



Texas Commission on Environmental Quality
Correspondence Cover Sheet
Waste Permits Division

Date: 4/2/2026

Facility Name: Twin Oaks Power Station CCR Landfill

Permit, Registration, or

Authorization No.: CCR112

Nature of Submittal:

☒ Initial

☐ Deficiency Response to TCEQ Tracking No.: _____
(from subject line of TCEQ Notice of Deficiency)

Affix a completed Correspondence Cover Sheet to the front of each submission to the Waste Permits Division. Check **one box** to indicate type of correspondence. Call (512) 239-2335 if you have questions.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Communications
Permit (New): ☐ Landfill ☐ Processor ☐ Compost	☐ Alternative Daily Cover Status Report
☐ Registration Application (New)	☐ Closure Report
☐ Major Amendment	☐ Compost Report
☐ Limited Scope Major Amendment	☐ Groundwater Alternate Source Demonstration
☐ Modification with Public Notice	☐ Groundwater Corrective Action Report
☐ Modification without Public Notice	☐ Groundwater Monitoring Report
☐ Ownership Transfer/Name Change Modification	☐ Groundwater Background Evaluation Report
☐ Temporary Authorization	☐ Landfill Gas Corrective Action Report
☐ Voluntary Revocation	☐ Landfill Gas Monitoring Report
Subchapter T: ☐ Permit ☐ Registration	☐ Liner Evaluation Report
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Soil Boring Plan
Notice of Intent: ☐ New ☐ Revision ☐ Closure	☐ Special Waste Request
☐ Other Application:	☐ Other Report or Communication:

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Notifications	
☐ CCR Registration (New)	☐ Extension Request	☐ Interim Status Change
☐ Permit Application (New)	☐ CfPT Plan/Result	☐ Interim Status Closure Plan
☐ Permit Renewal	☐ CPT Plan/Result	☐ Closure Certification/Report
☐ Post-Closure Order (New)	☐ Construction Certification/Report	CCR Notifications:
☐ Major Amendment	☐ Corrective Action Effectiveness Report	☐ CCR Closure Care Plan
☐ Minor Amendment	☐ Groundwater Alternative Source Demonstration Report	☐ CCR Design Criteria
Class of Permit Modification: ☐ 1 ☐ 1ED ☐ 2 ☐ 3	☐ Groundwater Background Evaluation Report	☐ CCR Groundwater Monitoring and Corrective Action Report
☐ Endorsement	☐ Groundwater Monitoring Report	☐ CCR Location Restriction
☐ Temporary Authorization	☐ Soil Core Monitoring Report	☐ CCR Operating Criteria
☐ Voluntary Revocation	☐ Treatability Study	☐ CCR Post-closure Care Plan
☐ 335.6 Notification	☐ Trial Burn Plan/Result	☐ Other Report or Notification (specify): CCR Registration Permit Application Updates
☐ Other:	☐ Unsaturated Zone Monitoring Report	

Eddy Young
Environmental Manager

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Major Oak Power, LLC

Twin Oaks

April 2, 2026

MC-130
Mr. Chris Shaw, Project Manager
Industrial and Hazardous Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, Texas 78711-3087

**RE: Addendum to 2025 Annual Groundwater Monitoring and Corrective Action Report; Updated Registration Permit Application Documentation
Twin Oaks Power Station Coal Combustion Residuals Landfill
Major Oak Power, LLC
Bremond (Roberston County), Texas
CCR Registration No. CCR112
TCEQ SWR No. 37677; EPA ID No. TXD987997988
RN100226570/CN604670034**

Dear Mr. Shaw:

Major Oak Power, LLC is submitting this transmittal to formally document the transition of the Twin Oaks Power Station Coal Combustion Residuals (CCR) Landfill (Twin Oaks or facility) groundwater monitoring program to an interwell statistical approach and submit updated and revised documentation in support of this transition.

This submittal reflects our decision to transition from intrawell to interwell statistics beginning with a re-evaluation of the groundwater statistical analysis presented in the *2025 Annual Groundwater Monitoring and Corrective Action Report*. In addition, we have updated documentation originally submitted as part of the *Registration Application for Coal Combustion Residuals Waste Management*, dated 12 January 2022, to reflect this transition and the current assessment monitoring program status.

The following documents are enclosed with this transmittal. A brief description of the revisions and their incorporation into the facility operating record and publicly accessible website is provided below:

1. The Addendum to *the 2025 Annual Groundwater Monitoring and Corrective Action Report* (**Attachment A**) documents the re-calculation of groundwater protection standards (GWPS) using the interwell statistical approach and the corresponding reassessment of compliance data collected in 2025. The addendum will be included at the front of the *2025 Annual Groundwater Monitoring and Corrective Action Report* within the facility operating record and posted on the facility's publicly accessible internet site (Groundwater Monitoring and Correction Action section).
2. The *Revised Groundwater Sampling and Analysis Plan* (GWSAP) (**Attachment B**) documents the updated statistical analysis methodology. This revised GWSAP supersedes the version originally submitted in the *Registration Application for Coal Combustion Residuals Waste Management*, dated 12 January 2022, and will be placed in

the facility operating record and posted on the facility's publicly accessible internet site (Registration Application section).

3. The Updated Registration Permit Application materials (**Attachment C**) include revised forms, tables, and supporting attachments reflecting implementation of the assessment monitoring program and updated GWPS. These materials will be placed in the facility operating record and posted on the facility's publicly accessible internet site (Registration Application section). Updated documentation includes:
- Registration Permit Application Sections 27 through 30, reflecting the transition to assessment monitoring and identifying key dates for initiation and completion of assessment of corrective measures;
 - Table VI.A, updated to include observation wells MW-18 through MW-22 and selenium test wells MW-23 through MW-26;
 - Table VI.D-2, updated to reflect current analytical methods, practical quantitation limits, and GWPS;
 - Laboratory analytical reports and summarized results, as required in Registration Permit Application Section 30.B; and
 - The Assessment of Corrective Measures Report, as required in Registration Permit Application Section 30.I.

We appreciate the Texas Commission on Environmental Quality's continued coordination and technical guidance and look forward to maintaining an open dialogue as these materials are reviewed.

Should you have any questions, please feel free to contact me at (254) 342-3664 or via email at Eddy.young@majoroakpower.com.

Sincerely,



Eddy Young
Environmental Manager

Attachments:

Attachment A	<i>Addendum to the 2025 Annual Groundwater Monitoring and Corrective Action Report</i>
Attachment B	<i>Revised Groundwater Sampling and Analysis Plan</i>
Attachment C	Updated Registration Permit Application Documentation

Distribution:

(E-Copy)	MC-130 Mr. Chris Shaw, Project Manager Industrial and Hazardous Waste Permits Waste Permits Division Texas Commission on Environmental Quality P.O. Box 13087 Austin, Texas 78711-3087
(1+ E-Copy)	Mr. Eddy Young Environmental Manager Twin Oaks P.O. Box 37 Bremond, Texas 76629
(E-Copy)	Environmental Resources Management Southwest, Inc.

Attachment A

Addendum to the 2025 Annual Groundwater Monitoring and Corrective Action Report

MEMO

TO	Mr. Eddy Young, Environmental Manager Major Oak Power, LLC
FROM	Mr. Di Wu, Principal Data Scientist Environmental Resources Management, Inc. Mr. Mitch Zimmerman, Senior Partner Environmental Resources Management Southwest, Inc.
DATE	2 April 2026
REFERENCE	0769156
SUBJECT	Twin Oaks Power Station – Coal Combustion Residuals Landfill 2025 Annual Groundwater Monitoring and Corrective Action Report (Addendum)

Dear Mr. Young:

Environmental Resources Management Southwest, Inc. (ERM) has prepared this addendum to the 2025 Annual Groundwater Monitoring and Corrective Action Report (annual report) dated 27 January 2026 to document revisions to the comparison of compliance data to updated groundwater protection standards (GWPS).

Appendix D, *Derivation of GWPS and Data Comparison*, has undergone significant revisions based on discussions with the Texas Commission on Environmental Quality (TCEQ) in late 2025 and early 2026. These revisions were prompted by questions regarding the use of intrawell analyses on downgradient well data collected after waste placement at the Twin Oaks Power Station (Twin Oaks or Site) Coal Combustion Residuals (CCR) Landfill. TCEQ recommended re-evaluating the use of intrawell statistics and implementing updates to more strongly support the selected statistical method. As a result, both the Groundwater Sampling and Analysis Plan (GWSAP) and Appendix D of the annual report were revised and updated. A revised version of Appendix D is included as an attachment to this memorandum.

Section 9 of the GWSAP, *Statistical Process*, was substantially updated to present the statistical methods and references used in the evaluation, allowing Appendix D to focus primarily on findings. The revised Section 9 provides greater detail and a more defensible workflow than the methods previously included in the original GWSAP. Section 9.2 further explains the preference for interwell comparisons over intrawell comparisons and addresses the handling of multiple upper limits in cases of spatial and temporal variability within the upgradient well network. Upper Tolerance Limits (UTLs) are still calculated prior to selecting the GWPS, the larger of the upper limit and the maximum contaminant levels (MCLs). Screening of downgradient wells is also now

performed using the UTL and GWPS, applied only to the most recent data point, rather than to the Lower Confidence Limit (LCL) of the population.

These methodological updates are reflected throughout Appendix D, which has been rewritten to align with the organization and content of GWSAP Section 9. As a result of these revisions, minor changes were made to the selected GWPS values for the following analytes:

- **Arsenic:** The updated GWPS is 12.88 micrograms per liter ($\mu\text{g/L}$). Previously, GWPS was the MCL with a value of 10 $\mu\text{g/L}$.
- **Cobalt:** The updated GWPS is 6 $\mu\text{g/L}$. Previously, GWPS values were calculated separately for each downgradient well using intrawell analysis and UTLs, resulting in value of 15.79 $\mu\text{g/L}$ for MW-17. All other downgradient well GWPS are unchanged.
- **Lead:** The updated GWPS is 15 $\mu\text{g/L}$. Previously, GWPS values were calculated separately for each downgradient well using intrawell analysis and UTLs, resulting in value of 17.92 $\mu\text{g/L}$ for MW-17. All other downgradient well GWPS are unchanged.
- **Lithium:** The updated GWPS is 235 $\mu\text{g/L}$. Previously, GWPS values were calculated separately for each downgradient well using intrawell analysis and UTLs, resulting in values of 68.6 $\mu\text{g/L}$ (MW-13), 118.8 $\mu\text{g/L}$ (MW-14), 40 $\mu\text{g/L}$ (MW-15), and 5.01 $\mu\text{g/L}$ (MW-17).
- **Radium:** The updated GWPS is 5.819 picocuries per liter (pCi/L). Previously, GWPS values were calculated separately for each downgradient well using intrawell analysis and UTLs, resulting in values of 8.476 pCi/L (MW-13), 7.763 pCi/L (MW-14), 5 pCi/L (MW-15), and 12.73 pCi/L (MW-17).

All other analytes retained the same final GWPS, which were based on MCLs.

When screening downgradient wells against the most recent data point, selenium in MW-14 remains the only analyte exceeding the GWPS.

Please contact Mr. Wu at (484)-913-0496 or at di.wu@erm.com, or Mr. Zimmerman (512)-374-2221 or mitch.zimmerman@erm.com if you have any questions.

Sincerely,



Di Wu
Principal Data Scientist



Mitch Zimmerman, P.G.
Senior Partner



APPENDIX D STATISTICAL METHODOLOGY FOR THE
DERIVATION OF GROUNDWATER
PROTECTION STANDARDS AND
COMPARISON OF COMPLIANCE DATA
(REVISED)

STATISTICAL METHODOLOGY FOR THE DERIVATION OF GROUNDWATER PROTECTION STANDARDS AND COMPARISON OF COMPLIANCE DATA (REVISED)

1. STATISTICAL ANALYSIS AND RESULTS

Consistent with the following procedures, a tolerance limit approach was used to identify potential impacts to groundwater:

- Environmental Resources Management Southwest, Inc. (ERM) Groundwater Sampling and Analysis Plan (GWSAP)(ERM 2026, Section 9);
- Title 40, Code of Federal Regulations (CFR), Part 257, Subpart D (40 CFR § 257 et seq.) in accordance with 40 CFR § 257.95(h);
- Title 30, Texas Administrative Code (TAC), Chapter 352 (30 TAC § 352 et seq.) in accordance with 30 TAC § 352.951(b); and
- The United States Environmental Protection Agency Unified Guidance (USEPA, 2009).

The decision framework described in the GWSAP includes the following steps:

- Establishment of the background dataset;
- Calculation of tolerance limits; and
- Drawing conclusions.

Tables and figures generated as part of the statistical analysis, including updated tolerance limits, are provided in Attachments A and B.

1.1 ESTABLISHMENT OF THE BACKGROUND DATASET

The Site dataset does not contain any pre-waste placement samples but does include a network of wells located hydraulically upgradient of the landfill. As referenced in ERM GWSAP Section 9.2, due to concerns associated with the use of post waste placement data to calculate background values for intrawell comparisons, interwell comparisons was used by create a background dataset using the upgradient well network.

1.1.1 UPDATING BACKGROUND DATASETS

The procedure for updating background datasets discussed in ERM GWSAP Section 9.7 was implemented, as more than four sampling events have occurred since the previous calculation of tolerance limits. Attachment B, Figure 1 includes time series for all wells at the Site. For wells that are part of the background dataset, a vertical line indicates the date cutoff. Samples prior to this cutoff were used to generate previous tolerance limits.

A Wilcoxon Rank Sum (WRS) test was performed to determine whether samples collected after the cutoff could be merged with those collected prior. For all analytes, the WRS test alternate hypothesis was that samples collected after the cutoff were significantly greater than those collected prior, a one-sided test.

The WRS test results were utilized except for the following cases, where manual adjustments were made:

- Lithium in MW-07, MW-11, and MW-12. Recent samples fall in a similar range as post 2023 data.

STATISTICAL METHODOLOGY FOR THE DERIVATION OF GROUNDWATER PROTECTION STANDARDS AND COMPARISON OF COMPLIANCE DATA (REVISED)

Details of this test are outlined in ERM GWSAP Section 9.7. Attachment A, Table 1 presents the WRS test results, including test statistics, p-values, and manual adjustments. As a result of the WRS test with manual adjustment (Attachment A, Table 1), 60 well-analyte pairs had their background datasets updated. This is reflected in the "Date Cutoff New" column, which will be used in subsequent steps to define the updated background dataset for each well-analyte pair; any samples prior to this date will be used in the newly calculated tolerance limits.

1.1.2 POTENTIAL OUTLIERS IN BACKGROUND WELLS

Once the background dataset was finalized, it was screened for potential outliers. A combination of statistical and visual methods were used, following the workflow outlined in ERM GWSAP Section 9.4. Initial descriptive statistics were calculated prior to outlier flagging to characterize data distributions for the background well-analyte pairs.

One outlier was initially flagged. Data points identified as both statistical and visual outliers (Attachment A, Table 2 and Attachment B, Figure 2) were reviewed prior to exclusion. Of the flagged data points, all were retained after review, as they were consistent with natural fluctuations and concentrations observed in other upgradient wells. No analytical or sampling issues were identified during data review.

1.1.3 DESCRIPTIVE STATISTICS

Final descriptive statistics were calculated for the well-analyte pairs at the unit (Attachment A, Table 3) following outlier review. Key characteristics of the upgradient datasets include:

- Four upgradient monitoring wells and fifteen analytes, totaling 60 well-analyte pairs (39 well-analyte pairs after some wells were merged, as discussed in the following Section).
 - Sixteen well-analyte pairs have detection rates $\geq 50\%$.
 - Eight well-analyte pairs have 100% detects.
 - Eight well-analyte pairs follow a normal distribution (using Shapiro-Wilks Normality test), four pairs follow a lognormal distribution, and 27 pairs have no discernible distribution.

1.1.4 ASSESSING BACKGROUND WELL VARIABILITY

Individual wells in the background dataset can be combined if no temporal or spatial variability is present. As discussed in ERM GWSAP Sections 9.2 and 9.5, a Mann-Kendall (MK) test was used to assess temporal variability, and a Kruskal-Wallis (KW) test was used to assess spatial variability. Attachment B, Figure 3 visualizes these comparisons, and Attachment A, Table 4 displays the results and conclusions of these statistical tests.

Based on these tests:

- Five analytes had significant temporal and spatial variability: Arsenic, Barium, Cobalt, Lead, Radium-226/228.
- Seven analytes did not have significant temporal or spatial variability among background wells and therefore could have its background datasets combined: Antimony, Cadmium, Chromium, Fluoride, Lithium, Molybdenum, Thallium.

STATISTICAL METHODOLOGY FOR THE DERIVATION OF GROUNDWATER PROTECTION STANDARDS AND COMPARISON OF COMPLIANCE DATA (REVISED)

1.1.5 CHECKING FOR TEMPORAL VARIABILITY

A subsequent MK test was performed on all well-analyte combinations (Attachment A, Table 5 and Attachment B, Figure 1). For any pooled background datasets, samples are averaged by year and month before running the MK test. For multiple measurements taken during a single sampling event, USEPA (2022, Section 10.2) recommends averaging the values to produce one measurement per event. Results indicate:

- Of the 39 well-analyte pairs in the background dataset:
 - Zero pairs have significantly increasing concentrations over time.
 - Eleven pairs have significantly decreasing concentrations over time.
 - Seven pairs have no significant trend.
 - 21 pairs did not meet the minimum data requirements for MK testing, which requires ≥ 5 detected values and $\geq 50\%$ detection rate.

1.1.6 CHECKING FOR SEASONAL VARIABILITY

As discussed in ERM GWSAP Section 9.6, seasonal variability was assessed graphically for well-analyte pairs with at least five years of data and ten samples. Attachment B, Figure 4 shows boxplots for each well, split into four seasons (Spring, Summer, Fall, Winter) and colored by year (darker colors indicate more recent samples). While most analytes exhibited some seasonal variability, temporal variability had a much greater impact on overall trends when looking at the number of significant increasing and decreasing concentrations over time as discussed in the previous section. Seasonality will continue to be monitored to confirm this finding.

1.2 ESTABLISHING BACKGROUND VALUES AND GROUNDWATER PROTECTION STANDARDS

1.2.1 CALCULATING TOLERANCE LIMITS

A multi-part assessment of the background dataset was performed to determine the appropriate type of tolerance limit (TL) to calculate as background value. The decision framework discussed in ERM GWSAP Section 9.8 was applied for each background well based on all prior findings when establishing the background dataset. A summary of the tolerance limits and the methods used to calculate them is provided in Attachment A, Table 6.

All upper tolerance limits (UTLs) were calculated in ProUCL v5.2 using its recommended method at a 95% confidence and 95% coverage, with full outputs are provided in Attachment C. Additionally, any significant trends identified in the background wells (see Attachment A, Table 5) were de-trended relative to current conditions prior to input into ProUCL. These well-analyte pairs are labeled "Detrended" in Attachment A, Table 6. De-trending was performed by calculating an ordinary least squares regression model on the time series data for each well-analyte pair with significant trends, computing residuals, and then re-centering those residuals so the value at the most recent time is zero, ensuring the latest observation remains unchanged.

STATISTICAL METHODOLOGY FOR THE DERIVATION OF GROUNDWATER PROTECTION STANDARDS AND COMPARISON OF COMPLIANCE DATA (REVISED)

Final TLs were selected for each analyte following the procedure in ERM GWSAP Section 9.9.1, using the maximum UTL across all background wells for the final UTL, after excluding any TLs outside of boxplot whiskers¹. This approach accounts for natural variability within the upgradient dataset while limiting the influence of individual upgradient wells that differ substantially from the others when combining data was not possible (see "Assessing Background Well Variability" section). Boxplots of UTLs are provided in Attachment B, Figure 5 for reference. The final TLs are presented in detail in Attachment A, Table 7 and summarized below:

Analyte	UTL Well	UTL	Unit
Antimony	MW-07, MW-11, MW-12, MW-16	4	ug/L
Arsenic	MW-16	12.88	ug/L
Barium	MW-07	307.5	ug/L
Beryllium	MW-16	3.732	ug/L
Cadmium	MW-07, MW-11, MW-12, MW-16	0.618	ug/L
Chromium	MW-07, MW-11, MW-12, MW-16	8.728	ug/L
Cobalt	MW-16	5.678	ug/L
Fluoride	MW-07, MW-11, MW-12, MW-16	474.7	ug/L
Lead	MW-07	11.15	ug/L
Lithium	MW-07, MW-11, MW-12, MW-16	235	ug/L
Mercury	MW-11	0.2	ug/L
Molybdenum	MW-07, MW-11, MW-12, MW-16	2	ug/L
Radium-226/228	MW-07	5.819	pCi/L
Selenium	MW-16	5.536	ug/L
Thallium	MW-07, MW-11, MW-12, MW-16	2	ug/L

"UTL Well" indicates the wells from which the final TLs were selected.

1.2.2 DETERMINATION OF GROUNDWATER PROTECTION STANDARDS

As discussed in ERM GWSAP Section 9.9.2, the final UTLs are then compared against the applicable maximum contaminant levels (MCLs). If the calculated UTL is lower than the corresponding MCL, the MCL is selected as the GWPS; otherwise, the calculated UTL is used. Attachment A, Table 7 also includes MCLs and their corresponding reference section, and summarized below:

¹ Boxplot whiskers extend from (P25 – 1.5 * IQR) to (P75 + 1.5 * IQR). Where P25, P75, and IQR are 25th percentile, 75th percentile, and InterQuartile Range, respectively.

**STATISTICAL METHODOLOGY FOR THE DERIVATION OF GROUNDWATER PROTECTION
STANDARDS AND COMPARISON OF COMPLIANCE DATA (REVISED)**

Analyte	UTL	MCL	MCL Desc	GWPS	Unit
Antimony	4	6	from 40 CFR 141.62(b)	6	ug/L
Arsenic	12.88	10	from 40 CFR 141.62(b)	12.88	ug/L
Barium	307.5	2,000	from 40 CFR 141.62(b)	2,000	ug/L
Beryllium	3.732	4	from 40 CFR 141.62(b)	4	ug/L
Cadmium	0.618	5	from 40 CFR 141.62(b)	5	ug/L
Chromium	8.728	100	from 40 CFR 141.62(b)	100	ug/L
Cobalt	5.678	6	from 40 CFR 257.95(h)(2)	6	ug/L
Fluoride	474.7	4,000	from 40 CFR 141.62(b)	4,000	ug/L
Lead	11.15	15	from 40 CFR 257.95(h)(2)	15	ug/L
Lithium	235	40	from 40 CFR 257.95(h)(2)	235	ug/L
Mercury	0.2	2	from 40 CFR 141.62(b)	2	ug/L
Molybdenum	2	100	from 40 CFR 257.95(h)(2)	100	ug/L
Radium-226/228	5.819	5	from 40 CFR 141.66(b)	5.819	pCi/L
Selenium	5.536	50	from 40 CFR 141.62(b)	50	ug/L
Thallium	2	2	from 40 CFR 141.62(b)	2	ug/L

1.3 CONCLUSIONS

The downgradient samples collected during the recent sampling event, September 2025, were used for compliance comparisons. Full downgradient results are provided in Attachment A, Table 8 and include trend test results (Attachment A, Table 5) to highlight any significantly increasing concentrations. The table also includes comparisons to background TL values in addition to GWPS.

All downgradient wells were below the GWPS with the following exceptions:

Analyte	Well	Sample Date	GWPS	Sample Conc	Unit
Selenium	MW-14	2025-09-09 16:10:00	50	824	ug/L

Initial exceedances of the UPL may be confirmed with re-testing of the downgradient wells per the 1-of-2 retesting scheme. If the initial exceedance is confirmed, the well-analyte pair will be declared a statistically significant level (SSL) above the GWPS. If an SSL is found, a notification or Alternate Source Demonstration will be prepared within 90 days. Wells with re-testing results at or below the GWPS will be considered in compliance and will not require further action. These re-testing results will be reported in an Alternate Source Demonstration.

All wells with exceedances of GWPS are plotted in Attachment B, Figure 6, and wells with exceedances of background values are plotted in Attachment B, Figure 7.

STATISTICAL METHODOLOGY FOR THE DERIVATION OF GROUNDWATER PROTECTION
STANDARDS AND COMPARISON OF COMPLIANCE DATA (REVISED)

2. REFERENCES

ERM. 2026. Groundwater Sampling and Analysis Plan - 2026 Revision. Twin Oaks Power Station – Coal Combustion Residuals Landfill. April 2026.

United States Environmental Protection Agency (USEPA). 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Unified Guidance (EPA 530/R-09-007). United States Environmental Protection Agency - Office of Resource Conservation and Recovery. March 2009.

USEPA. 2022. ProUCL Version 5.2: Technical Guide. United States Environmental Protection Agency – Office of Research and Development. June 2022.



ATTACHMENT A TABLES

Major Oak Power, LLC
Twin Oaks
Table 1
Updating Background Datasets

Well	Analyte	N Before	Date Cutoff		N After	Date Cutoff New	Wrs Stat	Wrs p	Wrs Result	Combine	Reason
			Old							Data	
MW-07	Antimony	10	1/1/2024	4		9/10/2025 9:50	23	0.734	New ≤ Old	Yes	
MW-11	Antimony	10	1/1/2024	4		9/10/2025 11:05	19	0.46	New ≤ Old	Yes	
MW-12	Antimony	10	1/1/2024	4		9/10/2025 12:15	19	0.46	New ≤ Old	Yes	
MW-16	Antimony	10	1/1/2024	4		9/11/2025 11:40	19	0.46	New ≤ Old	Yes	
MW-07	Arsenic	9	1/1/2024	4		9/10/2025 9:50	31.5	0.986	New ≤ Old	Yes	
MW-11	Arsenic	9	1/1/2024	4		9/10/2025 11:05	10.5	0.124	New ≤ Old	Yes	
MW-12	Arsenic	9	1/1/2024	4		9/10/2025 12:15	10.5	0.105	New ≤ Old	Yes	
MW-16	Arsenic	9	1/1/2024	4		9/11/2025 11:40	31.5	0.986	New ≤ Old	Yes	
MW-07	Barium	10	1/1/2024	4		9/10/2025 9:50	32	0.962	New ≤ Old	Yes	
MW-11	Barium	10	1/1/2024	4		9/10/2025 11:05	32	0.962	New ≤ Old	Yes	
MW-12	Barium	10	1/1/2024	4		9/10/2025 12:15	34	0.98	New ≤ Old	Yes	
MW-16	Barium	10	1/1/2024	4		9/11/2025 11:40	37	0.993	New ≤ Old	Yes	
MW-07	Beryllium	9	1/1/2024	4		9/10/2025 9:50	28	0.968	New ≤ Old	Yes	
MW-11	Beryllium	9	1/1/2024	4		9/10/2025 11:05	18	1	New ≤ Old	Yes	
MW-12	Beryllium	9	1/1/2024	4		9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Beryllium	9	1/1/2024	4		9/11/2025 11:40	26	0.945	New ≤ Old	Yes	
MW-07	Cadmium	9	1/1/2024	4		9/10/2025 9:50	36	1	New ≤ Old	Yes	
MW-11	Cadmium	9	1/1/2024	4		9/10/2025 11:05	36	1	New ≤ Old	Yes	
MW-12	Cadmium	9	1/1/2024	4		9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Cadmium	9	1/1/2024	4		9/11/2025 11:40	36	1	New ≤ Old	Yes	
MW-07	Chromium	9	1/1/2024	4		9/10/2025 9:50	30	0.982	New ≤ Old	Yes	
MW-11	Chromium	9	1/1/2024	4		9/10/2025 11:05	22	0.865	New ≤ Old	Yes	
MW-12	Chromium	9	1/1/2024	4		9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Chromium	9	1/1/2024	4		9/11/2025 11:40	34.5	0.996	New ≤ Old	Yes	
MW-07	Cobalt	10	1/1/2024	4		9/10/2025 9:50	36.5	0.992	New ≤ Old	Yes	
MW-11	Cobalt	10	1/1/2024	4		9/10/2025 11:05	40	0.998	New ≤ Old	Yes	
MW-12	Cobalt	10	1/1/2024	4		9/10/2025 12:15	35	0.988	New ≤ Old	Yes	
MW-16	Cobalt	10	1/1/2024	4		9/11/2025 11:40	34	0.986	New ≤ Old	Yes	
MW-07	Fluoride	21	1/1/2024	4		9/10/2025 9:50	49	0.771	New ≤ Old	Yes	
MW-11	Fluoride	21	1/1/2024	4		9/10/2025 11:05	46.5	0.702	New ≤ Old	Yes	
MW-12	Fluoride	21	1/1/2024	4		9/10/2025 12:15	47	0.738	New ≤ Old	Yes	
MW-16	Fluoride	21	1/1/2024	4		9/11/2025 11:40	67.5	0.993	New ≤ Old	Yes	
MW-07	Lead	9	1/1/2024	4		9/10/2025 9:50	32	0.991	New ≤ Old	Yes	
MW-11	Lead	9	1/1/2024	4		9/10/2025 11:05	22	0.865	New ≤ Old	Yes	
MW-12	Lead	9	1/1/2024	4		9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Lead	9	1/1/2024	4		9/11/2025 11:40	32	0.991	New ≤ Old	Yes	
MW-07	Lithium	10	1/1/2024	4		9/10/2025 9:50	7	0.029	New > Old	Yes	Similar range as post 2023 data
MW-11	Lithium	10	1/1/2024	4		9/10/2025 11:05	8	0.039	New > Old	Yes	Similar range as post 2023 data

Major Oak Power, LLC
Twin Oaks
Table 1
Updating Background Datasets

Well	Analyte	N Before	Date Cutoff		N After	Date Cutoff New	Wrs Stat	Wrs p	Wrs Result	Combine Data	Reason
			Old								
MW-12	Lithium	10	1/1/2024		4	9/10/2025 12:15	7	0.029	New > Old	Yes	Similar range as post 2023 data
MW-16	Lithium	10	1/1/2024		4	9/11/2025 11:40	17	0.351	New ≤ Old	Yes	
MW-07	Mercury	9	1/1/2024		4	9/10/2025 9:50	26	0.945	New ≤ Old	Yes	
MW-11	Mercury	9	1/1/2024		4	9/10/2025 11:05	18	1	New ≤ Old	Yes	
MW-12	Mercury	9	1/1/2024		4	9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Mercury	9	1/1/2024		4	9/11/2025 11:40	18	1	New ≤ Old	Yes	
MW-07	Molybdenum	9	1/1/2024		4	9/10/2025 9:50	22.5	0.952	New ≤ Old	Yes	
MW-11	Molybdenum	9	1/1/2024		4	9/10/2025 11:05	18	1	New ≤ Old	Yes	
MW-12	Molybdenum	9	1/1/2024		4	9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Molybdenum	9	1/1/2024		4	9/11/2025 11:40	18	1	New ≤ Old	Yes	
MW-07	Radium-226/228	9	1/1/2024		4	9/10/2025 9:50	23	0.793	New ≤ Old	Yes	
MW-11	Radium-226/228	10	1/1/2024		4	9/10/2025 11:05	27	0.848	New ≤ Old	Yes	
MW-12	Radium-226/228	10	1/1/2024		4	9/10/2025 12:15	24	0.73	New ≤ Old	Yes	
MW-16	Radium-226/228	10	1/1/2024		4	9/11/2025 11:40	34	0.982	New ≤ Old	Yes	
MW-07	Selenium	10	1/1/2024		4	9/10/2025 9:50	31	0.988	New ≤ Old	Yes	
MW-11	Selenium	10	1/1/2024		4	9/10/2025 11:05	20	1	New ≤ Old	Yes	
MW-12	Selenium	10	1/1/2024		4	9/10/2025 12:15	30	0.993	New ≤ Old	Yes	
MW-16	Selenium	10	1/1/2024		4	9/11/2025 11:40	9	0.069	New ≤ Old	Yes	
MW-07	Thallium	9	1/1/2024		4	9/10/2025 9:50	22.5	0.952	New ≤ Old	Yes	
MW-11	Thallium	9	1/1/2024		4	9/10/2025 11:05	18	1	New ≤ Old	Yes	
MW-12	Thallium	9	1/1/2024		4	9/10/2025 12:15	18	1	New ≤ Old	Yes	
MW-16	Thallium	9	1/1/2024		4	9/11/2025 11:40	18	1	New ≤ Old	Yes	

Notes:

N: number of samples

Before/After: data before/after 'Date Cutoff Old'

Date Cutoff Old: data before this date was used to calculate previous Tolerance Limits (TLs)

Date Cutoff New: updated date cutoff, where data prior to this date will be used to calculate new TLs

Wrs Stat/p/Result: Wilcoxon Rank Sum test (Wrs) statistic/p.value/result

p < 0.05 indicates a significant difference between the data before and after 'Date Cutoff Old'

Combine Data: reflects result of WRS unless there is a 'Reason'

Major Oak Power, LLC
Twin Oaks
Table 2
Potential Outliers in Background Wells

Well	Sample	Date	Analyte	Unit	Detect	Conc	Distribution	Outlier Stat	Outlier Visu	Outlie r	Log Outlier Stat	Log Outlier Visu	Log Outlier	Outlier Final
MW-11	MW-11-20170124-01	1/24/2017 10:00	Radium-226/228	pCi/L	TRUE	5.69	Lognormal	X	X	X	X	X	X	0

Notes:

Table only includes samples that were identified as potential outliers

Outlier tests were performed on background well-analyte pairs with ≥ 10 detected values.

Statistical outliers were determined using a Dixon's test for $N < 25$ and with Rosner's test for $N > 25$.

Visual outliers were identified if they fall above the confidence envelope on the QQ plot.

Data points were considered potential outliers if they were both statistical and visual outliers.

Distribution use during outlier detection

'NDD': No Discernible Distribution

Lognormally distributed data was first log-transformed before visual and statistical outlier tests were performed.

Normal data distribution indicates that the well data was directly used for statistical and visual outlier tests.

NDD indicates that both the untransformed and transformed data were examined with statistical and visual outlier tests.

Outlier Final

'0' indicates that the data point was a statistical and visual outlier but was retained after review by the hydrogeologist.

'X' indicates that the data point was removed for all subsequent analysis

Major Oak Power, LLC
Twin Oaks
Table 3
Descriptive Statistics

Gradient	Well	Analyte	Unit	N	N Detect	Perc Detect	Min	Media n	Mean	Mean Km	Max	Sd	Distribution
Up	MW-07, MW-11, MW-12, MW-16	Antimony	ug/L	56	1	1.79%	1.25	2	2.415		4	0.8411	NDD
Up	MW-07	Arsenic	ug/L	13	9	69.23%	1.04	6.87	6.985		14.3	4.069	Normal
Up	MW-11	Arsenic	ug/L	13	3	23.08%	0.874	2	2.64		4	1.069	NDD
Up	MW-12	Arsenic	ug/L	13	1	7.69%	1.08	2	2.545		4	1.04	NDD
Up	MW-16	Arsenic	ug/L	13	9	69.23%	0.916	4.6	9.12		23.2	7.174	Lognormal
Up	MW-07	Barium	ug/L	14	14	100.00%	14.4	83.55	95.92		243	80.93	NDD
Up	MW-11	Barium	ug/L	14	14	100.00%	16.6	33.6	40.63		89.3	24.37	Lognormal
Up	MW-12	Barium	ug/L	14	14	100.00%	85.6	124	122		157	22.81	Normal
Up	MW-16	Barium	ug/L	14	14	100.00%	46.3	157	126.2		217	70.81	NDD
Up	MW-07	Beryllium	ug/L	13	5	38.46%	2	2	2.27		3.39	0.4545	NDD
Up	MW-11	Beryllium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Up	MW-12	Beryllium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Up	MW-16	Beryllium	ug/L	13	4	30.77%	2	2	2.285		3.96	0.5639	NDD
Up	MW-07, MW-11, MW-12, MW-16	Cadmium	ug/L	52	12	23.08%	0.347	2	1.648		2	0.6499	NDD
Up	MW-07, MW-11, MW-12, MW-16	Chromium	ug/L	52	17	32.69%	0.582	4	4.675		10.7	2.016	NDD
Up	MW-07	Cobalt	ug/L	14	13	92.86%	1.02	3.645	4.643		11.6	3.623	Normal
Up	MW-11	Cobalt	ug/L	14	12	85.71%	1.03	2.03	2.171		3.68	0.7381	Normal
Up	MW-12	Cobalt	ug/L	14	14	100.00%	2.11	4.095	4.277		6.78	1.508	Normal
Up	MW-16	Cobalt	ug/L	14	7	50.00%	2	2.16	4.782		11.6	3.579	NDD
Up	MW-07, MW-11, MW-12, MW-16	Fluoride	ug/L	100	17	17.00%	103	500	495.4		5000	467.6	NDD
Up	MW-07	Lead	ug/L	13	7	53.85%	2	3.85	4.425		8.77	2.621	NDD
Up	MW-11	Lead	ug/L	13	2	15.38%	2	2	2.143		3.39	0.3965	NDD
Up	MW-12	Lead	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Up	MW-16	Lead	ug/L	13	7	53.85%	2	2.29	5.618		14	4.466	NDD
Up	MW-07, MW-11, MW-12, MW-16	Lithium	ug/L	56	13	23.21%	19.7	20	38.51		235	42.46	NDD
Up	MW-07	Mercury	ug/L	13	4	30.77%	0.2	0.2	0.216		0.313	0.03246	NDD
Up	MW-11	Mercury	ug/L	13	0	0.00%	0.2	0.2	0.2		0.2	0	NDD
Up	MW-12	Mercury	ug/L	13	0	0.00%	0.2	0.2	0.2		0.2	0	NDD
Up	MW-16	Mercury	ug/L	13	0	0.00%	0.2	0.2	0.2		0.2	0	NDD
Up	MW-07, MW-11, MW-12, MW-16	Molybdenum	ug/L	52	1	1.92%	0.264	2	1.967		2	0.2407	NDD
Up	MW-07	Radium-226/228	pCi/L	13	13	100.00%	0.521	1.63	1.993		5.99	1.432	Lognormal
Up	MW-11	Radium-226/228	pCi/L	14	12	85.71%	0.397	1.8	1.934	1.902	5.69	1.369	Lognormal
Up	MW-12	Radium-226/228	pCi/L	14	14	100.00%	1.44	3.03	2.974		4.53	0.8979	Normal
Up	MW-16	Radium-226/228	pCi/L	14	14	100.00%	1.13	3.89	4.028		9.85	2.46	Normal
Up	MW-07	Selenium	ug/L	14	3	21.43%	0.691	2	1.927		3.4	0.6095	NDD

Major Oak Power, LLC
Twin Oaks
Table 3
Descriptive Statistics

Gradient	Well	Analyte	Unit	N	N Detect	Perc Detect	Min	Media n	Mean	Mean Km	Max	Sd	Distribution
Up	MW-11	Selenium	ug/L	14	0	0.00%	2	2	2		2	0	NDD
Up	MW-12	Selenium	ug/L	14	2	14.29%	0.559	2	1.816		2	0.4708	NDD
Up	MW-16	Selenium	ug/L	14	12	85.71%	1.68	2.655	2.936		4.86	0.999	Normal
Up	MW-07, MW-11, MW-12, MW-16	Thallium	ug/L	52	1	1.92%	0.185	2	1.965		2	0.2517	NDD
Down	MW-13	Antimony	ug/L	14	0	0.00%	2	2	2.429		4	0.8516	NDD
Down	MW-14	Antimony	ug/L	14	0	0.00%	2	2	2.429		4	0.8516	NDD
Down	MW-15	Antimony	ug/L	14	2	14.29%	2	2	2.576		5.85	1.184	NDD
Down	MW-17	Antimony	ug/L	14	0	0.00%	2	2	2.429		4	0.8516	NDD
Down	MW-13	Arsenic	ug/L	13	6	46.15%	0.913	2.86	2.964		4.55	1.13	Normal
Down	MW-14	Arsenic	ug/L	13	4	30.77%	0.943	2.04	2.794		4.75	1.184	NDD
Down	MW-15	Arsenic	ug/L	13	2	15.38%	0.996	2	2.561		4	1.041	NDD
Down	MW-17	Arsenic	ug/L	13	6	46.15%	1.01	3.44	3.218		6.4	1.378	Normal
Down	MW-13	Barium	ug/L	14	14	100.00%	49.2	130.5	113.9		197	48.44	Normal
Down	MW-14	Barium	ug/L	14	14	100.00%	19.9	110.5	110.1		293	96.97	NDD
Down	MW-15	Barium	ug/L	14	14	100.00%	74.9	108	106.2		165	25.66	Normal
Down	MW-17	Barium	ug/L	14	14	100.00%	77.5	205	237.2		544	128	Normal
Down	MW-13	Beryllium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-14	Beryllium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-15	Beryllium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-17	Beryllium	ug/L	13	6	46.15%	0.278	2	1.587		2.92	0.8474	NDD
Down	MW-13	Cadmium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-14	Cadmium	ug/L	13	4	30.77%	0.775	2	1.647		2	0.5524	NDD
Down	MW-15	Cadmium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-17	Cadmium	ug/L	13	5	38.46%	1.61	2	2.087		2.78	0.3201	NDD
Down	MW-13	Chromium	ug/L	13	2	15.38%	4	4	4.204		5.66	0.516	NDD
Down	MW-14	Chromium	ug/L	13	3	23.08%	2.14	4	3.942		5.04	0.6126	NDD
Down	MW-15	Chromium	ug/L	13	3	23.08%	4	4	4.434		8.71	1.297	NDD
Down	MW-17	Chromium	ug/L	13	8	61.54%	0.693	4	6.483		16.8	4.71	Normal
Down	MW-13	Cobalt	ug/L	14	11	78.57%	0.954	2	2.062		3.35	0.72	Normal
Down	MW-14	Cobalt	ug/L	14	10	71.43%	2	2.795	3.146		5.3	1.25	NDD
Down	MW-15	Cobalt	ug/L	14	2	14.29%	2	2	2.166		4.27	0.6058	NDD
Down	MW-17	Cobalt	ug/L	14	13	92.86%	1.56	2.465	4.196		11.4	3.061	Lognormal
Down	MW-13	Fluoride	ug/L	25	6	24.00%	102	500	456.4		584	117.5	NDD
Down	MW-14	Fluoride	ug/L	25	9	36.00%	183	500	467		682	113.7	NDD
Down	MW-15	Fluoride	ug/L	25	4	16.00%	200	500	461.8		500	89.64	NDD
Down	MW-17	Fluoride	ug/L	25	5	20.00%	109	500	460.2		776	132.2	NDD
Down	MW-13	Lead	ug/L	13	5	38.46%	2	2	2.243		4.08	0.5778	NDD
Down	MW-14	Lead	ug/L	13	4	30.77%	2	2	2.523		5.23	1.007	NDD
Down	MW-15	Lead	ug/L	13	4	30.77%	2	2	2.621		8.59	1.812	NDD
Down	MW-17	Lead	ug/L	13	6	46.15%	2	2	4.376		14	3.656	NDD

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Table 3
Descriptive Statistics

Gradient	Well	Analyte	Unit	N	N Detect	Perc Detect	Min	Media n	Mean	Mean Km	Max	Sd	Distribution
Down	MW-13	Lithium	ug/L	14	4	28.57%	20	26.6	31.14		68.6	13.9	NDD
Down	MW-14	Lithium	ug/L	14	11	78.57%	20	43.85	67.5		214	61.6	Lognormal
Down	MW-15	Lithium	ug/L	14	2	14.29%	20	20.65	27.66		40	9.67	NDD
Down	MW-17	Lithium	ug/L	14	7	50.00%	20	25.9	39.02	36.53	120	30.6	NDD
Down	MW-13	Mercury	ug/L	13	2	15.38%	0.106	0.2	0.19		0.2	0.02697	NDD
Down	MW-14	Mercury	ug/L	13	0	0.00%	0.2	0.2	0.2		0.2	0	NDD
Down	MW-15	Mercury	ug/L	13	0	0.00%	0.2	0.2	0.2		0.2	0	NDD
Down	MW-17	Mercury	ug/L	13	0	0.00%	0.2	0.2	0.2		0.2	0	NDD
Down	MW-13	Molybdenum	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-14	Molybdenum	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-15	Molybdenum	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-17	Molybdenum	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-13	Radium-226/228	pCi/L	14	14	100.00%	1.07	2.825	3.082		5.67	1.396	Normal
Down	MW-14	Radium-226/228	pCi/L	14	14	100.00%	1.33	2.36	2.747		5.92	1.339	Lognormal
Down	MW-15	Radium-226/228	pCi/L	14	14	100.00%	0.551	1.83	1.826		3.53	0.7709	Normal
Down	MW-17	Radium-226/228	pCi/L	14	14	100.00%	3.38	4.245	4.856		10.46	1.833	NDD
Down	MW-13	Selenium	ug/L	14	9	64.29%	0.781	2.69	6.985		21.3	7.553	NDD
Down	MW-14	Selenium	ug/L	15	15	100.00%	2.09	20.5	391.5		886	426	NDD
Down	MW-15	Selenium	ug/L	14	14	100.00%	2.31	3.235	3.351		4.69	0.7018	Normal
Down	MW-17	Selenium	ug/L	14	14	100.00%	4.09	7.05	7.552		11.2	1.945	Normal
Down	MW-13	Thallium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-14	Thallium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-15	Thallium	ug/L	13	0	0.00%	2	2	2		2	0	NDD
Down	MW-17	Thallium	ug/L	13	0	0.00%	2	2	2		2	0	NDD

Notes:

Multiple wells listed in 'Well' column indicate results of background well variability have already been applied

N: number of samples

Mean Km: Kaplan-Meier estimate of the mean

Sd: standard deviation

Distribution: based on results of a Shapiro-Wilk Normality Test ($p < 0.05$)

Major Oak Power, LLC
Twin Oaks
Table 4
Background Well Variability

Well	Analyte	Unit	N	N Detect	Perc Det	Mk Z	Mk Tau	Mk p	Mk Result	Kw Stat	Kw p	Kw Result
MW-07	Antimony	ug/L	14	1	7.14%				ND	0	0.981	NS
MW-11	Antimony	ug/L	14	0	0.00%				ND	0	0.981	NS
MW-12	Antimony	ug/L	14	0	0.00%				ND	0	0.981	NS
MW-16	Antimony	ug/L	14	0	0.00%				ND	0	0.981	NS
MW-07	Arsenic	ug/L	13	9	69.23%	-1.985	-0.427	0.047	Decreasing	20	<0.001	Sig Diff
MW-11	Arsenic	ug/L	13	3	23.08%				ND	20	<0.001	Sig Diff
MW-12	Arsenic	ug/L	13	1	7.69%				ND	20	<0.001	Sig Diff
MW-16	Arsenic	ug/L	13	9	69.23%	-3.101	-0.6672	0.002	Decreasing	20	<0.001	Sig Diff
MW-07	Barium	ug/L	14	14	100.00%	34	-0.2527	0.233	NS	17	<0.001	Sig Diff
MW-11	Barium	ug/L	14	14	100.00%	19	-0.5824	0.003	Decreasing	17	<0.001	Sig Diff
MW-12	Barium	ug/L	14	14	100.00%	-3.619	-0.7293	<0.001	Decreasing	17	<0.001	Sig Diff
MW-16	Barium	ug/L	14	14	100.00%	-3.509	-0.7072	<0.001	Decreasing	17	<0.001	Sig Diff
MW-07	Beryllium	ug/L	13	5	38.46%				ND	11	0.013	Sig Diff
MW-11	Beryllium	ug/L	13	0	0.00%				ND	11	0.013	Sig Diff
MW-12	Beryllium	ug/L	13	0	0.00%				ND	11	0.013	Sig Diff
MW-16	Beryllium	ug/L	13	4	30.77%				ND	11	0.013	Sig Diff
MW-07	Cadmium	ug/L	13	4	30.77%				ND	5	0.157	NS
MW-11	Cadmium	ug/L	13	4	30.77%				ND	5	0.157	NS
MW-12	Cadmium	ug/L	13	0	0.00%				ND	5	0.157	NS
MW-16	Cadmium	ug/L	13	4	30.77%				ND	5	0.157	NS
MW-07	Chromium	ug/L	13	6	46.15%				ND	6	0.112	NS
MW-11	Chromium	ug/L	13	2	15.38%				ND	6	0.112	NS
MW-12	Chromium	ug/L	13	0	0.00%				ND	6	0.112	NS
MW-16	Chromium	ug/L	13	9	69.23%	-1.488	-0.3203	0.137	NS	6	0.112	NS
MW-07	Cobalt	ug/L	14	13	92.86%	-1.645	-0.3315	0.1	NS	9	0.033	Sig Diff
MW-11	Cobalt	ug/L	14	12	85.71%	-2.632	-0.5304	0.008	Decreasing	9	0.033	Sig Diff
MW-12	Cobalt	ug/L	14	14	100.00%	11	-0.7582	<0.001	Decreasing	9	0.033	Sig Diff
MW-16	Cobalt	ug/L	14	7	50.00%	-2.939	-0.6265	0.003	Decreasing	9	0.033	Sig Diff
MW-07	Fluoride	ug/L	25	4	16.00%				ND	2	0.623	NS
MW-11	Fluoride	ug/L	25	4	16.00%				ND	2	0.623	NS
MW-12	Fluoride	ug/L	25	3	12.00%				ND	2	0.623	NS
MW-16	Fluoride	ug/L	25	6	24.00%				ND	2	0.623	NS
MW-07	Lead	ug/L	13	7	53.85%	-1.484	-0.3281	0.138	NS	15	0.002	Sig Diff
MW-11	Lead	ug/L	13	2	15.38%				ND	15	0.002	Sig Diff
MW-12	Lead	ug/L	13	0	0.00%				ND	15	0.002	Sig Diff
MW-16	Lead	ug/L	13	7	53.85%	-2.774	-0.6134	0.006	Decreasing	15	0.002	Sig Diff
MW-07	Lithium	ug/L	14	3	21.43%				ND	1	0.811	NS
MW-11	Lithium	ug/L	14	3	21.43%				ND	1	0.811	NS
MW-12	Lithium	ug/L	14	4	28.57%				ND	1	0.811	NS

Major Oak Power, LLC
Twin Oaks
Table 4
Background Well Variability

Well	Analyte	Unit	N	N Detect	Perc Det	Mk Z	Mk Tau	Mk p	Mk Result	Kw Stat	Kw p	Kw Result
MW-16	Lithium	ug/L	14	3	21.43%				ND	1	0.811	NS
MW-07	Mercury	ug/L	13	4	30.77%				ND	13	0.005	Sig Diff
MW-11	Mercury	ug/L	13	0	0.00%				ND	13	0.005	Sig Diff
MW-12	Mercury	ug/L	13	0	0.00%				ND	13	0.005	Sig Diff
MW-16	Mercury	ug/L	13	0	0.00%				ND	13	0.005	Sig Diff
MW-07	Molybdenum	ug/L	13	1	7.69%				ND	3	0.392	NS
MW-11	Molybdenum	ug/L	13	0	0.00%				ND	3	0.392	NS
MW-12	Molybdenum	ug/L	13	0	0.00%				ND	3	0.392	NS
MW-16	Molybdenum	ug/L	13	0	0.00%				ND	3	0.392	NS
MW-07	Radium-226/228	pCi/L	13	13	100.00%	23	-0.4103	0.057	NS	14	0.004	Sig Diff
MW-11	Radium-226/228	pCi/L	14	12	85.71%	-2.303	-0.4641	0.021	Decreasing	14	0.004	Sig Diff
MW-12	Radium-226/228	pCi/L	14	14	100.00%	37	-0.1868	0.388	NS	14	0.004	Sig Diff
MW-16	Radium-226/228	pCi/L	14	14	100.00%	27	-0.4066	0.047	Decreasing	14	0.004	Sig Diff
MW-07	Selenium	ug/L	14	3	21.43%				ND	24	<0.001	Sig Diff
MW-11	Selenium	ug/L	14	0	0.00%				ND	24	<0.001	Sig Diff
MW-12	Selenium	ug/L	14	2	14.29%				ND	24	<0.001	Sig Diff
MW-16	Selenium	ug/L	14	12	85.71%	1.097	0.221	0.273	NS	24	<0.001	Sig Diff
MW-07	Thallium	ug/L	13	1	7.69%				ND	3	0.392	NS
MW-11	Thallium	ug/L	13	0	0.00%				ND	3	0.392	NS
MW-12	Thallium	ug/L	13	0	0.00%				ND	3	0.392	NS
MW-16	Thallium	ug/L	13	0	0.00%				ND	3	0.392	NS

Notes:

N: number of samples

Mann Kendall (Mk) trend tests were performed on each well-analyte pair to check for temporal variability

non-detects were substituted with a value of zero for trend calculations

Mk Z: Kendall's Z statistic

Mk Tau: Kendall's tau statistic

Mk p: two-sided p-value indicating if a significant trend is present ($p < 0.05$)

Mk Result: final result of trend test

'ND' = Not enough Data, does not meet minimum data requirements (≥ 5 N Detect and $\geq 50\%$ Perc Det)

'NS' = Not Significant, no trend present

Kruskal-Wallis (Kw) tests were performed on each analyte to check for spatial variability between wells

Kw Stat: Kruskal-Wallis rank sum statistic

Kw p: two-sided p-value indicating if there are significant differences between wells ($p < 0.05$)

Kw Result: final result of Kw test

'ND' = Not enough data, could not perform the Kw test

'NS' = Not Significant, no difference found between wells

Background wells can only be pooled for an analyte if there is no significant temporal and spatial variability

Major Oak Power, LLC
Twin Oaks
Table 5
Trend Test Results (Temporal Variability)

Gradient	Well	Analyte	Unit	N	N Detect	Perc Det	Mk Z	Mk p	Mk Tau	Mk Result
Up	MW-07, MW-11, MW-12, MW-16	Antimony	ug/L	14	1	7.14%				ND
Down	MW-13	Antimony	ug/L	14	0	0.00%				ND
Down	MW-14	Antimony	ug/L	14	0	0.00%				ND
Down	MW-15	Antimony	ug/L	14	2	14.29%				ND
Down	MW-17	Antimony	ug/L	14	0	0.00%				ND
Up	MW-07	Arsenic	ug/L	13	9	69.23%	-1.985	0.047	-0.427	Decreasing
Up	MW-11	Arsenic	ug/L	13	3	23.08%				ND
Up	MW-12	Arsenic	ug/L	13	1	7.69%				ND
Up	MW-16	Arsenic	ug/L	13	9	69.23%	-3.101	0.002	-0.6672	Decreasing
Down	MW-13	Arsenic	ug/L	13	6	46.15%				ND
Down	MW-14	Arsenic	ug/L	13	4	30.77%				ND
Down	MW-15	Arsenic	ug/L	13	2	15.38%				ND
Down	MW-17	Arsenic	ug/L	13	6	46.15%				ND
Up	MW-07	Barium	ug/L	14	14	100.00%	34	0.233	-0.2527	NS
Up	MW-11	Barium	ug/L	14	14	100.00%	19	0.003	-0.5824	Decreasing
Up	MW-12	Barium	ug/L	14	14	100.00%	-3.619	<0.001	-0.7293	Decreasing
Up	MW-16	Barium	ug/L	14	14	100.00%	-3.509	<0.001	-0.7072	Decreasing
Down	MW-13	Barium	ug/L	14	14	100.00%	-3.948	<0.001	-0.7956	Decreasing
Down	MW-14	Barium	ug/L	14	14	100.00%	8	<0.001	-0.8242	Decreasing
Down	MW-15	Barium	ug/L	14	14	100.00%	1.535	0.125	0.3094	NS
Down	MW-17	Barium	ug/L	14	14	100.00%	26	0.036	-0.4286	Decreasing
Up	MW-07	Beryllium	ug/L	13	5	38.46%				ND
Up	MW-11	Beryllium	ug/L	13	0	0.00%				ND
Up	MW-12	Beryllium	ug/L	13	0	0.00%				ND
Up	MW-16	Beryllium	ug/L	13	4	30.77%				ND
Down	MW-13	Beryllium	ug/L	13	0	0.00%				ND
Down	MW-14	Beryllium	ug/L	13	0	0.00%				ND
Down	MW-15	Beryllium	ug/L	13	0	0.00%				ND
Down	MW-17	Beryllium	ug/L	13	6	46.15%				ND
Up	MW-07, MW-11, MW-12, MW-16	Cadmium	ug/L	13	4	30.77%				ND
Down	MW-13	Cadmium	ug/L	13	0	0.00%				ND
Down	MW-14	Cadmium	ug/L	13	4	30.77%				ND
Down	MW-15	Cadmium	ug/L	13	0	0.00%				ND
Down	MW-17	Cadmium	ug/L	13	5	38.46%				ND
Up	MW-07, MW-11, MW-12, MW-16	Chromium	ug/L	13	10	76.92%	-1.781	0.075	-0.3792	NS

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Table 5
Trend Test Results (Temporal Variability)

Gradient	Well	Analyte	Unit	N	N Detect	Perc Det	Mk Z	Mk p	Mk Tau	Mk Result
Down	MW-13	Chromium	ug/L	13	2	15.38%				ND
Down	MW-14	Chromium	ug/L	13	3	23.08%				ND
Down	MW-15	Chromium	ug/L	13	3	23.08%				ND
Down	MW-17	Chromium	ug/L	13	8	61.54%	-1.386	0.166	-0.3021	NS
Up	MW-07	Cobalt	ug/L	14	13	92.86%	-1.645	0.1	-0.3315	NS
Up	MW-11	Cobalt	ug/L	14	12	85.71%	-2.632	0.008	-0.5304	Decreasing
Up	MW-12	Cobalt	ug/L	14	14	100.00%	11	<0.001	-0.7582	Decreasing
Up	MW-16	Cobalt	ug/L	14	7	50.00%	-2.939	0.003	-0.6265	Decreasing
Down	MW-13	Cobalt	ug/L	14	11	78.57%	-0.2202	0.826	-0.0447	NS
Down	MW-14	Cobalt	ug/L	14	10	71.43%	1.72	0.086	0.3525	NS
Down	MW-15	Cobalt	ug/L	14	2	14.29%				ND
Down	MW-17	Cobalt	ug/L	14	13	92.86%	20	0.005	-0.5604	Decreasing
Up	MW-07, MW-11, MW-12, MW-16	Fluoride	ug/L	25	7	28.00%				ND
Down	MW-13	Fluoride	ug/L	25	6	24.00%				ND
Down	MW-14	Fluoride	ug/L	25	9	36.00%				ND
Down	MW-15	Fluoride	ug/L	25	4	16.00%				ND
Down	MW-17	Fluoride	ug/L	25	5	20.00%				ND
Up	MW-07	Lead	ug/L	13	7	53.85%	-1.484	0.138	-0.3281	NS
Up	MW-11	Lead	ug/L	13	2	15.38%				ND
Up	MW-12	Lead	ug/L	13	0	0.00%				ND
Up	MW-16	Lead	ug/L	13	7	53.85%	-2.774	0.006	-0.6134	Decreasing
Down	MW-13	Lead	ug/L	13	5	38.46%				ND
Down	MW-14	Lead	ug/L	13	4	30.77%				ND
Down	MW-15	Lead	ug/L	13	4	30.77%				ND
Down	MW-17	Lead	ug/L	13	6	46.15%				ND
Up	MW-07, MW-11, MW-12, MW-16	Lithium	ug/L	14	5	35.71%				ND
Down	MW-13	Lithium	ug/L	14	4	28.57%				ND
Down	MW-14	Lithium	ug/L	14	11	78.57%	1.321	0.186	0.2682	NS
Down	MW-15	Lithium	ug/L	14	2	14.29%				ND
Down	MW-17	Lithium	ug/L	14	7	50.00%	1.529	0.126	0.3258	NS
Up	MW-07	Mercury	ug/L	13	4	30.77%				ND
Up	MW-11	Mercury	ug/L	13	0	0.00%				ND
Up	MW-12	Mercury	ug/L	13	0	0.00%				ND
Up	MW-16	Mercury	ug/L	13	0	0.00%				ND
Down	MW-13	Mercury	ug/L	13	2	15.38%				ND
Down	MW-14	Mercury	ug/L	13	0	0.00%				ND

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Twin Oaks

Table 5

Trend Test Results (Temporal Variability)

Gradient	Well	Analyte	Unit	N	N Detect	Perc Det	Mk Z	Mk p	Mk Tau	Mk Result
Down	MW-15	Mercury	ug/L	13	0	0.00%				ND
Down	MW-17	Mercury	ug/L	13	0	0.00%				ND
Up	MW-07, MW-11, MW-12, MW-16	Molybdenum	ug/L	13	1	7.69%				ND
Down	MW-13	Molybdenum	ug/L	13	0	0.00%				ND
Down	MW-14	Molybdenum	ug/L	13	0	0.00%				ND
Down	MW-15	Molybdenum	ug/L	13	0	0.00%				ND
Down	MW-17	Molybdenum	ug/L	13	0	0.00%				ND
Up	MW-07	Radium-226/228	pCi/L	13	13	100.00%	23	0.057	-0.4103	NS
Up	MW-11	Radium-226/228	pCi/L	14	12	85.71%	-2.303	0.021	-0.4641	Decreasing
Up	MW-12	Radium-226/228	pCi/L	14	14	100.00%	37	0.388	-0.1868	NS
Up	MW-16	Radium-226/228	pCi/L	14	14	100.00%	27	0.047	-0.4066	Decreasing
Down	MW-13	Radium-226/228	pCi/L	14	14	100.00%	25	0.026	-0.4505	Decreasing
Down	MW-14	Radium-226/228	pCi/L	14	14	100.00%	13	<0.001	-0.7143	Decreasing
Down	MW-15	Radium-226/228	pCi/L	14	14	100.00%	-1.645	0.1	-0.3315	NS
Down	MW-17	Radium-226/228	pCi/L	14	14	100.00%	45	1	-0.01099	NS
Up	MW-07	Selenium	ug/L	14	3	21.43%				ND
Up	MW-11	Selenium	ug/L	14	0	0.00%				ND
Up	MW-12	Selenium	ug/L	14	2	14.29%				ND
Up	MW-16	Selenium	ug/L	14	12	85.71%	1.097	0.273	0.221	NS
Down	MW-13	Selenium	ug/L	14	9	64.29%	1.125	0.261	0.2344	NS
Down	MW-14	Selenium	ug/L	15	15	100.00%	3.369	<0.001	0.6507	Increasing
Down	MW-15	Selenium	ug/L	14	14	100.00%	63	0.062	0.3846	NS
Down	MW-17	Selenium	ug/L	14	14	100.00%	49	0.747	0.07692	NS
Up	MW-07, MW-11, MW-12, MW-16	Thallium	ug/L	13	1	7.69%				ND

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Twin Oaks

Table 5

Trend Test Results (Temporal Variability)

Gradient	Well	Analyte	Unit	N	N Detect	Perc Det	Mk Z	Mk p	Mk Tau	Mk Result
Down	MW-13	Thallium	ug/L	13	0	0.00%				ND
Down	MW-14	Thallium	ug/L	13	0	0.00%				ND
Down	MW-15	Thallium	ug/L	13	0	0.00%				ND
Down	MW-17	Thallium	ug/L	13	0	0.00%				ND

Notes:

Multiple wells listed in 'Well' column indicate results of background well variability have already been applied

N: number of samples

Mann Kendall (Mk) trend tests were performed on each well-analyte pair to check for temporal variability

non-detects were substituted with a value of zero for trend calculations

Mk Z: Kendall's Z statistic

Mk Tau': Kendall's tau statistic

Mk p: two-sided p-value indicating if a significant trend is present ($p < 0.05$)

Mk Result: final result of trend test

'ND' = Not enough Data, does not meet minimum data requirements (≥ 5 N Detect and $\geq 50\%$ Perc Det)

'NS' = Not Significant, no trend present

Major Oak Power, LLC
Twin Oaks
Table 6
Background Dataset Tolerance Limits

Well	Analyte	Unit	N	N Detect	Min	Mean	Max	Distribution	UTL	UTL Desc
MW-07, MW-11, MW-12, MW-16	Antimony	ug/L	14	1	1.25	2.415	4	NDD	4	Surrogate, UTL = Max
MW-07	Arsenic	ug/L	13	9	1.04	3.332	8.526	Normal	8.982	Detrended 95/95UTL
MW-11	Arsenic	ug/L	13	3	0.874	2.64	4	Normal	3.469	95/95UTL
MW-12	Arsenic	ug/L	13	1	1.08	2.545	4	NDD	4	Surrogate, UTL = Max
MW-16	Arsenic	ug/L	13	9	0.916	3.508	12.04	Normal	12.88	Detrended 95/95UTL
MW-07	Barium	ug/L	14	14	14.4	95.92	243	Normal	307.5	95/95UTL
MW-11	Barium	ug/L	14	14	16.6	22.05	45.04	NDD	45.04	Detrended 95/95UTL
MW-12	Barium	ug/L	14	14	85.6	97.71	120	Normal	130.6	Detrended 95/95UTL
MW-16	Barium	ug/L	14	14	46.3	47.67	56.7	NDD	56.7	Detrended 95/95UTL
MW-07	Beryllium	ug/L	13	5	2	2.27	3.39	Normal	3.436	95/95UTL
MW-11	Beryllium	ug/L	13	0	2	2	2	NDD	2	Surrogate, UTL = Max
MW-12	Beryllium	ug/L	13	0	2	2	2	NDD	2	Surrogate, UTL = Max
MW-16	Beryllium	ug/L	13	4	2	2.285	3.96	Normal	3.732	95/95UTL
MW-07, MW-11, MW-12, MW-16	Cadmium	ug/L	13	4	0.347	1.648	2	Normal	0.618	95/95UTL
MW-07, MW-11, MW-12, MW-16	Chromium	ug/L	13	10	0.582	4.675	10.7	Normal	8.728	95/95UTL
MW-07	Cobalt	ug/L	14	13	1.02	4.643	11.6	Normal	13.84	95/95UTL
MW-11	Cobalt	ug/L	14	12	1.03	1.384	2.246	Normal	2.223	Detrended 95/95UTL
MW-12	Cobalt	ug/L	14	14	2.11	2.912	4.223	Normal	4.904	Detrended 95/95UTL
MW-16	Cobalt	ug/L	14	7	2	2.542	5.631	Normal	5.678	Detrended 95/95UTL
MW-07, MW-11, MW-12, MW-16	Fluoride	ug/L	25	7	103	495.4	5000	Normal	474.7	95/95UTL
MW-07	Lead	ug/L	13	7	2	4.425	8.77	Normal	11.15	95/95UTL
MW-11	Lead	ug/L	13	2	2	2.143	3.39	NDD	3.39	95/95UTL
MW-12	Lead	ug/L	13	0	2	2	2	NDD	2	Surrogate, UTL = Max
MW-16	Lead	ug/L	13	7	2	2.771	6.945	NDD	6.945	Detrended 95/95UTL
MW-07, MW-11, MW-12, MW-16	Lithium	ug/L	14	5	19.7	38.51	235	NDD	235	95/95UTL
MW-07	Mercury	ug/L	13	4	0.2	0.2158	0.313	Normal	0.299	95/95UTL
MW-11	Mercury	ug/L	13	0	0.2	0.2	0.2	NDD	0.2	Surrogate, UTL = Max
MW-12	Mercury	ug/L	13	0	0.2	0.2	0.2	NDD	0.2	Surrogate, UTL = Max
MW-16	Mercury	ug/L	13	0	0.2	0.2	0.2	NDD	0.2	Surrogate, UTL = Max
MW-07, MW-11, MW-12, MW-16	Molybdenum	ug/L	13	1	0.264	1.967	2	NDD	2	Surrogate, UTL = Max
MW-07	Radium-226/228	pCi/L	13	13	0.521	1.993	5.99	Normal	5.819	95/95UTL
MW-11	Radium-226/228	pCi/L	14	12	0.397	1.153	4.241	Normal	3.786	Detrended 95/95UTL

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Table 6
Background Dataset Tolerance Limits

Well	Analyte	Unit	N	N Detect	Min	Mean	Max	Distribution	UTL	UTL Desc
MW-12	Radium-226/228	pCi/L	14	14	1.44	2.974	4.53	Normal	5.321	95/95UTL
MW-16	Radium-226/228	pCi/L	14	14	1.13	1.775	5.526	NDD	5.526	Detrended Bootstrap 95/95UTL
MW-07	Selenium	ug/L	14	3	0.691	1.927	3.4	Normal	2.752	95/95UTL
MW-11	Selenium	ug/L	14	0	2	2	2	NDD	2	Surrogate, UTL = Max
MW-12	Selenium	ug/L	14	2	0.559	1.816	2	NDD	2	95/95UTL
MW-16	Selenium	ug/L	14	12	1.68	2.936	4.86	Normal	5.536	95/95UTL
MW-07, MW-11, MW-12, MW-16	Thallium	ug/L	13	1	0.185	1.965	2	NDD	2	Surrogate, UTL = Max

Notes:

Multiple wells listed in 'Well' column indicate results of background well variability have already been applied

N: number of samples

Upper Tolerance Limits (UTLs) were calculated in ProUCL v5.2 utilizing its recommended method at 95% confidence and 95% coverage

UTL Desc: lists ProUCL recommended method

`Detrended` indicates a significant trend result was found, so detrended data was used prior to ProUCL

Surrogate value for UTL is applied when ProUCL was unable to calculate a UTL due to too few distinct values

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Table 7
Final Bkgd Values and GWPS

Analyte	Unit	UTL Well	UTL	UTL Desc	MCL	MCL Desc	GWPS
Antimony	ug/L	MW-07, MW-11, MW-12, MW-16	4	Surrogate, UTL = Max	6	from 40 CFR 141.62(b)	6
Arsenic	ug/L	MW-16	12.88	Detrended 95/95UTL	10	from 40 CFR 141.62(b)	12.88
Barium	ug/L	MW-07	307.5	95/95UTL	2000	from 40 CFR 141.62(b)	2000
Beryllium	ug/L	MW-16	3.732	95/95UTL	4	from 40 CFR 141.62(b)	4
Cadmium	ug/L	MW-07, MW-11, MW-12, MW-16	0.618	95/95UTL	5	from 40 CFR 141.62(b)	5
Chromium	ug/L	MW-07, MW-11, MW-12, MW-16	8.728	95/95UTL	100	from 40 CFR 141.62(b)	100
Cobalt	ug/L	MW-16	5.678	Detrended 95/95UTL	6	from 40 CFR 257.95(h)(2)	6
Fluoride	ug/L	MW-07, MW-11, MW-12, MW-16	474.7	95/95UTL	4000	from 40 CFR 141.62(b)	4000
Lead	ug/L	MW-07	11.15	95/95UTL	15	from 40 CFR 257.95(h)(2)	15
Lithium	ug/L	MW-07, MW-11, MW-12, MW-16	235	95/95UTL	40	from 40 CFR 257.95(h)(2)	235
Mercury	ug/L	MW-11	0.2	Surrogate, UTL = Max	2	from 40 CFR 141.62(b)	2
Molybdenum	ug/L	MW-07, MW-11, MW-12, MW-16	2	Surrogate, UTL = Max	100	from 40 CFR 257.95(h)(2)	100
Radium-226/228	pCi/L	MW-07	5.819	95/95UTL	5	from 40 CFR 141.66(b)	5.819
Selenium	ug/L	MW-16	5.536	95/95UTL	50	from 40 CFR 141.62(b)	50
Thallium	ug/L	MW-07, MW-11, MW-12, MW-16	2	Surrogate, UTL = Max	2	from 40 CFR 141.62(b)	2

Notes:

This sheet contains final TLs for each of the analytes

Final UTLs are analyte specific, the maximum of the UTLs with values < (P75 + 1.5*IQR)

'UTL Well' shows which well the maximum UTL was selected from

P25, P75, IQR: 25th percentile, 75th percentile, and InterQuartile Range, respectively

'UTL Desc' lists the ProUCL recommended method for UTL calculations

Maximum Contaminant Levels (MCLs) were taken from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#one>

'MCL Desc' lists the corresponding regulation the value was pulled from

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Table 8
Most-Recent Downgradient Well Samples

Well	Sample	Date	Analyte	Unit	Detect	Mk Result	Conc	Bkgd	Exceed Bkgd	GWPS	Exceed GWPS
MW-13	MW-13-20250910-01	9/10/2025 15:20	Antimony	ug/L	FALSE	ND	0	4	FALSE	6	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Antimony	ug/L	FALSE	ND	0	4	FALSE	6	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Antimony	ug/L	FALSE	ND	0	4	FALSE	6	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Antimony	ug/L	FALSE	ND	0	4	FALSE	6	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Arsenic	ug/L	FALSE	ND	0	12.88	FALSE	12.88	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Arsenic	ug/L	FALSE	ND	0	12.88	FALSE	12.88	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Arsenic	ug/L	FALSE	ND	0	12.88	FALSE	12.88	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Arsenic	ug/L	FALSE	ND	0	12.88	FALSE	12.88	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Barium	ug/L	TRUE	Decreasing	49.2	307.5	FALSE	2000	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Barium	ug/L	TRUE	Decreasing	22.1	307.5	FALSE	2000	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Barium	ug/L	TRUE	NS	115	307.5	FALSE	2000	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Barium	ug/L	TRUE	Decreasing	77.5	307.5	FALSE	2000	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Beryllium	ug/L	FALSE	ND	0	3.732	FALSE	4	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Beryllium	ug/L	FALSE	ND	0	3.732	FALSE	4	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Beryllium	ug/L	FALSE	ND	0	3.732	FALSE	4	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Beryllium	ug/L	TRUE	ND	0.278	3.732	FALSE	4	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Cadmium	ug/L	FALSE	ND	0	0.618	FALSE	5	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Cadmium	ug/L	TRUE	ND	0.958	0.618	TRUE	5	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Cadmium	ug/L	FALSE	ND	0	0.618	FALSE	5	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Cadmium	ug/L	TRUE	ND	1.61	0.618	TRUE	5	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Chromium	ug/L	FALSE	ND	0	8.728	FALSE	100	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Chromium	ug/L	FALSE	ND	0	8.728	FALSE	100	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Chromium	ug/L	FALSE	ND	0	8.728	FALSE	100	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Chromium	ug/L	TRUE	NS	0.693	8.728	FALSE	100	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Cobalt	ug/L	TRUE	NS	1.68	5.678	FALSE	6	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Cobalt	ug/L	TRUE	NS	5.24	5.678	FALSE	6	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Cobalt	ug/L	FALSE	ND	0	5.678	FALSE	6	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Cobalt	ug/L	TRUE	Decreasing	1.62	5.678	FALSE	6	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Fluoride	ug/L	TRUE	ND	421	474.7	FALSE	4000	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Fluoride	ug/L	TRUE	ND	469	474.7	FALSE	4000	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Fluoride	ug/L	TRUE	ND	249	474.7	FALSE	4000	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Fluoride	ug/L	TRUE	ND	109	474.7	FALSE	4000	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Lead	ug/L	FALSE	ND	0	11.15	FALSE	15	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Lead	ug/L	FALSE	ND	0	11.15	FALSE	15	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Lead	ug/L	FALSE	ND	0	11.15	FALSE	15	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Lead	ug/L	FALSE	ND	0	11.15	FALSE	15	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Lithium	ug/L	TRUE	ND	34.2	235	FALSE	235	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Lithium	ug/L	TRUE	NS	69.7	235	FALSE	235	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Lithium	ug/L	TRUE	ND	25.9	235	FALSE	235	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Lithium	ug/L	TRUE	NS	27.2	235	FALSE	235	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Mercury	ug/L	FALSE	ND	0	0.2	FALSE	2	FALSE

Major Oak Power, LLC
Twin Oaks
Table 8
Most-Recent Downgradient Well Samples

Well	Sample	Date	Analyte	Unit	Detect	Mk Result	Conc	Bkgd	Exceed Bkgd	GWPS	Exceed GWPS
MW-14	MW-14-20250909-01	9/9/2025 16:10	Mercury	ug/L	FALSE	ND	0	0.2	FALSE	2	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Mercury	ug/L	FALSE	ND	0	0.2	FALSE	2	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Mercury	ug/L	FALSE	ND	0	0.2	FALSE	2	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Molybdenum	ug/L	FALSE	ND	0	2	FALSE	100	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Molybdenum	ug/L	FALSE	ND	0	2	FALSE	100	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Molybdenum	ug/L	FALSE	ND	0	2	FALSE	100	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Molybdenum	ug/L	FALSE	ND	0	2	FALSE	100	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Radium-226/228	pCi/L	TRUE	Decreasing	2.22	5.819	FALSE	5.819	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Radium-226/228	pCi/L	TRUE	Decreasing	1.98	5.819	FALSE	5.819	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Radium-226/228	pCi/L	TRUE	NS	1.83	5.819	FALSE	5.819	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Radium-226/228	pCi/L	TRUE	NS	3.87	5.819	FALSE	5.819	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Selenium	ug/L	TRUE	NS	18.9	5.536	TRUE	50	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Selenium	ug/L	TRUE	Increasing	824	5.536	TRUE	50	TRUE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Selenium	ug/L	TRUE	NS	3.88	5.536	FALSE	50	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Selenium	ug/L	TRUE	NS	9.53	5.536	TRUE	50	FALSE
MW-13	MW-13-20250910-01	9/10/2025 15:20	Thallium	ug/L	FALSE	ND	0	2	FALSE	2	FALSE
MW-14	MW-14-20250909-01	9/9/2025 16:10	Thallium	ug/L	FALSE	ND	0	2	FALSE	2	FALSE
MW-15	MW-15-20250911-01	9/11/2025 10:20	Thallium	ug/L	FALSE	ND	0	2	FALSE	2	FALSE
MW-17	MW-17-20250909-01	9/9/2025 17:15	Thallium	ug/L	FALSE	ND	0	2	FALSE	2	FALSE

Notes:

Table includes all samples from the recent sampling event

Exceedances > GWPS are highlighted

Mk Result: final results of trend test shown from Table 5

Bkgd UTL value from Table 7

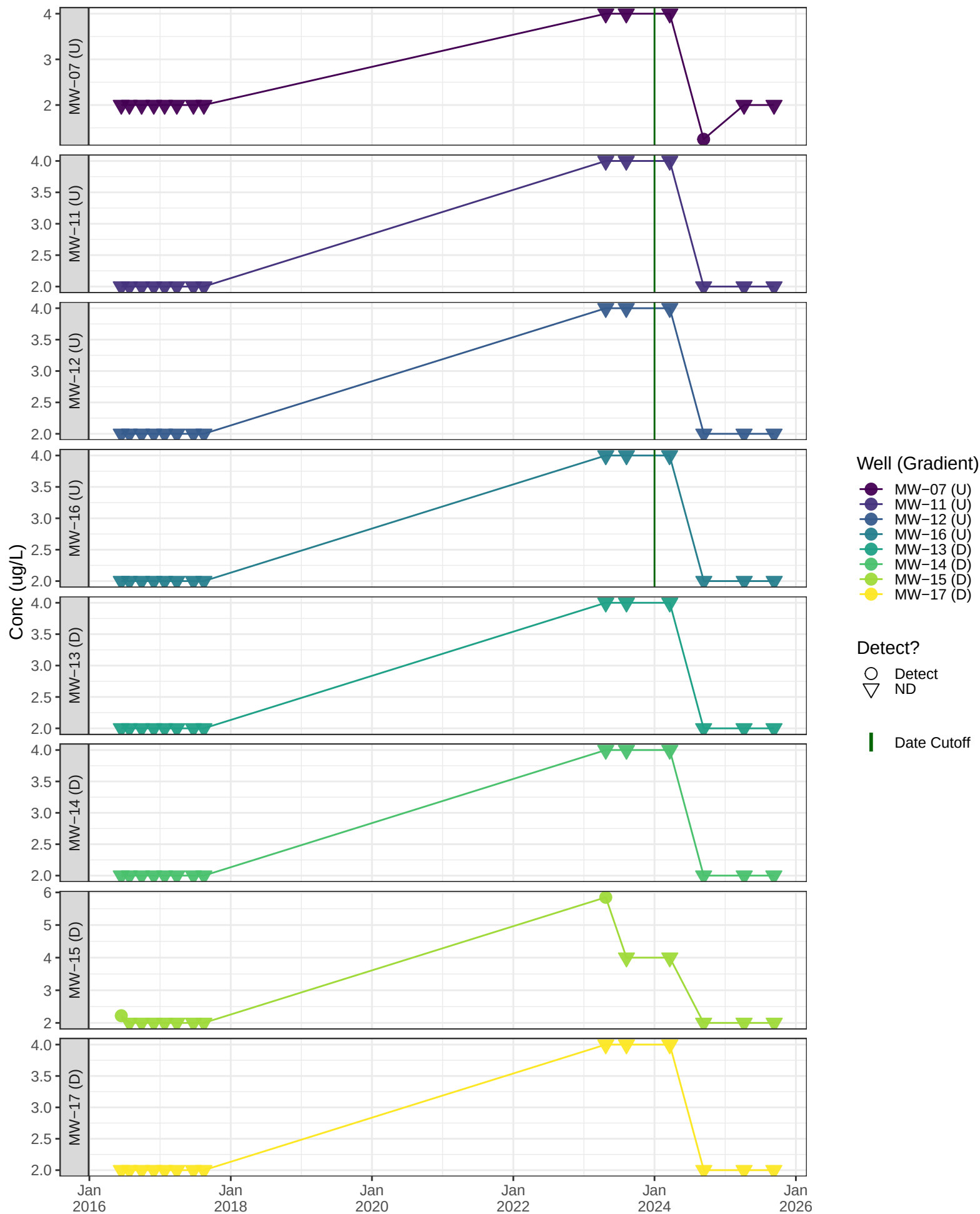
GWPS value from Table 7



ATTACHMENT B FIGURES

Twin Oaks, Timeseries of All Wells

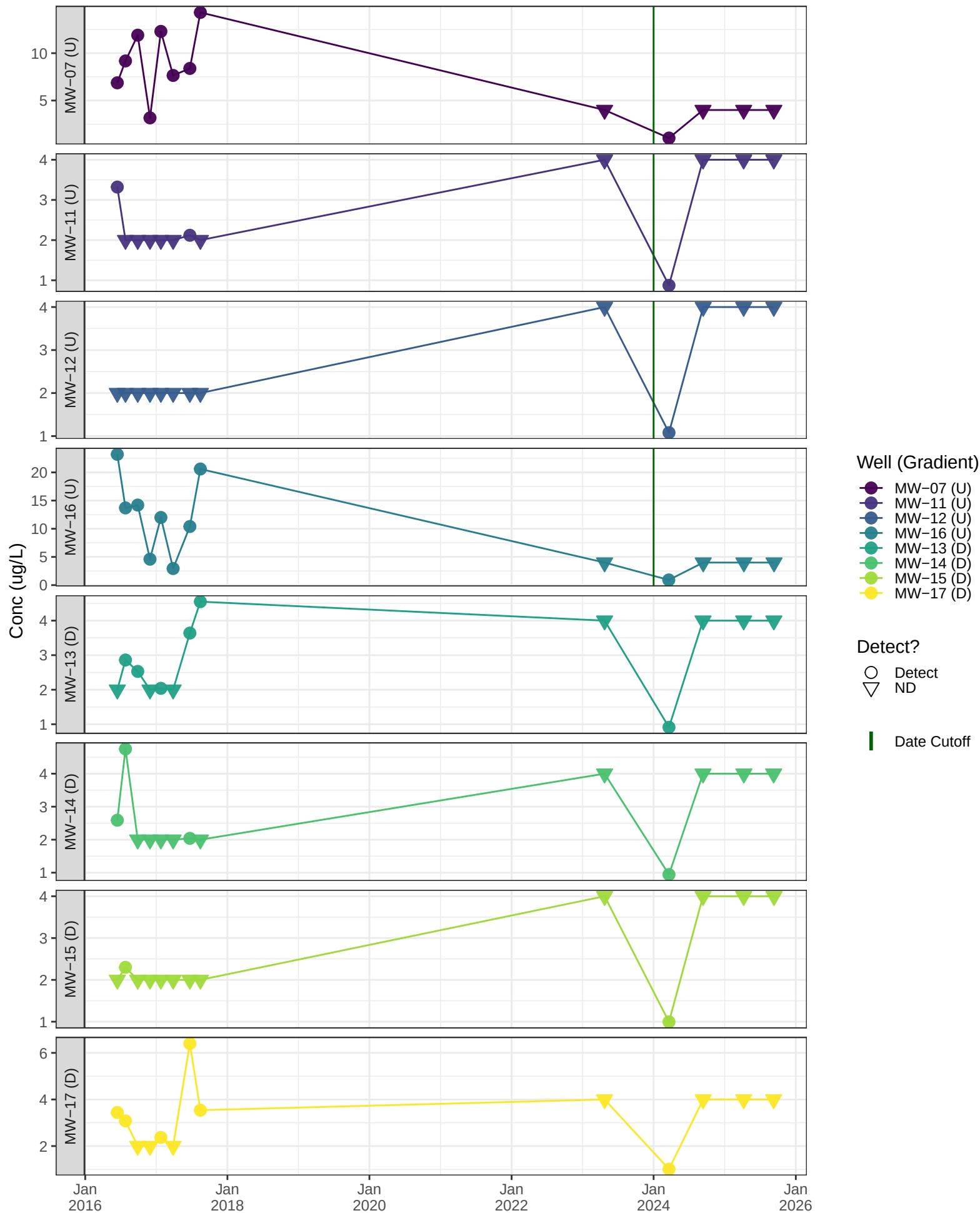
Antimony



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

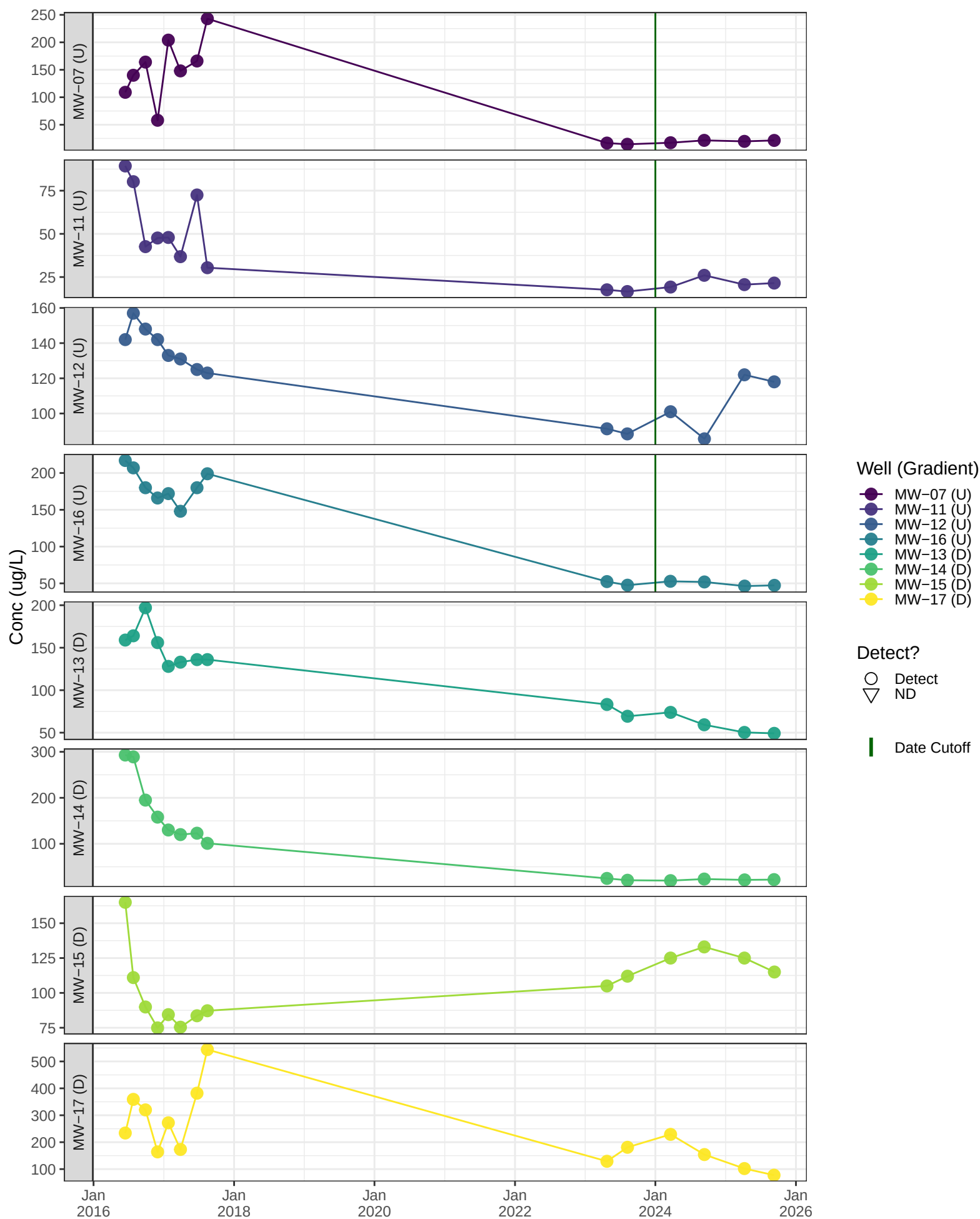
Arsenic



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

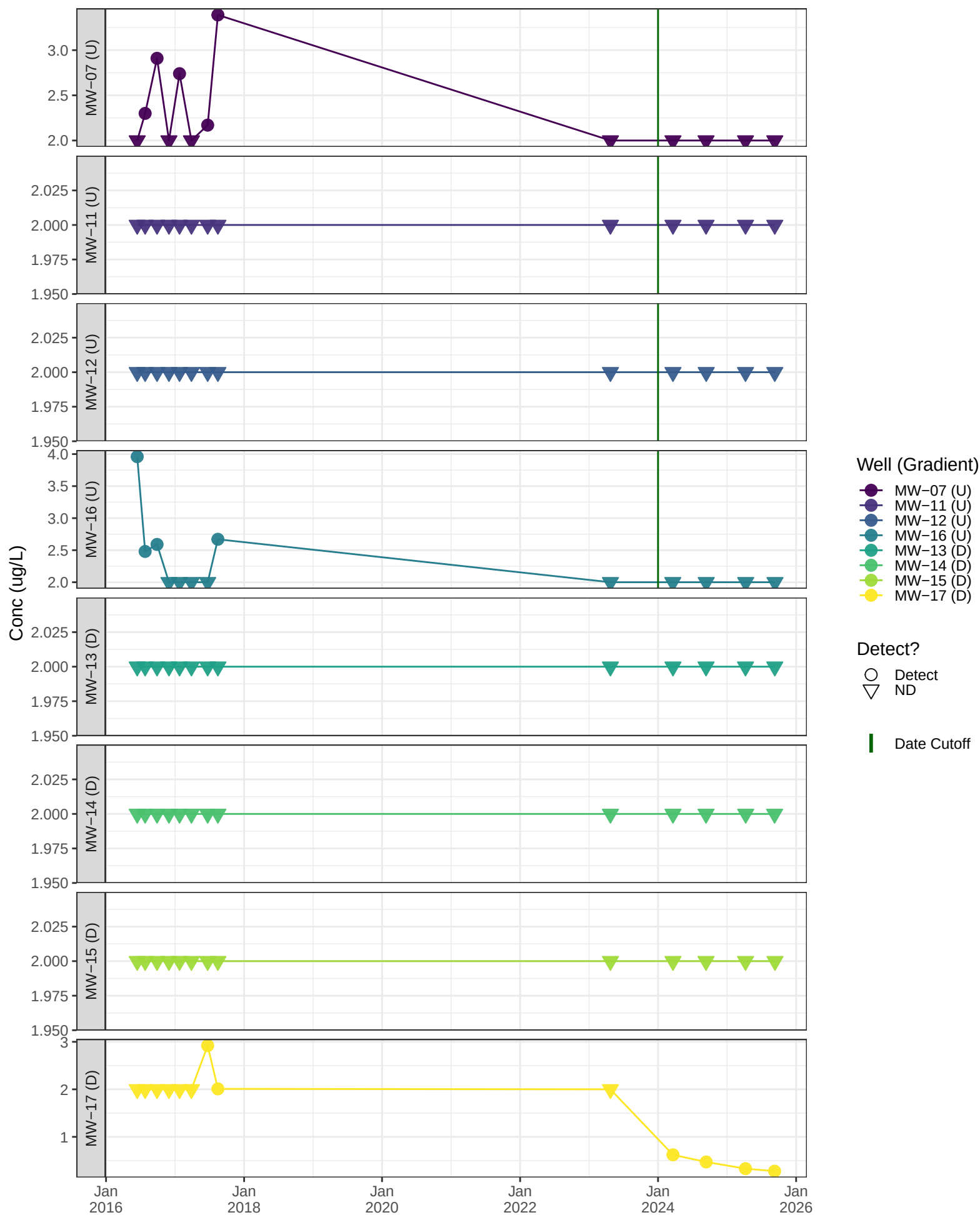
Barium



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

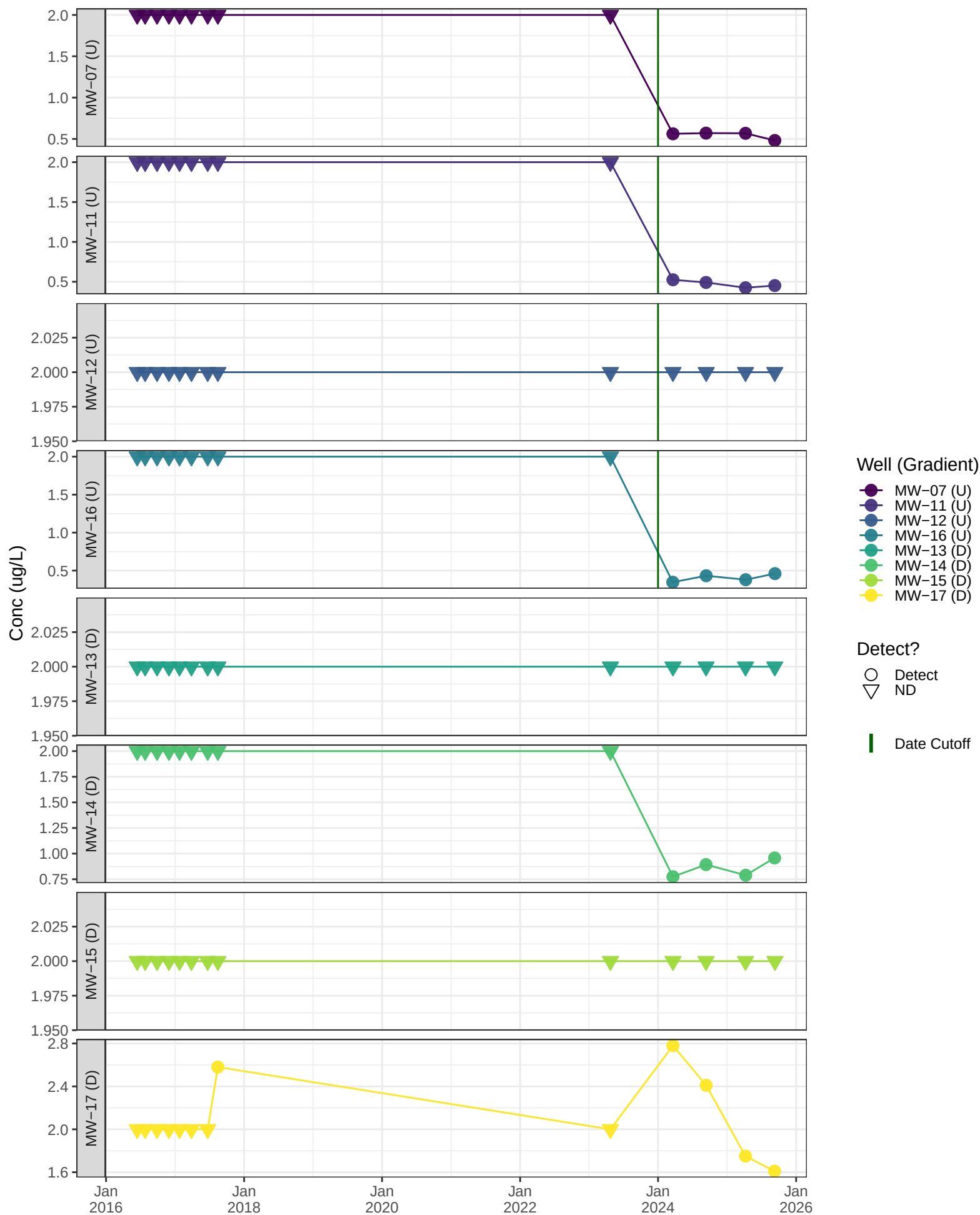
Beryllium



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
 'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

