390					
Date Collected: 1/29/2025					
1044	61.3	662	6.17	4.38	2.50
1047	60.3	664	6.20	3.36	2.06
1050	60.0	665	6.21	3.34	1.94
MW392					
Date Collected: 1/29/2025					
0819	57.4	333	5.65	3.50	1.72
0822	56.1	337	5.69	2.65	2.18
0825	55.8	338	5.74	2.56	2.77
MW394					
Date Collected: 1/29/2025					
1307	59.1	454	6.01	4.22	1.37
1310	59.0	444	5.99	4.74	1.40
1313	58.8	436	5.99	4.80	1.45
MW396					
Date Collected: 1/29/2025					
1213	60.2	685	6.43	1.20	2.91
1216	60.1	685	6.43	1.14	3.30
1219	60.1	686	6.43	1.06	4.17

	Temperature (°F)	Conductivity (µmhos/cm)	pH (Std. Unit)	Dissolved oxygen (mg/L)	Turbidity (NTU)
MW221					
Date Collected: 1/29/2025					
0704	56.8	507	5.70	5.89	2.29
0707	56.1	495	5.72	5.30	1.58
0710	55.9	494	5.72	5.24	1.46
MW223					
Date Collected: 1/29/2025					
0747	58.7	513	5.92	5.00	2.73
0750	59.4	499	5.94	3.69	1.99
0753	59.5	497	5.94	3.71	1.81
MW369					
Date Collected: 1/28/2025					
1024	57.1	340	6.37	5.03	2.17
1027	57.0	341	6.26	4.77	2.21
1030	57.0	343	6.25	4.72	2.25
MW372					
Date Collected: 1/28/2025					
1417	60.0	758	6.27	3.81	1.57
1420	60.0	758	6.27	3.75	2.01
1423	60.0	758	6.27	3.71	2.62
MW384					
Date Collected: 1/30/2025					
0821	57.3	495	5.78	6.06	0.06
0824	57.3	499	5.78	5.08	0.00
0827	56.5	499	5.80	5.03	0.00
MW386					
Date Collected: 1/30/2025					
1010	59.3	670	6.31	2.65	0.45
1013	59.3	692	6.56	1.09	0.05
1016	59.1	694	6.55	0.99	0.08
MW388					
Date Collected: 1/29/2025					
1343	60.3	526	6.10	5.07	1.43
1346	60.0	527	5.98	4.74	1.34
1349	59.9	529	5.97	4.69	1.17
MW391					
Date Collected: 1/29/2025					
0946	57.1	374	6.00	4.29	3.27
0949	57.0	373	6.00	4.37	3.44
0952	56.6	373	6.00	4.40	2.80
MW393					
Date Collected: 1/29/2025					
0901	57.4	388	6.12	2.13	7.55
0904	56.9	417	6.14	1.90	7.40
0907	57.1	427	6.16	1.80	7.68
MW395					
Date Collected: 1/29/2025					
1038	58.6	386	5.99	5.52	0.80
1041	58.7	386	5.98	5.09	1.04
1044	58.7	387	5.97	5.05	1.05
MW397					
Date Collected: 1/29/2025					
1402	60.2	322	6.00	6.56	2.89
1405	60.3	318	6.00	6.39	2.99
1408	60.4	316	6.00	6.38	3.17

THIS PAGE INTENTIONALLY LEFT BLANK