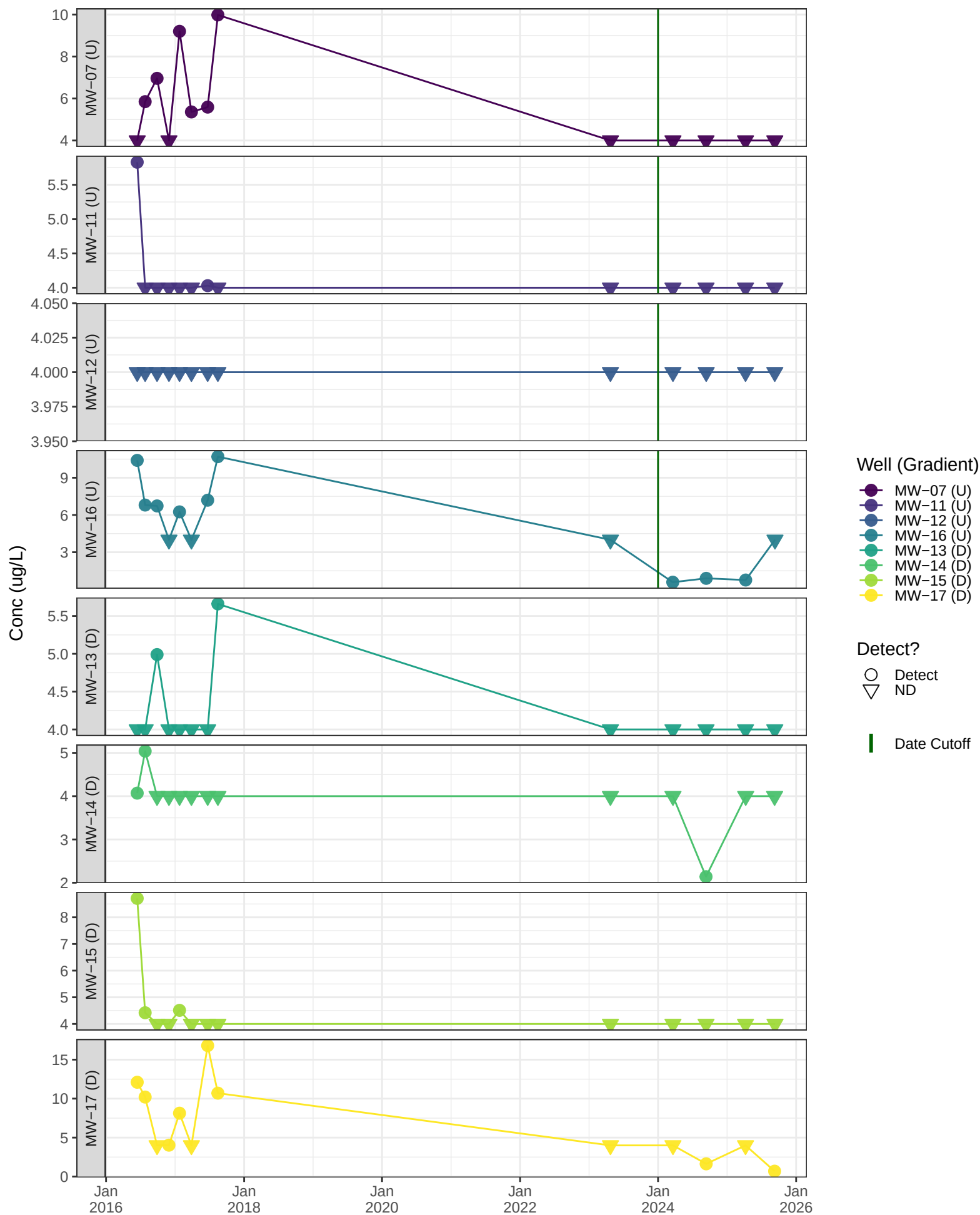
Cadmium



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
 'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

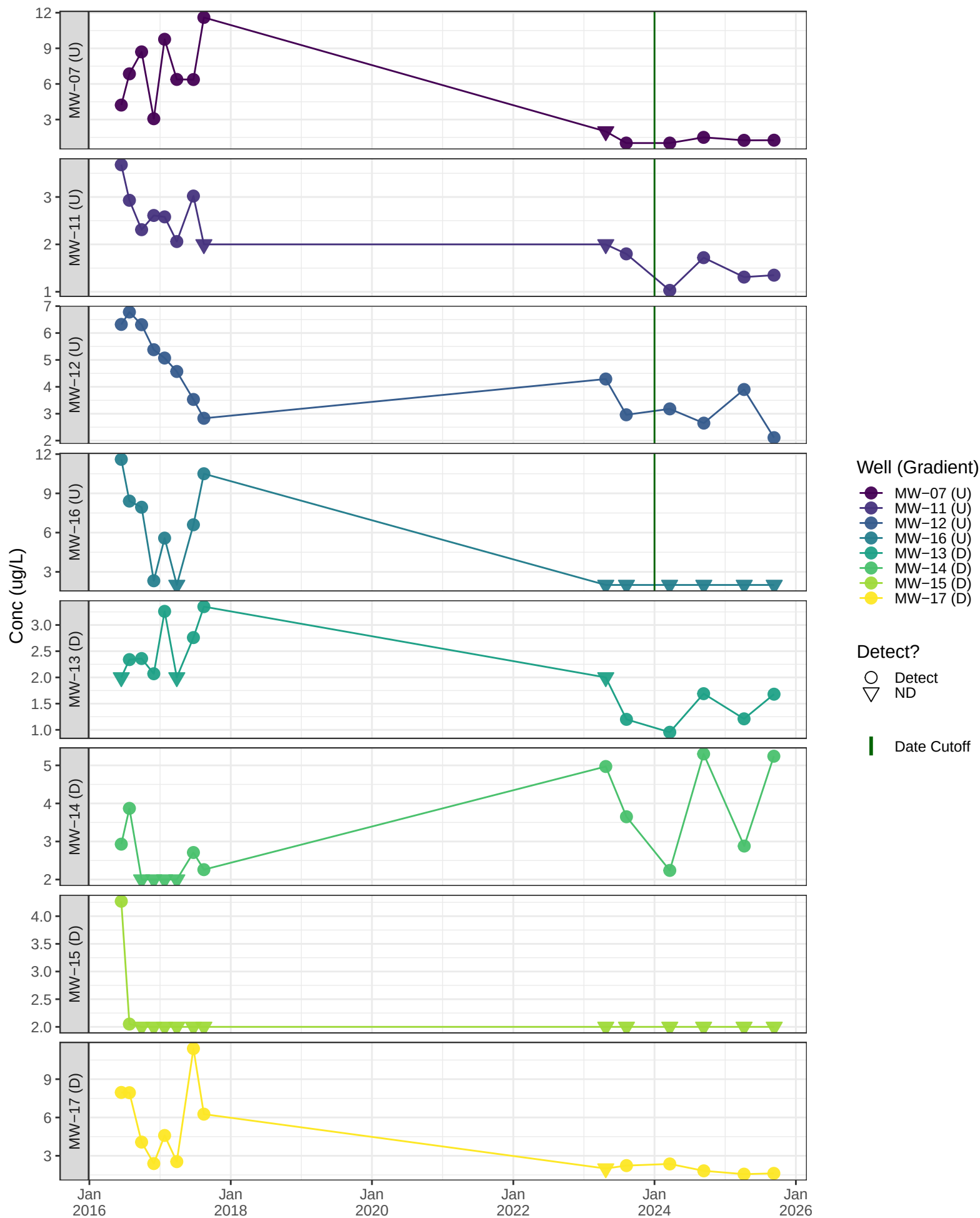
Chromium



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
 'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

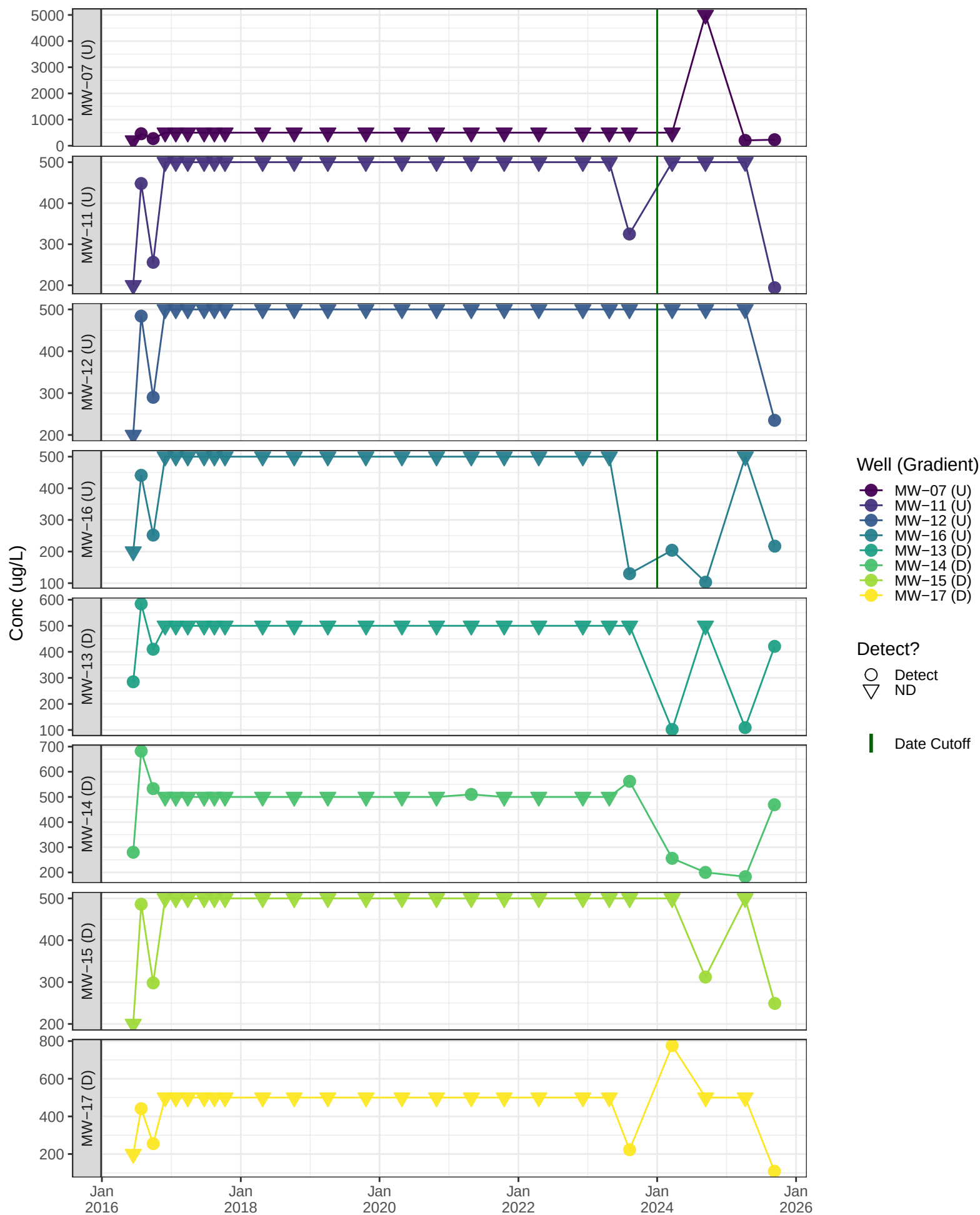
Cobalt



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

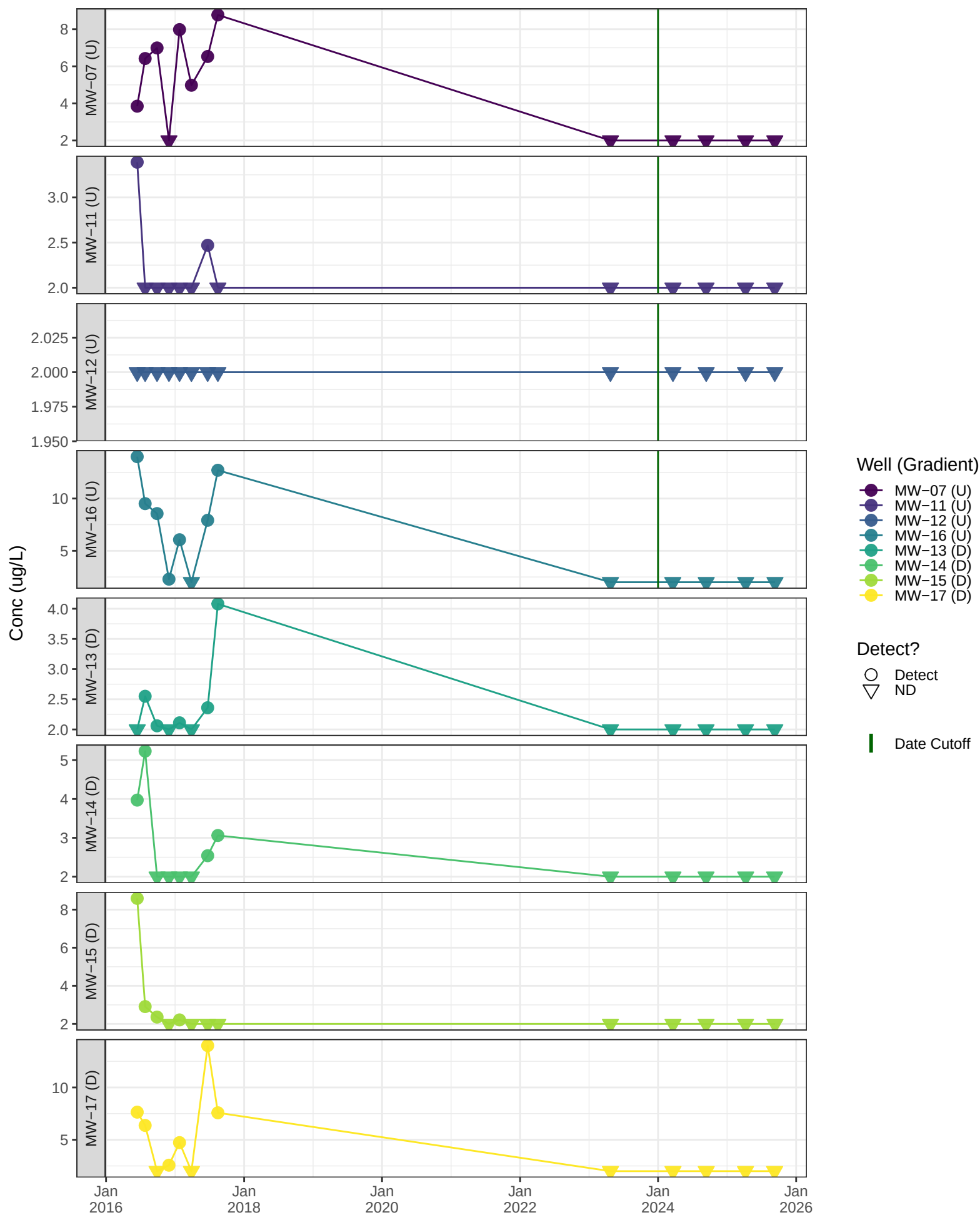
Fluoride



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

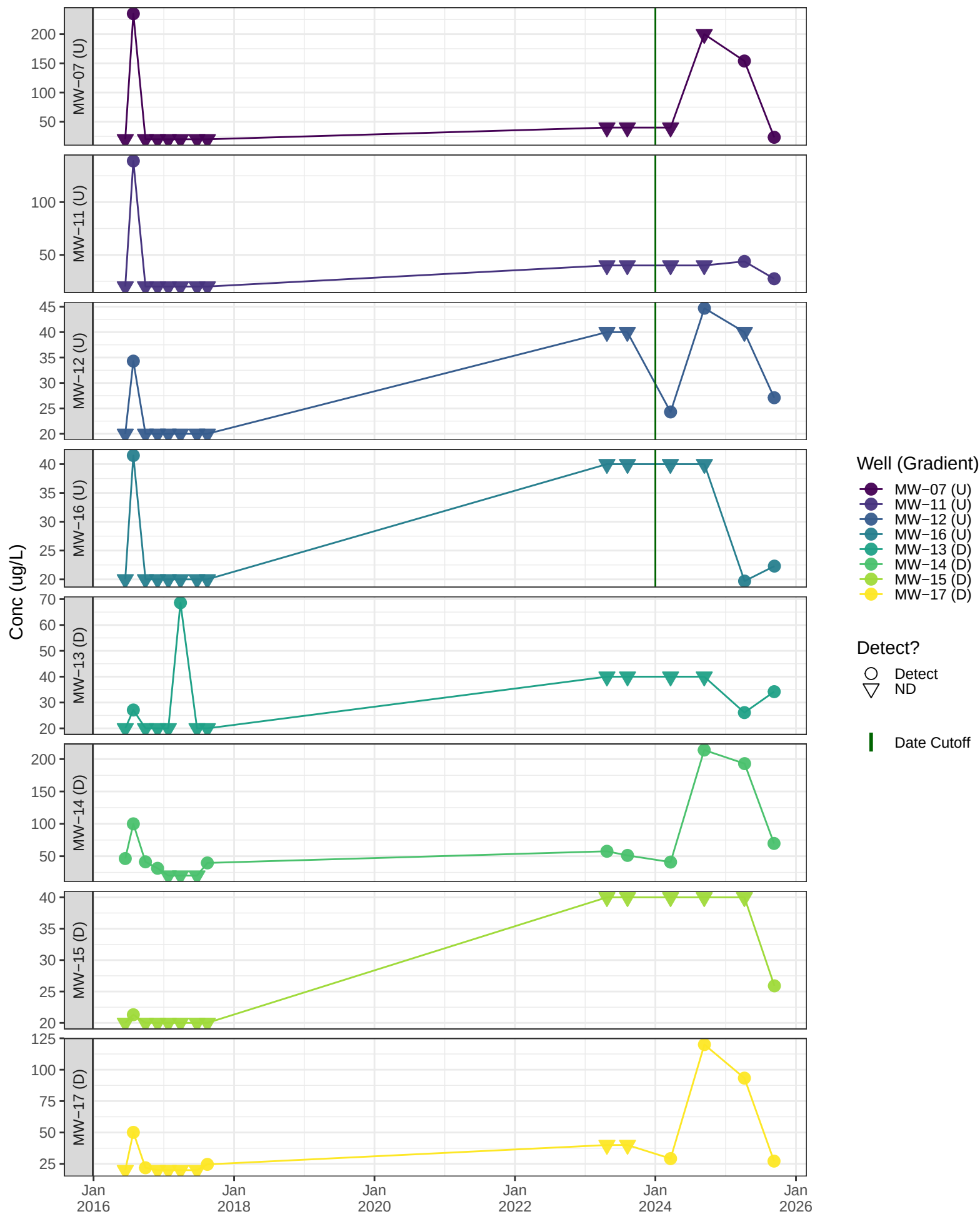
Lead



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

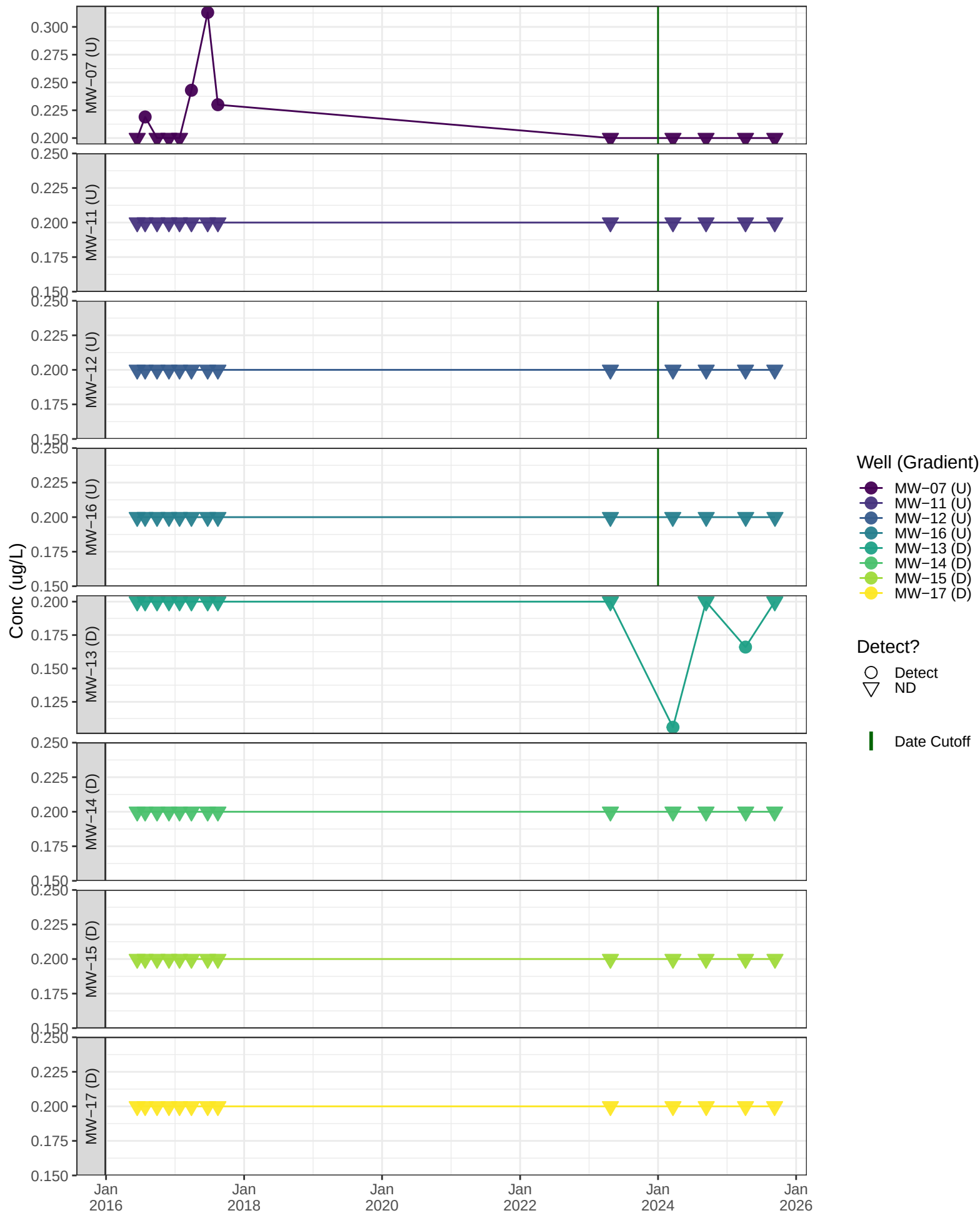
Lithium



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

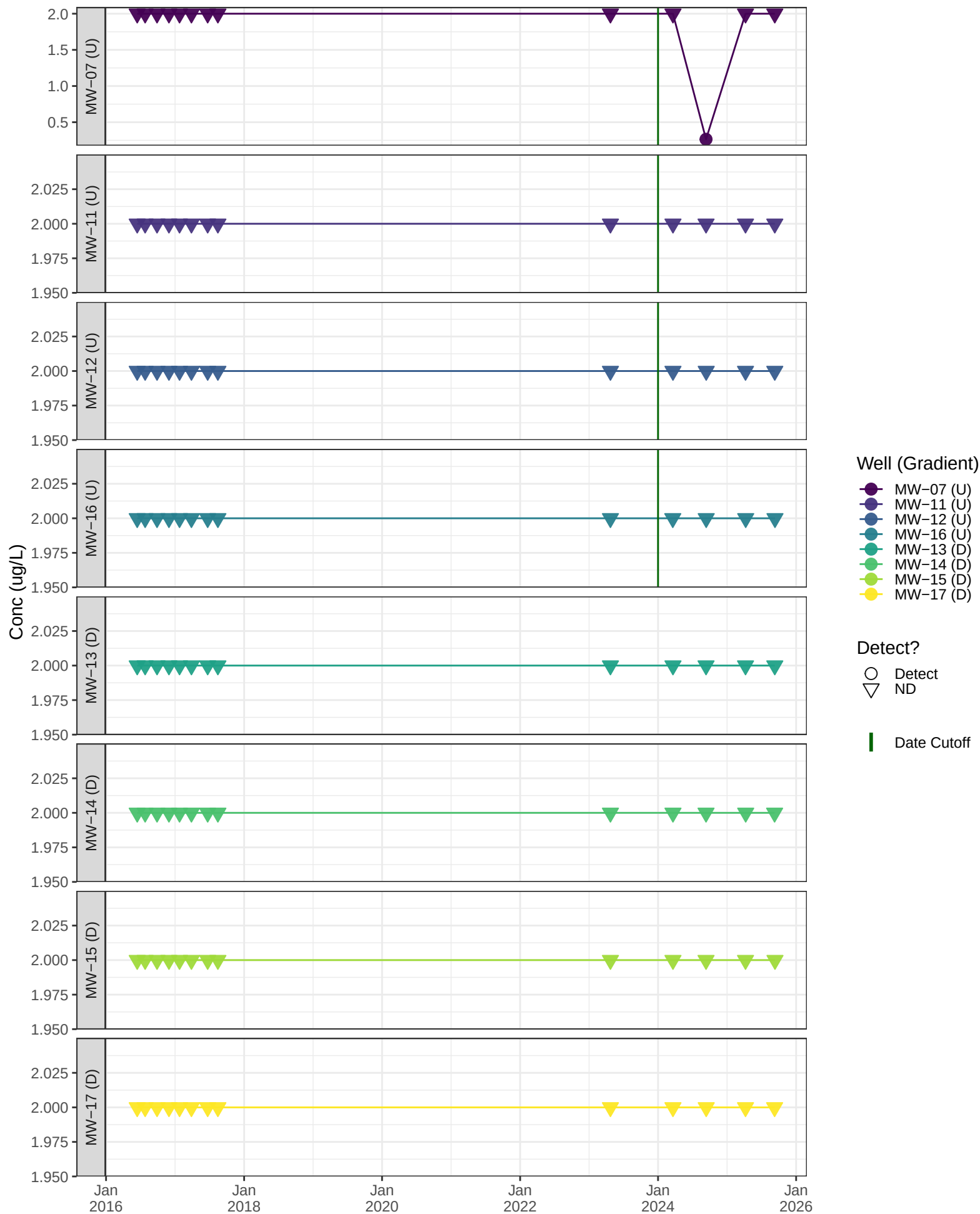
Mercury



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
 'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

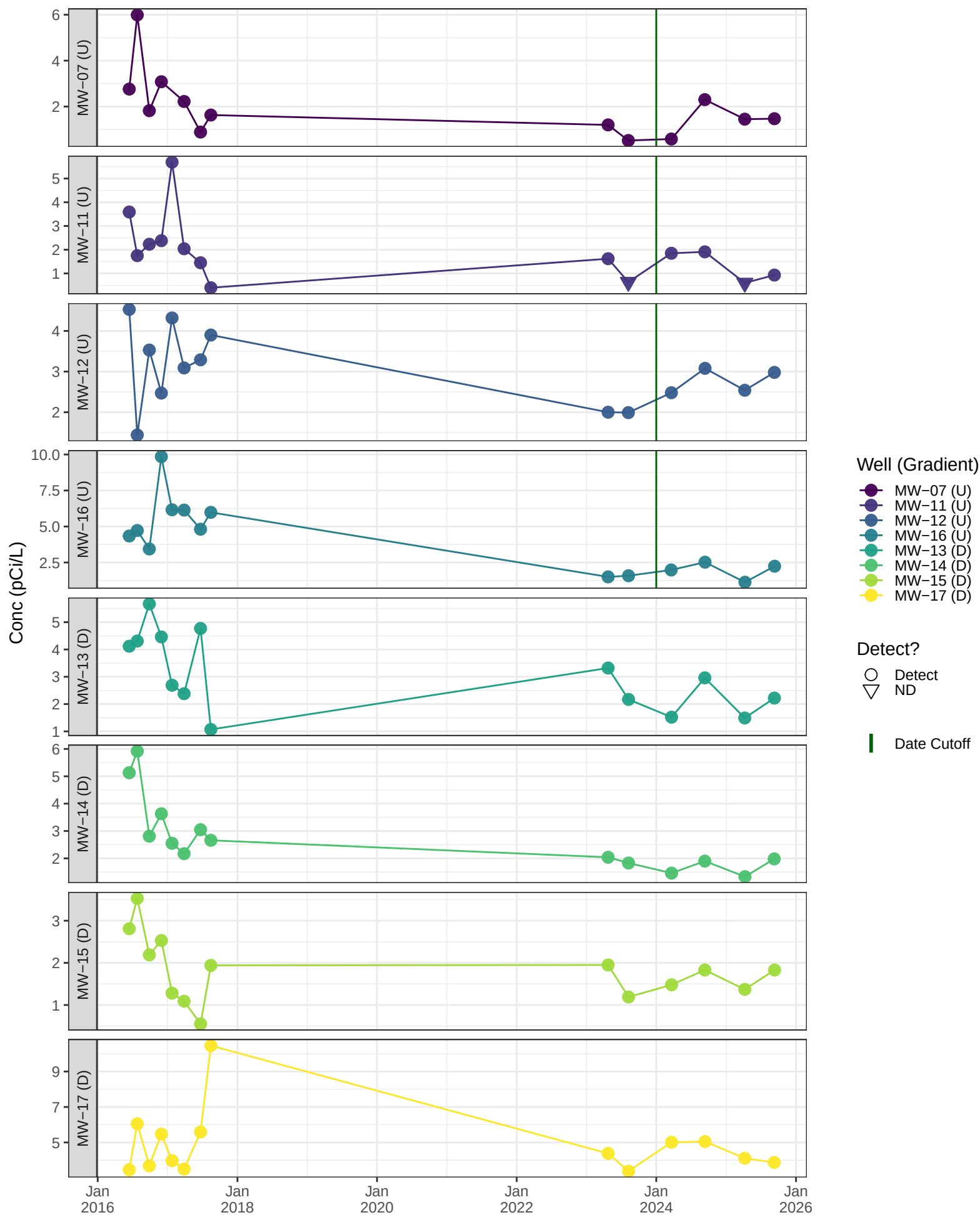
Molybdenum



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
 'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

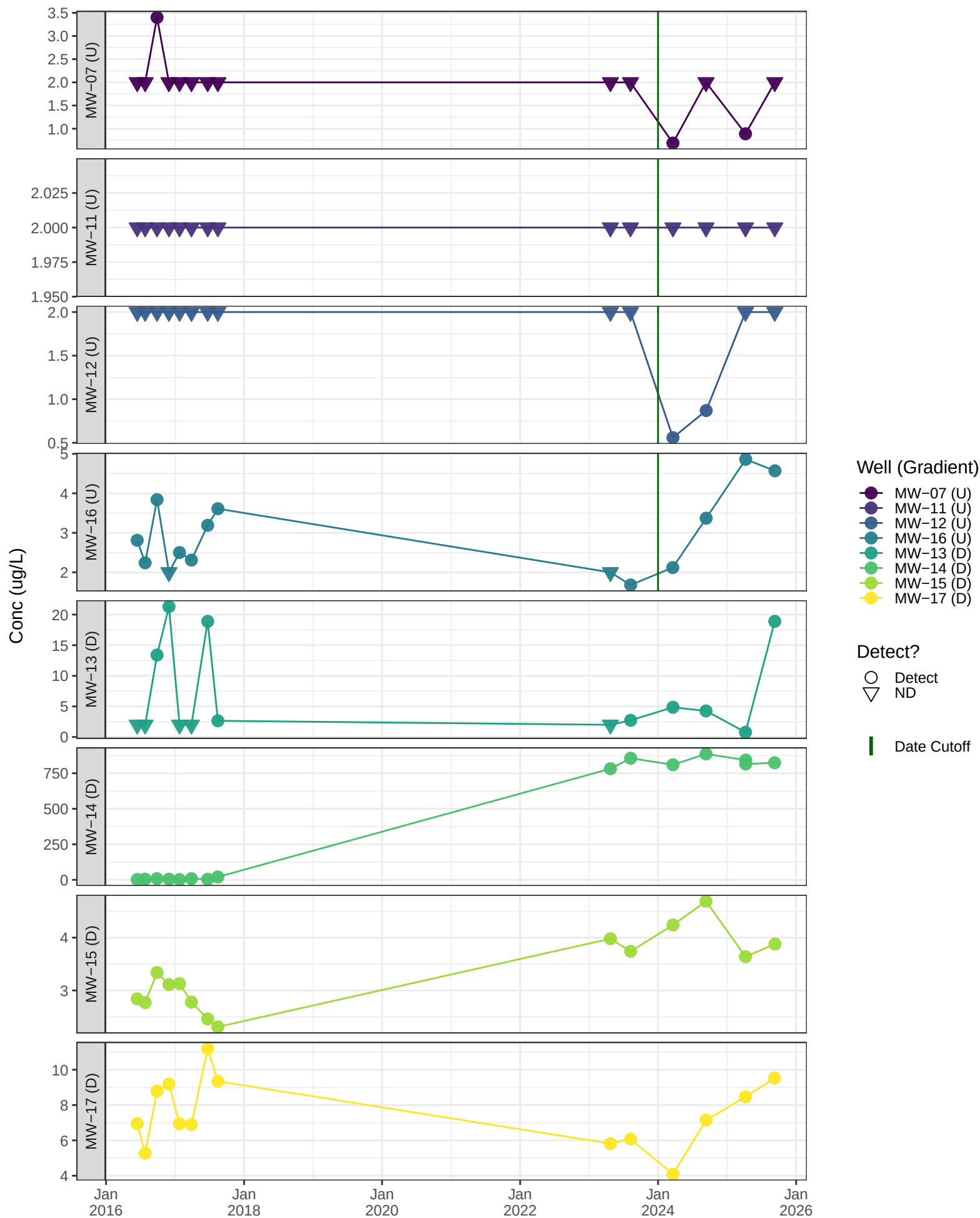
Radium-226/228



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

Twin Oaks, Timeseries of All Wells

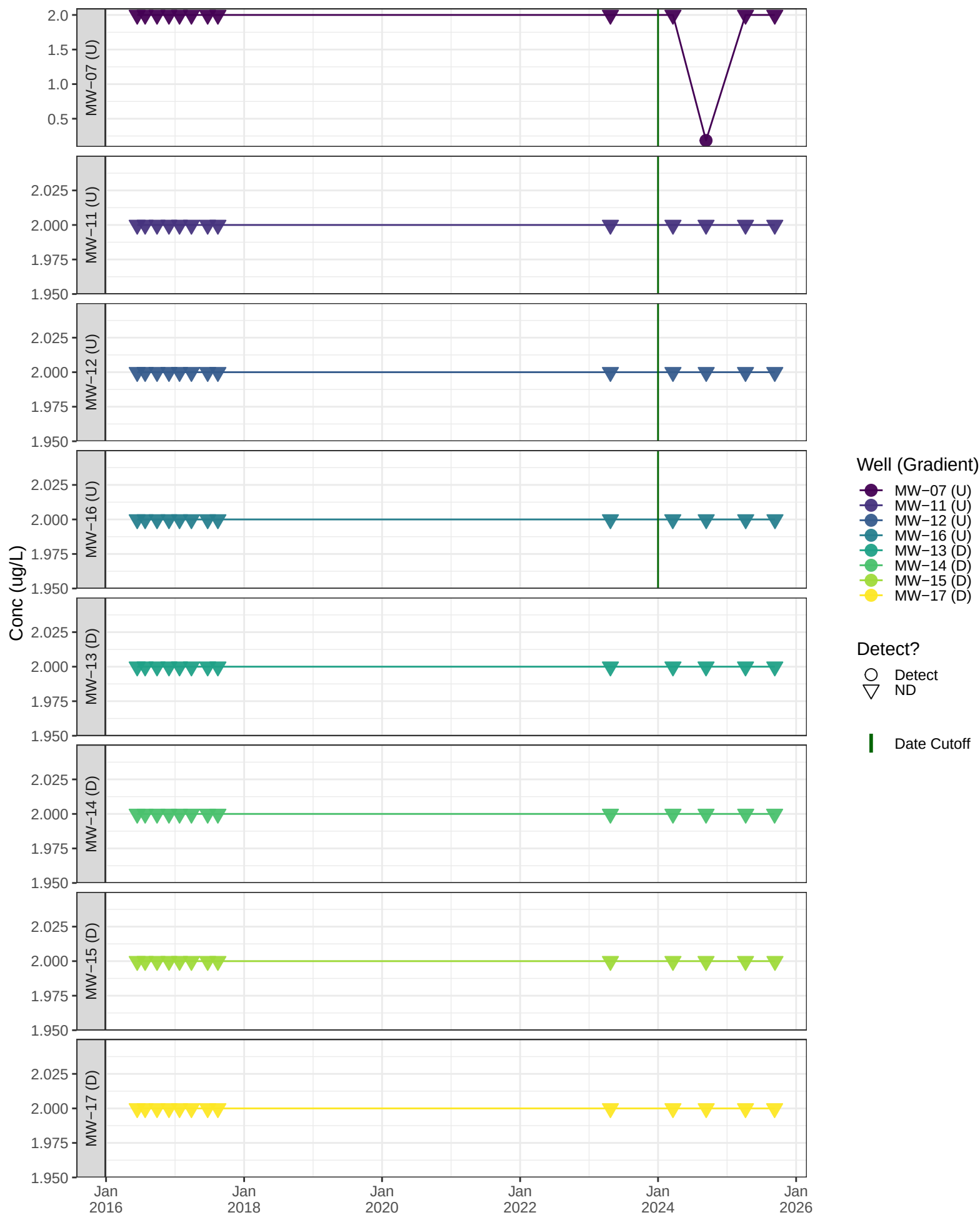
Selenium



'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

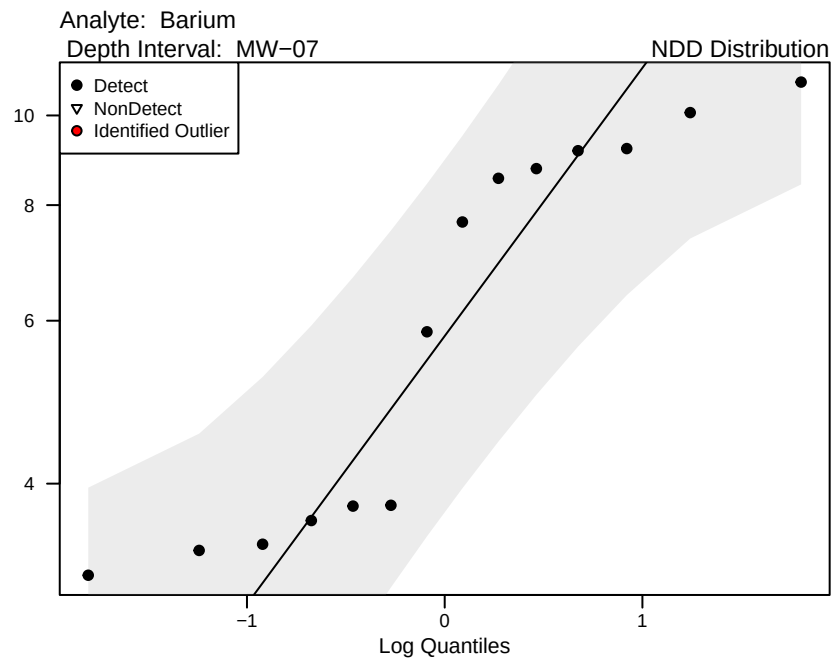
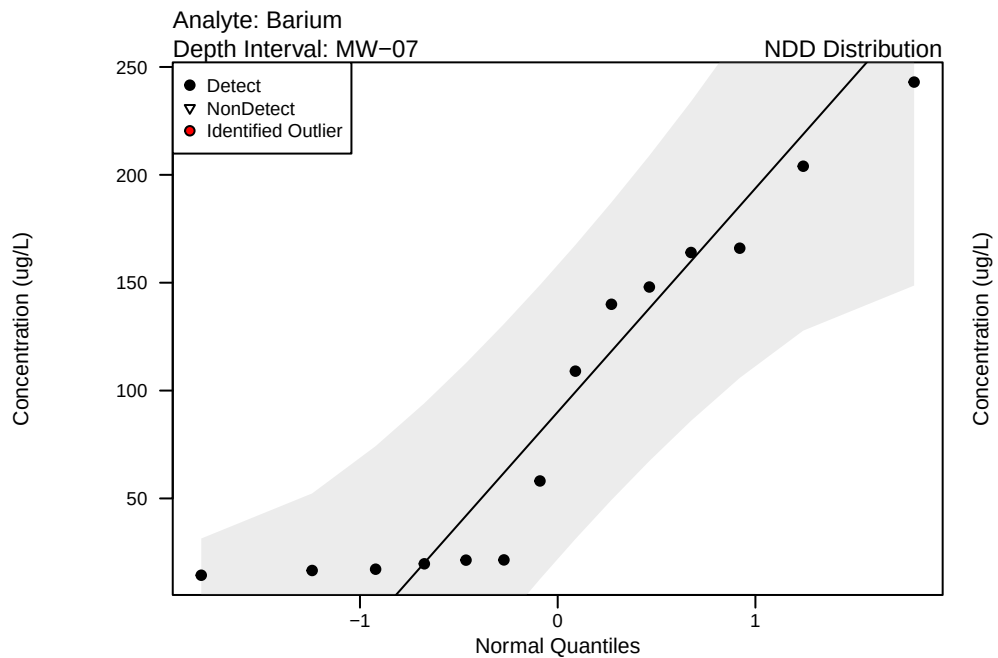
Twin Oaks, Timeseries of All Wells

Thallium

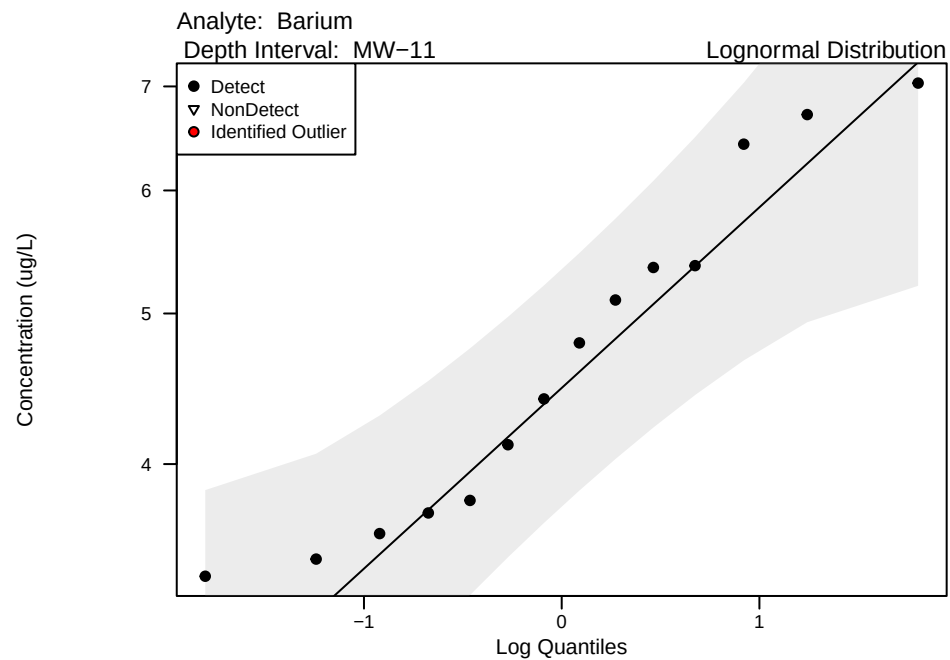


'Date Cutoff' indicates the point at which prior data was used to calculate UPLs.
'Merge?' specifies whether data before and after the 'Date Cutoff' can be combined.

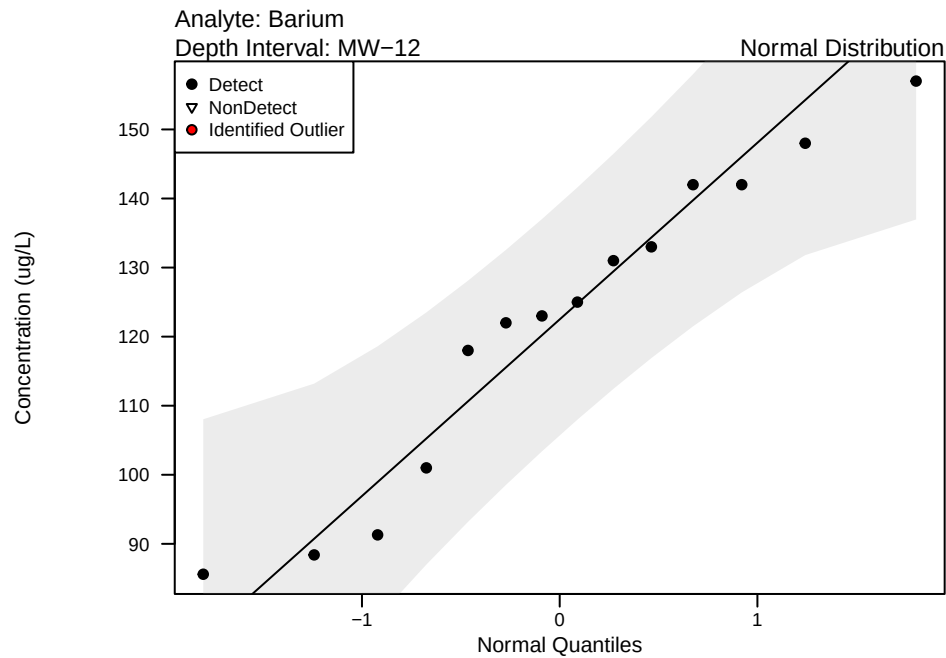
Twin Oaks QQ Plots of Background Locations



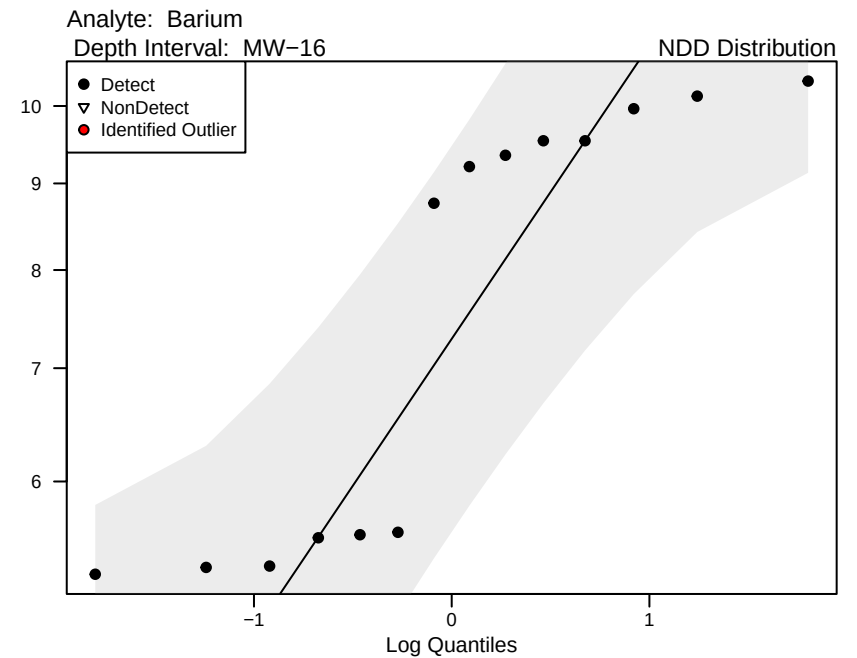
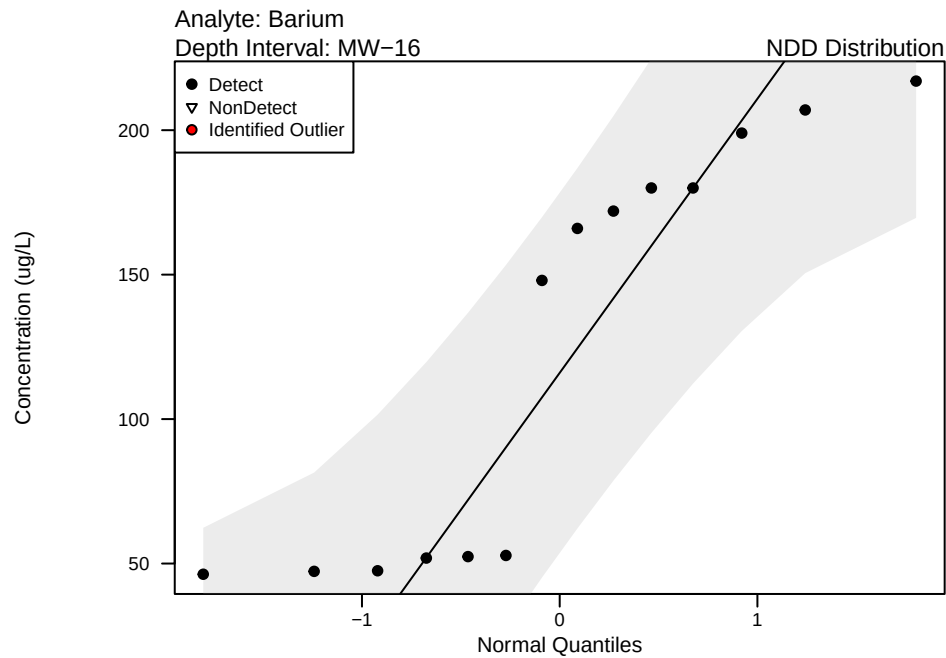
Intentionally left blank,
distribution is Lognormal.



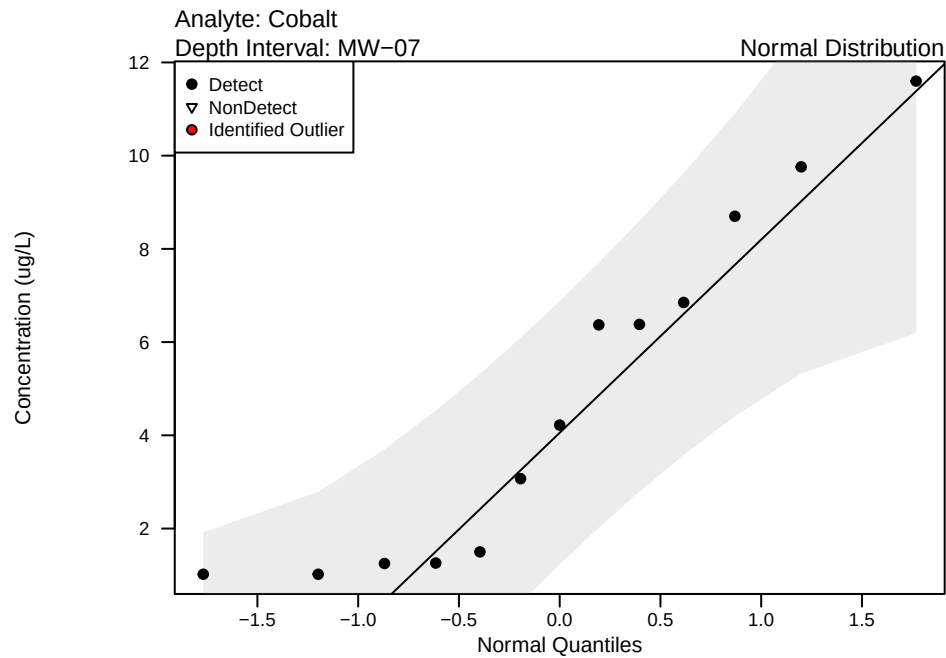
Twin Oaks QQ Plots of Background Locations



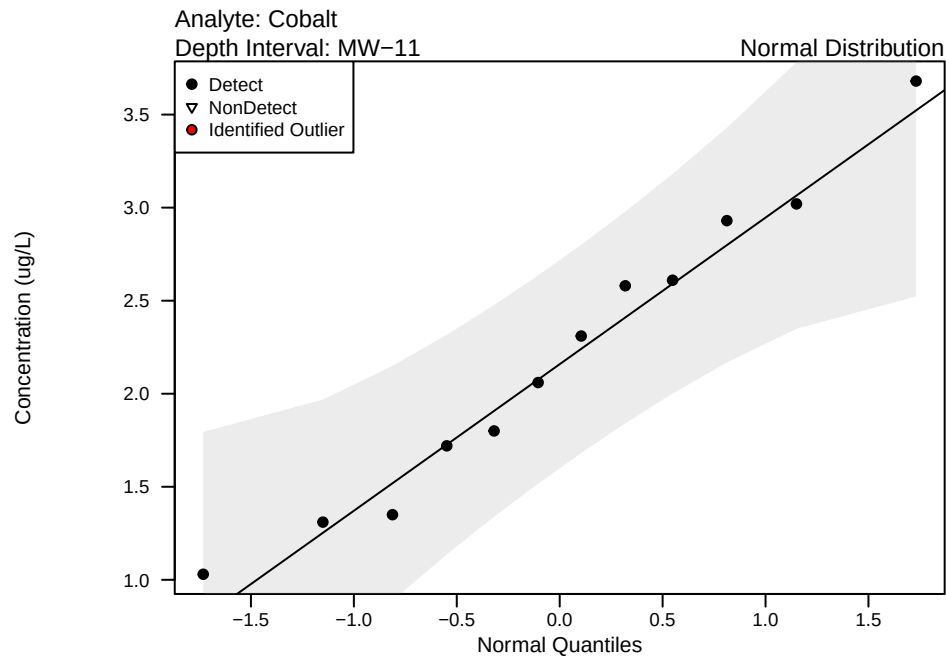
Intentionally left blank,
distribution is Normal.



Twin Oaks QQ Plots of Background Locations

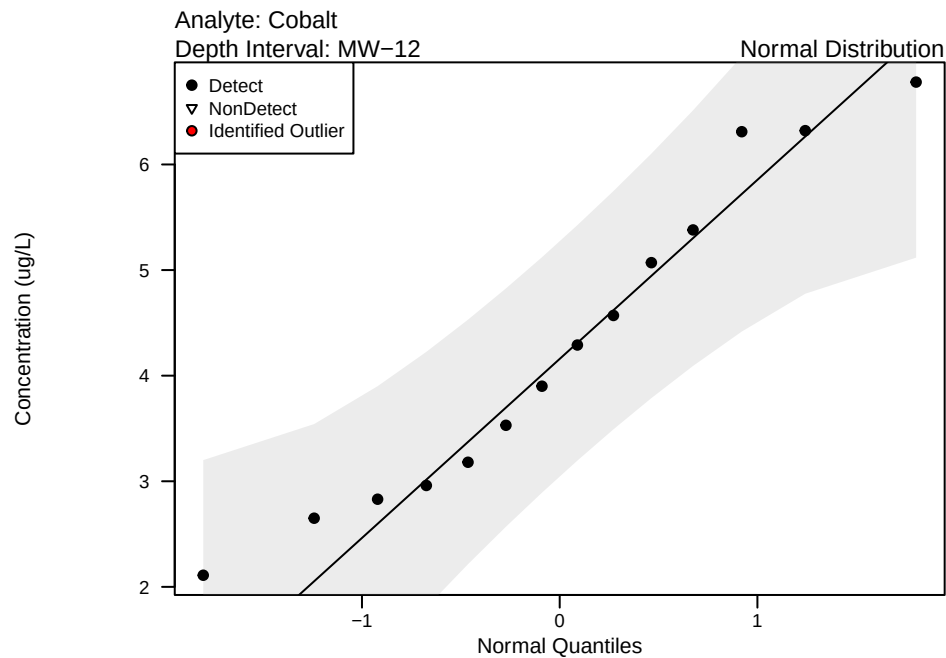


Intentionally left blank,
distribution is Normal.



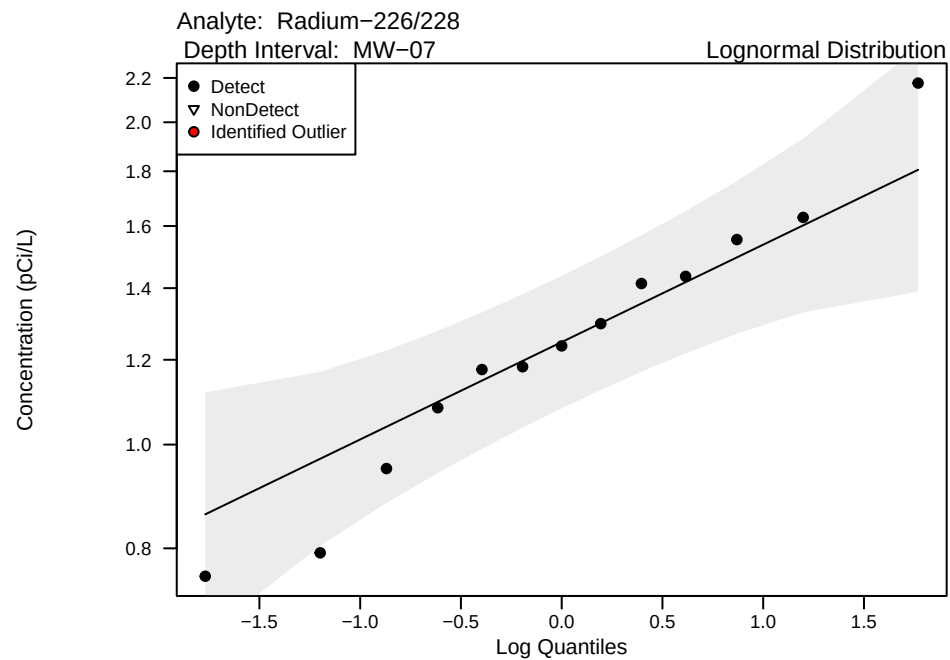
Intentionally left blank,
distribution is Normal.

Twin Oaks QQ Plots of Background Locations



Intentionally left blank,
distribution is Normal.

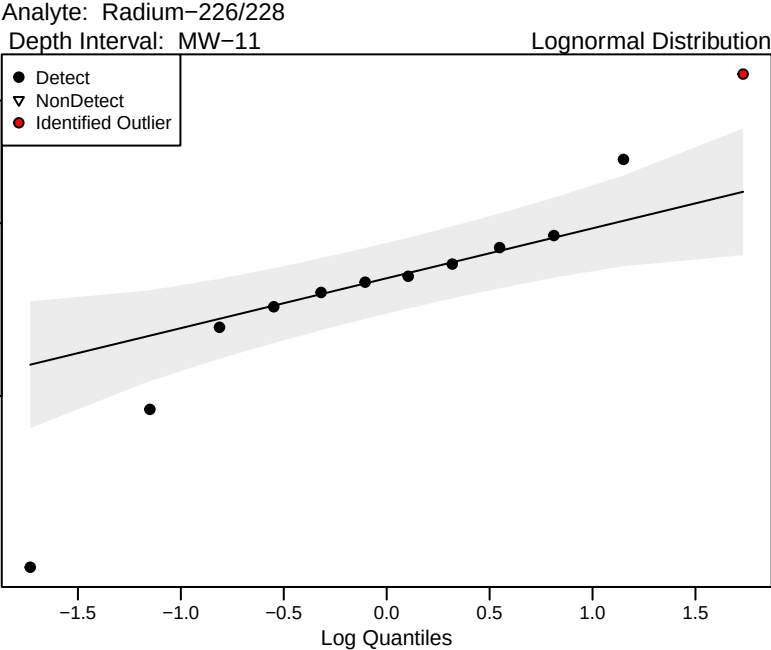
Intentionally left blank,
distribution is Lognormal.



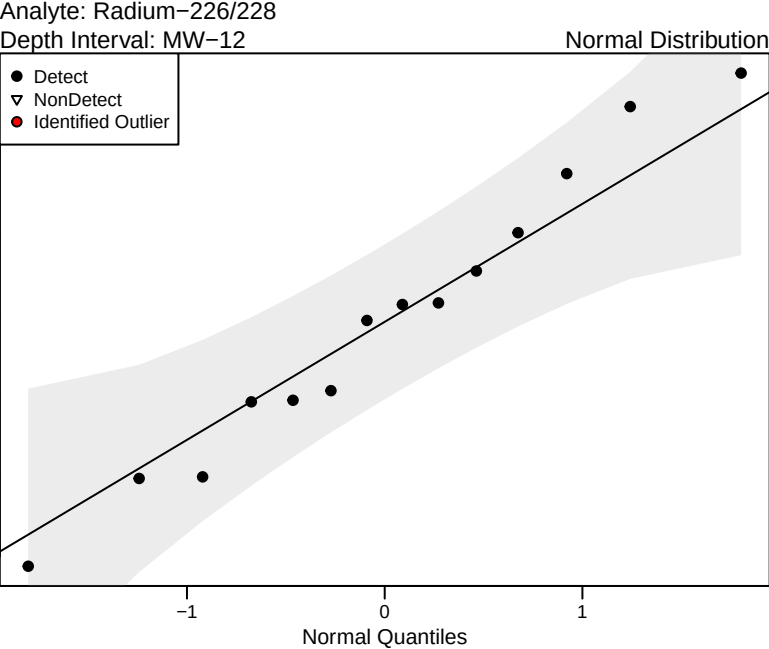
Twin Oaks
QQ Plots of Background Locations

Intentionally left blank,
distribution is Lognormal.

Concentration (pCi/L)

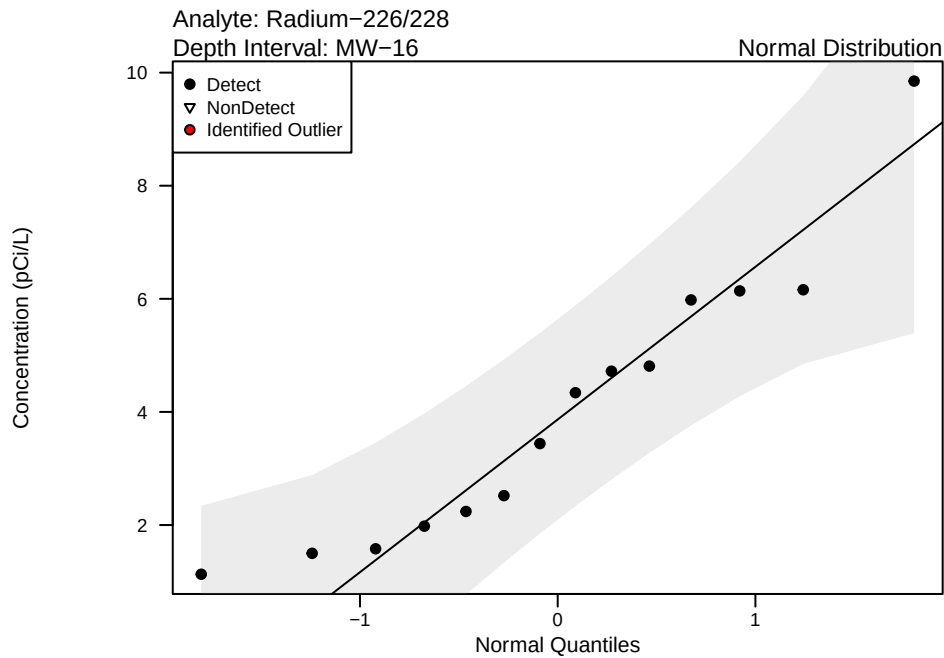


Concentration (pCi/L)

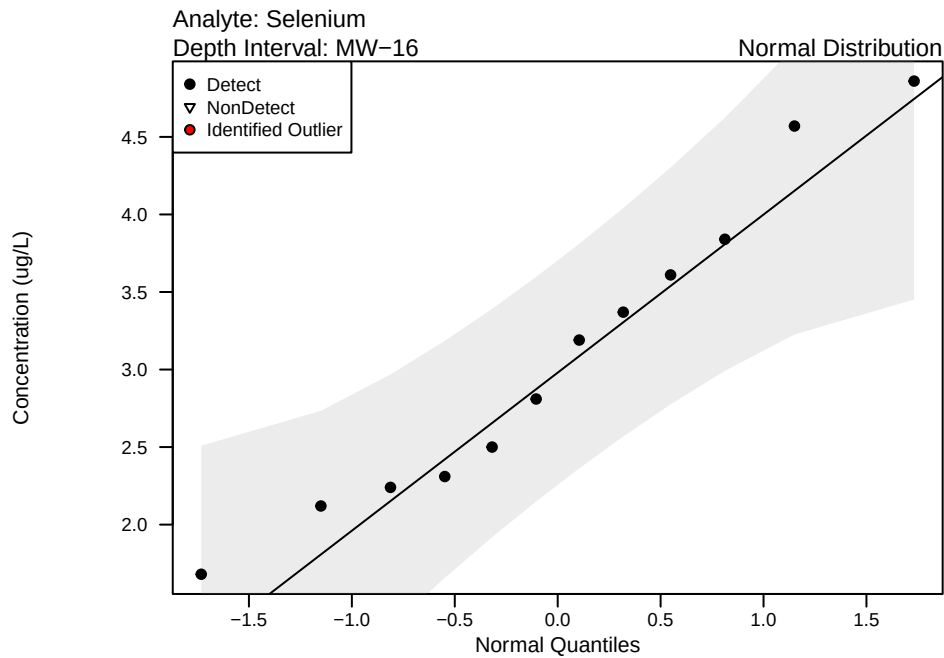


Intentionally left blank,
distribution is Normal.

Twin Oaks QQ Plots of Background Locations



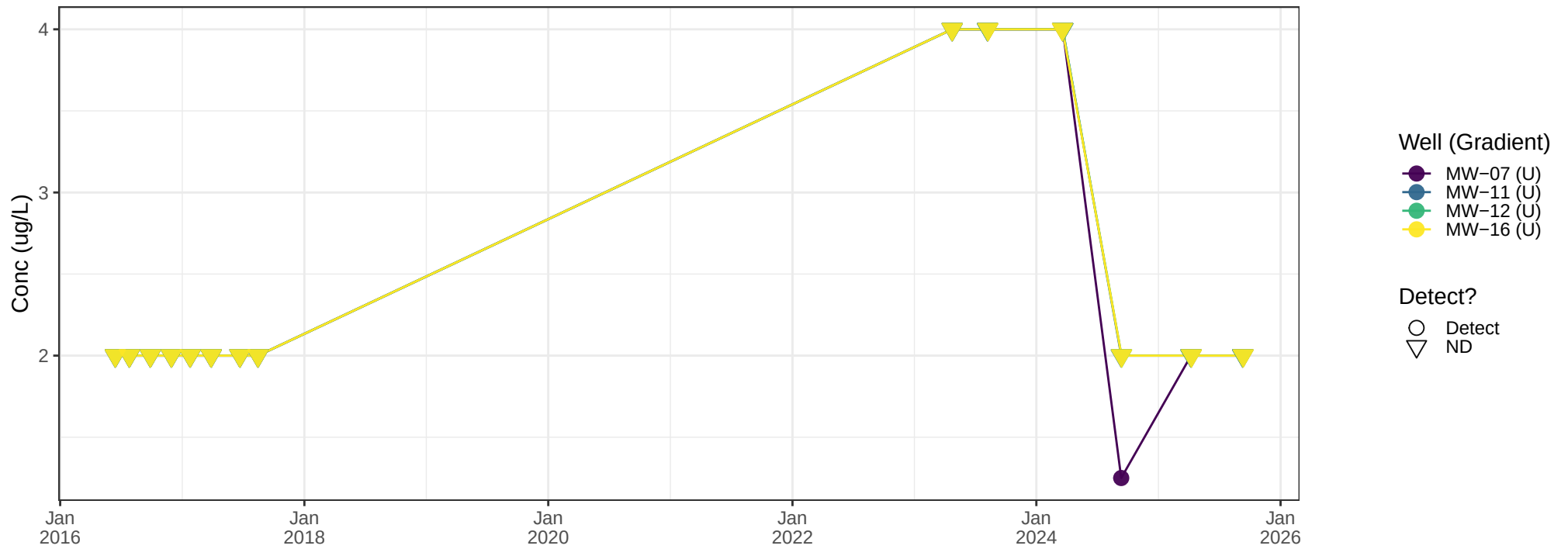
Intentionally left blank,
distribution is Normal.



Intentionally left blank,
distribution is Normal.

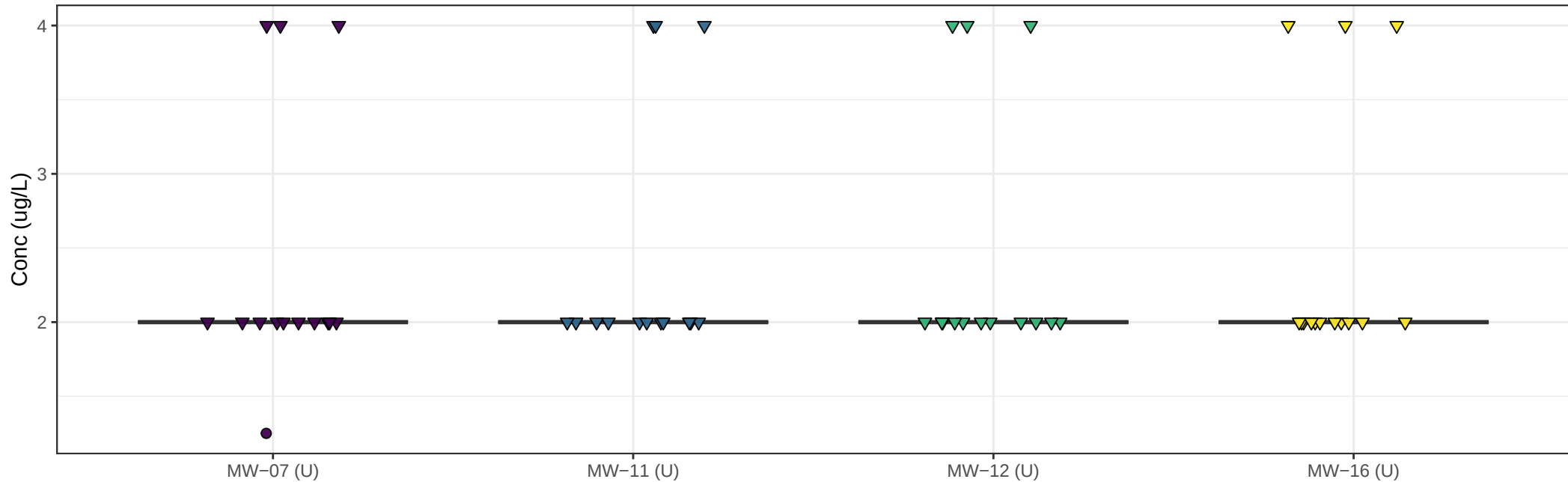
Twin Oaks, Timeseries of Background Wells

Antimony



Twin Oaks, Boxplots of Background Wells

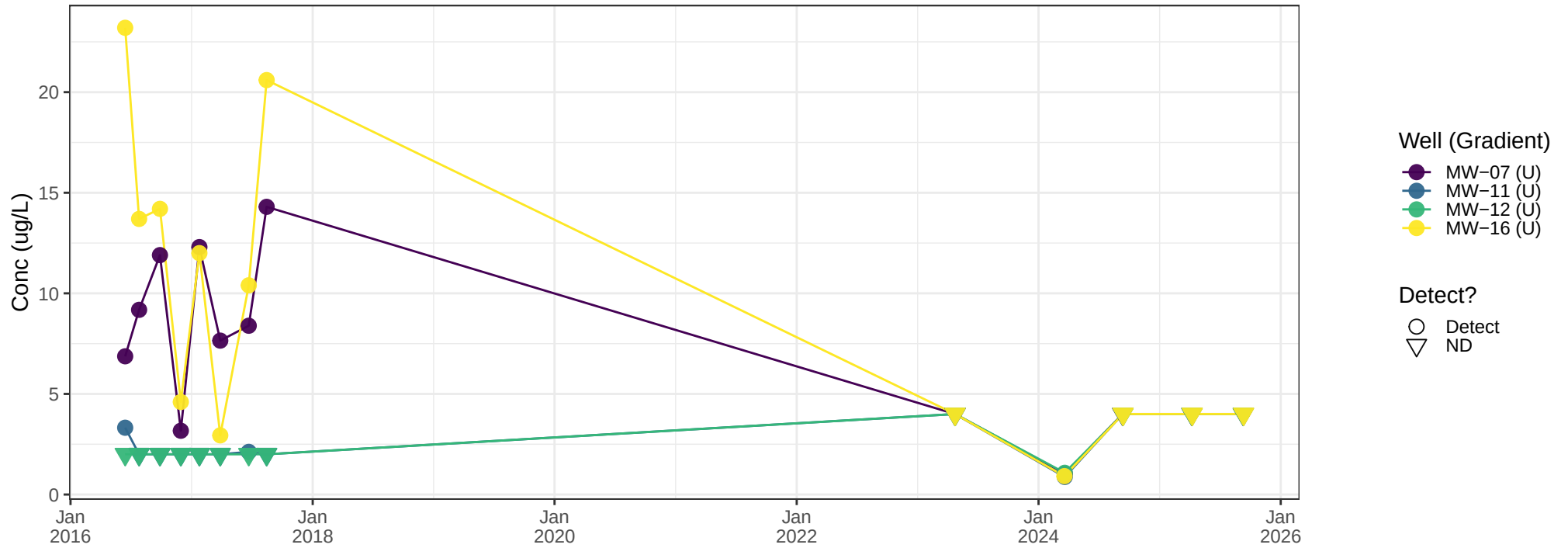
Antimony



Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

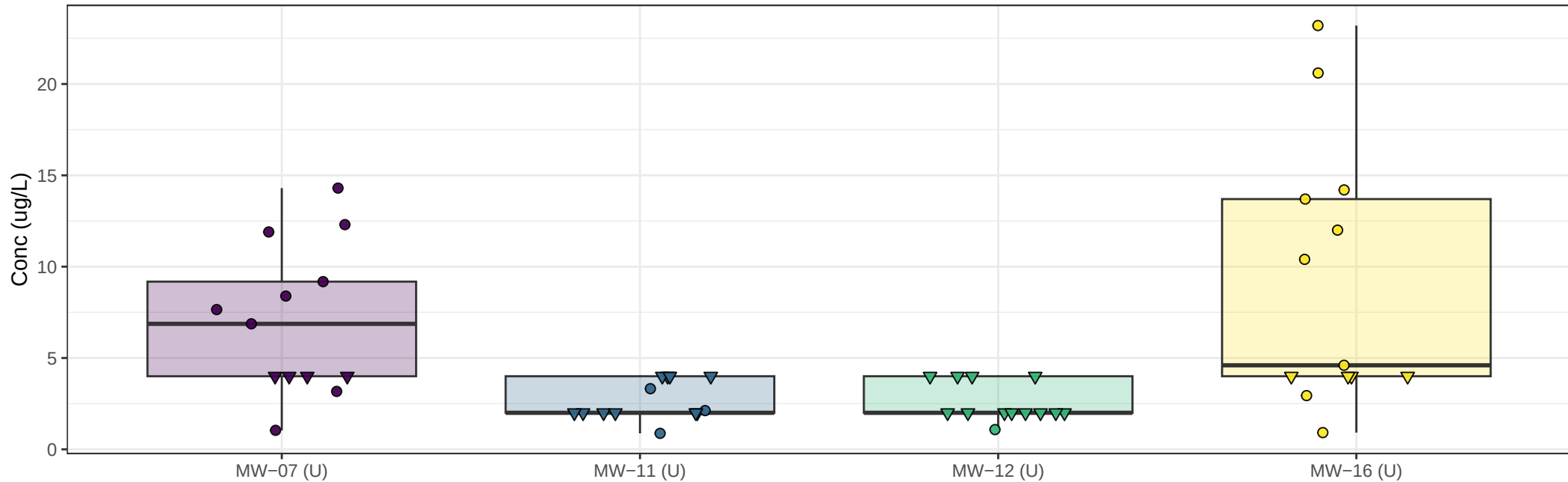
Twin Oaks, Timeseries of Background Wells

Arsenic



Twin Oaks, Boxplots of Background Wells

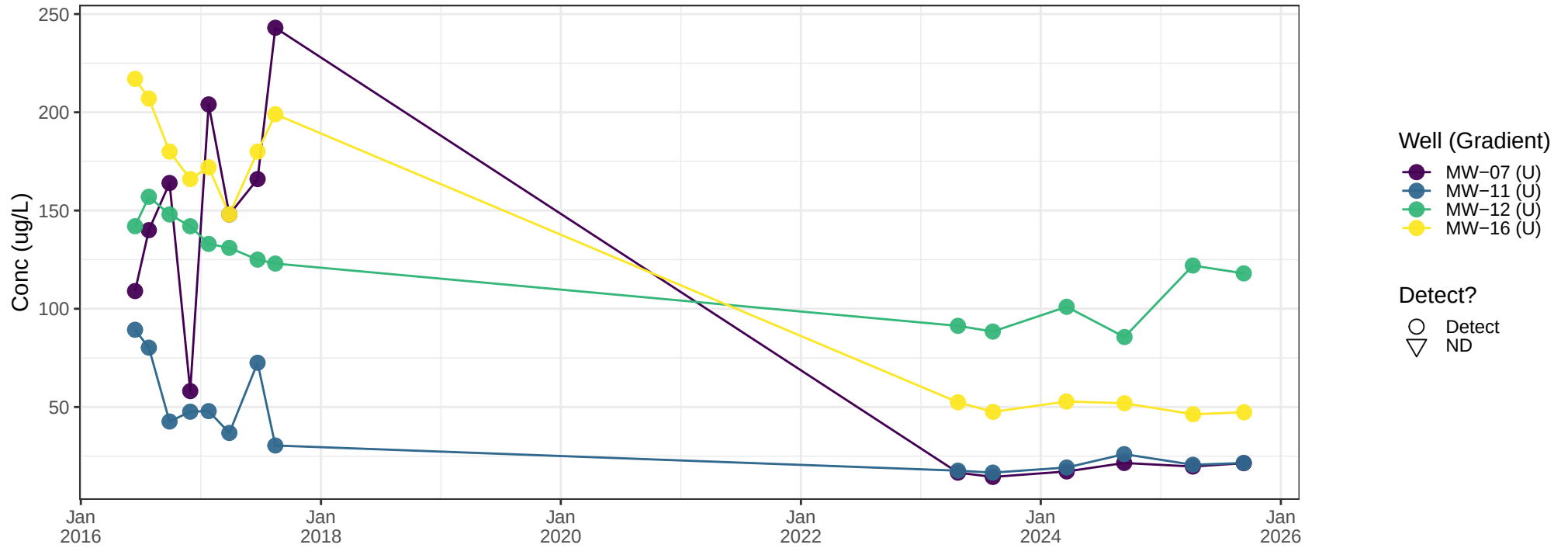
Arsenic



Only shows background well data that will be used to calculate Prediction Limits
Significant temporal and spatial variability noted. Do not combine

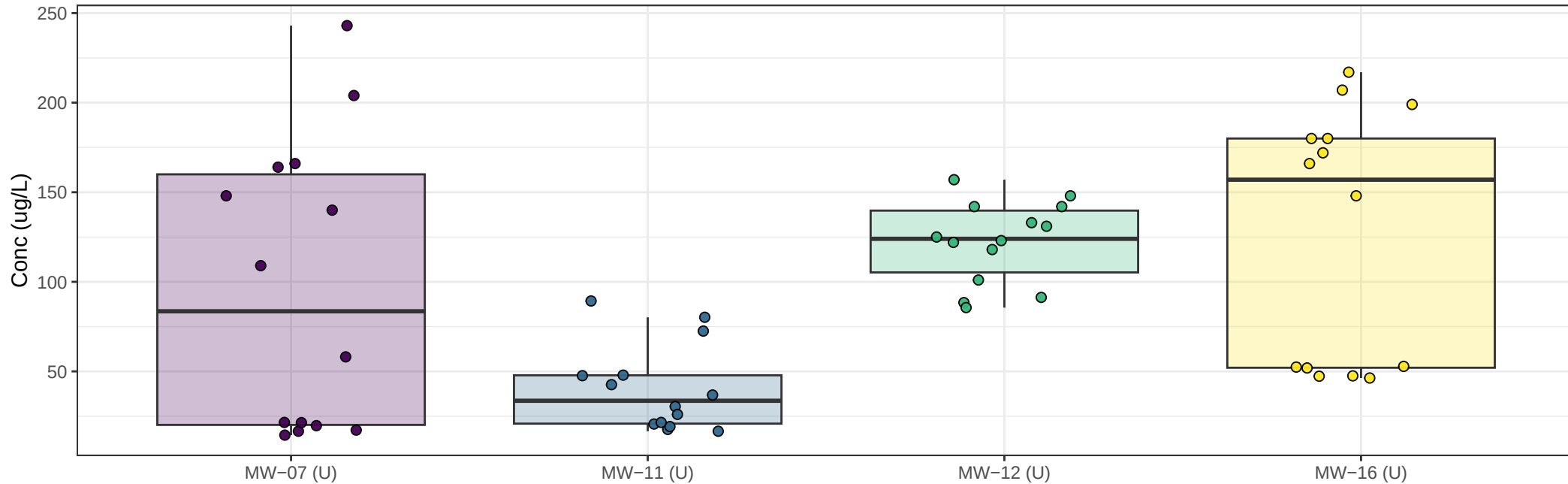
Twin Oaks, Timeseries of Background Wells

Barium



Twin Oaks, Boxplots of Background Wells

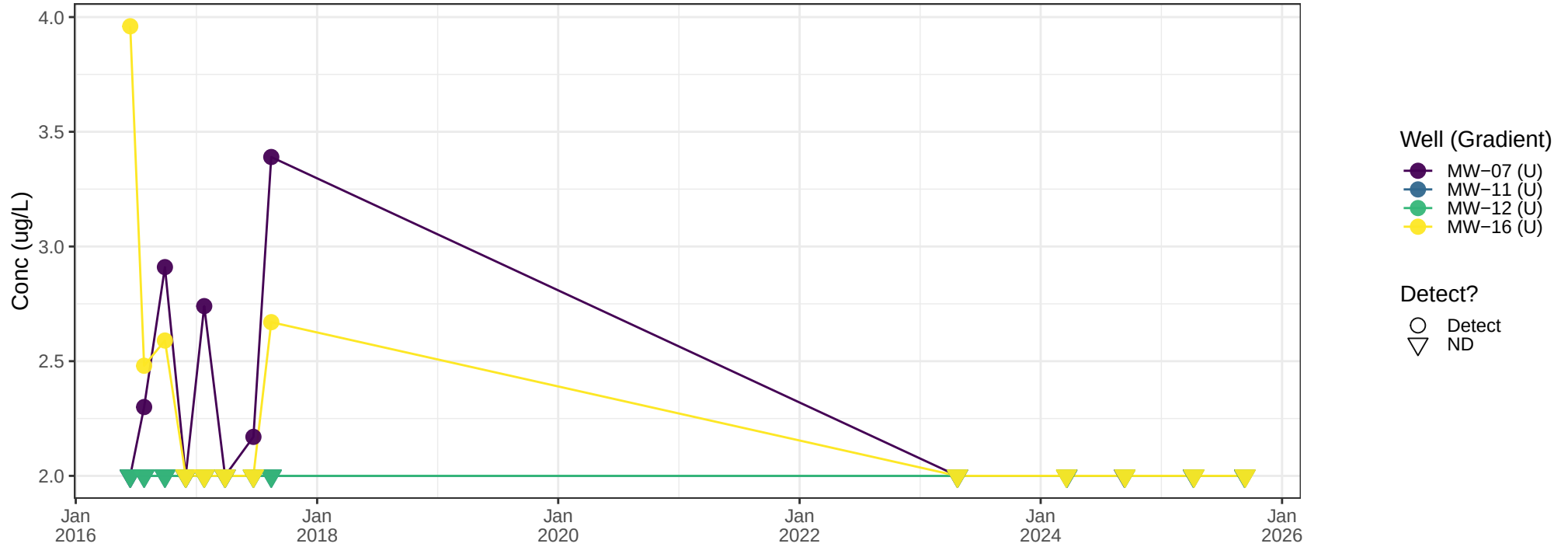
Barium



Only shows background well data that will be used to calculate Prediction Limits
Significant temporal and spatial variability noted. Do not combine

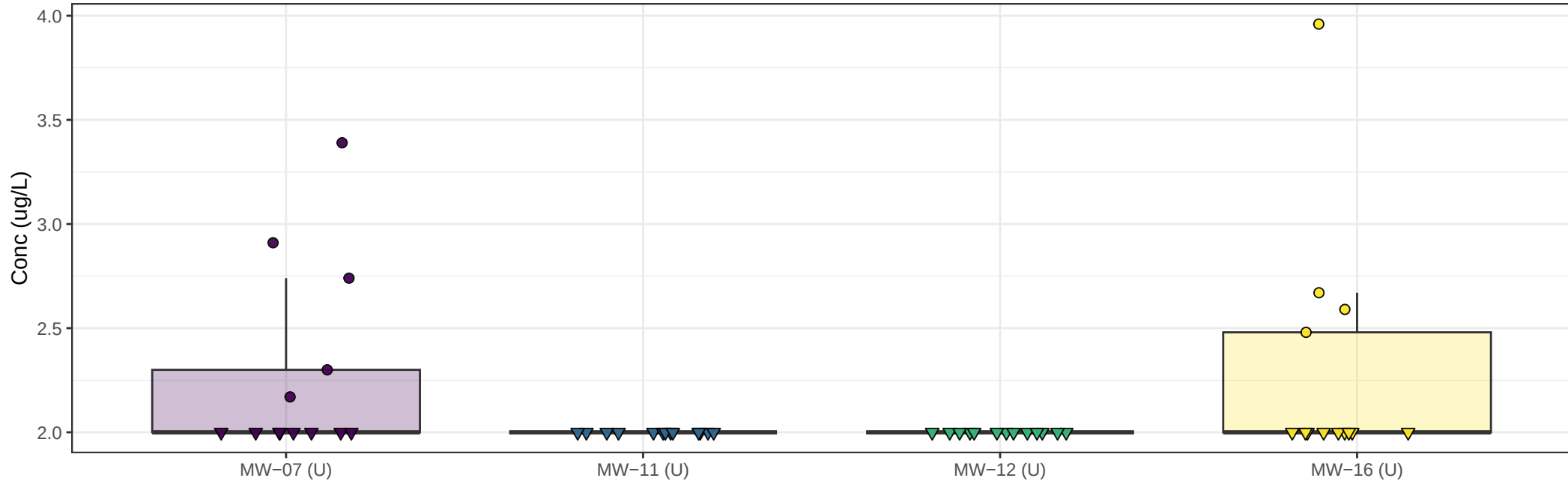
Twin Oaks, Timeseries of Background Wells

Beryllium



Twin Oaks, Boxplots of Background Wells

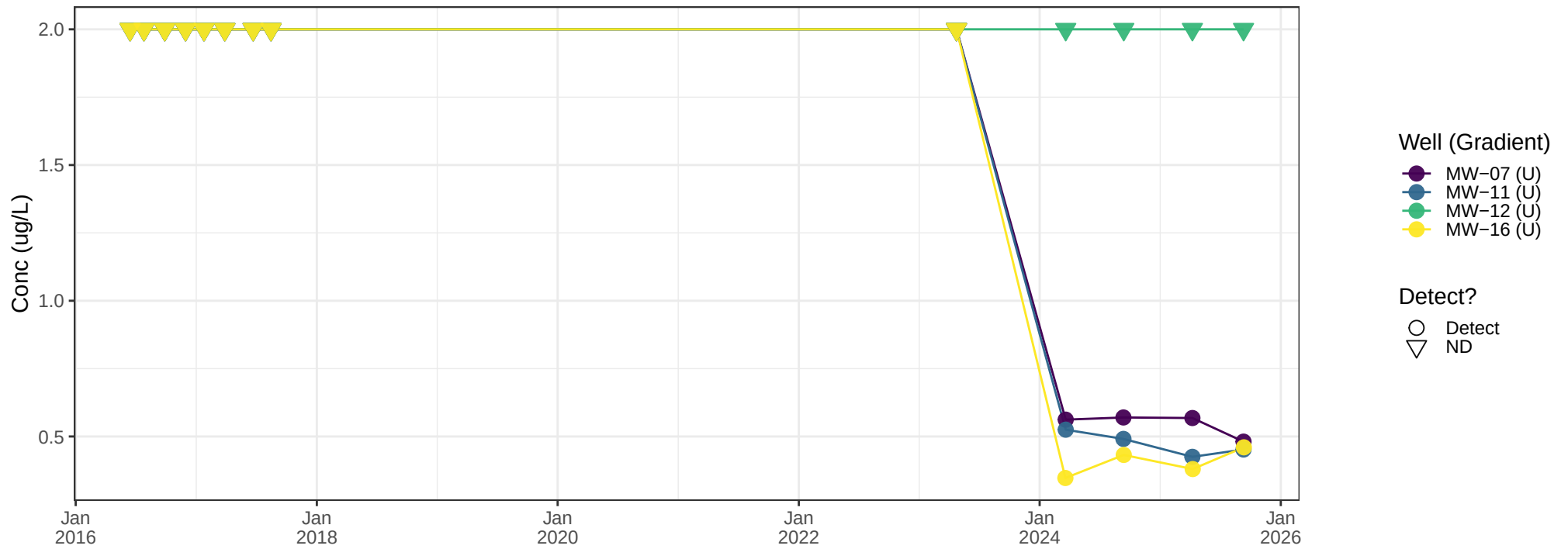
Beryllium



Only shows background well data that will be used to calculate Prediction Limits
Significant spatial variability noted. Do not combine

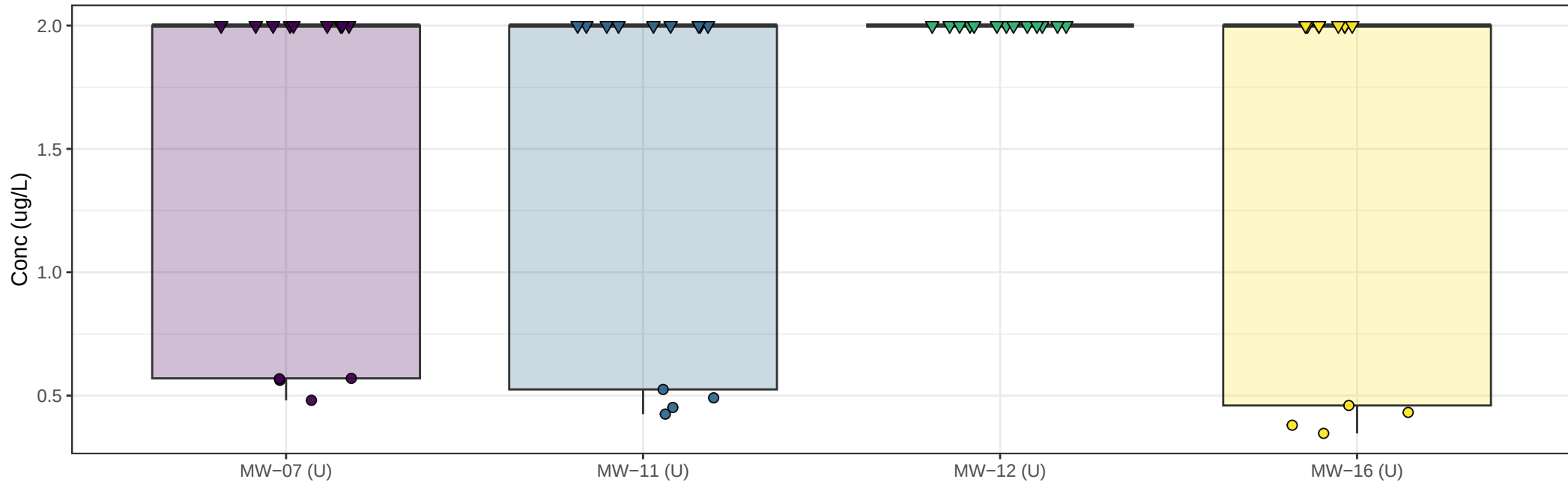
Twin Oaks, Timeseries of Background Wells

Cadmium



Twin Oaks, Boxplots of Background Wells

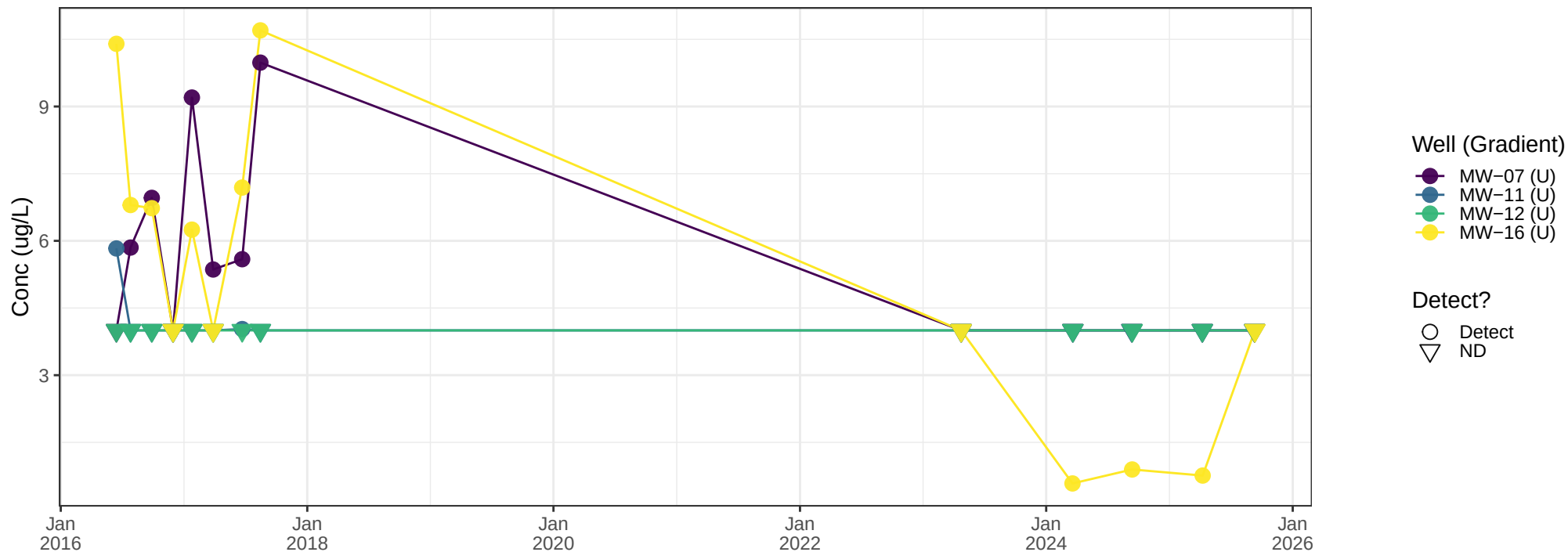
Cadmium



Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

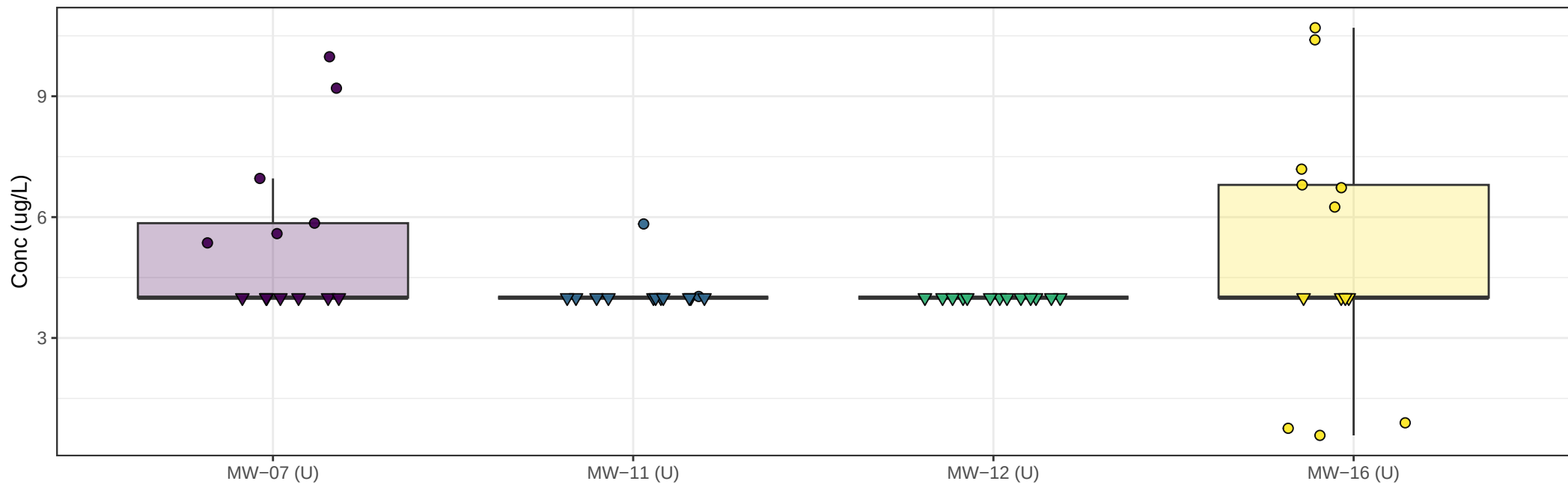
Twin Oaks, Timeseries of Background Wells

Chromium



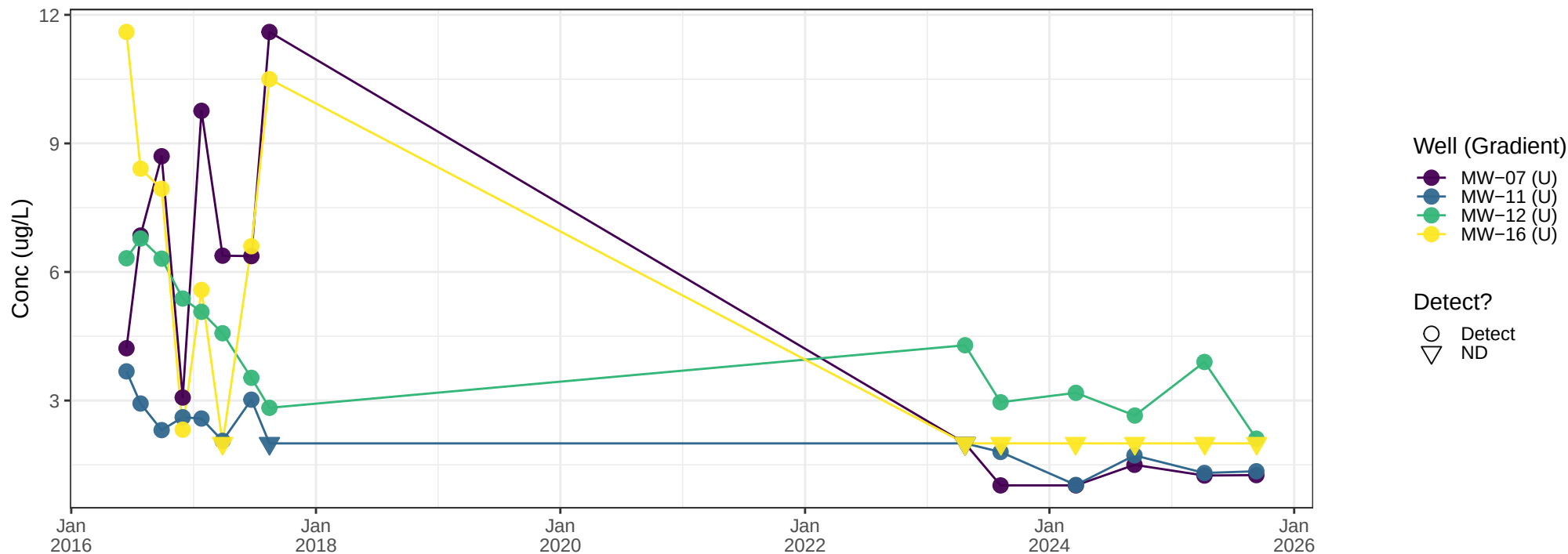
Twin Oaks, Boxplots of Background Wells

Chromium

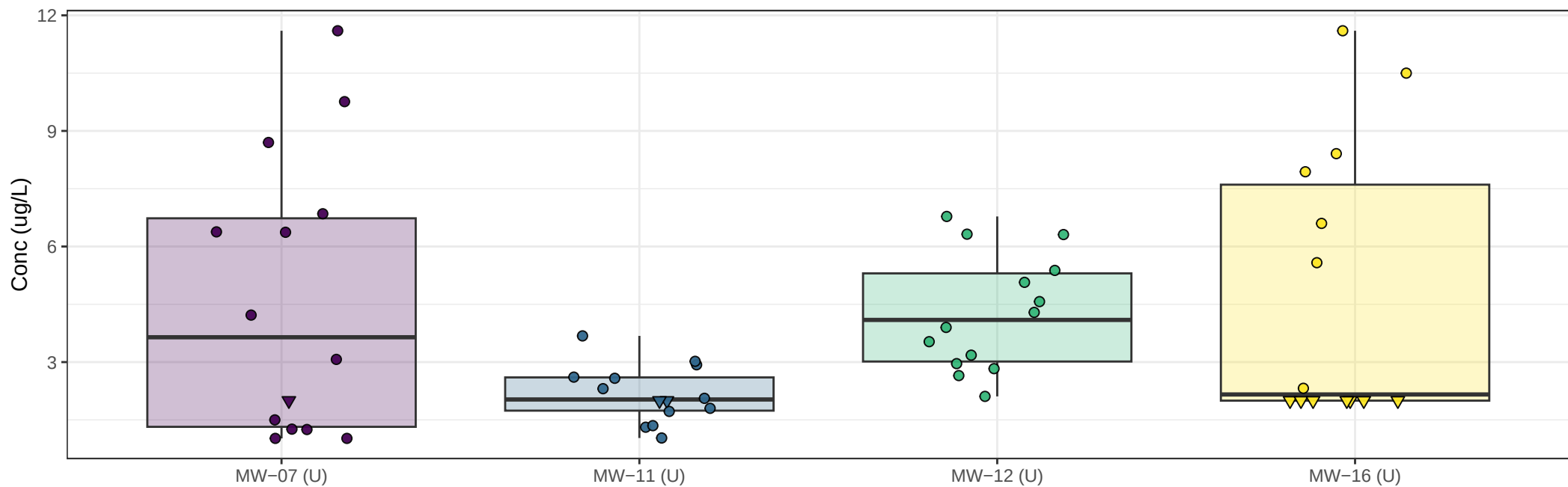


Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

Twin Oaks, Timeseries of Background Wells
Cobalt



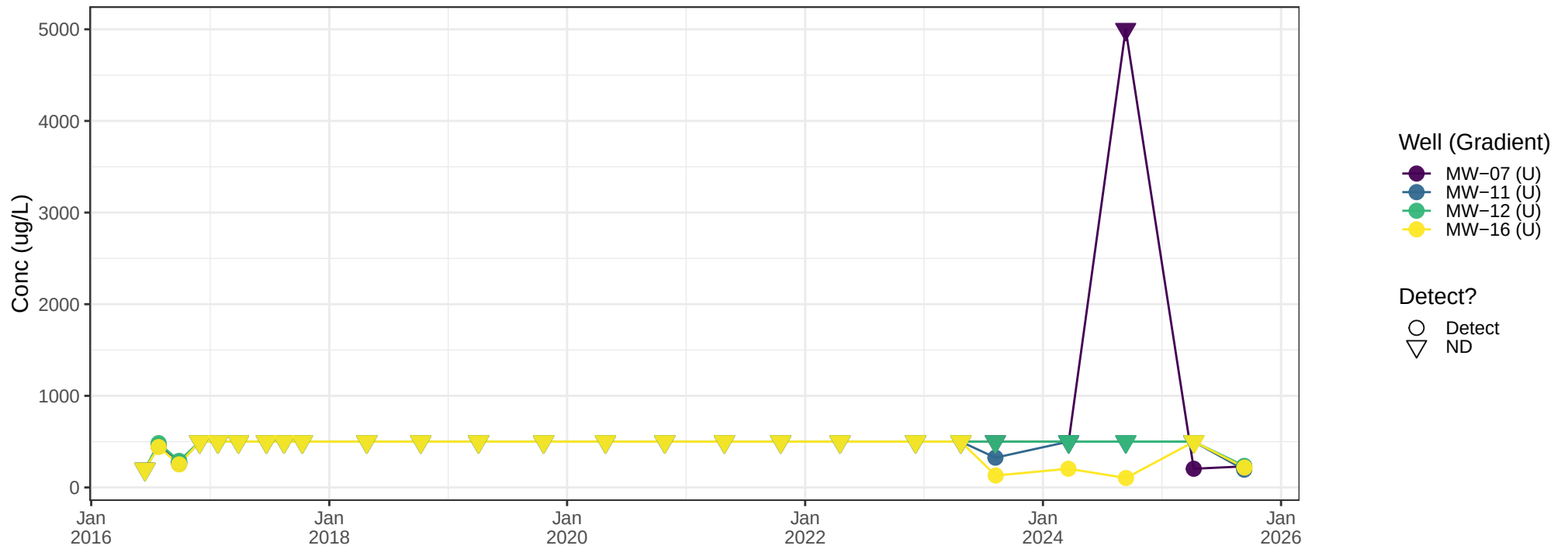
Twin Oaks, Boxplots of Background Wells
Cobalt



Only shows background well data that will be used to calculate Prediction Limits
Significant temporal and spatial variability noted. Do not combine

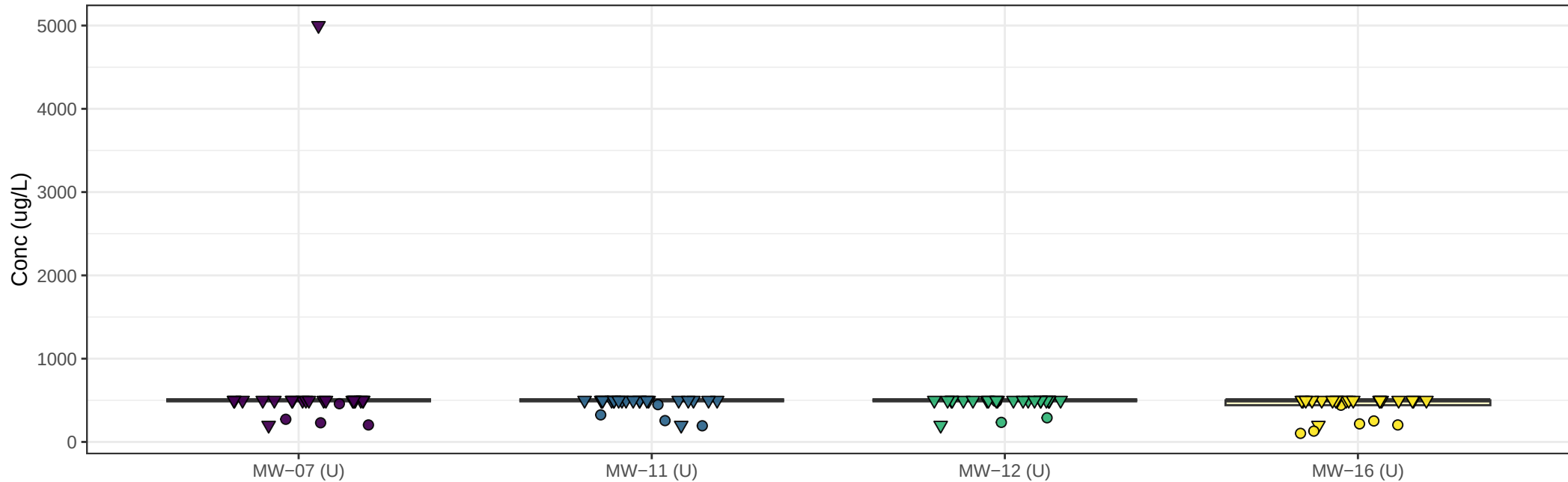
Twin Oaks, Timeseries of Background Wells

Fluoride



Twin Oaks, Boxplots of Background Wells

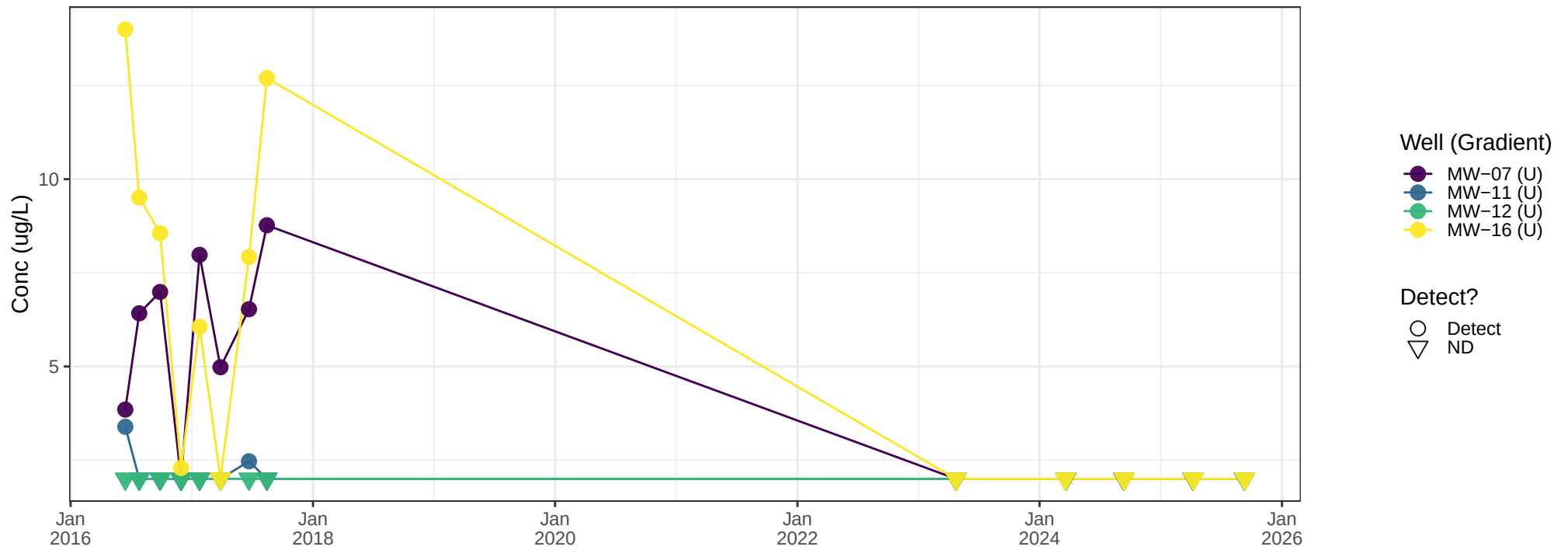
Fluoride



Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

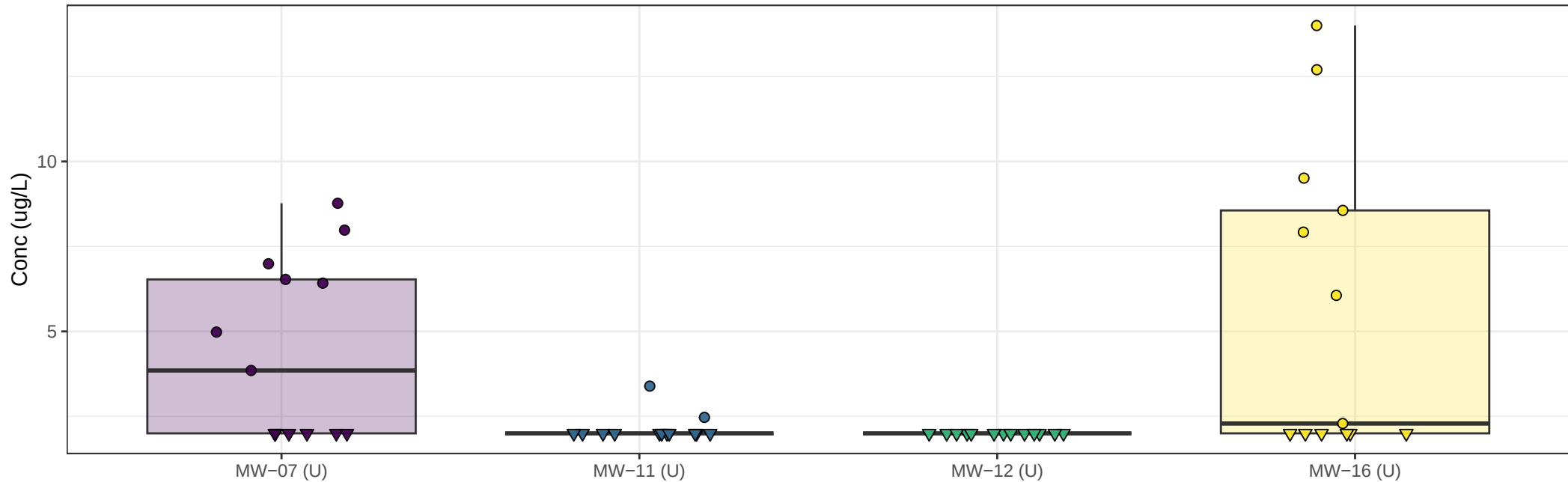
Twin Oaks, Timeseries of Background Wells

Lead



Twin Oaks, Boxplots of Background Wells

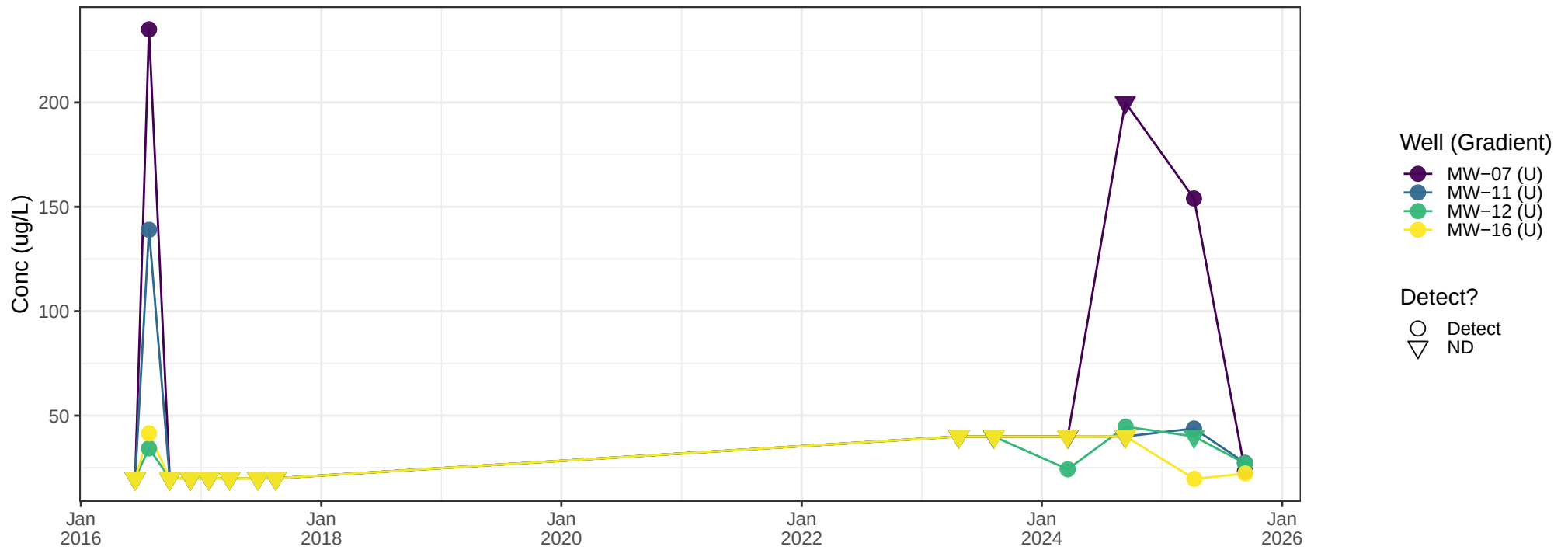
Lead



Only shows background well data that will be used to calculate Prediction Limits
Significant temporal and spatial variability noted. Do not combine

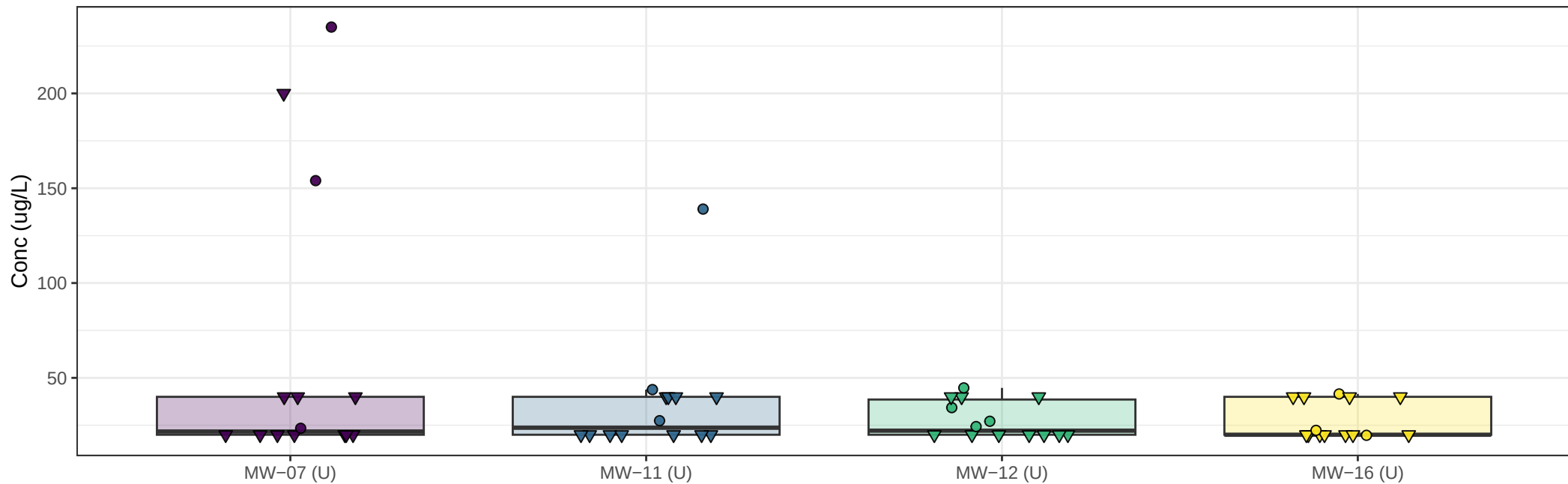
Twin Oaks, Timeseries of Background Wells

Lithium



Twin Oaks, Boxplots of Background Wells

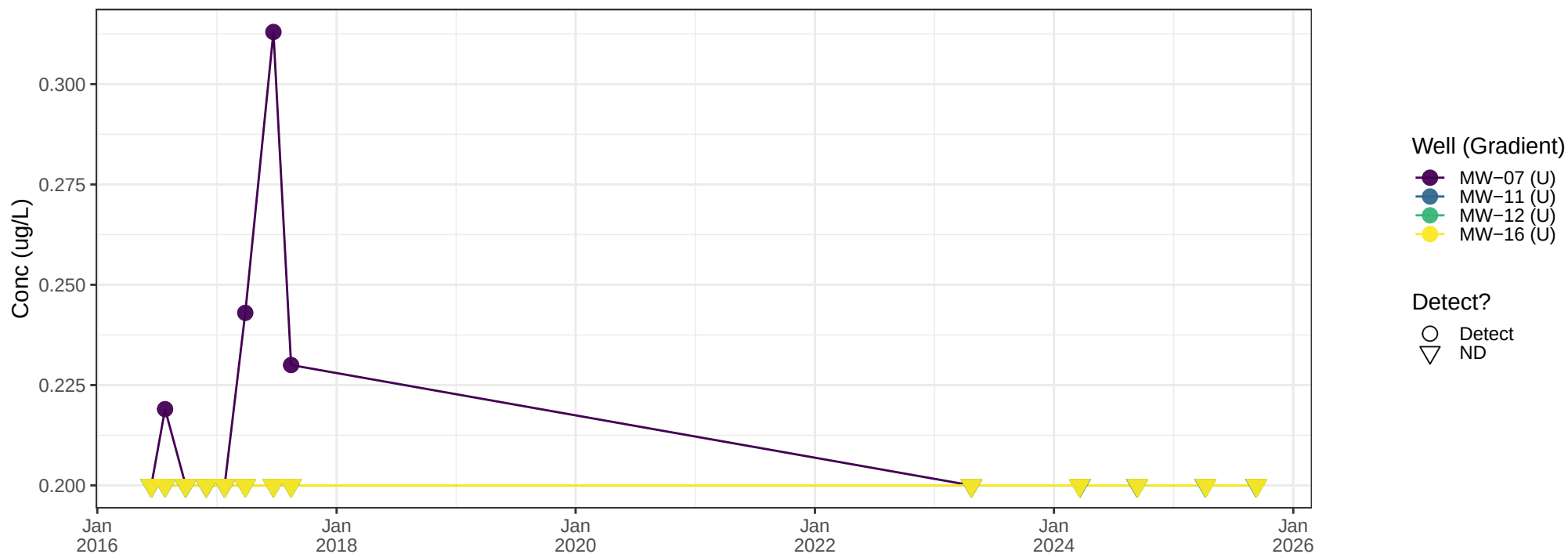
Lithium



Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

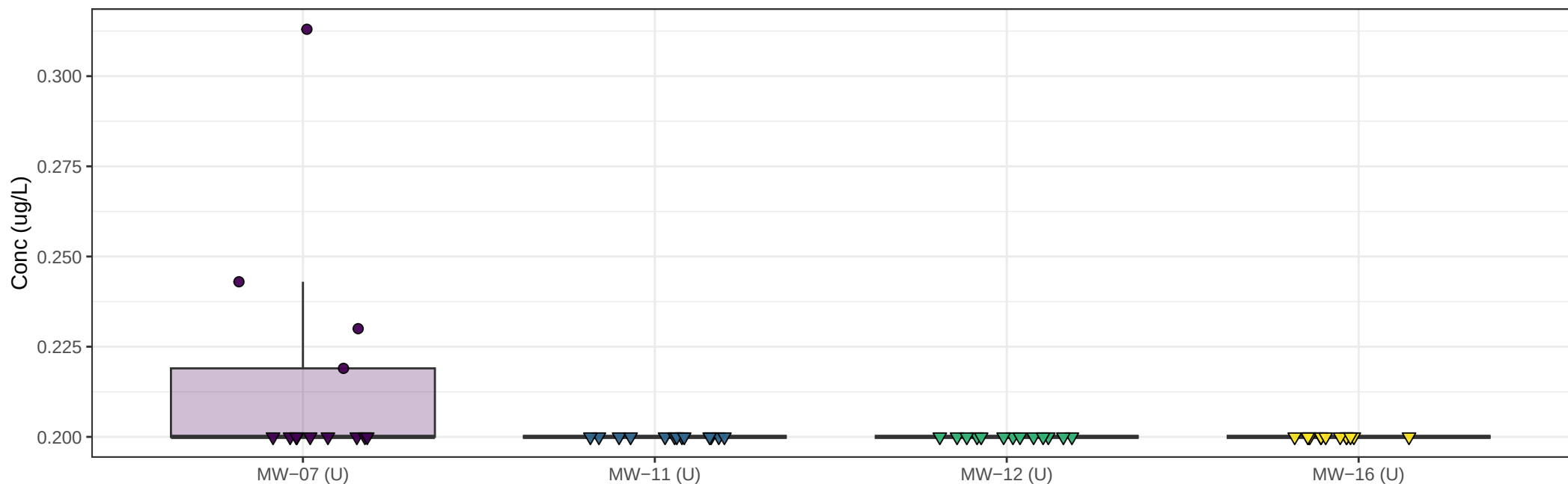
Twin Oaks, Timeseries of Background Wells

Mercury



Twin Oaks, Boxplots of Background Wells

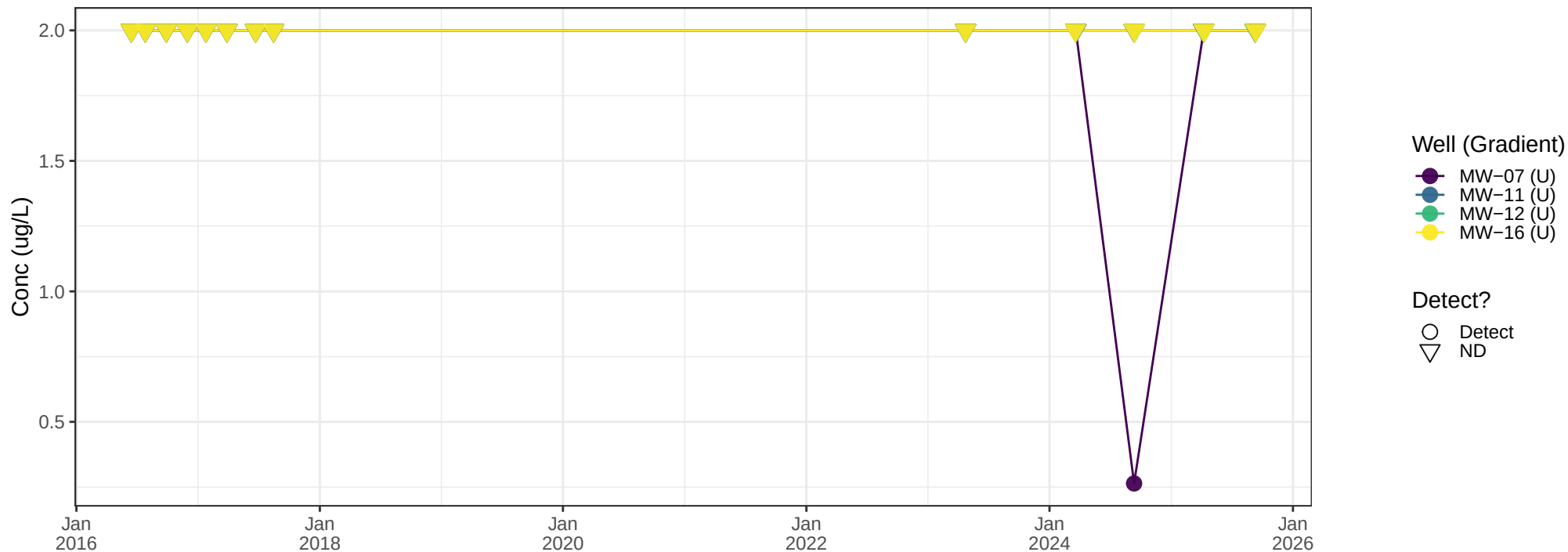
Mercury



Only shows background well data that will be used to calculate Prediction Limits
Significant spatial variability noted. Do not combine

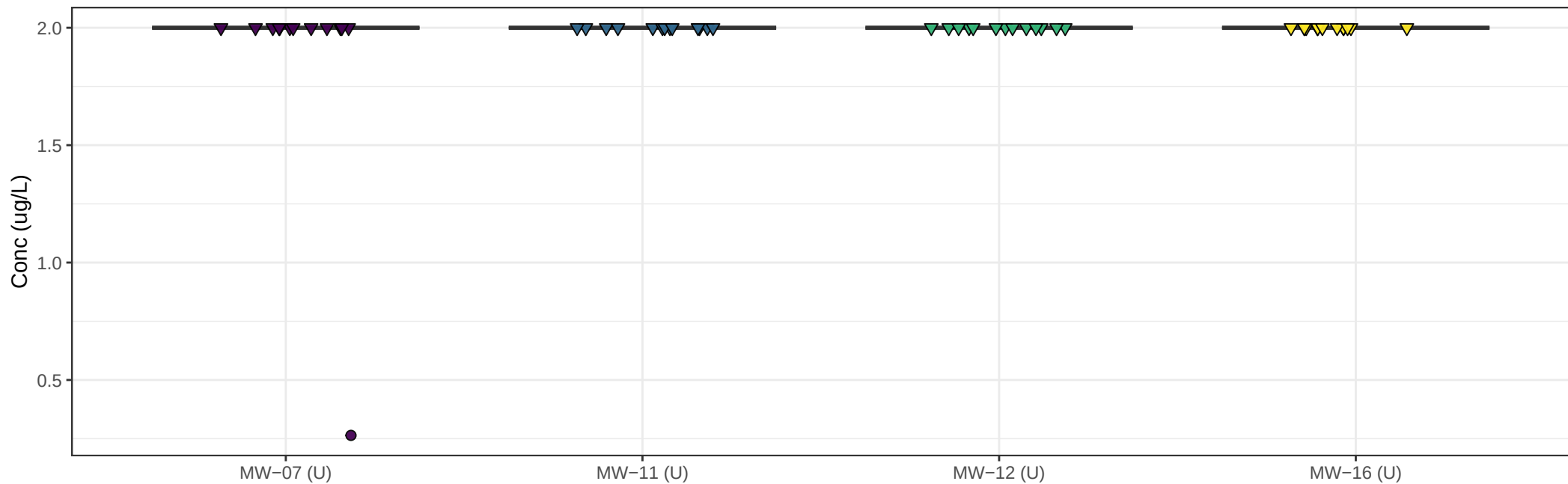
Twin Oaks, Timeseries of Background Wells

Molybdenum



Twin Oaks, Boxplots of Background Wells

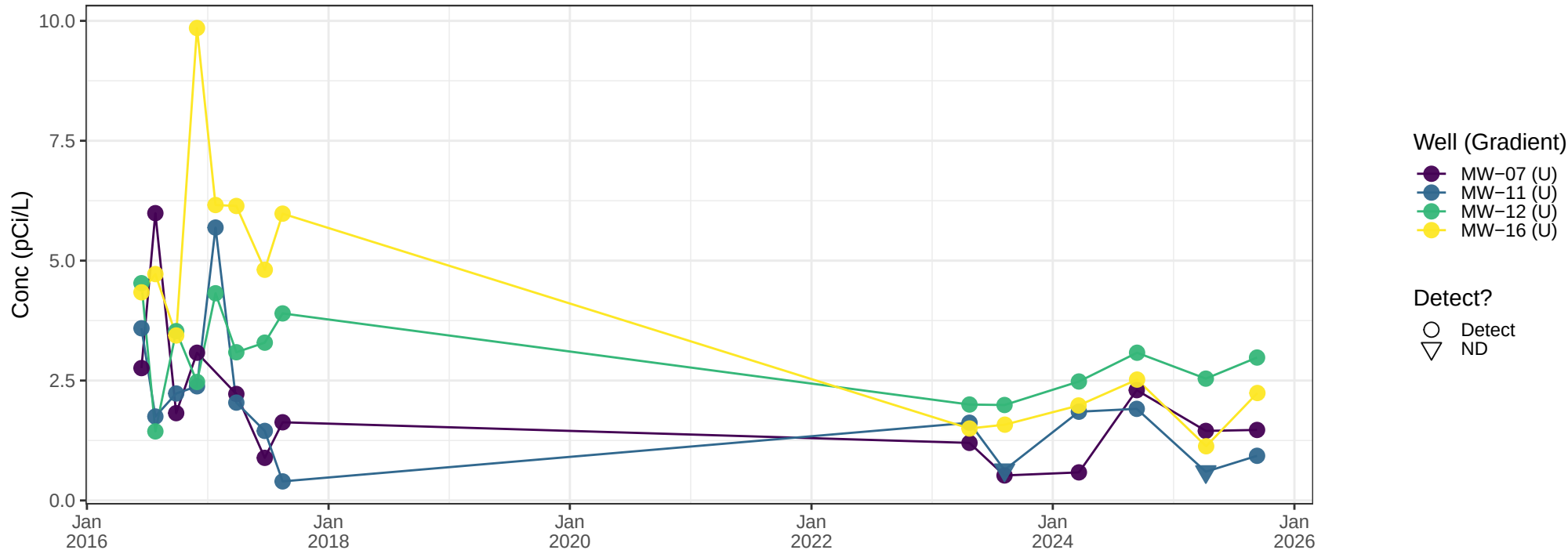
Molybdenum



Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

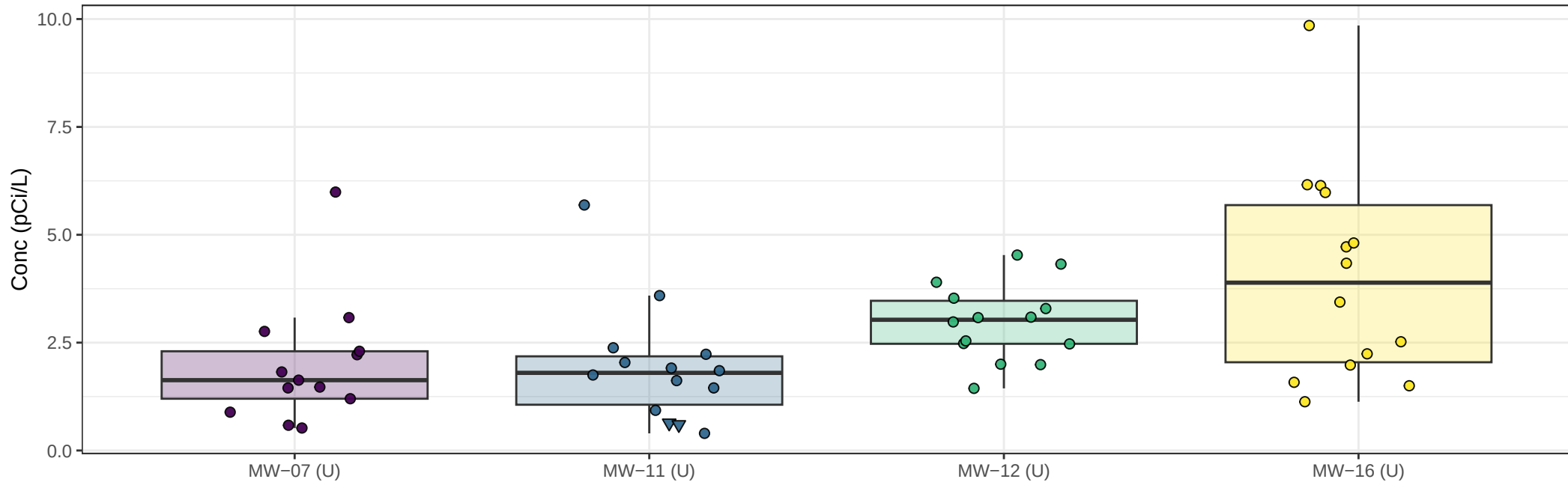
Twin Oaks, Timeseries of Background Wells

Radium-226/228



Twin Oaks, Boxplots of Background Wells

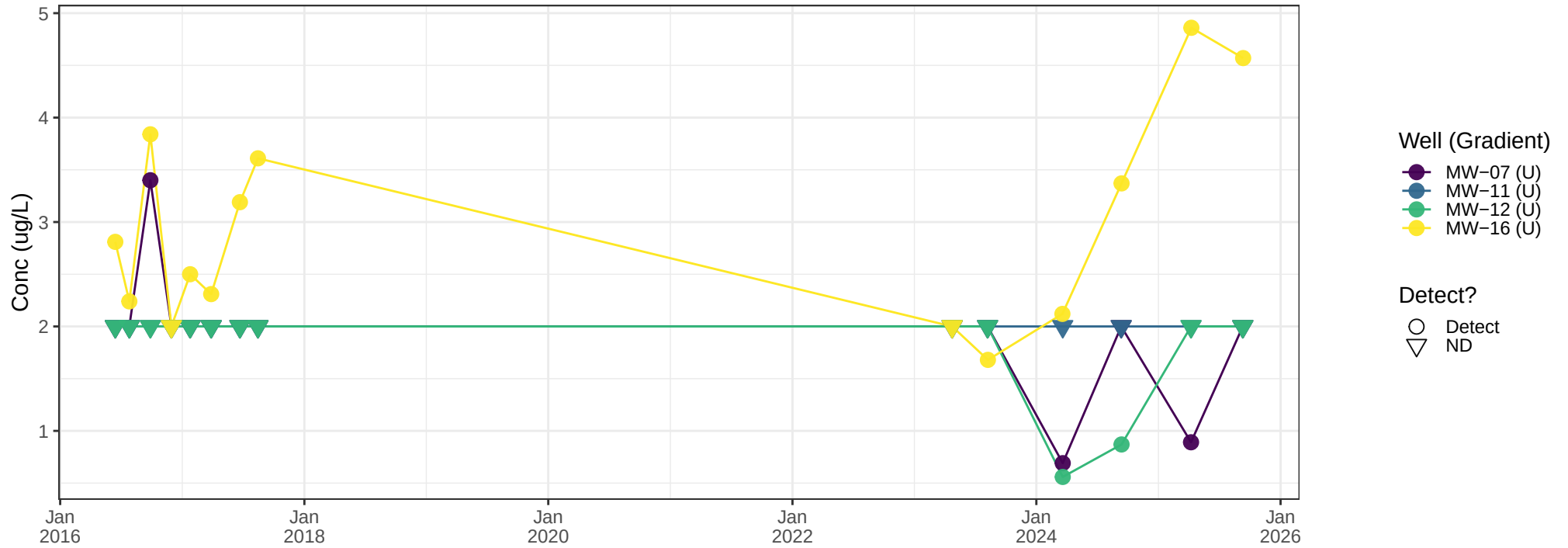
Radium-226/228



Only shows background well data that will be used to calculate Prediction Limits
Significant temporal and spatial variability noted. Do not combine

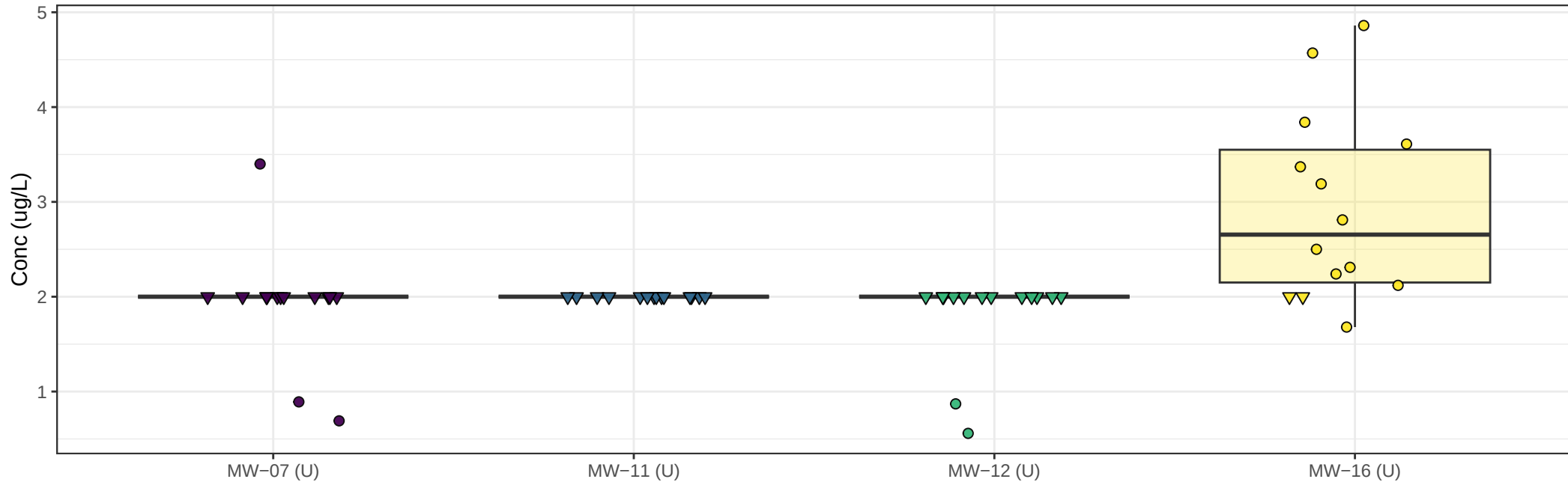
Twin Oaks, Timeseries of Background Wells

Selenium



Twin Oaks, Boxplots of Background Wells

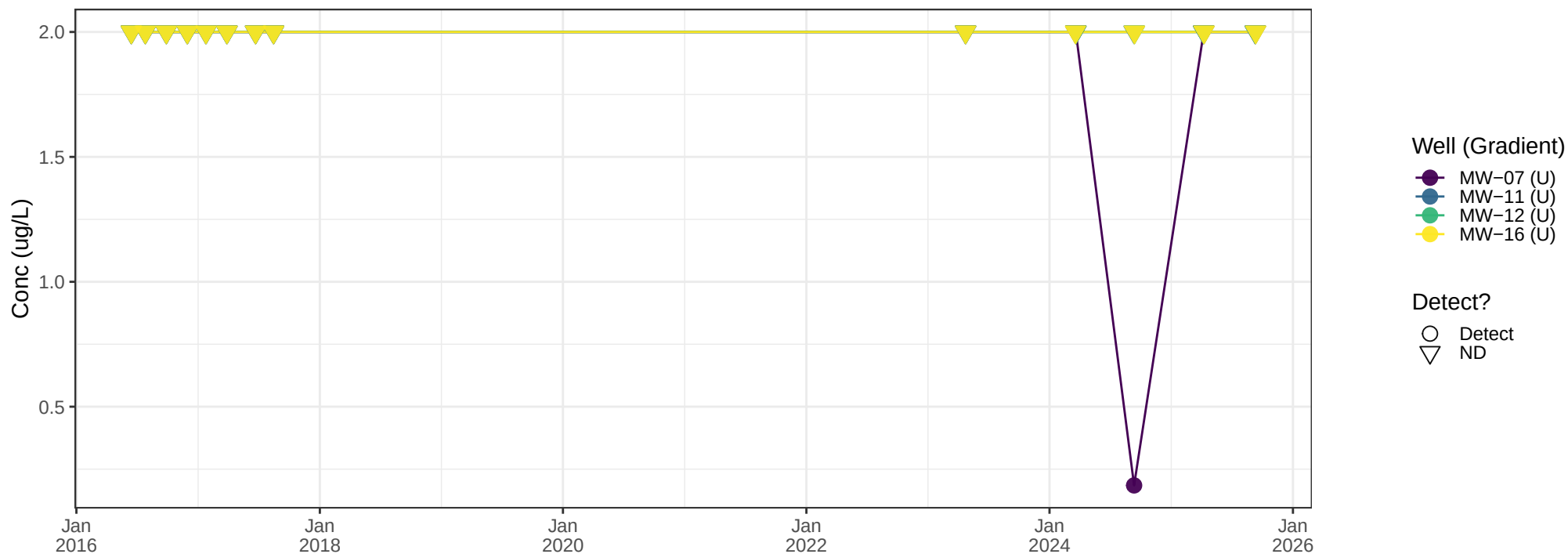
Selenium



Only shows background well data that will be used to calculate Prediction Limits
Significant spatial variability noted. Do not combine

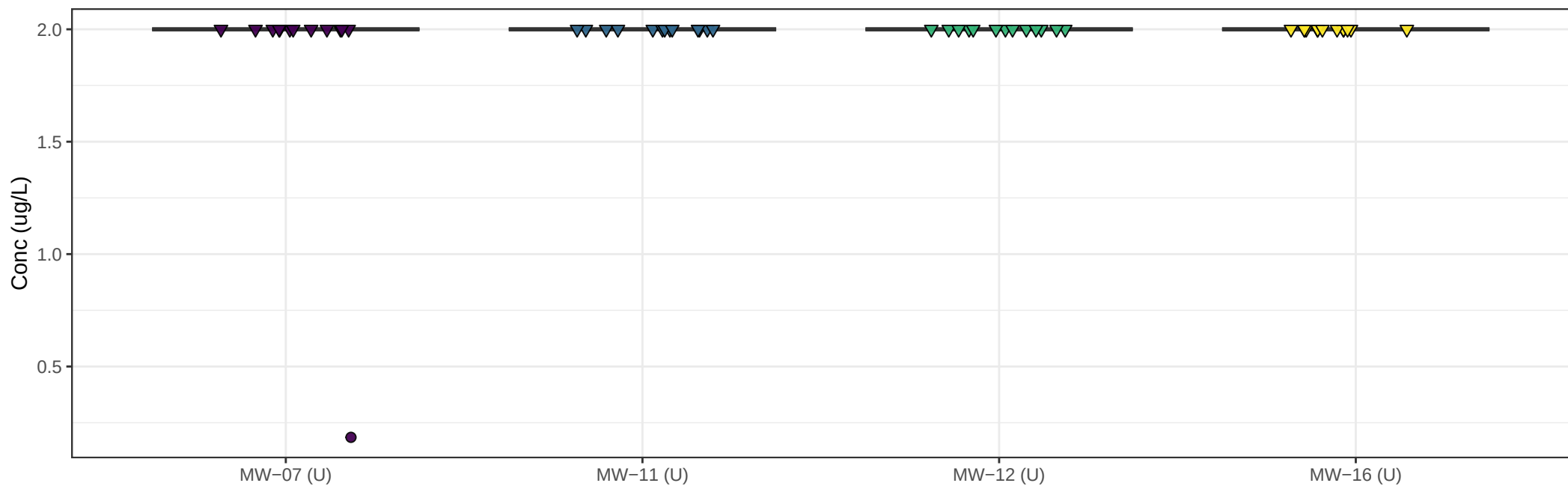
Twin Oaks, Timeseries of Background Wells

Thallium



Twin Oaks, Boxplots of Background Wells

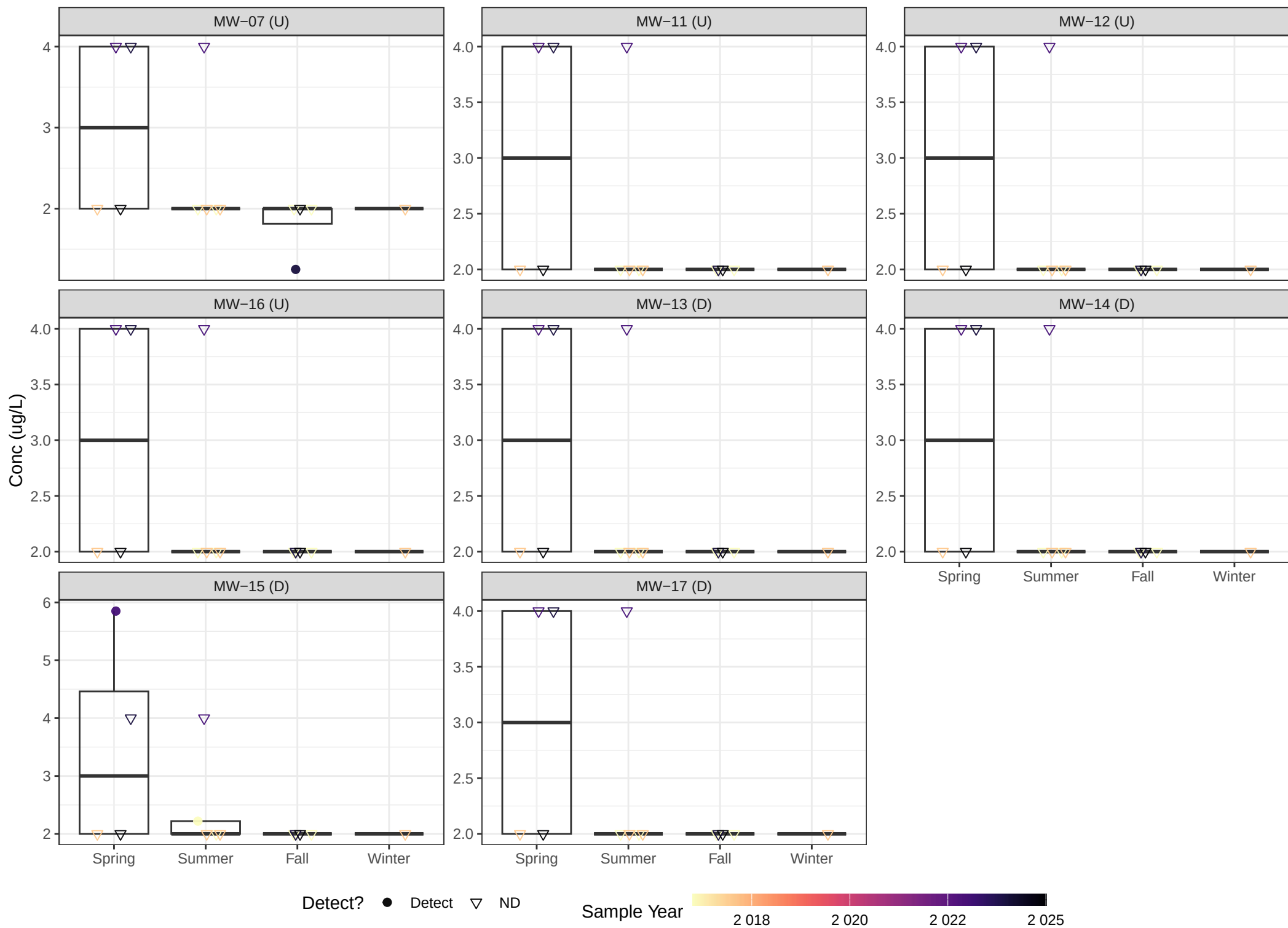
Thallium



Only shows background well data that will be used to calculate Prediction Limits
No significant temporal and spatial variability noted. Combine wells

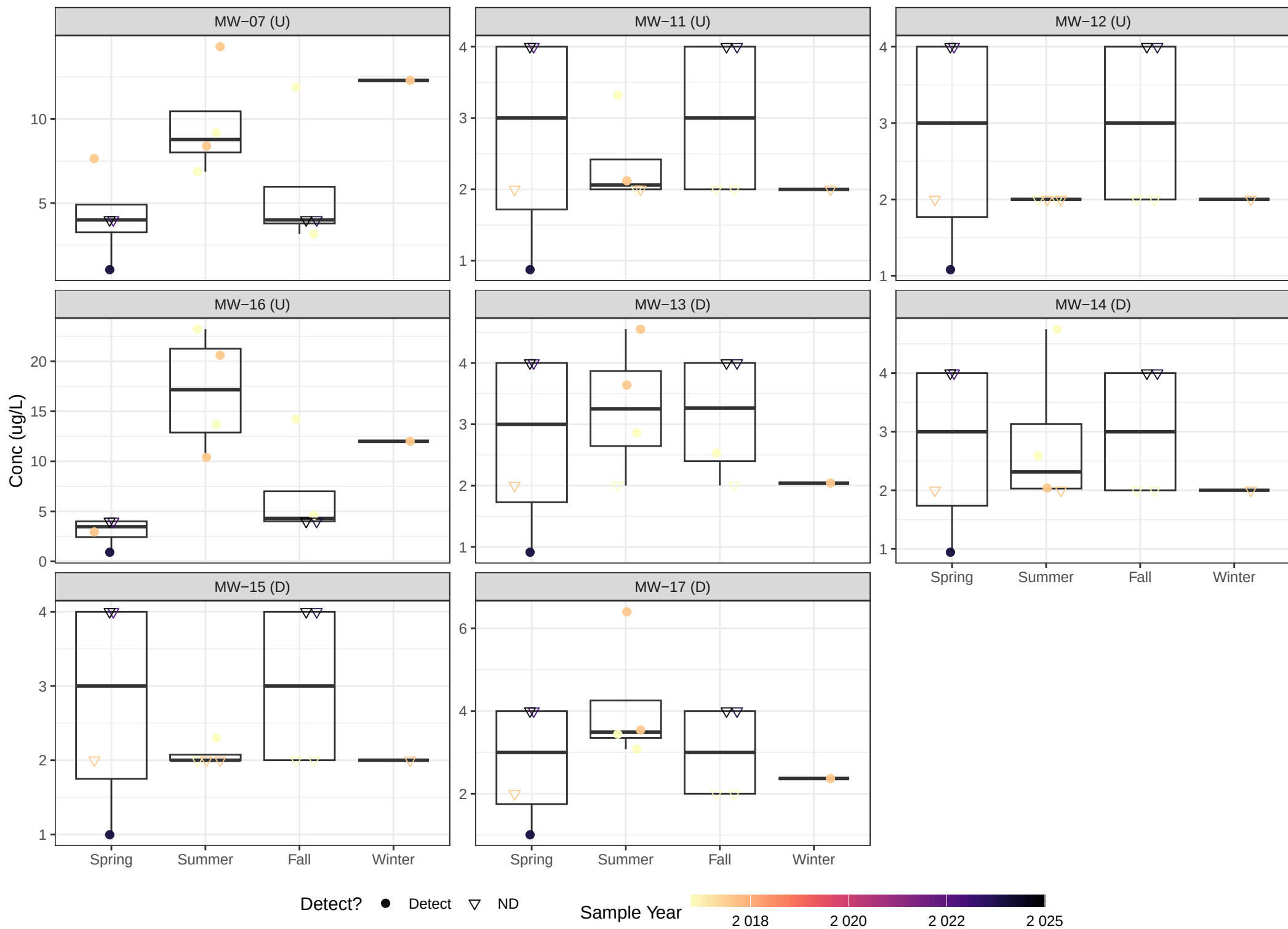
Twin Oaks, Seasonality Boxplots

Antimony



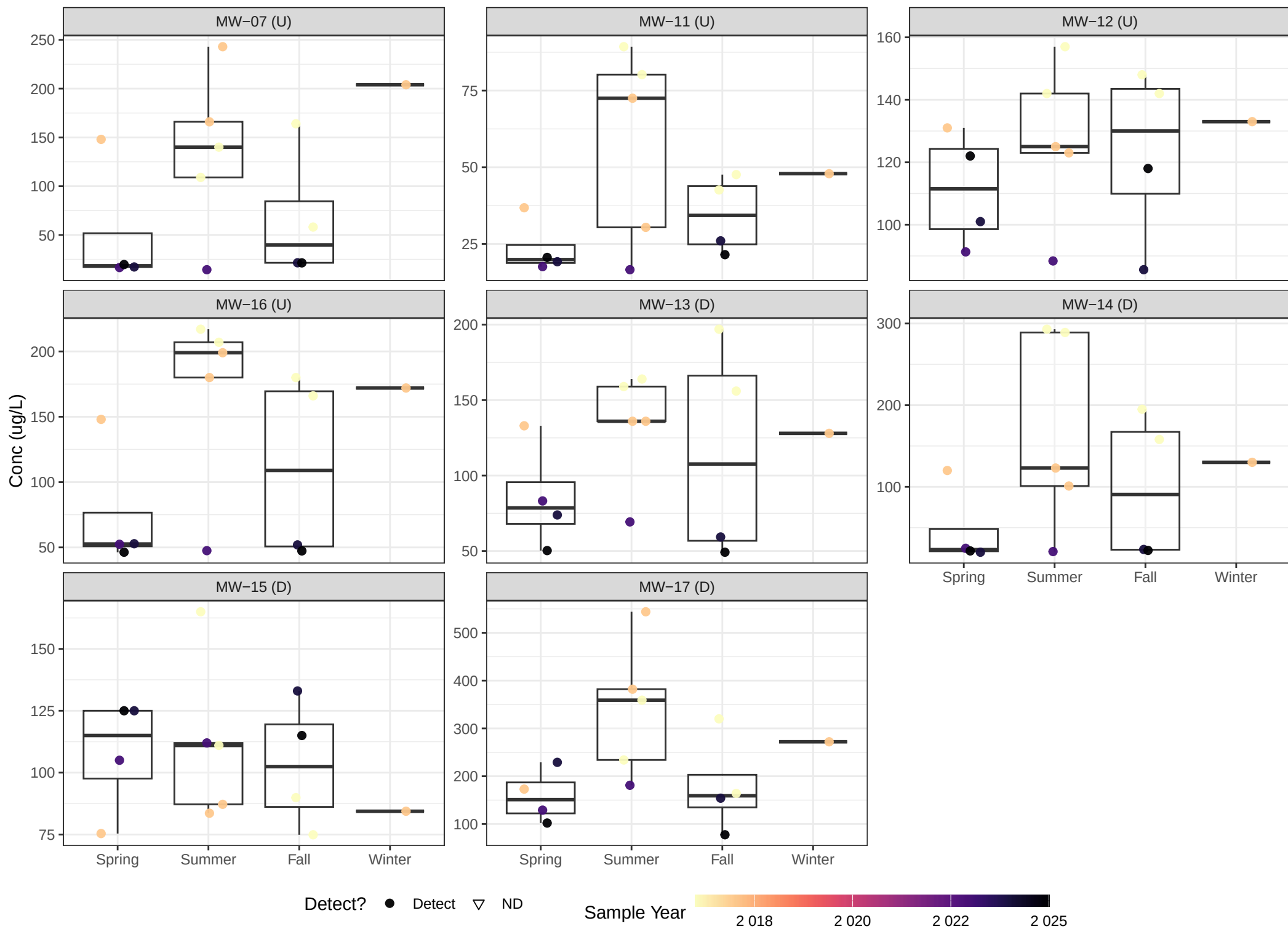
Twin Oaks, Seasonality Boxplots

Arsenic



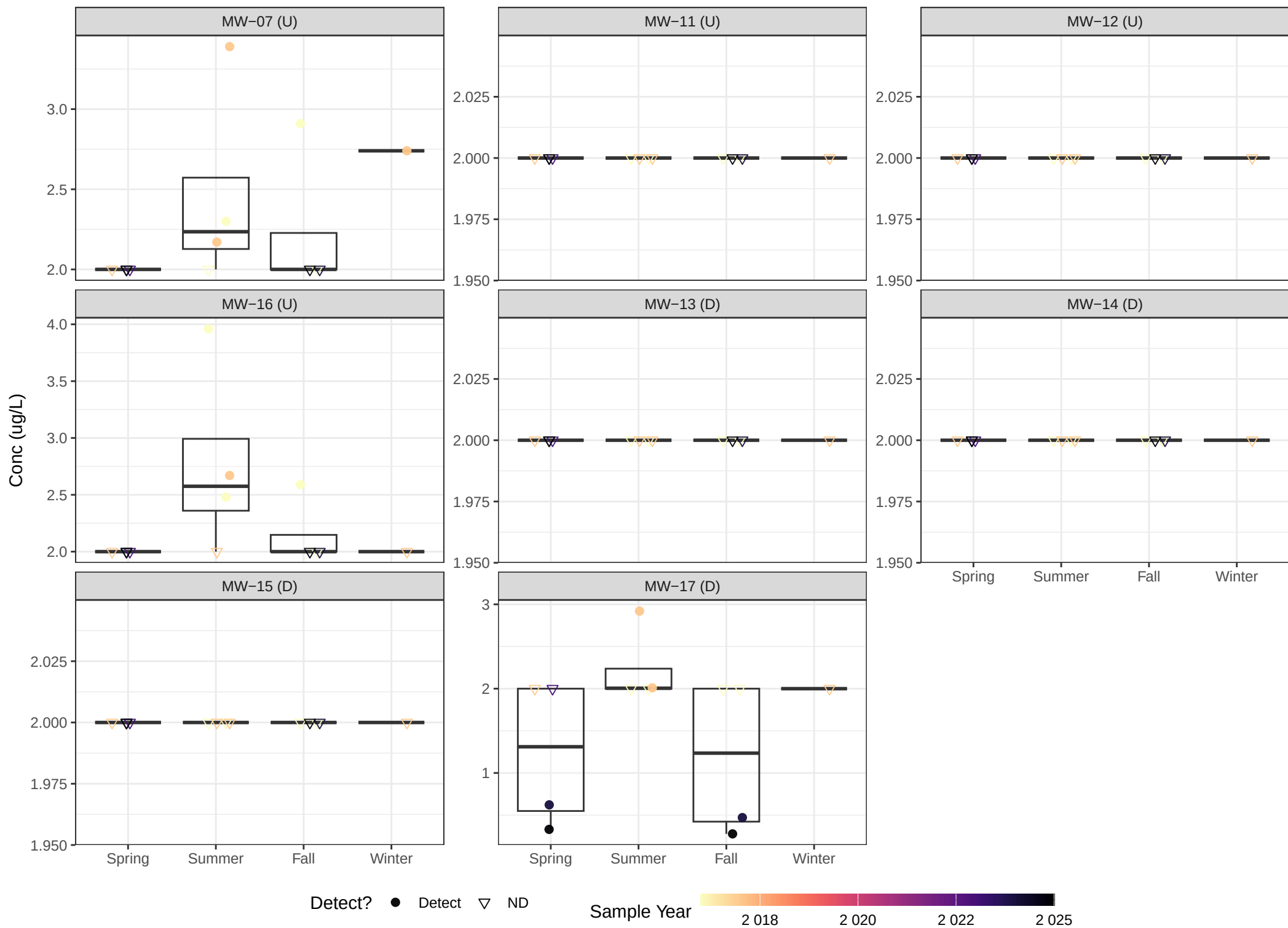
Twin Oaks, Seasonality Boxplots

Barium



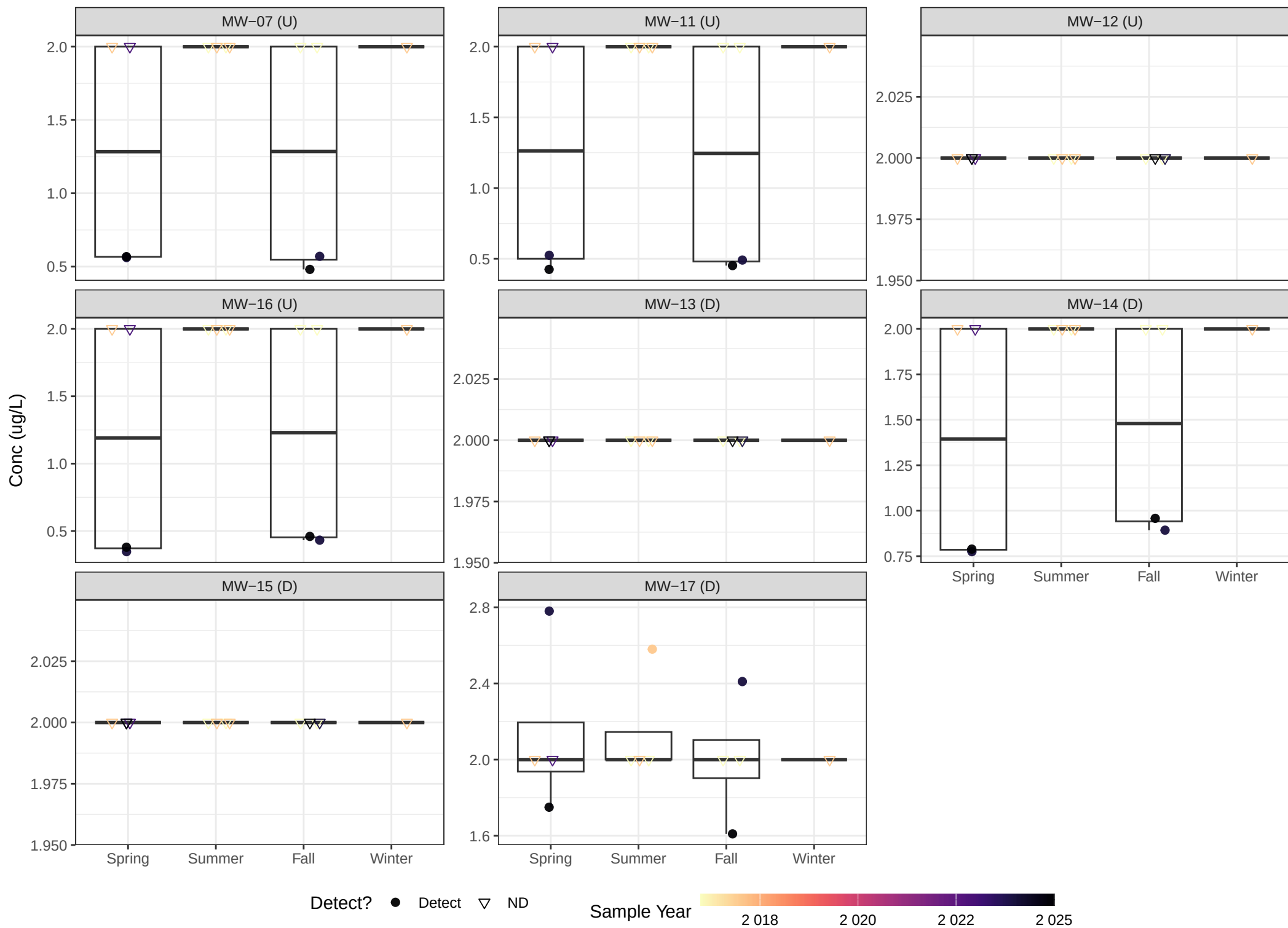
Twin Oaks, Seasonality Boxplots

Beryllium



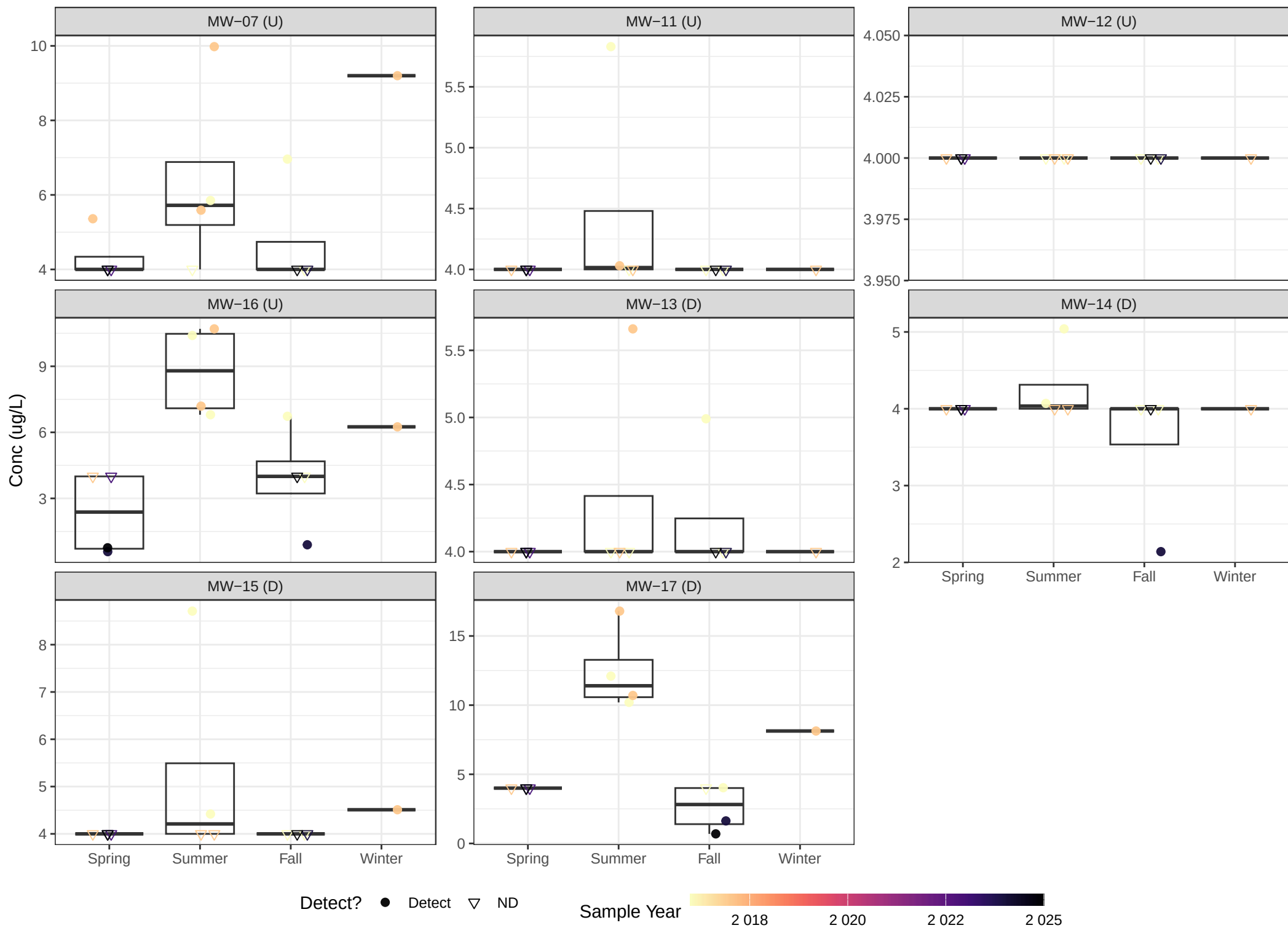
Twin Oaks, Seasonality Boxplots

Cadmium



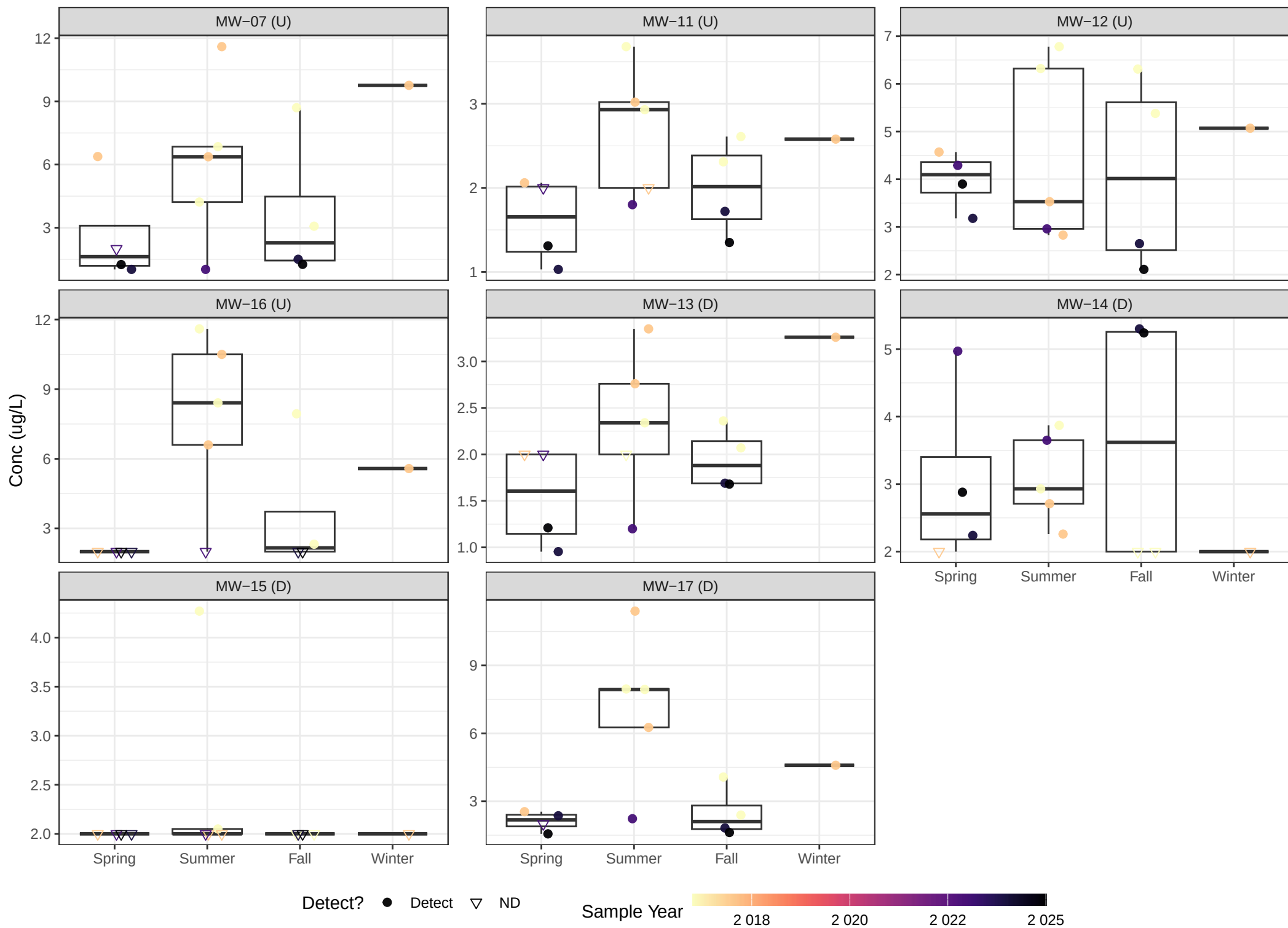
Twin Oaks, Seasonality Boxplots

Chromium



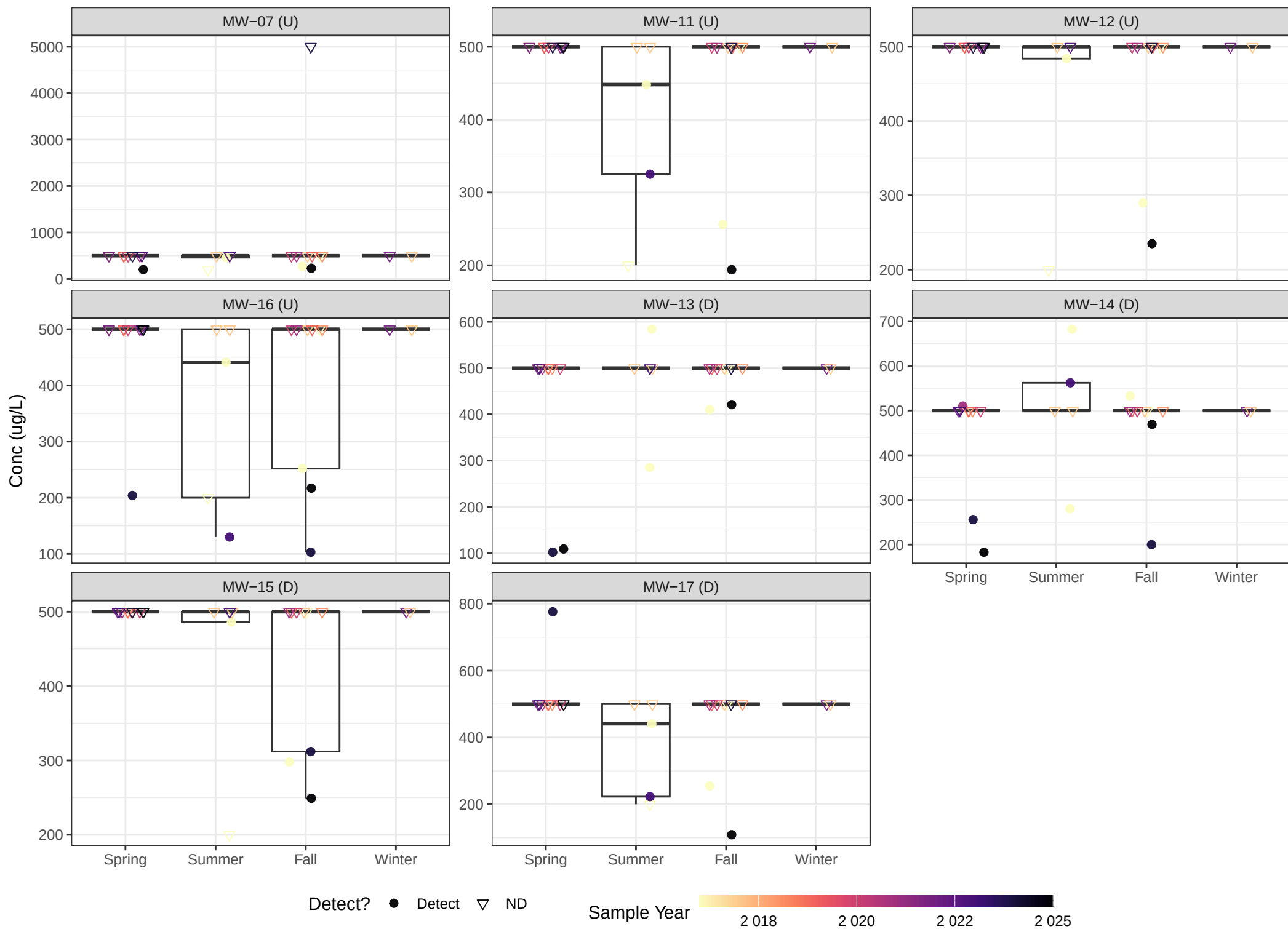
Twin Oaks, Seasonality Boxplots

Cobalt



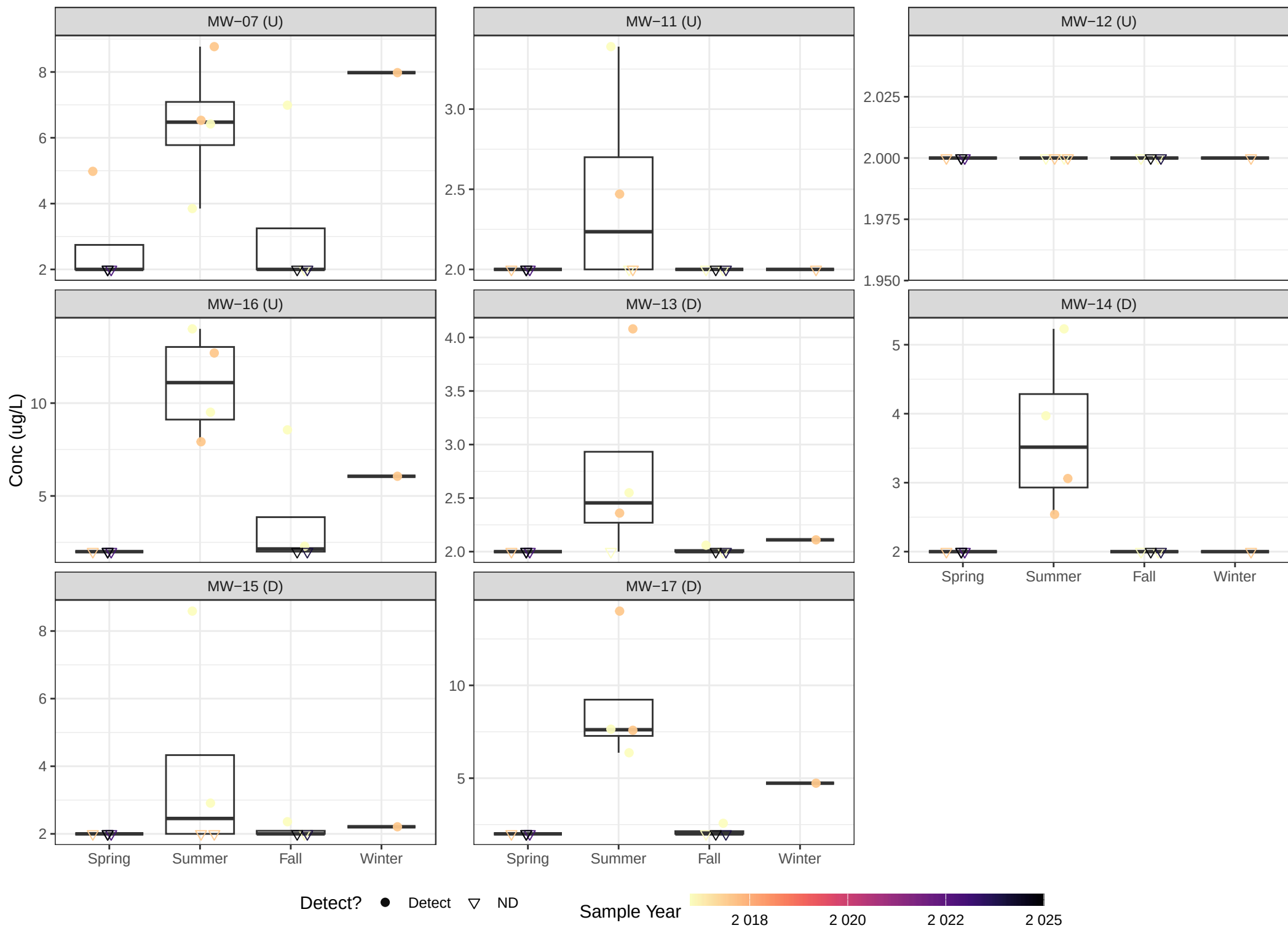
Twin Oaks, Seasonality Boxplots

Fluoride



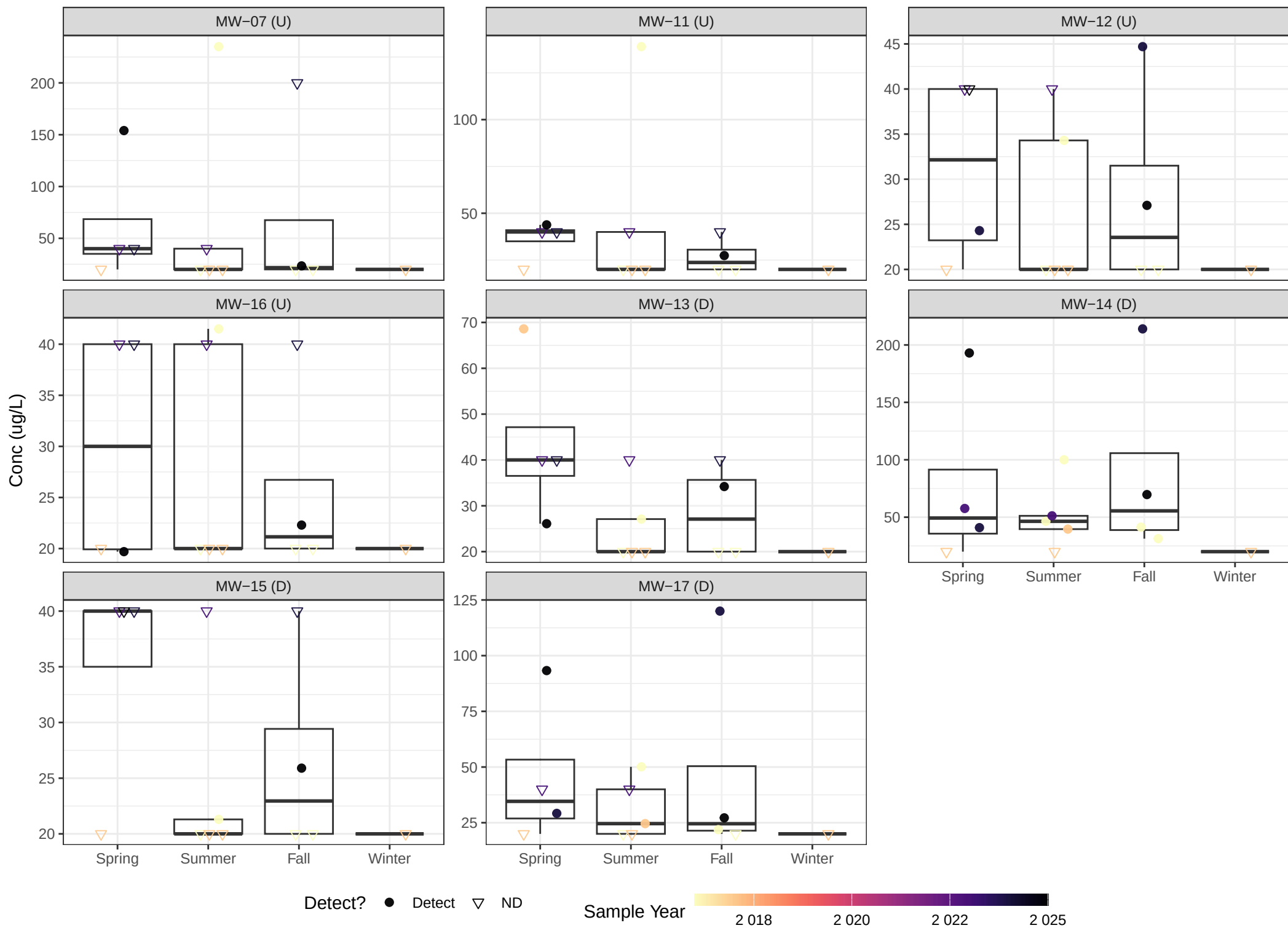
Twin Oaks, Seasonality Boxplots

Lead



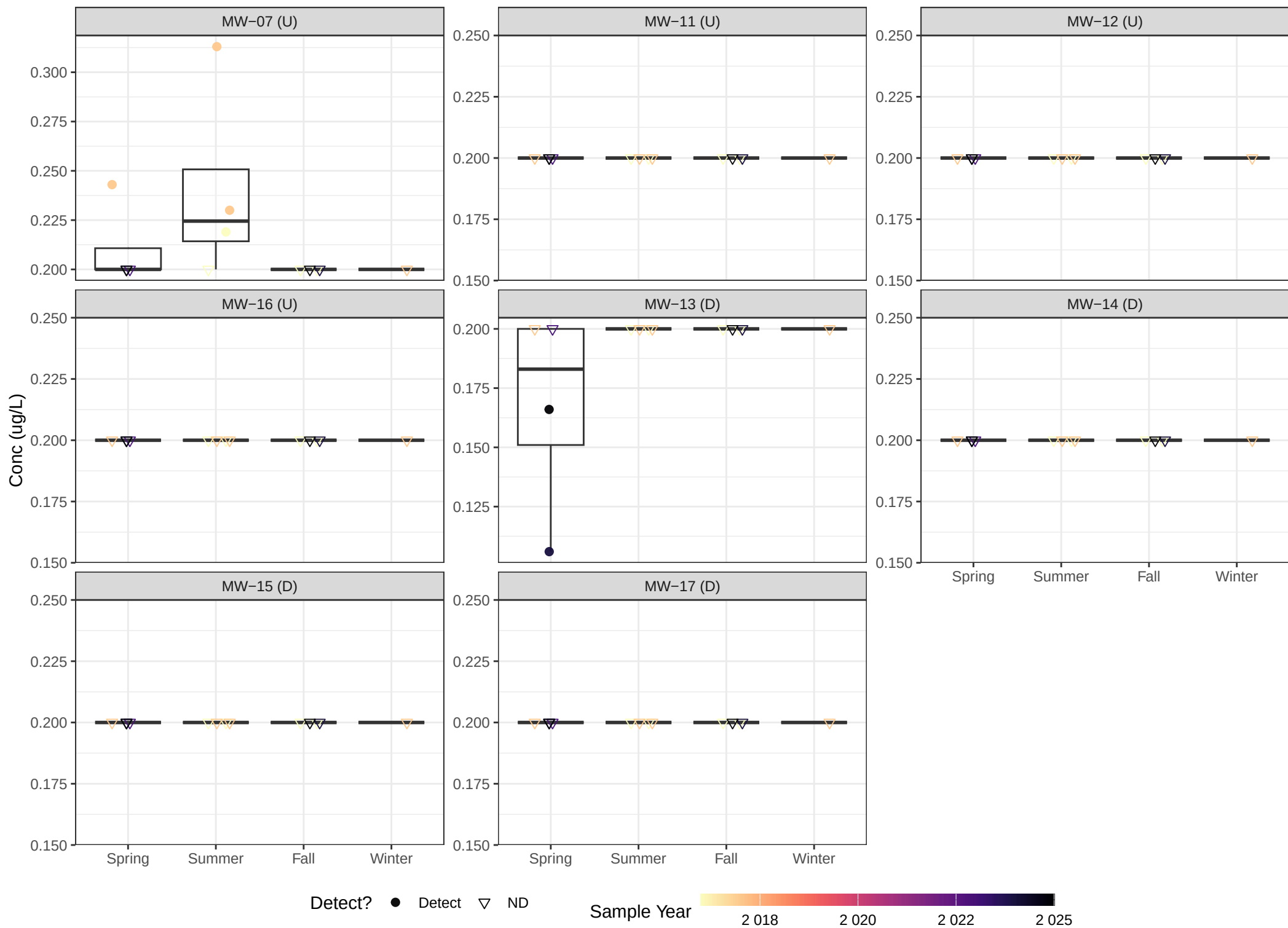
Twin Oaks, Seasonality Boxplots

Lithium



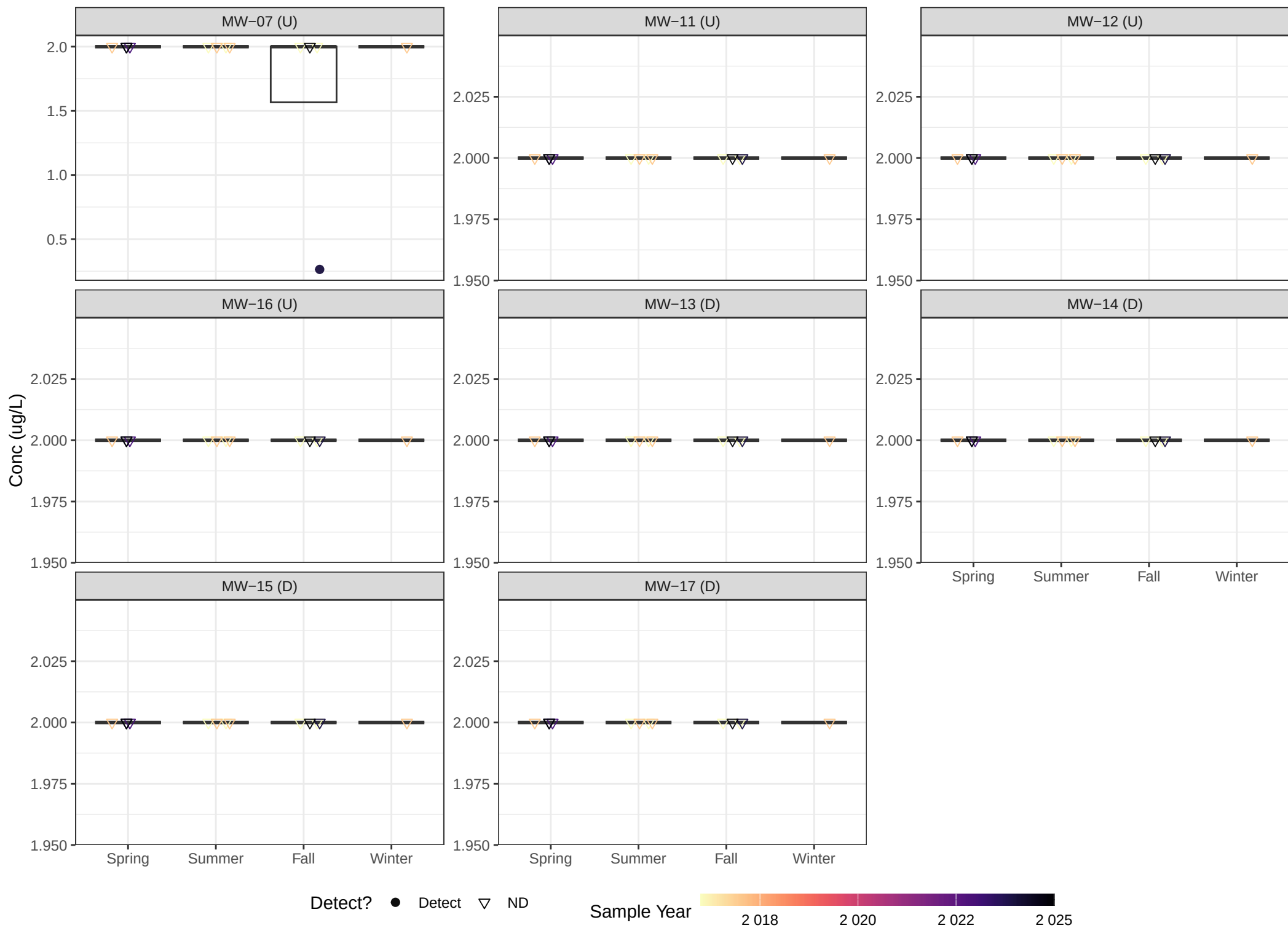
Twin Oaks, Seasonality Boxplots

Mercury



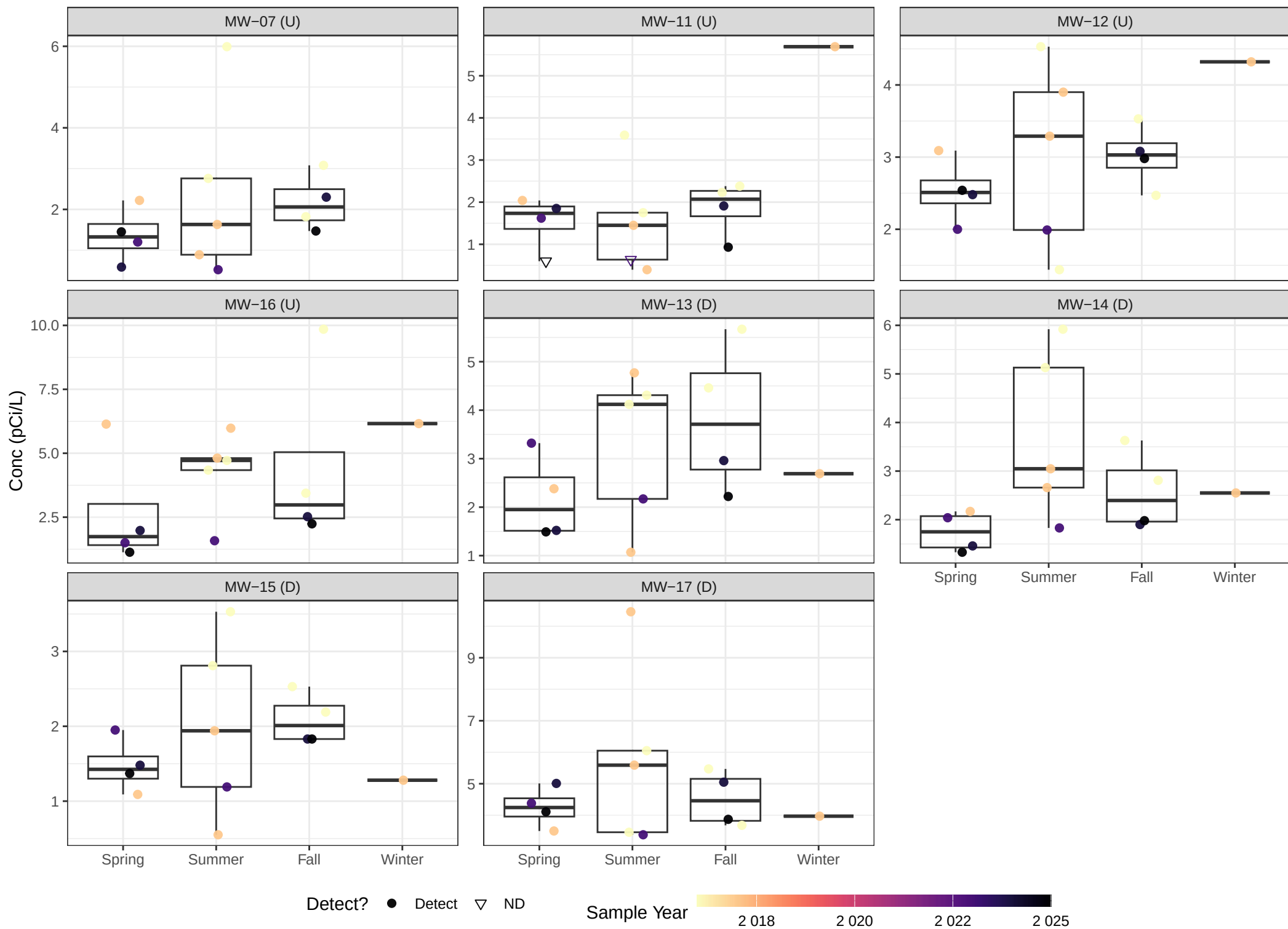
Twin Oaks, Seasonality Boxplots

Molybdenum



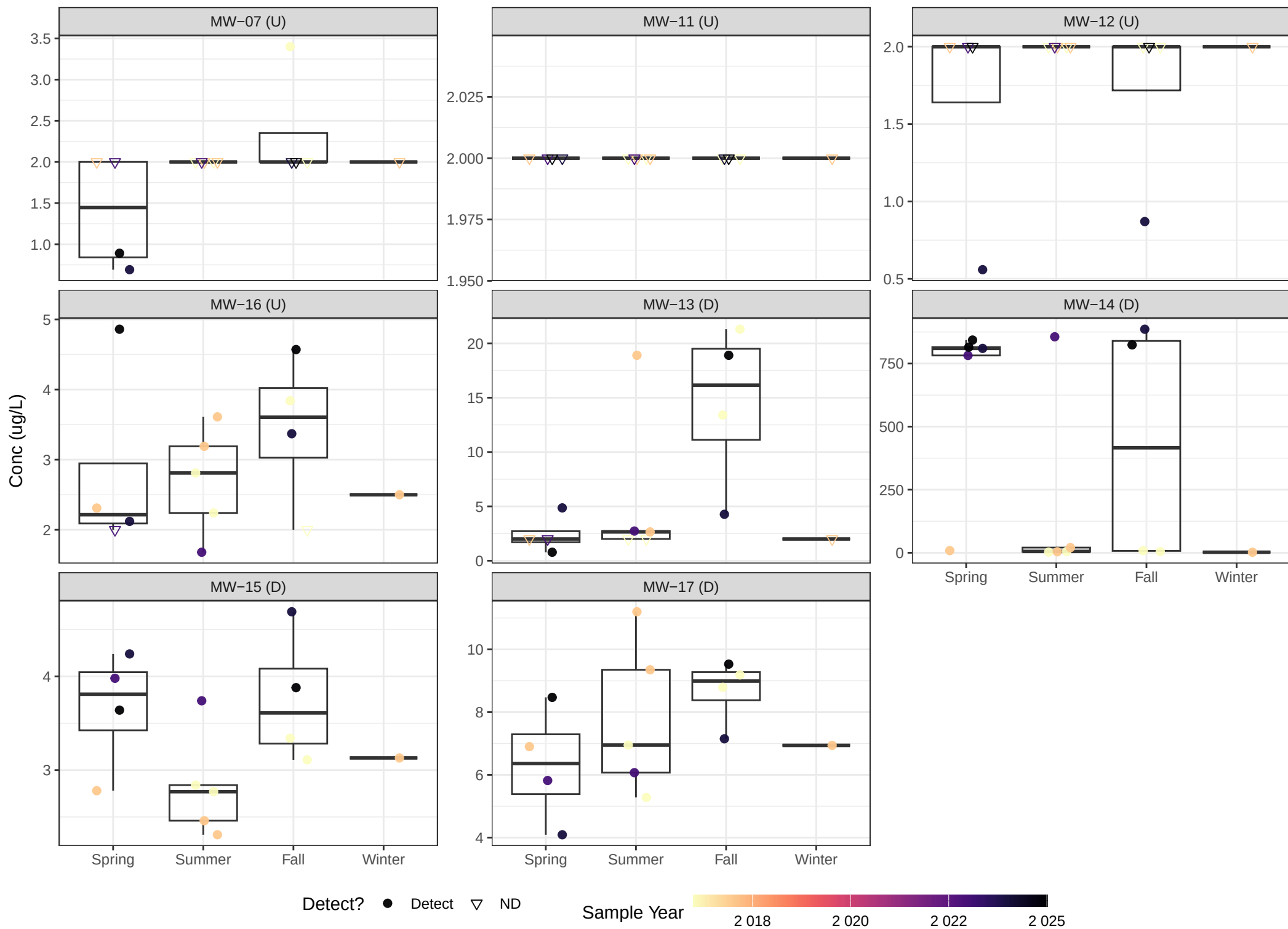
Twin Oaks, Seasonality Boxplots

Radium-226/228



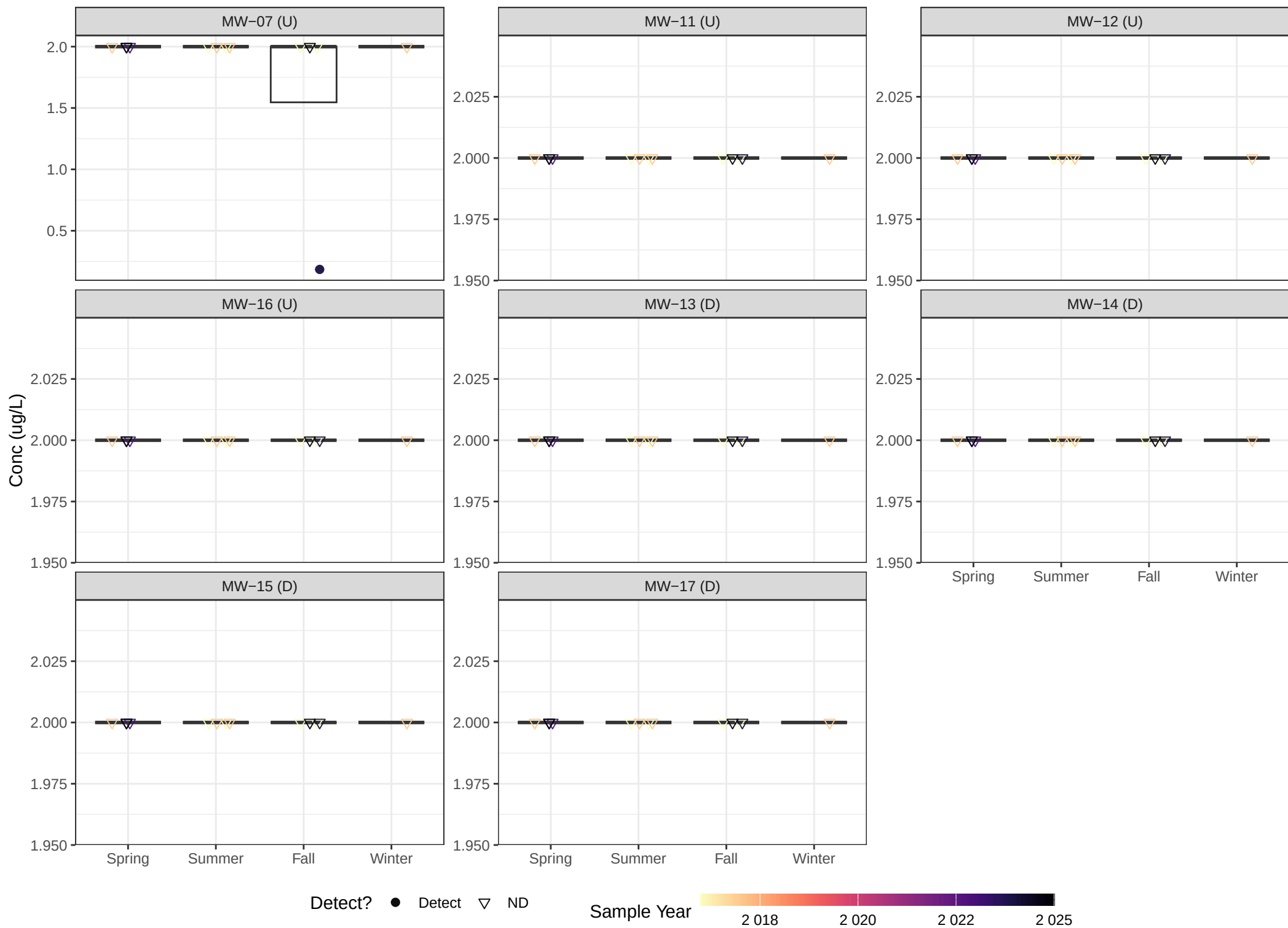
Twin Oaks, Seasonality Boxplots

Selenium



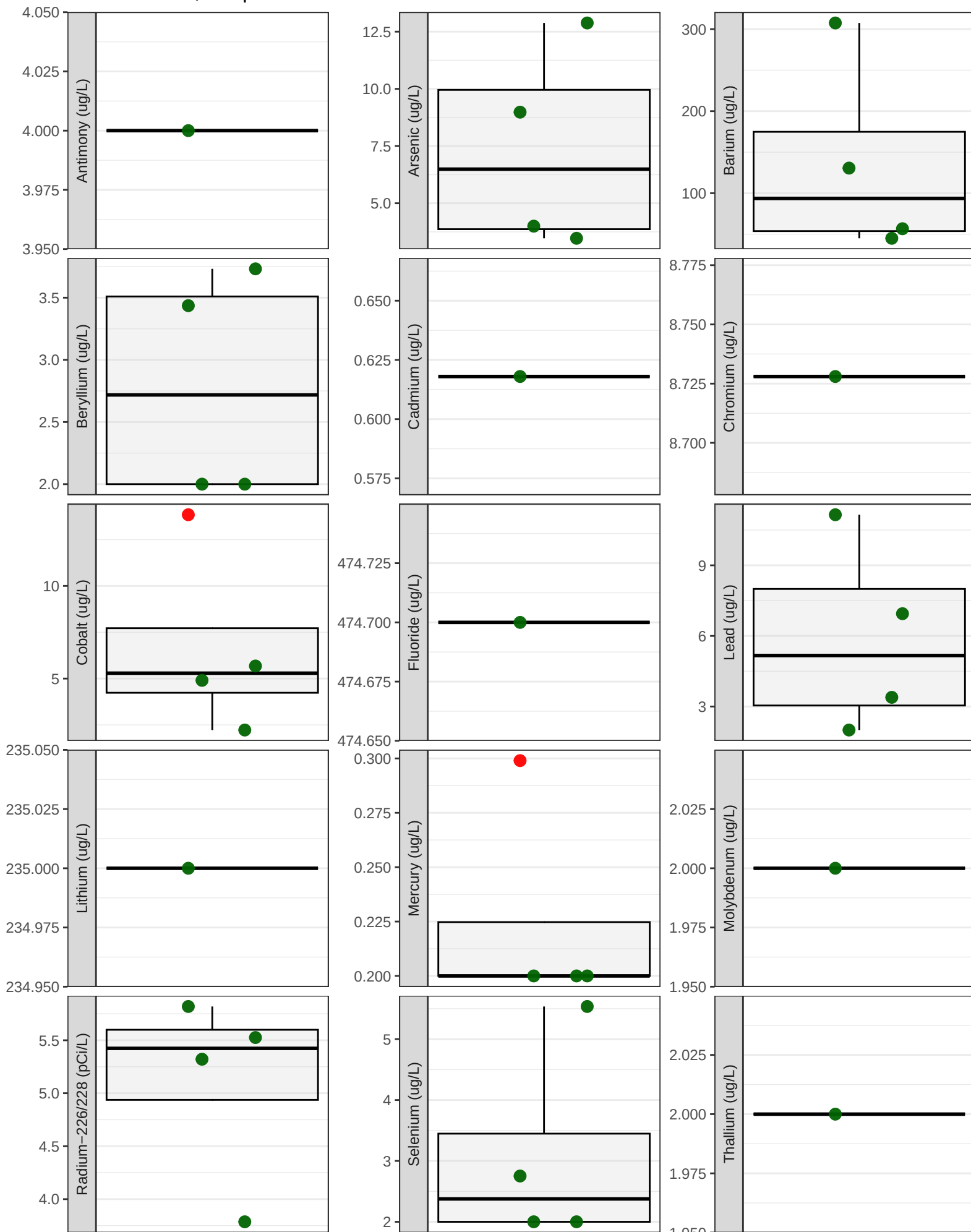
Twin Oaks, Seasonality Boxplots

Thallium



Twin Oaks, Boxplots of UTLs

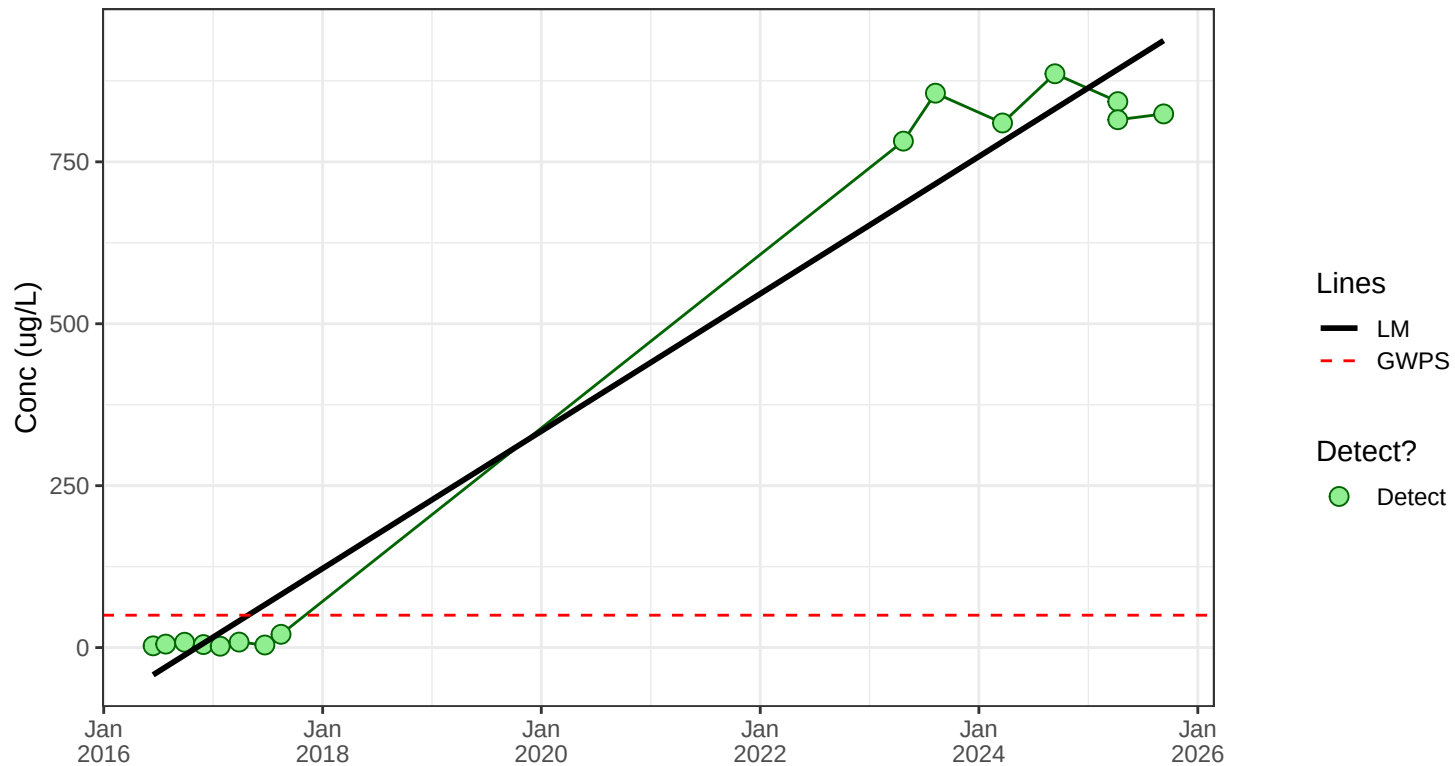
UTL value



UTL outliers are shown in red.
A UTL is an outlier if it is greater than (75th_percentile + 1.5 * interquartile_range)

Twin Oaks, Timeseries of GWPS exceedance

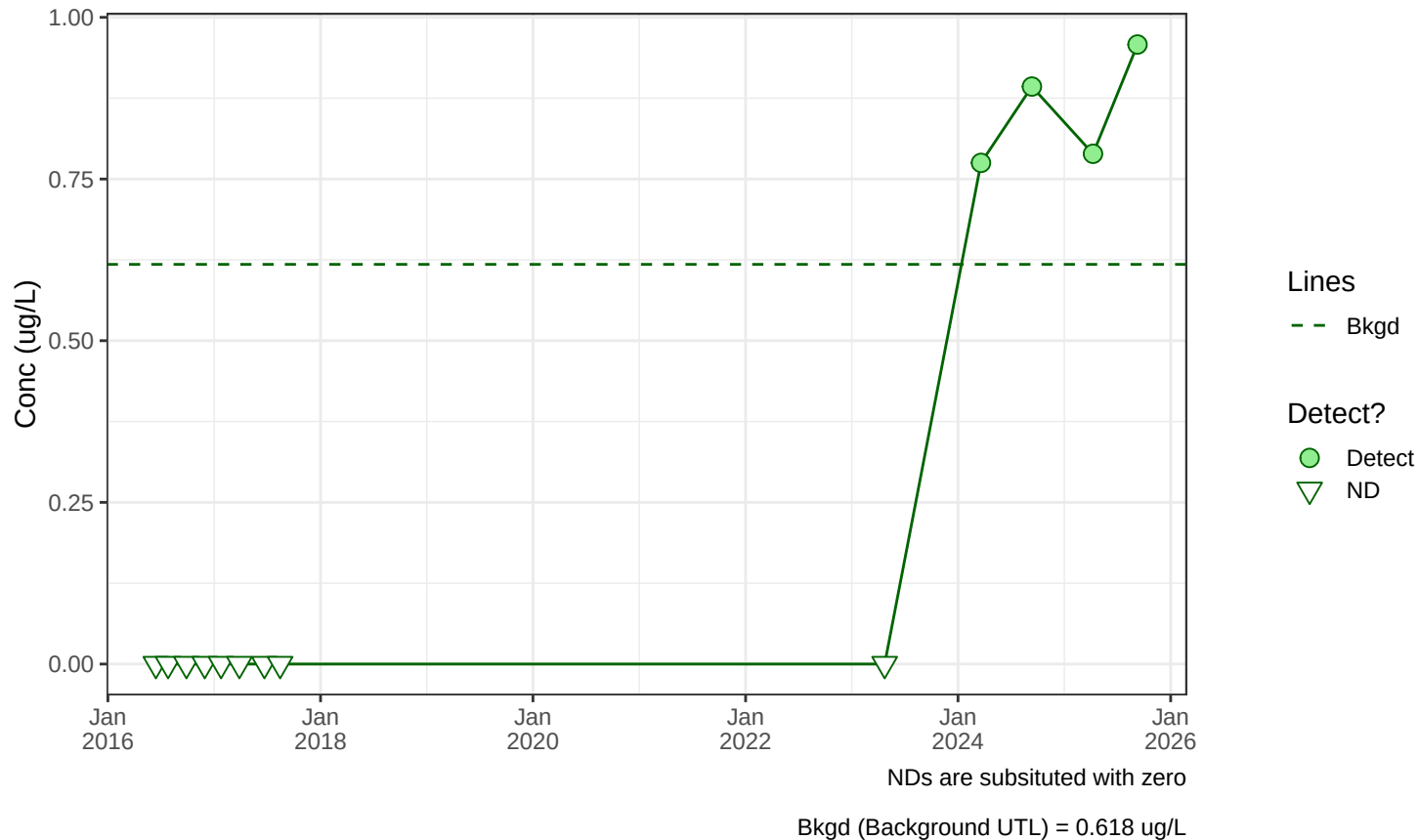
Well: MW-14, Analyte: Selenium



NDs are substituted with zero
Linear Model (LM) shown if significant trends are present
GWPS = 50 ug/L

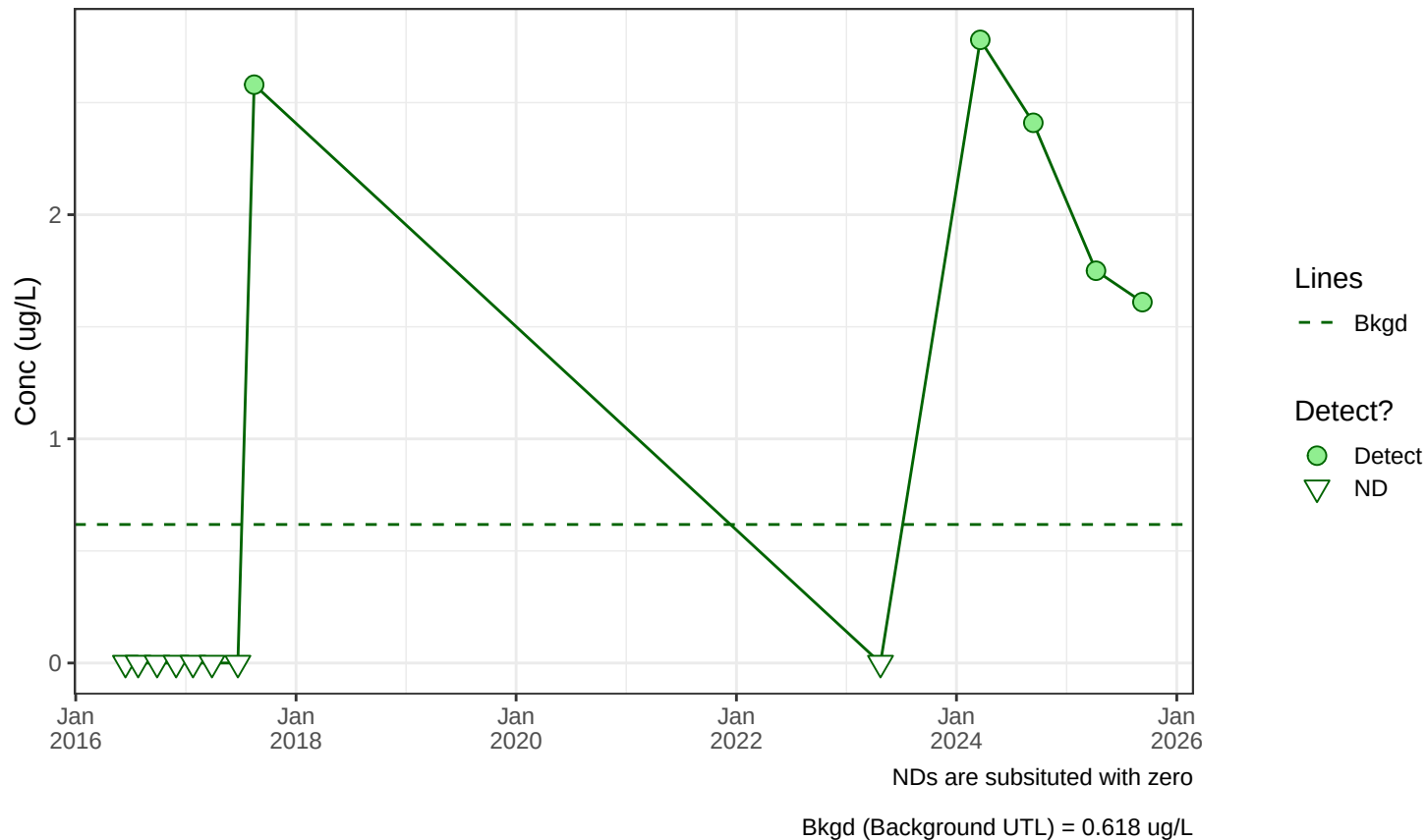
Twin Oaks, Timeseries of Bkgd exceedance

Well: MW-14, Analyte: Cadmium



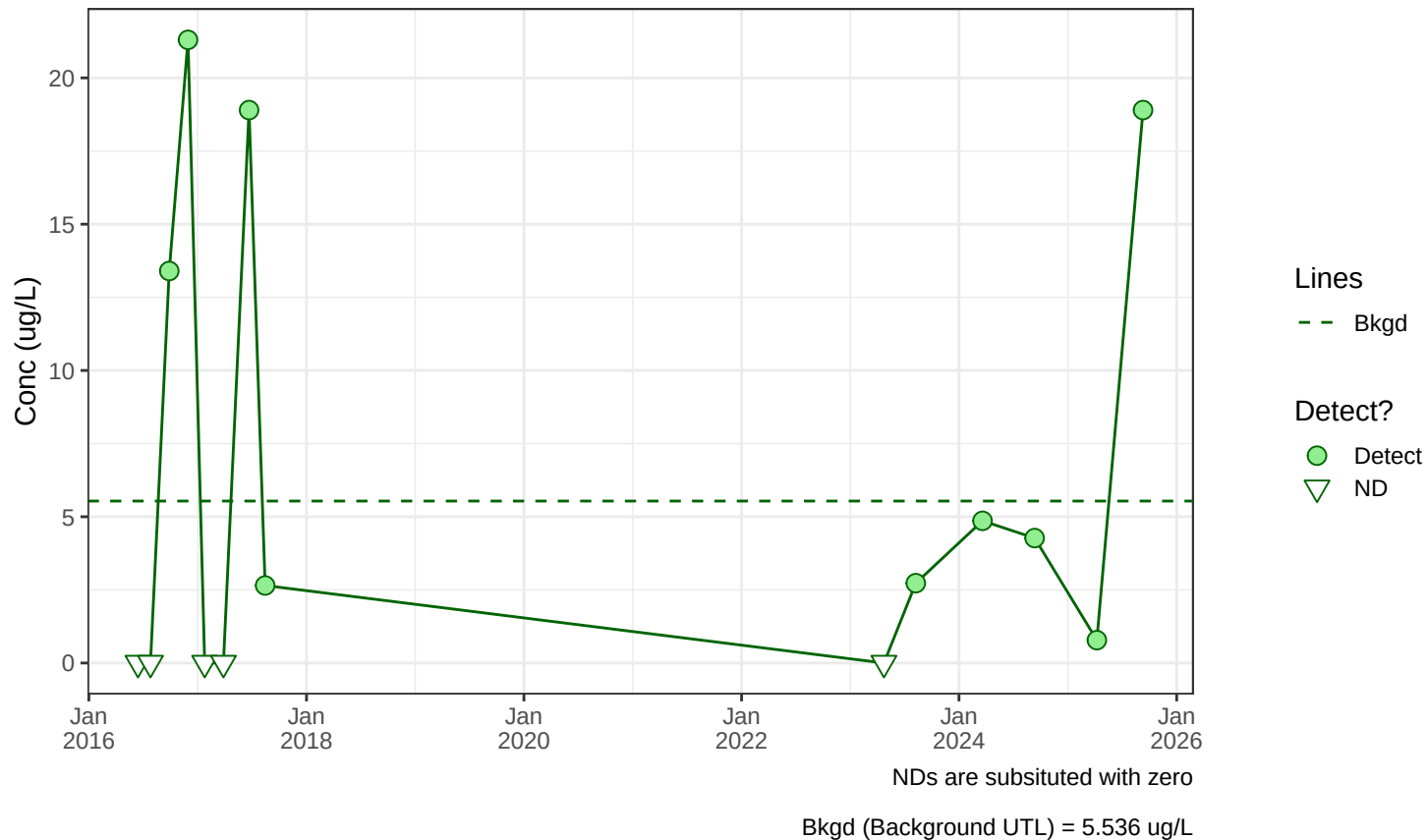
Twin Oaks, Timeseries of Bkgd exceedance

Well: MW-17, Analyte: Cadmium



Twin Oaks, Timeseries of Bkgd exceedance

Well: MW-13, Analyte: Selenium



Twin Oaks, Timeseries of Bkgd exceedance

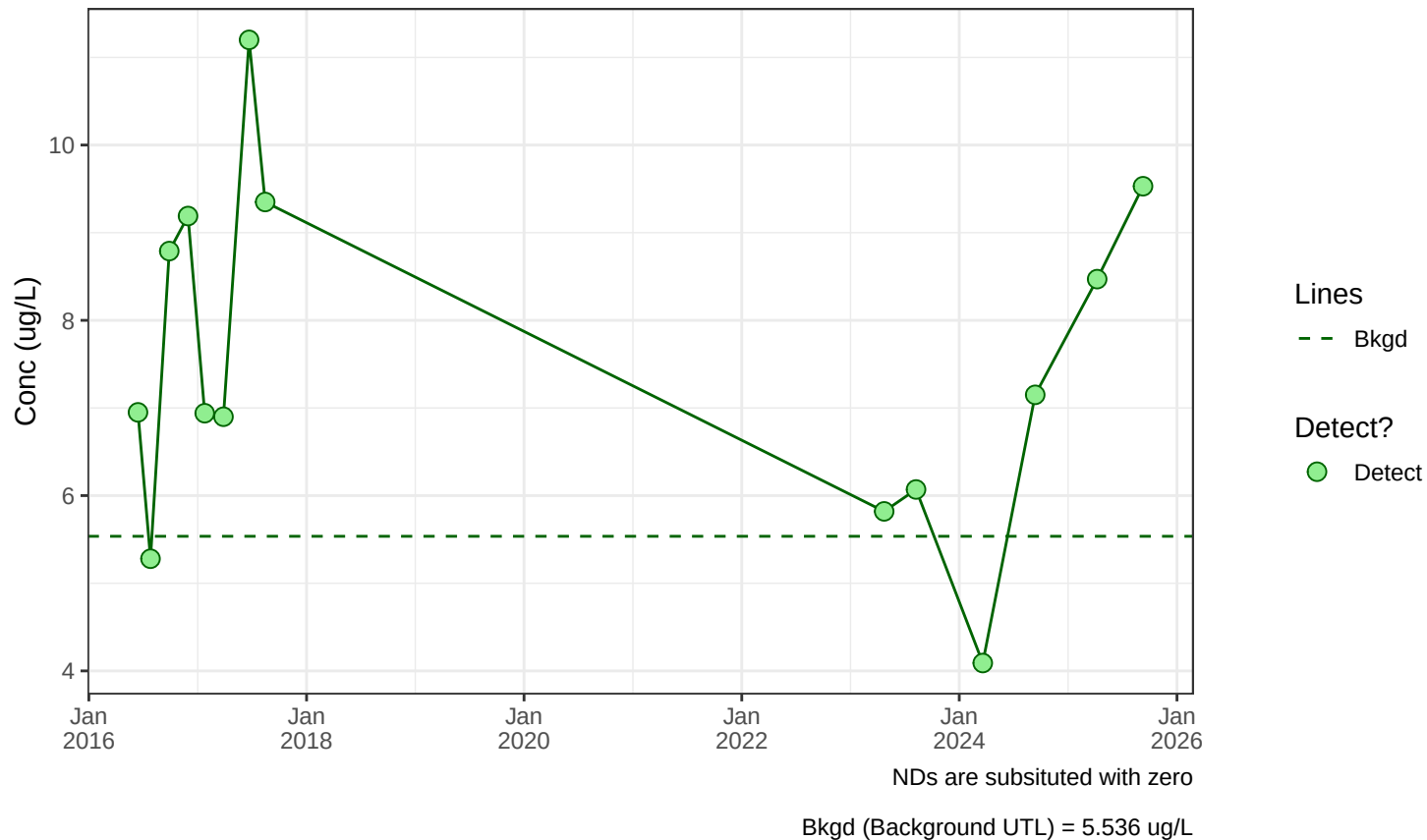
Well: MW-14, Analyte: Selenium



NDs are substituted with zero
Linear Model (LM) shown if significant trends are present
Bkgd (Background UTL) = 5.536 ug/L

Twin Oaks, Timeseries of Bkgd exceedance

Well: MW-17, Analyte: Selenium





ATTACHMENT C PROUCL OUTPUT

Background Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation ProUCL 5.2 2026-03-25 9:29:08 AM
From File file798c1c2463.xls
Full Precision OFF
Confidence Coefficient 95%
Coverage 95%
Different or Future K Observations 1
Number of Bootstrap Operations 2000

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_antimony)

General Statistics

Total Number of Observations	56	Number of Missing Observations	0
Number of Distinct Observations	3		
Number of Detects	1	Number of Non-Detects	55
Number of Distinct Detects	1	Number of Distinct Non-Detects	2
Minimum Detect	1.25	Minimum Non-Detect	2
Maximum Detect	1.25	Maximum Non-Detect	4
Variance Detected	N/A	Percent Non-Detects	98.21%
Mean Detected	1.25	SD Detected	N/A
Mean of Detected Logged Data	0.223	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_antimony) was not processed!

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium)

General Statistics

Total Number of Observations	52	Number of Missing Observations	0
Number of Distinct Observations	13		
Number of Detects	12	Number of Non-Detects	40
Number of Distinct Detects	12	Number of Distinct Non-Detects	1
Minimum Detect	0.347	Minimum Non-Detect	2
Maximum Detect	0.57	Maximum Non-Detect	2
Variance Detected	0.00532	Percent Non-Detects	76.92%
Mean Detected	0.474	SD Detected	0.073
Mean of Detected Logged Data	-0.757	SD of Detected Logged Data	0.158

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.049	d2max (for USL)	2.972

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.949
1% Shapiro Wilk Critical Value	0.805
Lilliefors Test Statistic	0.135
1% Lilliefors Critical Value	0.281

Shapiro Wilk GOF Test

Detected Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.474	KM SD	0.0698
95% UTL95% Coverage	0.618	95% KM UPL (t)	0.593
90% KM Percentile (z)	0.564	95% KM Percentile (z)	0.589
99% KM Percentile (z)	0.637	95% KM USL	0.682

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.879	SD	0.226
95% UTL95% Coverage	1.342	95% UPL (t)	1.261
90% Percentile (z)	1.169	95% Percentile (z)	1.251
99% Percentile (z)	1.405	95% USL	1.551

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.252	Anderson-Darling GOF Test
5% A-D Critical Value	0.73	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.137	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.245	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	44.56	k star (bias corrected MLE)	33.48
Theta hat (MLE)	0.0106	Theta star (bias corrected MLE)	0.0142
nu hat (MLE)	1070	nu star (bias corrected)	803.5
MLE Mean (bias corrected)	0.474		
MLE Sd (bias corrected)	0.082	95% Percentile of Chisquare (2kstar)	87.06

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.322	Mean	0.475
Maximum	0.654	Median	0.472
SD	0.0767	CV	0.161
k hat (MLE)	38.67	k star (bias corrected MLE)	36.46
Theta hat (MLE)	0.0123	Theta star (bias corrected MLE)	0.013
nu hat (MLE)	4022	nu star (bias corrected)	3791
MLE Mean (bias corrected)	0.475	MLE Sd (bias corrected)	0.0787
95% Percentile of Chisquare (2kstar)	93.85	90% Percentile	0.578
95% Percentile	0.611	99% Percentile	0.677

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.646	0.648	95% Approx. Gamma UPL	0.613	0.614
95% Gamma USL	0.738	0.743			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.474	SD (KM)	0.0698
Variance (KM)	0.00488	SE of Mean (KM)	0.0211
k hat (KM)	46.13	k star (KM)	43.49
nu hat (KM)	4798	nu star (KM)	4523
theta hat (KM)	0.0103	theta star (KM)	0.0109
80% gamma percentile (KM)	0.534	90% gamma percentile (KM)	0.569
95% gamma percentile (KM)	0.599	99% gamma percentile (KM)	0.658

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.631	0.633	95% Approx. Gamma UPL	0.601	0.602
95% KM Gamma Percentile	0.597	0.598	95% Gamma USL	0.714	0.719

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.945	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.883	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.123	Lilliefors GOF Test
10% Lilliefors Critical Value	0.223	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.475	Mean in Log Scale	-0.757
SD in Original Scale	0.0788	SD in Log Scale	0.166
95% UTL95% Coverage	0.66	95% BCA UTL95% Coverage	0.639
95% Bootstrap (%) UTL95% Coverage	0.652	95% UPL (t)	0.621
90% Percentile (z)	0.581	95% Percentile (z)	0.617
99% Percentile (z)	0.691	95% USL	0.769

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.757	95% KM UTL (Lognormal)95% Coverage	0.64
KM SD of Logged Data	0.152	95% KM UPL (Lognormal)	0.606
95% KM Percentile Lognormal (z)	0.602	95% KM USL (Lognormal)	0.736

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.879	Mean in Log Scale	-0.175
SD in Original Scale	0.226	SD in Log Scale	0.33
95% UTL95% Coverage	1.652	95% UPL (t)	1.468
90% Percentile (z)	1.282	95% Percentile (z)	1.446
99% Percentile (z)	1.811	95% USL	2.241

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	52	95% UTL with 95% Coverage	2
Approx, f used to compute achieved CC	2.737	Approximate Actual Confidence Coefficient achieved by UTL	0.931
Approximate Sample Size needed to achieve specified CC	59	95% UPL	2
95% USL	2	95% KM Chebyshev UPL	0.782

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_chromium)

General Statistics

Total Number of Observations	52	Number of Missing Observations	0
Number of Distinct Observations	18		
Number of Detects	17	Number of Non-Detects	35
Number of Distinct Detects	17	Number of Distinct Non-Detects	1
Minimum Detect	0.582	Minimum Non-Detect	4
Maximum Detect	10.7	Maximum Non-Detect	4
Variance Detected	9.903	Percent Non-Detects	67.31%
Mean Detected	6.065	SD Detected	3.147
Mean of Detected Logged Data	1.541	SD of Detected Logged Data	0.923

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.049	d2max (for USL)	2.972

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.917	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.851	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.176	Lilliefors GOF Test
1% Lilliefors Critical Value	0.241	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.484	KM SD	3.047
95% UTL95% Coverage	8.728	95% KM UPL (t)	7.638
90% KM Percentile (z)	6.389	95% KM Percentile (z)	7.496
99% KM Percentile (z)	9.573	95% KM USL	11.54

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	3.329	SD	2.61
95% UTL95% Coverage	8.678	95% UPL (t)	7.744
90% Percentile (z)	6.674	95% Percentile (z)	7.623
99% Percentile (z)	9.402	95% USL	11.09

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.484	Anderson-Darling GOF Test
5% A-D Critical Value	0.749	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.29	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.212	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.062	k star (bias corrected MLE)	1.737
Theta hat (MLE)	2.942	Theta star (bias corrected MLE)	3.492
nu hat (MLE)	70.09	nu star (bias corrected)	59.06
MLE Mean (bias corrected)	6.065		
MLE Sd (bias corrected)	4.602	95% Percentile of Chisquare (2kstar)	8.621

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.989
Maximum	10.7	Median	2.058
SD	2.995	CV	1.002
k hat (MLE)	0.564	k star (bias corrected MLE)	0.544
Theta hat (MLE)	5.301	Theta star (bias corrected MLE)	5.493
nu hat (MLE)	58.63	nu star (bias corrected)	56.58
MLE Mean (bias corrected)	2.989	MLE Sd (bias corrected)	4.052
95% Percentile of Chisquare (2kstar)	4.056	90% Percentile	7.942
95% Percentile	11.14	99% Percentile	18.94

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	14.37	17.59	95% Approx. Gamma UPL	10.92	12.66
95% Gamma USL	26.47	36.88			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.484	SD (KM)	3.047
Variance (KM)	9.286	SE of Mean (KM)	0.439
k hat (KM)	0.664	k star (KM)	0.639
nu hat (KM)	69.1	nu star (KM)	66.45
theta hat (KM)	3.739	theta star (KM)	3.888
80% gamma percentile (KM)	4.092	90% gamma percentile (KM)	6.369
95% gamma percentile (KM)	8.738	99% gamma percentile (KM)	14.44

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	9.513	9.739	95% Approx. Gamma UPL	7.463	7.462
95% KM Gamma Percentile	7.221	7.199	95% Gamma USL	16.46	18.01

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.736
10% Shapiro Wilk Critical Value	0.91
Lilliefors Test Statistic	0.324
10% Lilliefors Critical Value	0.19

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	2.826	Mean in Log Scale	0.484
SD in Original Scale	2.958	SD in Log Scale	1.109
95% UTL95% Coverage	15.75	95% BCA UTL95% Coverage	10.54
95% Bootstrap (%) UTL95% Coverage	10.54	95% UPL (t)	10.59
90% Percentile (z)	6.723	95% Percentile (z)	10.06
99% Percentile (z)	21.42	95% USL	43.83

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.295	95% KM UTL (Lognormal)95% Coverage	10.82
KM SD of Logged Data	1.018	95% KM UPL (Lognormal)	7.517
95% KM Percentile Lognormal (z)	7.169	95% KM USL (Lognormal)	27.7

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	3.329	Mean in Log Scale	0.97
SD in Original Scale	2.61	SD in Log Scale	0.654
95% UTL95% Coverage	10.09	95% UPL (t)	7.981
90% Percentile (z)	6.104	95% Percentile (z)	7.742
99% Percentile (z)	12.09	95% USL	18.45

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	52	95% UTL with 95% Coverage	10.7
Approx, f used to compute achieved CC	2.737	Approximate Actual Confidence Coefficient achieved by UTL	0.931
Approximate Sample Size needed to achieve specified CC	59	95% UPL	10.13
95% USL	10.7	95% KM Chebyshev UPL	15.89

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride)

General Statistics

Total Number of Observations	100	Number of Missing Observations	0
Number of Distinct Observations	19		
Number of Detects	17	Number of Non-Detects	83
Number of Distinct Detects	16	Number of Distinct Non-Detects	3
Minimum Detect	103	Minimum Non-Detect	200
Maximum Detect	484	Maximum Non-Detect	5000
Variance Detected	13288	Percent Non-Detects	83%
Mean Detected	279.1	SD Detected	115.3
Mean of Detected Logged Data	5.548	SD of Detected Logged Data	0.429

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	1.923	d2max (for USL)	3.21

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.906
1% Shapiro Wilk Critical Value	0.851
Lilliefors Test Statistic	0.171
1% Lilliefors Critical Value	0.241

Shapiro Wilk GOF Test

Detected Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	253	KM SD	115.3
95% UTL95% Coverage	474.7	95% KM UPL (t)	445.3
90% KM Percentile (z)	400.7	95% KM Percentile (z)	442.6
99% KM Percentile (z)	521.1	95% KM USL	622.9

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	271.4	SD	232.1
95% UTL95% Coverage	717.9	95% UPL (t)	658.8
90% Percentile (z)	568.9	95% Percentile (z)	653.2
99% Percentile (z)	811.4	95% USL	1016

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.459	Anderson-Darling GOF Test
5% A-D Critical Value	0.741	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.149	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.21	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	6.185	k star (bias corrected MLE)	5.133
Theta hat (MLE)	45.12	Theta star (bias corrected MLE)	54.37
nu hat (MLE)	210.3	nu star (bias corrected)	174.5
MLE Mean (bias corrected)	279.1		
MLE Sd (bias corrected)	123.2	95% Percentile of Chisquare (2kstar)	18.67

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	29.21	Mean	250.9
Maximum	616.9	Median	234.2
SD	123.8	CV	0.493
k hat (MLE)	3.792	k star (bias corrected MLE)	3.685
Theta hat (MLE)	66.17	Theta star (bias corrected MLE)	68.09
nu hat (MLE)	758.3	nu star (bias corrected)	736.9
MLE Mean (bias corrected)	250.9	MLE Sd (bias corrected)	130.7
95% Percentile of Chisquare (2kstar)	14.6	90% Percentile	426.1
95% Percentile	497.1	99% Percentile	649.5

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	552.9	569.4	95% Approx. Gamma UPL	499	509.9
95% Gamma USL	884.6	952.5			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	253	SD (KM)	115.3
Variance (KM)	13284	SE of Mean (KM)	26.55
k hat (KM)	4.819	k star (KM)	4.681
nu hat (KM)	963.8	nu star (KM)	936.2
theta hat (KM)	52.5	theta star (KM)	54.05
80% gamma percentile (KM)	342.6	90% gamma percentile (KM)	409.6
95% gamma percentile (KM)	470.9	99% gamma percentile (KM)	600.7

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	512.6	520.9	95% Approx. Gamma UPL	467.6	472.6
95% KM Gamma Percentile	463.5	468.3	95% Gamma USL	784	822.9

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.942	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.91	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.139	Lilliefors GOF Test
10% Lilliefors Critical Value	0.19	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	254.2	Mean in Log Scale	5.424
SD in Original Scale	126	SD in Log Scale	0.483
95% UTL95% Coverage	573.9	95% BCA UTL95% Coverage	564
95% Bootstrap (%) UTL95% Coverage	564	95% UPL (t)	507.5
90% Percentile (z)	420.9	95% Percentile (z)	501.7
99% Percentile (z)	697.2	95% USL	1068

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	5.429	95% KM UTL (Lognormal)95% Coverage	554.6
KM SD of Logged Data	0.462	95% KM UPL (Lognormal)	493
95% KM Percentile Lognormal (z)	487.6	95% KM USL (Lognormal)	1005

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	271.4	Mean in Log Scale	5.512
SD in Original Scale	232.1	SD in Log Scale	0.342
95% UTL95% Coverage	478.7	95% UPL (t)	438.7
90% Percentile (z)	384.3	95% Percentile (z)	435.2
99% Percentile (z)	549.5	95% USL	743.6

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	98	95% UTL with95% Coverage	500
Approx, f used to compute achieved CC	1.719	Approximate Actual Confidence Coefficient achieved by UTL	0.882
Approximate Sample Size needed to achieve specified CC	93	95% UPL	500
95% USL	5000	95% KM Chebyshev UPL	757.9

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_lithium)

General Statistics

Total Number of Observations	56	Number of Missing Observations	0
Number of Distinct Observations	16		
Number of Detects	13	Number of Non-Detects	43
Number of Distinct Detects	13	Number of Distinct Non-Detects	3
Minimum Detect	19.7	Minimum Non-Detect	20
Maximum Detect	235	Maximum Non-Detect	200
Variance Detected	4563	Percent Non-Detects	76.79%
Mean Detected	64.35	SD Detected	67.55
Mean of Detected Logged Data	3.793	SD of Detected Logged Data	0.821

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.032	d2max (for USL)	3.001

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.681
1% Shapiro Wilk Critical Value	0.814
Lilliefors Test Statistic	0.384
1% Lilliefors Critical Value	0.271

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	30.48	KM SD	36.58
95% UTL95% Coverage	104.8	95% KM UPL (t)	92.23
90% KM Percentile (z)	77.36	95% KM Percentile (z)	90.66
99% KM Percentile (z)	115.6	95% KM USL	140.3

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	26.72	SD	39.77
95% UTL95% Coverage	107.5	95% UPL (t)	93.85
90% Percentile (z)	77.69	95% Percentile (z)	92.14
99% Percentile (z)	119.2	95% USL	146.1

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.373
5% A-D Critical Value	0.75
K-S Test Statistic	0.324
5% K-S Critical Value	0.241

Anderson-Darling GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov GOF

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.492	k star (bias corrected MLE)	1.199
Theta hat (MLE)	43.14	Theta star (bias corrected MLE)	53.68
nu hat (MLE)	38.79	nu star (bias corrected)	31.17
MLE Mean (bias corrected)	64.35		
MLE Sd (bias corrected)	58.77	95% Percentile of Chisquare (2kstar)	6.741

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	16.28
Maximum	235	Median	0.01
SD	41.72	CV	2.562
k hat (MLE)	0.158	k star (bias corrected MLE)	0.161
Theta hat (MLE)	103.2	Theta star (bias corrected MLE)	101
nu hat (MLE)	17.68	nu star (bias corrected)	18.07
MLE Mean (bias corrected)	16.28	MLE Sd (bias corrected)	40.55
95% Percentile of Chisquare (2kstar)	1.749	90% Percentile	48.71
95% Percentile	88.31	99% Percentile	201.6

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	87.7	95.92	95% Approx. Gamma UPL	59.03	58.61
95% Gamma USL	214.8	296.7			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	30.48	SD (KM)	36.58
Variance (KM)	1338	SE of Mean (KM)	5.115
k hat (KM)	0.694	k star (KM)	0.669
nu hat (KM)	77.74	nu star (KM)	74.91
theta hat (KM)	43.91	theta star (KM)	45.57
80% gamma percentile (KM)	50.17	90% gamma percentile (KM)	77.33
95% gamma percentile (KM)	105.5	99% gamma percentile (KM)	172.9

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	79.6	76.67	95% Approx. Gamma UPL	67.49	64.78
95% KM Gamma Percentile	66.07	63.4	95% Gamma USL	121.3	119

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.824
10% Shapiro Wilk Critical Value	0.889
Lilliefors Test Statistic	0.266
10% Lilliefors Critical Value	0.215

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	23.48	Mean in Log Scale	2.544
SD in Original Scale	39.41	SD in Log Scale	1.026
95% UTL95% Coverage	102.4	95% BCA UTL95% Coverage	163
95% Bootstrap (%) UTL95% Coverage	163	95% UPL (t)	71.92
90% Percentile (z)	47.4	95% Percentile (z)	68.81
99% Percentile (z)	138.5	95% USL	276.6

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	3.184	95% KM UTL (Lognormal)95% Coverage	68.6
KM SD of Logged Data	0.514	95% KM UPL (Lognormal)	57.48
95% KM Percentile Lognormal (z)	56.23	95% KM USL (Lognormal)	112.8

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	26.72	Mean in Log Scale	2.863
SD in Original Scale	39.77	SD in Log Scale	0.756
95% UTL95% Coverage	81.32	95% UPL (t)	62.7
90% Percentile (z)	46.13	95% Percentile (z)	60.7
99% Percentile (z)	101.6	95% USL	169.1

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	56	95% UTL with 95% Coverage	235
Approx, f used to compute achieved CC	2.947	Approximate Actual Confidence Coefficient achieved by UTL	0.943
Approximate Sample Size needed to achieve specified CC	59	95% UPL	160.9
95% USL	235	95% KM Chebyshev UPL	191.4

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_molybdenum)

General Statistics			
Total Number of Observations	52	Number of Missing Observations	0
Number of Distinct Observations	2		
Number of Detects	1	Number of Non-Detects	51
Number of Distinct Detects	1	Number of Distinct Non-Detects	1
Minimum Detect	0.264	Minimum Non-Detect	2
Maximum Detect	0.264	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	98.08%
Mean Detected	0.264	SD Detected	N/A
Mean of Detected Logged Data	-1.332	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_molybdenum) was not processed!

concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_thallium)

General Statistics			
Total Number of Observations	52	Number of Missing Observations	0
Number of Distinct Observations	2		
Number of Detects	1	Number of Non-Detects	51
Number of Distinct Detects	1	Number of Distinct Non-Detects	1
Minimum Detect	0.185	Minimum Non-Detect	2
Maximum Detect	0.185	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	98.08%
Mean Detected	0.185	SD Detected	N/A
Mean of Detected Logged Data	-1.687	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-07, mw-11, mw-12, mw-16_thallium) was not processed!

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	9	Number of Non-Detects	4
Number of Distinct Detects	7	Number of Distinct Non-Detects	4
Minimum Detect	1.04	Minimum Non-Detect	2.296
Maximum Detect	8.526	Maximum Non-Detect	4
Variance Detected	7.421	Percent Non-Detects	30.77%
Mean Detected	3.337	SD Detected	2.724
Mean of Detected Logged Data	0.905	SD of Detected Logged Data	0.824

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.834	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.764	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.266	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.316	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.766	KM SD	2.327
95% UTL95% Coverage	8.982	95% KM UPL (t)	7.07
90% KM Percentile (z)	5.748	95% KM Percentile (z)	6.594
99% KM Percentile (z)	8.18	95% KM USL	8.19

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	2.821	SD	2.373
95% UTL95% Coverage	9.159	95% UPL (t)	7.21
90% Percentile (z)	5.862	95% Percentile (z)	6.724
99% Percentile (z)	8.341	95% USL	8.351

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.525	Anderson-Darling GOF Test	
5% A-D Critical Value	0.731	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.186	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.283	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.815	k star (bias corrected MLE)	1.284
Theta hat (MLE)	1.839	Theta star (bias corrected MLE)	2.599
nu hat (MLE)	32.66	nu star (bias corrected)	23.11
MLE Mean (bias corrected)	3.337		
MLE Sd (bias corrected)	2.945	95% Percentile of Chisquare (2kstar)	7.051

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.99	Mean	2.748
Maximum	8.526	Median	1.568
SD	2.411	CV	0.877
k hat (MLE)	1.926	k star (bias corrected MLE)	1.533
Theta hat (MLE)	1.426	Theta star (bias corrected MLE)	1.792
nu hat (MLE)	50.09	nu star (bias corrected)	39.86
MLE Mean (bias corrected)	2.748	MLE Sd (bias corrected)	2.219
95% Percentile of Chisquare (2kstar)	7.93	90% Percentile	5.696
95% Percentile	7.106	99% Percentile	10.29

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	11.36	11.94	95% Approx. Gamma UPL	7.536	7.634
95% Gamma USL	9.649	9.978			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.766	SD (KM)	2.327
Variance (KM)	5.417	SE of Mean (KM)	0.695
k hat (KM)	1.412	k star (KM)	1.137
nu hat (KM)	36.71	nu star (KM)	29.57
theta hat (KM)	1.959	theta star (KM)	2.431
80% gamma percentile (KM)	4.401	90% gamma percentile (KM)	6.169
95% gamma percentile (KM)	7.919	99% gamma percentile (KM)	11.94

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	11.09	11.66	95% Approx. Gamma UPL	7.396	7.497
95% KM Gamma Percentile	6.624	6.661	95% Gamma USL	9.44	9.768

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.883	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.859	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.186	Lilliefors GOF Test
10% Lilliefors Critical Value	0.252	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	2.775	Mean in Log Scale	0.751
SD in Original Scale	2.393	SD in Log Scale	0.717
95% UTL95% Coverage	14.41	95% BCA UTL95% Coverage	8.526
95% Bootstrap (%) UTL95% Coverage	8.526	95% UPL (t)	7.992
90% Percentile (z)	5.317	95% Percentile (z)	6.9
99% Percentile (z)	11.25	95% USL	11.28

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.725	95% KM UTL (Lognormal)95% Coverage	14.51
KM SD of Logged Data	0.73	95% KM UPL (Lognormal)	7.965
95% KM Percentile Lognormal (z)	6.859	95% KM USL (Lognormal)	11.32

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	2.821	Mean in Log Scale	0.776
SD in Original Scale	2.373	SD in Log Scale	0.713
95% UTL95% Coverage	14.6	95% UPL (t)	8.126
90% Percentile (z)	5.419	95% Percentile (z)	7.022
99% Percentile (z)	11.42	95% USL	11.45

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	8.526
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	8.526
95% USL	8.526	95% KM Chebyshev UPL	13.29

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers

and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data

represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07_barium)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	14
Minimum	14.4	First Quartile	20.13
Second Largest	204	Median	83.55
Maximum	243	Third Quartile	160
Mean	95.92	SD	80.93
Coefficient of Variation	0.844	Skewness	0.42
Mean of logged Data	4.082	SD of logged Data	1.109

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.858
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.25
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	307.5	90% Percentile (z)	199.6
95% UPL (t)	244.3	95% Percentile (z)	229
95% USL	287.9	99% Percentile (z)	284.2

Gamma GOF Test

A-D Test Statistic	0.997
5% A-D Critical Value	0.757
K-S Test Statistic	0.262
5% K-S Critical Value	0.234

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.177	k star (bias corrected MLE)	0.973
Theta hat (MLE)	81.48	Theta star (bias corrected MLE)	98.63
nu hat (MLE)	32.96	nu star (bias corrected)	27.23
MLE Mean (bias corrected)	95.92	MLE Sd (bias corrected)	97.26

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	317.1	90% Percentile	222.4
95% Hawkins Wixley (HW) Approx. Gamma UPL	338.1	95% Percentile	290.2
95% WH Approx. Gamma UTL with 95% Coverage	503.9	99% Percentile	448
95% HW Approx. Gamma UTL with 95% Coverage	572.1		
95% WH USL	439.7	95% HW USL	489.5

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.832
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.248
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	1077	90% Percentile (z)	245.6
95% UPL (t)	452.8	95% Percentile (z)	367.4
95% USL	822.8	99% Percentile (z)	782.5

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	14	95% UTL with 95% Coverage	243
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	243	95% BCA Bootstrap UTL with 95% Coverage	243
95% UPL	243	90% Percentile	192.6
90% Chebyshev UPL	347.2	95% Percentile	217.7
95% Chebyshev UPL	461.1	99% Percentile	237.9
95% USL	243		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	6		
Number of Detects	5	Number of Non-Detects	8
Number of Distinct Detects	5	Number of Distinct Non-Detects	1
Minimum Detect	2.17	Minimum Non-Detect	2
Maximum Detect	3.39	Maximum Non-Detect	2
Variance Detected	0.241	Percent Non-Detects	61.54%
Mean Detected	2.702	SD Detected	0.491
Mean of Detected Logged Data	0.981	SD of Detected Logged Data	0.18

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.953	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.686	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.194	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.396	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.27	KM SD	0.437
95% UTL95% Coverage	3.436	95% KM UPL (t)	3.078
90% KM Percentile (z)	2.83	95% KM Percentile (z)	2.988
99% KM Percentile (z)	3.286	95% KM USL	3.288

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.655	SD	0.907
95% UTL95% Coverage	4.078	95% UPL (t)	3.333
90% Percentile (z)	2.817	95% Percentile (z)	3.147
99% Percentile (z)	3.765	95% USL	3.769

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.246	Anderson-Darling GOF Test	
5% A-D Critical Value	0.678	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.221	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.357	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	38.4	k star (bias corrected MLE)	15.49
Theta hat (MLE)	0.0704	Theta star (bias corrected MLE)	0.174
nu hat (MLE)	384	nu star (bias corrected)	154.9
MLE Mean (bias corrected)	2.702		
MLE Sd (bias corrected)	0.686	95% Percentile of Chisquare (2kstar)	44.97

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.217	Mean	1.711
Maximum	3.39	Median	1.607
SD	0.954	CV	0.558
k hat (MLE)	2.588	k star (bias corrected MLE)	2.042
Theta hat (MLE)	0.661	Theta star (bias corrected MLE)	0.838
nu hat (MLE)	67.29	nu star (bias corrected)	53.1
MLE Mean (bias corrected)	1.711	MLE Sd (bias corrected)	1.198
95% Percentile of Chisquare (2kstar)	9.624	90% Percentile	3.312
95% Percentile	4.033	99% Percentile	5.629

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	6.153	6.754	95% Approx. Gamma UPL	4.266	4.49
95% Gamma USL	5.315	5.732			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.27	SD (KM)	0.437
Variance (KM)	0.191	SE of Mean (KM)	0.135
k hat (KM)	27.02	k star (KM)	20.84
nu hat (KM)	702.6	nu star (KM)	541.8
theta hat (KM)	0.084	theta star (KM)	0.109
80% gamma percentile (KM)	2.674	90% gamma percentile (KM)	2.926
95% gamma percentile (KM)	3.145	99% gamma percentile (KM)	3.584

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.497	3.507	95% Approx. Gamma UPL	3.073	3.072
95% KM Gamma Percentile	2.973	2.971	95% Gamma USL	3.317	3.322

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.957
10% Shapiro Wilk Critical Value	0.806
Lilliefors Test Statistic	0.194
10% Lilliefors Critical Value	0.319

Shapiro Wilk GOF Test

Detected Data appear Lognormal at 10% Significance Level

Lilliefors GOF Test

Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.921	Mean in Log Scale	0.584
SD in Original Scale	0.744	SD in Log Scale	0.386
95% UTL95% Coverage	5.031	95% BCA UTL95% Coverage	3.39
95% Bootstrap (%) UTL95% Coverage	3.39	95% UPL (t)	3.664
90% Percentile (z)	2.942	95% Percentile (z)	3.385
99% Percentile (z)	4.404	95% USL	4.411

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.804	95% KM UTL (Lognormal)95% Coverage	3.538
KM SD of Logged Data	0.172	95% KM UPL (Lognormal)	3.072
95% KM Percentile Lognormal (z)	2.965	95% KM USL (Lognormal)	3.337

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.655	Mean in Log Scale	0.377
SD in Original Scale	0.907	SD in Log Scale	0.508
95% UTL95% Coverage	5.657	95% UPL (t)	3.728
90% Percentile (z)	2.795	95% Percentile (z)	3.36
99% Percentile (z)	4.749	95% USL	4.759

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	3.39
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	3.39
95% USL	3.39	95% KM Chebyshev UPL	4.245

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers

and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data

represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07_cobalt)

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	13		
Number of Detects	13	Number of Non-Detects	1
Number of Distinct Detects	12	Number of Distinct Non-Detects	1
Minimum Detect	1.02	Minimum Non-Detect	2
Maximum Detect	11.6	Maximum Non-Detect	2
Variance Detected	13.59	Percent Non-Detects	7.143%
Mean Detected	4.846	SD Detected	3.687
Mean of Detected Logged Data	1.229	SD of Detected Logged Data	0.931

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.889
1% Shapiro Wilk Critical Value	0.814
Lilliefors Test Statistic	0.203
1% Lilliefors Critical Value	0.271

Shapiro Wilk GOF Test

Detected Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	4.586	KM SD	3.54
95% UTL95% Coverage	13.84	95% KM UPL (t)	11.08
90% KM Percentile (z)	9.123	95% KM Percentile (z)	10.41
99% KM Percentile (z)	12.82	95% KM USL	12.98

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	4.571	SD	3.688
95% UTL95% Coverage	14.21	95% UPL (t)	11.33
90% Percentile (z)	9.298	95% Percentile (z)	10.64
99% Percentile (z)	13.15	95% USL	13.32

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.637	Anderson-Darling GOF Test
5% A-D Critical Value	0.749	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.213	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.241	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.58	k star (bias corrected MLE)	1.266
Theta hat (MLE)	3.068	Theta star (bias corrected MLE)	3.827
nu hat (MLE)	41.07	nu star (bias corrected)	32.93
MLE Mean (bias corrected)	4.846		
MLE Sd (bias corrected)	4.306	95% Percentile of Chisquare (2kstar)	6.988

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	1.02	Mean	4.604
Maximum	11.6	Median	3.645
SD	3.656	CV	0.794
k hat (MLE)	1.54	k star (bias corrected MLE)	1.257
Theta hat (MLE)	2.99	Theta star (bias corrected MLE)	3.661
nu hat (MLE)	43.12	nu star (bias corrected)	35.21
MLE Mean (bias corrected)	4.604	MLE Sd (bias corrected)	4.105
95% Percentile of Chisquare (2kstar)	6.955	90% Percentile	10.02
95% Percentile	12.73	99% Percentile	18.93

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	20.92	23.01	95% Approx. Gamma UPL	13.7	14.34
95% Gamma USL	18.46	19.99			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4.586	SD (KM)	3.54
Variance (KM)	12.53	SE of Mean (KM)	0.985
k hat (KM)	1.679	k star (KM)	1.367
nu hat (KM)	47	nu star (KM)	38.27
theta hat (KM)	2.732	theta star (KM)	3.356
80% gamma percentile (KM)	7.167	90% gamma percentile (KM)	9.777
95% gamma percentile (KM)	12.33	99% gamma percentile (KM)	18.12

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	20.12	22.04	95% Approx. Gamma UPL	13.25	13.83
95% KM Gamma Percentile	11.87	12.25	95% Gamma USL	17.78	19.18

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.871
10% Shapiro Wilk Critical Value	0.889
Lilliefors Test Statistic	0.21
10% Lilliefors Critical Value	0.215

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	4.603	Mean in Log Scale	1.168
SD in Original Scale	3.657	SD in Log Scale	0.924
95% UTL95% Coverage	35.94	95% BCA UTL95% Coverage	11.6
95% Bootstrap (%) UTL95% Coverage	11.6	95% UPL (t)	17.47
90% Percentile (z)	10.5	95% Percentile (z)	14.68
99% Percentile (z)	27.56	95% USL	28.73

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.154	95% KM UTL (Lognormal)95% Coverage	33.69
KM SD of Logged Data	0.904	95% KM UPL (Lognormal)	16.63
95% KM Percentile Lognormal (z)	14.03	95% KM USL (Lognormal)	27.06

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	4.571	Mean in Log Scale	1.142
SD in Original Scale	3.688	SD in Log Scale	0.953
95% UTL95% Coverage	37.78	95% UPL (t)	17.95
90% Percentile (z)	10.62	95% Percentile (z)	15.01
99% Percentile (z)	28.72	95% USL	29.99

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with95% Coverage	11.6
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	11.6
95% USL	11.6	95% KM Chebyshev UPL	20.56

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	7	Number of Non-Detects	6
Number of Distinct Detects	7	Number of Distinct Non-Detects	1
Minimum Detect	3.85	Minimum Non-Detect	2
Maximum Detect	8.77	Maximum Non-Detect	2
Variance Detected	2.821	Percent Non-Detects	46.15%
Mean Detected	6.503	SD Detected	1.679
Mean of Detected Logged Data	1.84	SD of Detected Logged Data	0.282

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.972	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.195	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	4.425	KM SD	2.518
95% UTL95% Coverage	11.15	95% KM UPL (t)	9.082
90% KM Percentile (z)	7.652	95% KM Percentile (z)	8.566
99% KM Percentile (z)	10.28	95% KM USL	10.29

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	3.963	SD	3.092
95% UTL95% Coverage	12.22	95% UPL (t)	9.683
90% Percentile (z)	7.926	95% Percentile (z)	9.05
99% Percentile (z)	11.16	95% USL	11.17

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.263	Anderson-Darling GOF Test	
5% A-D Critical Value	0.707	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.228	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.312	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	15.82	k star (bias corrected MLE)	9.134
Theta hat (MLE)	0.411	Theta star (bias corrected MLE)	0.712
nu hat (MLE)	221.4	nu star (bias corrected)	127.9
MLE Mean (bias corrected)	6.503		
MLE Sd (bias corrected)	2.152	95% Percentile of Chisquare (2kstar)	29.21

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.677	Mean	4.578
Maximum	8.77	Median	3.85
SD	2.569	CV	0.561
k hat (MLE)	2.648	k star (bias corrected MLE)	2.088
Theta hat (MLE)	1.729	Theta star (bias corrected MLE)	2.192
nu hat (MLE)	68.85	nu star (bias corrected)	54.29
MLE Mean (bias corrected)	4.578	MLE Sd (bias corrected)	3.168
95% Percentile of Chisquare (2kstar)	9.772	90% Percentile	8.814
95% Percentile	10.71	99% Percentile	14.91

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	16.31	17.78	95% Approx. Gamma UPL	11.33	11.87
95% Gamma USL	14.1	15.12			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4.425	SD (KM)	2.518
Variance (KM)	6.341	SE of Mean (KM)	0.754
k hat (KM)	3.088	k star (KM)	2.426
nu hat (KM)	80.28	nu star (KM)	63.08
theta hat (KM)	1.433	theta star (KM)	1.824
80% gamma percentile (KM)	6.474	90% gamma percentile (KM)	8.229
95% gamma percentile (KM)	9.885	99% gamma percentile (KM)	13.52

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	14.31	15.06	95% Approx. Gamma UPL	10.17	10.4
95% KM Gamma Percentile	9.284	9.43	95% Gamma USL	12.48	12.97

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.938
10% Shapiro Wilk Critical Value	0.838
Lilliefors Test Statistic	0.241
10% Lilliefors Critical Value	0.28

Shapiro Wilk GOF Test

Detected Data appear Lognormal at 10% Significance Level

Lilliefors GOF Test

Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	4.874	Mean in Log Scale	1.483
SD in Original Scale	2.226	SD in Log Scale	0.474
95% UTL95% Coverage	15.62	95% BCA UTL95% Coverage	8.77
95% Bootstrap (%) UTL95% Coverage	8.77	95% UPL (t)	10.58
90% Percentile (z)	8.087	95% Percentile (z)	9.605
99% Percentile (z)	13.26	95% USL	13.29

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.311	95% KM UTL (Lognormal)95% Coverage	18.57
KM SD of Logged Data	0.603	95% KM UPL (Lognormal)	11.32
95% KM Percentile Lognormal (z)	10	95% KM USL (Lognormal)	15.12

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	3.963	Mean in Log Scale	0.991
SD in Original Scale	3.092	SD in Log Scale	0.975
95% UTL95% Coverage	36.46	95% UPL (t)	16.36
90% Percentile (z)	9.402	95% Percentile (z)	13.4
99% Percentile (z)	26.05	95% USL	26.16

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	8.77
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	8.77
95% USL	8.77	95% KM Chebyshev UPL	15.82

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07_mercury)

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	5		
Number of Detects	4	Number of Non-Detects	9
Number of Distinct Detects	4	Number of Distinct Non-Detects	1
Minimum Detect	0.219	Minimum Non-Detect	0.2
Maximum Detect	0.313	Maximum Non-Detect	0.2
Variance Detected	0.00179	Percent Non-Detects	69.23%
Mean Detected	0.251	SD Detected	0.0423
Mean of Detected Logged Data	-1.391	SD of Detected Logged Data	0.159

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.83
1% Shapiro Wilk Critical Value	0.687
Lilliefors Test Statistic	0.327
1% Lilliefors Critical Value	0.413

Shapiro Wilk GOF Test

Detected Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.216	KM SD	0.0312
95% UTL95% Coverage	0.299	95% KM UPL (t)	0.273
90% KM Percentile (z)	0.256	95% KM Percentile (z)	0.267
99% KM Percentile (z)	0.288	95% KM USL	0.288

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.147	SD	0.0757
95% UTL95% Coverage	0.349	95% UPL (t)	0.287
90% Percentile (z)	0.244	95% Percentile (z)	0.271
99% Percentile (z)	0.323	95% USL	0.323

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.473	Anderson-Darling GOF Test
5% A-D Critical Value	0.656	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.325	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.394	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	50.96	k star (bias corrected MLE)	12.91
Theta hat (MLE)	0.00493	Theta star (bias corrected MLE)	0.0195
nu hat (MLE)	407.6	nu star (bias corrected)	103.2
MLE Mean (bias corrected)	0.251		
MLE Sd (bias corrected)	0.0699	95% Percentile of Chisquare (2kstar)	38.65

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.144
Maximum	0.313	Median	0.136
SD	0.0888	CV	0.615
k hat (MLE)	1.941	k star (bias corrected MLE)	1.544
Theta hat (MLE)	0.0744	Theta star (bias corrected MLE)	0.0935
nu hat (MLE)	50.47	nu star (bias corrected)	40.16
MLE Mean (bias corrected)	0.144	MLE Sd (bias corrected)	0.116
95% Percentile of Chisquare (2kstar)	7.968	90% Percentile	0.299
95% Percentile	0.372	99% Percentile	0.538

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.596	0.675	95% Approx. Gamma UPL	0.398	0.427
95% Gamma USL	0.507	0.562			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.216	SD (KM)	0.0312
Variance (KM)	9.7279E-4	SE of Mean (KM)	0.00999
k hat (KM)	47.86	k star (KM)	36.87
nu hat (KM)	1244	nu star (KM)	958.5
theta hat (KM)	0.00451	theta star (KM)	0.00585
80% gamma percentile (KM)	0.245	90% gamma percentile (KM)	0.262
95% gamma percentile (KM)	0.277	99% gamma percentile (KM)	0.307

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	0.299	0.299	95% Approx. Gamma UPL	0.271	0.271
95% KM Gamma Percentile	0.265	0.264	95% Gamma USL	0.288	0.287

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.857	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.309	Lilliefors GOF Test
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.171	Mean in Log Scale	-1.831
SD in Original Scale	0.065	SD in Log Scale	0.373
95% UTL95% Coverage	0.434	95% BCA UTL95% Coverage	0.313
95% Bootstrap (%) UTL95% Coverage	0.313	95% UPL (t)	0.319
90% Percentile (z)	0.258	95% Percentile (z)	0.296
99% Percentile (z)	0.382	95% USL	0.382

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-1.542	95% KM UTL (Lognormal)95% Coverage	0.3
KM SD of Logged Data	0.126	95% KM UPL (Lognormal)	0.27
95% KM Percentile Lognormal (z)	0.263	95% KM USL (Lognormal)	0.287

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.147	Mean in Log Scale	-2.022
SD in Original Scale	0.0757	SD in Log Scale	0.445
95% UTL95% Coverage	0.434	95% UPL (t)	0.301
90% Percentile (z)	0.234	95% Percentile (z)	0.275
99% Percentile (z)	0.373	95% USL	0.373

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with95% Coverage	0.313
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	0.313
95% USL	0.313	95% KM Chebyshev UPL	0.357

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

General Statistics

Total Number of Observations	13	Number of Distinct Observations	13
Minimum	0.521	First Quartile	1.2
Second Largest	3.08	Median	1.63
Maximum	5.99	Third Quartile	2.3
Mean	1.993	SD	1.432
Coefficient of Variation	0.719	Skewness	1.924
Mean of logged Data	0.483	SD of logged Data	0.673

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test

Shapiro Wilk Test Statistic	0.824
1% Shapiro Wilk Critical Value	0.814
Lilliefors Test Statistic	0.184
1% Lilliefors Critical Value	0.271

Shapiro Wilk GOF Test

Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	5.819	90% Percentile (z)	3.829
95% UPL (t)	4.643	95% Percentile (z)	4.349
95% USL	5.332	99% Percentile (z)	5.326

Gamma GOF Test

A-D Test Statistic	0.219
5% A-D Critical Value	0.741
K-S Test Statistic	0.0985
5% K-S Critical Value	0.239

Anderson-Darling Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.573	k star (bias corrected MLE)	2.031
Theta hat (MLE)	0.775	Theta star (bias corrected MLE)	0.982
nu hat (MLE)	66.9	nu star (bias corrected)	52.79
MLE Mean (bias corrected)	1.993	MLE Sd (bias corrected)	1.399

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	4.953	90% Percentile	3.863
95% Hawkins Wixley (HW) Approx. Gamma UPL	5.066	95% Percentile	4.706
95% WH Approx. Gamma UTL with 95% Coverage	7.163	99% Percentile	6.573
95% HW Approx. Gamma UTL with 95% Coverage	7.573		
95% WH USL	6.181	95% HW USL	6.442

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.976
10% Shapiro Wilk Critical Value	0.889
Lilliefors Test Statistic	0.127
10% Lilliefors Critical Value	0.215

Shapiro Wilk Lognormal GOF Test

Data appear Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	9.791	90% Percentile (z)	3.842
95% UPL (t)	5.632	95% Percentile (z)	4.907
95% USL	7.785	99% Percentile (z)	7.764

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	13	95% UTL with 95% Coverage	5.99
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	5.99	95% BCA Bootstrap UTL with 95% Coverage	5.99
95% UPL	5.99	90% Percentile	3.016
90% Chebyshev UPL	6.453	95% Percentile	4.244
95% Chebyshev UPL	8.473	99% Percentile	5.641
95% USL	5.99		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-07_selenium)

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	4		
Number of Detects	3	Number of Non-Detects	11
Number of Distinct Detects	3	Number of Distinct Non-Detects	1
Minimum Detect	0.691	Minimum Non-Detect	2
Maximum Detect	3.4	Maximum Non-Detect	2
Variance Detected	2.279	Percent Non-Detects	78.57%
Mean Detected	1.661	SD Detected	1.51
Mean of Detected Logged Data	0.246	SD of Detected Logged Data	0.856

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.805
1% Shapiro Wilk Critical Value	0.753
Lilliefors Test Statistic	0.362
1% Lilliefors Critical Value	0.429

Shapiro Wilk GOF Test

Detected Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.977	KM SD	0.679
95% UTL95% Coverage	2.752	95% KM UPL (t)	2.222
90% KM Percentile (z)	1.847	95% KM Percentile (z)	2.094
99% KM Percentile (z)	2.556	95% KM USL	2.587

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.142	SD	0.656
95% UTL95% Coverage	2.855	95% UPL (t)	2.343
90% Percentile (z)	1.982	95% Percentile (z)	2.22
99% Percentile (z)	2.667	95% USL	2.696

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.473	Anderson-Darling GOF Test
5% A-D Critical Value	0.637	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.381	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.435	Detected data appear Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.067	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.803	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	12.4	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.052
Maximum	3.4	Median	0.843
SD	0.888	CV	0.844
k hat (MLE)	1.117	k star (bias corrected MLE)	0.925
Theta hat (MLE)	0.942	Theta star (bias corrected MLE)	1.137
nu hat (MLE)	31.28	nu star (bias corrected)	25.91
MLE Mean (bias corrected)	1.052	MLE Sd (bias corrected)	1.093
95% Percentile of Chisquare (2kstar)	5.699	90% Percentile	2.468
95% Percentile	3.239	99% Percentile	5.038

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	5.452	6.574	95% Approx. Gamma UPL	3.456	3.866
95% Gamma USL	4.767	5.617			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.977	SD (KM)	0.679
Variance (KM)	0.461	SE of Mean (KM)	0.234
k hat (KM)	2.073	k star (KM)	1.677
nu hat (KM)	58.05	nu star (KM)	46.94
theta hat (KM)	0.471	theta star (KM)	0.583
80% gamma percentile (KM)	1.494	90% gamma percentile (KM)	1.982
95% gamma percentile (KM)	2.454	99% gamma percentile (KM)	3.511

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	2.558	2.533	95% Approx. Gamma UPL	1.94	1.905
95% KM Gamma Percentile	1.808	1.773	95% Gamma USL	2.354	2.324

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.866	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.33	Lilliefors GOF Test
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.07	Mean in Log Scale	-0.125
SD in Original Scale	0.791	SD in Log Scale	0.619
95% UTL95% Coverage	4.45	95% BCA UTL95% Coverage	3.4
95% Bootstrap (%) UTL95% Coverage	3.4	95% UPL (t)	2.745
90% Percentile (z)	1.951	95% Percentile (z)	2.443
99% Percentile (z)	3.724	95% USL	3.83

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.138	95% KM UTL (Lognormal)95% Coverage	2.46
KM SD of Logged Data	0.397	95% KM UPL (Lognormal)	1.804
95% KM Percentile Lognormal (z)	1.674	95% KM USL (Lognormal)	2.234

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.142	Mean in Log Scale	0.0528
SD in Original Scale	0.656	SD in Log Scale	0.352
95% UTL95% Coverage	2.644	95% UPL (t)	2.009
90% Percentile (z)	1.655	95% Percentile (z)	1.88
99% Percentile (z)	2.39	95% USL	2.428

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with95% Coverage	3.4
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	3.4
95% USL	3.4	95% KM Chebyshev UPL	4.04

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	5		
Number of Detects	3	Number of Non-Detects	10
Number of Distinct Detects	3	Number of Distinct Non-Detects	2
Minimum Detect	0.874	Minimum Non-Detect	2
Maximum Detect	3.32	Maximum Non-Detect	4
Variance Detected	1.496	Percent Non-Detects	76.92%
Mean Detected	2.105	SD Detected	1.223
Mean of Detected Logged Data	0.606	SD of Detected Logged Data	0.679

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	1	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.176	Lilliefors GOF Test
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.284	KM SD	0.818
95% UTL95% Coverage	3.469	95% KM UPL (t)	2.797
90% KM Percentile (z)	2.332	95% KM Percentile (z)	2.63
99% KM Percentile (z)	3.187	95% KM USL	3.19

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.563	SD	0.738
95% UTL95% Coverage	3.534	95% UPL (t)	2.928
90% Percentile (z)	2.509	95% Percentile (z)	2.777
99% Percentile (z)	3.28	95% USL	3.283

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.27	Anderson-Darling GOF Test
5% A-D Critical Value	0.636	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.241	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.434	Detected data appear Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.766	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.559	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	22.6	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0185	Mean	1.206
Maximum	3.32	Median	0.928
SD	0.912	CV	0.756
k hat (MLE)	1.247	k star (bias corrected MLE)	1.011
Theta hat (MLE)	0.967	Theta star (bias corrected MLE)	1.193
nu hat (MLE)	32.43	nu star (bias corrected)	26.28
MLE Mean (bias corrected)	1.206	MLE Sd (bias corrected)	1.2
95% Percentile of Chisquare (2kstar)	6.034	90% Percentile	2.77
95% Percentile	3.599	99% Percentile	5.524

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	6.148	7.399	95% Approx. Gamma UPL	3.875	4.327
95% Gamma USL	5.121	5.975			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.284	SD (KM)	0.818
Variance (KM)	0.669	SE of Mean (KM)	0.334
k hat (KM)	2.465	k star (KM)	1.948
nu hat (KM)	64.1	nu star (KM)	50.64
theta hat (KM)	0.521	theta star (KM)	0.659
80% gamma percentile (KM)	1.929	90% gamma percentile (KM)	2.513
95% gamma percentile (KM)	3.072	99% gamma percentile (KM)	4.313

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.719	3.77	95% Approx. Gamma UPL	2.723	2.714
95% KM Gamma Percentile	2.506	2.49	95% Gamma USL	3.281	3.3

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.965
10% Shapiro Wilk Critical Value	0.789
Lilliefors Test Statistic	0.252
10% Lilliefors Critical Value	0.389

Shapiro Wilk GOF Test

Detected Data appear Lognormal at 10% Significance Level

Lilliefors GOF Test

Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.261	Mean in Log Scale	0.0691
SD in Original Scale	0.806	SD in Log Scale	0.582
95% UTL95% Coverage	5.076	95% BCA UTL95% Coverage	3.32
95% Bootstrap (%) UTL95% Coverage	3.32	95% UPL (t)	3.146
90% Percentile (z)	2.26	95% Percentile (z)	2.792
99% Percentile (z)	4.153	95% USL	4.163

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.112	95% KM UTL (Lognormal)95% Coverage	3.963
KM SD of Logged Data	0.474	95% KM UPL (Lognormal)	2.686
95% KM Percentile Lognormal (z)	2.438	95% KM USL (Lognormal)	3.373

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.563	Mean in Log Scale	0.353
SD in Original Scale	0.738	SD in Log Scale	0.44
95% UTL	95% Coverage	95% UPL (t)	3.212
90% Percentile (z)	2.502	95% Percentile (z)	2.936
99% Percentile (z)	3.962	95% USL	3.97

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	4
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	4
95% USL	4	95% KM Chebyshev UPL	4.984

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-11_barium)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	7
Minimum	16.6	First Quartile	16.6
Second Largest	36.49	Median	16.6
Maximum	45.04	Third Quartile	21.43
Mean	22.05	SD	9.241
Coefficient of Variation	0.419	Skewness	1.724
Mean of logged Data	3.03	SD of logged Data	0.345

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.666
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.31
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	46.21	90% Percentile (z)	33.9
95% UPL (t)	38.99	95% Percentile (z)	37.25
95% USL	43.97	99% Percentile (z)	43.55

Gamma GOF Test

A-D Test Statistic	2.048
5% A-D Critical Value	0.736
K-S Test Statistic	0.314
5% K-S Critical Value	0.229

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	8.085	k star (bias corrected MLE)	6.4
Theta hat (MLE)	2.728	Theta star (bias corrected MLE)	3.446
nu hat (MLE)	226.4	nu star (bias corrected)	179.2
MLE Mean (bias corrected)	22.05	MLE Sd (bias corrected)	8.717

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	38.92	90% Percentile	33.7
95% Hawkins Wixley (HW) Approx. Gamma UPL	38.93	95% Percentile	38.07
95% WH Approx. Gamma UTL with 95% Coverage	48.84	99% Percentile	47.2
95% HW Approx. Gamma UTL with 95% Coverage	49.32		
95% WH USL	45.6	95% HW USL	45.9

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.698
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.31
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	51.06	90% Percentile (z)	32.23
95% UPL (t)	38.99	95% Percentile (z)	36.54
95% USL	46.96	99% Percentile (z)	46.23

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	14	95% UTL with 95% Coverage	45.04
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	45.04	95% BCA Bootstrap UTL with 95% Coverage	45.04
95% UPL	45.04	90% Percentile	35.48
90% Chebyshev UPL	50.75	95% Percentile	39.48
95% Chebyshev UPL	63.75	99% Percentile	43.92
95% USL	45.04		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-11_beryllium)

General Statistics			
Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	13
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	2
Maximum Detect	N/A	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-11_beryllium) was not processed!

concDL_final (twin oaks_mw-11_cobalt)

General Statistics			
Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	12	Number of Non-Detects	2
Number of Distinct Detects	10	Number of Distinct Non-Detects	2
Minimum Detect	1.03	Minimum Non-Detect	1.03
Maximum Detect	2.246	Maximum Non-Detect	1.63
Variance Detected	0.124	Percent Non-Detects	14.29%
Mean Detected	1.393	SD Detected	0.352
Mean of Detected Logged Data	0.305	SD of Detected Logged Data	0.235

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.881	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.805	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.16	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.281	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.357	KM SD	0.331
95% UTL95% Coverage	2.223	95% KM UPL (t)	1.965
90% KM Percentile (z)	1.782	95% KM Percentile (z)	1.902
99% KM Percentile (z)	2.128	95% KM USL	2.143

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.289	SD	0.422
95% UTL95% Coverage	2.393	95% UPL (t)	2.063
90% Percentile (z)	1.83	95% Percentile (z)	1.984
99% Percentile (z)	2.272	95% USL	2.291

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.381	Anderson-Darling GOF Test
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.154	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.245	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	19.08	k star (bias corrected MLE)	14.37
Theta hat (MLE)	0.073	Theta star (bias corrected MLE)	0.097
nu hat (MLE)	458	nu star (bias corrected)	344.8
MLE Mean (bias corrected)	1.393		
MLE Sd (bias corrected)	0.368	95% Percentile of Chisquare (2kstar)	42.24

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.702	Mean	1.333
Maximum	2.246	Median	1.246
SD	0.374	CV	0.28
k hat (MLE)	14.18	k star (bias corrected MLE)	11.19
Theta hat (MLE)	0.094	Theta star (bias corrected MLE)	0.119
nu hat (MLE)	397	nu star (bias corrected)	313.3
MLE Mean (bias corrected)	1.333	MLE Sd (bias corrected)	0.398
95% Percentile of Chisquare (2kstar)	34.39	90% Percentile	1.862
95% Percentile	2.048	99% Percentile	2.43

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	2.493	2.529	95% Approx. Gamma UPL	2.083	2.095
95% Gamma USL	2.36	2.388			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.357	SD (KM)	0.331
Variance (KM)	0.11	SE of Mean (KM)	0.0938
k hat (KM)	16.76	k star (KM)	13.22
nu hat (KM)	469.3	nu star (KM)	370.1
theta hat (KM)	0.081	theta star (KM)	0.103
80% gamma percentile (KM)	1.657	90% gamma percentile (KM)	1.852
95% gamma percentile (KM)	2.024	99% gamma percentile (KM)	2.373

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	2.309	2.324	95% Approx. Gamma UPL	1.98	1.983
95% KM Gamma Percentile	1.905	1.907	95% Gamma USL	2.203	2.214

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.926	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.883	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.14	Lilliefors GOF Test
10% Lilliefors Critical Value	0.223	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.339	Mean in Log Scale	0.26
SD in Original Scale	0.363	SD in Log Scale	0.26
95% UTL95% Coverage	2.557	95% BCA UTL95% Coverage	2.246
95% Bootstrap (%) UTL95% Coverage	2.246	95% UPL (t)	2.088
90% Percentile (z)	1.809	95% Percentile (z)	1.988
99% Percentile (z)	2.373	95% USL	2.401

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.279	95% KM UTL (Lognormal)95% Coverage	2.377
KM SD of Logged Data	0.225	95% KM UPL (Lognormal)	1.995
95% KM Percentile Lognormal (z)	1.912	95% KM USL (Lognormal)	2.251

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.289	Mean in Log Scale	0.2
SD in Original Scale	0.422	SD in Log Scale	0.356
95% UTL95% Coverage	3.097	95% UPL (t)	2.345
90% Percentile (z)	1.927	95% Percentile (z)	2.193
99% Percentile (z)	2.796	95% USL	2.841

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with95% Coverage	2.246
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	2.246
95% USL	2.246	95% KM Chebyshev UPL	2.853

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-11_lead)

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	3		
Number of Detects	2	Number of Non-Detects	11
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	2.47	Minimum Non-Detect	2
Maximum Detect	3.39	Maximum Non-Detect	2
Variance Detected	0.423	Percent Non-Detects	84.62%
Mean Detected	2.93	SD Detected	0.651
Mean of Detected Logged Data	1.063	SD of Detected Logged Data	0.224

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.143	KM SD	0.381
95% UTL95% Coverage	3.161	95% KM UPL (t)	2.848
90% KM Percentile (z)	2.631	95% KM Percentile (z)	2.77
99% KM Percentile (z)	3.029	95% KM USL	3.031

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.297	SD	0.749
95% UTL95% Coverage	3.297	95% UPL (t)	2.682
90% Percentile (z)	2.256	95% Percentile (z)	2.528
99% Percentile (z)	3.039	95% USL	3.042

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	40.24	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0728	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	160.9	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.143	SD (KM)	0.381
Variance (KM)	0.145	SE of Mean (KM)	0.149
k hat (KM)	31.64	k star (KM)	24.39
nu hat (KM)	822.7	nu star (KM)	634.2
theta hat (KM)	0.0677	theta star (KM)	0.0879
80% gamma percentile (KM)	2.497	90% gamma percentile (KM)	2.715
95% gamma percentile (KM)	2.903	99% gamma percentile (KM)	3.279

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.143	3.141	95% Approx. Gamma UPL	2.802	2.796
95% KM Gamma Percentile	2.721	2.714	95% Gamma USL	2.999	2.995

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.107	Mean in Log Scale	-0.181
SD in Original Scale	0.918	SD in Log Scale	0.781
95% UTL95% Coverage	6.723	95% BCA UTL95% Coverage	3.39
95% Bootstrap (%) UTL95% Coverage	3.39	95% UPL (t)	3.539
90% Percentile (z)	2.271	95% Percentile (z)	3.016
99% Percentile (z)	5.136	95% USL	5.153

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.75	95% KM UTL (Lognormal)	95% Coverage	3.135
KM SD of Logged Data	0.147		95% KM UPL (Lognormal)	2.778
95% KM Percentile Lognormal (z)	2.696		95% KM USL (Lognormal)	2.982

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.297	Mean in Log Scale	0.163
SD in Original Scale	0.749	SD in Log Scale	0.404
95% UTL	95% Coverage	95% UPL (t)	2.487
90% Percentile (z)	1.977	95% Percentile (z)	2.29
99% Percentile (z)	3.016	95% USL	3.021

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs (no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	3.39
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	3.39
95% USL	3.39	95% KM Chebyshev UPL	3.866

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-11_mercury)

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	13
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	0.2
Maximum Detect	N/A	Maximum Non-Detect	0.2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-11_mercury) was not processed!

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	12	Number of Non-Detects	2
Number of Distinct Detects	10	Number of Distinct Non-Detects	2
Minimum Detect	0.397	Minimum Non-Detect	0.397
Maximum Detect	4.241	Maximum Non-Detect	0.528
Variance Detected	1.182	Percent Non-Detects	14.29%
Mean Detected	1.268	SD Detected	1.087
Mean of Detected Logged Data	-0.0298	SD of Detected Logged Data	0.742

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.772	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.212	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.281	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level**Kaplan Meier (KM) Background Statistics Assuming Normal Distribution**

KM Mean	1.144	KM SD	1.011
95% UTL95% Coverage	3.786	95% KM UPL (t)	2.997
90% KM Percentile (z)	2.439	95% KM Percentile (z)	2.807
99% KM Percentile (z)	3.495	95% KM USL	3.541

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.12	SD	1.069
95% UTL95% Coverage	3.914	95% UPL (t)	3.079
90% Percentile (z)	2.49	95% Percentile (z)	2.878
99% Percentile (z)	3.607	95% USL	3.655

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons**Gamma GOF Tests on Detected Observations Only**

A-D Test Statistic	0.378	Anderson-Darling GOF Test	
5% A-D Critical Value	0.741	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.153	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.249	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level**Gamma Statistics on Detected Data Only**

k hat (MLE)	2.021	k star (bias corrected MLE)	1.571
Theta hat (MLE)	0.627	Theta star (bias corrected MLE)	0.807
nu hat (MLE)	48.5	nu star (bias corrected)	37.71
MLE Mean (bias corrected)	1.268		
MLE Sd (bias corrected)	1.012	95% Percentile of Chisquare (2kstar)	8.061

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.09
Maximum	4.241	Median	0.816
SD	1.098	CV	1.008
k hat (MLE)	0.848	k star (bias corrected MLE)	0.714
Theta hat (MLE)	1.286	Theta star (bias corrected MLE)	1.527
nu hat (MLE)	23.73	nu star (bias corrected)	19.98
MLE Mean (bias corrected)	1.09	MLE Sd (bias corrected)	1.29
95% Percentile of Chisquare (2kstar)	4.824	90% Percentile	2.723
95% Percentile	3.684	99% Percentile	5.973

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	6.567	8.119	95% Approx. Gamma UPL	3.984	4.513
95% Gamma USL	5.673	6.828			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.144	SD (KM)	1.011
Variance (KM)	1.022	SE of Mean (KM)	0.282
k hat (KM)	1.28	k star (KM)	1.053
nu hat (KM)	35.84	nu star (KM)	29.49
theta hat (KM)	0.894	theta star (KM)	1.086
80% gamma percentile (KM)	1.833	90% gamma percentile (KM)	2.6
95% gamma percentile (KM)	3.364	99% gamma percentile (KM)	5.132

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	4.444	4.651	95% Approx. Gamma UPL	3.019	3.054
95% KM Gamma Percentile	2.728	2.741	95% Gamma USL	3.963	4.101

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.94	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.883	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.136	Lilliefors GOF Test
10% Lilliefors Critical Value	0.223	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.122	Mean in Log Scale	-0.235
SD in Original Scale	1.067	SD in Log Scale	0.872
95% UTL95% Coverage	7.721	95% BCA UTL95% Coverage	4.241
95% Bootstrap (%) UTL95% Coverage	4.241	95% UPL (t)	3.908
90% Percentile (z)	2.416	95% Percentile (z)	3.316
99% Percentile (z)	6.008	95% USL	6.251

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.157	95% KM UTL (Lognormal)95% Coverage	5.736
KM SD of Logged Data	0.729	95% KM UPL (Lognormal)	3.248
95% KM Percentile Lognormal (z)	2.831	95% KM USL (Lognormal)	4.808

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.12	Mean in Log Scale	-0.236
SD in Original Scale	1.069	SD in Log Scale	0.863
95% UTL95% Coverage	7.534	95% UPL (t)	3.84
90% Percentile (z)	2.386	95% Percentile (z)	3.265
99% Percentile (z)	5.878	95% USL	6.112

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with95% Coverage	4.241
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	4.241
95% USL	4.241	95% KM Chebyshev UPL	5.705

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-11_selenium)

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	14
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	2
Maximum Detect	N/A	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-11_selenium) was not processed!

concDL_final (twin oaks_mw-12_arsenic)

General Statistics			
Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	3		
Number of Detects	1	Number of Non-Detects	12
Number of Distinct Detects	1	Number of Distinct Non-Detects	2
Minimum Detect	1.08	Minimum Non-Detect	2
Maximum Detect	1.08	Maximum Non-Detect	4
Variance Detected	N/A	Percent Non-Detects	92.31%
Mean Detected	1.08	SD Detected	N/A
Mean of Detected Logged Data	0.077	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-12_arsenic) was not processed!

concDL_final (twin oaks_mw-12_barium)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	11
Minimum	85.6	First Quartile	85.92
Second Largest	118	Median	93.58
Maximum	120	Third Quartile	105.2
Mean	97.71	SD	12.6
Coefficient of Variation	0.129	Skewness	0.735
Mean of logged Data	4.575	SD of logged Data	0.125

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.859
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.182
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	130.6	90% Percentile (z)	113.9
95% UPL (t)	120.8	95% Percentile (z)	118.4
95% USL	127.6	99% Percentile (z)	127

Gamma GOF Test

A-D Test Statistic	0.719
5% A-D Critical Value	0.733
K-S Test Statistic	0.175
5% K-S Critical Value	0.228

Anderson-Darling Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	67.65	k star (bias corrected MLE)	53.2
Theta hat (MLE)	1.444	Theta star (bias corrected MLE)	1.837
nu hat (MLE)	1894	nu star (bias corrected)	1490
MLE Mean (bias corrected)	97.71	MLE Sd (bias corrected)	13.4

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	121.5	90% Percentile	115.2
95% Hawkins Wixley (HW) Approx. Gamma UPL	121.6	95% Percentile	120.7
95% WH Approx. Gamma UTL with 95% Coverage	133	99% Percentile	131.5
95% HW Approx. Gamma UTL with 95% Coverage	133.4		
95% WH USL	129.4	95% HW USL	129.6

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.869
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.167
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 10% Significance Level

Data appear Approximate Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	134.5	90% Percentile (z)	113.8
95% UPL (t)	122	95% Percentile (z)	119.1
95% USL	130.5	99% Percentile (z)	129.7

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	14	95% UTL with 95% Coverage	120
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	120	95% BCA Bootstrap UTL with 95% Coverage	120
95% UPL	120	90% Percentile	117
90% Chebyshev UPL	136.8	95% Percentile	118.7
95% Chebyshev UPL	154.6	99% Percentile	119.8
95% USL	120		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers

and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-12_beryllium)

General Statistics			
Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	13
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	2
Maximum Detect	N/A	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-12_beryllium) was not processed!

concDL_final (twin oaks_mw-12_cobalt)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	12
Minimum	2.11	First Quartile	2.244
Second Largest	3.801	Median	2.71
Maximum	4.223	Third Quartile	3.704
Mean	2.912	SD	0.762
Coefficient of Variation	0.262	Skewness	0.461
Mean of logged Data	1.038	SD of logged Data	0.257

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.865
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.189
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	4.904	90% Percentile (z)	3.889
95% UPL (t)	4.309	95% Percentile (z)	4.166
95% USL	4.719	99% Percentile (z)	4.685

Gamma GOF Test

A-D Test Statistic	0.761
5% A-D Critical Value	0.734
K-S Test Statistic	0.197
5% K-S Critical Value	0.228

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	16.28	k star (bias corrected MLE)	12.84
Theta hat (MLE)	0.179	Theta star (bias corrected MLE)	0.227
nu hat (MLE)	455.8	nu star (bias corrected)	359.4
MLE Mean (bias corrected)	2.912	MLE Sd (bias corrected)	0.813

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	4.434	90% Percentile	3.991
95% Hawkins Wixley (HW) Approx. Gamma UPL	4.454	95% Percentile	4.366
95% WH Approx. Gamma UTL with 95% Coverage	5.255	99% Percentile	5.129
95% HW Approx. Gamma UTL with 95% Coverage	5.315		
95% WH USL	4.99	95% HW USL	5.035

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.876
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.191
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 10% Significance Level

Data appear Approximate Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	5.526	90% Percentile (z)	3.924
95% UPL (t)	4.522	95% Percentile (z)	4.308
95% USL	5.193	99% Percentile (z)	5.133

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	14	95% UTL with 95% Coverage	4.223
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	4.223	95% BCA Bootstrap UTL with 95% Coverage	4.223
95% UPL	4.223	90% Percentile	3.795
90% Chebyshev UPL	5.278	95% Percentile	3.949
95% Chebyshev UPL	6.35	99% Percentile	4.168
95% USL	4.223		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-12_lead)

General Statistics			
Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	13
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	2
Maximum Detect	N/A	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-12_lead) was not processed!

concDL_final (twin oaks_mw-12_mercury)

General Statistics			
Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	13
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	0.2
Maximum Detect	N/A	Maximum Non-Detect	0.2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-12_mercury) was not processed!

concDL_final (twin oaks_mw-12_radium-226/228)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	14
Minimum	1.44	First Quartile	2.473
Second Largest	4.32	Median	3.03
Maximum	4.53	Third Quartile	3.47
Mean	2.974	SD	0.898
Coefficient of Variation	0.302	Skewness	0.171
Mean of logged Data	1.044	SD of logged Data	0.321

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.975
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.114
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data appear Normal at 1% Significance Level

Lilliefors GOF Test

Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level**Background Statistics Assuming Normal Distribution**

95% UTL with 95% Coverage	5.321	90% Percentile (z)	4.125
95% UPL (t)	4.62	95% Percentile (z)	4.451
95% USL	5.104	99% Percentile (z)	5.063

Gamma GOF Test

A-D Test Statistic	0.185
5% A-D Critical Value	0.734
K-S Test Statistic	0.114
5% K-S Critical Value	0.229

Anderson-Darling Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level**Gamma Statistics**

k hat (MLE)	11.15	k star (bias corrected MLE)	8.806
Theta hat (MLE)	0.267	Theta star (bias corrected MLE)	0.338
nu hat (MLE)	312.1	nu star (bias corrected)	246.6
MLE Mean (bias corrected)	2.974	MLE Sd (bias corrected)	1.002

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	4.888	90% Percentile	4.309
95% Hawkins Wixley (HW) Approx. Gamma UPL	4.937	95% Percentile	4.792
95% WH Approx. Gamma UTL with 95% Coverage	5.964	99% Percentile	5.787
95% HW Approx. Gamma UTL with 95% Coverage	6.089		
95% WH USL	5.614	95% HW USL	5.712

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.966
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.13
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data appear Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level**Background Statistics assuming Lognormal Distribution**

95% UTL with 95% Coverage	6.579	90% Percentile (z)	4.289
95% UPL (t)	5.12	95% Percentile (z)	4.82
95% USL	6.086	99% Percentile (z)	5.999

Nonparametric Distribution Free Background Statistics**Data appear Normal at 1% Significance Level**

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	14	95% UTL with 95% Coverage	4.53
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	4.53	95% BCA Bootstrap UTL with 95% Coverage	4.53
95% UPL	4.53	90% Percentile	4.194
90% Chebyshev UPL	5.762	95% Percentile	4.394
95% Chebyshev UPL	7.025	99% Percentile	4.503
95% USL	4.53		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-12_selenium)

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	3		
Number of Detects	2	Number of Non-Detects	12
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	0.559	Minimum Non-Detect	2
Maximum Detect	0.87	Maximum Non-Detect	2
Variance Detected	0.0484	Percent Non-Detects	85.71%
Mean Detected	0.715	SD Detected	0.22
Mean of Detected Logged Data	-0.36	SD of Detected Logged Data	0.313

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.715	KM SD	0.156
95% UTL95% Coverage	1.121	95% KM UPL (t)	1
90% KM Percentile (z)	0.914	95% KM Percentile (z)	0.97
99% KM Percentile (z)	1.076	95% KM USL	1.083

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.959	SD	0.12
95% UTL95% Coverage	1.274	95% UPL (t)	1.18
90% Percentile (z)	1.113	95% Percentile (z)	1.157
99% Percentile (z)	1.239	95% USL	1.244

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	20.77	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0344	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	83.1	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.715	SD (KM)	0.156
Variance (KM)	0.0242	SE of Mean (KM)	0.156
k hat (KM)	21.11	k star (KM)	16.64
nu hat (KM)	591.2	nu star (KM)	465.8
theta hat (KM)	0.0338	theta star (KM)	0.0429
80% gamma percentile (KM)	0.856	90% gamma percentile (KM)	0.946
95% gamma percentile (KM)	1.025	99% gamma percentile (KM)	1.184

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.192	1.203	95% Approx. Gamma UPL	1.028	1.032
95% KM Gamma Percentile	0.991	0.994	95% Gamma USL	1.139	1.148

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.754	Mean in Log Scale	-0.36
SD in Original Scale	0.311	SD in Log Scale	0.41
95% UTL95% Coverage	2.038	95% BCA UTL95% Coverage	1.45
95% Bootstrap (%) UTL95% Coverage	1.45	95% UPL (t)	1.479
90% Percentile (z)	1.18	95% Percentile (z)	1.369
99% Percentile (z)	1.811	95% USL	1.845

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.36	95% KM UTL (Lognormal)95% Coverage	1.243
KM SD of Logged Data	0.221	95% KM UPL (Lognormal)	1.046
95% KM Percentile Lognormal (z)	1.003	95% KM USL (Lognormal)	1.178

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.959	Mean in Log Scale	-0.0515
SD in Original Scale	0.12	SD in Log Scale	0.157
95% UTL95% Coverage	1.432	95% UPL (t)	1.267
90% Percentile (z)	1.162	95% Percentile (z)	1.23
99% Percentile (z)	1.369	95% USL	1.378

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with 95% Coverage	2
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	2
95% USL	2	95% KM Chebyshev UPL	1.416

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-16_arsenic)

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	9	Number of Non-Detects	4
Number of Distinct Detects	6	Number of Distinct Non-Detects	4
Minimum Detect	0.916	Minimum Non-Detect	1.121
Maximum Detect	12.04	Maximum Non-Detect	4
Variance Detected	19.65	Percent Non-Detects	30.77%
Mean Detected	3.799	SD Detected	4.433
Mean of Detected Logged Data	0.798	SD of Detected Logged Data	1.051

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.691
1% Shapiro Wilk Critical Value	0.764
Lilliefors Test Statistic	0.315
1% Lilliefors Critical Value	0.316

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	3.028	KM SD	3.688
95% UTL 95% Coverage	12.88	95% KM UPL (t)	9.849
90% KM Percentile (z)	7.754	95% KM Percentile (z)	9.094
99% KM Percentile (z)	11.61	95% KM USL	11.62

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	3.069	SD	3.808
95% UTL 95% Coverage	13.24	95% UPL (t)	10.11
90% Percentile (z)	7.949	95% Percentile (z)	9.332
99% Percentile (z)	11.93	95% USL	11.94

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.918
5% A-D Critical Value	0.742
K-S Test Statistic	0.244
5% K-S Critical Value	0.287

Anderson-Darling GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov GOF

Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.067	k star (bias corrected MLE)	0.786
Theta hat (MLE)	3.56	Theta star (bias corrected MLE)	4.836
nu hat (MLE)	19.21	nu star (bias corrected)	14.14
MLE Mean (bias corrected)	3.799		
MLE Sd (bias corrected)	4.287	95% Percentile of Chisquare (2kstar)	5.13

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.271	Mean	2.928
Maximum	12.04	Median	1.313
SD	3.875	CV	1.323
k hat (MLE)	0.992	k star (bias corrected MLE)	0.814
Theta hat (MLE)	2.952	Theta star (bias corrected MLE)	3.596
nu hat (MLE)	25.79	nu star (bias corrected)	21.17
MLE Mean (bias corrected)	2.928	MLE Sd (bias corrected)	3.245
95% Percentile of Chisquare (2kstar)	5.249	90% Percentile	7.089
95% Percentile	9.438	99% Percentile	14.98

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	16.85	18.13	95% Approx. Gamma UPL	10.08	10.23
95% Gamma USL	13.76	14.44			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3.028	SD (KM)	3.688
Variance (KM)	13.6	SE of Mean (KM)	1.093
k hat (KM)	0.674	k star (KM)	0.57
nu hat (KM)	17.53	nu star (KM)	14.82
theta hat (KM)	4.49	theta star (KM)	5.312
80% gamma percentile (KM)	4.991	90% gamma percentile (KM)	7.967
95% gamma percentile (KM)	11.1	99% gamma percentile (KM)	18.71

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	15.46	16.26	95% Approx. Gamma UPL	9.528	9.543
95% KM Gamma Percentile	8.334	8.258	95% Gamma USL	12.77	13.15

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.812
10% Shapiro Wilk Critical Value	0.859
Lilliefors Test Statistic	0.245
10% Lilliefors Critical Value	0.252

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	3.033	Mean in Log Scale	0.631
SD in Original Scale	3.814	SD in Log Scale	0.903
95% UTL95% Coverage	20.96	95% BCA UTL95% Coverage	12.04
95% Bootstrap (%) UTL95% Coverage	12.04	95% UPL (t)	9.982
90% Percentile (z)	5.977	95% Percentile (z)	8.297
99% Percentile (z)	15.35	95% USL	15.41

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.597	95% KM UTL (Lognormal)	95% Coverage	20.63
KM SD of Logged Data	0.91		95% KM UPL (Lognormal)	9.773
95% KM Percentile Lognormal (z)	8.113		95% KM USL (Lognormal)	15.14

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	3.069	Mean in Log Scale	0.63
SD in Original Scale	3.808	SD in Log Scale	0.942
95% UTL	95% Coverage	95% UPL (t)	10.72
90% Percentile (z)	6.279	95% Percentile (z)	8.842
99% Percentile (z)	16.8	95% USL	16.87

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs (no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	12.04
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	12.04
95% USL	12.04	95% KM Chebyshev UPL	19.71

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-16_barium)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	4
Minimum	46.3	First Quartile	46.3
Second Largest	54.1	Median	46.3
Maximum	56.7	Third Quartile	46.3
Mean	47.67	SD	3.324
Coefficient of Variation	0.0697	Skewness	2.378
Mean of logged Data	3.862	SD of logged Data	0.0653

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.479
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.446
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	56.36	90% Percentile (z)	51.93
95% UPL (t)	53.76	95% Percentile (z)	53.14
95% USL	55.56	99% Percentile (z)	55.4

Gamma GOF Test

A-D Test Statistic	3.7
5% A-D Critical Value	0.733
K-S Test Statistic	0.452
5% K-S Critical Value	0.228

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	241.8	k star (bias corrected MLE)	190
Theta hat (MLE)	0.197	Theta star (bias corrected MLE)	0.251
nu hat (MLE)	6771	nu star (bias corrected)	5321
MLE Mean (bias corrected)	47.67	MLE Sd (bias corrected)	3.458

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	53.67	90% Percentile	52.15
95% Hawkins Wixley (HW) Approx. Gamma UPL	53.66	95% Percentile	53.5
95% WH Approx. Gamma UTL with 95% Coverage	56.4	99% Percentile	56.08
95% HW Approx. Gamma UTL with 95% Coverage	56.41		
95% WH USL	55.55	95% HW USL	55.55

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.481
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.447
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	56.43	90% Percentile (z)	51.73
95% UPL (t)	53.62	95% Percentile (z)	52.97
95% USL	55.54	99% Percentile (z)	55.38

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	14	95% UTL with 95% Coverage	56.7
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	56.7	95% BCA Bootstrap UTL with 95% Coverage	56.7
95% UPL	56.7	90% Percentile	52.06
90% Chebyshev UPL	57.99	95% Percentile	55.01
95% Chebyshev UPL	62.67	99% Percentile	56.36
95% USL	56.7		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers

and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	5		
Number of Detects	4	Number of Non-Detects	9
Number of Distinct Detects	4	Number of Distinct Non-Detects	1
Minimum Detect	2.48	Minimum Non-Detect	2
Maximum Detect	3.96	Maximum Non-Detect	2
Variance Detected	0.482	Percent Non-Detects	69.23%
Mean Detected	2.925	SD Detected	0.694
Mean of Detected Logged Data	1.055	SD of Detected Logged Data	0.217

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.734	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.393	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level**Kaplan Meier (KM) Background Statistics Assuming Normal Distribution**

KM Mean	2.285	KM SD	0.542
95% UTL95% Coverage	3.732	95% KM UPL (t)	3.287
90% KM Percentile (z)	2.979	95% KM Percentile (z)	3.176
99% KM Percentile (z)	3.545	95% KM USL	3.547

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.592	SD	0.988
95% UTL95% Coverage	4.231	95% UPL (t)	3.419
90% Percentile (z)	2.858	95% Percentile (z)	3.217
99% Percentile (z)	3.89	95% USL	3.894

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons**Gamma GOF Tests on Detected Observations Only**

A-D Test Statistic	0.684	Anderson-Darling GOF Test	
5% A-D Critical Value	0.657	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.406	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.394	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level**Gamma Statistics on Detected Data Only**

k hat (MLE)	26.85	k star (bias corrected MLE)	6.88
Theta hat (MLE)	0.109	Theta star (bias corrected MLE)	0.425
nu hat (MLE)	214.8	nu star (bias corrected)	55.04
MLE Mean (bias corrected)	2.925		
MLE Sd (bias corrected)	1.115	95% Percentile of Chisquare (2kstar)	23.37

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.375
Maximum	3.96	Median	1.147
SD	1.242	CV	0.903
k hat (MLE)	0.628	k star (bias corrected MLE)	0.534
Theta hat (MLE)	2.19	Theta star (bias corrected MLE)	2.574
nu hat (MLE)	16.33	nu star (bias corrected)	13.89
MLE Mean (bias corrected)	1.375	MLE Sd (bias corrected)	1.881
95% Percentile of Chisquare (2kstar)	4.009	90% Percentile	3.669
95% Percentile	5.159	99% Percentile	8.801

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	10.27	13.77	95% Approx. Gamma UPL	5.812	6.939
95% Gamma USL	8.215	10.51			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.285	SD (KM)	0.542
Variance (KM)	0.294	SE of Mean (KM)	0.174
k hat (KM)	17.78	k star (KM)	13.73
nu hat (KM)	462.3	nu star (KM)	357
theta hat (KM)	0.128	theta star (KM)	0.166
80% gamma percentile (KM)	2.781	90% gamma percentile (KM)	3.102
95% gamma percentile (KM)	3.384	99% gamma percentile (KM)	3.958

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.756	3.761	95% Approx. Gamma UPL	3.238	3.232
95% KM Gamma Percentile	3.117	3.109	95% Gamma USL	3.535	3.534

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.758
10% Shapiro Wilk Critical Value	0.792
Lilliefors Test Statistic	0.381
10% Lilliefors Critical Value	0.346

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.808	Mean in Log Scale	0.483
SD in Original Scale	0.907	SD in Log Scale	0.486
95% UTL95% Coverage	5.932	95% BCA UTL95% Coverage	3.96
95% Bootstrap (%) UTL95% Coverage	3.96	95% UPL (t)	3.98
90% Percentile (z)	3.021	95% Percentile (z)	3.604
99% Percentile (z)	5.018	95% USL	5.028

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.804	95% KM UTL (Lognormal)95% Coverage	3.779
KM SD of Logged Data	0.197	95% KM UPL (Lognormal)	3.215
95% KM Percentile Lognormal (z)	3.089	95% KM USL (Lognormal)	3.534

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.592	Mean in Log Scale	0.324
SD in Original Scale	0.988	SD in Log Scale	0.518
95% UTL95% Coverage	5.519	95% UPL (t)	3.606
90% Percentile (z)	2.687	95% Percentile (z)	3.243
99% Percentile (z)	4.616	95% USL	4.626

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	3.96
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	3.96
95% USL	3.96	95% KM Chebyshev UPL	4.735

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-16_cobalt)

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	6		
Number of Detects	7	Number of Non-Detects	7
Number of Distinct Detects	5	Number of Distinct Non-Detects	2
Minimum Detect	2	Minimum Non-Detect	2
Maximum Detect	5.631	Maximum Non-Detect	2
Variance Detected	2.674	Percent Non-Detects	50%
Mean Detected	3.084	SD Detected	1.635
Mean of Detected Logged Data	1.023	SD of Detected Logged Data	0.467

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.692
1% Shapiro Wilk Critical Value	0.73
Lilliefors Test Statistic	0.35
1% Lilliefors Critical Value	0.35

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Detected Data appear Normal at 1% Significance Level

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.542	KM SD	1.2
95% UTL95% Coverage	5.678	95% KM UPL (t)	4.741
90% KM Percentile (z)	4.08	95% KM Percentile (z)	4.516
99% KM Percentile (z)	5.333	95% KM USL	5.388

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	2.042	SD	1.55
95% UTL	95% Coverage	95% UPL (t)	4.884
90% Percentile (z)	4.029	95% Percentile (z)	4.592
99% Percentile (z)	5.648	95% USL	5.719

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.081	Anderson-Darling GOF Test
5% A-D Critical Value	0.71	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.328	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.313	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	5.021	k star (bias corrected MLE)	2.964
Theta hat (MLE)	0.614	Theta star (bias corrected MLE)	1.04
nu hat (MLE)	70.29	nu star (bias corrected)	41.5
MLE Mean (bias corrected)	3.084		
MLE Sd (bias corrected)	1.791	95% Percentile of Chisquare (2kstar)	12.48

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.662
Maximum	5.631	Median	1.37
SD	1.858	CV	1.118
k hat (MLE)	0.473	k star (bias corrected MLE)	0.419
Theta hat (MLE)	3.512	Theta star (bias corrected MLE)	3.962
nu hat (MLE)	13.25	nu star (bias corrected)	11.75
MLE Mean (bias corrected)	1.662	MLE Sd (bias corrected)	2.566
95% Percentile of Chisquare (2kstar)	3.429	90% Percentile	4.655
95% Percentile	6.793	99% Percentile	12.14

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	13.75	18.62	95% Approx. Gamma UPL	7.588	9.062
95% Gamma USL	11.57	15.09			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.542	SD (KM)	1.2
Variance (KM)	1.44	SE of Mean (KM)	0.346
k hat (KM)	4.488	k star (KM)	3.574
nu hat (KM)	125.7	nu star (KM)	100.1
theta hat (KM)	0.566	theta star (KM)	0.711
80% gamma percentile (KM)	3.551	90% gamma percentile (KM)	4.345
95% gamma percentile (KM)	5.079	99% gamma percentile (KM)	6.656

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	5.776	5.793	95% Approx. Gamma UPL	4.564	4.54
95% KM Gamma Percentile	4.3	4.271	95% Gamma USL	5.38	5.379

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.72
10% Shapiro Wilk Critical Value	0.838
Lilliefors Test Statistic	0.3
10% Lilliefors Critical Value	0.28

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	2.011	Mean in Log Scale	0.456
SD in Original Scale	1.585	SD in Log Scale	0.71
95% UTL95% Coverage	10.09	95% BCA UTL95% Coverage	5.631
95% Bootstrap (%) UTL95% Coverage	5.631	95% UPL (t)	5.798
90% Percentile (z)	3.919	95% Percentile (z)	5.072
99% Percentile (z)	8.229	95% USL	8.498

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.858	95% KM UTL (Lognormal)95% Coverage	5.854
KM SD of Logged Data	0.348	95% KM UPL (Lognormal)	4.462
95% KM Percentile Lognormal (z)	4.179	95% KM USL (Lognormal)	5.381

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	2.042	Mean in Log Scale	0.512
SD in Original Scale	1.55	SD in Log Scale	0.619
95% UTL95% Coverage	8.406	95% UPL (t)	5.185
90% Percentile (z)	3.686	95% Percentile (z)	4.615
99% Percentile (z)	7.035	95% USL	7.235

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with95% Coverage	5.631
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	5.631
95% USL	5.631	95% KM Chebyshev UPL	7.956

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-16_lead)

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	5		
Number of Detects	7	Number of Non-Detects	6
Number of Distinct Detects	4	Number of Distinct Non-Detects	2
Minimum Detect	2	Minimum Non-Detect	2
Maximum Detect	6.945	Maximum Non-Detect	2
Variance Detected	5.163	Percent Non-Detects	46.15%
Mean Detected	3.432	SD Detected	2.272
Mean of Detected Logged Data	1.074	SD of Detected Logged Data	0.576

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.671	d2max (for USL)	2.331

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.663
1% Shapiro Wilk Critical Value	0.73
Lilliefors Test Statistic	0.367
1% Lilliefors Critical Value	0.35

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.771	KM SD	1.701
95% UTL95% Coverage	7.314	95% KM UPL (t)	5.917
90% KM Percentile (z)	4.951	95% KM Percentile (z)	5.569
99% KM Percentile (z)	6.728	95% KM USL	6.735

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	2.31	SD	2.043
95% UTL95% Coverage	7.767	95% UPL (t)	6.088
90% Percentile (z)	4.928	95% Percentile (z)	5.67
99% Percentile (z)	7.062	95% USL	7.071

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.221
5% A-D Critical Value	0.711
K-S Test Statistic	0.344
5% K-S Critical Value	0.313

Anderson-Darling GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov GOF

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.308	k star (bias corrected MLE)	1.985
Theta hat (MLE)	1.038	Theta star (bias corrected MLE)	1.729
nu hat (MLE)	46.31	nu star (bias corrected)	27.8
MLE Mean (bias corrected)	3.432		
MLE Sd (bias corrected)	2.436	95% Percentile of Chisquare (2kstar)	9.44

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.913
Maximum	6.945	Median	2
SD	2.349	CV	1.227
k hat (MLE)	0.403	k star (bias corrected MLE)	0.361
Theta hat (MLE)	4.746	Theta star (bias corrected MLE)	5.295
nu hat (MLE)	10.48	nu star (bias corrected)	9.395
MLE Mean (bias corrected)	1.913	MLE Sd (bias corrected)	3.183
95% Percentile of Chisquare (2kstar)	3.109	90% Percentile	5.498
95% Percentile	8.231	99% Percentile	15.18

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	17.82	24.88	95% Approx. Gamma UPL	9.322	11.28
95% Gamma USL	13.85	18.26			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.771	SD (KM)	1.701
Variance (KM)	2.893	SE of Mean (KM)	0.51
k hat (KM)	2.655	k star (KM)	2.093
nu hat (KM)	69.02	nu star (KM)	54.43
theta hat (KM)	1.044	theta star (KM)	1.324
80% gamma percentile (KM)	4.127	90% gamma percentile (KM)	5.332
95% gamma percentile (KM)	6.479	99% gamma percentile (KM)	9.016

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	7.606	7.659	95% Approx. Gamma UPL	5.654	5.616
95% KM Gamma Percentile	5.226	5.177	95% Gamma USL	6.75	6.754

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.685
10% Shapiro Wilk Critical Value	0.838
Lilliefors Test Statistic	0.317
10% Lilliefors Critical Value	0.28

Shapiro Wilk GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	2.248	Mean in Log Scale	0.484
SD in Original Scale	2.096	SD in Log Scale	0.82
95% UTL95% Coverage	14.51	95% BCA UTL95% Coverage	6.945
95% Bootstrap (%) UTL95% Coverage	6.945	95% UPL (t)	7.396
90% Percentile (z)	4.643	95% Percentile (z)	6.254
99% Percentile (z)	10.93	95% USL	10.97

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.898	95% KM UTL (Lognormal)95% Coverage	7.853
KM SD of Logged Data	0.435	95% KM UPL (Lognormal)	5.493
95% KM Percentile Lognormal (z)	5.024	95% KM USL (Lognormal)	6.771

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	2.31	Mean in Log Scale	0.579
SD in Original Scale	2.043	SD in Log Scale	0.691
95% UTL95% Coverage	11.28	95% UPL (t)	6.397
90% Percentile (z)	4.321	95% Percentile (z)	5.553
99% Percentile (z)	8.891	95% USL	8.916

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	13	95% UTL with 95% Coverage	6.945
Approx, f used to compute achieved CC	0.684	Approximate Actual Confidence Coefficient achieved by UTL	0.487
Approximate Sample Size needed to achieve specified CC	59	95% UPL	6.945
95% USL	6.945	95% KM Chebyshev UPL	10.46

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

concDL_final (twin oaks_mw-16_mercury)

General Statistics

Total Number of Observations	13	Number of Missing Observations	0
Number of Distinct Observations	1		
Number of Detects	0	Number of Non-Detects	13
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	0.2
Maximum Detect	N/A	Maximum Non-Detect	0.2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable concDL_final (twin oaks_mw-16_mercury) was not processed!

concDL_final (twin oaks_mw-16_radium-226/228)

General Statistics

Total Number of Observations	14	Number of Distinct Observations	8
Minimum	1.13	First Quartile	1.13
Second Largest	2.24	Median	1.191
Maximum	5.526	Third Quartile	1.998
Mean	1.775	SD	1.165
Coefficient of Variation	0.656	Skewness	2.888
Mean of logged Data	0.452	SD of logged Data	0.459

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test

Shapiro Wilk Test Statistic	0.588
1% Shapiro Wilk Critical Value	0.825
Lilliefors Test Statistic	0.29
1% Lilliefors Critical Value	0.263

Shapiro Wilk GOF Test

Data Not Normal at 1% Significance Level

Lilliefors GOF Test

Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	4.82	90% Percentile (z)	3.268
95% UPL (t)	3.911	95% Percentile (z)	3.691
95% USL	4.538	99% Percentile (z)	4.485

Gamma GOF Test

A-D Test Statistic	1.604
5% A-D Critical Value	0.74
K-S Test Statistic	0.269
5% K-S Critical Value	0.23

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level**Gamma Statistics**

k hat (MLE)	4.266	k star (bias corrected MLE)	3.399
Theta hat (MLE)	0.416	Theta star (bias corrected MLE)	0.522
nu hat (MLE)	119.4	nu star (bias corrected)	95.18
MLE Mean (bias corrected)	1.775	MLE Sd (bias corrected)	0.963

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	3.698	90% Percentile	3.066
95% Hawkins Wixley (HW) Approx. Gamma UPL	3.68	95% Percentile	3.596
95% WH Approx. Gamma UTL with 95% Coverage	4.948	99% Percentile	4.737
95% HW Approx. Gamma UTL with 95% Coverage	4.995		
95% WH USL	4.534	95% HW USL	4.554

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.735
10% Shapiro Wilk Critical Value	0.895
Lilliefors Test Statistic	0.264
10% Lilliefors Critical Value	0.208

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Lilliefors Lognormal GOF Test

Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level**Background Statistics assuming Lognormal Distribution**

95% UTL with 95% Coverage	5.212	90% Percentile (z)	2.829
95% UPL (t)	3.643	95% Percentile (z)	3.342
95% USL	4.664	99% Percentile (z)	4.568

Nonparametric Distribution Free Background Statistics**Data do not follow a Discernible Distribution****Nonparametric Upper Limits for Background Threshold Values**

Order of Statistic, order	14	95% UTL with 95% Coverage	5.526
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	5.526	95% BCA Bootstrap UTL with 95% Coverage	5.526
95% UPL	5.526	90% Percentile	2.177
90% Chebyshev UPL	5.393	95% Percentile	3.39
95% Chebyshev UPL	7.032	99% Percentile	5.099
95% USL	5.526		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

General Statistics

Total Number of Observations	14	Number of Missing Observations	0
Number of Distinct Observations	13		
Number of Detects	12	Number of Non-Detects	2
Number of Distinct Detects	12	Number of Distinct Non-Detects	1
Minimum Detect	1.68	Minimum Non-Detect	2
Maximum Detect	4.86	Maximum Non-Detect	2
Variance Detected	0.994	Percent Non-Detects	14.29%
Mean Detected	3.092	SD Detected	0.997
Mean of Detected Logged Data	1.081	SD of Detected Logged Data	0.326

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.614	d2max (for USL)	2.372

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.954	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.805	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.14	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.281	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.89	KM SD	1.012
95% UTL95% Coverage	5.536	95% KM UPL (t)	4.746
90% KM Percentile (z)	4.187	95% KM Percentile (z)	4.555
99% KM Percentile (z)	5.245	95% KM USL	5.291

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	2.793	SD	1.191
95% UTL95% Coverage	5.905	95% UPL (t)	4.976
90% Percentile (z)	4.319	95% Percentile (z)	4.751
99% Percentile (z)	5.563	95% USL	5.617

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.198	Anderson-Darling GOF Test	
5% A-D Critical Value	0.73	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.13	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.245	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	10.57	k star (bias corrected MLE)	7.985
Theta hat (MLE)	0.292	Theta star (bias corrected MLE)	0.387
nu hat (MLE)	253.7	nu star (bias corrected)	191.6
MLE Mean (bias corrected)	3.092		
MLE Sd (bias corrected)	1.094	95% Percentile of Chisquare (2kstar)	26.26

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	1.236	Mean	2.853
Maximum	4.86	Median	2.655
SD	1.102	CV	0.386
k hat (MLE)	6.993	k star (bias corrected MLE)	5.542
Theta hat (MLE)	0.408	Theta star (bias corrected MLE)	0.515
nu hat (MLE)	195.8	nu star (bias corrected)	155.2
MLE Mean (bias corrected)	2.853	MLE Sd (bias corrected)	1.212
95% Percentile of Chisquare (2kstar)	19.79	90% Percentile	4.474
95% Percentile	5.093	99% Percentile	6.396

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	6.655	6.85	95% Approx. Gamma UPL	5.232	5.303
95% Gamma USL	6.189	6.338			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.89	SD (KM)	1.012
Variance (KM)	1.025	SE of Mean (KM)	0.283
k hat (KM)	8.15	k star (KM)	6.451
nu hat (KM)	228.2	nu star (KM)	180.6
theta hat (KM)	0.355	theta star (KM)	0.448
80% gamma percentile (KM)	3.779	90% gamma percentile (KM)	4.41
95% gamma percentile (KM)	4.98	99% gamma percentile (KM)	6.17

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	6.174	6.298	95% Approx. Gamma UPL	4.968	5.009
95% KM Gamma Percentile	4.703	4.73	95% Gamma USL	5.781	5.874

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.974
10% Shapiro Wilk Critical Value	0.883
Lilliefors Test Statistic	0.11
10% Lilliefors Critical Value	0.223

Shapiro Wilk GOF Test

Detected Data appear Lognormal at 10% Significance Level

Lilliefors GOF Test

Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	2.878	Mean in Log Scale	0.993
SD in Original Scale	1.066	SD in Log Scale	0.375
95% UTL95% Coverage	7.193	95% BCA UTL95% Coverage	4.86
95% Bootstrap (%) UTL95% Coverage	4.86	95% UPL (t)	5.367
90% Percentile (z)	4.364	95% Percentile (z)	5.001
99% Percentile (z)	6.457	95% USL	6.568

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1	95% KM UTL (Lognormal)95% Coverage	6.776
KM SD of Logged Data	0.349	95% KM UPL (Lognormal)	5.158
95% KM Percentile Lognormal (z)	4.83	95% KM USL (Lognormal)	6.226

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	2.793	Mean in Log Scale	0.926
SD in Original Scale	1.191	SD in Log Scale	0.494
95% UTL95% Coverage	9.178	95% UPL (t)	6.242
90% Percentile (z)	4.754	95% Percentile (z)	5.688
99% Percentile (z)	7.963	95% USL	8.143

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	14	95% UTL with95% Coverage	4.86
Approx, f used to compute achieved CC	0.737	Approximate Actual Confidence Coefficient achieved by UTL	0.512
Approximate Sample Size needed to achieve specified CC	59	95% UPL	4.86
95% USL	4.86	95% KM Chebyshev UPL	7.457

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.

Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

group	distribution	parameter_info	parameter	value
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Total Number of Observations	56
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Number of Distinct Observations	3
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Number of Detects	1
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Number of Distinct Detects	1
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Minimum Detect	1.25
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Maximum Detect	1.25
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Variance Detected	#N/A
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Mean Detected	1.25
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	General Statistics	Mean of Detected Logged Data	0.223
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Number of Distinct Detects	12
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Number of Detects	12
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	0.475
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Normal GOF Test on Detects Only	Lilliefors Test Statistic	0.135
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	0.593
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Total Number of Observations	52
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Number of Distinct Observations	13
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.0698
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Normal GOF Test on Detects Only	Shapiro Wilk Test Statistic	0.949
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Maximum Detect	0.57
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Variance Detected	0.00532
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.049
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Normal GOF Test on Detects Only	1% Shapiro Wilk Critical Value	0.805
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Normal GOF Test on Detects Only	1% Lilliefors Critical Value	0.281
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Mean Detected	0.474
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Mean of Detected Logged Data	-0.757
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	General Statistics	Minimum Detect	0.347
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	0.589
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	0.682
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	0.637
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	0.564
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	0.474
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	0.618
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	General Statistics	Number of Distinct Observations	18
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	3.047
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	7.638
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	7.496
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	11.54
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.049
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	General Statistics	Total Number of Observations	52
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	2.484
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	8.728
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	6.389
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	9.573
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	2.989
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	250.9
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	253
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	474.7
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	400.7
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	521.1
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	115.3
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	445.3
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	622.9
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	442.6
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	1.923
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	General Statistics	Total Number of Observations	100
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	General Statistics	Number of Distinct Observations	19
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	General Statistics	Total Number of Observations	56
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	General Statistics	Number of Distinct Observations	16
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% USL	235
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Order of Statistic, r	56
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approx, f used to compute achieved CC	2.947
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.032
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UPL	160.9
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	235
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Actual Confidence Coefficient achieved by UTL	0.943
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	16.28
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% KM Chebyshev UPL	191.4
twin oaks_mw-07, mw-11, mw-12, mw-16_molybdenum	#N/A	General Statistics	Total Number of Observations	52
twin oaks_mw-07, mw-11, mw-12, mw-16_molybdenum	#N/A	General Statistics	Number of Distinct Observations	2
twin oaks_mw-07, mw-11, mw-12, mw-16_thallium	#N/A	General Statistics	Total Number of Observations	52
twin oaks_mw-07, mw-11, mw-12, mw-16_thallium	#N/A	General Statistics	Number of Distinct Observations	2
twin oaks_mw-07_arsenic	Normal	General Statistics	Total Number of Observations	13

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twin oaks_mw-07_arsenic	Normal	General Statistics	Number of Distinct Observations	11
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	8.18
twin oaks_mw-07_arsenic	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	2.748
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	2.766
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	5.748
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	8.19
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	2.327
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	8.982
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	6.594
twin oaks_mw-07_arsenic	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	7.07
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	307.5
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	99% Percentile (z)	284.2
twin oaks_mw-07_barium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-07_barium	Normal	General Statistics	Mean	95.92
twin oaks_mw-07_barium	Normal	General Statistics	Mean of logged Data	4.082
twin oaks_mw-07_barium	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-07_barium	Normal	General Statistics	Number of Distinct Observations	14
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	95% USL	287.9
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	90% Percentile (z)	199.6
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	95% UPL (t)	244.3
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	95% Percentile (z)	229
twin oaks_mw-07_beryllium	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-07_beryllium	Normal	General Statistics	Number of Distinct Observations	6
twin oaks_mw-07_beryllium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.711
twin oaks_mw-07_beryllium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.436
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	2.27
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	2.83
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	3.288
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	2.988
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	3.286
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.437
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	3.078
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	4.586
twin oaks_mw-07_cobalt	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	13.84
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	9.123
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	3.54
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	10.41
twin oaks_mw-07_cobalt	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	12.82
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	12.98
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	11.08
twin oaks_mw-07_cobalt	Normal	General Statistics	Number of Distinct Observations	13
twin oaks_mw-07_cobalt	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	4.604
twin oaks_mw-07_lead	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	4.578
twin oaks_mw-07_lead	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	7.652
twin oaks_mw-07_lead	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	10.28
twin oaks_mw-07_lead	Normal	General Statistics	Number of Distinct Observations	8
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	9.082
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	2.518
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	11.15
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	4.425
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	10.29
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	8.566
twin oaks_mw-07_mercury	Normal	General Statistics	Number of Distinct Observations	5
twin oaks_mw-07_mercury	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-07_mercury	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	0.144
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	0.267
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	0.288
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.0312
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	0.273
twin oaks_mw-07_mercury	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	0.256
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	0.288
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	0.299
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	0.216
twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	5.819
twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	90% Percentile (z)	3.829
twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% Percentile (z)	4.349

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twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% UPL (t)	4.643
twin oaks_mw-07_radium-226/228	Normal	General Statistics	Mean of logged Data	0.483
twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% USL	5.332
twin oaks_mw-07_radium-226/228	Normal	General Statistics	Number of Distinct Observations	13
twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	99% Percentile (z)	5.326
twin oaks_mw-07_radium-226/228	Normal	General Statistics	Mean	1.993
twin oaks_mw-07_radium-226/228	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-07_radium-226/228	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	0.977
twin oaks_mw-07_selenium	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	2.752
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	1.847
twin oaks_mw-07_selenium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.052
twin oaks_mw-07_selenium	Normal	General Statistics	Number of Distinct Observations	4
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	2.556
twin oaks_mw-07_selenium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	2.587
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	2.222
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	2.094
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.679
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	3.19
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	2.63
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	2.332
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	3.187
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.818
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	2.797
twin oaks_mw-11_arsenic	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.469
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	1.284
twin oaks_mw-11_arsenic	Normal	General Statistics	Number of Distinct Observations	5
twin oaks_mw-11_arsenic	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-11_arsenic	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.206
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Order of Statistic, order	14
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Approx, f used to compute achieved CC	0.737
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile Bootstrap UTL with 95% Coverage	45.04
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% BCA Bootstrap UTL with 95% Coverage	45.04
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	90% Percentile	35.48
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UPL	45.04
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	90% Chebyshev UPL	50.75
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Chebyshev UPL	63.75
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile	39.48
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	99% Percentile	43.92
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Approximate Actual Confidence Coefficient achieved by UTL	0.512
twin oaks_mw-11_barium	NDD	General Statistics	Total Number of Observations	14
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% USL	45.04
twin oaks_mw-11_barium	NDD	General Statistics	Mean	22.05
twin oaks_mw-11_barium	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UTL with 95% Coverage	45.04
twin oaks_mw-11_barium	NDD	General Statistics	Number of Distinct Observations	7
twin oaks_mw-11_barium	NDD	General Statistics	Mean of logged Data	3.03
twin oaks_mw-11_beryllium	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-11_beryllium	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	1.782
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	2.128
twin oaks_mw-11_cobalt	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.333
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	2.223
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	1.357
twin oaks_mw-11_cobalt	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-11_cobalt	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.331
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	1.965
twin oaks_mw-11_cobalt	Normal	General Statistics	Number of Distinct Observations	11
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	2.143
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	1.902
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approx, f used to compute achieved CC	0.684
twin oaks_mw-11_lead	NDD	General Statistics	Total Number of Observations	13
twin oaks_mw-11_lead	NDD	General Statistics	Number of Distinct Observations	3
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Order of Statistic, r	13
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	3.39
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UPL	3.39
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% USL	3.39
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% KM Chebyshev UPL	3.866

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twin oaks_mw-11_lead	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Actual Confidence Coefficient achieved by UTL	0.487
twin oaks_mw-11_mercury	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-11_mercury	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	2.997
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	2.807
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	3.541
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	1.011
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	2.439
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	3.495
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.786
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	1.144
twin oaks_mw-11_radium-226/228	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.09
twin oaks_mw-11_radium-226/228	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-11_radium-226/228	Normal	General Statistics	Number of Distinct Observations	11
twin oaks_mw-11_radium-226/228	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-11_selenium	#N/A	General Statistics	Total Number of Observations	14
twin oaks_mw-11_selenium	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-12_arsenic	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-12_arsenic	#N/A	General Statistics	Number of Distinct Observations	3
twin oaks_mw-12_barium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-12_barium	Normal	General Statistics	Number of Distinct Observations	11
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	95% UPL (t)	120.8
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	95% USL	127.6
twin oaks_mw-12_barium	Normal	General Statistics	Mean of logged Data	4.575
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	130.6
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	95% Percentile (z)	118.4
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	99% Percentile (z)	127
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	90% Percentile (z)	113.9
twin oaks_mw-12_barium	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-12_barium	Normal	General Statistics	Mean	97.71
twin oaks_mw-12_beryllium	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-12_beryllium	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-12_cobalt	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-12_cobalt	Normal	General Statistics	Mean	2.912
twin oaks_mw-12_cobalt	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-12_cobalt	Normal	General Statistics	Mean of logged Data	1.038
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	99% Percentile (z)	4.685
twin oaks_mw-12_cobalt	Normal	General Statistics	Number of Distinct Observations	12
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	4.904
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	95% UPL (t)	4.309
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	95% Percentile (z)	4.166
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	90% Percentile (z)	3.889
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	95% USL	4.719
twin oaks_mw-12_lead	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-12_lead	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-12_mercury	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-12_mercury	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-12_radium-226/228	Normal	General Statistics	Mean	2.974
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% Percentile (z)	4.451
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	99% Percentile (z)	5.063
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	90% Percentile (z)	4.125
twin oaks_mw-12_radium-226/228	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-12_radium-226/228	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-12_radium-226/228	Normal	General Statistics	Mean of logged Data	1.044
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% USL	5.104
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	5.321
twin oaks_mw-12_radium-226/228	Normal	General Statistics	Number of Distinct Observations	14
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% UPL (t)	4.62
twin oaks_mw-12_selenium	NDD	General Statistics	Total Number of Observations	14
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	2
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Actual Confidence Coefficient achieved by UTL	0.512
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UPL	2
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% KM Chebyshev UPL	1.416
twin oaks_mw-12_selenium	NDD	General Statistics	Number of Distinct Observations	3
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Order of Statistic, r	14
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approx, f used to compute achieved CC	0.737
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% USL	2
twin oaks_mw-12_selenium	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-16_arsenic	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	2.928
twin oaks_mw-16_arsenic	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671

group	distribution	parameter_info	parameter	value
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	3.028
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	7.754
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	12.88
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	11.61
twin oaks_mw-16_arsenic	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-16_arsenic	Normal	General Statistics	Number of Distinct Observations	10
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	11.62
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	9.094
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	3.688
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	9.849
twin oaks_mw-16_barium	NDD	General Statistics	Number of Distinct Observations	4
twin oaks_mw-16_barium	NDD	General Statistics	Total Number of Observations	14
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	90% Percentile	52.06
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	99% Percentile	56.36
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Order of Statistic, order	14
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Approx, f used to compute achieved CC	0.737
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile Bootstrap UTL with 95% Coverage	56.7
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UPL	56.7
twin oaks_mw-16_barium	NDD	General Statistics	Mean	47.67
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile	55.01
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% BCA Bootstrap UTL with 95% Coverage	56.7
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Approximate Actual Confidence Coefficient achieved by UTL	0.512
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UTL with 95% Coverage	56.7
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	90% Chebyshev UPL	57.99
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Chebyshev UPL	62.67
twin oaks_mw-16_barium	NDD	General Statistics	Mean of logged Data	3.862
twin oaks_mw-16_barium	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% USL	56.7
twin oaks_mw-16_beryllium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.375
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	3.547
twin oaks_mw-16_beryllium	Normal	General Statistics	Total Number of Observations	13
twin oaks_mw-16_beryllium	Normal	General Statistics	Number of Distinct Observations	5
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	3.287
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	3.176
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	0.542
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.732
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	2.285
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	2.979
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	3.545
twin oaks_mw-16_beryllium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	4.516
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	5.388
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	1.2
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	4.741
twin oaks_mw-16_cobalt	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-16_cobalt	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-16_cobalt	Normal	General Statistics	Number of Distinct Observations	6
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	2.542
twin oaks_mw-16_cobalt	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.662
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	5.678
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	5.333
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	4.08
twin oaks_mw-16_lead	NDD	General Statistics	Total Number of Observations	13
twin oaks_mw-16_lead	NDD	General Statistics	Number of Distinct Observations	5
twin oaks_mw-16_lead	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.671
twin oaks_mw-16_lead	NDD	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	1.913
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% USL	6.945
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	6.945
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approximate Actual Confidence Coefficient achieved by UTL	0.487
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Approx, f used to compute achieved CC	0.684
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	Order of Statistic, r	13
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% KM Chebyshev UPL	10.46
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UPL	6.945
twin oaks_mw-16_mercury	#N/A	General Statistics	Total Number of Observations	13
twin oaks_mw-16_mercury	#N/A	General Statistics	Number of Distinct Observations	1
twin oaks_mw-16_radium-226/228	NDD	General Statistics	Mean	1.775
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% USL	5.526
twin oaks_mw-16_radium-226/228	NDD	General Statistics	Number of Distinct Observations	8
twin oaks_mw-16_radium-226/228	NDD	General Statistics	Mean of logged Data	0.452
twin oaks_mw-16_radium-226/228	NDD	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UPL	5.526

group	distribution	parameter_info	parameter	value
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	90% Chebyshev UPL	5.393
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Chebyshev UPL	7.032
twin oaks_mw-16_radium-226/228	NDD	General Statistics	Total Number of Observations	14
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	Order of Statistic, order	14
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	Approximate Sample Size needed to achieve specified CC	59
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% BCA Bootstrap UTL with 95% Coverage	5.526
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	90% Percentile	2.177
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UTL with 95% Coverage	5.526
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile	3.39
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	99% Percentile	5.099
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	Approx, f used to compute achieved CC	0.737
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile Bootstrap UTL with 95% Coverage	5.526
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	Approximate Actual Confidence Coefficient achieved by UTL	0.512
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	90% KM Percentile (z)	4.187
twin oaks_mw-16_selenium	Normal	General Statistics	Total Number of Observations	14
twin oaks_mw-16_selenium	Normal	General Statistics	Number of Distinct Observations	13
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	99% KM Percentile (z)	5.245
twin oaks_mw-16_selenium	Normal	Critical Values for Background Threshold Values (BTVs)	Tolerance Factor K (For UTL)	2.614
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM Mean	2.89
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	5.536
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	KM SD	1.012
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM UPL (t)	4.746
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM Percentile (z)	4.555
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% KM USL	5.291
twin oaks_mw-16_selenium	Normal	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates	Mean	2.853

group	distribution	parameter_info	parameter	value
twin oaks_mw-07, mw-11, mw-12, mw-16_antimony	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-07, mw-11, mw-12, mw-16_cadmium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	0.618
twin oaks_mw-07, mw-11, mw-12, mw-16_chromium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	8.728
twin oaks_mw-07, mw-11, mw-12, mw-16_fluoride	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	474.7
twin oaks_mw-07, mw-11, mw-12, mw-16_lithium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	235
twin oaks_mw-07, mw-11, mw-12, mw-16_molybdenum	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-07, mw-11, mw-12, mw-16_thallium	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-07_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	8.982
twin oaks_mw-07_barium	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	307.5
twin oaks_mw-07_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.436
twin oaks_mw-07_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	13.84
twin oaks_mw-07_lead	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	11.15
twin oaks_mw-07_mercury	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	0.299
twin oaks_mw-07_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	5.819
twin oaks_mw-07_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	2.752
twin oaks_mw-11_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.469
twin oaks_mw-11_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UTL with 95% Coverage	45.04
twin oaks_mw-11_beryllium	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-11_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	2.223
twin oaks_mw-11_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	3.39
twin oaks_mw-11_mercury	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-11_radium-226/228	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.786
twin oaks_mw-11_selenium	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-12_arsenic	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-12_barium	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	130.6
twin oaks_mw-12_beryllium	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-12_cobalt	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	4.904
twin oaks_mw-12_lead	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-12_mercury	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-12_radium-226/228	Normal	Background Statistics Assuming Normal Distribution	95% UTL with 95% Coverage	5.321
twin oaks_mw-12_selenium	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	2
twin oaks_mw-16_arsenic	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	12.88
twin oaks_mw-16_barium	NDD	Nonparametric Upper Limits for Background Threshold Values	95% UTL with 95% Coverage	56.7
twin oaks_mw-16_beryllium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	3.732
twin oaks_mw-16_cobalt	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	5.678
twin oaks_mw-16_lead	NDD	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)	95% UTL with 95% Coverage	6.945
twin oaks_mw-16_mercury	#N/A	#N/A	#N/A	#N/A
twin oaks_mw-16_radium-226/228	NDD	Nonparametric Upper Limits for Background Threshold Values	95% Percentile Bootstrap UTL with 95% Coverage	5.526
twin oaks_mw-16_selenium	Normal	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution	95% UTL95% Coverage	5.536

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[illegible]

group	D_concDL_final	concDL_final
twin oaks_mw-07_beryllium	0	2
twin oaks_mw-07_beryllium	0	2
twin oaks_mw-07_beryllium	0	2
twin oaks_mw-07_beryllium	0	2
twin oaks_mw-07_beryllium	0	2
twin oaks_mw-07_cobalt	1	4.22
twin oaks_mw-07_cobalt	1	6.85
twin oaks_mw-07_cobalt	1	8.7
twin oaks_mw-07_cobalt	1	3.07
twin oaks_mw-07_cobalt	1	9.76
twin oaks_mw-07_cobalt	1	6.38
twin oaks_mw-07_cobalt	1	6.37
twin oaks_mw-07_cobalt	1	11.6
twin oaks_mw-07_cobalt	0	2
twin oaks_mw-07_cobalt	1	1.02
twin oaks_mw-07_cobalt	1	1.02
twin oaks_mw-07_cobalt	1	1.5
twin oaks_mw-07_cobalt	1	1.25
twin oaks_mw-07_cobalt	1	1.26
twin oaks_mw-07_lead	1	3.85
twin oaks_mw-07_lead	1	6.42
twin oaks_mw-07_lead	1	6.99
twin oaks_mw-07_lead	0	2
twin oaks_mw-07_lead	1	7.98
twin oaks_mw-07_lead	1	4.98
twin oaks_mw-07_lead	1	6.53
twin oaks_mw-07_lead	1	8.77
twin oaks_mw-07_lead	0	2
twin oaks_mw-07_lead	0	2
twin oaks_mw-07_lead	0	2
twin oaks_mw-07_lead	0	2
twin oaks_mw-07_lead	0	2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	1	0.219
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	1	0.243
twin oaks_mw-07_mercury	1	0.313
twin oaks_mw-07_mercury	1	0.23
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_mercury	0	0.2
twin oaks_mw-07_radium-226/228	1	2.76
twin oaks_mw-07_radium-226/228	1	5.99
twin oaks_mw-07_radium-226/228	1	1.82
twin oaks_mw-07_radium-226/228	1	3.08
twin oaks_mw-07_radium-226/228	1	2.22
twin oaks_mw-07_radium-226/228	1	0.888
twin oaks_mw-07_radium-226/228	1	1.63
twin oaks_mw-07_radium-226/228	1	1.2
twin oaks_mw-07_radium-226/228	1	0.521
twin oaks_mw-07_radium-226/228	1	0.585
twin oaks_mw-07_radium-226/228	1	2.3
twin oaks_mw-07_radium-226/228	1	1.45
twin oaks_mw-07_radium-226/228	1	1.47
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	1	3.4
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	0	2

group	D_concDL_final	concDL_final
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	1	0.691
twin oaks_mw-07_selenium	0	2
twin oaks_mw-07_selenium	1	0.891
twin oaks_mw-07_selenium	0	2
twin oaks_mw-11_arsenic	1	3.32
twin oaks_mw-11_arsenic	0	2
twin oaks_mw-11_arsenic	0	2
twin oaks_mw-11_arsenic	0	2
twin oaks_mw-11_arsenic	0	2
twin oaks_mw-11_arsenic	0	2
twin oaks_mw-11_arsenic	1	2.12
twin oaks_mw-11_arsenic	0	2
twin oaks_mw-11_arsenic	0	4
twin oaks_mw-11_arsenic	1	0.874
twin oaks_mw-11_arsenic	0	4
twin oaks_mw-11_arsenic	0	4
twin oaks_mw-11_arsenic	0	4
twin oaks_mw-11_barium	1	45.03574391
twin oaks_mw-11_barium	1	36.48657495
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	33.12783031
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	16.6
twin oaks_mw-11_barium	1	21.22617651
twin oaks_mw-11_barium	1	18.56730777
twin oaks_mw-11_barium	1	21.5
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_beryllium	0	2
twin oaks_mw-11_cobalt	1	2.245978002
twin oaks_mw-11_cobalt	1	1.513823186
twin oaks_mw-11_cobalt	1	1.03
twin oaks_mw-11_cobalt	1	1.247373494
twin oaks_mw-11_cobalt	1	1.241167074
twin oaks_mw-11_cobalt	1	1.03
twin oaks_mw-11_cobalt	1	1.744466139
twin oaks_mw-11_cobalt	0	1.03
twin oaks_mw-11_cobalt	0	1.630374233
twin oaks_mw-11_cobalt	1	1.475479059
twin oaks_mw-11_cobalt	1	1.03
twin oaks_mw-11_cobalt	1	1.565343207
twin oaks_mw-11_cobalt	1	1.244147196
twin oaks_mw-11_cobalt	1	1.35
twin oaks_mw-11_lead	1	3.39
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2

group	D_concDL_final	concDL_final
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	1	2.47
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_lead	0	2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_mercury	0	0.2
twin oaks_mw-11_radium-226/228	1	2.038131763
twin oaks_mw-11_radium-226/228	1	0.397
twin oaks_mw-11_radium-226/228	1	0.726430124
twin oaks_mw-11_radium-226/228	1	0.905394452
twin oaks_mw-11_radium-226/228	1	4.24114336
twin oaks_mw-11_radium-226/228	1	0.620114075
twin oaks_mw-11_radium-226/228	1	0.397
twin oaks_mw-11_radium-226/228	1	0.397
twin oaks_mw-11_radium-226/228	1	1.219998822
twin oaks_mw-11_radium-226/228	0	0.397
twin oaks_mw-11_radium-226/228	1	1.602280113
twin oaks_mw-11_radium-226/228	1	1.742633694
twin oaks_mw-11_radium-226/228	0	0.52773549
twin oaks_mw-11_radium-226/228	1	0.931
twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
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twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
twin oaks_mw-11_selenium	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	2
twin oaks_mw-12_arsenic	0	4
twin oaks_mw-12_arsenic	1	1.08
twin oaks_mw-12_arsenic	0	4
twin oaks_mw-12_arsenic	0	4
twin oaks_mw-12_arsenic	0	4
twin oaks_mw-12_barium	1	99.15834579
twin oaks_mw-12_barium	1	114.691

group	D_concDL_final	concDL_final
twin oaks_mw-12_barium	1	106.4913269
twin oaks_mw-12_barium	1	101.2909217
twin oaks_mw-12_barium	1	93.00175094
twin oaks_mw-12_barium	1	91.80147792
twin oaks_mw-12_barium	1	86.89284411
twin oaks_mw-12_barium	1	85.6
twin oaks_mw-12_barium	1	85.6
twin oaks_mw-12_barium	1	85.6
twin oaks_mw-12_barium	1	94.15826847
twin oaks_mw-12_barium	1	85.6
twin oaks_mw-12_barium	1	120.0328788
twin oaks_mw-12_barium	1	118
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_beryllium	0	2
twin oaks_mw-12_cobalt	1	3.730708565
twin oaks_mw-12_cobalt	1	4.222937722
twin oaks_mw-12_cobalt	1	3.801272136
twin oaks_mw-12_cobalt	1	2.919598558
twin oaks_mw-12_cobalt	1	2.652560113
twin oaks_mw-12_cobalt	1	2.200894526
twin oaks_mw-12_cobalt	1	2.11
twin oaks_mw-12_cobalt	1	2.11
twin oaks_mw-12_cobalt	1	3.622606839
twin oaks_mw-12_cobalt	1	2.374046796
twin oaks_mw-12_cobalt	1	2.766495032
twin oaks_mw-12_cobalt	1	2.371517062
twin oaks_mw-12_cobalt	1	3.781109863
twin oaks_mw-12_cobalt	1	2.11
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_lead	0	2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2
twin oaks_mw-12_mercury	0	0.2

group	D_concDL_final	concDL_final
twin oaks_mw-12_radium-226/228	1	4.53
twin oaks_mw-12_radium-226/228	1	1.44
twin oaks_mw-12_radium-226/228	1	3.53
twin oaks_mw-12_radium-226/228	1	2.47
twin oaks_mw-12_radium-226/228	1	4.32
twin oaks_mw-12_radium-226/228	1	3.09
twin oaks_mw-12_radium-226/228	1	3.29
twin oaks_mw-12_radium-226/228	1	3.9
twin oaks_mw-12_radium-226/228	1	2
twin oaks_mw-12_radium-226/228	1	1.99
twin oaks_mw-12_radium-226/228	1	2.48
twin oaks_mw-12_radium-226/228	1	3.08
twin oaks_mw-12_radium-226/228	1	2.54
twin oaks_mw-12_radium-226/228	1	2.98
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	1	0.559
twin oaks_mw-12_selenium	1	0.87
twin oaks_mw-12_selenium	0	2
twin oaks_mw-12_selenium	0	2
twin oaks_mw-16_arsenic	1	12.03837126
twin oaks_mw-16_arsenic	1	2.67725954
twin oaks_mw-16_arsenic	1	3.385804326
twin oaks_mw-16_arsenic	1	0.916
twin oaks_mw-16_arsenic	1	1.579212064
twin oaks_mw-16_arsenic	1	0.916
twin oaks_mw-16_arsenic	1	0.916
twin oaks_mw-16_arsenic	1	10.85025861
twin oaks_mw-16_arsenic	0	1.120851366
twin oaks_mw-16_arsenic	1	0.916
twin oaks_mw-16_arsenic	0	2.796255663
twin oaks_mw-16_arsenic	0	3.48729918
twin oaks_mw-16_arsenic	0	4
twin oaks_mw-16_barium	1	54.09563537
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	56.70218094
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	46.3
twin oaks_mw-16_barium	1	47.3
twin oaks_mw-16_beryllium	1	3.96
twin oaks_mw-16_beryllium	1	2.48
twin oaks_mw-16_beryllium	1	2.59
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	1	2.67
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	0	2

group	D_concDL_final	concDL_final
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_beryllium	0	2
twin oaks_mw-16_cobalt	1	5.630628801
twin oaks_mw-16_cobalt	1	2.514907897
twin oaks_mw-16_cobalt	1	2.156440118
twin oaks_mw-16_cobalt	1	2
twin oaks_mw-16_cobalt	1	2
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_cobalt	1	2
twin oaks_mw-16_cobalt	1	5.285722871
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_cobalt	0	2
twin oaks_mw-16_lead	1	6.944950577
twin oaks_mw-16_lead	1	2.542739169
twin oaks_mw-16_lead	1	2
twin oaks_mw-16_lead	1	2
twin oaks_mw-16_lead	1	2
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_lead	1	2
twin oaks_mw-16_lead	1	6.537377233
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_lead	0	2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_mercury	0	0.2
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	5.525672279
twin oaks_mw-16_radium-226/228	1	1.911162915
twin oaks_mw-16_radium-226/228	1	1.976098656
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	2.00476674
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	1.25106066
twin oaks_mw-16_radium-226/228	1	2.029200877
twin oaks_mw-16_radium-226/228	1	1.13
twin oaks_mw-16_radium-226/228	1	2.24
twin oaks_mw-16_selenium	1	2.81
twin oaks_mw-16_selenium	1	2.24
twin oaks_mw-16_selenium	1	3.84
twin oaks_mw-16_selenium	0	2
twin oaks_mw-16_selenium	1	2.5
twin oaks_mw-16_selenium	1	2.31
twin oaks_mw-16_selenium	1	3.19
twin oaks_mw-16_selenium	1	3.61

group	D_concDL_final	concDL_final
twin oaks_mw-16_selenium	0	2
twin oaks_mw-16_selenium	1	1.68
twin oaks_mw-16_selenium	1	2.12
twin oaks_mw-16_selenium	1	3.37
twin oaks_mw-16_selenium	1	4.86
twin oaks_mw-16_selenium	1	4.57

Attachment B
Revised Groundwater Sampling and Analysis Plan



Twin Oaks Power Station – Coal Combustion Residuals Landfill

Groundwater Sampling and Analysis
Plan – 2026 Revision

PREPARED FOR
Major Oak Power, LLC

DATE
2 April 2026

REFERENCE
0770892



Twin Oaks Power Station – Coal Combustion Residuals Landfill

Groundwater Sampling and Analysis Plan – 2026 Revision

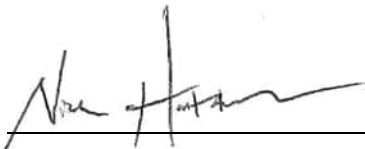
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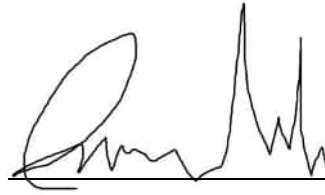
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CLIENT: Major Oak Power, LLC

PROJECT NO: 0770892

DATE: 2 April 2026

VERSION: 01

Teams\OPC\0770892\DM\12635A

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APPENDIX A FIELD DATA COLLECTION FORMS

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
°C	Celsius
°F	Fahrenheit
%	Percent
95/95UTL	UTL constructed on the 95th percentile with 95 percent probability confidence
ACM	Assessment of corrective measures
ASDs	Alternate source demonstrations
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
DO	Dissolved oxygen
DTW	Depth to water
ERM	Environmental Resources Management Southwest, Inc.
GWPS	Groundwater protection standard
GWSAP	Groundwater Monitoring Sampling and Analysis Plan
L/min	Liters per minute
Major Oak	Major Oak Power, LLC
MCL	Maximum contaminant level
MS/MSDs	Matrix spike/Matrix spike duplicates
NELAP	National Environmental Laboratory Accreditation Program
ND	Non-detected
NDD	No discernable distribution
ORP	Oxidation-reduction potential
PPE	Personal protective equipment
PSI	Pound-force per square inch
QA	Quality assurance
QC	Quality control
QQ plot	Quantile-quantile probability plot
RCRA	Resource Conservation Recovery Act
Redox	Reduction–oxidation
RL	Reporting limit
SC	Specific conductivity
SSI	Statistically significant increase

Acronym	Description
SSL	Statistically significant level
SWFPR	Site wide false positive rate
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TD	Total depth
TOC	Top-of-casing
Twin Oaks	Twin Oaks Power Station
UTL	Upper tolerance limit
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

On behalf of Major Oak Power, LLC (Major Oak), Environmental Resources Management Southwest, Inc. (ERM) has prepared this revised Groundwater Monitoring Sampling and Analysis Plan (GWSAP) to document the methods and procedures to be used for conducting groundwater monitoring at the Twin Oaks Power Station (Twin Oaks or Site) Coal Combustion Residuals (CCR) Landfill located in Robertson County, Texas. The CCR Landfill at the Site is subject to regulation under Title 40, Code of Federal Regulations (CFR), Part 257, Subpart D (40 CFR §257 et seq.), also known as the Federal CCR Rule, and Title 30, Texas Administrative Code (TAC), Chapter 352 (30 TAC §352 et seq.), also known as the Texas CCR Rule (collectively referred to as the CCR Rules). This GWSAP defines methods for groundwater sampling, laboratory analysis, and data evaluation for the monitoring well network associated with the CCR Landfill.



1. INTRODUCTION

The Twin Oaks Power Station (Twin Oaks or Site) is located approximately one mile east of Hammond in the northwest section of Robertson County, Texas (**Figure 1-1**). Twin Oaks contains one regulated coal combustion residuals (CCR) unit that is subject to regulation under Title 40, Code of Federal Regulations (CFR), Part 257, Subpart D (40 CFR §257.50 et seq.; the Federal CCR Rule), and Title 30, Texas Administrative Code (TAC), Chapter 352 (30 TAC §352 et seq.; the Texas CCR Rule)(collectively referred to as the CCR Rules). This unit is referred to as the CCR Landfill.

This revised GWSAP outlines the methods and procedures for conducting groundwater sampling at the Twin Oaks CCR Landfill, and supersedes the version originally submitted in the *Registration Application for Coal Combustion Residuals Waste Management* (Hydrex Environmental, 2022), dated 12 January 2022. The plan is subject to periodic updates as conditions change or new regulatory requirements are issued. Any revisions to the GWSAP, particularly those involving the statistical method certification, must be approved by a qualified professional engineer before they are finalized. Additionally, the GWSAP will be submitted to the Texas Commission on Environmental Quality (TCEQ) in accordance with 30 TAC §352.911. The most current version of the GWSAP will be maintained in the Operating Record for use by Twin Oaks and subcontractor personnel.

1.1 OBJECTIVES AND PURPOSE

The objective of the groundwater monitoring program is to provide analytical data for groundwater collected from monitor wells as required by the Federal CCR Rule (40 CFR §257.90-257.98) and the Texas CCR Rule (30 TAC §352.901-352.991). The GWSAP describes the procedures and techniques associated with the following:

- Pre-field activities;
- Well assessment prior to sampling;
- Groundwater sampling procedures;
- Sample preservation and transport;
- Analytical procedures;
- Record keeping and chain-of-custody;
- Quality assurance and quality control; and
- Statistical method selection and analysis

The purpose of the sampling protocol is to identify sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples from background and downgradient wells. Groundwater sampling will be conducted generally in accordance with applicable procedures established in the *Resource Conservation and Recovery Act (RCRA) Groundwater Monitoring: Draft Technical Guidance (USEPA, 1992 and subsequent updates)*.

1.2 GROUNDWATER MONITORING SYSTEM

The Landfill CCR monitoring well network currently consists of four upgradient wells (MW-07, MW-11, MW-12, and MW-16) and four downgradient compliance wells (MW-13, MW-14, MW-15, and MW-17) located along the perimeter of the CCR unit. The upgradient wells are placed to accurately represent background groundwater quality unaffected by potential releases from the CCR unit, while downgradient wells are positioned at the downgradient boundary of waste to detect potential releases of CCR constituents into groundwater in the uppermost aquifer.

In addition to the CCR monitoring well network, four wells (MW-23, MW-24, MW-25, and MW-26) monitor a selenium plume near MW-14 (i.e., selenium test wells). Five additional wells (MW-18, MW-19, MW-20, MW-21, and MW-22) are regularly gauged to support development of potentiometric surface maps (i.e., observation wells). These wells are not currently included as part of the certified well network.

A map of the monitor wells is provided in **Figure 1-2**, and a summary of well information is provided in **Table 1-1**.

1.3 SAMPLING FREQUENCY AND MONITORING PROGRAMS

Initial Monitoring Period (Prior to 17 October 2017)

Per the EPA CCR Rule (40 CFR §257.94), Major Oak was required to obtain a minimum of eight independent samples from each background (upgradient) and downgradient well no later than 17 October 2017. Samples were analyzed for constituents listed in Appendix III (Detection Monitoring) and Appendix IV (Assessment Monitoring) of the CCR Rule. These constituents are presented in **Table 1-2** and **Table 1-3**, respectively.

Detection Monitoring

A Detection Monitoring Program must be implemented consistent with 40 CFR §257.94 and 30 TAC §352.941. After the initial monitoring period, sampling is conducted at least semiannually for the constituents listed in **Table 1-2**. Detection Monitoring continues during the active life of the CCR unit, and if applicable, through the post-closure period.

Assessment Monitoring

Under 40 CFR §257.95 and 30 TAC §352.951, Assessment Monitoring is required whenever a statistically significant increase (SSI) above background is identified for one or more Detection Monitoring constituents and the owner or operator cannot demonstrate a source other than the CCR unit was the source of the SSI. Sampling for Appendix IV (**Table 1-3**) constituents must occur within 90 days of triggering Assessment Monitoring. Within 90 days of receiving laboratory results, and semiannually thereafter, all wells must be sampled for the constituents listed in **Table 1-2** and **Table 1-3**. Groundwater protection standards (GWPS) must be established for all detected Appendix IV constituents.

Corrective Actions

If any Appendix IV constituent (**Table 1-3**) is detected at a statistically significant level above the GWPS (per 40 CFR §257.95 and 30 TAC §352.951), or immediately upon detection of a release from a CCR unit, an Assessment of Corrective Measures (ACM) must be conducted consistent with 40 CFR §257.96 and 30 TAC §352.961.

2. PRE-FIELD ACTIVITIES

At the beginning of each groundwater monitoring event, the necessary field equipment will be obtained. An example equipment list is provided in **Table 2-1**.

All sample containers used for the sampling program must be new and will be supplied by the analytical laboratory. The containers may be glass or plastic, depending on the analytical requirements of the constituents being tested. Prior to field activities, the laboratory will prepare all containers in a controlled setting, including the addition of any required preservatives. Sample container type, size, and preservative method are specified in **Table 2-2**.

Sampling personnel (ERM) must comply with all safety and health guidelines for the Twin Oaks Power Station.

The levels of personal protective equipment (PPE) to be used for work tasks will be selected based on known or anticipated physical hazards, as well as the types, concentrations and exposure routes of contaminants that may be encountered on site. All work will be conducted in Level D PPE. PPE levels may be upgraded based on a change in site conditions. Hazards will be reassessed when a significant change in site conditions occurs.

3. RECORDKEEPING AND CHAIN-OF-CUSTODY

This section of the GWSAP provides information on field recording, field instrument calibration, and chain-of-custody procedures.

3.1 FIELD RECORDING

Documentation of activities associated with groundwater monitoring events will be recorded each day in a bound field logbook with hard cover, water resistant paper, and sequentially numbered pages and/or on a field report form. Documentation will be completed in waterproof, black or blue ink and written errors will be crossed out with a single line, initialed, and dated. The logbooks will remain on-site during use and then will be stored off-site. Entries in the logbook will be chronological and will include, where applicable and appropriate, such information as the following:

- Date and times;
- Locations of particular events;
- Instrument calibrations;
- Weather (temperature and wind direction) and significant changes in climatic conditions that may affect monitoring activities or results; and
- Other information/observations pertinent to the well inspection, well gauging, and sampling event.

Each page of the field logbook will be signed by the person(s) making entries in the logbook.

Separate field report forms have been developed as an extension to the field logbook. These include the following:

- Monitor Well Gauging Record (**Form 1** provided in **Appendix A**); and
- Monitor Well Sampling Record (**Form 2** provided in **Appendix A**).

These forms (or equivalent) may be used for recording water level data, well purging volumes, and sampling data. The field report forms or logbook may include, but not be limited to the following types of information:

- Names of members of the gauging or sampling team;
- Date and time;
- Specific activity being performed;
- Well identification;
- Sample identification number;
- Sample volume;
- Sampling method;
- Preservative type;

- Analyses to be performed; and
- Measured field water quality parameters and readings (when applicable).

In addition to field logbooks and field report forms, monitor well gauging and sampling data may also be collected electronically. When used, electronic data collection will include all information described above, consistent with the requirements for field documentation.

3.2 FIELD INSTRUMENT CALIBRATION

The following meters/probes will be used to analyze groundwater samples in the field:

- Temperature and pH;
- Specific conductance (SC);
- Oxidation-reduction potential (ORP);
- Dissolved oxygen (DO); and
- Turbidity.

In addition to the above listed meters and probes, additional field testing equipment may be required to support additional data collection for selection and performance of corrective measures, including further studies to evaluate reduction–oxidation (redox) conditions and natural attenuation.

The quality of data generated by these measurements will be verified through qualitative means, such as regular calibrations, compliance with operating instructions, and decontamination between uses. A calibration procedure establishes the relationship between a known calibration standard and the accuracy of a measurement made by an instrument according to that standard. Calibration indicates absolute physical or electronic calibration and is not to be confused with chemical standardization.

The calibration for field monitoring equipment will be checked in accordance with manufacturer's specifications, but at least daily. Mid-day calibration checks may be performed for DO and ORP if ambient temperatures change by more than 10 °F since the last calibration. Instrument calibration may be checked prior to entering the site or in the field prior to use. The time, date, and location of instrument calibration and verification will be recorded in the field logbook. If an instrument is out of calibration, then the calibration will be performed and documented as needed.

3.3 CHAIN-OF-CUSTODY

Possession of samples will be traceable from the time of sample collection through check-in at the laboratory. Documentation begins immediately following sample collection and proper labeling is accomplished using a standard chain-of-custody form. This document traces possession of each sample from the time of collection through time of analysis. For these procedures, a sample is considered in custody if it is:

- In the sampler's physical possession;
- In view, after being in physical possession;
- Locked to prevent tampering, after having been in physical possession; or

- In a secured area, restricted to authorized personnel.

The chain-of-custody form contains the following information:

- Project number, site name, and company address;
- Number of samples;
- Preservatives used for sample collection;
- Sample description (e.g., water, etc.);
- Sample ID number;
- Date and time of sample collection;
- Number of containers for the sample;
- Name of sampler responsible for sample transmittal;
- Signatures of all persons involved in the chain-of-custody;
- Type of analysis requested;
- Requested turnaround time and level of quality control documentation; and
- Pertinent comments about sample or sample conditions.

This information is entered into the chain-of-custody form. Upon receipt of samples, the analytical laboratory will sign the original chain-of-custody form documenting receipt of the samples and subsequently initiate its own chain-of-custody procedures.

The sampler shall be responsible for properly packaging and dispatching samples to the analytical laboratory. When transferring samples, the sampler shall sign and record the date and time on the first *Relinquished By* line on the chain-of-custody form. The person to whom custody is being transferred shall sign on the first *Accepted By* line of the chain-of-custody form, indicating that custody is being accepted by that person for all the samples listed on the sheet. When samples are shipped via courier, the chain-of-custody form is placed inside of the shipping container and the shipping container is sealed using tape. For subsequent transfers of custody, the succeeding *Relinquish* and *Receipt* lines are used. To reduce custody records, the number of custodians in the chain-of-custody will be minimized.

The following record keeping items will supplement the chain-of-custody form:

- Field Logbook;
- Monitor Well Sampling Record; and
- Sample Receipt Checklist (typically provided by the laboratory).

4. WELL ASSESSMENT PRIOR TO SAMPLING

This section of the GWSAP provides information about inspecting monitor wells, gauging fluid levels, and weather conditions.

To reduce potential cross-contamination during fluid level measurements, activities shall begin at the upgradient wells and then proceed to downgradient wells.

4.1 MONITOR WELL INSPECTION

The sampling team shall perform a visual inspection of each monitor well and record the results in the field logbook or noted on electronic forms. The inspection of each well will include the following:

- Inspecting the casing and cap for cracks, signs of deterioration, or tampering;
- Verifying the identification information on the well is correct and clearly visible;
- Determining whether the cap and monitor well are secure (via locks, bolted vault covers, in addition to general facility security);
- Inspecting the well pad for cracks, signs of deterioration, erosion, settling, and/or animal and insect burrowing; and
- Where appropriate, inspect any dedicated equipment for signs of cleanliness, structural integrity, and deterioration.

Any indications of damage, deterioration, or tampering will be noted and conveyed to the project team and Major Oak for repairs or replacement where necessary.

4.2 WATER LEVEL AND TOTAL DEPTH INFORMATION

The depth to groundwater (DTW) and total well depth (TD) in each well will be measured at the beginning of each sampling event before undertaking any purging or sampling activities and will be recorded in the field logbook or on a Monitor Well Gauging Record (**Form 1** provided in **Appendix A**). The distance from the designated measuring point at the top-of-casing (TOC) to the water surface will be measured to the nearest 0.01-foot with an electric water level indicator. The designated measuring point is typically a notched "V" cut or black square on the casing. If a measuring point has not been designated, measurements including DTW and TD will be taken from the TOC on the true north side of the well. This measurement gives the depth to the water that is then subtracted from the surveyed elevation of the TOC resulting in the groundwater elevation.

Static water level elevations for all wells should be taken within a 24-hour period (or the shortest period possible given the scope of the effort) during sampling events. Some wells may be gauged even if they are not being sampled.

TD will be measured by allowing the probe to drop to the bottom of the well and determining the depth where the tape becomes slack. The reading will be recorded to the nearest 0.01-foot. These measurements will be compared with previous measurements and the original well depth to determine if sediment has accumulated within the screened interval, (i.e., "silted in"). Monitor wells regularly sampled (i.e., upgradient and downgradient compliance wells, selenium test wells)

will be redeveloped if 20% of the screened interval is obstructed by sediments, or if a significant change is observed in well yield or turbidity. A TD measurement may not be recorded if dedicated sampling equipment is installed within a well, and the removal of this equipment would agitate sediment within the well annulus, causing increased turbidity during sampling activities.

4.3 WEATHER CONDITIONS

Weather conditions at the time of gauging/sampling activities (e.g., precipitation, temperature, barometric pressure, wind speed and direction) will be recorded in the field logbook or the Monitor Well Sampling Record (**Form 2** provided in **Appendix A**).

5. GROUNDWATER SAMPLING PROCEDURES

This section of the GWSAP provides information about purging and sampling groundwater collected from monitor wells. A map showing the locations of the monitor wells for the various CCR Units is provided as **Figure 1-2**.

Low-flow purging and sampling (i.e., minimal drawdown sampling) is widely recognized and accepted as a preferred sampling method in the regulated community and is the preferred method of sampling all monitor wells at the Twin Oaks Power Station (USEPA, 1996).

For purging and sampling of groundwater it is recommended that activities begin at the upgradient wells and then proceed to downgradient wells.

5.1 LOW-FLOW PURGING AND SAMPLING OF WELLS

To establish a common point of reference, low-flow refers to the flow rate at which water enters the pump intake and is the rate that is imparted to the formation pore water in the immediate vicinity of the well screen. The pump intake should be set:

1. Just above the mid-point of the screened interval if the transmissive zone is thicker than the screened section; or
2. Mid-point of the transmissive interval when the screened section is greater than the thickness of transmissive zone.

Water level drawdown provides the best indication of the stress (drawdown) imparted by a given flow rate for a given hydrogeological situation. Flow rates during low-flow purging will be used to regulate drawdown to less than 0.1 meter (0.3 feet). While these flow rates will typically range between 0.1 to 0.5 liter/minute (L/min), the flow rate for an individual well may vary due to site-specific hydrogeology.

For monitor wells with low water productivity that have drawn down greater than 0.3 feet, there are two possible situations:

- Drawdown is greater than 0.3 feet, but stabilizes at a level above the pump intake; or
- Drawdown continues to occur even at the slowest possible pumping rate.

For these situations, the following purging and sampling procedures will be followed and documented on the sampling record.

- If drawdown is greater than 0.3 feet but stabilizes at a level above the pump intake; record water levels in well and continue to monitor water quality indicator parameters until they stabilize. Collect groundwater sample upon stabilization of water quality indicator parameters.
- If drawdown is greater than 0.3 feet and continues to drop, then pump the well at a low rate until the water level reaches the bottom of the screened interval. Stop pumping and allow recovery to a minimum of 80% of the original water level before collecting a groundwater sample using the lowest flow rate possible. If the water level drops to the top of the screened section before all sample bottles have been filled, allow the well to recovery to a minimum of 80% of the original water level before continuing to fill the remaining sample bottles. Wells

that exhibit this behavior should be considered candidates for transitioning to a no purge sampling method.

Groundwater samples will be collected from the monitor wells using the following low-flow procedures.

- All wells will be purged and sampled using a bladder pump. Most wells have dedicated pumps; however, a non-dedicated bladder pump will be used for wells without dedicated equipment or if any dedicated pump malfunctions occur. Pump intake depth will be placed at the appropriate depth (or checked for placement), as discussed above.
- For wells equipped with dedicated pumps, dedicated sample tubing, utilized during prior sampling events, will be connected to the pump and well-cap outlet. Disposable silicone tubing will be attached to the bladder pump well-cap outlet to allow installation of disposable polyethylene tubing for purging and sampling. An air hose will be connected to the bladder pump well-cap air inlet, with the opposite end attached to the bladder pump controller/compressor. The controller's flow throttle will be used to adjust the pressure in pound-force per square inch (PSI) delivered to the pump based on the measured depth to water at each well.
- For wells without dedicated pumps, a non-dedicated bladder pump will be temporarily installed, and new polyethylene tubing will be utilized to connect the pump to the controller/compressor.
- The well should be pumped at a sustainable flow rate, generally 100-500 milliliters/min, to allow the lowest drawdown of water level (see above) until water quality parameters stabilize or the water level drops below the bottom of the screened interval.
- Groundwater quality indicator parameters will be monitored during low-flow purging to determine stabilization. **Table 5-1** summarizes the water quality indicator parameters to be monitored and their stability criteria.

Measurements of water quality indicator parameters will be recorded every three to five minutes until stabilization is achieved. These measurements, along with flow rate and depth to water, will be recorded in the field logbook or on a Monitor Well Sampling Record (**Form 1** provided in **Appendix A**). Stabilization is achieved when parameters have stabilized for three successive readings. If water quality indicator parameters do not stabilize within 45 to 60 minutes of low-flow purging, the sampling team will contact the project manager and/or subject matter expert to discuss appropriateness for sample collection.

5.2 SAMPLE COLLECTION

Following stabilization, the flow-through cell used to monitor water quality indicator parameters will be removed. Groundwater will be collected from the well and transferred to the appropriate sampling containers in a manner that reduces the amount of exposure to the ambient environment. The sequence of sample collection will be as follows:

- Metals;
- Water Chemistry (cations, anions, total dissolved solids, pH, etc.);

- Radioactive elements; and
- Additional constituents (as needed).

All samples will be collected in clean, laboratory-supplied sample containers with the appropriate preservative for the analytical method.

Metals analysis will measure total recoverable metals, which captures both particulate and dissolved fractions. Groundwater samples will not be field-filtered prior to collection per the requirement of 40 CFR § 257.93(i) and 30 TAC § 352.931. Samples will be collected and analyzed for constituents identified in a given groundwater monitoring program's list of analytes. Analytical parameter classes, container size and type, preservatives, and holding times (before which the analysis must be performed) are listed in **Table 2-2**. Any required preservatives will be added to the bottles by the laboratory prior to delivery to the sampling personnel.

A sample label will be affixed to each sample container with the following information:

- Project name;
- Sample identification (well ID);
- Date and time of collection;
- Sample type, requested analysis;
- Type of preservative (if any); and
- Sampler's initials.

Sample identification will be assigned as follows:

- Normal Field Sample:
 - Format: *[Location] – [Date as YYYYMMDD] – [Sample collection code "01"]*
 - Example: "MW-07-20260323-01"
- Matrix Spike / Matrix Spike Duplicates:
 - Format: *[Location] – [Date as YYYYMMDD] – [Sample collection code "01"] – [MS or MSD]*
 - Example: "MW-07-20260323-01-MS"
- Other Duplicate and Blank Samples:
 - Format: *[Sample Type Code] – [Sample Number] - [Date as YYYYMMDD] – [Sample collection code "01"]*
 - Blind Duplicate Example: "DUP-01-20260323-01"
 - Field Blank Example: "FB-01-20260323-01"
 - Equipment Blank Example: "EB-01-20260323-01"

Sampler shall record the sample ID, sampling procedure, date, and time of sample collection on the Monitor Well Sampling Record (**Form 2** provided in **Appendix A**), field logbook or electronically. Sampler shall record the sample ID (well ID), time and date of collection, sample media, and specified analyses to be conducted by the laboratory, if not already provided, on the chain-of-custody record. See Section 3.3 for details on sample custody information.

Sampler shall check that the sample container caps are tight; then place the filled sample containers into a sample cooler containing bagged ice in a manner to prevent breakage. The cooler will be packed with sufficient ice to maintain the proper preservation temperature.

After sampling is completed at a particular well, non-dedicated equipment will be removed from and placed in an appropriate disposal container. The well will be closed and secured before proceeding to the next well.

5.3 QUALITY CONTROL SAMPLING

Quality control (QC) and quality assurance (QA) samples will be collected and analyzed along with monitor well samples to assess the variability introduced in sampling, handling, shipping, and analysis. The analytical program for the QC samples will follow the analytical program for the associated investigative samples. The following sample types will be collected.

- **Blind Duplicate** - One duplicate sample will be collected at a frequency of one duplicate for every 20 normal samples. The blind duplicate will be analyzed for identical parameters as the monitor well samples. The duplicate sample will be collected from randomly selected wells but with preference for wells with known detections of constituents of interest; and will be labeled with an appropriate identification number other than the well number. The sample bottles for regular and duplicate analysis will be filled in alternate succession for each required analysis (e.g., fill the metals sample container, then the metals duplicate container). The identification number will be recorded on the Monitor Well Sampling Record (**Form 2** provided in **Appendix A**), field logbook or electronically but will not be revealed to the laboratory on the chain of custody (COC).
- **Matrix Spike/Matrix Spike Duplicates (MS/MSDs)** – One MS/MSD will be collected during each sampling event at a frequency of one duplicate for every 20 normal samples to test the potential effects of matrix interference on the laboratory results. To reduce the possible adverse impact to the laboratory equipment, wells selected for the MS/MSD samples will be those that historically have shown low or non-detect constituent concentrations (to the extent practical). The sample is collected as a triplicate (the original sample plus two additional sets). The matrix spike and matrix spike duplicate sample will be labeled identical to the parent sample, and marked as MS/MSD on the COC.
- **Field Blank** - One field blank sample will be collected per sampling event. Field blank samples provide information about potential contamination of the samples during exposure to ambient conditions at the site during sample collection. Field blanks will be prepared at a specified well site by pouring commercially-available distilled water into sample bottles and vials in the same quantities as the groundwater samples. The samples should be labeled appropriately and stored in the same manner as the groundwater samples.
- **Equipment Blank** – An equipment blank sample will be collected during each groundwater sampling event only if non-dedicated sampling equipment is used. After the non-dedicated equipment has been cleaned and rinsed (see Section 5.4 for decontamination procedures), distilled water will be passed over (e.g., poured over) the decontaminated equipment and the water will be collected in appropriate sample containers. The equipment blanks will be

analyzed for the same suite of parameters as the monitor well samples. Equipment blanks will not be collected if dedicated equipment is used for sample collection.

5.4 EQUIPMENT DECONTAMINATION PROCEDURES

The decontamination of sampling equipment is necessary to reduce the potential for the spread of constituents to clean areas, to reduce exposure of personnel to constituents of concern, and to reduce the potential cross-contamination when equipment is used more than once.

The water level tape and probe which have contact with groundwater in the well will be wiped clean with a disposable material (e.g., paper towel), washed with solution of non-phosphate detergent (Liquinox® or equivalent) and distilled water, rinsed with distilled water, and wiped dry with a disposable material after use at each well.

To reduce the potential for cross-contamination between monitor wells during purging and sampling, well-dedicated or disposable equipment will be used to the extent practical. If non-dedicated pumps, discharge, and safety lines are used at a well, such equipment will be washed with non-phosphate detergent and distilled water solution, then rinsed with distilled water.

6. SAMPLING PRESERVATION AND TRANSPORT

Samples for chemical analyses will be placed into the correct laboratory-supplied sample containers, labeled appropriately, and immediately placed in a cooler with ice. The field sampler will document the appropriate information on the COC form. Prior to packing coolers and transport to the laboratory, the outside surfaces of the sample containers will be cleaned if necessary (by wiping carefully with a paper towel) and repacked in the cooler. Sample containers will not be opened after they have been sealed. The containers will be placed inside a sealed plastic Ziploc-style bag and will then be placed in coolers containing sufficient ice to maintain a sample temperature of approximately 4° C. Sample coolers should be lined with a new, large plastic trash bag to reduce the potential of melt water leaks. If sample coolers are to be shipped, ice used for sample cooling should be sealed in double zip top plastic bags to further minimize the potential for leakage. Care must be taken to avoid leakage of water from melted ice when shipping, as overnight delivery services (e.g., FedEx) will not accept leaking coolers.

The sampler will be responsible for packaging and dispatching samples to the analytical laboratory. This responsibility includes using the proper shipping container, shipping labels, shipping papers, and filling out, dating, and signing the appropriate portion of the COC form. Samples will be packed with cushioning material sufficient to reduce the potential for breakage of glass sample containers during transport. The chain-of-custody form will be placed inside a sealed plastic Ziploc-style bag and the bag placed inside the cooler on top of the cushioning material.

Samples and coolers may be transported directly to the laboratory either by laboratory courier or by field personnel on the same day as sampling. The insulated coolers containing groundwater samples will be picked up by the laboratory courier or delivered directly to the laboratory by field personnel. At the time of transfer, custody of the samples will be formally signed over to the courier or laboratory personnel, as applicable. All sample transfers shall be documented in accordance with established chain of custody procedures to ensure proper handling, storage, and analysis, as described in Section 3.3.

7. ANALYTICAL PROCEDURES

Groundwater samples collected under the Detection Monitoring Program will be analyzed for the constituents listed in **Table 1-2**. Groundwater samples collected under the Assessment Monitoring Program will be analyzed for the constituents specified in **Table 1-3**. Analytical parameter classes, container size and type, preservatives, and holding times (before which the analysis must be performed) are listed in **Table 2-2**.

To further support the selection and implementation of corrective measures, including evaluation of redox conditions and natural attenuation processes, additional parameters beyond those in Appendix III and Appendix IV may be collected. This includes laboratory analysis of total selenium, selenium species (selenite and selenate), and field measured redox indicators (e.g., iron species, sulfate, hydrogen sulfide, nitrate, and nitrite) collected during semi-annual and supplemental sampling events. Analytical parameters and methods for these additional analyses are listed in **Table 2-2**.

All laboratory analyses will be performed by a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory, in accordance with 30 TAC §25.4. Groundwater analyses will be performed in accordance with the most recent edition of *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (USEPA SW 846)*, *ASTM Standard Test Methods*, or other United States Environmental Protection Agency (USEPA) approved methods. Detection limits will be those recommended for the procedure and analytical instrument specified.

8. QUALITY ASSURANCE

This section briefly summarizes the quality assurance measures during field and laboratory activities associated with groundwater monitoring.

8.1 FIELD QUALITY ASSURANCE

Sample collection will be conducted according to the procedures outlined in Section 5.2. These procedures are designed to minimize potential sources of contamination and include the following key elements:

- Using dedicated or disposable tubing for each well to reduce the potential for cross-contamination between wells.
- Completing purging using low-flow sampling techniques. If the screened water-bearing unit has low hydraulic conductivity that results in draw down greater than the guidelines for low-flow sampling, the well should be allowed to recover to at least 80 percent of the static water level prior to sampling.
- Using duplicates, matrix spikes, matrix spike duplicates, field blanks, and equipment blank samples to assess potential cross-contamination during sample collection, transport, and analysis as well as providing a check on the data quality from the laboratory (see Section 5.3).
- Handling samples, preservatives, and sample containers carefully to minimize exposure time and potential for evaporative loss and/or airborne contamination.
- Using containerized ice to maintain 4°C sample temperatures during transit and cushioning materials to minimize breakage.

8.2 LABORATORY QUALITY ASSURANCE

The laboratory documentation system will comply with the requirements of the USEPA analytical protocols, as appropriate. The laboratory will perform internal QC checks for the analytical method. Depending on the analytical method, the QC checks may include analyzing sample spikes, surrogate spikes, reference samples, laboratory control samples, storage blanks, and/or method blanks.

The laboratory will document internally that instrument and analytical QC criteria have been met. The data package will contain the information required to evaluate compliance with the analytical methods required and recommended QC checks, instrument tuning, calibration, and sample analysis. If errors or deficiencies are identified in an analytical system, corrective actions will be implemented to return the system to normal operation.

8.3 DATA REVIEW AND EVALUATION

A data validation will be performed to assess whether the dataset meets the project requirements in terms of following the appropriate analytical methods, sample locations, and sampling procedures. All sample collection procedures and laboratory reports will be reviewed to verify that the field and laboratory QA/QC requirements have been met.

The final reportable data, laboratory checklist, associated exception report(s), laboratory quality control data, and chain-of-custody will be reviewed in accordance with applicable USEPA guidance, including, but not limited to the *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, 2020). Data precision and accuracy will be assessed based on control limits of 70-130% for laboratory control samples (except for antimony which will be assessed based on control limits of 50-150%) and spike sample analysis. A control limit of 30% for the relative percent difference (RPD) shall be used for original and duplicate sample values.

9. STATISTICAL PROCESS

Upper limits calculated from a defined background dataset are used as a basis for comparison to support decisions related to whether the regulated unit is impacting groundwater. Hence, having appropriate and representative background measurements is an essential factor in effective groundwater monitoring programs.

The statistical workflow for developing GWPS at the Site follows the recommendations provided in Title 40, CFR, Part 257, Subpart D (40 CFR § 257 et seq.) in accordance with 40 CFR § 257.93(h) and 40 CFR § 257.95(h); Title 30, TAC, Chapter 352 (30 TAC § 352 et seq.) in accordance with 30 TAC § 352.951(b); and the USEPA *Unified Guidance* (USEPA, 2009).

This workflow includes checking the dataset for:

- Statistically independent measurements;
- Spatial stationarity (i.e., appropriateness of pooling data);
- Verification of detection rates and data distributions for each dataset;
- Accounting for possible outliers; and
- Temporal stationarity or check for data trends.

These evaluations are completed prior to calculating any upper limits.

9.1 INDEPENDENT MEASUREMENTS

Upper limit calculations assume that the underlying data is made up of independent sample measurements. Statistical independence of measurements will be achieved by spacing the sampling events far enough apart to ensure enough time to allow groundwater from an upgradient portion of the aquifer to pass through the well between sampling events (USEPA, 2009). For background datasets, sampling every 90 days is typically recommended to ensure independent sample measurements. However, this interval may be adjusted to meet specific regulatory timeline requirements, provided it still supports sufficiently early detection of potential groundwater releases.

9.2 INTERWELL OR INTRAWELL COMPARISONS

Site hydrogeologic conditions may result in spatial and temporal variability in groundwater concentrations measured across multiple background wells.¹ This variability should be appropriately reflected in the calculation of background upper limit concentrations. If it is not, the evaluation of compliance-well results may yield an unacceptable rate of false positives, because upper limit calculations generally assume that the underlying data are drawn from a single, stationary population. As described in 40 CFR §257.94, 30 TAC §352.941, and the *Unified Guidance* (USEPA, 2009), two primary approaches are available for applying background datasets within groundwater monitoring programs:

1. Interwell comparisons: comparison of downgradient monitoring well data to upgradient monitoring well data; and

¹ In this work, the terms “background” and “upgradient” wells are used interchangeably

2. Intrawell comparisons: comparison of downgradient monitoring well data to historical, unimpacted data from the same wells.

The implementation of the aforementioned approaches depends on:

- The degree of spatial heterogeneity in upgradient well datasets;
- The availability of pre-waste-placement data in downgradient wells;
- The hydrogeology at the Site; and
- Whether existing downgradient concentrations are within the ranges expected for unimpacted upgradient concentrations.

In cases where upgradient wells have comparable constituent concentrations across multiple wells, their measurements can be combined to generate a single upgradient dataset for comparison to downgradient wells (USEPA, 2009, Chapter 5). To determine whether interwell comparison is appropriate for each constituent, a Kruskal Wallis² test will be used to compare upgradient wells. If no significant difference ($p > 0.05$) is found among upgradient wells, then an interwell analysis may be performed by pooling the upgradient well data and comparing the resulting upper limit to all downgradient wells. Boxplots of upgradient wells will be used to provide a visual confirmation of the statistical tests. In cases where the upgradient wells have greater than 50 percent NDs, a boxplot will be the primary line of evidence for comparing upgradient wells since the Kruskal Wallis test is unreliable at such high degrees of censure (USEPA, 2009, Chapter 17).

If there is significant spatial heterogeneity in upgradient wells it may prevent the implementation of interwell comparisons. If this is the case, intrawell comparisons can be made at selected downgradient monitoring wells by establishing a historical background dataset prior to waste placement and then comparing them to recent measurements from the same well. In this approach, each downgradient well has its own background dataset and upper limit. This approach is consistent with the *Unified Guidance* (USEPA, 2009, Chapter 5). In some situations, data collected after waste placement may also be used for intrawell comparisons, provided that the historical data are rigorously screened for impacts, outliers, and trends (Horse, 1996). This screening process ensures that any samples representing potential impacts are excluded from the dataset used to develop intrawell comparisons.

If no data is available prior to waste placement in the CCR Unit, but significant spatial heterogeneity exists among the upgradient wells, the background dataset may be established for each individual upgradient well, resulting in multiple upper limits per analyte. Procedures for determining such upper limits are described in Section 9.8. Afterward, the maximum upper limit that falls within boxplot whiskers³ will be selected for comparison to all downgradient wells with similar geology. This approach accounts for natural variability within the upgradient dataset, limits the influence of upper limits of individual upgradient wells that differ substantially from the others and provides a single value to be used in risk assessment (ITRC, 2022, Chapter 11.7).

² Kruskal-Wallis tests are a rank-based analysis of variance that compares the median of two populations.

³ Boxplot whiskers extend from $(P25 - 1.5 \cdot IQR)$ to $(P75 + 1.5 \cdot IQR)$. Where P25, P75, and IQR are 25th percentile, 75th percentile, and InterQuartile Range, respectively.

9.3 DESCRIPTIVE STATISTICS

Descriptive statistics will be calculated to characterize the detection rates and data distribution for each analyte and upgradient dataset combination. Understanding the detection rate and data distribution is important for selecting the appropriate upper limit calculation [40 CFR §257.93(g)(1)]. Additionally, for completeness, the following descriptive statistics will also be calculated:

- Number of results;
- Number of detected results;
- Minimum detected and non-detected (ND) reporting limit (RL)⁴;
- Maximum detected and non-detected value;
- Mean;
- Median;
- Standard deviation;
- Coefficient of variation⁵; and
- Data distribution⁶.

9.3.1 NON-DETECT HANDLING

ND samples were handled in accordance with the “15% and 50% Non-Detect Rule” described in *Unified Guidance* (USEPA, 2009, p. 15-24). Simple substitution (i.e., replacing NDs with the reporting limit) was limited to well/constituent groups where $\leq 15\%$ of samples were NDs. In cases where $> 15\%$ but $< 50\%$ of results were NDs, the Kaplan-Meier censored estimation method was used to calculate adjusted background mean and standard deviation estimates. Non-parametric techniques were used for groups with greater than 50% NDs.

9.4 CHECK FOR POSSIBLE OUTLIERS

Once a decision has been made about the data to use for the background dataset, the *Unified Guidance* (USEPA, 2009, Chapter 12) specifies that upper limit calculations assume that the background dataset should be screened for outliers. Statistical outliers are extreme (large or small) values within a dataset that numerically deviate a significant amount from the rest of the values, and are not representative of the population from which they are drawn. The presence of outliers may distort statistics if used in calculations. When analyzing groundwater concentrations, *Unified Guidance* (USEPA, 2009, Chapter 12) recommends performing a careful quality check of the data to identify any anomalous values. Once found, it can be determined whether outliers

⁴ As provided in the lab reports. As such, the minimum and maximum detection reporting limit refers to the minimum and maximum non-detected reporting limit for non-detect results

⁵ Coefficient of variation is a normalized measure of the variance of the data and is calculated by dividing the standard deviation by the mean.

⁶ Shapiro-Wilk’s test is used to determine the distribution of the data. If $p > 0.05$, the data is considered normally distributed. If $p > 0.05$ on the log-transformed data, the data is considered lognormally distributed. All other cases are considered to have no discernable distribution (NDD) (USEPA 2009).

represent actual extreme values or are errors as a result of (i) inconsistent or erroneous sampling and analytical methods, or (ii) transcription errors.

The *Unified Guidance* (USEPA, 2009, Chapter 12) recommends that testing of outliers be performed on background data, but they generally should not be removed unless some basis for a likely error or discrepancy can be identified. Such possible errors or discrepancies could include data recording errors, unusual sampling and laboratory procedures or conditions, inconsistent or unacceptable sample turbidity, and values significantly outside the historical ranges of reference data. Consistent with the *Unified Guidance*, for the purpose of the identification of high outliers, outlier evaluations will be performed on detected data using both statistical and visual techniques.

9.4.1 STATISTICAL OUTLIER TEST

Consistent with *Unified Guidance* (USEPA, 2022, Chapter 7), the following statistical tests will be used to identify potential statistical outliers in datasets having more than 10 detected values:

- Dixon's Test — for datasets with fewer than 25 values; and
- Rosner's Test — for datasets with 25 or more values.

When the data distribution is normal, statistical outlier testing will be performed on untransformed data. When data are lognormally distributed, data will be log-transformed before the outlier test is conducted to meet the assumption of normality of the test. Data with no discernible distribution (NDD) will have outlier tests conducted on both untransformed and log-transformed data. A data point is considered a statistical outlier if it is found in the upper tail of the distribution and is significant at a significance level (α) of 0.05.

9.4.2 VISUAL OUTLIER ASSESSMENT

The visual assessment comprises of graphing the data as a quantile-quantile probability plot (QQ plot⁷) to identify the presence of possible outlier values that do not follow the basic pattern of the data, and can show the presence of significant positive or negative skewness (USEPA, 2009, Chapter 9). Potential outliers can be identified as isolated data points in the upper or lower tails of the plot. As with statistical outlier testing, data will be transformed as needed before visual outliers are identified.

9.4.3 DECISION FRAMEWORK FOR THE INCLUSION/EXCLUSION OF OUTLIER VALUES

Consistent with *Unified Guidance* (USEPA, 2009, Chapter 12), statistical methods alone (e.g., Dixon's Test or Rosner's Test) should not determine the exclusion of a statistical outlier. Data points will be considered for exclusion if they meet the following visual and statistical criteria:

- For normally distributed data, a data point was identified as a visual and statistical outlier using raw, untransformed data.
- For lognormally distributed data, a data point was identified as a visual and statistical outlier using log-transformed data.

⁷ QQ plots will be generated using the `qqPlot()` function in R (found in the `car` library)

- For NDD data, a data point is identified as a visual and statistical outlier using either untransformed or log-transformed data.

In consultation with the project's hydrogeologist, a potential statistical or visual data point will be considered for exclusion if their reported values are attributed to analytical or transcription errors, or if they are deemed not representative of background populations; otherwise, they will be included in all the subsequent calculations.

9.5 CHECK FOR TEMPORAL STATIONARITY

To properly calculate upper limits for background datasets, the data must meet the assumption of temporal stationarity, namely that the mean and variance in the data are constant over time (USEPA, 2009, Chapter 18. The CCR Rule [40 CFR §257.93(g)(6)] requires trends in the background data to be examined, and when present, accounted for (adjusted) with a correction factor or truncation of unrepresentative historical values before an upper limit is calculated.

Background datasets will be plotted on time series plots⁸ to visually assess changes in concentrations over time. If detection rates exceed 50 percent, a Mann Kendall test will be used to test for significant trends. The Mann Kendall Test is a non-parametric method that tests the following null hypothesis (USEPA, 2009, Chapter 17):

- Null Hypothesis (H₀): No monotonic trend exists; and
- Alternative Hypothesis (H_A): A monotonic trend exists.

Significantly increasing or decreasing trends (τ) are identified at a significance level (α) of less than or equal to 0.05. If a significant increasing or decreasing trend is detected⁹, de-trending will occur before calculating an upper limit. Details on upper limit calculations for datasets with trends can be found in Section 9.8.2. In cases where historical data is unrepresentative of current conditions, truncation of the dataset may be considered on a case-by-case basis if the dataset can continue to meet minimum data requirements.

9.6 SEASONALITY TESTS

Seasonal changes in precipitation and temperature can cause recurrent fluctuations in groundwater concentrations. Seasonal cycles can result in added "noise" (i.e., variability) in the data, reducing the ability to detect temporal trends. *Unified Guidance* (USEPA, 2009, Chapter 14) and the CCR Rule [40 CFR §257.93(g)(6)] strongly recommend accounting for seasonality when performing linear trends in hydrologic data. *Unified Guidance* also recommends at least five years of data so that each of the seasons of data collection are appropriately represented.

To provide additional context, visualizations such as boxplots or timeseries plots will be generated as needed to compare seasonal variation with spatial variation.

⁸ Scatterplots will be generated using the RL for easy identification of wells and analytes with varying RLs throughout the lifetime of the monitoring.

⁹ In cases where more than 50 percent of the data is ND, the trend will be visually assessed.

9.7 UPDATING BACKGROUND DATASETS

Groundwater monitoring programs at CCR sites are expected to continue for decades, so developing an explicit plan for updating the background dataset is recommended. Adding single sampling events would not allow for a test of whether the new data points are consistent with the historical data collected at the Site (USEPA, 2009, Chapter 5). Instead, enough new data must be collected to allow for a test of medians between newly collected data and the established background dataset. A minimum of four measurements must be gathered for this test to occur.

For downgradient locations, samples taken after waste placement may also represent background water quality if it is determined through statistical analysis that no release has occurred (no SSIs in these downgradient wells). It should be noted that changes in background groundwater quality may occur because of lining the landfill which will cut off a large source of groundwater recharge beneath the landfill.

The new data can only be combined with the older values if no significant difference is found between the new data points and the older dataset using a Wilcoxon Rank Sum test¹⁰. Conversely, if a significant difference is found between the new and old data, *Unified Guidance* recommends a closer investigation and review of the upgradient sample to see which observations are most representative of current conditions (Section 5.3.2 of USEPA, 2009). Additional care should be taken if trends are present in upgradient wells, as the test of medians could result in significant differences for stronger trends. In this instance, a time series of both old and new samples serves to see if a similar trend is still present in the newer samples, or if truncation is necessary for some of the historical measurements (Section 5.3.4 of USEPA, 2009).

9.8 CALCULATING UPPER LIMITS

Tolerance limits characterize, with a specified probability, specific percentiles of a distribution. Sites often calculate upper tolerance limits (UTL) on the 95th percentile with 95 percent probability confidence (95/95 UTL). In other words, these thresholds establish an upper threshold that has a 95 percent chance of capturing all the data points that are at or below the 95th percentile of the population. UTLs will be constructed with a 1-of-2 retesting scheme, and an annual site wide false positive rate (SWFPR) of 0.1.

ITRC notes that upper prediction limits can result in excessive false positive errors when multiple comparisons are made, whereas UTLs maintain consistent false positive error rates regardless of the number of comparisons, making UTLs more suitable for point-by-point background comparisons (ITRC 2022, Chapter 11.7).

To ensure accuracy, these upper limits were calculated in one of two ways:

- Direct calculation of UTLs using standard approaches (USEPA, 2009, Chapter 19)(USEPA, 2022, Section 3.5) for data that meet the assumption of temporal stationarity; or
- De-trending relative to current conditions prior to the calculation of UTLs for data that have significant increasing or decreasing trends.

¹⁰ A test of medians (e.g., Wilcoxon rank-sum) test will be used since it is a nonparametric, rank-based test whose assumptions will be met with most datasets.

9.8.1 DATASETS WITHOUT TRENDS

One of the basic requirements for upper limit calculations is that the background data exhibit stationary concentrations over time (USEPA, 2009, Chapter 5). UTL for wells without significant temporal trends (i.e., static data) will be calculated with methods consistent with *Unified Guidance* (USEPA, 2009, Chapter 18) and the decision framework in the ProUCL technical guide (USEPA 2022, Section 3.5). All static UTLs were calculated in ProUCL v5.2 using its recommended method at 95% confidence.

When datasets are small (i.e., ten or fewer detects) and/or have low detection rates (< 50 percent detected), accurately estimating population parameters becomes difficult to do with a reasonable level of confidence. Under these circumstances, *Unified Guidance* (USEPA, 2009, Chapter 19)(USEPA, 2022, Section 3.5) defaults to a non-parametric UTL calculation which is equivalent to the maximum concentration in the dataset. UTLs based on maximum concentrations, however, fail to have the specified performance criteria or population coverage (USEPA, 2022, Section 2.3).

9.8.2 DATASETS WITH TRENDS

When the upgradient wells exhibit concentrations that change temporally, a static upper limit calculation can lead to a substantial overestimation or underestimation of the UTL (USEPA, 2009, Chapter 5). Therefore, any wells with significant trends are de-trended relative to current conditions prior to input into ProUCL v5.2. De-trending was performed by calculating an ordinary least squares regression model on the time series data for each well-analyte pair with significant trends, computing residuals, and then re-centering those residuals so the value at the most recent time is zero, ensuring the latest observation remains unchanged. Afterwards, the de-trended data are utilized in ProUCL v5.2 with its recommended method at 95% confidence.

9.9 ESTABLISHING BACKGROUND VALUES AND GROUNDWATER PROTECTION STANDARDS

9.9.1 DETECTION MONITORING

After upper limits are calculated for each analyte, situations may arise in which multiple UTLs are present due to interwell comparisons and natural variability within the upgradient datasets. In these cases, the maximum UTL that falls within boxplot whiskers¹¹ is selected, as mentioned in Section 9.2. This results in a single background value per analyte that can be used for comparison with downgradient wells, in accordance with § 257.93(h).

9.9.2 ASSESSMENT MONITORING

After following the procedure indicated in Section 9.9.1, the final UTLs are then compared against the applicable maximum contaminant levels (MCLs) or other concentration limits established by federal regulations. The final GWPS values are determined in accordance with 40 CFR § 257.95(h) and 30 TAC § 352.951(b). Specifically, if the calculated UTL is lower than the corresponding MCL,

¹¹ Boxplot whiskers extend from (P25 – 1.5*IQR) to (P75 + 1.5*IQR). Where P25, P75, and IQR are 25th percentile, 75th percentile, and InterQuartile Range, respectively.

the MCL is selected as the GWPS; otherwise, the calculated UTL is used. This GWPS will then be used for compliance testing.

9.10 SCREENING OF DOWNGRAIDENT WELLS

9.10.1 BACKGROUND COMPARISONS DURING DETECTION MONITORING

Detection monitoring under §257.94 evaluates samples collected at each downgradient well against established background values from Section 9.9.1 to determine whether a statistically significant increase (SSI) over background has occurred. Initial exceedances of background values may be confirmed with re-testing of the downgradient wells per the 1-of-2 retesting scheme (USEPA, 2009, Chapter 19). If an SSI is found, a notification or Alternate Source Demonstration will be prepared within 90 days. Wells with re-testing results at or below the background value will be considered in compliance and will not require further action. Any re-testing results will be reported in an Alternate Source Demonstration.

9.10.2 COMPLIANCE TESTING DURING ASSESSMENT MONITORING

Assessment monitoring under § 257.95 will be performed by evaluating results from Appendix IV samples collected at each downgradient well against both background values from Section 9.9.1 and GWPS values from Section 9.9.2. Compliance testing determines whether downgradient concentrations are at or below background, above background but below GWPS, or are at statistically significant levels (SSL) above the GWPS. If an SSL is found, a notification or Alternate Source Demonstration will be prepared within 90 days. Wells with re-testing results at or below the GWPS value will be considered in compliance and will not require further action. Any re-testing results will be reported in an Alternate Source Demonstration. If the Site remains below background values for two consecutive events, the Site may return to detection monitoring. If the Site remains above background values but below GWPS, the Site continues in assessment monitoring. Continued sampling is required for the duration of assessment monitoring.

10. REFERENCES

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TABLES

Table 1-1
Well Information Summary
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Well ID	Hydrogeologic Unit Monitored	Type	Up- or Down-Gradient	Well Diameter and Material	Screen Slot Size (inches)	Top of Casing Elevation (Ft, msl)	Grade or Surface Elevation (Ft, msl)	Well Depth (Ft, bgs)	Well Depth (Ft, btoc)	Screen Interval (Ft, bgs)	Screen Interval (Ft btoc)	Required Pump for Sample Collection
MW-07	Unit II	Background	Up-gradient	2" PVC	0.01	411.60	408.63	29	31.97	19 – 29	21.97 – 31.97	Bladder Pump
MW-11	Unit II	Background	Up-gradient	2" PVC	0.01	406.93	402.70	35	39.23	20 – 35	24.23 – 39.23	Bladder Pump
MW-12	Unit II	Background	Up-gradient	2" PVC	0.01	387.27	383.28	40	43.99	30 – 40	33.99 – 43.99	Bladder Pump
MW-13	Unit II	Point of Compliance	Down-gradient	2" PVC	0.01	398.32	394.74	30	33.58	15 – 30	18.58 – 33.58	Bladder Pump
MW-14	Unit II	Point of Compliance	Down-gradient	2" PVC	0.01	394.68	391.08	33	36.60	18 – 33	21.60 – 36.60	Bladder Pump
MW-15	Unit II	Point of Compliance	Down-gradient	2" PVC	0.01	410.47	406.68	45	48.79	35 – 45	38.79 – 48.79	Bladder Pump
MW-16	Unit II	Background	Up-gradient	2" PVC	0.01	422.54	418.66	45	48.88	35 – 45	38.88 – 48.88	Bladder Pump
MW-17	Unit II	Point of Compliance	Down-gradient	2" PVC	0.01	405.87	403.07	36	38.80	26 – 36	28.80 – 38.80	Bladder Pump
MW-18	Unit II	Observation	Up-gradient	2" PVC	0.01	410.88	406.88	35	39.00	25 – 35	29.00 – 39.00	Bladder Pump
MW-19	Unit II	Observation	Up-gradient	2" PVC	0.01	417.33	413.29	35	39.04	25 – 35	29.04 – 39.04	Bladder Pump
MW-20	Unit II	Observation	Up-gradient	2" PVC	0.01	423.19	419.31	45	48.88	35 – 45	38.88 – 48.88	Bladder Pump
MW-21	Unit II	Observation	Up-gradient	2" PVC	0.01	387.52	383.53	30	33.99	20 – 30	23.99 – 33.99	Bladder Pump
MW-22	Unit II	Observation	Up-gradient	2" PVC	0.01	421.71	417.77	35	38.94	25 – 35	28.94 – 38.94	Bladder Pump
MW-23	Unit II	Selenium Test Well	Down-gradient	2" PVC	0.01	390.73	387.53	27	30.20	17 – 27	20.20 – 30.20	Bladder Pump
MW-24	Unit II	Selenium Test Well	Down-gradient	2" PVC	0.01	391.10	388.05	27	30.05	17 – 27	20.05 – 30.05	Bladder Pump
MW-25	Unit II	Selenium Test Well	Down-gradient	2" PVC	0.01	381.47	378.65	35	37.82	25 – 35	27.82 – 37.82	Bladder Pump
MW-26	Unit II	Selenium Test Well	Down-gradient	2" PVC	0.01	387.47	384.62	39	41.85	29 – 39	31.85 – 41.85	Bladder Pump

Notes:
ft: feet
msl: mean sea level
bgs: below ground surface
btoc: below top of casing

Table 1- 2
Constituents for Detection Monitoring
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Constituents for Detection Monitoring
Boron
Calcium
Chloride
Fluoride
Sulfate
pH
Total Dissolved Solids (TDS)

Note:

From Appendix III to 40 CFR Part 257 - Constituents for Detection Monitoring

Table 1-3
 Constituents for Assessment Monitoring
 Twin Oaks Power Station
 Coal Combustion Residuals (CCR) Landfill
 Robertson County, Texas

Constituents for Assessment Monitoring
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 & 228 (Combined)

Note:

From Appendix IV to 40 CFR Part 257 - Constituents for Detection Monitoring

Table 2-1
Sampling Equipment
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Sampling Equipment
Water Level Meter
Bladder Pump
Controler/Compressor
12 Volt Marine Battery with Charger
Water Quality Meter with Flow Through Cell and Calibration Fluids
Silicone Tubing
1/4-inch Polyethylene Tubing
Nitrile Gloves
Graduated 5-gallon Bucket
Well Sampling Record Form
Gauging Record Forms
55 Gallon Drum
Snake Chaps
Coolers
Sample Bottles
Ice
Clipboards
Tubing Cutters
Bound Field Logbook

Table 2-2
Summary of Groundwater Sample Constituent Groups and Analytical Information
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Laboratory Parameters	Lab Method	Parameter Group	Reporting Limit (RL) or Practical Quantitation Limit (PQL) ^(a)	Method Detection Limit (MDL)	Units	Container Size and Type	Preservative	Holding Time
Metals								
Antimony	SW-846 Method 6020B	Assessment Monitoring	0.002	0.00075	mg/L	1 - 250-mL HDPE (high density polyethylene)	HNO3 to pH<2; <6°C	180 Days (b)
Arsenic	SW-846 Method 6020B	Assessment Monitoring	0.004	0.00069	mg/L			
Barium	SW-846 Method 6020B	Assessment Monitoring	0.004	0.00134	mg/L			
Beryllium	SW-846 Method 6020B	Assessment Monitoring	0.002	0.000271	mg/L			
Boron	SW-846 Method 6020B	Detection Monitoring	0.01	0.00401	mg/L			
Cadmium	SW-846 Method 6020B	Assessment Monitoring	0.002	0.00024	mg/L			
Calcium	SW-846 Method 6020B	Detection Monitoring	0.1	0.0301	mg/L			
Chromium	SW-846 Method 6020B	Assessment Monitoring	0.004	0.00056	mg/L			
Cobalt	SW-846 Method 6020B	Assessment Monitoring	0.002	0.000355	mg/L			
Lead	SW-846 Method 6020B	Assessment Monitoring	0.002	0.000367	mg/L			
Lithium	SW-846 Method	Assessment Monitoring	0.04	0.0174	mg/L			
Mercury	SW-846 Method 7470A	Assessment Monitoring	0.0002	0.0000706	mg/L			
Molybdenum	SW-846 Method 6020B	Assessment Monitoring	0.002	0.000255	mg/L			
Selenium	SW-846 Method 6020B	Assessment Monitoring	0.002	0.00059	mg/L			
Thallium	SW-846 Method 6020B	Assessment Monitoring	0.002	0.000415	mg/L			
Radiochemistry								
Radium 226 & 228 (Combined)	EPA Method 903.0/904.0	Assessment Monitoring	1	-	pCi/L	2 - 1 Liter Plastic	HNO3 to pH<2; <6°C	180 Days
Anions								
Chloride	EPA Method 300.0	Detection Monitoring	0.5	0.25	mg/L	1 - 250-mL HDPE	<6°C	28 Days
Fluoride	EPA Method 300.0	Assessment/Detection Monitoring	0.5	0.1	mg/L			
Sulfate	EPA Method 300.0	Detection Monitoring	0.5	0.2	mg/L			
Other								
pH	SM4500 H+	Detection Monitoring	0.1	-	S.U.	1 - 250-mL	<6°C	Immediate
Total Dissolved Solids	SM2540C	Detection Monitoring	5	5	mg/L	1 - 500-mL	<6°C	7 Days
Redox / Natural Attenuation								
Selenate	Se SPEC	(c)	0.200	0.0180	ug/L	1 - 60-mL HDPW	<6°C	28 Days
Selenite	Se SPEC	(c)	0.200	0.0120	ug/L			
Nitrate	Colorimetric Meter, AccuVac Ampuls, or other field test kit	(c)		(c)		(c)	(c)	(c)
Nitrite		(c)		(c)				
Sulfate		(c)		(c)				
Total Iron		(c)		(c)				
Ferrous Iron		(c)		(c)				
Ferric Iron		(c)		(c)				
Hydrogen Sulfide		(c)		(c)				
Field Parameters								
pH	Multiparameter probe	Detection Monitoring		(d)		(d)	(d)	(d)
Temperature				(d)				
Oxidation-Reduction				(d)				
Dissolved Oxygen				(d)				
Turbidity				(d)				
Specific Conductance				(d)				

Notes:

mg/L: milligrams per liter.

pCi/L: picocuries per liter.

S.U.: standard units.

(a) Reporting Limit (RL) or Practical Quantitation Limit (PQL) utilized, where applicable. Actual PQLs reported by the laboratory may vary due to the nature of individual samples.

(b) 180 days for all metals except mercury which is 28 days.

(c) Redox/Natural Attenuation measurement collected using commercially available kits and meters (no Parameter Group and no PQLs).

(d) Standard field measurement collected during sampling (no Parameter Group and no PQLs).

Methods may be updated or substituted by an appropriate EPA or TCEQ-approved method with comparable detection limits that meet action levels.

Table 5-1
 Water Quality Indicator Parameters
 Twin Oaks Power Station
 Coal Combustion Residuals (CCR) Landfill
 Robertson County, Texas

Water Quality Indicator Parameters	Stabilization Ranges (Three successive readings)
Temperature	Not used for stabilization
pH	± 0.1 standard units
Specific Conductivity	$\pm 3\%$
Dissolved Oxygen	$\pm 10\%$
Oxidation Reduction Potential	± 10 millivolts
Turbidity	$\pm 10 \%$, Less than 10 NTU



FIGURES





0 250 500 1,000
Feet

1:10,200
1 INCH = 850 FEET

Legend

- Registration Boundary
- CCR Landfill
- Stormwater Detention Ponds
- Upgradient Well
- Downgradient Well

- ⊗ Observation Well (Not Included in CCR Monitoring Well Network)
- ⊗ Selenium Test Well (Not Included in CCR Monitoring Well Network)

Figure 1-2
CCR Well Network Location Map
CCR Landfill
Twin Oaks Power Station
13065 Plant Road, Bremond, Texas



APPENDIX A FIELD DATA COLLECTION FORMS

Well Gauging Record
Twin Oaks Power Station
Bremond, TX

Well ID	Historical Total Well Depth* (feet bgs)	Screened Interval* (feet bgs)	Tubing Depth (feet bgs)	Date	Depth to Water (feet BTOC)	Total Well Depth (feet BTOC)	Notes
MW-7	29	19 to 29	24				
MW-11	35	20 to 35	27.5				
MW-12	40	30 to 40	35				
MW-13	30	15 to 30	22.5				
MW-14	33	18 to 33	25.5				
MW-15	45	35 to 45	40				
MW-16	45	35 to 45	40				
MW-17	37.5	26 to 36	31				
MW-18	35.0	25 to 35	30				
MW-19	35.0	25 to 35	30				
MW-20	45.0	35 to 45	40				
MW-21	30.0	20 to 30	25				
MW-22	35.0	25 to 35	30				
MW-23	30.0	20 to 30	25				
MW-24	30.0	20 to 30	25				
MW-25	38.0	28 to 38	33				
MW-26	42	32 to 42	37				

*Based on well installation boring logs

MONITOR WELL SAMPLING RECORD

PROJECT INFORMATION	
Well ID:	Client:
Well Diameter:	Site Loc.:
Date:	Proj. ID.:
Weather Conditions:	Sampler(s):

INITIAL MEASUREMENTS	
Measuring Point: _____	Top of Casing
Depth to Water: _____	Total Well Depth: _____
	Tubing Intake Depth: _____

[illegible]

SAMPLING RECORD			
Analysis Requested	Container/Preservative		Sample Date/Time:
			Sampling Remarks:



APPENDIX B

PROFESSIONAL ENGINEER'S CERTIFICATION

STATISTICAL METHOD CERTIFICATION

**Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas**

CERTIFICATION

I hereby certify that the selected statistical method identified in this document is appropriate for evaluating groundwater monitoring data for the CCR units in accordance with the requirements of 40 CFR §257.93 and 30 TAC §352.931.



March 31, 2026

Jeremy Seibert, P.E.

Texas Licensed Professional Engineer No. 102386



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Attachment C

Updated Registration Permit Application Documentation



Twin Oaks Power Station – Coal Combustion Residuals Landfill

Updates to the Registration Permit
Application

PREPARED FOR
Major Oak Power, LLC

DATE
2 April 2026

REFERENCE
0770892



CONTENTS

I.	UPDATED REGISTRATION PERMIT APPLICATION FORMS AND TABLES
II.	LABORATORY ANALYTICAL REPORTS AND SUMMARIZED RESULTS
III.	ASSESSMENT OF CORRECTIVE MEASURES REPORT



I. UPDATED REGISTRATION PERMIT APPLICATION FORMS AND TABLES

H. Safety Factor Assessment

The current safety factor assessment must be submitted with the application. It must include documentation that demonstrates whether the calculated factors of safety for each CCR surface impoundment achieve the minimum safety factors specified in 30 TAC 352, Subchapter F and 40 CFR §257.73(e)(1)(i) - (iv) and 40 CFR §257.74(e)(1)(i) - (iv) for the critical cross-section of the embankment. The critical cross-section is the cross-section anticipated to be the most susceptible to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations and certified by a qualified Texas P.E.

I. Groundwater Monitoring and Corrective Action (30 TAC 352, Subchapter H)

See Instructions and Technical Guidance – No. 32 Coal Combustion Residuals Groundwater Monitoring and Corrective Action

27. Groundwater Monitoring System

- A. Complete Table VI.A. - Unit Groundwater Detection Monitoring System.
- B. Provide a map showing location of wells, groundwater elevations, and groundwater flow direction.
- C. Provide attachments describing how the facility will comply with the requirements in 30 TAC §352.911 and provide a certification by a qualified Texas P.E. or qualified Texas P.G. that the groundwater monitoring system design and construction meet the requirements of 30 TAC Chapter 352.
- D. Provide a figure showing the geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.
- E. For a multiunit groundwater monitoring system, demonstrate that the groundwater monitoring system will be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual groundwater monitoring system for each CCR unit by providing at minimum the following information:
 - 1. Number, spacing, and orientation of each CCR unit;
 - 2. Hydrogeologic setting; and
 - 3. Site history.
- F. Has there been any sampling concentrations of one or more constituents listed in Appendix IV detected at statistically significant levels above the groundwater protection standard (GWPS)? ☒ Yes ☐ No
- G. Provide information on how monitoring wells have been constructed and cased in a manner that maintains the integrity of the monitoring well borehole and to prevent contamination of samples and the groundwater.

28. Groundwater Monitoring Sampling and Analysis Program

Provide a sampling and analysis plan that includes procedures and techniques; sampling and analytical methods that are appropriate for groundwater sampling; and that address the requirements of 30 TAC §352.931 and 40 CFR §257.93. Provide a P.E. or P.G. certification that describes the statistical method selected to evaluate the groundwater monitoring data and certifies that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. Refer to TG-32 for information and guidance.

29. CCR Unit(s) in a Detection Monitoring Program

Does the facility have CCR unit(s) in a Detection Monitoring Program?

☐ Yes ☒ No

If "Yes", Submit the following information:

A. Submit Table VI.C. – Facility CCR Units Under Detection Monitoring.

B. Provide a Background Evaluation Report.

C. Provide a report with the results of semiannual monitoring events.

1. Has a statistically significant increase (SSI) been detected for one or more of the constituents listed in Appendix III at any monitoring well?

☐ Yes ☐ No

2. Has a notification to the executive director been sent within 14 days?

☐ Yes ☐ No

3. Date assessment monitoring program will start:

4. Do you plan to provide an alternative source demonstration (ASD)?

☐ Yes ☐ No

30. CCR Unit(s) in an Assessment Monitoring Program

Does the facility have CCR unit(s) in an Assessment Monitoring Program?

☒ Yes ☐ No

If "Yes", Submit information related for units.

A. Complete Table VI.D. – CCR Units Under Assessment Monitoring.

B. Provide, for each well in assessment monitoring status, the recorded concentrations lab sheets and results in a tabulated form.

C. Have the concentrations of all constituents listed in Appendices III and IV been at or below background values, using the statistical procedures in 30 TAC §352.931 and 40 CFR §257.93(g), for two consecutive sampling events for the CCR unit(s)? ☐ Yes ☒ No

If answer to above is yes, detection monitoring may resume. The owner or operator must prepare a notification stating that detection monitoring is resuming for the CCR unit and obtain written approval from the executive director.

- D. Are there any concentrations of any constituent in Appendices III and IV above background values? ☒ Yes ☐ No
1. Has a notification to the executive director been sent within 14 days?
☒ Yes ☐ No
- E. Date assessment of corrective measures will be initiated (must be within **90 days** of finding a statistically significant level above the GWPS) for the CCR unit(s):
March 3, 2025
- F. Will you provide an ASD (see TG-32 for an acceptable submittal)? ☐ Yes ☒ No
- G. Date assessment of corrective measures will be initiated if ASD is not accepted?
March 3, 2025
- H. Complete Table VI.D-2. - Groundwater Detection Monitoring Parameters

Note: Refer to TG-32 regarding establishing a GWPS for each constituent in Appendix IV detected in the groundwater and attach as table.

- I. Have you completed the assessment of corrective measures? ☒ Yes ☐ No
If "Yes", date assessment of corrective measures was completed: **July 23, 2025**
If "No", date assessment of corrective measures will be completed:
Expected date of submittal of amendment (see note below): **April 4, 2026 (Registration Permit Revision)**
Provide completed assessment of corrected measures materials.

Note: Within **30 days** of completing the assessment of corrective measures, and before remedy implementation, the owner or operator shall submit an application for amendment to the registration. In some circumstances, the assessment of corrective measures and selected remedy may be approved as part of the initial application for the CCR unit registration.

- J. Have you selected a remedy? ☐ Yes ☒ No
Provide public meeting documentation under 30 TAC §352.961 and a report under 30 TAC §352.971 and 40 CFR §257.97.

II. Closure and Post-Closure Care

See Instructions and Technical Guidance

Submit a full closure plan and post-closure plan and all information describing how the owner or operator will comply with 30 TAC 352, Subchapter J and 40 CFR §§257.100 - 257.104. The owner of property on which an existing disposal facility is located, following the closure of a unit, must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage CCR wastes and its use is restricted (30 TAC §352.1221 and 40 CFR §257.102(i)). For CCR units, closed after October 19, 2015, that were closed before submission of the application, the applicant should submit documentation to show that notices required under 30 TAC 352, Subchapter K and 40 CFR §257.105 or §257.106 have been filed.

Table VI.A. – Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name ¹						
Well Number(s):	MW-7	MW-11	MW-12	MW-13	MW-14	MW-15
Hydrogeologic Unit Monitored	Unit II	Unit II	Unit II	Unit II	Unit II	Unit II
Type (e.g., point of compliance, background, observation, etc.)	Background	Background	Background	Point of Compliance	Point of Compliance	Point of Compliance
Up or Down Gradient	Up-gradient	Up-gradient	Up-gradient	Down-gradient	Down-gradient	Down-gradient
Casing Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC
Screen Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC
Screen Slot Size (in.)	0.01	0.01	0.01	0.01	0.01	0.01
Top of Casing Elevation (Ft, Mean Sea Level <i>[MSL]</i>)	411.60	406.93	387.27	398.32	394.68	410.47
Grade or Surface Elevation (Ft, MSL)	408.63	402.70	383.28	394.74	391.08	406.68
Well Depth (Ft, Below Grade Surface <i>[BGS]</i>)	29	35	40	30	33	45
Well Depth (Ft, Below Top of Casing <i>[BTOC]</i>)	31.97	39.23	43.99	33.58	36.60	48.79
Screen Interval From (Ft, BGS) To (Ft, BGS)	19 – 29	20 – 35	30 – 40	15 – 30	18 – 33	35 – 45
Screen Interval From (Ft, BTOC) To (Ft, BTOC)	21.97 – 31.97	24.23 – 39.23	33.99 – 43.99	18.58 – 33.58	21.60 – 36.60	38.79 – 48.79

¹ From Tables in Section I.; *MSL*: Mean Sea Level; *BGS*: Below Grade Surface; *BTOC*: Below Top of Casing

Table VI.A. – Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name ¹						
Well Number(s):	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21
Hydrogeologic Unit Monitored	Unit II	Unit II	Unit II	Unit II	Unit II	Unit II
Type (e.g., point of compliance, background, observation, etc.)	Background	Point of Compliance	Observation	Observation	Observation	Observation
Up or Down Gradient	Up-gradient	Down-gradient	Up-gradient	Up-gradient	Up-gradient	Up-gradient
Casing Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC
Screen Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC
Screen Slot Size (in.)	0.01	0.01	0.01	0.01	0.01	0.01
Top of Casing Elevation (Ft, Mean Sea Level <i>[MSL]</i>)	422.54	405.87	410.88	417.33	423.19	387.52
Grade or Surface Elevation (Ft, MSL)	418.66	403.07	406.88	413.29	419.31	383.53
Well Depth (Ft, Below Grade Surface <i>[BGS]</i>)	45	36	35	35	45	30
Well Depth (Ft, Below Top of Casing <i>[BTOC]</i>)	48.88	38.80	39.00	39.04	48.88	33.99
Screen Interval From (Ft, BGS) To (Ft, BGS)	35 – 45	26 – 36	25 – 35	25 – 35	35 – 45	20 – 30
Screen Interval From (Ft, BTOC) To (Ft, BTOC)	38.88 – 48.88	28.80 – 38.80	29.00 – 39.00	29.04 – 39.04	38.88 – 48.88	23.99 – 33.99

¹ From Tables in Section I.; *MSL*: Mean Sea Level; *BGS*: Below Grade Surface; *BTOC*: Below Top of Casing

Table VI.A. – Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name ¹					
Well Number(s):	MW-22	MW-23	MW-24	MW-25	MW-26
Hydrogeologic Unit Monitored	Unit II	Unit II	Unit II	Unit II	Unit II
Type (e.g., point of compliance, background, observation, etc.)	Observation	Selenium Test Well	Selenium Test Well	Selenium Test Well	Selenium Test Well
Up or Down Gradient	Up-gradient	Down-gradient	Down-gradient	Down-gradient	Down-gradient
Casing Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC
Screen Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC	2" PVC
Screen Slot Size (in.)	0.01	0.01	0.01	0.01	0.01
Top of Casing Elevation (Ft, Mean Sea Level <i>[MSL]</i>)	421.71	390.73	391.10	381.47	387.47
Grade or Surface Elevation (Ft, MSL)	417.77	387.53	388.05	378.65	384.62
Well Depth (Ft, Below Grade Surface <i>[BGS]</i>)	35	27	27	35	39
Well Depth (Ft, Below Top of Casing <i>[BTOC]</i>)	38.94	30.20	30.05	37.82	41.85
Screen Interval From (Ft, BGS) To (Ft, BGS)	25 – 35	17 – 27	17 – 27	25 – 35	29 – 39
Screen Interval From (Ft, BTOC) To (Ft, BTOC)	28.94 – 38.94	20.20 – 30.20	20.05 – 30.05	27.82 – 37.82	31.85 – 41.85

¹ From Tables in Section I.; *MSL*: Mean Sea Level; *BGS*: Below Grade Surface; *BTOC*: Below Top of Casing

Table VI.D-2. – Groundwater Assessment Monitoring Parameters

Parameter	Sampling Frequency	Analytical Method	Practical Quantification Limit ¹	Groundwater Protection Standard Concentration Limit ²
Antimony	Semi-annual	Method 6020B	0.002 (mg/L)	6 (µg/L) ³
Arsenic	Semi-annual	Method 6020B	0.004 (mg/L)	12.88 (µg/L) ⁴
Barium	Semi-annual	Method 6020B	0.004 (mg/L)	2,000 (µg/L) ³
Beryllium	Semi-annual	Method 6020B	0.002 (mg/L)	4 (µg/L) ³
Cadmium	Semi-annual	Method 6020B	0.002 (mg/L)	5 (µg/L) ³
Chromium	Semi-annual	Method 6020B	0.004 (mg/L)	100 (µg/L) ³
Cobalt	Semi-annual	Method 6020B	0.002 (mg/L)	6 (µg/L) ⁵
Fluoride	Semi-annual	EPA 300	0.5 (mg/L)	4,000 (µg/L) ³
Lead	Semi-annual	Method 6020B	0.002 (mg/L)	15 (µg/L) ⁵
Lithium	Semi-annual	Method 6010D	0.04 (mg/L)	235 (µg/L) ⁴
Mercury	Semi-annual	Method 7470A	0.0002 (mg/L)	2 (µg/L) ³
Molybdenum	Semi-annual	Method 6020B	0.002 (mg/L)	100 (µg/L) ⁵
Selenium	Semi-annual	Method 6020B	0.002 (mg/L)	50 (µg/L) ³
Thallium	Semi-annual	Method 6020B	0.002 (mg/L)	2 (µg/L) ³
Radium 226+228	Semi-annual	EPA 903.0/EPA 904.0	1.0 (pCi/L)	5.819 (pCi/L) ⁴

mg/L: milligrams per liter

pCi/L: picocuries per liter

µg/L: micrograms per liter

¹ Reporting Limit (RL) or Practical Quantitation Limit (PQL) utilized, where applicable.² The concentration limit is the basis for determining whether a release has occurred from the CCR unit/area.³ Maximum contaminant level from 40 CFR 141.62(b).⁴ Calculated upper tolerance limit (UTL), as reported in the April 2026 *Twin Oaks Power Station – Coal Combustion Residuals Landfill 2025 Annual Groundwater Monitoring and Corrective Action Report (Addendum)*.⁵ Value from 40 CFR 257.95(h)(2).



II. LABORATORY ANALYTICAL REPORTS AND SUMMARIZED RESULTS

Table 5-3a
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-07 (Background/Upgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226 / 228
Unit	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Sample Date																						
9/10/2025	0.296	280	295	0.230 J	6.5 HF, JL	1,010 J	2,290	< 0.00200	< 0.00400	0.0214	< 0.00200	0.000481 J	< 0.00400	0.00126 J	0.230 J	< 0.00200	0.0234 UJb	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.47 J
4/8/2025	0.300	296	242	0.204 J	6.3 HF, JL	989	1,960	< 0.00200	< 0.00400	0.0197	< 0.00200	0.000568 J	< 0.00400	0.00125 J	0.204 J	< 0.00200	0.154	< 0.000200	< 0.00200	0.000891 UJb	< 0.00200	1.45
9/11/2024	0.255 b	241	298	< 5.00	6.0 HF, JL	1,100	2,010	0.00125 UJb	< 0.00400	0.0215	< 0.00200	0.000570 J	< 0.00400	0.00150 J	< 5.00	< 0.00200	< 0.200	< 0.000200	0.000264 J	< 0.00200	0.000185 J	2.30 JH
3/20/2024	0.322	276	252	< 0.500	6.7 HF, JL	912	1,820	< 0.00400	0.00104 J	0.0172	< 0.00200	0.000562 J	< 0.00400	0.00102 J	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.000691	< 0.00200	0.585
8/8/2023	0.208	273	259	< 0.500	6.6 HF	865	1,750	< 0.00400	NA	0.0144	NA	NA	NA	0.00102 J	< 0.500	NA	< 0.0400	NA	NA	< 0.00200	NA	0.521
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.0166	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.20
12/6/2022	0.271	303	260	< 0.500	6.5 HF	1,030	1,920	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.270	292	277	< 0.500	6.5 HF	1,010	1,940	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.286	284	257	< 0.500	6.7 HF	940	1,730	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.295 F1	258	259	< 0.500	6.5 HF	952	1,800	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.298	245 DX	262	< 0.500	6.06 K	930 D	1,670	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.322	268 D	274	< 0.500	6.42 K	1,550 D	1,780	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/21/2019	0.286	312 D	285	< 0.500	6.50 K	1,040 D	1,950	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.332	284	285	< 0.500	6.36 K	908	1,780	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.303	326 D	312	< 0.500	6.72 K	1,070	1,730	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.257	232	300 D	< 0.500	6.58 K	998 D	1,660	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.259	186	258	< 0.500	6.15 K	785	1,650	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.257	229	260	< 0.500	6.49 K	782	708	< 0.00200	0.0143	0.243	0.00339	< 0.00200	0.00998	0.0116	< 0.500	0.00877	< 0.0200	0.000230	< 0.00200	< 0.00200	< 0.00200	1.63
6/22/2017	0.257	218	219 D	< 0.500	6.81 K	671 D	1,800	< 0.00200	0.00839	0.166	0.00217	< 0.00200	0.00559	0.00637	< 0.500	0.00653	< 0.0200	0.000313	< 0.00200	< 0.00200	< 0.00200	0.888
3/28/2017	0.370	263	216 D	< 0.500	6.27 K	730 D	1,390	< 0.00200	0.00765	0.148	< 0.00200	< 0.00200	0.00536	0.00638	< 0.500	0.00498	< 0.0200	0.000243	< 0.00200	< 0.00200	< 0.00200	2.22
1/24/2017	0.264	199	206 D	< 0.500	6.07 K	703 D	1,530	< 0.00200	0.0123	0.204	0.00274	< 0.00200	0.00920	0.00976	< 0.500	0.00798	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	NA
11/29/2016	0.288	217	208	< 0.500	6.38 K	731	1,550	< 0.00200	0.00317	0.0581	< 0.00200	< 0.00200	< 0.00400	0.00307	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.08
9/27/2016	0.306	199	218 D	0.272	6.33 K	826 D	1,550	< 0.00200	0.0119	0.164	0.00291	< 0.00200	0.00696	0.00870	0.272	0.00699	< 0.0200	< 0.000200	< 0.00200	0.00340	< 0.00200	1.82
7/26/2016	0.566	208	257 D	0.459	6.37 K	880 D	1,590	< 0.00200	0.00918	0.140	0.00230	< 0.00200	0.00585	0.00685	0.459	0.00642	0.235	0.000219	< 0.00200	< 0.00200	< 0.00200	5.99
6/14/2016	0.313	179	186 D	< 0.200	6.37 K	702 D	1,460	< 0.00200	0.00687	0.109	< 0.00200	< 0.00200	< 0.00400	0.00422	< 0.200	0.00385	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.76

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3b
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-11 (Background/Upgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Sample Date																						
9/10/2025	0.154	91.4	132	0.194 J	6.5 HF, JL	327	942	< 0.00200	< 0.00400	0.0215	< 0.00200	0.000452 J	< 0.00400	0.00135 J	0.194 J	< 0.00200	0.0274 UJb	< 0.000200	< 0.00200	< 0.00200	< 0.00200	0.931
4/8/2025	0.157	98.3	101 JH	< 0.500	6.5 HF, JL	349 JH	752	< 0.00200	< 0.00400	0.0206	< 0.00200	0.000425 J	< 0.00400	0.00131 J	< 0.500	< 0.00200	0.0438	< 0.000200	< 0.00200	< 0.00200	< 0.00200	0.282 U
9/11/2024	0.171 b	77.0	97.7	< 0.500	6.3 HF, JL	277	680	< 0.00200	< 0.00400	0.0260	< 0.00200	0.000491 J	< 0.00400	0.00172 J	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.91 JH
3/20/2024	0.171	104	102	< 0.500	6.3 HF, JL	346	809	< 0.00400	0.000874 J	0.0192	< 0.00200	0.000525 J	< 0.00400	0.00103 J	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.85
8/8/2023	0.144	120	118	0.325 J	6.6 HF	409	917	< 0.00400	NA	0.0166	NA	NA	NA	0.00180 J	0.325 J	NA	< 0.0400	NA	NA	< 0.00200	NA	< 0.276
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.0176	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.62
12/6/2022	0.169	129	138	< 0.500	6.5 HF	469	913	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.162	130	140	< 0.500	6.6 HF	485	988	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.175	134	157	< 0.500	7.0 HF	528	1,160	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.175	152	176	< 0.500	6.5 HF	612	1,130	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.147	142 D	184	< 0.500	6.07 K	621 D	1,120	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.140	137 D	185	< 0.500	6.42 K	606 D	1,170	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/21/2019	0.110	127 D	155	< 0.500	6.48 K	487 D	992	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.119	94.8	141	< 0.500	6.30 K	406	862	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.102	109 D	153	< 0.500	6.63 K	445	902	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.0805	64.4	124	< 0.500	6.55 K	365 D	785	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.0673	84.6	124	< 0.500	6.39 K	363	890	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.0675	55.6	109	< 0.500	2.12 K	337	2,890	< 0.00200	< 0.00200	0.0304	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	0.397
6/22/2017	0.0952	74.2	124	< 0.500	6.78 K	362 D	796	< 0.00200	0.00212	0.0725	< 0.00200	< 0.00200	0.00403	0.00302	< 0.500	0.00247	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.45
3/28/2017	0.149	88.8	138	< 0.500	6.18 K	424 D	908	< 0.00200	< 0.00200	0.0368	< 0.00200	< 0.00200	< 0.00400	0.00206	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.04
1/24/2017	0.0861	102	135	< 0.500	6.17 K	416 D	913	< 0.00200	< 0.00200	0.0479	< 0.00200	< 0.00200	< 0.00400	0.00258	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	5.69
11/29/2016	0.0863	95.9	138	< 0.500	6.26 K	418	952	< 0.00200	< 0.00200	0.0476	< 0.00200	< 0.00200	< 0.00400	0.00261	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.38
9/27/2016	0.0947	90.2	138 D	0.256	6.28 K	437 D	888	< 0.00200	< 0.00200	0.0426	< 0.00200	< 0.00200	< 0.00400	0.00231	0.256	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.23
7/26/2016	0.153	87.8	151 D	0.448	6.28 K	430 D	935	< 0.00200	< 0.00200	0.0802	< 0.00200	< 0.00200	< 0.00400	0.00293	0.448	< 0.00200	0.139	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.75
6/14/2016	0.0975	93.9	143 D	< 0.200	6.25 K	419 D	923	< 0.00200	0.00332	0.0893	< 0.00200	< 0.00200	0.00583	0.00368	< 0.200	0.00339	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.59

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3c
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-12 (Background/Upgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg / L	mg / L	mg / L	mg / L	SU	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	pCi / L
Sample Date																						
9/10/2025	0.0311 JH	21.1	93.6	0.235 J	6.2 HF, JL	65.4	508	< 0.00200	< 0.00400	0.118	< 0.00200	< 0.00200	< 0.00400	0.00211	0.235 J	< 0.00200	0.0271 UJb	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.98 J
4/8/2025	0.0362 JH	24.8	78.5	< 0.500	6.2 HF, JL	62.4	403	< 0.00200	< 0.00400	0.122	< 0.00200	< 0.00200	< 0.00400	0.00390	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.54
9/12/2024	0.0252 Ub	14.3	79.8	< 0.500	6.4 HF, JL	51.8	305	< 0.00200	< 0.00400	0.0856	< 0.00200	< 0.00200	< 0.00400	0.00265	< 0.500	< 0.00200	0.0447	< 0.000200	< 0.00200	0.000870 JH	< 0.00200	3.08 JH
3/20/2024	0.0366	24.5	78.9	< 0.500	6.5 HF, JL	48.5	297	< 0.00400	0.00108 J	0.101	< 0.00200	< 0.00200	< 0.00400	0.00318	< 0.500	< 0.00200	0.0243 J	< 0.000200	< 0.00200	0.000559 UJb	< 0.00200	2.48
8/8/2023	0.0332 JH	22.3	78.3	< 0.500	6.4 HF	45.7	270	< 0.00400	NA	0.0884	NA	NA	NA	0.00296	< 0.500	NA	< 0.0400	NA	NA	< 0.00200	NA	1.99
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.0913	< 0.00200	< 0.00200	< 0.00400	0.00429	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.00
12/6/2022	< 0.0500	20.2	80.2	< 0.500	6.3 HF	43.6	262	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.0250	16.1	75.9	< 0.500	6.5 HF	41.0	266	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.0332	20.9	77.6	< 0.500	6.8 HF	40.7 F2	390	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.0373	15.4	74.6	< 0.500	6.5 HF	38.1	221	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.0280	18.3	76.5	< 0.500	6.20 K	40.5	283	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.0304	16.9	76.9	< 0.500	6.47 K	43.4	275	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/21/2019	0.0326	21.5	80.3	< 0.500	6.48 K	46.1	313	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.0424	19.4	78.3	< 0.500	6.56 K	42.6	256	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.0335	20.8	83.5	< 0.500	6.71 K	50.0	267	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.0260	17.3	82.9	< 0.500	6.62 K	50.3	279	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.0285	21.9	83.4	< 0.500	6.33 K	48.6	300	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.0334	20.2	84.2	< 0.500	7.07 K	48.8	300	< 0.00200	< 0.00200	0.123	< 0.00200	< 0.00200	< 0.00400	0.00283	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.90
6/22/2017	0.0378	18.6	84.3	< 0.500	6.68 K	48.5	296	< 0.00200	< 0.00200	0.125	< 0.00200	< 0.00200	< 0.00400	0.00353	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.29
3/28/2017	0.0615	23.2	87.6	< 0.500	6.21 K	52.3	314	< 0.00200	< 0.00200	0.131	< 0.00200	< 0.00200	< 0.00400	0.00457	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.09
1/24/2017	0.0321	22.0	83.2	< 0.500	5.97 K	48.9	284	< 0.00200	< 0.00200	0.133	< 0.00200	< 0.00200	< 0.00400	0.00507	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	4.32
11/29/2016	0.0359	22.3	84.9	< 0.500	6.27 K	49.6	355	< 0.00200	< 0.00200	0.142	< 0.00200	< 0.00200	< 0.00400	0.00538	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.47
9/27/2016	0.0367	22.0	88.3	0.290	6.22 K	56.4	299	< 0.00200	< 0.00200	0.148	< 0.00200	< 0.00200	< 0.00400	0.00631	0.290	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.53
7/26/2016	0.0635	21.2	85.9	0.484	6.37 K	48.1	307	< 0.00200	< 0.00200	0.157	< 0.00200	< 0.00200	< 0.00400	0.00678	0.484	< 0.00200	0.0343	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.44
6/14/2016	0.0366	19.1	87.1	< 0.200	6.28 K	50.0	314	< 0.00200	< 0.00200	0.142	< 0.00200	< 0.00200	< 0.00400	0.00632	< 0.200	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	4.53

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3d
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-13 (Downgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226 / 228
Unit	mg / L	mg / L	mg / L	mg / L	SU	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	pCi / L
Sample Date																						
9/10/2025	0.211	70.4	131	0.421 J	6.2 HF, JL	318	985	< 0.00200	< 0.00400	0.0492	< 0.00200	< 0.00200	< 0.00400	0.00168 J	0.421 J	< 0.00200	0.0342 UJb	< 0.000200	< 0.00200	0.0189	< 0.00200	2.22 J
4/8/2025	0.145	40.1	109 JH	0.109 J	6.2 HF, JL	127 JH	491	< 0.00200	< 0.00400	0.0503	< 0.00200	< 0.00200	< 0.00400	0.00121 J	0.109 J	< 0.00200	0.0261 J	0.000166 J	< 0.00200	0.000781 UJb	< 0.00200	1.49
9/11/2024	0.0900 Jb	37.7	104	< 0.500	6.0 HF, JL	139	519	< 0.00200	< 0.00400	0.0593	< 0.00200	< 0.00200	< 0.00400	0.00169 J	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00427	< 0.00200	2.96 JH
3/20/2024-3/21/2024	0.0652	43.8	113	0.102 J	6.7 HF, JL	135	540	< 0.00400	0.000913 J	0.0739	< 0.00200	< 0.00200	< 0.00400	0.000954 J	0.102 J	< 0.00200	< 0.0400	0.000106 J	< 0.00200	0.00486	< 0.00200	1.52
8/9/2023	0.0496	40.7	114	< 0.500	6.3 HF	125	507	< 0.00400	NA	0.0693	NA	NA	NA	0.00120 J	< 0.500	NA	< 0.0400	NA	NA	0.00273	NA	2.17
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.0832	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	3.32
12/6/2022	0.0536	35.1	117	< 0.500	6.2 HF	110	448	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
5/31/2022	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.0483	51.3	101	< 0.500	6.3 HF	200	582	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.0567	33.8	104	< 0.500	6.7 HF	99.0	437	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.0587	26.1	105	< 0.500	6.4 HF	78.9	398	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.0604	28.8	104	< 0.500	6.13 K	71.3	381	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.0750	31.1	103	< 0.500	6.55 K	72.2	403	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/22/2019	0.0550	36.8	98.4	< 0.500	6.63 K	84.8	423	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.0529	23.7	92.4	< 0.500	6.38 K	56.2	343	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.0394	20.0	98.0	< 0.500	6.64 K	39.6	355	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.0400	17.9	98.0	< 0.500	6.59 K	39.7	338	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.0558	23.3	94.2	< 0.500	5.71 K	38.4	368	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.0529	22.6	97.4	< 0.500	6.61 K	44.4	371	< 0.00200	0.00455	0.136	< 0.00200	< 0.00200	0.00566	0.00335	< 0.500	0.00408	< 0.0200	< 0.000200	< 0.00200	0.00265	< 0.00200	1.07
6/22/2017	0.0786	37.1	99.1	< 0.500	6.66 K	93.5	448	< 0.00200	0.00364	0.136	< 0.00200	< 0.00200	< 0.00400	0.00276	< 0.500	0.00236	< 0.0200	< 0.000200	< 0.00200	0.0189	< 0.00200	4.77
3/28/2017	0.0756	22.4	97.3	< 0.500	6.21 K	36.2	336	< 0.00200	< 0.00200	0.133	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	0.0686	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.38
1/24/2017	0.0382	19.4	91.8	< 0.500	5.91 K	37.7	322	< 0.00200	0.00204	0.128	< 0.00200	< 0.00200	< 0.00400	0.00326	< 0.500	0.00211	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	2.69
11/29/2016	0.0470	37.7	102	< 0.500	6.16 K	108	495	< 0.00200	< 0.00200	0.156	< 0.00200	< 0.00200	< 0.00400	0.00207	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.0213	< 0.00200	4.46
9/27/2016	0.0531	30.6	101 D	0.410	6.32 K	62.9	449	< 0.00200	0.00253	0.197	< 0.00200	< 0.00200	0.00499	0.00236	0.410	0.00206	< 0.0200	< 0.000200	< 0.00200	0.0134	< 0.00200	5.67
7/26/2016	0.0498	20.7	91.1	0.584	6.35 K	< 0.200	414	< 0.00200	0.00286	0.164	< 0.00200	< 0.00200	< 0.00400	0.00234	0.584	0.00255	0.0271	< 0.000200	< 0.00200	< 0.00200	< 0.00200	4.31
6/14/2016	0.114	20.7	75.8	0.285	6.32 K	26.7	348	< 0.00200	< 0.00200	0.159	< 0.00200	< 0.00200	< 0.00400	< 0.00200	0.285	< 0.00200	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	4.12

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3e
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-14 (Downgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg / L	mg / L	mg / L	mg / L	SU	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	pCi / L
Sample Date																						
9/9/2025	4.68	274	541	0.469 J	6.7 HF, JL	1,460	3,720	< 0.00200	< 0.00400	0.0221	< 0.00200	0.000958 J	< 0.00400	0.00524	0.469 J	< 0.00200	0.0697	< 0.000200	< 0.00200	0.824	< 0.00200	1.98 J
4/9/2025	4.19	304	472	0.183 J	6.5 HF, JL	1,440	2,940	< 0.00200	< 0.00400	0.0215	< 0.00200	0.000789 J	< 0.00400	0.00288	0.183 J	< 0.00200	0.193	< 0.000200	< 0.00200	0.815 b	< 0.00200	1.33
9/11/2024	3.22 b	248	488	0.200 J	6.4 HF, JL	1,340	3,100	< 0.00200	< 0.00400	0.0233	< 0.00200	0.000893 J	0.00214 J	0.00530	0.200 J	< 0.00200	0.214	< 0.000200	< 0.00200	0.886	< 0.00200	1.90 JH
3/20/2024-3/21/2024	3.75	296	539	0.256 J	6.4 HF, JL	1,370	3,170	< 0.00400	0.000943 J	0.0199	< 0.00200	0.000775 J	< 0.00400	0.00224	0.256 J	< 0.00200	0.0409	< 0.000200	< 0.00200	0.810	< 0.00200	1.46
8/9/2023	3.33	336	499	0.562	6.6 HF	1,150	2,940	< 0.00400	NA	0.0207	NA	NA	NA	0.00365	0.562	NA	0.0512	NA	NA	0.856	NA	1.83
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.0247	< 0.00200	< 0.00200	< 0.00400	0.00497	< 0.500	< 0.00200	0.0576	< 0.000200	< 0.00200	0.782	< 0.00200	2.04
12/6/2022	1.30	263	470	< 0.500	6.5 HF	1,080	2,450	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
7/14/2022	0.762	NA	NA	NA	NA	NA	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/28/2022	1.64	211	423	NA	NA	933	2,340	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/31/2022	0.718	202	464	NA	NA	944	2,240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.875	190	457	< 0.500	6.6 HF	899	2,290	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.347	118	403	< 0.500	7.0 HF	< 0.500	1,760	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
6/23/2021	NA	130	NA	NA	NA	545	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.391	117	381	0.510	6.7 HF	493	1,520	NA	NA	NA	NA	NA	NA	NA	0.510	NA	NA	NA	NA	NA	NA	NA
11/23/2020	NA	NA	NA	NA	NA	424 D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.497	112 D	364	< 0.500	6.35 K	493 D	1,480	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
7/9/2020	NA	NA	NA	NA	NA	448 D	1,490	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.322	106 D	370	< 0.500	6.80 K	467 D	1,680	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/22/2019	0.248	102 D	357	< 0.500	6.74 K	306 D	1,350	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.214	82.9	373	< 0.500	6.67 K	242	1,180	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.253	86.7 D	366	< 0.500	6.88 K	225	1,060	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.236	68.3	358	< 0.500	6.85 K	231	986	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.305	88.2	322	< 0.500	5.90 K	228	1,290	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.157	70.8	307	< 0.500	6.86 K	259	1,180	< 0.00200	< 0.00200	0.101	< 0.00200	< 0.00200	< 0.00400	0.00226	< 0.500	0.00306	0.0396	< 0.000200	< 0.00200	0.0205	< 0.00200	2.66
6/22/2017	0.0355	75.4	345 D	< 0.500	6.83 K	185	1,070	< 0.00200	0.00204	0.123	< 0.00200	< 0.00200	< 0.00400	0.00271	< 0.500	0.00254	< 0.0200	< 0.000200	< 0.00200	0.00397	< 0.00200	3.048
3/28/2017	0.0537	82.5	335 D	< 0.500	6.55 K	209 D	1,150	< 0.00200	< 0.00200	0.120	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00848	< 0.00200	2.17
1/24/2017	0.0338	69.1	337 D	< 0.500	6.39 K	175	1,170	< 0.00200	< 0.00200	0.130	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00209	< 0.00200	2.55
11/29/2016	0.0388	77.3	334	< 0.500	6.59 K	177	1,160	< 0.00200	< 0.00200	0.158	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	0.0313	< 0.000200	< 0.00200	0.00465	< 0.00200	3.63
9/27/2016	0.0362	84.9	355 D	0.533	6.67 K	225 D	1,180	< 0.00200	< 0.00200	0.195	< 0.00200	< 0.00200	< 0.00400	< 0.00200	0.533	< 0.00200	0.0413	< 0.000200	< 0.00200	0.00824	< 0.00200	2.81
7/26/2016	0.0425	71.2	351 D	0.682	6.63 K	151 D	1,130	< 0.00200	0.00475	0.289	< 0.00200	< 0.00200	0.00504	0.00387	0.682	0.00523	0.100	< 0.000200	< 0.00200	0.00535	< 0.00200	5.92
6/14/2016	0.419	68.1	337 D	0.280	6.51 K	127 D	1,040	< 0.00200	0.00259	0.293	< 0.00200	< 0.00200	0.00407	0.00293	0.280	0.00397	0.0464	< 0.000200	< 0.00200	0.00267	< 0.00200	5.13

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3f
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-15 (Downgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226 / 228
Unit	mg / L	mg / L	mg / L	mg / L	SU	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	pCi / L
Sample Date																						
9/11/2025	0.0515	23.8	153	0.249 J	6.7 HF, JL	50.7	641	< 0.00200	< 0.00400	0.115	< 0.00200	< 0.00200	< 0.00400	< 0.00200	0.249 J	< 0.00200	0.0259 UJb	< 0.000200	< 0.00200	0.00388	< 0.00200	1.83 J
4/8/2025	0.0514 JH	30.7	129	< 0.500	6.5 HF, JL	53.3	551	< 0.00200	< 0.00400	0.125	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00364 b	< 0.00200	1.37
9/11/2024	0.254 b	27.4	16.0	0.312 J	6.2 HF, JL	24.8	567	< 0.00200	< 0.00400	0.133	< 0.00200	< 0.00200	< 0.00400	< 0.00200	0.312 J	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00469	< 0.00200	1.83 JH
3/20/2024-3/21/2024	0.105	32.4	141	< 0.500	6.5 HF, JL	44.8	566	< 0.00400	0.000996 J	0.125	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00424	< 0.00200	1.48
8/9/2023	0.0704 J	34.1	136	< 0.500	6.5 HF	44.7	498	< 0.00400	NA	0.112	NA	NA	NA	< 0.00200	< 0.500	NA	< 0.0400	NA	NA	0.00374	NA	1.19 J
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	0.00585	< 0.00400	0.105	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00398	< 0.00200	1.95
12/6/2022	< 0.0500	27.7	144	< 0.500	6.5 HF	39.0	424	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.0340	27.4	147	< 0.500	6.6 HF	44.2	462	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.0445	26.0	131	< 0.500	6.7 HF	39.8	434	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
6/23/2021	NA	30.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.0475	29.0	155	< 0.500	6.7 HF	34.5	404	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.0399	23.4	129	< 0.500	6.32 K	34.3	381	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.0427	21.8	119	< 0.500	6.61 K	38.1	338	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/22/2019	0.0443	23.6	113	< 0.500	6.71 K	34.7	380	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
6/11/2019	NA	23.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.0500	26.8	128	< 0.500	6.60 K	30.5	355	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
11/20/2018	NA	17.2	131	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.0461	26.2	138	< 0.500	6.71 K	33.1	365	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.0491	18.2	127	< 0.500	6.85 K	29.2	345	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.0477	22.1	109	< 0.500	5.63 K	24.9	373	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.0489	20.9	115	< 0.500	6.34 K	26.3	401	< 0.00200	< 0.00200	0.0872	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00231	< 0.00200	1.94
6/22/2017	0.0428	20.0	110	< 0.500	6.86 K	27.0	393	< 0.00200	< 0.00200	0.0836	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00246	< 0.00200	0.551
3/28/2017	0.0642	21.3	98.4	< 0.500	6.54 K	29.1	362	< 0.00200	< 0.00200	0.0754	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00278	< 0.00200	1.09
1/24/2017	0.0474	19.7	94.4	< 0.500	6.23 K	26.0	370	< 0.00200	< 0.00200	0.0844	< 0.00200	< 0.00200	0.00451	< 0.00200	< 0.500	0.00221	< 0.0200	< 0.000200	< 0.00200	0.00313	< 0.00200	1.28
11/29/2016	0.0521	19.5	98.9	< 0.500	6.51 K	24.3	407	< 0.00200	< 0.00200	0.0749	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00311	< 0.00200	2.53
9/27/2016	0.0512	19.7	96.5	0.298	6.59 K	28.6	356	< 0.00200	< 0.00200	0.0899	< 0.00200	< 0.00200	< 0.00400	< 0.00200	0.298	0.00236	< 0.0200	< 0.000200	< 0.00200	0.00334	< 0.00200	2.19
7/26/2016	0.0544	19.7	97.9	0.486	6.57 K	27.6	368	< 0.00200	0.00230	0.111	< 0.00200	< 0.00200	0.00442	0.00205	0.486	0.00291	0.0213	< 0.000200	< 0.00200	0.00277	< 0.00200	3.53
6/14/2016	0.0571	20.5	102 D	< 0.200	6.49 K	28.2	337	0.00222	< 0.00200	0.165	< 0.00200	< 0.00200	0.00871	0.00427	< 0.200	0.00859	< 0.0200	< 0.000200	< 0.00200	0.00284	< 0.00200	2.81

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3g
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-16 (Background/Upgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Sample Date																						
9/11/2025	0.0393	53.0	221	0.217 J	6.8 HF, JL	118	996	< 0.00200	< 0.00400	0.0473	< 0.00200	0.000460 J	< 0.00400	< 0.00200	0.217 J	< 0.00200	0.0223 UJb	< 0.000200	< 0.00200	0.00457	< 0.00200	2.24 J
4/9/2025	0.0395 JH	54.9	157	< 0.500	6.6 HF, JL	110	683	< 0.00200	< 0.00400	0.0463	< 0.00200	0.000380 J	0.000758 J	< 0.00200	< 0.500	< 0.00200	0.0197 J	< 0.000200	< 0.00200	0.00486 b	< 0.00200	1.13
9/12/2024	0.0337 Ub	62.2	211	0.103 J	6.6 HF, JL	108	821	< 0.00200	< 0.00400	0.0519	< 0.00200	0.000432 J	0.000894 J	< 0.00200	0.103 J	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00337 JH	< 0.00200	2.52 JH
3/19/2024	0.0477	72.0	217	0.204 J	6.8 HF, JL	98.9	863	< 0.00400	0.000916 J	0.0528	< 0.00200	0.000347 J	0.000582 J	< 0.00200	0.204 J	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00212	< 0.00200	1.98
8/9/2023	0.0437 JH	72.4	187	0.130 J	6.7 HF	101	792	< 0.00400	NA	0.0475	NA	NA	NA	< 0.00200	0.130 J	NA	< 0.0400	NA	NA	0.00168 J	NA	1.58
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.0524	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	< 0.00200	< 0.00200	1.50
12/6/2022	< 0.0500	68.0	176	< 0.500	6.6 HF	130	717	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.0220	69.0	273	< 0.500	6.6 HF	98.9	796	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.0338	64.3	234	< 0.500	7.1 HF	81.0	715	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.0271	43.2	189	< 0.500	6.9 HF	82.8	677	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.0243	45.7	198	< 0.500	6.33 K	87.5	598	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.0257	87.1 D	371	< 0.500	6.53 K	129	960	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/21/2019	0.0354	69.2	257	< 0.500	6.56 K	101	778	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.0314	62.0	267	< 0.500	6.57 K	123	849	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.0300	58.1	233	< 0.500	6.35 K	109	684	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
6/26/2018	NA	NA	NA	NA	NA	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.0372	73.3	254 D	< 0.500	6.40 K	142	662	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.0379	78.0	289	< 0.500	5.05 K	71.9	781	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.0376	73.2	270	< 0.500	6.51 K	68.1	670	< 0.00200	0.0206	0.199	0.00267	< 0.00200	0.0107	0.0105	< 0.500	0.0127	< 0.0200	< 0.000200	< 0.00200	0.00361	< 0.00200	5.98
6/22/2017	0.0367	67.0	268 D	< 0.500	6.48 K	63.1	675	< 0.00200	0.0104	0.180	< 0.00200	< 0.00200	0.00719	0.00660	< 0.500	0.00792	< 0.0200	< 0.000200	< 0.00200	0.00319	< 0.00200	4.81
3/28/2017	0.0548	63.0	255 D	< 0.500	6.11 K	57.2	671	< 0.00200	0.00294	0.148	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00231	< 0.00200	6.14
1/24/2017	0.0419	64.4	253 D	< 0.500	5.97 K	44.5	676	< 0.00200	0.0120	0.172	< 0.00200	< 0.00200	0.00625	0.00558	< 0.500	0.00606	< 0.0200	< 0.000200	< 0.00200	0.00250	< 0.00200	6.16
11/29/2016	0.0453	63.2	267	< 0.500	6.19 K	36.9	832	< 0.00200	0.00460	0.166	< 0.00200	< 0.00200	< 0.00400	0.00232	< 0.500	0.00229	< 0.0200	< 0.000200	< 0.00200	< 0.00200	< 0.00200	9.85
9/27/2016	0.0475	59.0	244 D	0.252	6.16 K	41.2	670	< 0.00200	0.0142	0.180	0.00259	< 0.00200	0.00673	0.00794	0.252	0.00856	< 0.0200	< 0.000200	< 0.00200	0.00384	< 0.00200	3.44
7/26/2016	0.179	59.3	238 D	0.441	6.21 K	38.0	744	< 0.00200	0.0137	0.207	0.00248	< 0.00200	0.00680	0.00841	0.441	0.00951	0.0415	< 0.000200	< 0.00200	0.00224	< 0.00200	4.72
6/14/2016	0.0566	57.2	230 D	< 0.200	6.11 K	37.5	648	< 0.00200	0.0232	0.217	0.00396	< 0.00200	0.0104	0.0116	< 0.200	0.0140	< 0.0200	< 0.000200	< 0.00200	0.00281	< 0.00200	4.34

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3h
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-17 (Downgradient)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Sample Date																						
9/9/2025	0.0331 JH	142	728	0.109 J	6.6 HF, JL	389	2,420	< 0.00200	< 0.00400	0.0775	0.000278 J	0.00161 J	0.000693 J	0.00162 J	0.109 J	< 0.00200	0.0272 UJb	< 0.000200	< 0.00200	0.00953	< 0.00200	3.87 J
4/8/2025	0.0306 JH	164	606	< 0.500	6.0 HF, JL	350	2,040	< 0.00200	< 0.00400	0.102	0.000331 J	0.00175 J	< 0.00400	0.00156 J	< 0.500	< 0.00200	0.0933	< 0.000200	< 0.00200	0.00847 b	< 0.00200	4.11
9/12/2024	0.0355 Ub	129	791	< 0.500	5.5 HF, JL	131	2,100	< 0.00200	< 0.00400	0.154	0.000471 J	0.00241	0.00163 J	0.00182 J	< 0.500	< 0.00200	0.120	< 0.000200	< 0.00200	0.00715	< 0.00200	5.05
3/20/2024-3/21/2024	0.0403	179	716	0.776	5.8 HF, JL	63.3	1,610	< 0.00400	0.00101 J	0.229	0.000622 J	0.00278	< 0.00400	0.00236	0.776	< 0.00200	0.0292 J	< 0.000200	< 0.00200	0.00409	< 0.00200	5.01
8/9/2023	0.0933	156	619	0.223 J	5.9 HF	54.6	1,740	< 0.00400	NA	0.181	NA	NA	NA	0.00223	0.223 J	NA	< 0.0400	NA	NA	0.00607	NA	3.38
4/24/2023	NA	NA	NA	< 0.500	NA	NA	NA	< 0.00400	< 0.00400	0.129	< 0.00200	< 0.00200	< 0.00400	< 0.00200	< 0.500	< 0.00200	< 0.0400	< 0.000200	< 0.00200	0.00582	< 0.00200	4.38
12/6/2022	< 0.0500	73.1	410	< 0.500	5.8 HF	53.9	878	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/18/2022	0.0332	130	611	< 0.500	5.9 HF	132	1,350	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/18/2021	0.0317	220	1,060	< 0.500	6.2 HF	94.1	2,300	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2021	0.0314	156	798	< 0.500	5.8 HF	26.1	1,500	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/27/2020	0.0237	162 D	640 D	< 0.500	5.40 K	41.1	1,340	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/28/2020	0.0227	156 D	706 D	< 0.500	5.83 K	55.2	1,210	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/22/2019	0.0195	137 D	806 D	< 0.500	6.21 K	96.4	1,810	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/4/2019	0.0280	69.6	350	< 0.500	6.08 K	37.8	697	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/9/2018	0.0243	27.8	153	< 0.500	6.67 K	38.4	379	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
4/26/2018	0.0224	60.5 E	386 D	< 0.500	6.30 K	78.5	905	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
10/10/2017	0.0198	226	957	< 0.500	5.05 K	87.4	1,980	NA	NA	NA	NA	NA	NA	NA	< 0.500	NA	NA	NA	NA	NA	NA	NA
8/15/2017	0.0228	188	926	< 0.500	6.06 K	52.0	1,620	< 0.00200	0.00354	0.544	0.00201	0.00258	0.0107	0.00626	< 0.500	0.00758	0.0246	< 0.000200	< 0.00200	0.00935	< 0.00200	10.46
6/22/2017	0.0285	118	544 D	< 0.500	6.13 K	47.9	1,250	< 0.00200	0.00640	0.382	0.00292	< 0.00200	0.0168	0.0114	< 0.500	0.0140	< 0.0200	< 0.000200	< 0.00200	0.0112	< 0.00200	5.59
3/28/2017	0.0370	61.6	417 D	< 0.500	5.85 K	55.9	987	< 0.00200	< 0.00200	0.173	< 0.00200	< 0.00200	< 0.00400	0.00254	< 0.500	< 0.00200	< 0.0200	< 0.000200	< 0.00200	0.00690	< 0.00200	3.50
1/24/2017	0.0267	91.6	494 D	< 0.500	5.62 K	55.2	1,110	< 0.00200	0.00237	0.272	< 0.00200	< 0.00200	0.00813	0.00459	< 0.500	0.00473	< 0.0200	< 0.000200	< 0.00200	0.00694	< 0.00200	3.97
11/29/2016	0.0354	54.5	394	< 0.500	5.63 K	51.6	1,040	< 0.00200	< 0.00200	0.164	< 0.00200	< 0.00200	0.00403	0.00239	< 0.500	0.00257	< 0.0200	< 0.000200	< 0.00200	0.00919	< 0.00200	5.47
9/27/2016	0.0289	97.6	518 D	0.255	5.75 K	48.0	1,220	< 0.00200	< 0.00200	0.320	< 0.00200	< 0.00200	< 0.00400	0.00407	0.255	< 0.00200	0.0219	< 0.000200	< 0.00200	0.00879	< 0.00200	3.68
7/26/2016	0.362	80.1	432 D	0.441	5.79 K	< 0.200	1,010	< 0.00200	0.00308	0.359	< 0.00200	< 0.00200	0.0102	0.00794	0.441	0.00637	0.0501	< 0.000200	< 0.00200	0.00528	< 0.00200	6.05
6/14/2016	0.740	38.0	263 D	< 0.200	5.84 K	28.2	714	< 0.00200	0.00344	0.234	< 0.00200	< 0.00200	0.0121	0.00796	< 0.200	0.00764	< 0.0200	< 0.000200	< 0.00200	0.00695	< 0.00200	3.46

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
b = Compound was found in the blank sample.
D = Sample diluted due to targets detected over highest point of the calibration curve or due to matrix interference.
E = Data exceeds upper calibration limit, therefore the value reported is estimated.
F1 = MS/MSD relative percent difference exceeds control limits.
F2 or X = MS and/or MSD recovery exceeds control limits.
HF or K = Sample analyzed outside of recommended hold time.
J = Estimated value.
JH = Estimated value with high bias.
JL = Estimated value with low bias.

Table 5-3i
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-23 (Selenium Test)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Sample Date																						
9/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA
4/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000830 J	NA	NA

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.
J = Estimated value.

Table 5-3j
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-24 (Selenium Test)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Sample Date																						
9/10/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA
4/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.

Table 5-3k
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-25 (Selenium Test)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg / L	mg / L	mg / L	mg / L	SU	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	pCi / L
Sample Date																						
9/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA
4/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.

Table 5-3/
Summary of Groundwater Monitoring Analytical Results
Monitor Well MW-26 (Selenium Test)
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Analyte	Detection Monitoring Constituents (Appendix III)							Assessment Monitoring Constituents (Appendix IV)														
	Boron	Calcium	Chloride	Fluoride	pH, Lab	Sulfate	Dissolved Solids, Total	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226/228
Unit	mg / L	mg / L	mg / L	mg / L	SU	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	mg / L	pCi / L
Sample Date																						
9/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA
4/9/2025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.00200	NA	NA

Notes:
mg/L = milligrams per liter.
pCi/L = picocuries per liter.
SU = Standard units.
< or U = Compound not detected. Reportable detection limit shown.
NA = Not analyzed.



ANALYTICAL REPORT

PREPARED FOR

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312 Old Tyler Rd
Nacogdoches, Texas 75961

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JOB DESCRIPTION

Twin Oaks PP

JOB NUMBER

860-47755-1

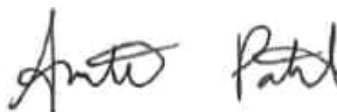
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Definitions/Glossary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Method 6010D

Detection Limit Validation

Laboratory

Eurofins Houston

Preparation Method: 3010A

MDLV

Limit Group

MT - 6010B_C_D - Water - RL_MDL

Analysis Dates: 2/17/2023

to 2/17/2023

Equipment: A261

Analyte

Li

Current		Calculations								*MDLV used - 90624-19* All values recovered MDLV: Pass	
MDL	RL	Ver	Spike		Spike	Std		Edit			
		MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?		
0.03650	0.04	0.03650	0.04	mg/L	1.1	0.0392	NA	1	N		
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?	
860-40393-A-1-F MDL	02/17/2023	90624	19	Mavani, Jaykumar D	6010D	3010A	A261	0.0392	mg/L	Pass	

Detected? Pass = result was detected ; Fail = result <= 0 . If MDLV is < MDL , verify Detection or S/N ratio

MDLV: Pass = meets Spike/MDL ratio , Spike High =Spike/MDL > ratio , Spike Low = Spike < MDL

Spike/MDL ratio = 3.00

Method 6020A

Detection Limit Validation

Laboratory

Eurofins Houston

Preparation Method: 3010A

MDLV

Limit Group

MT - 6020_A-B - Water - ALL

Analysis Dates: 2/17/2023 to 5/24/2023

Equipment: A311

Analyte

Ag

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
<u>MDL</u>	<u>RL</u>	<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000156	0.002	0.000156	0.002	mg/L	12.8	0.00185	0.0001258	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001942	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001764	mg/L	Pass		

Al

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.005492	0.02	0.005492	0.02	mg/L	3.6	0.01803	0.0003280	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.017798	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.018262	mg/L	Pass		

As

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
Ver	Spike	Spike	Std	Edit								
<u>MDL</u>	<u>RL</u>	<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000690	0.004	0.000690	0.004	mg/L	5.8	0.00350	8.6267027	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.003446	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.003568	mg/L	Pass		

B

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Pass	
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit					
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>		
0.004007	0.010	0.004007	0.01	mg/L	2.5	0.01127	0.0018752	2	N		
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?	
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.012602	mg/L	Pass	
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.00995	mg/L	Pass	

Ba

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Pass	
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit					
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>		
0.001342	0.004	0.001342	0.004	mg/L	3	0.00331	0.0001965	2	N		
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?	
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.00318	mg/L	Pass	
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.003458	mg/L	Pass	

Be

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High			
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit							
<u>MDL</u>	<u>RL</u>	<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>				
0.000271	0.002	0.000271	0.002	mg/L	7.4	0.00183	9.3338095	2	N				
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?			
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001902	mg/L	Pass			
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.00177	mg/L	Pass			

Ca

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High	
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit					
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>		
0.030053	0.1	0.030053	0.1	mg/L	3.3	0.07855	0.0090269	2	N		

Analyte										
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.084936	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.07217	mg/L	Pass
Cd										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.000240	0.002	0.000240	0.002	mg/L	8.3	0.00179	7.6367532	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.00174	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001848	mg/L	Pass
Co										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.000355	0.002	0.000355	0.002	mg/L	5.6	0.00178	5.6568542	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001792	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001784	mg/L	Pass
Cr										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.000560	0.004	0.000560	0.004	mg/L	7.1	0.00350	4.9497474	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.003468	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.003538	mg/L	Pass
Cu										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Pass	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.00388	0.004	0.00388	0.004	mg/L	1	0.00354	4.6669047	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.003574	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.003508	mg/L	Pass
Fe										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike Low	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.02828	0.1	0.02828	0.02	mg/L	.7	0.01732	0.0003351	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.017084	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.017558	mg/L	Pass
K										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.022004	0.1	0.022004	0.1	mg/L	4.5	0.09124	0.0036302	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.088682	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.093816	mg/L	Pass
Mg										
Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
Ver	Spike	Spike	Std	Edit						
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?			
0.01638	0.1	0.01638	0.1	mg/L	6.1	0.08739	0.0016206	2	N	
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.086246	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.088538	mg/L	Pass

Analyte _____

Mn

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Pass	
Ver	Spike	Spike	Std	Edit							
MDL	RL	MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?		
0.000759	0.002	0.000759	0.002	mg/L	2.6	0.00174	5.3740115	2	N		

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001784	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001708	mg/L	Pass

Mo

Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike	Std	Edit			
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>		
0.000255	0.002	0.000255	0.002	mg/L	7.8	0.00208	0.0003959	2	N	

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.00236	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.0018	mg/L	Pass

Na

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Pass	
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike		Std	Edit			
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>		
0.056449	0.1	0.056449	0.1	mg/L	1.8	0.08117	0.0054022	2	N		

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.084994	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.077354	mg/L	Pass

Ni

Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike High	
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike	Std	Edit			
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>		
0.000528	0.002	0.000528	0.002	mg/L	3.8	0.00163	4.2426406	2	N	

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001604	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001664	mg/L	Pass

Pb

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High	
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike		Std		Edit		
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>		
0.000367	0.002	0.000367	0.002	mg/L	5.4	0.00174	9.8994949	2	N		

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.00175	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001736	mg/L	Pass

Sb

Current		Calculations							*MDLV used - 90828-20* All values recovered MDLV: Spike Low	
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike	Std	Edit			
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>		
0.002200	0.004	0.002200	0.002	mg/L	.9	0.00406	0.0026290	2	N	

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.005924	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.002206	mg/L	Pass

Se

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High	
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike		Std		Edit		
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>		
0.000266	0.002	0.000266	0.002	mg/L	7.5	0.00192	0.0002757	2	N		

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001732	mg/L	Pass
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.002122	mg/L	Pass

Analyte _____

Sn

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000335	0.002	0.000335	0.002	mg/L	6	0.00178	0.0003309	2	N			
<u>Lab ID</u>	<u>Anal Date</u>	<u>Batch</u>	<u>Samp</u>	<u>Analyst</u>	<u>Method</u>	<u>Prep Method</u>	<u>Equipment</u>	<u>Result</u>	<u>Units</u>	<u>Detected?</u>		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.002018	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.00155	mg/L	Pass		

Sr

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
<u>MDL</u>	<u>RL</u>	<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000738	0.010	0.000738	0.01	mg/L	13.6	0.00880	9.1923881	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.008742	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.008872	mg/L	Pass		

Ti

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000643	0.004	0.000643	0.004	mg/L	6.2	0.00349	0.0002390	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.00333	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.003668	mg/L	Pass		

TI

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
Ver	Spike	Spike	Std	Edit								
<u>MDL</u>	<u>RL</u>	<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000185	0.002	0.000185	0.002	mg/L	10.8	0.00180	1.4142135	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.001796	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001816	mg/L	Pass		

U

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.0002109	.001	0.000210	0.001	mg/L	4.7	0.00084	1.8384776	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.000836	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.000862	mg/L	Pass		

V

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Spike High		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike	Std	Edit						
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.000172	0.002	0.000172	0.002	mg/L	11.6	0.00174	1.5556349	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.00176	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.001738	mg/L	Pass		

Zn

Current		Calculations								*MDLV used - 90828-20* All values recovered MDLV: Pass		
<u>MDL</u>	<u>RL</u>	Ver	Spike	Spike		Std	Edit					
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.002741	0.004	0.002741	0.004	mg/L	1.5	0.00362	0.0001103	2	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-40393-A-1-E MDL	02/17/2023	90828	20	Pandey, Deepak	6020A	3010A	A311	0.003544	mg/L	Pass		
860-46395-A-1-E MDL	05/24/2023	104619	23	Pandey, Deepak	6020A	3010A	A311	0.0037	mg/L	Pass		

Detected? Pass = result was detected ; Fail = result <= 0 . If MDLV is < MDL , verify Detection or S/N ratio
 MDLV: Pass = meets Spike/MDL ratio , Spike High =Spike/MDL > ratio , Spike Low = Spike < MDL
 Spike/MDL ratio = 3.00

Method 7470A

Detection Limit Validation

Laboratory

Eurofins Houston

Preparation Method: 7470A_Prep

MDLV

Limit Group

MT - 7470A - Water - ALL

Analysis Dates: 1/12/2023

to 1/12/2023

Equipment: A352

Analyte

Hg

Current	
MDL	RL
0.00003169	0.00020

Calculations							
Ver	Spike		Spike		Std		Edit
MDL	amount	Units	/ MDL	Mean	Dev	Reps	Limits?
	0	mg/L		NaN	NA	0	N

MDLV:

Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?
860-40393-A-1-A MDL	01/12/2023	85617	25	Hernandez, Salvador	7470A	7470A_Prep	A352	0.000088	mg/L	

Detected? Pass = result was detected ; Fail = result <= 0 . If MDLV is < MDL , verify Detection or S/N ratio

MDLV: Pass = meets Spike/MDL ratio , Spike High =Spike/MDL > ratio , Spike Low = Spike < MDL

Spike/MDL ratio = 3.00

Method 300 ORGFM 28 Detection Limit Validation

Laboratory

Eurofins Houston

MDLV

Limit Group

WC - 300_9056A 28D - Water - RL_MDL

Analysis Dates: 4/26/2023 to 4/29/2023

Analyte

Fluoride

Current		Calculations								*MDLV used - 100503-53* All values recovered MDLV: Pass		
<u>MDL</u>	<u>RL</u>	Ver	Spike		Spike	Std	Edit					
		<u>MDL</u>	<u>amount</u>	<u>Units</u>	<u>/ MDL</u>	<u>Mean</u>	<u>Dev</u>	<u>Reps</u>	<u>Limits?</u>			
0.1	0.5000	0.1	0.25	mg/L	2.5	0.24090	0.0326016	9	N			
Lab ID	Anal Date	Batch	Samp	Analyst	Method	Prep Method	Equipment	Result	Units	Detected?		
860-38014-A-8 MDLV	04/26/2023	100503	53	Prommek, Warangkhar	300_ORGFM_2	No Prep	A166	0.27590569	mg/L	Pass		
860-38014-A-8 MDLV	04/26/2023	100506	64	Prommek, Warangkhar	300_ORGFM_2	No Prep	A317	0.20721978	mg/L	Pass		
860-38014-A-8 MDLV	04/27/2023	100741	18	Prommek, Warangkhar	300_ORGFM_2	No Prep	A166	0.29161339	mg/L	Pass		
860-38014-A-8 MDLV	04/27/2023	100745	18	Prommek, Warangkhar	300_ORGFM_2	No Prep	A317	0.19597051	mg/L	Pass		
860-38014-A-8 MDLV	04/27/2023	100750	16	Prommek, Warangkhar	300_ORGFM_2	No Prep	A263	0.24156312	mg/L	Pass		
860-38014-A-8 MDLV	04/28/2023	100966	12	Prommek, Warangkhar	300_ORGFM_2	No Prep	A263	0.24920372	mg/L	Pass		
860-38014-A-8 MDLV	04/28/2023	100953	29	Prommek, Warangkhar	300_ORGFM_2	No Prep	A317	0.20871002	mg/L	Pass		
860-38014-A-8 MDLV	04/29/2023	101063	22	Prommek, Warangkhar	300_ORGFM_2	No Prep	A166	0.26155995	mg/L	Pass		
860-38014-A-8 MDLV	04/29/2023	101059	12	Prommek, Warangkhar	300_ORGFM_2	No Prep	A263	0.23640180	mg/L	Pass		

Detected? Pass = result was detected ; Fail = result < = 0 . If MDLV is < MDL , verify Detection or S/N ratio

MDLV: Pass = meets Spike/MDL ratio , Spike High =Spike/MDL > ratio , Spike Low = Spike < MDL

Spike/MDL ratio = 3.00

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-47755-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	06/02/2023

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 06/02/2023				
Project Name: Twin Oaks PP			Laboratory Job Number: 860-47755-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓			1
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 06/02/2023
Project Name: Twin Oaks PP	Laboratory Job Number: 860-47755-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 06/02/2023
Project Name: Twin Oaks PP		Laboratory Job Number: 860-47755-1
Reviewer Name: Anita Patel		
ER# ¹	Description	
1	Method 903.0: Radium-226 Prep 160-610885 Insufficient sample volume was available to perform a sample duplicate for the following samples: DUP (860-47755-1), MW-7 (860-47755-2), MW-11 (860-47755-3), MW-12 (860-47755-4), MW-13 (860-47755-5), MW-14 (860-47755-6), MW-15 (860-47755-7), MW-16 (860-47755-8) and MW-17 (860-47755-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision. Method 904.0: Radium-228 Prep Batch 160-610896 Insufficient sample volume was available to perform a sample duplicate for the following samples: DUP (860-47755-1), MW-7 (860-47755-2), MW-11 (860-47755-3), MW-12 (860-47755-4), MW-13 (860-47755-5), MW-14 (860-47755-6), MW-15 (860-47755-7), MW-16 (860-47755-8) and MW-17 (860-47755-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.	
Misc.	Method 904.0: Radium-228 prep batch 160-610896: The Ra-228 laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) associated with the following samples recovered at <spike recovery>: (LCS 160-610896/2-A). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (63-154%) per method requirements. The LCS is within criteria and no further action is required.	
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Case Narrative

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Job ID: 860-47755-1

Laboratory: Eurofins Houston

Narrative

Job Narrative 860-47755-1

Receipt

The samples were received on 4/26/2023 9:09 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

RAD

Methods 903.0, 9315: Radium-226 batch 610885

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

DUP (860-47755-1), MW-7 (860-47755-2), MW-11 (860-47755-3), MW-12 (860-47755-4), MW-13 (860-47755-5), MW-14 (860-47755-6), MW-15 (860-47755-7), MW-16 (860-47755-8), MW-17 (860-47755-9), (LCS 160-610885/2-A), (LCSD 160-610885/3-A) and (MB 160-610885/1-A)

Methods 904.0, 9320: Radium-228 prep batch 160-610896:

The Ra-228 laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) associated with the following samples recovered at <spike recovery>: (LCS 160-610896/2-A). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (63-154%) per method requirements. The LCS within criteria and no further action is required.

Methods 904.0, 9320: Radium-228 prep batch 160-610896:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. DUP (860-47755-1), MW-7 (860-47755-2), MW-11 (860-47755-3), MW-12 (860-47755-4), MW-13 (860-47755-5), MW-14 (860-47755-6), MW-15 (860-47755-7), MW-16 (860-47755-8), MW-17 (860-47755-9), (LCS 160-610896/2-A), (LCSD 160-610896/3-A) and (MB 160-610896/1-A)

Method PrecSep_0: Radium-228 Prep Batch 160-610896

Insufficient sample volume was available to perform a sample duplicate for the following samples: DUP (860-47755-1), MW-7 (860-47755-2), MW-11 (860-47755-3), MW-12 (860-47755-4), MW-13 (860-47755-5), MW-14 (860-47755-6), MW-15 (860-47755-7), MW-16 (860-47755-8) and MW-17 (860-47755-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep 160-610885

Insufficient sample volume was available to perform a sample duplicate for the following samples: DUP (860-47755-1), MW-7 (860-47755-2), MW-11 (860-47755-3), MW-12 (860-47755-4), MW-13 (860-47755-5), MW-14 (860-47755-6), MW-15 (860-47755-7), MW-16 (860-47755-8) and MW-17 (860-47755-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Metals

Case Narrative

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Job ID: 860-47755-1 (Continued)

Laboratory: Eurofins Houston (Continued)

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

General Chemistry

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

- 1
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- 15
- 16

Detection Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: DUP

Lab Sample ID: 860-47755-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0177		0.00400	mg/L	1		6020A	Total/NA
Cobalt	0.00209		0.00200	mg/L	1		6020A	Total/NA

Client Sample ID: MW-7

Lab Sample ID: 860-47755-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0166		0.00400	mg/L	1		6020A	Total/NA

Client Sample ID: MW-11

Lab Sample ID: 860-47755-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0176		0.00400	mg/L	1		6020A	Total/NA

Client Sample ID: MW-12

Lab Sample ID: 860-47755-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0913		0.00400	mg/L	1		6020A	Total/NA
Cobalt	0.00429		0.00200	mg/L	1		6020A	Total/NA

Client Sample ID: MW-13

Lab Sample ID: 860-47755-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0832		0.00400	mg/L	1		6020A	Total/NA

Client Sample ID: MW-14

Lab Sample ID: 860-47755-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0576		0.0400	mg/L	1		6010C	Total/NA
Barium	0.0247		0.00400	mg/L	1		6020A	Total/NA
Cobalt	0.00497		0.00200	mg/L	1		6020A	Total/NA
Selenium	0.782		0.00200	mg/L	1		6020A	Total/NA

Client Sample ID: MW-15

Lab Sample ID: 860-47755-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00585		0.00400	mg/L	1		6020A	Total/NA
Barium	0.105		0.00400	mg/L	1		6020A	Total/NA
Selenium	0.00398		0.00200	mg/L	1		6020A	Total/NA

Client Sample ID: MW-16

Lab Sample ID: 860-47755-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0524		0.00400	mg/L	1		6020A	Total/NA

Client Sample ID: MW-17

Lab Sample ID: 860-47755-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.129		0.00400	mg/L	1		6020A	Total/NA
Selenium	0.00582		0.00200	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: DUP

Lab Sample ID: 860-47755-1

Date Collected: 04/24/23 12:28

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 03:56	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:45	1
Arsenic	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:45	1
Barium	0.0177		0.00400	mg/L		05/02/23 10:30	05/02/23 17:45	1
Beryllium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1
Cadmium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1
Chromium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:45	1
Cobalt	0.00209		0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1
Lead	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1
Selenium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1
Thallium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:02	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.238		0.161	0.163	1.00	0.226	pCi/L	05/10/23 12:57	06/01/23 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		30 - 110					05/10/23 12:57	06/01/23 08:11	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.30		0.474	0.489	1.00	0.585	pCi/L	05/10/23 14:05	05/30/23 12:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		30 - 110					05/10/23 14:05	05/30/23 12:35	1
Y Carrier	82.0		30 - 110					05/10/23 14:05	05/30/23 12:35	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.53		0.501	0.515	5.00	0.585	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-7

Lab Sample ID: 860-47755-2

Date Collected: 04/24/23 11:42

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 06:23	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:55	1
Arsenic	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:55	1
Barium	0.0166		0.00400	mg/L		05/02/23 10:30	05/02/23 17:55	1
Beryllium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1
Cadmium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1
Chromium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:55	1
Cobalt	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1
Lead	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1
Selenium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1
Thallium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:55	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:03	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.110	U	0.139	0.139	1.00	0.230	pCi/L	05/10/23 12:57	06/01/23 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		30 - 110					05/10/23 12:57	06/01/23 09:58	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.09		0.455	0.465	1.00	0.582	pCi/L	05/10/23 14:05	05/30/23 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		30 - 110					05/10/23 14:05	05/30/23 12:37	1
Y Carrier	82.3		30 - 110					05/10/23 14:05	05/30/23 12:37	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.20		0.476	0.485	5.00	0.582	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-11

Lab Sample ID: 860-47755-3

Date Collected: 04/24/23 12:28

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 04:26	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:57	1
Arsenic	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:57	1
Barium	0.0176		0.00400	mg/L		05/02/23 10:30	05/02/23 17:57	1
Beryllium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1
Cadmium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1
Chromium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 17:57	1
Cobalt	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1
Lead	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1
Selenium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1
Thallium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 17:57	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:04	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.242		0.164	0.165	1.00	0.230	pCi/L	05/10/23 12:57	06/01/23 08:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					05/10/23 12:57	06/01/23 08:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.37		0.496	0.512	1.00	0.621	pCi/L	05/10/23 14:05	05/30/23 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					05/10/23 14:05	05/30/23 12:37	1
Y Carrier	80.9		30 - 110					05/10/23 14:05	05/30/23 12:37	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.62		0.522	0.538	5.00	0.621	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-12

Lab Sample ID: 860-47755-4

Date Collected: 04/24/23 13:40

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 04:35	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 18:00	1
Arsenic	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 18:00	1
Barium	0.0913		0.00400	mg/L		05/02/23 10:30	05/02/23 18:00	1
Beryllium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1
Cadmium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1
Chromium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 18:00	1
Cobalt	0.00429		0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1
Lead	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1
Selenium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1
Thallium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:00	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:06	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.799		0.224	0.236	1.00	0.201	pCi/L	05/10/23 12:57	06/01/23 08:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					05/10/23 12:57	06/01/23 08:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.20		0.477	0.490	1.00	0.634	pCi/L	05/10/23 14:05	05/30/23 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					05/10/23 14:05	05/30/23 12:37	1
Y Carrier	82.6		30 - 110					05/10/23 14:05	05/30/23 12:37	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.00		0.527	0.544	5.00	0.634	pCi/L		06/01/23 15:44	1

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Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-13

Lab Sample ID: 860-47755-5

Date Collected: 04/24/23 15:26

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 04:45	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 18:02	1
Arsenic	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 18:02	1
Barium	0.0832		0.00400	mg/L		05/02/23 10:30	05/02/23 18:02	1
Beryllium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1
Cadmium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1
Chromium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 18:02	1
Cobalt	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1
Lead	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1
Selenium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1
Thallium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 18:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:07	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.621		0.214	0.221	1.00	0.212	pCi/L	05/10/23 12:57	06/01/23 08:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		30 - 110					05/10/23 12:57	06/01/23 08:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.70		0.574	0.626	1.00	0.524	pCi/L	05/10/23 14:05	05/30/23 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		30 - 110					05/10/23 14:05	05/30/23 12:37	1
Y Carrier	84.0		30 - 110					05/10/23 14:05	05/30/23 12:37	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.32		0.613	0.664	5.00	0.524	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-14

Lab Sample ID: 860-47755-6

Date Collected: 04/24/23 17:35

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 07:02	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0576		0.0400	mg/L		05/04/23 09:30	05/04/23 18:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:59	1
Arsenic	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:59	1
Barium	0.0247		0.00400	mg/L		05/03/23 09:00	05/03/23 15:59	1
Beryllium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1
Cadmium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1
Chromium	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:59	1
Cobalt	0.00497		0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1
Lead	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1
Selenium	0.782		0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1
Thallium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:59	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:08	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.280		0.191	0.193	1.00	0.276	pCi/L	05/10/23 12:57	06/01/23 08:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110					05/10/23 12:57	06/01/23 08:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.76		0.527	0.551	1.00	0.599	pCi/L	05/10/23 14:05	05/30/23 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110					05/10/23 14:05	05/30/23 12:37	1
Y Carrier	83.7		30 - 110					05/10/23 14:05	05/30/23 12:37	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.04		0.561	0.584	5.00	0.599	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-15

Lab Sample ID: 860-47755-7

Date Collected: 04/24/23 16:11

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 05:14	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00585		0.00400	mg/L		05/03/23 09:00	05/03/23 15:38	1
Arsenic	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:38	1
Barium	0.105		0.00400	mg/L		05/03/23 09:00	05/03/23 15:38	1
Beryllium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1
Cadmium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1
Chromium	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:38	1
Cobalt	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1
Lead	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1
Selenium	0.00398		0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1
Thallium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:38	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:11	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.577		0.212	0.218	1.00	0.219	pCi/L	05/10/23 12:57	06/01/23 08:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		30 - 110					05/10/23 12:57	06/01/23 08:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.37		0.494	0.510	1.00	0.605	pCi/L	05/10/23 14:05	05/30/23 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		30 - 110					05/10/23 14:05	05/30/23 12:37	1
Y Carrier	78.1		30 - 110					05/10/23 14:05	05/30/23 12:37	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.95		0.538	0.555	5.00	0.605	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-16

Lab Sample ID: 860-47755-8

Date Collected: 04/24/23 14:41

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 05:24	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 16:02	1
Arsenic	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 16:02	1
Barium	0.0524		0.00400	mg/L		05/03/23 09:00	05/03/23 16:02	1
Beryllium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1
Cadmium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1
Chromium	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 16:02	1
Cobalt	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1
Lead	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1
Selenium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1
Thallium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:13	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.821		0.246	0.257	1.00	0.230	pCi/L	05/10/23 12:57	06/01/23 08:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		30 - 110					05/10/23 12:57	06/01/23 08:12	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.680		0.413	0.418	1.00	0.602	pCi/L	05/10/23 14:05	05/30/23 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		30 - 110					05/10/23 14:05	05/30/23 12:38	1
Y Carrier	80.1		30 - 110					05/10/23 14:05	05/30/23 12:38	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.50		0.481	0.491	5.00	0.602	pCi/L		06/01/23 15:44	1

Eurofins Houston

Client Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-17

Lab Sample ID: 860-47755-9

Date Collected: 04/24/23 16:56

Matrix: Water

Date Received: 04/26/23 09:09

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 05:34	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 18:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 16:04	1
Arsenic	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 16:04	1
Barium	0.129		0.00400	mg/L		05/03/23 09:00	05/03/23 16:04	1
Beryllium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1
Cadmium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1
Chromium	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 16:04	1
Cobalt	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1
Lead	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1
Selenium	0.00582		0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1
Thallium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 16:04	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:48	04/27/23 20:14	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.699		0.232	0.241	1.00	0.226	pCi/L	05/10/23 12:57	06/01/23 10:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		30 - 110					05/10/23 12:57	06/01/23 10:02	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.68		0.752	0.825	1.00	0.730	pCi/L	05/10/23 14:05	05/30/23 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		30 - 110					05/10/23 14:05	05/30/23 12:38	1
Y Carrier	74.7		30 - 110					05/10/23 14:05	05/30/23 12:38	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	4.38		0.787	0.859	5.00	0.730	pCi/L		06/01/23 15:44	1

Eurofins Houston

Tracer/Carrier Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
860-47755-1	DUP	83.9	
860-47755-2	MW-7	80.5	
860-47755-3	MW-11	84.4	
860-47755-4	MW-12	90.3	
860-47755-5	MW-13	86.6	
860-47755-6	MW-14	81.5	
860-47755-7	MW-15	85.6	
860-47755-8	MW-16	85.6	
860-47755-9	MW-17	80.8	
LCS 160-610885/2-A	Lab Control Sample	84.2	
LCSD 160-610885/3-A	Lab Control Sample Dup	89.3	
MB 160-610885/1-A	Method Blank	87.1	
Tracer/Carrier Legend			
Ba = Ba Carrier			

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
860-47755-1	DUP	83.9	82.0
860-47755-2	MW-7	80.5	82.3
860-47755-3	MW-11	84.4	80.9
860-47755-4	MW-12	90.3	82.6
860-47755-5	MW-13	86.6	84.0
860-47755-6	MW-14	81.5	83.7
860-47755-7	MW-15	85.6	78.1
860-47755-8	MW-16	85.6	80.1
860-47755-9	MW-17	80.8	74.7
LCS 160-610896/2-A	Lab Control Sample	84.2	81.2
LCSD 160-610896/3-A	Lab Control Sample Dup	89.3	81.7
MB 160-610896/1-A	Method Blank	87.1	82.9
Tracer/Carrier Legend			
Ba = Ba Carrier			
Y = Y Carrier			

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-102240/25

Matrix: Water

Analysis Batch: 102240

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/08/23 21:26	1

Lab Sample ID: MB 860-102240/60

Matrix: Water

Analysis Batch: 102240

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.500	U	0.500	mg/L			05/09/23 03:08	1

Lab Sample ID: LCS 860-102240/61

Matrix: Water

Analysis Batch: 102240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.62		mg/L		106	90 - 110

Lab Sample ID: LCSD 860-102240/62

Matrix: Water

Analysis Batch: 102240

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	10.0	10.59		mg/L		106	90 - 110	0	20

Lab Sample ID: LLCS 860-102240/17

Matrix: Water

Analysis Batch: 102240

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.500	0.5252		mg/L		105	50 - 150

Lab Sample ID: 860-47755-1 MS

Matrix: Water

Analysis Batch: 102240

Client Sample ID: DUP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	<0.500	U	10.0	9.357		mg/L		92	90 - 110

Lab Sample ID: 860-47755-1 MSD

Matrix: Water

Analysis Batch: 102240

Client Sample ID: DUP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.500	U	10.0	9.392		mg/L		92	90 - 110	0	15

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 860-101711/1-A
Matrix: Water
Analysis Batch: 101898

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 101711

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0400	U	0.0400	mg/L		05/04/23 09:30	05/04/23 16:31	1

Lab Sample ID: LCS 860-101711/2-A
Matrix: Water
Analysis Batch: 101898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9790		mg/L		98	80 - 120

Lab Sample ID: LCSD 860-101711/3-A
Matrix: Water
Analysis Batch: 101898

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 101711

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9780		mg/L		98	80 - 120	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 860-101374/1-A
Matrix: Water
Analysis Batch: 101487

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 101374

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 16:53	1
Arsenic	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 16:53	1
Barium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 16:53	1
Beryllium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1
Cadmium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1
Chromium	<0.00400	U	0.00400	mg/L		05/02/23 10:30	05/02/23 16:53	1
Cobalt	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1
Lead	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1
Selenium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1
Thallium	<0.00200	U	0.00200	mg/L		05/02/23 10:30	05/02/23 16:53	1

Lab Sample ID: LCS 860-101374/2-A
Matrix: Water
Analysis Batch: 101487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101374

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09152		mg/L		92	80 - 120
Arsenic	0.100	0.09936		mg/L		99	80 - 120
Barium	0.100	0.09552		mg/L		96	80 - 120
Beryllium	0.100	0.09696		mg/L		97	80 - 120
Cadmium	0.100	0.1014		mg/L		101	80 - 120
Chromium	0.100	0.1010		mg/L		101	80 - 120
Cobalt	0.100	0.1019		mg/L		102	80 - 120
Lead	0.100	0.1007		mg/L		101	80 - 120
Molybdenum	0.100	0.09631		mg/L		96	80 - 120
Selenium	0.100	0.09995		mg/L		100	80 - 120

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

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

Lab Sample ID: LCS 860-101374/2-A
Matrix: Water
Analysis Batch: 101487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101374

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.1013		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-101374/3-A
Matrix: Water
Analysis Batch: 101487

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 101374

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09400		mg/L		94	80 - 120	3	20
Arsenic	0.100	0.09755		mg/L		98	80 - 120	2	20
Barium	0.100	0.09565		mg/L		96	80 - 120	0	20
Beryllium	0.100	0.09617		mg/L		96	80 - 120	1	20
Cadmium	0.100	0.1015		mg/L		102	80 - 120	0	20
Chromium	0.100	0.1007		mg/L		101	80 - 120	0	20
Cobalt	0.100	0.1016		mg/L		102	80 - 120	0	20
Lead	0.100	0.1010		mg/L		101	80 - 120	0	20
Molybdenum	0.100	0.09609		mg/L		96	80 - 120	0	20
Selenium	0.100	0.09815		mg/L		98	80 - 120	2	20
Thallium	0.100	0.1016		mg/L		102	80 - 120	0	20

Lab Sample ID: MB 860-101562/1-A
Matrix: Water
Analysis Batch: 101638

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 101562

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:31	1
Arsenic	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:31	1
Barium	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:31	1
Beryllium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1
Cadmium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1
Chromium	<0.00400	U	0.00400	mg/L		05/03/23 09:00	05/03/23 15:31	1
Cobalt	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1
Lead	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1
Molybdenum	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1
Selenium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1
Thallium	<0.00200	U	0.00200	mg/L		05/03/23 09:00	05/03/23 15:31	1

Lab Sample ID: LCS 860-101562/2-A
Matrix: Water
Analysis Batch: 101638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.08867		mg/L		89	80 - 120
Arsenic	0.100	0.09819		mg/L		98	80 - 120
Barium	0.100	0.09480		mg/L		95	80 - 120
Beryllium	0.100	0.09718		mg/L		97	80 - 120
Cadmium	0.100	0.1018		mg/L		102	80 - 120
Chromium	0.100	0.09857		mg/L		99	80 - 120
Cobalt	0.100	0.1000		mg/L		100	80 - 120
Lead	0.100	0.09984		mg/L		100	80 - 120

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

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

Lab Sample ID: LCS 860-101562/2-A
Matrix: Water
Analysis Batch: 101638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	0.100	0.09487		mg/L		95	80 - 120
Selenium	0.100	0.1009		mg/L		101	80 - 120
Thallium	0.100	0.1007		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-101562/3-A
Matrix: Water
Analysis Batch: 101638

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 101562

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09303		mg/L		93	80 - 120	5	20
Arsenic	0.100	0.09815		mg/L		98	80 - 120	0	20
Barium	0.100	0.09277		mg/L		93	80 - 120	2	20
Beryllium	0.100	0.09786		mg/L		98	80 - 120	1	20
Cadmium	0.100	0.1026		mg/L		103	80 - 120	1	20
Chromium	0.100	0.1000		mg/L		100	80 - 120	1	20
Cobalt	0.100	0.1009		mg/L		101	80 - 120	1	20
Lead	0.100	0.09960		mg/L		100	80 - 120	0	20
Molybdenum	0.100	0.09740		mg/L		97	80 - 120	3	20
Selenium	0.100	0.09809		mg/L		98	80 - 120	3	20
Thallium	0.100	0.1002		mg/L		100	80 - 120	1	20

Lab Sample ID: 860-47755-7 MS
Matrix: Water
Analysis Batch: 101638

Client Sample ID: MW-15
Prep Type: Total/NA
Prep Batch: 101562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00585		0.100	0.1134		mg/L		108	75 - 125
Arsenic	<0.00400	U	0.100	0.09610		mg/L		96	75 - 125
Barium	0.105		0.100	0.1927		mg/L		87	75 - 125
Beryllium	<0.00200	U	0.100	0.09654		mg/L		97	75 - 125
Cadmium	<0.00200	U	0.100	0.1005		mg/L		100	75 - 125
Chromium	<0.00400	U	0.100	0.09975		mg/L		100	75 - 125
Cobalt	<0.00200	U	0.100	0.1001		mg/L		100	75 - 125
Lead	<0.00200	U	0.100	0.09396		mg/L		94	75 - 125
Molybdenum	<0.00200	U	0.100	0.1077		mg/L		107	75 - 125
Selenium	0.00398		0.100	0.09892		mg/L		95	75 - 125
Thallium	<0.00200	U	0.100	0.09299		mg/L		93	75 - 125

Lab Sample ID: 860-47755-7 MSD
Matrix: Water
Analysis Batch: 101638

Client Sample ID: MW-15
Prep Type: Total/NA
Prep Batch: 101562

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00585		0.100	0.1122		mg/L		106	75 - 125	1	20
Arsenic	<0.00400	U	0.100	0.09620		mg/L		96	75 - 125	0	20
Barium	0.105		0.100	0.1940		mg/L		89	75 - 125	1	20
Beryllium	<0.00200	U	0.100	0.09674		mg/L		97	75 - 125	0	20
Cadmium	<0.00200	U	0.100	0.09973		mg/L		99	75 - 125	1	20
Chromium	<0.00400	U	0.100	0.09876		mg/L		99	75 - 125	1	20

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

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

Lab Sample ID: 860-47755-7 MSD
Matrix: Water
Analysis Batch: 101638

Client Sample ID: MW-15
Prep Type: Total/NA
Prep Batch: 101562

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	<0.00200	U	0.100	0.09996		mg/L		100	75 - 125	0	20
Lead	<0.00200	U	0.100	0.09433		mg/L		94	75 - 125	0	20
Molybdenum	<0.00200	U	0.100	0.1065		mg/L		106	75 - 125	1	20
Selenium	0.00398		0.100	0.09923		mg/L		95	75 - 125	0	20
Thallium	<0.00200	U	0.100	0.09454		mg/L		95	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LB 860-100560/1-B
Matrix: Water
Analysis Batch: 100831

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 100706

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:19	04/27/23 19:45	1

Lab Sample ID: MB 860-100706/1-A
Matrix: Water
Analysis Batch: 100831

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 100706

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000200	U	0.000200	mg/L		04/27/23 10:19	04/27/23 19:38	1

Lab Sample ID: LCS 860-100706/2-A
Matrix: Water
Analysis Batch: 100831

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 100706

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.002013		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-100706/3-A
Matrix: Water
Analysis Batch: 100831

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 100706

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.001995		mg/L		100	80 - 120	1	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-610885/1-A
Matrix: Water
Analysis Batch: 614158

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610885

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08440	U	0.159	0.160	1.00	0.280	pCi/L	05/10/23 12:57	06/01/23 08:08	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		30 - 110					05/10/23 12:57	06/01/23 08:08	1

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-610885/2-A
Matrix: Water
Analysis Batch: 614160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610885

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226		11.3	10.80		1.25	1.00	0.237	pCi/L	95	75 - 113		
			LCS	LCS								
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	84.2		30 - 110									

Lab Sample ID: LCSD 160-610885/3-A
Matrix: Water
Analysis Batch: 614160

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 610885

Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226		11.3	10.03		1.17	1.00	0.232	pCi/L	89	75 - 113	0.31	1
			LCSD	LCSD								
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	89.3		30 - 110									

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-610896/1-A
Matrix: Water
Analysis Batch: 613642

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610896

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3544	U	0.559	0.560	1.00	0.949	pCi/L	05/10/23 14:05	05/30/23 16:39	1
			MB	MB						
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		30 - 110					05/10/23 14:05	05/30/23 16:39	1
Y Carrier	82.9		30 - 110					05/10/23 14:05	05/30/23 16:39	1

Lab Sample ID: LCS 160-610896/2-A
Matrix: Water
Analysis Batch: 613641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610896

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228		8.16	11.47		1.52	1.00	0.497	pCi/L	141	75 - 125		
			LCS	LCS								
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	84.2		30 - 110									
Y Carrier	81.2		30 - 110									

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QC Sample Results

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-610896/3-A
Matrix: Water
Analysis Batch: 613641

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 610896

Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228		8.16	10.21		1.37	1.00	0.473	pCi/L	125	75 - 125	0.44	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits									
Ba Carrier	89.3		30 - 110									
Y Carrier	81.7		30 - 110									

QC Association Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

HPLC/IC

Analysis Batch: 102240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	300.0	
860-47755-2	MW-7	Total/NA	Water	300.0	
860-47755-3	MW-11	Total/NA	Water	300.0	
860-47755-4	MW-12	Total/NA	Water	300.0	
860-47755-5	MW-13	Total/NA	Water	300.0	
860-47755-6	MW-14	Total/NA	Water	300.0	
860-47755-7	MW-15	Total/NA	Water	300.0	
860-47755-8	MW-16	Total/NA	Water	300.0	
860-47755-9	MW-17	Total/NA	Water	300.0	
MB 860-102240/25	Method Blank	Total/NA	Water	300.0	
MB 860-102240/60	Method Blank	Total/NA	Water	300.0	
LCS 860-102240/61	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-102240/62	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-102240/17	Lab Control Sample	Total/NA	Water	300.0	
860-47755-1 MS	DUP	Total/NA	Water	300.0	
860-47755-1 MSD	DUP	Total/NA	Water	300.0	

Metals

Leach Batch: 100560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-100560/1-B	Method Blank	Total/NA	Water	1311	

Prep Batch: 100706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	7470A	
860-47755-2	MW-7	Total/NA	Water	7470A	
860-47755-3	MW-11	Total/NA	Water	7470A	
860-47755-4	MW-12	Total/NA	Water	7470A	
860-47755-5	MW-13	Total/NA	Water	7470A	
860-47755-6	MW-14	Total/NA	Water	7470A	
860-47755-7	MW-15	Total/NA	Water	7470A	
860-47755-8	MW-16	Total/NA	Water	7470A	
860-47755-9	MW-17	Total/NA	Water	7470A	
LB 860-100560/1-B	Method Blank	Total/NA	Water	7470A	100560
MB 860-100706/1-A	Method Blank	Total/NA	Water	7470A	
LCS 860-100706/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-100706/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Analysis Batch: 100831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	7470A	100706
860-47755-2	MW-7	Total/NA	Water	7470A	100706
860-47755-3	MW-11	Total/NA	Water	7470A	100706
860-47755-4	MW-12	Total/NA	Water	7470A	100706
860-47755-5	MW-13	Total/NA	Water	7470A	100706
860-47755-6	MW-14	Total/NA	Water	7470A	100706
860-47755-7	MW-15	Total/NA	Water	7470A	100706
860-47755-8	MW-16	Total/NA	Water	7470A	100706
860-47755-9	MW-17	Total/NA	Water	7470A	100706
LB 860-100560/1-B	Method Blank	Total/NA	Water	7470A	100706

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QC Association Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Metals (Continued)

Analysis Batch: 100831 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-100706/1-A	Method Blank	Total/NA	Water	7470A	100706
LCS 860-100706/2-A	Lab Control Sample	Total/NA	Water	7470A	100706
LCSD 860-100706/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	100706

Prep Batch: 101374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	3010A	
860-47755-2	MW-7	Total/NA	Water	3010A	
860-47755-3	MW-11	Total/NA	Water	3010A	
860-47755-4	MW-12	Total/NA	Water	3010A	
860-47755-5	MW-13	Total/NA	Water	3010A	
MB 860-101374/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-101374/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-101374/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	

Analysis Batch: 101487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	6020A	101374
860-47755-2	MW-7	Total/NA	Water	6020A	101374
860-47755-3	MW-11	Total/NA	Water	6020A	101374
860-47755-4	MW-12	Total/NA	Water	6020A	101374
860-47755-5	MW-13	Total/NA	Water	6020A	101374
MB 860-101374/1-A	Method Blank	Total/NA	Water	6020A	101374
LCS 860-101374/2-A	Lab Control Sample	Total/NA	Water	6020A	101374
LCSD 860-101374/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	101374

Prep Batch: 101562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-6	MW-14	Total/NA	Water	3010A	
860-47755-7	MW-15	Total/NA	Water	3010A	
860-47755-8	MW-16	Total/NA	Water	3010A	
860-47755-9	MW-17	Total/NA	Water	3010A	
MB 860-101562/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-101562/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-101562/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-47755-7 MS	MW-15	Total/NA	Water	3010A	
860-47755-7 MSD	MW-15	Total/NA	Water	3010A	

Analysis Batch: 101638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-6	MW-14	Total/NA	Water	6020A	101562
860-47755-7	MW-15	Total/NA	Water	6020A	101562
860-47755-8	MW-16	Total/NA	Water	6020A	101562
860-47755-9	MW-17	Total/NA	Water	6020A	101562
MB 860-101562/1-A	Method Blank	Total/NA	Water	6020A	101562
LCS 860-101562/2-A	Lab Control Sample	Total/NA	Water	6020A	101562
LCSD 860-101562/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	101562
860-47755-7 MS	MW-15	Total/NA	Water	6020A	101562
860-47755-7 MSD	MW-15	Total/NA	Water	6020A	101562

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QC Association Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Metals

Prep Batch: 101711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	3010A	
860-47755-2	MW-7	Total/NA	Water	3010A	
860-47755-3	MW-11	Total/NA	Water	3010A	
860-47755-4	MW-12	Total/NA	Water	3010A	
860-47755-5	MW-13	Total/NA	Water	3010A	
860-47755-6	MW-14	Total/NA	Water	3010A	
860-47755-7	MW-15	Total/NA	Water	3010A	
860-47755-8	MW-16	Total/NA	Water	3010A	
860-47755-9	MW-17	Total/NA	Water	3010A	
MB 860-101711/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-101711/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-101711/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	

Analysis Batch: 101898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	6010C	101711
860-47755-2	MW-7	Total/NA	Water	6010C	101711
860-47755-3	MW-11	Total/NA	Water	6010C	101711
860-47755-4	MW-12	Total/NA	Water	6010C	101711
860-47755-5	MW-13	Total/NA	Water	6010C	101711
860-47755-6	MW-14	Total/NA	Water	6010C	101711
860-47755-7	MW-15	Total/NA	Water	6010C	101711
860-47755-8	MW-16	Total/NA	Water	6010C	101711
860-47755-9	MW-17	Total/NA	Water	6010C	101711
MB 860-101711/1-A	Method Blank	Total/NA	Water	6010C	101711
LCS 860-101711/2-A	Lab Control Sample	Total/NA	Water	6010C	101711
LCSD 860-101711/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	101711

Rad

Prep Batch: 610885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	PrecSep-21	
860-47755-2	MW-7	Total/NA	Water	PrecSep-21	
860-47755-3	MW-11	Total/NA	Water	PrecSep-21	
860-47755-4	MW-12	Total/NA	Water	PrecSep-21	
860-47755-5	MW-13	Total/NA	Water	PrecSep-21	
860-47755-6	MW-14	Total/NA	Water	PrecSep-21	
860-47755-7	MW-15	Total/NA	Water	PrecSep-21	
860-47755-8	MW-16	Total/NA	Water	PrecSep-21	
860-47755-9	MW-17	Total/NA	Water	PrecSep-21	
MB 160-610885/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-610885/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-610885/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 610896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-1	DUP	Total/NA	Water	PrecSep_0	
860-47755-2	MW-7	Total/NA	Water	PrecSep_0	
860-47755-3	MW-11	Total/NA	Water	PrecSep_0	
860-47755-4	MW-12	Total/NA	Water	PrecSep_0	

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QC Association Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Rad (Continued)

Prep Batch: 610896 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-47755-5	MW-13	Total/NA	Water	PrecSep_0	
860-47755-6	MW-14	Total/NA	Water	PrecSep_0	
860-47755-7	MW-15	Total/NA	Water	PrecSep_0	
860-47755-8	MW-16	Total/NA	Water	PrecSep_0	
860-47755-9	MW-17	Total/NA	Water	PrecSep_0	
MB 160-610896/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-610896/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-610896/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

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Lab Chronicle

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: DUP

Lab Sample ID: 860-47755-1

Date Collected: 04/24/23 12:28

Matrix: Water

Date Received: 04/26/23 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 03:56	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:04	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101374	05/02/23 10:30	MD	EET HOU
Total/NA	Analysis	6020A		1			101487	05/02/23 17:45	SHZ	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:02	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			997.52 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:11	FLC	EET SL
Total/NA	Prep	PrecSep_0			997.52 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:35	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-7

Lab Sample ID: 860-47755-2

Date Collected: 04/24/23 11:42

Matrix: Water

Date Received: 04/26/23 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 06:23	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:07	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101374	05/02/23 10:30	MD	EET HOU
Total/NA	Analysis	6020A		1			101487	05/02/23 17:55	SHZ	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:03	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			995.05 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 09:58	FLC	EET SL
Total/NA	Prep	PrecSep_0			995.05 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:37	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-11

Lab Sample ID: 860-47755-3

Date Collected: 04/24/23 12:28

Matrix: Water

Date Received: 04/26/23 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 04:26	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:11	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101374	05/02/23 10:30	MD	EET HOU
Total/NA	Analysis	6020A		1			101487	05/02/23 17:57	SHZ	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:04	SHZ	EET HOU

Eurofins Houston

Lab Chronicle

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-11

Date Collected: 04/24/23 12:28

Date Received: 04/26/23 09:09

Lab Sample ID: 860-47755-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			998.59 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:12	FLC	EET SL
Total/NA	Prep	PrecSep_0			998.59 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:37	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-12

Date Collected: 04/24/23 13:40

Date Received: 04/26/23 09:09

Lab Sample ID: 860-47755-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 04:35	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:14	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101374	05/02/23 10:30	MD	EET HOU
Total/NA	Analysis	6020A		1			101487	05/02/23 18:00	SHZ	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:06	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			997.61 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:12	FLC	EET SL
Total/NA	Prep	PrecSep_0			997.61 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:37	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-13

Date Collected: 04/24/23 15:26

Date Received: 04/26/23 09:09

Lab Sample ID: 860-47755-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 04:45	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:18	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101374	05/02/23 10:30	MD	EET HOU
Total/NA	Analysis	6020A		1			101487	05/02/23 18:02	SHZ	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:07	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			995.24 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:12	FLC	EET SL
Total/NA	Prep	PrecSep_0			995.24 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:37	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Eurofins Houston

Lab Chronicle

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-14

Date Collected: 04/24/23 17:35

Date Received: 04/26/23 09:09

Lab Sample ID: 860-47755-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 07:02	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:21	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101562	05/03/23 09:00	MD	EET HOU
Total/NA	Analysis	6020A		1			101638	05/03/23 15:59	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:08	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			994.02 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:12	FLC	EET SL
Total/NA	Prep	PrecSep_0			994.02 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:37	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-15

Date Collected: 04/24/23 16:11

Date Received: 04/26/23 09:09

Lab Sample ID: 860-47755-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 05:14	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:39	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101562	05/03/23 09:00	MD	EET HOU
Total/NA	Analysis	6020A		1			101638	05/03/23 15:38	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:11	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			995.37 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:12	FLC	EET SL
Total/NA	Prep	PrecSep_0			995.37 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:37	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-16

Date Collected: 04/24/23 14:41

Date Received: 04/26/23 09:09

Lab Sample ID: 860-47755-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 05:24	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:43	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101562	05/03/23 09:00	MD	EET HOU
Total/NA	Analysis	6020A		1			101638	05/03/23 16:02	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:13	SHZ	EET HOU

Eurofins Houston

Lab Chronicle

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Client Sample ID: MW-16

Lab Sample ID: 860-47755-8

Date Collected: 04/24/23 14:41

Matrix: Water

Date Received: 04/26/23 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			994.63 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614160	06/01/23 08:12	FLC	EET SL
Total/NA	Prep	PrecSep_0			994.63 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:38	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Client Sample ID: MW-17

Lab Sample ID: 860-47755-9

Date Collected: 04/24/23 16:56

Matrix: Water

Date Received: 04/26/23 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			102240	05/09/23 05:34	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101711	05/04/23 09:30	MD	EET HOU
Total/NA	Analysis	6010C		1			101898	05/04/23 18:46	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	101562	05/03/23 09:00	MD	EET HOU
Total/NA	Analysis	6020A		1			101638	05/03/23 16:04	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	100706	04/27/23 10:48	PB	EET HOU
Total/NA	Analysis	7470A		1			100831	04/27/23 20:14	SHZ	EET HOU
Total/NA	Prep	PrecSep-21			997.10 mL	1.0 g	610885	05/10/23 12:57	KAC	EET SL
Total/NA	Analysis	903.0		1			614158	06/01/23 10:02	FLC	EET SL
Total/NA	Prep	PrecSep_0			997.10 mL	1.0 g	610896	05/10/23 14:05	KAC	EET SL
Total/NA	Analysis	904.0		1			613641	05/30/23 12:38	SCB	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			614190	06/01/23 15:44	SCB	EET SL

Laboratory References:

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

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-23-50	06-30-23

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

Eurofins Houston

Method Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010C	Metals (ICP)	SW846	EET HOU
6020A	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Houston

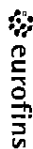
Sample Summary

Client: Hydrex Environmental
Project/Site: Twin Oaks PP

Job ID: 860-47755-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-47755-1	DUP	Water	04/24/23 12:28	04/26/23 09:09
860-47755-2	MW-7	Water	04/24/23 11:42	04/26/23 09:09
860-47755-3	MW-11	Water	04/24/23 12:28	04/26/23 09:09
860-47755-4	MW-12	Water	04/24/23 13:40	04/26/23 09:09
860-47755-5	MW-13	Water	04/24/23 15:26	04/26/23 09:09
860-47755-6	MW-14	Water	04/24/23 17:35	04/26/23 09:09
860-47755-7	MW-15	Water	04/24/23 16:11	04/26/23 09:09
860-47755-8	MW-16	Water	04/24/23 14:41	04/26/23 09:09
860-47755-9	MW-17	Water	04/24/23 16:56	04/26/23 09:09

Chain of Custody Record



Environment Testing

Client Information		Sampler: <u>Colton D. Williams</u>		Lab P/N: <u>Antia Patel</u>	Carrier Tracking No(s): <u>860-18040-6133.1</u>
Client Contact: <u>Michelle Transier</u>		Phone: <u>Antia Patel</u>		E-Mail: <u>Antia.Patel@eurofins.com</u>	State of Origin:
Company: <u>Hydrex Environmental</u>		PMSID:		Job #:	
Address: <u>312 Old Tyler Rd</u>		Due Date Requested:		Analysis Requested	
City: <u>Nacogdoches</u>		TAT Requested (days):		Preservation Codes:	
State, Zip: <u>TX, 75961</u>		Compliance Project: ☐ Yes ☐ No		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Anchor H Acetic Acid I Ice J DI Water K EDTA L EDA Other: <u>None</u>	
Phone: <u>936-568-9451 (Tel)</u>		PO #: <u>1-14-1007</u>		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecylhydrate U Acetone V MCAA W pH 4-5 Y Triema Z other (specify)	
Email: <u>mtransier@hydrex-inc.com</u>		WO #: <u>1-14-1007</u>			
Project Name: <u>Twin Oaks PP Semi-Annual Assessment</u>		Project #: <u>86000207</u>			
Site: <u>SSOW#:</u>					
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Weather, Soil, Overhaul, In-Home, Auto)
Dye		4/24/23	1228	G	W
MM-7		4/24/23	1147	G	W
MM-11		4/24/23	1228	G	W
MM-12		4/24/23	1340	G	W
MM-13		4/24/23	1526	G	W
MM-14		4/24/23	1735	G	W
MM-15		4/24/23	1611	G	W
MM-16		4/24/23	1441	G	W
MM-17		4/24/23	1656	G	W
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological			
Deliverable Requested: I II III IV Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by: <u>Colton D. Williams</u>		Date/Time: <u>4/25/23/1415</u>	Company: <u>Hydrex</u>	Received by: <u>Fedex</u>	
Relinquished by: <u>Fedex</u>		Date/Time: <u>4/25/23/1415</u>	Company: <u>Fedex</u>	Received by: <u>Quinn</u>	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Coder Temperature(s) °C and Other Remarks:	



860-47755 Chain of Custody

Temp: 2.5 IR ID: HOU-344
C/F: 0.2
Corrected Temp: 2.3

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No							
Client Contact: Shipping/Receiving Company TestAmerica Laboratories, Inc.		Phone	Patel, Anita E-Mail Anita.Patel@eurofins.com	State of Origin: Texas	860-24458.1							
Address 13715 Rider Trail North, City Earth City State, Zip MO, 63045 Phone 314-298-8566(Tel) 314-298-8757(Fax) Email		Accreditations Required (See note) NELAP - Texas			Page Page 1 of 1							
Project Name Twin Oaks PP Site		Due Date Requested: 5/4/2023 TAT Requested (days):	Job # 860-47755-1									
PO #		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:										
WO #		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)										
Project # 86000207 SSOW#		Analysis Requested										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Solid, O=Other, T=Trizma, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PreSep, 0 Radium-226	903.0/PreSep, 21 Radium-226	Ra226_228As_P	Total Number of containers	Special Instructions/Note:
DUP (860-47755-1)	4/24/23	12:28 Central	Water			X	X	X	X	X	2	
MW-7 (860-47755-2)	4/24/23	11:42 Central	Water			X	X	X	X	X	2	
MW-11 (860-47755-3)	4/24/23	12:28 Central	Water			X	X	X	X	X	2	
MW-12 (860-47755-4)	4/24/23	13:40 Central	Water			X	X	X	X	X	2	
MW-13 (860-47755-5)	4/24/23	15:26 Central	Water			X	X	X	X	X	2	
MW-14 (860-47755-6)	4/24/23	17:35 Central	Water			X	X	X	X	X	2	
MW-15 (860-47755-7)	4/24/23	16:11 Central	Water			X	X	X	X	X	2	
MW-16 (860-47755-8)	4/24/23	14:41 Central	Water			X	X	X	X	X	2	
MW-17 (860-47755-9)	4/24/23	16:56 Central	Water			X	X	X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)
Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____
Relinquished by: _____ Date/Time: _____ Company: _____
Relinquished by: _____ Date/Time: _____ Company: _____
Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____
Cooler Temperature(s) °C and Other Remarks: _____

Login Sample Receipt Checklist

Client: Hydrex Environmental

Job Number: 860-47755-1

Login Number: 47755

List Source: Eurofins Houston

List Number: 1

Creator: Canadilla, Surelis

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

Login Sample Receipt Checklist

Client: Hydrex Environmental

Job Number: 860-47755-1

Login Number: 47755

List Number: 2

Creator: Farrell, Conor P

List Source: Eurofins St. Louis

List Creation: 05/01/23 01:39 PM

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

Data Usability Summary for Laboratory Package 860-47755-1

April 2023 Groundwater Sampling – Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

ERM reviewed one data package (Work Order Number 860-47755-1) from Eurofins of Houston, Texas for the analysis of nine (9) groundwater samples, including one blind field duplicate sample, collected on April 24, 2023 at Twin Oaks Power Station, Robertson County, Texas. Data were reviewed for general conformance to the requirements of the following documents:

- 1) Twin Oaks Power Station, *Groundwater Sampling and Analysis Plan (October 2017)*;
- 2) Environmental Protection Agency's (EPA's) National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001, January 2017);
- 3) Texas Commission on Environmental Quality's (TCEQ's) *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13, May 2010); and
- 4) *CCR Landfill Draft Technical Guideline No. 32* (May 2020).

Eurofins is NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. Eurofins National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in these reports is referenced in the laboratory reports.

Intended Use of Data: To provide concentration data on Appendix IV Coal Combustion Residuals (CCR) Rule parameters) in the ground water at the facility.

Analyses requested included:

- SW846 6010C – Metals (ICP)
- SW846 6020A – Metals (ICP/MS)
- SW846 7470A – Mercury (CVAA)
- EPA 300.0 – Anions, Ion Chromatography
- EPA 903.0 – Radium-226 (GFPC)
- EPA 904.0 – Radium-228 (GFPC)

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report;
- Laboratory review checklist (LRC);
- Exception reports (ERs); and
- Case narrative.

The results of supporting quality control (QC) analyses are summarized on the LRCs, ERs, and in the case narrative, which were included in this review.

The LRC, ERs, case narrative, and analytical data report are attached to this report.

INTRODUCTION

Eight (8) groundwater samples and one (1) blind field duplicate were submitted to the laboratory for analysis of select metals and anions. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Project Data Quality Objectives

The QC sample recoveries and relative percent differences (RPD) were evaluated based on the following Project Data Quality Objectives (DQO):

Organic Compounds

Recovery 60-140%
RPD $\leq$ 40%

Inorganic Compounds

Recovery 70-130%
RPD $\leq$ 30%

Data were qualified in accordance with the TCEQ's TRRP-13 guidance document, including data qualifier codes and data qualifier code definitions.

DATA REVIEW / VALIDATION RESULTS

Analytical Results

Groundwater analytical results are reported in milligrams per liter (mg/L). *Not Detected* results are reported as less than the value of the reporting limit (RL).

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition. The corrected sample receipt temperature (2.3°C) was within the acceptance criteria of $4 \pm 2^\circ\text{C}$. The samples were preserved in the field as specified by the method. The samples were prepared and analyzed within holding times.

Calibrations

According to the LRC, initial calibrations, continuing calibrations, and calibration verifications data met method requirements for metals and anions, as applicable.

Blanks

Metals, anions and radium were not detected in the method blanks.

Internal Standards and Surrogate Recoveries

According to the LRC, internal standard area counts and retention times were not applicable for the analyses requested. Surrogate recoveries were also not applicable for the analyses requested and therefore were not evaluated. Carrier percent yields for radioactive analyses were within acceptable limits.

Laboratory Control Samples and Precision

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) precision and accuracy analysis (i.e., percent recovery and relative percentage difference [RPDs], and relative error ratio [RER]) results for all analyses were within DQO limits, with the following exception.

The LCS recovery in analysis batch 613642 for radium-228 was higher than DQO limits (141%); however, the corresponding LCSD recovery was within DQO limits (125%). As such, no qualifiers were required.

Matrix Spike/Matrix Spike Duplicates

Matrix spike and matrix spike duplicate (MS/MSD) recoveries and associated RPDs were run on project-related sample MW-15 for metals and project-related sample DUP for fluoride (anions) and were within DQO limits.

Post Digestion Spike

According to the LRC, post digestion spike (PDS) recoveries were within method acceptance limits.

Serial Dilution

According to the LRC, serial dilution (SD) percent differences (%D) were within method acceptance limits.

Field Precision

One pair of field precision samples were collected during the April 2023 event (MW-11 / DUP). RPD calculations for detected analytes for each field precision pair are shown in Table 2. All RPD were within DQO limits; as such, no qualifiers were required.

Field Procedures

The samples were collected by Hydrex Environmental using procedures documented in the Groundwater Sampling and Analysis Plan for the site.

SUMMARY

No data were rejected or qualified during this review. Groundwater analytical data are useable for the purpose of provide concentration data on Appendix IV Coal Combustion Residuals (CCR) Rule parameters in ground water at the Twin Oaks Power Plant.

TABLE 1

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory ID 860-47755-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Laboratory Identification	Field Identification	Description
860-47755-1	DUP	Duplicate Sample
860-47755-2	MW-7	Field Sample
860-47755-3	MW-11	Field Sample
860-47755-4	MW-12	Field Sample
860-47755-5	MW-13	Field Sample
860-47755-6	MW-14	Field Sample
860-47755-7	MW-15	Field Sample
860-47755-8	MW-16	Field Sample
860-47755-9	MW-17	Field Sample

TABLE 2

Field Precision
Laboratory ID 860-47755-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Sample Result (SR)		Duplicate Result (DR)	Relative Percent Difference (RPD)	Qualified
MW-11 / DUP	Barium	0.0176		0.0177	0.57	A
	Cobalt	0.00200	U	0.00209	4.40	A
	Radium-226	0.242		0.238	1.67	A
	Radium-228	1.37		1.30	5.24	A
	Radium-226 and 228	1.62		1.53	5.71	A

NOTES:

Only detected analytes are listed in table.

Units in milligrams per liter (mg/L).

$RPD = ((SR-DR)*200)/(SR+DR)$

A = Acceptable data based on project data quality objectives (DQO).

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 10/11/2023 10:13:20 AM Revision 1

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-55139-1

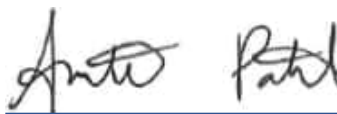
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

Generated
10/11/2023 10:13:20 AM
Revision 1

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Eurofins Houston

Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water

Prep Type: Total/NA

Prep Method: 3010A-Preparation, Total Metals

Instrument: A311

Detector: MSD/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.00200	<0.00800	U	mg/L	0.00800	0.00440	05/24/2023	860-104619
Boron	0.0100	0.00995	J	mg/L	0.0200	0.00801	05/24/2023	860-104619
Selenium	0.00200	0.00212	J	mg/L	0.00400	0.000532	05/24/2023	860-104619
Calcium	0.100	0.0722	J	mg/L	0.200	0.0601	05/24/2023	860-104619
Barium	0.00400	0.00346	J	mg/L	0.00800	0.00268	05/24/2023	860-104619
Cobalt	0.00200	0.00178	J	mg/L	0.00400	0.000276	05/24/2023	860-104619

Eurofins Houston

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-55139-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	10/11/2023

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/11/2023				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-55139-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			1
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		✓			2
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/11/2023				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-55139-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 10/11/2023
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-55139-1
Reviewer Name: Anita Patel		
ER# ¹	Description	
1	Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-116935 and analytical batch 860-116994 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-117043 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recovery was within acceptance limits. Method 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 860-117043 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria. Method 300.0: Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 860-117282 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria. Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-117282 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recovery is within acceptance limits.	
2	Method 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14-20230809-01 (860-55139-5). Elevated reporting limits (RLs) are provided.	
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Case Narrative

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Job ID: 860-55139-1

Laboratory: Eurofins Houston

Narrative

Job Narrative 860-55139-1

REVISION

The report being provided is a revision of the original report sent on 9/14/2023. The report (revision 1) is being revised due to TRRP LRC checklist to be included.

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

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

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

Receipt

The samples were received on 8/11/2023 12:46 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 9.9°C and 10.7°C

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-117043 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recovery was within acceptance limits.

Method 300_ORGFM_28D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14-20230809-01 (860-55139-5). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-117043 contained Chloride greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been reported.

Method 300_ORGFM_28D: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 860-117043 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-117043 contained Sulfate greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been reported.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-117282 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recovery is within acceptance limits.

Method 300_ORGFM_28D: The following sample was diluted to bring the concentration of target analytes within the calibration range: (860-55300-A-1). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical

Case Narrative

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Job ID: 860-55139-1 (Continued)

Laboratory: Eurofins Houston (Continued)

batch 860-117282 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

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

Metals

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-116935 and analytical batch 860-116994 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

General Chemistry

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

Gas Flow Proportional Counter

Method 903.0: Radium-226 prep batch 160-624480:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-7-20230808-01 (860-55139-1), MW-11-20230808-01 (860-55139-2), MW-12-20230808-01 (860-55139-3), MW-13-20230809-01 (860-55139-4), MW-14-20230809-01 (860-55139-5), MW-17-20230809-01 (860-55139-6), MW-15-20230809-01 (860-55139-7), MW-16-20230809-01 (860-55139-8), DUP-01-20230809-01 (860-55139-9), FB-01-20230809-01 (860-55139-10), (LCS 160-624480/2-A), (MB 160-624480/1-A), (810-73402-A-1-A) and (810-73402-B-1-A DU)

Method 904.0: Radium-228 batch 624482

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-7-20230808-01 (860-55139-1), MW-11-20230808-01 (860-55139-2), MW-12-20230808-01 (860-55139-3), MW-13-20230809-01 (860-55139-4), MW-14-20230809-01 (860-55139-5), MW-17-20230809-01 (860-55139-6), MW-15-20230809-01 (860-55139-7), MW-16-20230809-01 (860-55139-8), DUP-01-20230809-01 (860-55139-9), FB-01-20230809-01 (860-55139-10), (LCS 160-624482/2-A), (MB 160-624482/1-A), (810-73402-A-1-B) and (810-73402-B-1-B DU)

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

Rad

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

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-7-20230808-01

Lab Sample ID: 860-55139-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	259		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	865		5.00	2.00	mg/L	10		300.0	Total/NA
Boron	0.208		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	273		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0144		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00102	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1750		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11-20230808-01

Lab Sample ID: 860-55139-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	118		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	409		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.325	J	0.500	0.100	mg/L	1		300.0	Total/NA
Boron	0.144		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	120		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0166		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00180	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	917		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-12-20230808-01

Lab Sample ID: 860-55139-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78.3		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	45.7		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0332		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	22.3		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0884		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00296		0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	270		5.00	5.00	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-13-20230809-01

Lab Sample ID: 860-55139-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	114		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	125		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0496		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	40.7		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0693		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00120	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00273		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	507		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.3	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14-20230809-01

Lab Sample ID: 860-55139-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	499		0.500	0.250	mg/L	1		300.0	Total/NA
Fluoride	0.562		0.500	0.100	mg/L	1		300.0	Total/NA
Sulfate - DL	1150		5.00	2.00	mg/L	10		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-14-20230809-01 (Continued)

Lab Sample ID: 860-55139-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0512		0.0400	0.0365	mg/L	1		6010D	Total/NA
Boron	3.33		0.100	0.0401	mg/L	10		6020B	Total/NA
Calcium	336		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0207		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00365		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.856		0.0200	0.00266	mg/L	10		6020B	Total/NA
Total Dissolved Solids	2940		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-17-20230809-01

Lab Sample ID: 860-55139-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	619		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate	54.6		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.223	J	0.500	0.100	mg/L	1		300.0	Total/NA
Boron	0.0933		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	156		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.181		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00223		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00607		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1740		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	5.9	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15-20230809-01

Lab Sample ID: 860-55139-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	136		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	44.7		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0704		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	34.1		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.112		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00374		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	498		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-16-20230809-01

Lab Sample ID: 860-55139-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	187		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	101		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.130	J	0.500	0.100	mg/L	1		300.0	Total/NA
Boron	0.0437		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	72.4		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0475		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00168	J	0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	792		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-01-20230809-01

Lab Sample ID: 860-55139-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	136		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	42.6		0.500	0.200	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: DUP-01-20230809-01 (Continued)

Lab Sample ID: 860-55139-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.133	J	0.500	0.100	mg/L	1		300.0	Total/NA
Boron	0.0513		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	33.6		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.105		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00278		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	444		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: FB-01-20230809-01

Lab Sample ID: 860-55139-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.00953	J	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	0.0445	J	0.100	0.0301	mg/L	1		6020B	Total/NA
pH	6.0	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-7-20230808-01

Lab Sample ID: 860-55139-1

Date Collected: 08/08/23 15:05

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	259		0.500	0.250	mg/L			08/14/23 19:05	1
Sulfate	865		5.00	2.00	mg/L			08/15/23 16:06	10
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 19:05	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 17:44	1
Boron	0.208		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 17:44	1
Calcium	273		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 17:51	50
Barium	0.0144		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 17:44	1
Cobalt	0.00102	J	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 17:44	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 17:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1750		20.0	20.0	mg/L			08/14/23 10:04	1
pH (SM 4500 H+ B)	6.6	HF			SU			08/15/23 17:10	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.186		0.0958	0.0973	1.00	0.119	pCi/L	08/17/23 10:24	09/08/23 09:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		30 - 110					08/17/23 10:24	09/08/23 09:31	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.335	U	0.326	0.327	1.00	0.521	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	82.2		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.521		0.340	0.341	5.00	0.521	pCi/L		09/14/23 08:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-11-20230808-01

Lab Sample ID: 860-55139-2

Date Collected: 08/08/23 16:15

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	118		0.500	0.250	mg/L			08/14/23 19:28	1
Sulfate	409		0.500	0.200	mg/L			08/14/23 19:28	1
Fluoride	0.325	J	0.500	0.100	mg/L			08/14/23 19:28	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 17:46	1
Boron	0.144		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 17:46	1
Calcium	120		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 17:53	50
Barium	0.0166		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 17:46	1
Cobalt	0.00180	J	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 17:46	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 17:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	917		10.0	10.0	mg/L			08/14/23 10:04	1
pH (SM 4500 H+ B)	6.6	HF			SU			08/15/23 17:13	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0800	U	0.0680	0.0684	1.00	0.0992	pCi/L	08/17/23 10:24	09/08/23 09:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.7		30 - 110					08/17/23 10:24	09/08/23 09:32	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.196	U	0.370	0.371	1.00	0.636	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.7		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	83.0		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.276	U	0.376	0.377	5.00	0.636	pCi/L		09/14/23 08:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-12-20230808-01

Lab Sample ID: 860-55139-3

Date Collected: 08/08/23 17:25

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.3		0.500	0.250	mg/L			08/14/23 19:38	1
Sulfate	45.7		0.500	0.200	mg/L			08/14/23 19:38	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 19:38	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 17:48	1
Boron	0.0332		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 17:48	1
Calcium	22.3		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 17:55	50
Barium	0.0884		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 17:48	1
Cobalt	0.00296		0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 17:48	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 17:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	270		5.00	5.00	mg/L			08/14/23 10:04	1
pH (SM 4500 H+ B)	6.4	HF			SU			08/15/23 17:14	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.750		0.160	0.173	1.00	0.0971	pCi/L	08/17/23 10:24	09/08/23 09:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		30 - 110					08/17/23 10:24	09/08/23 09:32	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.24		0.435	0.449	1.00	0.531	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	82.6		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.99		0.463	0.481	5.00	0.531	pCi/L		09/14/23 08:49	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-13-20230809-01

Lab Sample ID: 860-55139-4

Date Collected: 08/09/23 08:40

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	114		0.500	0.250	mg/L			08/14/23 19:48	1
Sulfate	125		0.500	0.200	mg/L			08/14/23 19:48	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 19:48	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:02	1
Boron	0.0496		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 18:02	1
Calcium	40.7		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 18:14	50
Barium	0.0693		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:02	1
Cobalt	0.00120	J	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:02	1
Selenium	0.00273		0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 18:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	507		10.0	10.0	mg/L			08/14/23 10:04	1
pH (SM 4500 H+ B)	6.3	HF			SU			08/15/23 17:16	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.716		0.158	0.171	1.00	0.0970	pCi/L	08/17/23 10:24	09/08/23 09:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.2		30 - 110					08/17/23 10:24	09/08/23 09:32	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.45		0.430	0.450	1.00	0.465	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.2		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	84.1		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.17		0.458	0.481	5.00	0.465	pCi/L		09/14/23 08:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-14-20230809-01

Lab Sample ID: 860-55139-5

Date Collected: 08/09/23 09:40

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	499		0.500	0.250	mg/L			08/14/23 20:36	1
Fluoride	0.562		0.500	0.100	mg/L			08/14/23 20:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1150		5.00	2.00	mg/L			08/14/23 20:46	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0512		0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:05	1
Boron	3.33		0.100	0.0401	mg/L		08/13/23 10:30	08/13/23 18:39	10
Calcium	336		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 18:16	50
Barium	0.0207		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:05	1
Cobalt	0.00365		0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:05	1
Selenium	0.856		0.0200	0.00266	mg/L		08/13/23 10:30	08/13/23 18:39	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2940		40.0	40.0	mg/L			08/14/23 10:04	1
pH (SM 4500 H+ B)	6.6	HF			SU			08/15/23 17:17	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.383		0.123	0.127	1.00	0.108	pCi/L	08/17/23 10:24	09/08/23 09:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		30 - 110					08/17/23 10:24	09/08/23 09:32	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.45		0.455	0.474	1.00	0.533	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	86.4		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.83		0.471	0.491	5.00	0.533	pCi/L		09/14/23 08:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-17-20230809-01

Lab Sample ID: 860-55139-6

Date Collected: 08/09/23 10:45

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	619		5.00	2.50	mg/L			08/15/23 16:13	10
Sulfate	54.6		0.500	0.200	mg/L			08/14/23 19:57	1
Fluoride	0.223	J	0.500	0.100	mg/L			08/14/23 19:57	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:07	1
Boron	0.0933		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 18:07	1
Calcium	156		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 18:19	50
Barium	0.181		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:07	1
Cobalt	0.00223		0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:07	1
Selenium	0.00607		0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 18:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1740		20.0	20.0	mg/L			08/14/23 10:04	1
pH (SM 4500 H+ B)	5.9	HF			SU			08/15/23 17:19	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.03		0.190	0.212	1.00	0.112	pCi/L	08/17/23 10:24	09/08/23 09:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		30 - 110					08/17/23 10:24	09/08/23 09:32	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.35		0.525	0.568	1.00	0.491	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	82.2		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.38		0.558	0.606	5.00	0.491	pCi/L		09/14/23 08:49	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-15-20230809-01

Lab Sample ID: 860-55139-7

Date Collected: 08/09/23 12:05

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	136		0.500	0.250	mg/L			08/14/23 20:26	1
Sulfate	44.7		0.500	0.200	mg/L			08/14/23 20:26	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 20:26	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:09	1
Boron	0.0704		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 18:09	1
Calcium	34.1		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 18:21	50
Barium	0.112		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:09	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:09	1
Selenium	0.00374		0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 18:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	498		10.0	10.0	mg/L			08/14/23 10:08	1
pH (SM 4500 H+ B)	6.5	HF			SU			08/15/23 17:21	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.468		0.136	0.142	1.00	0.116	pCi/L	08/17/23 10:24	09/08/23 09:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		30 - 110					08/17/23 10:24	09/08/23 09:32	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.723		0.364	0.370	1.00	0.502	pCi/L	08/17/23 10:32	09/01/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		30 - 110					08/17/23 10:32	09/01/23 11:26	1
Y Carrier	86.4		30 - 110					08/17/23 10:32	09/01/23 11:26	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.19		0.389	0.396	5.00	0.502	pCi/L		09/14/23 08:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-16-20230809-01

Lab Sample ID: 860-55139-8

Date Collected: 08/09/23 13:55

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	187		0.500	0.250	mg/L			08/14/23 19:24	1
Sulfate	101		0.500	0.200	mg/L			08/14/23 19:24	1
Fluoride	0.130	J	0.500	0.100	mg/L			08/14/23 19:24	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:12	1
Boron	0.0437		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 18:12	1
Calcium	72.4		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 18:23	50
Barium	0.0475		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:12	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:12	1
Selenium	0.00168	J	0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 18:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	792		10.0	10.0	mg/L			08/14/23 10:08	1
pH (SM 4500 H+ B)	6.7	HF			SU			08/15/23 17:23	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.960		0.185	0.204	1.00	0.102	pCi/L	08/17/23 10:24	09/08/23 09:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					08/17/23 10:24	09/08/23 09:33	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.618		0.401	0.405	1.00	0.596	pCi/L	08/17/23 10:32	09/01/23 11:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					08/17/23 10:32	09/01/23 11:31	1
Y Carrier	81.1		30 - 110					08/17/23 10:32	09/01/23 11:31	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.58		0.442	0.453	5.00	0.596	pCi/L		09/14/23 08:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: DUP-01-20230809-01

Lab Sample ID: 860-55139-9

Date Collected: 08/09/23 06:00

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	136		0.500	0.250	mg/L			08/14/23 19:53	1
Sulfate	42.6		0.500	0.200	mg/L			08/14/23 19:53	1
Fluoride	0.133	J	0.500	0.100	mg/L			08/14/23 19:53	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:32	1
Boron	0.0513		0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 18:32	1
Calcium	33.6		5.00	1.50	mg/L		08/13/23 10:30	08/13/23 18:37	50
Barium	0.105		0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:32	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:32	1
Selenium	0.00278		0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 18:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	444		10.0	10.0	mg/L			08/14/23 10:08	1
pH (SM 4500 H+ B)	6.6	HF			SU			08/15/23 17:25	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.555		0.143	0.151	1.00	0.0977	pCi/L	08/17/23 10:24	09/08/23 09:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110					08/17/23 10:24	09/08/23 09:34	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.21		0.419	0.433	1.00	0.501	pCi/L	08/17/23 10:32	09/01/23 11:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110					08/17/23 10:32	09/01/23 11:31	1
Y Carrier	87.1		30 - 110					08/17/23 10:32	09/01/23 11:31	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.77		0.443	0.459	5.00	0.501	pCi/L		09/14/23 08:49	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: FB-01-20230809-01

Lab Sample ID: 860-55139-10

Date Collected: 08/09/23 00:00

Matrix: Water

Date Received: 08/11/23 12:46

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			08/14/23 20:03	1
Sulfate	<0.200	U	0.500	0.200	mg/L			08/14/23 20:03	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 20:03	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 13:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 18:35	1
Boron	0.00953	J	0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 18:35	1
Calcium	0.0445	J	0.100	0.0301	mg/L		08/13/23 10:30	08/13/23 18:35	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 18:35	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 18:35	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			08/14/23 10:08	1
pH (SM 4500 H+ B)	6.0	HF			SU			08/15/23 17:27	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0571	U	0.0592	0.0595	1.00	0.0915	pCi/L	08/17/23 10:24	09/08/23 09:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		30 - 110					08/17/23 10:24	09/08/23 09:34	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0997	U	0.247	0.247	1.00	0.499	pCi/L	08/17/23 10:32	09/01/23 11:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		30 - 110					08/17/23 10:32	09/01/23 11:31	1
Y Carrier	86.4		30 - 110					08/17/23 10:32	09/01/23 11:31	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0571	U	0.254	0.254	5.00	0.499	pCi/L		09/14/23 08:49	1

Eurofins Houston

Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba					
Lab Sample ID	Client Sample ID	(30-110)					
810-73402-B-1-A DU	Duplicate	88.7					
860-55139-1	MW-7-20230808-01	93.5					
860-55139-2	MW-11-20230808-01	90.7					
860-55139-3	MW-12-20230808-01	91.2					
860-55139-4	MW-13-20230809-01	92.2					
860-55139-5	MW-14-20230809-01	90.0					
860-55139-6	MW-17-20230809-01	91.0					
860-55139-7	MW-15-20230809-01	90.2					
860-55139-8	MW-16-20230809-01	87.5					
860-55139-9	DUP-01-20230809-01	90.5					
860-55139-10	FB-01-20230809-01	91.0					
LCS 160-624480/2-A	Lab Control Sample	97.0					
MB 160-624480/1-A	Method Blank	87.5					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba	Y				
Lab Sample ID	Client Sample ID	(30-110)	(30-110)				
810-73402-B-1-B DU	Duplicate	88.7	83.7				
860-55139-1	MW-7-20230808-01	93.5	82.2				
860-55139-2	MW-11-20230808-01	90.7	83.0				
860-55139-3	MW-12-20230808-01	91.2	82.6				
860-55139-4	MW-13-20230809-01	92.2	84.1				
860-55139-5	MW-14-20230809-01	90.0	86.4				
860-55139-6	MW-17-20230809-01	91.0	82.2				
860-55139-7	MW-15-20230809-01	90.2	86.4				
860-55139-8	MW-16-20230809-01	87.5	81.1				
860-55139-9	DUP-01-20230809-01	90.5	87.1				
860-55139-10	FB-01-20230809-01	91.0	86.4				
LCS 160-624482/2-A	Lab Control Sample	97.0	78.5				
MB 160-624482/1-A	Method Blank	87.5	84.1				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-117043/3

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			08/14/23 12:05	1
Sulfate	<0.200	U	0.500	0.200	mg/L			08/14/23 12:05	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 12:05	1

Lab Sample ID: LCS 860-117043/4

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.608		mg/L		96	90 - 110
Sulfate	10.0	10.90		mg/L		109	90 - 110
Fluoride	10.0	9.795		mg/L		98	90 - 110

Lab Sample ID: LCSD 860-117043/5

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.622		mg/L		96	90 - 110	0	20
Sulfate	10.0	10.86		mg/L		109	90 - 110	0	20
Fluoride	10.0	9.916		mg/L		99	90 - 110	1	20

Lab Sample ID: LLCS 860-117043/7

Matrix: Water

Analysis Batch: 117043

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4659	J	mg/L		93	50 - 150
Sulfate	0.500	0.4847	J	mg/L		97	50 - 150
Fluoride	0.500	0.3318	J	mg/L		66	50 - 150

Lab Sample ID: 860-55139-1 MS

Matrix: Water

Analysis Batch: 117043

Client Sample ID: MW-7-20230808-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	259		10.0	266.0	4	mg/L		71	90 - 110
Fluoride	<0.100	U	10.0	8.642	N1	mg/L		86	90 - 110

Lab Sample ID: 860-55139-1 MSD

Matrix: Water

Analysis Batch: 117043

Client Sample ID: MW-7-20230808-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	259		10.0	266.5	4	mg/L		75	90 - 110	0	15
Fluoride	<0.100	U	10.0	8.602	N1	mg/L		86	90 - 110	0	15

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 860-117046/3

Matrix: Water

Analysis Batch: 117046

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			08/14/23 14:47	1
Sulfate	<0.200	U	0.500	0.200	mg/L			08/14/23 14:47	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/14/23 14:47	1

Lab Sample ID: LCS 860-117046/4

Matrix: Water

Analysis Batch: 117046

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.08		mg/L		101	90 - 110
Sulfate	10.0	10.08		mg/L		101	90 - 110
Fluoride	10.0	10.58		mg/L		106	90 - 110

Lab Sample ID: LCSD 860-117046/5

Matrix: Water

Analysis Batch: 117046

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	10.05		mg/L		101	90 - 110	0	20
Sulfate	10.0	10.13		mg/L		101	90 - 110	1	20
Fluoride	10.0	10.59		mg/L		106	90 - 110	0	20

Lab Sample ID: LLCS 860-117046/7

Matrix: Water

Analysis Batch: 117046

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.5210		mg/L		104	50 - 150
Sulfate	0.500	0.5189		mg/L		104	50 - 150
Fluoride	0.500	0.5750		mg/L		115	50 - 150

Lab Sample ID: 860-55139-8 MS

Matrix: Water

Analysis Batch: 117046

Client Sample ID: MW-16-20230809-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	187		10.0	197.4	4	mg/L		100	90 - 110
Sulfate	101		10.0	110.6	4	mg/L		96	90 - 110
Fluoride	0.130	J	10.0	9.820		mg/L		97	90 - 110

Lab Sample ID: 860-55139-8 MSD

Matrix: Water

Analysis Batch: 117046

Client Sample ID: MW-16-20230809-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	187		10.0	196.5	4	mg/L		91	90 - 110	0	15
Sulfate	101		10.0	110.4	4	mg/L		95	90 - 110	0	15
Fluoride	0.130	J	10.0	9.967		mg/L		98	90 - 110	1	15

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 860-117282/3

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			08/15/23 14:32	1
Sulfate	<0.200	U	0.500	0.200	mg/L			08/15/23 14:32	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/15/23 14:32	1

Lab Sample ID: MB 860-117282/58

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			08/15/23 22:46	1
Sulfate	<0.200	U	0.500	0.200	mg/L			08/15/23 22:46	1
Fluoride	<0.100	U	0.500	0.100	mg/L			08/15/23 22:46	1

Lab Sample ID: LCS 860-117282/4

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.645		mg/L		96	90 - 110
Sulfate	10.0	10.55		mg/L		106	90 - 110
Fluoride	10.0	10.05		mg/L		100	90 - 110

Lab Sample ID: LCS 860-117282/59

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.814		mg/L		98	90 - 110
Sulfate	10.0	10.91		mg/L		109	90 - 110
Fluoride	10.0	10.35		mg/L		104	90 - 110

Lab Sample ID: LCSD 860-117282/5

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.667		mg/L		97	90 - 110	0	20
Sulfate	10.0	10.66		mg/L		107	90 - 110	1	20
Fluoride	10.0	10.09		mg/L		101	90 - 110	0	20

Lab Sample ID: LCSD 860-117282/60

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.788		mg/L		98	90 - 110	0	20
Sulfate	10.0	10.88		mg/L		109	90 - 110	0	20
Fluoride	10.0	10.27		mg/L		103	90 - 110	1	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LLCS 860-117282/7

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4799	J	mg/L		96	50 - 150
Sulfate	0.500	0.5004		mg/L		100	50 - 150
Fluoride	0.500	0.3446	J	mg/L		69	50 - 150

Lab Sample ID: 860-55300-A-1 MS

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	56.8		100	132.5	N1	mg/L		76	90 - 110
Fluoride	1.12	J	100	93.18		mg/L		92	90 - 110

Lab Sample ID: 860-55300-A-1 MSD

Matrix: Water

Analysis Batch: 117282

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	56.8		100	132.7	N1	mg/L		76	90 - 110	0	15
Fluoride	1.12	J	100	92.86		mg/L		92	90 - 110	0	15

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-116933/1-A

Matrix: Water

Analysis Batch: 117096

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 116933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0365	U	0.0400	0.0365	mg/L		08/13/23 10:00	08/14/23 12:54	1

Lab Sample ID: LCS 860-116933/2-A

Matrix: Water

Analysis Batch: 117096

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 116933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9840		mg/L		98	80 - 120

Lab Sample ID: LCSD 860-116933/3-A

Matrix: Water

Analysis Batch: 117096

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 116933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9840		mg/L		98	80 - 120	0	20

Lab Sample ID: 860-55139-1 MS

Matrix: Water

Analysis Batch: 117096

Client Sample ID: MW-7-20230808-01

Prep Type: Total/NA

Prep Batch: 116933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.0365	U	1.00	1.030		mg/L		103	

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 860-55139-1 MSD
Matrix: Water
Analysis Batch: 117096

Client Sample ID: MW-7-20230808-01
Prep Type: Total/NA
Prep Batch: 116933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.0365	U	1.00	1.020		mg/L		102		1	

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-116935/1-A
Matrix: Water
Analysis Batch: 116994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 116935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		08/13/23 10:30	08/13/23 17:14	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		08/13/23 10:30	08/13/23 17:14	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		08/13/23 10:30	08/13/23 17:14	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		08/13/23 10:30	08/13/23 17:14	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		08/13/23 10:30	08/13/23 17:14	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		08/13/23 10:30	08/13/23 17:14	1

Lab Sample ID: LCS 860-116935/2-A
Matrix: Water
Analysis Batch: 116994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 116935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09643		mg/L		96	80 - 120
Boron	0.100	0.09473		mg/L		95	80 - 120
Arsenic	0.100	0.09893		mg/L		99	80 - 120
Calcium	2.50	2.694		mg/L		108	80 - 120
Barium	0.100	0.09771		mg/L		98	80 - 120
Beryllium	0.100	0.09530		mg/L		95	80 - 120
Cadmium	0.100	0.1003		mg/L		100	80 - 120
Chromium	0.100	0.1012		mg/L		101	80 - 120
Cobalt	0.100	0.09903		mg/L		99	80 - 120
Lead	0.100	0.09849		mg/L		98	80 - 120
Molybdenum	0.100	0.09997		mg/L		100	80 - 120
Selenium	0.100	0.09804		mg/L		98	80 - 120
Thallium	0.100	0.09863		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-116935/3-A
Matrix: Water
Analysis Batch: 116994

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 116935

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09778		mg/L		98	80 - 120	1	20
Boron	0.100	0.09780		mg/L		98	80 - 120	3	20
Arsenic	0.100	0.09888		mg/L		99	80 - 120	0	20
Calcium	2.50	2.716		mg/L		109	80 - 120	1	20
Barium	0.100	0.09670		mg/L		97	80 - 120	1	20
Beryllium	0.100	0.09468		mg/L		95	80 - 120	1	20
Cadmium	0.100	0.09891		mg/L		99	80 - 120	1	20
Chromium	0.100	0.1001		mg/L		100	80 - 120	1	20
Cobalt	0.100	0.09850		mg/L		98	80 - 120	1	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

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

Lab Sample ID: LCSD 860-116935/3-A
Matrix: Water
Analysis Batch: 116994

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 116935

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	0.100	0.09890		mg/L		99	80 - 120	0	20
Molybdenum	0.100	0.1001		mg/L		100	80 - 120	0	20
Selenium	0.100	0.09540		mg/L		95	80 - 120	3	20
Thallium	0.100	0.09939		mg/L		99	80 - 120	1	20

Lab Sample ID: 860-55109-C-1-A MS
Matrix: Water
Analysis Batch: 116994

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 116935

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00402		0.100	0.08923		mg/L		85	75 - 125
Boron	0.0498		0.100	0.1345		mg/L		85	75 - 125
Arsenic	0.00101	J	0.100	0.09158		mg/L		91	75 - 125
Calcium	50.6		2.50	50.97	4	mg/L		16	75 - 125
Barium	0.256		0.100	0.3385		mg/L		83	75 - 125
Beryllium	0.000559	J	0.100	0.08323		mg/L		83	75 - 125
Cadmium	<0.000240	U	0.100	0.09164		mg/L		92	75 - 125
Chromium	0.00706		0.100	0.09851		mg/L		91	75 - 125
Cobalt	0.00225		0.100	0.09341		mg/L		91	75 - 125
Lead	0.00354		0.100	0.09620		mg/L		93	75 - 125
Molybdenum	0.000278	J	0.100	0.09387		mg/L		94	75 - 125
Selenium	0.000749	J	0.100	0.08874		mg/L		88	75 - 125
Thallium	0.000207	J	0.100	0.09275		mg/L		93	75 - 125

Lab Sample ID: 860-55109-C-1-B MSD
Matrix: Water
Analysis Batch: 116994

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 116935

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00402		0.100	0.09633		mg/L		92	75 - 125	8	20
Boron	0.0498		0.100	0.1466		mg/L		97	75 - 125	9	20
Arsenic	0.00101	J	0.100	0.09696		mg/L		96	75 - 125	6	20
Calcium	50.6		2.50	55.40	4	mg/L		192	75 - 125	8	20
Barium	0.256		0.100	0.3614		mg/L		105	75 - 125	7	20
Beryllium	0.000559	J	0.100	0.08996		mg/L		89	75 - 125	8	20
Cadmium	<0.000240	U	0.100	0.09726		mg/L		97	75 - 125	6	20
Chromium	0.00706		0.100	0.1057		mg/L		99	75 - 125	7	20
Cobalt	0.00225		0.100	0.09828		mg/L		96	75 - 125	5	20
Lead	0.00354		0.100	0.1036		mg/L		100	75 - 125	7	20
Molybdenum	0.000278	J	0.100	0.09989		mg/L		100	75 - 125	6	20
Selenium	0.000749	J	0.100	0.09241		mg/L		92	75 - 125	4	20
Thallium	0.000207	J	0.100	0.09986		mg/L		100	75 - 125	7	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-117006/1
Matrix: Water
Analysis Batch: 117006

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			08/14/23 10:04	1

Lab Sample ID: LCS 860-117006/2
Matrix: Water
Analysis Batch: 117006

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1010		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-117006/3
Matrix: Water
Analysis Batch: 117006

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1008		mg/L		101	80 - 120	0	10

Lab Sample ID: LLCS 860-117006/4
Matrix: Water
Analysis Batch: 117006

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	5.00	5.000		mg/L		100	50 - 150

Lab Sample ID: 820-9645-A-1 DU
Matrix: Water
Analysis Batch: 117006

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	579		578.0		mg/L		0.2	10

Lab Sample ID: MB 860-117013/1
Matrix: Water
Analysis Batch: 117013

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			08/14/23 10:08	1

Lab Sample ID: LCS 860-117013/2
Matrix: Water
Analysis Batch: 117013

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1010		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-117013/3
Matrix: Water
Analysis Batch: 117013

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1008		mg/L		101	80 - 120	0	10

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LLCS 860-117013/4
Matrix: Water
Analysis Batch: 117013

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	5.00	<5.00	U	mg/L		60	50 - 150

Lab Sample ID: 860-55139-7 DU
Matrix: Water
Analysis Batch: 117013

Client Sample ID: MW-15-20230809-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	498		495.0		mg/L		0.6	10

Lab Sample ID: 860-55139-8 DU
Matrix: Water
Analysis Batch: 117013

Client Sample ID: MW-16-20230809-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	792		793.0		mg/L		0.1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 860-55139-1 DU
Matrix: Water
Analysis Batch: 117321

Client Sample ID: MW-7-20230808-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.6	HF	6.6		SU		0.9	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-624480/1-A
Matrix: Water
Analysis Batch: 627241

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624480

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03306	U	0.0610	0.0610	1.00	0.139	pCi/L	08/17/23 10:24	09/08/23 07:21	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					08/17/23 10:24	09/08/23 07:21	1

Lab Sample ID: LCS 160-624480/2-A
Matrix: Water
Analysis Batch: 627241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624480

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.90		1.14	1.00	0.117	pCi/L	96	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	97.0		30 - 110						

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 810-73402-B-1-A DU
Matrix: Water
Analysis Batch: 627236

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 624480

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.223		0.1206	U	0.101	1.00	0.153	pCi/L	0.51	1
DU DU										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	88.7		30 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-624482/1-A
Matrix: Water
Analysis Batch: 626385

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624482

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1021	U	0.289	0.289	1.00	0.516	pCi/L	08/17/23 10:32	09/01/23 11:25	1
MB MB										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	87.5		30 - 110							
Y Carrier	84.1		30 - 110							
								Prepared	Analyzed	Dil Fac
								08/17/23 10:32	09/01/23 11:25	1
								08/17/23 10:32	09/01/23 11:25	1

Lab Sample ID: LCS 160-624482/2-A
Matrix: Water
Analysis Batch: 626385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624482

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	7.91	7.750		1.11	1.00	0.455	pCi/L	98	75 - 125
LCS LCS									
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	97.0		30 - 110						
Y Carrier	78.5		30 - 110						

Lab Sample ID: 810-73402-B-1-B DU
Matrix: Water
Analysis Batch: 626385

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 624482

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.161	U	0.1981	U	0.304	1.00	0.515	pCi/L	0.06	1
DU DU										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	88.7		30 - 110							
Y Carrier	83.7		30 - 110							

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

HPLC/IC

Analysis Batch: 117043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	300.0	
860-55139-2	MW-11-20230808-01	Total/NA	Water	300.0	
860-55139-3	MW-12-20230808-01	Total/NA	Water	300.0	
860-55139-4	MW-13-20230809-01	Total/NA	Water	300.0	
860-55139-5	MW-14-20230809-01	Total/NA	Water	300.0	
860-55139-5 - DL	MW-14-20230809-01	Total/NA	Water	300.0	
860-55139-6	MW-17-20230809-01	Total/NA	Water	300.0	
860-55139-7	MW-15-20230809-01	Total/NA	Water	300.0	
MB 860-117043/3	Method Blank	Total/NA	Water	300.0	
LCS 860-117043/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-117043/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-117043/7	Lab Control Sample	Total/NA	Water	300.0	
860-55139-1 MS	MW-7-20230808-01	Total/NA	Water	300.0	
860-55139-1 MSD	MW-7-20230808-01	Total/NA	Water	300.0	

Analysis Batch: 117046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-8	MW-16-20230809-01	Total/NA	Water	300.0	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	300.0	
860-55139-10	FB-01-20230809-01	Total/NA	Water	300.0	
MB 860-117046/3	Method Blank	Total/NA	Water	300.0	
LCS 860-117046/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-117046/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-117046/7	Lab Control Sample	Total/NA	Water	300.0	
860-55139-8 MS	MW-16-20230809-01	Total/NA	Water	300.0	
860-55139-8 MSD	MW-16-20230809-01	Total/NA	Water	300.0	

Analysis Batch: 117282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	300.0	
860-55139-6	MW-17-20230809-01	Total/NA	Water	300.0	
MB 860-117282/3	Method Blank	Total/NA	Water	300.0	
MB 860-117282/58	Method Blank	Total/NA	Water	300.0	
LCS 860-117282/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-117282/59	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-117282/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-117282/60	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-117282/7	Lab Control Sample	Total/NA	Water	300.0	
860-55300-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
860-55300-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 116933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	3010A	
860-55139-2	MW-11-20230808-01	Total/NA	Water	3010A	
860-55139-3	MW-12-20230808-01	Total/NA	Water	3010A	
860-55139-4	MW-13-20230809-01	Total/NA	Water	3010A	
860-55139-5	MW-14-20230809-01	Total/NA	Water	3010A	
860-55139-6	MW-17-20230809-01	Total/NA	Water	3010A	

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Metals (Continued)

Prep Batch: 116933 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-7	MW-15-20230809-01	Total/NA	Water	3010A	
860-55139-8	MW-16-20230809-01	Total/NA	Water	3010A	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	3010A	
860-55139-10	FB-01-20230809-01	Total/NA	Water	3010A	
MB 860-116933/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-116933/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-116933/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-55139-1 MS	MW-7-20230808-01	Total/NA	Water	3010A	
860-55139-1 MSD	MW-7-20230808-01	Total/NA	Water	3010A	

Prep Batch: 116935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	3010A	
860-55139-2	MW-11-20230808-01	Total/NA	Water	3010A	
860-55139-3	MW-12-20230808-01	Total/NA	Water	3010A	
860-55139-4	MW-13-20230809-01	Total/NA	Water	3010A	
860-55139-5	MW-14-20230809-01	Total/NA	Water	3010A	
860-55139-6	MW-17-20230809-01	Total/NA	Water	3010A	
860-55139-7	MW-15-20230809-01	Total/NA	Water	3010A	
860-55139-8	MW-16-20230809-01	Total/NA	Water	3010A	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	3010A	
860-55139-10	FB-01-20230809-01	Total/NA	Water	3010A	
MB 860-116935/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-116935/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-116935/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-55109-C-1-A MS	Matrix Spike	Total/NA	Water	3010A	
860-55109-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 116994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	6020B	116935
860-55139-1	MW-7-20230808-01	Total/NA	Water	6020B	116935
860-55139-2	MW-11-20230808-01	Total/NA	Water	6020B	116935
860-55139-2	MW-11-20230808-01	Total/NA	Water	6020B	116935
860-55139-3	MW-12-20230808-01	Total/NA	Water	6020B	116935
860-55139-3	MW-12-20230808-01	Total/NA	Water	6020B	116935
860-55139-4	MW-13-20230809-01	Total/NA	Water	6020B	116935
860-55139-4	MW-13-20230809-01	Total/NA	Water	6020B	116935
860-55139-5	MW-14-20230809-01	Total/NA	Water	6020B	116935
860-55139-5	MW-14-20230809-01	Total/NA	Water	6020B	116935
860-55139-5	MW-14-20230809-01	Total/NA	Water	6020B	116935
860-55139-6	MW-17-20230809-01	Total/NA	Water	6020B	116935
860-55139-6	MW-17-20230809-01	Total/NA	Water	6020B	116935
860-55139-7	MW-15-20230809-01	Total/NA	Water	6020B	116935
860-55139-7	MW-15-20230809-01	Total/NA	Water	6020B	116935
860-55139-8	MW-16-20230809-01	Total/NA	Water	6020B	116935
860-55139-8	MW-16-20230809-01	Total/NA	Water	6020B	116935
860-55139-9	DUP-01-20230809-01	Total/NA	Water	6020B	116935
860-55139-9	DUP-01-20230809-01	Total/NA	Water	6020B	116935
860-55139-10	FB-01-20230809-01	Total/NA	Water	6020B	116935
MB 860-116935/1-A	Method Blank	Total/NA	Water	6020B	116935

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Metals (Continued)

Analysis Batch: 116994 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 860-116935/2-A	Lab Control Sample	Total/NA	Water	6020B	116935
LCSD 860-116935/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	116935
860-55109-C-1-A MS	Matrix Spike	Total/NA	Water	6020B	116935
860-55109-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	116935

Analysis Batch: 117096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	6010D	116933
860-55139-2	MW-11-20230808-01	Total/NA	Water	6010D	116933
860-55139-3	MW-12-20230808-01	Total/NA	Water	6010D	116933
860-55139-4	MW-13-20230809-01	Total/NA	Water	6010D	116933
860-55139-5	MW-14-20230809-01	Total/NA	Water	6010D	116933
860-55139-6	MW-17-20230809-01	Total/NA	Water	6010D	116933
860-55139-7	MW-15-20230809-01	Total/NA	Water	6010D	116933
860-55139-8	MW-16-20230809-01	Total/NA	Water	6010D	116933
860-55139-9	DUP-01-20230809-01	Total/NA	Water	6010D	116933
860-55139-10	FB-01-20230809-01	Total/NA	Water	6010D	116933
MB 860-116933/1-A	Method Blank	Total/NA	Water	6010D	116933
LCS 860-116933/2-A	Lab Control Sample	Total/NA	Water	6010D	116933
LCSD 860-116933/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	116933
860-55139-1 MS	MW-7-20230808-01	Total/NA	Water	6010D	116933
860-55139-1 MSD	MW-7-20230808-01	Total/NA	Water	6010D	116933

General Chemistry

Analysis Batch: 117006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	SM 2540C	
860-55139-2	MW-11-20230808-01	Total/NA	Water	SM 2540C	
860-55139-3	MW-12-20230808-01	Total/NA	Water	SM 2540C	
860-55139-4	MW-13-20230809-01	Total/NA	Water	SM 2540C	
860-55139-5	MW-14-20230809-01	Total/NA	Water	SM 2540C	
860-55139-6	MW-17-20230809-01	Total/NA	Water	SM 2540C	
MB 860-117006/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-117006/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-117006/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-117006/4	Lab Control Sample	Total/NA	Water	SM 2540C	
820-9645-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 117013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-7	MW-15-20230809-01	Total/NA	Water	SM 2540C	
860-55139-8	MW-16-20230809-01	Total/NA	Water	SM 2540C	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	SM 2540C	
860-55139-10	FB-01-20230809-01	Total/NA	Water	SM 2540C	
MB 860-117013/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-117013/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-117013/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-117013/4	Lab Control Sample	Total/NA	Water	SM 2540C	
860-55139-7 DU	MW-15-20230809-01	Total/NA	Water	SM 2540C	
860-55139-8 DU	MW-16-20230809-01	Total/NA	Water	SM 2540C	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

General Chemistry

Analysis Batch: 117321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	SM 4500 H+ B	
860-55139-2	MW-11-20230808-01	Total/NA	Water	SM 4500 H+ B	
860-55139-3	MW-12-20230808-01	Total/NA	Water	SM 4500 H+ B	
860-55139-4	MW-13-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-5	MW-14-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-6	MW-17-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-7	MW-15-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-8	MW-16-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-10	FB-01-20230809-01	Total/NA	Water	SM 4500 H+ B	
860-55139-1 DU	MW-7-20230808-01	Total/NA	Water	SM 4500 H+ B	

Rad

Prep Batch: 624480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	PrecSep-21	
860-55139-2	MW-11-20230808-01	Total/NA	Water	PrecSep-21	
860-55139-3	MW-12-20230808-01	Total/NA	Water	PrecSep-21	
860-55139-4	MW-13-20230809-01	Total/NA	Water	PrecSep-21	
860-55139-5	MW-14-20230809-01	Total/NA	Water	PrecSep-21	
860-55139-6	MW-17-20230809-01	Total/NA	Water	PrecSep-21	
860-55139-7	MW-15-20230809-01	Total/NA	Water	PrecSep-21	
860-55139-8	MW-16-20230809-01	Total/NA	Water	PrecSep-21	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	PrecSep-21	
860-55139-10	FB-01-20230809-01	Total/NA	Water	PrecSep-21	
MB 160-624480/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-624480/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
810-73402-B-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 624482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-55139-1	MW-7-20230808-01	Total/NA	Water	PrecSep_0	
860-55139-2	MW-11-20230808-01	Total/NA	Water	PrecSep_0	
860-55139-3	MW-12-20230808-01	Total/NA	Water	PrecSep_0	
860-55139-4	MW-13-20230809-01	Total/NA	Water	PrecSep_0	
860-55139-5	MW-14-20230809-01	Total/NA	Water	PrecSep_0	
860-55139-6	MW-17-20230809-01	Total/NA	Water	PrecSep_0	
860-55139-7	MW-15-20230809-01	Total/NA	Water	PrecSep_0	
860-55139-8	MW-16-20230809-01	Total/NA	Water	PrecSep_0	
860-55139-9	DUP-01-20230809-01	Total/NA	Water	PrecSep_0	
860-55139-10	FB-01-20230809-01	Total/NA	Water	PrecSep_0	
MB 160-624482/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-624482/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
810-73402-B-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-7-20230808-01

Lab Sample ID: 860-55139-1

Date Collected: 08/08/23 15:05

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 19:05	WP	EET HOU
Total/NA	Analysis	300.0		10			117282	08/15/23 16:06	RBNS	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:02	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 17:44	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 17:51	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	117006	08/14/23 10:04	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:10	TL	EET HOU
Total/NA	Prep	PrecSep-21			991.30 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:31	SCB	EET SL
Total/NA	Prep	PrecSep_0			991.30 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-11-20230808-01

Lab Sample ID: 860-55139-2

Date Collected: 08/08/23 16:15

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 19:28	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:26	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 17:46	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 17:53	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	117006	08/14/23 10:04	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:13	TL	EET HOU
Total/NA	Prep	PrecSep-21			1002.31 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:32	SCB	EET SL
Total/NA	Prep	PrecSep_0			1002.31 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-12-20230808-01

Lab Sample ID: 860-55139-3

Date Collected: 08/08/23 17:25

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 19:38	WP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-12-20230808-01

Lab Sample ID: 860-55139-3

Date Collected: 08/08/23 17:25

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:28	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 17:48	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 17:55	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	117006	08/14/23 10:04	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:14	TL	EET HOU
Total/NA	Prep	PrecSep-21			1002.55 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:32	SCB	EET SL
Total/NA	Prep	PrecSep_0			1002.55 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-13-20230809-01

Lab Sample ID: 860-55139-4

Date Collected: 08/09/23 08:40

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 19:48	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:31	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:02	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 18:14	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	117006	08/14/23 10:04	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:16	TL	EET HOU
Total/NA	Prep	PrecSep-21			996.73 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:32	SCB	EET SL
Total/NA	Prep	PrecSep_0			996.73 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-14-20230809-01

Lab Sample ID: 860-55139-5

Date Collected: 08/09/23 09:40

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 20:36	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			117043	08/14/23 20:46	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:33	JDM	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-14-20230809-01

Lab Sample ID: 860-55139-5

Date Collected: 08/09/23 09:40

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:05	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 18:16	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		10			116994	08/13/23 18:39	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	117006	08/14/23 10:04	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:17	TL	EET HOU
Total/NA	Prep	PrecSep-21			995.94 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:32	SCB	EET SL
Total/NA	Prep	PrecSep_0			995.94 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-17-20230809-01

Lab Sample ID: 860-55139-6

Date Collected: 08/09/23 10:45

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 19:57	WP	EET HOU
Total/NA	Analysis	300.0		10			117282	08/15/23 16:13	RBNS	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:36	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:07	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 18:19	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	117006	08/14/23 10:04	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:19	TL	EET HOU
Total/NA	Prep	PrecSep-21			995.40 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:32	SCB	EET SL
Total/NA	Prep	PrecSep_0			995.40 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-15-20230809-01

Lab Sample ID: 860-55139-7

Date Collected: 08/09/23 12:05

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117043	08/14/23 20:26	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:39	JDM	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: MW-15-20230809-01

Lab Sample ID: 860-55139-7

Date Collected: 08/09/23 12:05

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:09	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 18:21	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	117013	08/14/23 10:08	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:21	TL	EET HOU
Total/NA	Prep	PrecSep-21			999.49 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:32	SCB	EET SL
Total/NA	Prep	PrecSep_0			999.49 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626385	09/01/23 11:26	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: MW-16-20230809-01

Lab Sample ID: 860-55139-8

Date Collected: 08/09/23 13:55

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117046	08/14/23 19:24	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:41	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:12	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 18:23	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	117013	08/14/23 10:08	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:23	TL	EET HOU
Total/NA	Prep	PrecSep-21			994.38 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:33	SCB	EET SL
Total/NA	Prep	PrecSep_0			994.38 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626379	09/01/23 11:31	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: DUP-01-20230809-01

Lab Sample ID: 860-55139-9

Date Collected: 08/09/23 06:00

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117046	08/14/23 19:53	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:44	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:32	DP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Client Sample ID: DUP-01-20230809-01

Lab Sample ID: 860-55139-9

Date Collected: 08/09/23 06:00

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			116994	08/13/23 18:37	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	117013	08/14/23 10:08	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:25	TL	EET HOU
Total/NA	Prep	PrecSep-21			996.76 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:34	SCB	EET SL
Total/NA	Prep	PrecSep_0			996.76 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626379	09/01/23 11:31	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Client Sample ID: FB-01-20230809-01

Lab Sample ID: 860-55139-10

Date Collected: 08/09/23 00:00

Matrix: Water

Date Received: 08/11/23 12:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			117046	08/14/23 20:03	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116933	08/13/23 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			117096	08/14/23 13:57	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	116935	08/13/23 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			116994	08/13/23 18:35	DP	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	117013	08/14/23 10:08	OH	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			117321	08/15/23 17:27	TL	EET HOU
Total/NA	Prep	PrecSep-21			998.10 mL	1.0 g	624480	08/17/23 10:24	KAC	EET SL
Total/NA	Analysis	903.0		1			627236	09/08/23 09:34	SCB	EET SL
Total/NA	Prep	PrecSep_0			998.10 mL	1.0 g	624482	08/17/23 10:32	KAC	EET SL
Total/NA	Analysis	904.0		1			626379	09/01/23 11:31	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			627951	09/14/23 08:49	FLC	EET SL

Laboratory References:

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

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Houston

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-23-53	08-30-23

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
Pos			
3010A	Preparation, Total Metals	SW846	EET HOU
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

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

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Houston

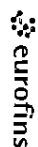
Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-55139-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-55139-1	MW-7-20230808-01	Water	08/08/23 15:05	08/11/23 12:46
860-55139-2	MW-11-20230808-01	Water	08/08/23 16:15	08/11/23 12:46
860-55139-3	MW-12-20230808-01	Water	08/08/23 17:25	08/11/23 12:46
860-55139-4	MW-13-20230809-01	Water	08/09/23 08:40	08/11/23 12:46
860-55139-5	MW-14-20230809-01	Water	08/09/23 09:40	08/11/23 12:46
860-55139-6	MW-17-20230809-01	Water	08/09/23 10:45	08/11/23 12:46
860-55139-7	MW-15-20230809-01	Water	08/09/23 12:05	08/11/23 12:46
860-55139-8	MW-16-20230809-01	Water	08/09/23 13:55	08/11/23 12:46
860-55139-9	DUP-01-20230809-01	Water	08/09/23 06:00	08/11/23 12:46
860-55139-10	FB-01-20230809-01	Water	08/09/23 00:00	08/11/23 12:46

Chain of Custody Record



Enviromental

Client Information		Sampler	Lab Pk.	Carrier Tracking No(s)	COC No.
Client Contact: Quintin Nel	Phone: (512) 769-2473	K Naegeli	Patel, Anita	TX	860-21375-7497 1
Company: ERM-Northeast	Address: 296 Madison Avenue Suite 8A	Due Date Requested:	Analysis Requested	State of Origin:	Page 1 of 1
City: New York	State, Zip: NY 10017	TAT Requested (days): 10 days			
Phone: 212-44-1900(Tel)	Compliance Project: Δ Yes Δ No	PO #:			
Email: quintin.nel@erm.com	WC #:				
Project Name: Twin Oaks Power Plant	Project #:				
Site:	SSON#:				
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab, B=stream, A=air)	Matrix (Inorganic, Organic, Metals, etc.)
MW-7-20230808-01		8/8/23	1505	G	Water
MW-11-20230808-01			1615		Water
MW-12-20230808-01			1725		Water
MW-13-20230809-01		8/9/23	0840		Water
MW-14-20230809-01			0946		Water
MW-17-20230809-01			1045		Water
MW-15-20230809-01			1205		Water
MW-16-20230809-01			1355		Water
DUP-01-20230809-01			0600		Water
FB-01-20230809-01					Water
Possible Hazard Identification					
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					
Deliverable Requested: I II III IV Other (specify) EDD					
Empty Kit Relinquished by		Date:	Time:	Method of Shipment:	
Relinquished by: KM NHC Kofreaga		Date/Time: 8/10/23 0930	Company: ERM	Received by: SR	
Relinquished by:		Date/Time:	Company:	Received by:	
Relinquished by:		Date/Time:	Company:	Received by:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	

Field Filtered Sample (Yes or No)

Appendix III Metals Boron, Calcium

Appendix III chloride, fluoride, sulfate by 300

Appendix III pH and TDS 2540C

Appendix IV Metals Sb, Ba, Co, Se and Li

903.0 and 904.0- Radium 226 and 228(GFPC)

860-55139 Chain of Custody

Barcode: 860-55139 Chain of Custody

Preservation Codes: A HCL, M Hexane, IAC2, OAS, S03, S203, O4, Dodecylhydrate, one, 4-5

Special Instructions/Note

Total Number of containers: **1** EDA, **1** Hexane, **1** T-titania, **1** Z other (specify)

Temp: **11.0** IR ID: HOU-338
C/F: **-0.3**
Corrected Temp: **10.7**

Temp: **10.2** IR ID: HOU-338
C/F: **-0.3**
Corrected Temp: **9.9**

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone: 281-240-4200

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler	Lab PM:	Carrier Tracking No(s)	OCC No							
Client Contact:		Phone	Patel, Anita		860-36647.1							
Shipping/Receiving			E-Mail:	State of Origin	Page							
Company:			Anita.Patel@eurofins.com	Texas	Page 1 of 2							
TestAmerica Laboratories, Inc.			Accreditations Required (See note):		Job #							
Address:			NELAP - Texas		860-55139-1							
City:					Preservation Codes:							
Earth City					A - HCL							
State, Zip:					B - NaOH							
MO, 63045					C - Zn Acetate							
Phone:					D - Nitric Acid							
314-298-8566(Tel) 314-298-8757(Fax)					E - NaHSO4							
Email:					F - MeOH							
Project Name:					G - Anichlor							
Twin Oaks Power Plant					H - Ascorbic Acid							
Site:					I - Ice							
					J - DI Water							
					K - EDTA							
					L - EDA							
					Other:							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, O=Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Radium 226 (GFC)	904.0/PreSep_0 Radium 226 (GFC)	Ra226_228GFC_P/ Combined Radium-226 and Radium-228	Total Number of Containers	Special Instructions/Note:
MW-7-20230808-01 (860-55139-1)		8/8/23	15:05 Central		Water			X	X		2	
MW-11-20230808-01 (860-55139-2)		8/8/23	16:15 Central		Water			X	X		2	
MW-12-20230808-01 (860-55139-3)		8/8/23	17:25 Central		Water			X	X		2	
MW-13-20230809-01 (860-55139-4)		8/9/23	08:40 Central		Water			X	X		2	
MW-14-20230809-01 (860-55139-5)		8/9/23	09:40 Central		Water			X	X		2	
MW-17-20230809-01 (860-55139-6)		8/9/23	10:45 Central		Water			X	X		2	
MW-15-20230809-01 (860-55139-7)		8/9/23	12:05 Central		Water			X	X		2	
MW-16-20230809-01 (860-55139-8)		8/9/23	13:55 Central		Water			X	X		2	
DUP-01-20230809-01 (860-55139-9)		8/9/23	06:00 Central		Water			X	X		2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/main being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____
Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Company: _____
Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Company: _____
Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____
Δ Yes Δ No
Cooler Temperature(s) °C and Other Remarks

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-55139-1

Login Number: 55139

List Number: 1

Creator: Babar, Syed

List Source: Eurofins Houston

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

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-55139-1

Login Number: 55139

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

List Creation: 08/16/23 01:45 PM

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

Data Usability Summary for Laboratory Package 860-55139-1

August 2023 Groundwater Sampling – Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

ERM reviewed one data package (Work Order Number 860-55139-1) from Eurofins of Houston, Texas for the analysis of nine (9) groundwater samples, including one blind field duplicate sample, collected on August 8 to August 9, 2023 at Twin Oaks Power Station, Robertson County, Texas. Data were reviewed for general conformance to the requirements of the following documents:

- 1) Twin Oaks Power Station, *Groundwater Sampling and Analysis Plan (October 2017)*;
- 2) Environmental Protection Agency's (EPA's) National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001, January 2017);
- 3) Texas Commission on Environmental Quality's (TCEQ's) *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13, May 2010); and
- 4) *CCR Landfill Draft Technical Guideline No. 32* (May 2020).

Eurofins is NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. Eurofins National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in these reports is referenced in the laboratory reports.

Intended Use of Data: To provide concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in the ground water at the facility.

Analyses requested included:

- SW846 6010C – Metals by Inductively Coupled Plasma (ICP)
- SW846 6020A – Metals by ICP/Mass Spectrometry (MS)
- SW846 7470A – Mercury by Cold Vapor Atomic Absorption (CVAA)
- EPA 300.0 – Anions, Ion Chromatography
- EPA 903.0 – Radium-226 by Gas Flow Proportional Counter (GFPC)
- EPA 904.0 – Radium-228 (GFPC)

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report;
- Laboratory review checklist (LRC);
- Exception reports (ERs); and
- Case narrative.

The results of supporting quality control (QC) analyses are summarized on the LRCs, ERs, and in the case narrative, which were included in this review.

The LRC, ERs, case narrative, and analytical data report are attached to this report.

INTRODUCTION

Eight (8) groundwater samples, one (1) blind field duplicate, and one (1) field blank were submitted to the laboratory for analysis of select metals and anions. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Project Data Quality Objectives

The QC sample recoveries and relative percent differences (RPD) were evaluated based on the following Project Data Quality Objectives (DQO):

Organic Compounds

Recovery 60-140%
RPD $\leq 40\%$

Inorganic Compounds

Recovery 70-130%
RPD $\leq 30\%$

Data were qualified in accordance with the TCEQ's TRRP-13 guidance document, including data qualifier codes and data qualifier code definitions.

DATA REVIEW / VALIDATION RESULTS

Analytical Results

Groundwater analytical results are reported in milligrams per liter (mg/L). *Not Detected* results are reported as less than the value of the reporting limit (RL).

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition. The corrected sample receipt temperatures (9.9°C and 10.7°C) were slightly above the acceptance criteria of $4 \pm 2^\circ\text{C}$. However, temperature is not a required method of preservation for the analyses in this lab report according to their respective methodology; as such, no qualifiers were required. The samples were preserved in the field as specified by the method. The samples were prepared and analyzed within holding times, with the exception of pH. The holding time of pH is 15 minutes according to the method; as such, the samples were unable to be ran for pH within the recommended holding time. Therefore, the laboratory qualified all pH results as HF, sample analyzed outside of holding time.

Calibrations

According to the LRC, initial calibrations, continuing calibrations, and calibration verifications data met method requirements for metals and anions, as applicable.

Blanks

Metals, anions and radium were not detected in the method blanks. Boron and calcium were detected in the field blank (FB-01-20230809-01). Associated samples with results within five times the field blank concentrations for boron and calcium (0.0476 and 0.225 mg/L, respectively) were qualified with estimated high bias (JH).

Internal Standards and Surrogate Recoveries

According to the LRC, internal standard area counts and retention times were not applicable for the analyses requested. Surrogate recoveries were also not applicable for the analyses requested and therefore were not evaluated. Carrier percent yields for radioactive analyses were within acceptable limits.

Laboratory Control Samples and Precision

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) precision and accuracy analysis (i.e., percent recovery and relative percentage difference [RPDs], and relative error ratio [RER]) results for all analyses were within DQO limits, with the following exception.

A LCS recovery in batch 117043 was less than DQO acceptance limits (66%) for Fluoride. However, re-runs of the LCS in the same batch were within DQO acceptance limits for all analytes. Based on professional judgement, no qualifiers were required.

Matrix Spike/Matrix Spike Duplicates

Matrix spike and matrix spike duplicate (MS/MSD) recoveries and associated RPDs were run on project-related sample MW-16-20230809-01 for metals and project-related sample DUP-01-20230809-01 for fluoride (anions) and were within DQO limits.

Field Precision

One pair of field precision samples were collected during the August 2023 event (MW-15-20230809-01 / DUP-01-20230809-01). RPD calculations for detected analytes for each field precision pair are shown in Table 3. All RPD were within DQO, with the following exceptions.

Boron, Radium-228, and Radium-226 and Radium-228 had field precision RPDs greater than DQO limits and results greater than two times the MQL; as such, the parent samples were qualified as estimated, J, for Boron, Radium-228, and Radium-226 and Radium-228.

Field Procedures

The samples were collected using procedures documented in the Groundwater Sampling and Analysis Plan for the site.

SUMMARY

No data were rejected during this review. Groundwater analytical data are useable for the purpose of providing concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in ground water at the Twin Oaks Power Plant. Qualified data are listed in Table 2.

TABLE 1

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory ID 860-55139-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Laboratory Identification	Field Identification	Description
860-55139-1	MW-7-20230808-01	Field Sample
860-55139-2	MW-11-20230808-01	Field Sample
860-55139-3	MW-12-20230808-01	Field Sample
860-55139-4	MW-13-20230809-01	Field Sample
860-55139-5	MW-14-20230809-01	Field Sample
860-55139-6	MW-17-20230809-01	Field Sample
860-55139-7	MW-15-20230809-01	Field Sample
860-55139-8	MW-16-20230809-01	Field Sample
860-55139-9	DUP-01-20230809-01	Duplicate Sample
860-55139-10	FB-01-20230809-01	Field Blank

TABLE 2

Qualified Data
Laboratory ID 860-55139-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Qualification	Rationale
MW-12-20230808-01	Boron	JH	Field Blank Contamination
MW-16-20230809-01	Boron	JH	Field Blank Contamination
MW-15-20230809-01	Boron	J	High Field Duplicate RPD
MW-15-20230809-01	Radium-228	J	High Field Duplicate RPD
MW-15-20230809-01	Radium-226 and 228	J	High Field Duplicate RPD
DUP-01-20230809-01	Boron	J	High Field Duplicate RPD
DUP-01-20230809-01	Radium-228	J	High Field Duplicate RPD
DUP-01-20230809-01	Radium-226 and 228	J	High Field Duplicate RPD

Notes:

J = Qualified in the DUS as detected at an estimated value.

JH = Qualified in the DUS as detected at an estimated value with high bias.

TABLE 3

Field Precision
Laboratory ID 860-55139-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Sample Result (SR)	Duplicate Result (DR)	Relative Percent Difference (RPD)	Qualified
MW-15-20230809-01 / DUP-01-20230809-01	Chloride	136	136	0.00	A
	Sulfate	44.7	42.6	4.81	A
	Fluoride	<0.100	0.133	NC	A*
	Boron	0.0704	0.0513	31.39	J
	Calcium	34.1	33.6	1.48	A
	Barium	0.112	0.105	6.45	A
	Selenium	0.00374	0.00278	29.45	A
	Total Dissolved Solids	498	444	11.46	A
	pH	6.5	6.6	1.53	A
	Radium-226	0.468	0.555	17.01	A
	Radium-228	0.723	1.21	50.39	J
	Radium-226 and 228	1.19	1.77	39.19	J

NOTES:

Only detected analytes are listed in table.

Units in milligrams per liter (mg/L).

$RPD = ((SR-DR)*200)/(SR+DR)$

A = Acceptable data based on project data quality objectives (DQO).

J = Reported as estimated concentration between the sample detection limit (SDL) and the method quantitation limit (MQL).

B = The same analyte is found in the associated blank.

ND = Non-detect

NA = Not analyzed

NC = Not calculated

U = Analyzed but not detected above the Method Detection Limit (MDL) or the SDL.

J = Qualified in the DUS as detected at an estimated value.

A* = Acceptable data based on TRRP-13 guidance document.

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/18/2024 12:33:54 PM Revision 1

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-70517-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Authorized for release by
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Revision 1

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Glossary

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

Eurofins Houston

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-70517-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/18/2024

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/18/2024				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-70517-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			2
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		✓			3
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 04/18/2024
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-70517-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/18/2024
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-70517-1
Reviewer Name: Anita Patel		
ER# ¹	Description	
1	Method 6020B: The method blank for preparation batch 860-151997 and 860-152332 and analytical batch 860-152474 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.	
2	Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-151418 and analytical batch 860-151720 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-152093 and analytical batch 860-152472 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-153928 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-154109 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.	
3	Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-16-20240319-01 (860-70517-1), MW-17-20240320-01 (860-70517-6) and MW-11-20240320-01 (860-70517-8). Elevated reporting limits (RLs) are provided. Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7-20240320-01 (860-70517-2), MW-13-20240320-01 (860-70517-4), MW-14-20240320-01 (860-70517-5), MW-15-20240320-01 (860-70517-7) and DUP-01-20240320-01 (860-70517-9). Elevated reporting limits (RLs) are provided. Method 6020B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-12-20240320-01 (860-70517-3). Elevated reporting limits (RLs) are provided. Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7-20240320-01 (860-70517-2), MW-14-20240320-01 (860-70517-5), MW-15-20240320-01 (860-70517-7) and DUP-01-20240320-01 (860-70517-9). Elevated reporting limits (RLs) are provided. Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-16-20240319-01 (860-70517-1), MW-14-20240320-01 (860-70517-5) and DUP-01-20240320-01 (860-70517-9). Elevated reporting limits (RLs) are provided. Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7-20240320-01 (860-70517-2), MW-13-20240320-01 (860-70517-4), MW-17-20240320-01 (860-70517-6), MW-15-20240320-01 (860-70517-7) and MW-11-20240320-01 (860-70517-8). Elevated reporting limits (RLs) are provided.	
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-70517-1

Job ID: 860-70517-1

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Job Narrative 860-70517-1

REVISION

The report being provided is a revision of the original report sent on 4/11/2024. The report (revision 1) is being revised due to report missing App IV missing constituents: As, Be, Cd, Cr and Pb.

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

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

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

Receipt

The samples were received on 3/22/2024 9:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.9°C, 3.1°C, 3.2°C and 3.3°C.

HPLC/IC

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-153928 contained Chloride greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been reported.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-153928 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-153928 contained Chloride and Sulfate greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been reported.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-153928 contained Chloride, Sulfate and Fluoride greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been qualified and reported.

Method 300_ORGFM_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-16-20240319-01 (860-70517-1), MW-14-20240320-01 (860-70517-5) and DUP-01-20240320-01 (860-70517-9). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-153928 contained fluoride greater than the method detection limit (MDL), and were not reanalyzed because this target analyte concentration was less than the reporting limit (RL) in the CCB. The data have been reported.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-154109 contained Chloride greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been reported.

Method 300_ORGFM_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7-20240320-01 (860-70517-2), MW-13-20240320-01 (860-70517-4), MW-17-20240320-01 (860-70517-6), MW-15-20240320-01 (860-70517-7) and MW-11-20240320-01 (860-70517-8). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-154109 were

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-70517-1

Job ID: 860-70517-1 (Continued)

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outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Metals

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-151418 and analytical batch 860-151720 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-16-20240319-01 (860-70517-1), MW-17-20240320-01 (860-70517-6) and MW-11-20240320-01 (860-70517-8). Elevated reporting limits (RLs) are provided.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-152093 and analytical batch 860-152472 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The method blank for preparation batch 860-151997 and 860-152332 and analytical batch 860-152474 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7-20240320-01 (860-70517-2), MW-13-20240320-01 (860-70517-4), MW-14-20240320-01 (860-70517-5), MW-15-20240320-01 (860-70517-7) and DUP-01-20240320-01 (860-70517-9). Elevated reporting limits (RLs) are provided.

Method 6020B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-12-20240320-01 (860-70517-3). Elevated reporting limits (RLs) are provided.

Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-7-20240320-01 (860-70517-2), MW-14-20240320-01 (860-70517-5), MW-15-20240320-01 (860-70517-7) and DUP-01-20240320-01 (860-70517-9). Elevated reporting limits (RLs) are provided.

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

General Chemistry

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

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Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-16-20240319-01

Lab Sample ID: 860-70517-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	98.9		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.204	J	0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	217		5.00	2.50	mg/L	10		300.0	Total/NA
Boron	0.0477		0.0100	0.00401	mg/L	1		6020B	Total/NA
Arsenic	0.000916	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	72.0		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0528		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000347	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000582	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Selenium	0.00212		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	863		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.8	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-7-20240320-01

Lab Sample ID: 860-70517-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride - DL	252		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate - DL	912		5.00	2.00	mg/L	10		300.0	Total/NA
Boron	0.322		0.100	0.0401	mg/L	10		6020B	Total/NA
Arsenic	0.00104	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	276		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0172		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000562	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00102	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000691	J	0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1820		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-12-20240320-01

Lab Sample ID: 860-70517-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78.9		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	48.5		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0243	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0366		0.0100	0.00401	mg/L	1		6020B	Total/NA
Arsenic	0.00108	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	24.5		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.101		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00318		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000559	J b	0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	297		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-13-20240320-01

Lab Sample ID: 860-70517-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	135		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.102	J	0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	113		5.00	2.50	mg/L	10		300.0	Total/NA
Boron	0.0652		0.0100	0.00401	mg/L	1		6020B	Total/NA
Arsenic	0.000913	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	43.8		5.00	1.50	mg/L	50		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-13-20240320-01 (Continued)

Lab Sample ID: 860-70517-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0739		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.000954	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00486		0.00200	0.000266	mg/L	1		6020B	Total/NA
Mercury	0.000106	J	0.000200	0.0000706	mg/L	1		7470A	Total/NA
Total Dissolved Solids	540		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14-20240320-01

Lab Sample ID: 860-70517-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.256	J	0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	539		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate - DL	1370		5.00	2.00	mg/L	10		300.0	Total/NA
Lithium	0.0409		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	3.75		0.200	0.0801	mg/L	20		6020B	Total/NA
Arsenic	0.000943	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	296		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0199		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000775	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00224		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.810		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	3170		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-17-20240320-01

Lab Sample ID: 860-70517-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	63.3		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.776		0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	716		5.00	2.50	mg/L	10		300.0	Total/NA
Lithium	0.0292	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0403		0.0100	0.00401	mg/L	1		6020B	Total/NA
Arsenic	0.00101	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	179		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.229		0.00400	0.00134	mg/L	1		6020B	Total/NA
Beryllium	0.000622	J	0.00200	0.000271	mg/L	1		6020B	Total/NA
Cadmium	0.00278		0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00236		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00409		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1610		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	5.8	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15-20240320-01

Lab Sample ID: 860-70517-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	44.8		0.500	0.200	mg/L	1		300.0	Total/NA
Chloride - DL	141		5.00	2.50	mg/L	10		300.0	Total/NA
Boron	0.105		0.0500	0.0200	mg/L	5		6020B	Total/NA
Arsenic	0.000996	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	32.4		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.125		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00424		0.00200	0.000266	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-15-20240320-01 (Continued)

Lab Sample ID: 860-70517-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	566		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11-20240320-01

Lab Sample ID: 860-70517-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride - DL	102		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate - DL	346		5.00	2.00	mg/L	10		300.0	Total/NA
Boron	0.171		0.0100	0.00401	mg/L	1		6020B	Total/NA
Arsenic	0.000874	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	104		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0192		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000525	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00103	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	809		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.3	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-01-20240320-01

Lab Sample ID: 860-70517-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.224	J	0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	514		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate - DL	1320		5.00	2.00	mg/L	10		300.0	Total/NA
Lithium	0.0371	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	3.77		0.200	0.0801	mg/L	20		6020B	Total/NA
Arsenic	0.00118	J	0.00400	0.000690	mg/L	1		6020B	Total/NA
Calcium	305		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0204		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000802	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00219		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.817		0.00200	0.000266	mg/L	1		6020B	Total/NA
Total Dissolved Solids	3200		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-16-20240319-01

Lab Sample ID: 860-70517-1

Date Collected: 03/19/24 17:10

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	98.9		0.500	0.200	mg/L			04/09/24 18:00	1
Fluoride	0.204	J	0.500	0.100	mg/L			04/09/24 18:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	217		5.00	2.50	mg/L			04/09/24 18:10	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/25/24 10:40	03/26/24 11:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/25/24 09:30	03/25/24 23:16	1
Boron	0.0477		0.0100	0.00401	mg/L		03/25/24 09:30	03/27/24 16:34	1
Arsenic	0.000916	J	0.00400	0.000690	mg/L		03/25/24 09:30	03/25/24 23:16	1
Calcium	72.0		5.00	1.50	mg/L		03/25/24 09:30	03/25/24 23:39	50
Barium	0.0528		0.00400	0.00134	mg/L		03/25/24 09:30	03/25/24 23:16	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/25/24 09:30	03/25/24 23:16	1
Cadmium	0.000347	J	0.00200	0.000240	mg/L		03/25/24 09:30	03/25/24 23:16	1
Chromium	0.000582	J	0.00400	0.000560	mg/L		03/25/24 09:30	03/25/24 23:16	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		03/25/24 09:30	03/25/24 23:16	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/25/24 09:30	03/25/24 23:16	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/25/24 09:30	03/25/24 23:16	1
Selenium	0.00212		0.00200	0.000266	mg/L		03/25/24 09:30	03/25/24 23:16	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/25/24 09:30	03/25/24 23:16	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		03/28/24 17:12	03/28/24 21:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	863		10.0	10.0	mg/L			03/25/24 14:27	1
pH (SM 4500 H+ B)	6.8	HF			SU			03/26/24 17:01	1

Client Sample ID: MW-7-20240320-01

Lab Sample ID: 860-70517-2

Date Collected: 03/20/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100	U	0.500	0.100	mg/L			04/10/24 17:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	252		5.00	2.50	mg/L			04/10/24 17:27	10
Sulfate	912		5.00	2.00	mg/L			04/10/24 17:27	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/28/24 09:00	03/28/24 18:54	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-7-20240320-01

Lab Sample ID: 860-70517-2

Date Collected: 03/20/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/28/24 10:30	03/29/24 16:29	1
Boron	0.322		0.100	0.0401	mg/L		03/28/24 10:30	04/01/24 17:03	10
Arsenic	0.00104	J	0.00400	0.000690	mg/L		03/28/24 10:30	03/29/24 16:29	1
Calcium	276		5.00	1.50	mg/L		03/28/24 10:30	03/29/24 16:39	50
Barium	0.0172		0.00400	0.00134	mg/L		03/28/24 10:30	03/29/24 16:29	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/28/24 10:30	03/29/24 16:29	1
Cadmium	0.000562	J	0.00200	0.000240	mg/L		03/28/24 10:30	03/29/24 16:29	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/28/24 10:30	03/29/24 16:29	1
Cobalt	0.00102	J	0.00200	0.000355	mg/L		03/28/24 10:30	03/29/24 16:29	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/28/24 10:30	03/29/24 16:29	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/28/24 10:30	03/29/24 16:29	1
Selenium	0.000691	J	0.00200	0.000266	mg/L		03/28/24 10:30	03/29/24 16:29	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/28/24 10:30	03/29/24 16:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1820		20.0	20.0	mg/L			03/26/24 12:59	1
pH (SM 4500 H+ B)	6.7	HF			SU			03/29/24 12:24	1

Client Sample ID: MW-12-20240320-01

Lab Sample ID: 860-70517-3

Date Collected: 03/20/24 12:15

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.9		0.500	0.250	mg/L			04/09/24 21:04	1
Sulfate	48.5		0.500	0.200	mg/L			04/09/24 21:04	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/09/24 21:04	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0243	J	0.0400	0.0174	mg/L		04/02/24 10:00	04/02/24 20:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/29/24 10:23	03/29/24 22:12	1
Boron	0.0366		0.0100	0.00401	mg/L		03/29/24 10:23	03/29/24 22:12	1
Arsenic	0.00108	J	0.00400	0.000690	mg/L		03/29/24 10:23	03/29/24 22:12	1
Calcium	24.5		5.00	1.50	mg/L		03/29/24 10:23	03/29/24 22:14	50
Barium	0.101		0.00400	0.00134	mg/L		03/29/24 10:23	03/29/24 22:12	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/29/24 10:23	03/29/24 22:12	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/29/24 10:23	03/29/24 22:12	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/29/24 10:23	03/29/24 22:12	1
Cobalt	0.00318		0.00200	0.000355	mg/L		03/29/24 10:23	03/29/24 22:12	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/29/24 10:23	03/29/24 22:12	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/29/24 10:23	03/29/24 22:12	1
Selenium	0.000559	J b	0.00200	0.000266	mg/L		03/29/24 10:23	03/29/24 22:12	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-12-20240320-01

Lab Sample ID: 860-70517-3

Date Collected: 03/20/24 12:15

Matrix: Water

Date Received: 03/22/24 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/29/24 10:23	03/29/24 22:12	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/05/24 08:49	04/05/24 17:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	297		10.0	10.0	mg/L			03/26/24 13:34	1
pH (SM 4500 H+ B)	6.5	HF			SU			03/26/24 17:02	1

Client Sample ID: MW-13-20240320-01

Lab Sample ID: 860-70517-4

Date Collected: 03/20/24 13:10

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	135		0.500	0.200	mg/L			04/09/24 21:34	1
Fluoride	0.102	J	0.500	0.100	mg/L			04/09/24 21:34	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	113		5.00	2.50	mg/L			04/10/24 13:52	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/28/24 09:00	03/28/24 18:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/28/24 10:30	03/29/24 16:31	1
Boron	0.0652		0.0100	0.00401	mg/L		03/28/24 10:30	04/01/24 17:05	1
Arsenic	0.000913	J	0.00400	0.000690	mg/L		03/28/24 10:30	03/29/24 16:31	1
Calcium	43.8		5.00	1.50	mg/L		03/28/24 10:30	03/29/24 16:41	50
Barium	0.0739		0.00400	0.00134	mg/L		03/28/24 10:30	03/29/24 16:31	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/28/24 10:30	03/29/24 16:31	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/28/24 10:30	03/29/24 16:31	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/28/24 10:30	03/29/24 16:31	1
Cobalt	0.000954	J	0.00200	0.000355	mg/L		03/28/24 10:30	03/29/24 16:31	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/28/24 10:30	03/29/24 16:31	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/28/24 10:30	03/29/24 16:31	1
Selenium	0.00486		0.00200	0.000266	mg/L		03/28/24 10:30	03/29/24 16:31	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/28/24 10:30	03/29/24 16:31	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000106	J	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	540		10.0	10.0	mg/L			03/26/24 12:59	1
pH (SM 4500 H+ B)	6.7	HF			SU			03/29/24 12:25	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-14-20240320-01

Lab Sample ID: 860-70517-5

Date Collected: 03/20/24 14:05

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.256	J	0.500	0.100	mg/L			04/09/24 18:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	539		5.00	2.50	mg/L			04/09/24 18:30	10
Sulfate	1370		5.00	2.00	mg/L			04/09/24 18:30	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0409		0.0400	0.0174	mg/L		03/28/24 09:00	03/28/24 19:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/28/24 10:30	03/29/24 16:33	1
Boron	3.75		0.200	0.0801	mg/L		03/28/24 10:30	04/01/24 17:07	20
Arsenic	0.000943	J	0.00400	0.000690	mg/L		03/28/24 10:30	03/29/24 16:33	1
Calcium	296		5.00	1.50	mg/L		03/28/24 10:30	03/29/24 16:43	50
Barium	0.0199		0.00400	0.00134	mg/L		03/28/24 10:30	03/29/24 16:33	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/28/24 10:30	03/29/24 16:33	1
Cadmium	0.000775	J	0.00200	0.000240	mg/L		03/28/24 10:30	03/29/24 16:33	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/28/24 10:30	03/29/24 16:33	1
Cobalt	0.00224		0.00200	0.000355	mg/L		03/28/24 10:30	03/29/24 16:33	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/28/24 10:30	03/29/24 16:33	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/28/24 10:30	03/29/24 16:33	1
Selenium	0.810		0.00200	0.000266	mg/L		03/28/24 10:30	03/29/24 16:33	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/28/24 10:30	03/29/24 16:33	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3170		40.0	40.0	mg/L			03/26/24 13:08	1
pH (SM 4500 H+ B)	6.4	HF			SU			03/27/24 14:13	1

Client Sample ID: MW-17-20240320-01

Lab Sample ID: 860-70517-6

Date Collected: 03/20/24 15:00

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	63.3		0.500	0.200	mg/L			04/09/24 21:45	1
Fluoride	0.776		0.500	0.100	mg/L			04/09/24 21:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	716		5.00	2.50	mg/L			04/10/24 14:02	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0292	J	0.0400	0.0174	mg/L		03/25/24 10:40	03/26/24 11:51	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-17-20240320-01

Lab Sample ID: 860-70517-6

Date Collected: 03/20/24 15:00

Matrix: Water

Date Received: 03/22/24 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/25/24 09:30	03/27/24 16:36	1
Boron	0.0403		0.0100	0.00401	mg/L		03/25/24 09:30	03/27/24 16:36	1
Arsenic	0.00101	J	0.00400	0.000690	mg/L		03/25/24 09:30	03/27/24 16:36	1
Calcium	179		5.00	1.50	mg/L		03/25/24 09:30	03/25/24 23:41	50
Barium	0.229		0.00400	0.00134	mg/L		03/25/24 09:30	03/27/24 16:36	1
Beryllium	0.000622	J	0.00200	0.000271	mg/L		03/25/24 09:30	03/27/24 16:36	1
Cadmium	0.00278		0.00200	0.000240	mg/L		03/25/24 09:30	03/27/24 16:36	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/25/24 09:30	03/27/24 16:36	1
Cobalt	0.00236		0.00200	0.000355	mg/L		03/25/24 09:30	03/27/24 16:36	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/25/24 09:30	03/27/24 16:36	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/25/24 09:30	03/27/24 16:36	1
Selenium	0.00409		0.00200	0.000266	mg/L		03/25/24 09:30	03/27/24 16:36	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/25/24 09:30	03/27/24 16:36	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		03/28/24 17:12	03/28/24 21:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1610		20.0	20.0	mg/L			03/26/24 13:34	1
pH (SM 4500 H+ B)	5.8	HF			SU			03/26/24 17:03	1

Client Sample ID: MW-15-20240320-01

Lab Sample ID: 860-70517-7

Date Collected: 03/20/24 16:00

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	44.8		0.500	0.200	mg/L			04/09/24 21:55	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/09/24 21:55	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	141		5.00	2.50	mg/L			04/10/24 14:12	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/28/24 09:00	03/28/24 19:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/28/24 10:30	03/29/24 16:35	1
Boron	0.105		0.0500	0.0200	mg/L		03/28/24 10:30	04/01/24 17:09	5
Arsenic	0.000996	J	0.00400	0.000690	mg/L		03/28/24 10:30	03/29/24 16:35	1
Calcium	32.4		5.00	1.50	mg/L		03/28/24 10:30	03/29/24 16:45	50
Barium	0.125		0.00400	0.00134	mg/L		03/28/24 10:30	03/29/24 16:35	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/28/24 10:30	03/29/24 16:35	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/28/24 10:30	03/29/24 16:35	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/28/24 10:30	03/29/24 16:35	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		03/28/24 10:30	03/29/24 16:35	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-15-20240320-01

Lab Sample ID: 860-70517-7

Date Collected: 03/20/24 16:00

Matrix: Water

Date Received: 03/22/24 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/28/24 10:30	03/29/24 16:35	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/28/24 10:30	03/29/24 16:35	1
Selenium	0.00424		0.00200	0.000266	mg/L		03/28/24 10:30	03/29/24 16:35	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/28/24 10:30	03/29/24 16:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	566		10.0	10.0	mg/L			03/26/24 13:08	1
pH (SM 4500 H+ B)	6.5	HF			SU			03/27/24 14:12	1

Client Sample ID: MW-11-20240320-01

Lab Sample ID: 860-70517-8

Date Collected: 03/20/24 17:05

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100	U	0.500	0.100	mg/L			04/09/24 22:05	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	102		5.00	2.50	mg/L			04/10/24 14:23	10
Sulfate	346		5.00	2.00	mg/L			04/10/24 14:23	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/25/24 10:40	03/26/24 11:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/25/24 09:30	03/27/24 16:38	1
Boron	0.171		0.0100	0.00401	mg/L		03/25/24 09:30	03/27/24 16:38	1
Arsenic	0.000874	J	0.00400	0.000690	mg/L		03/25/24 09:30	03/27/24 16:38	1
Calcium	104		5.00	1.50	mg/L		03/25/24 09:30	03/25/24 23:43	50
Barium	0.0192		0.00400	0.00134	mg/L		03/25/24 09:30	03/27/24 16:38	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/25/24 09:30	03/27/24 16:38	1
Cadmium	0.000525	J	0.00200	0.000240	mg/L		03/25/24 09:30	03/27/24 16:38	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/25/24 09:30	03/27/24 16:38	1
Cobalt	0.00103	J	0.00200	0.000355	mg/L		03/25/24 09:30	03/27/24 16:38	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/25/24 09:30	03/27/24 16:38	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/25/24 09:30	03/27/24 16:38	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		03/25/24 09:30	03/27/24 16:38	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/25/24 09:30	03/27/24 16:38	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		03/28/24 17:12	03/28/24 21:42	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-11-20240320-01

Lab Sample ID: 860-70517-8

Date Collected: 03/20/24 17:05

Matrix: Water

Date Received: 03/22/24 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	809		10.0	10.0	mg/L			03/26/24 13:34	1
pH (SM 4500 H+ B)	6.3	HF			SU			03/26/24 17:04	1

Client Sample ID: DUP-01-20240320-01

Lab Sample ID: 860-70517-9

Date Collected: 03/20/24 07:00

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.224	J	0.500	0.100	mg/L			04/09/24 18:41	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	514		5.00	2.50	mg/L			04/09/24 18:51	10
Sulfate	1320		5.00	2.00	mg/L			04/09/24 18:51	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0371	J	0.0400	0.0174	mg/L		03/28/24 09:00	03/28/24 19:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/28/24 10:30	03/29/24 16:37	1
Boron	3.77		0.200	0.0801	mg/L		03/28/24 10:30	04/01/24 17:11	20
Arsenic	0.00118	J	0.00400	0.000690	mg/L		03/28/24 10:30	03/29/24 16:37	1
Calcium	305		5.00	1.50	mg/L		03/28/24 10:30	03/29/24 16:47	50
Barium	0.0204		0.00400	0.00134	mg/L		03/28/24 10:30	03/29/24 16:37	1
Beryllium	<0.0136	U	0.100	0.0136	mg/L		03/28/24 10:30	03/29/24 16:47	50
Cadmium	0.000802	J	0.00200	0.000240	mg/L		03/28/24 10:30	03/29/24 16:37	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/28/24 10:30	03/29/24 16:37	1
Cobalt	0.00219		0.00200	0.000355	mg/L		03/28/24 10:30	03/29/24 16:37	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/28/24 10:30	03/29/24 16:37	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/28/24 10:30	03/29/24 16:37	1
Selenium	0.817		0.00200	0.000266	mg/L		03/28/24 10:30	03/29/24 16:37	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/28/24 10:30	03/29/24 16:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3200		40.0	40.0	mg/L			03/26/24 13:08	1
pH (SM 4500 H+ B)	6.4	HF			SU			03/27/24 14:11	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-153928/3

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/09/24 13:24	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/09/24 13:24	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/09/24 13:24	1

Lab Sample ID: MB 860-153928/45

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/09/24 20:33	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/09/24 20:33	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/09/24 20:33	1

Lab Sample ID: LCS 860-153928/4

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.119		mg/L		91	90 - 110
Sulfate	10.0	10.19		mg/L		102	90 - 110
Fluoride	10.0	9.709		mg/L		97	90 - 110

Lab Sample ID: LCS 860-153928/46

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.636		mg/L		96	90 - 110
Sulfate	10.0	10.56		mg/L		106	90 - 110
Fluoride	10.0	10.40		mg/L		104	90 - 110

Lab Sample ID: LCSD 860-153928/47

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.601		mg/L		96	90 - 110	0	20
Sulfate	10.0	10.48		mg/L		105	90 - 110	1	20
Fluoride	10.0	10.40		mg/L		104	90 - 110	0	20

Lab Sample ID: LCSD 860-153928/5

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.223		mg/L		92	90 - 110	1	20
Sulfate	10.0	10.26		mg/L		103	90 - 110	1	20
Fluoride	10.0	9.943		mg/L		99	90 - 110	2	20

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LLCS 860-153928/7

Matrix: Water

Analysis Batch: 153928

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.6199		mg/L		124	50 - 150
Sulfate	0.500	0.5231		mg/L		105	50 - 150
Fluoride	0.500	0.4475	J	mg/L		89	50 - 150

Lab Sample ID: 860-70517-3 MS

Matrix: Water

Analysis Batch: 153928

Client Sample ID: MW-12-20240320-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	78.9		10.0	87.13	4	mg/L		82	90 - 110
Sulfate	48.5		10.0	57.53	4	mg/L		91	90 - 110
Fluoride	<0.100	U	10.0	10.94		mg/L		109	90 - 110

Lab Sample ID: 860-70517-3 MSD

Matrix: Water

Analysis Batch: 153928

Client Sample ID: MW-12-20240320-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	78.9		10.0	87.27	4	mg/L		83	90 - 110	0	15
Sulfate	48.5		10.0	57.55	4	mg/L		91	90 - 110	0	15
Fluoride	<0.100	U	10.0	11.00		mg/L		110	90 - 110	1	15

Lab Sample ID: MB 860-154109/3

Matrix: Water

Analysis Batch: 154109

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/10/24 11:18	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/10/24 11:18	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/10/24 11:18	1

Lab Sample ID: LCS 860-154109/4

Matrix: Water

Analysis Batch: 154109

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.598		mg/L		96	90 - 110
Sulfate	10.0	10.72		mg/L		107	90 - 110
Fluoride	10.0	10.37		mg/L		104	90 - 110

Lab Sample ID: LCSD 860-154109/5

Matrix: Water

Analysis Batch: 154109

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.584		mg/L		96	90 - 110	0	20
Sulfate	10.0	10.62		mg/L		106	90 - 110	1	20
Fluoride	10.0	10.38		mg/L		104	90 - 110	0	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LLCS 860-154109/7
Matrix: Water
Analysis Batch: 154109

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.6362		mg/L		127	50 - 150
Sulfate	0.500	0.5471		mg/L		109	50 - 150
Fluoride	0.500	0.4818	J	mg/L		96	50 - 150

Lab Sample ID: 870-25661-I-1 MS
Matrix: Water
Analysis Batch: 154109

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.1		10.0	34.57		mg/L		94	90 - 110
Sulfate	33.1		10.0	42.55		mg/L		95	90 - 110
Fluoride	0.294	J	10.0	11.19		mg/L		109	90 - 110

Lab Sample ID: 870-25661-I-1 MSD
Matrix: Water
Analysis Batch: 154109

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Chloride	25.1		10.0	34.62		mg/L		95	90 - 110	0	15
Sulfate	33.1		10.0	42.50		mg/L		94	90 - 110	0	15
Fluoride	0.294	J	10.0	11.28		mg/L		110	90 - 110	1	15

Lab Sample ID: 870-25661-I-7 MS
Matrix: Water
Analysis Batch: 154109

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	24.1		10.0	34.67		mg/L		106	90 - 110
Sulfate	30.0		10.0	40.10		mg/L		101	90 - 110
Fluoride	0.117	J	10.0	11.70	N1	mg/L		116	90 - 110

Lab Sample ID: 870-25661-I-7 MSD
Matrix: Water
Analysis Batch: 154109

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Chloride	24.1		10.0	34.69		mg/L		106	90 - 110	0	15
Sulfate	30.0		10.0	39.97		mg/L		100	90 - 110	0	15
Fluoride	0.117	J	10.0	11.64	N1	mg/L		115	90 - 110	1	15

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-151434/1-A
Matrix: Water
Analysis Batch: 151647

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 151434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/25/24 10:40	03/26/24 11:07	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 860-151434/2-A
Matrix: Water
Analysis Batch: 151647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 151434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.8390		mg/L		84	80 - 120

Lab Sample ID: LCSD 860-151434/3-A
Matrix: Water
Analysis Batch: 151647

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 151434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Lithium	1.00	0.8380		mg/L		84	80 - 120	0	20

Lab Sample ID: 860-70520-N-1-A MS
Matrix: Water
Analysis Batch: 151647

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 151434

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.291		1.00	1.630		mg/L		134	

Lab Sample ID: 860-70520-O-1-A MSD
Matrix: Water
Analysis Batch: 151647

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 151434

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Lithium	0.291		1.00	1.640		mg/L		135		1	

Lab Sample ID: MB 860-152062/1-A
Matrix: Water
Analysis Batch: 152315

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 152062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		03/28/24 09:00	03/28/24 16:52	1

Lab Sample ID: LCS 860-152062/2-A
Matrix: Water
Analysis Batch: 152315

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 152062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9550		mg/L		96	80 - 120

Lab Sample ID: LCSD 860-152062/3-A
Matrix: Water
Analysis Batch: 152315

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 152062

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Lithium	1.00	0.9500		mg/L		95	80 - 120	1	20

Lab Sample ID: 860-70869-D-1-A MS
Matrix: Water
Analysis Batch: 152315

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 152062

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.0174	U	1.00	0.9730		mg/L		97	

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 6010D - Metals (ICP)

Lab Sample ID: 860-70869-D-1-B MSD
Matrix: Water
Analysis Batch: 152315

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 152062

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.0174	U	1.00	0.9710		mg/L		97		0	

Lab Sample ID: MB 860-152797/1-A
Matrix: Water
Analysis Batch: 153005

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 152797

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/02/24 10:00	04/02/24 19:55	1

Lab Sample ID: LCS 860-152797/2-A
Matrix: Water
Analysis Batch: 153005

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 152797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9520		mg/L		95	80 - 120

Lab Sample ID: LCSD 860-152797/3-A
Matrix: Water
Analysis Batch: 153005

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 152797

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9530		mg/L		95	80 - 120	0	20

Lab Sample ID: 860-70517-3 MS
Matrix: Water
Analysis Batch: 153005

Client Sample ID: MW-12-20240320-01
Prep Type: Total/NA
Prep Batch: 152797

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.0243	J	1.00	1.090		mg/L		107	

Lab Sample ID: 860-70517-3 MSD
Matrix: Water
Analysis Batch: 153005

Client Sample ID: MW-12-20240320-01
Prep Type: Total/NA
Prep Batch: 152797

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.0243	J	1.00	1.110		mg/L		109		2	

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-151418/1-A
Matrix: Water
Analysis Batch: 151720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 151418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/25/24 09:30	03/25/24 22:14	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		03/25/24 09:30	03/25/24 22:14	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		03/25/24 09:30	03/25/24 22:14	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		03/25/24 09:30	03/25/24 22:14	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/25/24 09:30	03/25/24 22:14	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/25/24 09:30	03/25/24 22:14	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

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

Lab Sample ID: MB 860-151418/1-A
Matrix: Water
Analysis Batch: 151720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 151418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/25/24 09:30	03/25/24 22:14	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		03/25/24 09:30	03/25/24 22:14	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/25/24 09:30	03/25/24 22:14	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/25/24 09:30	03/25/24 22:14	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		03/25/24 09:30	03/25/24 22:14	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/25/24 09:30	03/25/24 22:14	1

Lab Sample ID: MB 860-151418/1-A
Matrix: Water
Analysis Batch: 152153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 151418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/25/24 09:30	03/27/24 16:21	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		03/25/24 09:30	03/27/24 16:21	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		03/25/24 09:30	03/27/24 16:21	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		03/25/24 09:30	03/27/24 16:21	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/25/24 09:30	03/27/24 16:21	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/25/24 09:30	03/27/24 16:21	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/25/24 09:30	03/27/24 16:21	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		03/25/24 09:30	03/27/24 16:21	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/25/24 09:30	03/27/24 16:21	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/25/24 09:30	03/27/24 16:21	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		03/25/24 09:30	03/27/24 16:21	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/25/24 09:30	03/27/24 16:21	1

Lab Sample ID: LCS 860-151418/2-A
Matrix: Water
Analysis Batch: 151720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.1019		mg/L		102	80 - 120
Arsenic	0.100	0.1027		mg/L		103	80 - 120
Calcium	2.50	2.812		mg/L		112	80 - 120
Barium	0.100	0.1009		mg/L		101	80 - 120
Beryllium	0.100	0.09792		mg/L		98	80 - 120
Cadmium	0.100	0.1013		mg/L		101	80 - 120
Chromium	0.100	0.1034		mg/L		103	80 - 120
Cobalt	0.100	0.1020		mg/L		102	80 - 120
Lead	0.100	0.1010		mg/L		101	80 - 120
Molybdenum	0.100	0.1010		mg/L		101	80 - 120
Selenium	0.100	0.1013		mg/L		101	80 - 120
Thallium	0.100	0.1008		mg/L		101	80 - 120

Lab Sample ID: LCS 860-151418/2-A
Matrix: Water
Analysis Batch: 152153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09664		mg/L		97	80 - 120

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

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

Lab Sample ID: LCS 860-151418/2-A
Matrix: Water
Analysis Batch: 152153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.100	0.09364		mg/L		94	80 - 120
Arsenic	0.100	0.1001		mg/L		100	80 - 120
Barium	0.100	0.1004		mg/L		100	80 - 120
Beryllium	0.100	0.09734		mg/L		97	80 - 120
Cadmium	0.100	0.1005		mg/L		100	80 - 120
Chromium	0.100	0.1010		mg/L		101	80 - 120
Cobalt	0.100	0.09981		mg/L		100	80 - 120
Lead	0.100	0.1008		mg/L		101	80 - 120
Molybdenum	0.100	0.09919		mg/L		99	80 - 120
Selenium	0.100	0.09894		mg/L		99	80 - 120
Thallium	0.100	0.1011		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-151418/3-A
Matrix: Water
Analysis Batch: 151720

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.1010		mg/L		101	80 - 120	1	20
Arsenic	0.100	0.09998		mg/L		100	80 - 120	3	20
Calcium	2.50	2.670		mg/L		107	80 - 120	5	20
Barium	0.100	0.09712		mg/L		97	80 - 120	4	20
Beryllium	0.100	0.09737		mg/L		97	80 - 120	1	20
Cadmium	0.100	0.09882		mg/L		99	80 - 120	3	20
Chromium	0.100	0.1006		mg/L		101	80 - 120	3	20
Cobalt	0.100	0.09949		mg/L		99	80 - 120	2	20
Lead	0.100	0.09742		mg/L		97	80 - 120	4	20
Molybdenum	0.100	0.09910		mg/L		99	80 - 120	2	20
Selenium	0.100	0.09798		mg/L		98	80 - 120	3	20
Thallium	0.100	0.09744		mg/L		97	80 - 120	3	20

Lab Sample ID: LCSD 860-151418/3-A
Matrix: Water
Analysis Batch: 152153

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09795		mg/L		98	80 - 120	1	20
Boron	0.100	0.09802		mg/L		98	80 - 120	5	20
Arsenic	0.100	0.1000		mg/L		100	80 - 120	0	20
Barium	0.100	0.09884		mg/L		99	80 - 120	2	20
Beryllium	0.100	0.09793		mg/L		98	80 - 120	1	20
Cadmium	0.100	0.09938		mg/L		99	80 - 120	1	20
Chromium	0.100	0.1006		mg/L		101	80 - 120	0	20
Cobalt	0.100	0.09961		mg/L		100	80 - 120	0	20
Lead	0.100	0.09966		mg/L		100	80 - 120	1	20
Molybdenum	0.100	0.09915		mg/L		99	80 - 120	0	20
Selenium	0.100	0.09767		mg/L		98	80 - 120	1	20
Thallium	0.100	0.09989		mg/L		100	80 - 120	1	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

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

Lab Sample ID: 880-41176-K-13-A MS
Matrix: Water
Analysis Batch: 151720

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00381	J	0.100	0.1050		mg/L		101	75 - 125
Arsenic	0.00650		0.100	0.1014		mg/L		95	75 - 125
Calcium	308		2.50	314.1	4	mg/L		230	75 - 125
Barium	0.0425		0.100	0.1428		mg/L		100	75 - 125
Beryllium	0.000891	J	0.100	0.09950		mg/L		99	75 - 125
Cadmium	<0.000240	U	0.100	0.09201		mg/L		92	75 - 125
Chromium	0.00917		0.100	0.1048		mg/L		96	75 - 125
Cobalt	0.00539		0.100	0.09853		mg/L		93	75 - 125
Lead	<0.000367	U	0.100	0.09844		mg/L		98	75 - 125
Molybdenum	0.000922	J	0.100	0.09904		mg/L		98	75 - 125
Selenium	0.00701		0.100	0.09608		mg/L		89	75 - 125
Thallium	<0.000185	U	0.100	0.09840		mg/L		98	75 - 125

Lab Sample ID: 880-41176-L-13-A MSD
Matrix: Water
Analysis Batch: 151720

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 151418

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00381	J	0.100	0.1053		mg/L		102	75 - 125	0	20
Arsenic	0.00650		0.100	0.1018		mg/L		95	75 - 125	0	20
Calcium	308		2.50	314.3	4	mg/L		239	75 - 125	0	20
Barium	0.0425		0.100	0.1416		mg/L		99	75 - 125	1	20
Beryllium	0.000891	J	0.100	0.09795		mg/L		97	75 - 125	2	20
Cadmium	<0.000240	U	0.100	0.09236		mg/L		92	75 - 125	0	20
Chromium	0.00917		0.100	0.1054		mg/L		96	75 - 125	1	20
Cobalt	0.00539		0.100	0.1001		mg/L		95	75 - 125	2	20
Lead	<0.000367	U	0.100	0.09957		mg/L		100	75 - 125	1	20
Molybdenum	0.000922	J	0.100	0.09845		mg/L		98	75 - 125	1	20
Selenium	0.00701		0.100	0.09558		mg/L		89	75 - 125	1	20
Thallium	<0.000185	U	0.100	0.09981		mg/L		100	75 - 125	1	20

Lab Sample ID: MB 860-152093/1-A
Matrix: Water
Analysis Batch: 152472

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 152093

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/28/24 10:30	03/29/24 15:41	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		03/28/24 10:30	03/29/24 15:41	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		03/28/24 10:30	03/29/24 15:41	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		03/28/24 10:30	03/29/24 15:41	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		03/28/24 10:30	03/29/24 15:41	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/28/24 10:30	03/29/24 15:41	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/28/24 10:30	03/29/24 15:41	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/28/24 10:30	03/29/24 15:41	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		03/28/24 10:30	03/29/24 15:41	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/28/24 10:30	03/29/24 15:41	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/28/24 10:30	03/29/24 15:41	1
Selenium	<0.000266	U	0.00200	0.000266	mg/L		03/28/24 10:30	03/29/24 15:41	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/28/24 10:30	03/29/24 15:41	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: LCS 860-152093/2-A
Matrix: Water
Analysis Batch: 152472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 152093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09668		mg/L		97	80 - 120
Boron	0.100	0.09804		mg/L		98	80 - 120
Arsenic	0.100	0.1000		mg/L		100	80 - 120
Calcium	2.50	2.708		mg/L		108	80 - 120
Barium	0.100	0.09772		mg/L		98	80 - 120
Beryllium	0.100	0.09814		mg/L		98	80 - 120
Cadmium	0.100	0.1000		mg/L		100	80 - 120
Chromium	0.100	0.09999		mg/L		100	80 - 120
Cobalt	0.100	0.09899		mg/L		99	80 - 120
Lead	0.100	0.09799		mg/L		98	80 - 120
Molybdenum	0.100	0.09744		mg/L		97	80 - 120
Selenium	0.100	0.09929		mg/L		99	80 - 120
Thallium	0.100	0.09787		mg/L		98	80 - 120

Lab Sample ID: LCSD 860-152093/3-A
Matrix: Water
Analysis Batch: 152472

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 152093

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.1012		mg/L		101	80 - 120	5	20
Boron	0.100	0.1034		mg/L		103	80 - 120	5	20
Arsenic	0.100	0.1008		mg/L		101	80 - 120	1	20
Calcium	2.50	2.738		mg/L		110	80 - 120	1	20
Barium	0.100	0.09767		mg/L		98	80 - 120	0	20
Beryllium	0.100	0.09743		mg/L		97	80 - 120	1	20
Cadmium	0.100	0.1002		mg/L		100	80 - 120	0	20
Chromium	0.100	0.1007		mg/L		101	80 - 120	1	20
Cobalt	0.100	0.09951		mg/L		100	80 - 120	1	20
Lead	0.100	0.09830		mg/L		98	80 - 120	0	20
Molybdenum	0.100	0.09947		mg/L		99	80 - 120	2	20
Selenium	0.100	0.09990		mg/L		100	80 - 120	1	20
Thallium	0.100	0.09862		mg/L		99	80 - 120	1	20

Lab Sample ID: 880-41407-B-2-A MS ^10
Matrix: Water
Analysis Batch: 152472

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 152093

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0220	U	0.100	0.1104		mg/L		110	75 - 125
Boron	1.64	^	0.100	1.708	4	mg/L		71	75 - 125
Arsenic	0.0175	J	0.100	0.1166		mg/L		99	75 - 125
Calcium	337		2.50	328.8	4	mg/L		-332	75 - 125
Barium	<0.0134	U	0.100	0.1101		mg/L		110	75 - 125
Beryllium	<0.00271	U	0.100	0.09937		mg/L		99	75 - 125
Cadmium	<0.00240	U	0.100	0.09940		mg/L		99	75 - 125
Chromium	0.0708		0.100	0.1615		mg/L		91	75 - 125
Cobalt	<0.00355	U	0.100	0.1002		mg/L		100	75 - 125
Lead	<0.00367	U	0.100	0.09936		mg/L		99	75 - 125
Molybdenum	0.0410		0.100	0.1392		mg/L		98	75 - 125

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

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

Lab Sample ID: 880-41407-B-2-A MS ^10

Matrix: Water

Analysis Batch: 152472

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 152093

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.0221		0.100	0.1192		mg/L		97	75 - 125
Thallium	<0.00185	U	0.100	0.09855		mg/L		99	75 - 125

Lab Sample ID: 880-41407-B-2-B MSD ^10

Matrix: Water

Analysis Batch: 152472

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 152093

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0220	U	0.100	0.1133		mg/L		113	75 - 125	3	20
Boron	1.64	^	0.100	1.732	4	mg/L		95	75 - 125	1	20
Arsenic	0.0175	J	0.100	0.1227		mg/L		105	75 - 125	5	20
Calcium	337		2.50	341.5	4	mg/L		173	75 - 125	4	20
Barium	<0.0134	U	0.100	0.1153		mg/L		115	75 - 125	5	20
Beryllium	<0.00271	U	0.100	0.09920		mg/L		99	75 - 125	0	20
Cadmium	<0.00240	U	0.100	0.1022		mg/L		102	75 - 125	3	20
Chromium	0.0708		0.100	0.1686		mg/L		98	75 - 125	4	20
Cobalt	<0.00355	U	0.100	0.1036		mg/L		104	75 - 125	3	20
Lead	<0.00367	U	0.100	0.1023		mg/L		102	75 - 125	3	20
Molybdenum	0.0410		0.100	0.1443		mg/L		103	75 - 125	4	20
Selenium	0.0221		0.100	0.1248		mg/L		103	75 - 125	5	20
Thallium	<0.00185	U	0.100	0.1017		mg/L		102	75 - 125	3	20

Lab Sample ID: LB 860-152205/1-B

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 152332

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0110	U	0.0200	0.0110	mg/L		03/29/24 09:30	03/29/24 21:35	1
Arsenic	<0.00345	U	0.0200	0.00345	mg/L		03/29/24 09:30	03/29/24 21:35	1
Barium	<0.00671	U	0.0200	0.00671	mg/L		03/29/24 09:30	03/29/24 21:35	1
Beryllium	<0.00136	U	0.0100	0.00136	mg/L		03/29/24 09:30	03/29/24 21:35	1
Cadmium	<0.00120	U	0.0100	0.00120	mg/L		03/29/24 09:30	03/29/24 21:35	1
Chromium	<0.00280	U	0.0200	0.00280	mg/L		03/29/24 09:30	03/29/24 21:35	1
Cobalt	<0.00178	U	0.0100	0.00178	mg/L		03/29/24 09:30	03/29/24 21:35	1
Lead	<0.00184	U	0.0100	0.00184	mg/L		03/29/24 09:30	03/29/24 21:35	1
Molybdenum	<0.00128	U	0.0100	0.00128	mg/L		03/29/24 09:30	03/29/24 21:35	1
Selenium	<0.00133	U	0.0100	0.00133	mg/L		03/29/24 09:30	03/29/24 21:35	1
Thallium	<0.000925	U	0.0100	0.000925	mg/L		03/29/24 09:30	03/29/24 21:35	1

Lab Sample ID: MB 860-151997/1-B

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 152332

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00220	U	0.00400	0.00220	mg/L		03/29/24 09:30	03/29/24 21:02	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		03/29/24 09:30	03/29/24 21:02	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		03/29/24 09:30	03/29/24 21:02	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		03/29/24 09:30	03/29/24 21:02	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		03/29/24 09:30	03/29/24 21:02	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

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

Lab Sample ID: MB 860-151997/1-B

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 152332

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		03/29/24 09:30	03/29/24 21:02	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		03/29/24 09:30	03/29/24 21:02	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		03/29/24 09:30	03/29/24 21:02	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		03/29/24 09:30	03/29/24 21:02	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		03/29/24 09:30	03/29/24 21:02	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		03/29/24 09:30	03/29/24 21:02	1
Selenium	0.0003170	J	0.00200	0.000266	mg/L		03/29/24 09:30	03/29/24 21:02	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		03/29/24 09:30	03/29/24 21:02	1

Lab Sample ID: LCS 860-151997/2-B

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 152332

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09654		mg/L		97	80 - 120
Boron	0.100	0.09734		mg/L		97	80 - 120
Arsenic	0.100	0.09812		mg/L		98	80 - 120
Calcium	2.50	2.699		mg/L		108	80 - 120
Barium	0.100	0.09810		mg/L		98	80 - 120
Beryllium	0.100	0.09550		mg/L		96	80 - 120
Cadmium	0.100	0.09698		mg/L		97	80 - 120
Chromium	0.100	0.09877		mg/L		99	80 - 120
Cobalt	0.100	0.09726		mg/L		97	80 - 120
Lead	0.100	0.09816		mg/L		98	80 - 120
Molybdenum	0.100	0.09676		mg/L		97	80 - 120
Selenium	0.100	0.09751		mg/L		98	80 - 120
Thallium	0.100	0.09814		mg/L		98	80 - 120

Lab Sample ID: LCSD 860-151997/3-B

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 152332

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.1030		mg/L		103	80 - 120	6	20
Boron	0.100	0.1009		mg/L		101	80 - 120	4	20
Arsenic	0.100	0.1036		mg/L		104	80 - 120	5	20
Calcium	2.50	2.816		mg/L		113	80 - 120	4	20
Barium	0.100	0.1036		mg/L		104	80 - 120	5	20
Beryllium	0.100	0.09782		mg/L		98	80 - 120	2	20
Cadmium	0.100	0.1022		mg/L		102	80 - 120	5	20
Chromium	0.100	0.1042		mg/L		104	80 - 120	5	20
Cobalt	0.100	0.1025		mg/L		102	80 - 120	5	20
Lead	0.100	0.1037		mg/L		104	80 - 120	5	20
Molybdenum	0.100	0.1018		mg/L		102	80 - 120	5	20
Selenium	0.100	0.1030		mg/L		103	80 - 120	6	20
Thallium	0.100	0.1038		mg/L		104	80 - 120	6	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

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

Lab Sample ID: 830-5164-B-1-E MS

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 152332

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0110	U	0.100	0.1076		mg/L		108	75 - 125
Boron	0.185		0.100	0.2819		mg/L		96	75 - 125
Arsenic	0.00465	J	0.100	0.1092		mg/L		105	75 - 125
Calcium	8.20	b	2.50	11.05		mg/L		114	75 - 125
Barium	0.0434		0.100	0.1470		mg/L		104	75 - 125
Beryllium	<0.00136	U	0.100	0.1014		mg/L		101	75 - 125
Cadmium	<0.00120	U	0.100	0.1012		mg/L		101	75 - 125
Chromium	0.00317	J	0.100	0.1083		mg/L		105	75 - 125
Cobalt	<0.00178	U	0.100	0.1038		mg/L		104	75 - 125
Lead	<0.00184	U	0.100	0.1044		mg/L		104	75 - 125
Molybdenum	0.00276	J	0.100	0.1059		mg/L		103	75 - 125
Selenium	0.00402	J b	0.100	0.09849		mg/L		94	75 - 125
Thallium	<0.000925	U	0.100	0.1011		mg/L		101	75 - 125

Lab Sample ID: 830-5164-B-1-F MSD

Matrix: Water

Analysis Batch: 152474

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 152332

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0110	U	0.100	0.1066		mg/L		107	75 - 125	1	20
Arsenic	0.00465	J	0.100	0.1076		mg/L		103	75 - 125	1	20
Barium	0.0434		0.100	0.1447		mg/L		101	75 - 125	2	20
Cadmium	<0.00120	U	0.100	0.1013		mg/L		101	75 - 125	0	20
Chromium	0.00317	J	0.100	0.1062		mg/L		103	75 - 125	2	20
Cobalt	<0.00178	U	0.100	0.1029		mg/L		103	75 - 125	1	20
Lead	<0.00184	U	0.100	0.1029		mg/L		103	75 - 125	1	20
Molybdenum	0.00276	J	0.100	0.1057		mg/L		103	75 - 125	0	20
Selenium	0.00402	J b	0.100	0.1044		mg/L		100	75 - 125	6	20
Thallium	<0.000925	U	0.100	0.09992		mg/L		100	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 860-152226/10-A

Matrix: Water

Analysis Batch: 152286

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 152226

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		03/28/24 17:12	03/28/24 21:13	1

Lab Sample ID: LCS 860-152226/11-A

Matrix: Water

Analysis Batch: 152286

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 152226

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.002038		mg/L		102	80 - 120

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 860-152226/12-A
Matrix: Water
Analysis Batch: 152286

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 152226

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.002004		mg/L		100	80 - 120	2	20

Lab Sample ID: 860-70604-J-14-A MS
Matrix: Water
Analysis Batch: 152286

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 152226

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.002080		mg/L		104	75 - 125

Lab Sample ID: 860-70604-K-14-A MSD
Matrix: Water
Analysis Batch: 152286

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 152226

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.002071		mg/L		104	75 - 125	0	20

Lab Sample ID: LB 860-152399/1-E
Matrix: Water
Analysis Batch: 152744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 152723

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:11	1

Lab Sample ID: MB 860-152723/1-A
Matrix: Water
Analysis Batch: 152744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 152723

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/01/24 18:21	04/01/24 22:04	1

Lab Sample ID: LCS 860-152723/2-A
Matrix: Water
Analysis Batch: 152744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 152723

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.002066		mg/L		103	80 - 120

Lab Sample ID: LCSD 860-152723/3-A
Matrix: Water
Analysis Batch: 152744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 152723

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.001925		mg/L		96	80 - 120	7	20

Lab Sample ID: MB 860-153431/10-A
Matrix: Water
Analysis Batch: 153556

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 153431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/05/24 08:49	04/05/24 16:45	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 860-153431/11-A
Matrix: Water
Analysis Batch: 153556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.001876		mg/L		94	80 - 120

Lab Sample ID: LCSD 860-153431/12-A
Matrix: Water
Analysis Batch: 153556

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 153431

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.001737		mg/L		87	80 - 120	8	20

Lab Sample ID: 870-25640-A-1-C MS
Matrix: Water
Analysis Batch: 153556

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 153431

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.001948		mg/L		97	75 - 125

Lab Sample ID: 870-25640-A-1-D MSD
Matrix: Water
Analysis Batch: 153556

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 153431

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.001930		mg/L		97	75 - 125	1	20

Lab Sample ID: 880-41499-A-1-D MS
Matrix: Water
Analysis Batch: 152744

Client Sample ID: Matrix Spike
Prep Type: TCLP
Prep Batch: 152723

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.002011		mg/L		101	75 - 125

Lab Sample ID: 880-41499-A-1-E MSD
Matrix: Water
Analysis Batch: 152744

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP
Prep Batch: 152723

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.001983		mg/L		99	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-151462/1
Matrix: Water
Analysis Batch: 151462

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			03/25/24 14:27	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 860-151462/2

Matrix: Water

Analysis Batch: 151462

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids	1000	1111		mg/L		111	80 - 120		

Lab Sample ID: LCSD 860-151462/3

Matrix: Water

Analysis Batch: 151462

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1112		mg/L		111	80 - 120	0	10

Lab Sample ID: LLCS 860-151462/4

Matrix: Water

Analysis Batch: 151462

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids	5.00	6.000		mg/L		120	50 - 150		

Lab Sample ID: 880-41128-D-2 DU

Matrix: Water

Analysis Batch: 151462

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D		RPD	RPD Limit
Total Dissolved Solids	34.0		34.00		mg/L			0	10

Lab Sample ID: MB 860-151649/1

Matrix: Water

Analysis Batch: 151649

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			03/26/24 12:58	1

Lab Sample ID: LCS 860-151649/2

Matrix: Water

Analysis Batch: 151649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids	1000	1005		mg/L		101	80 - 120		

Lab Sample ID: LCSD 860-151649/3

Matrix: Water

Analysis Batch: 151649

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1006		mg/L		101	80 - 120	0	10

Lab Sample ID: LLCS 860-151649/4

Matrix: Water

Analysis Batch: 151649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids	5.00	6.500		mg/L		130	50 - 150		

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: 880-41158-A-8 DU
Matrix: Water
Analysis Batch: 151649

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	9750		9730		mg/L		0.2	10

Lab Sample ID: MB 860-151651/1
Matrix: Water
Analysis Batch: 151651

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			03/26/24 13:08	1

Lab Sample ID: LCS 860-151651/2
Matrix: Water
Analysis Batch: 151651

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1110		mg/L		111	80 - 120

Lab Sample ID: LCSD 860-151651/3
Matrix: Water
Analysis Batch: 151651

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Total Dissolved Solids	1000	1112		mg/L		111	80 - 120	0	10

Lab Sample ID: LLCS 860-151651/4
Matrix: Water
Analysis Batch: 151651

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	5.00	6.000		mg/L		120	50 - 150

Lab Sample ID: 880-41204-A-4 DU
Matrix: Water
Analysis Batch: 151651

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	15800		15020		mg/L		5	10

Lab Sample ID: MB 860-151654/1
Matrix: Water
Analysis Batch: 151654

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			03/26/24 13:34	1

Lab Sample ID: LCS 860-151654/2
Matrix: Water
Analysis Batch: 151654

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1111		mg/L		111	80 - 120

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCSD 860-151654/3
Matrix: Water
Analysis Batch: 151654

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1111		mg/L		111	80 - 120	0	10

Lab Sample ID: 860-70517-6 DU
Matrix: Water
Analysis Batch: 151654

Client Sample ID: MW-17-20240320-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1610		1734		mg/L		7	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 880-41007-C-1 DU
Matrix: Water
Analysis Batch: 151851

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9		7.9		SU		0	20

Lab Sample ID: 880-41298-O-1 DU
Matrix: Water
Analysis Batch: 151957

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.6		5.7		SU		3	20

Lab Sample ID: 830-5142-B-3 DU
Matrix: Water
Analysis Batch: 152381

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9		6.8		SU		0.9	20

Lab Sample ID: 830-5142-B-3 DU
Matrix: Water
Analysis Batch: 152395

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9		6.8		SU		0.9	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

HPLC/IC

Analysis Batch: 153928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	300.0	
860-70517-1 - DL	MW-16-20240319-01	Total/NA	Water	300.0	
860-70517-3	MW-12-20240320-01	Total/NA	Water	300.0	
860-70517-4	MW-13-20240320-01	Total/NA	Water	300.0	
860-70517-5	MW-14-20240320-01	Total/NA	Water	300.0	
860-70517-5 - DL	MW-14-20240320-01	Total/NA	Water	300.0	
860-70517-6	MW-17-20240320-01	Total/NA	Water	300.0	
860-70517-7	MW-15-20240320-01	Total/NA	Water	300.0	
860-70517-8	MW-11-20240320-01	Total/NA	Water	300.0	
860-70517-9	DUP-01-20240320-01	Total/NA	Water	300.0	
860-70517-9 - DL	DUP-01-20240320-01	Total/NA	Water	300.0	
MB 860-153928/3	Method Blank	Total/NA	Water	300.0	
MB 860-153928/45	Method Blank	Total/NA	Water	300.0	
LCS 860-153928/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-153928/46	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-153928/47	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-153928/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-153928/7	Lab Control Sample	Total/NA	Water	300.0	
860-70517-3 MS	MW-12-20240320-01	Total/NA	Water	300.0	
860-70517-3 MSD	MW-12-20240320-01	Total/NA	Water	300.0	

Analysis Batch: 154109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	300.0	
860-70517-2 - DL	MW-7-20240320-01	Total/NA	Water	300.0	
860-70517-4 - DL	MW-13-20240320-01	Total/NA	Water	300.0	
860-70517-6 - DL	MW-17-20240320-01	Total/NA	Water	300.0	
860-70517-7 - DL	MW-15-20240320-01	Total/NA	Water	300.0	
860-70517-8 - DL	MW-11-20240320-01	Total/NA	Water	300.0	
MB 860-154109/3	Method Blank	Total/NA	Water	300.0	
LCS 860-154109/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-154109/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-154109/7	Lab Control Sample	Total/NA	Water	300.0	
870-25661-I-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-25661-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
870-25661-I-7 MS	Matrix Spike	Total/NA	Water	300.0	
870-25661-I-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 151418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	3010A	
860-70517-6	MW-17-20240320-01	Total/NA	Water	3010A	
860-70517-8	MW-11-20240320-01	Total/NA	Water	3010A	
MB 860-151418/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-151418/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-151418/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
880-41176-K-13-A MS	Matrix Spike	Total/NA	Water	3010A	
880-41176-L-13-A MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Metals

Prep Batch: 151434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	3010A	
860-70517-6	MW-17-20240320-01	Total/NA	Water	3010A	
860-70517-8	MW-11-20240320-01	Total/NA	Water	3010A	
MB 860-151434/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-151434/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-151434/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-70520-N-1-A MS	Matrix Spike	Total/NA	Water	3010A	
860-70520-O-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 151647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	6010D	151434
860-70517-6	MW-17-20240320-01	Total/NA	Water	6010D	151434
860-70517-8	MW-11-20240320-01	Total/NA	Water	6010D	151434
MB 860-151434/1-A	Method Blank	Total/NA	Water	6010D	151434
LCS 860-151434/2-A	Lab Control Sample	Total/NA	Water	6010D	151434
LCSD 860-151434/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	151434
860-70520-N-1-A MS	Matrix Spike	Total/NA	Water	6010D	151434
860-70520-O-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	6010D	151434

Analysis Batch: 151720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	6020B	151418
860-70517-1	MW-16-20240319-01	Total/NA	Water	6020B	151418
860-70517-6	MW-17-20240320-01	Total/NA	Water	6020B	151418
860-70517-8	MW-11-20240320-01	Total/NA	Water	6020B	151418
MB 860-151418/1-A	Method Blank	Total/NA	Water	6020B	151418
LCS 860-151418/2-A	Lab Control Sample	Total/NA	Water	6020B	151418
LCSD 860-151418/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	151418
880-41176-K-13-A MS	Matrix Spike	Total/NA	Water	6020B	151418
880-41176-L-13-A MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	151418

Filtration Batch: 151997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-151997/1-B	Method Blank	Total/NA	Water	Filtration	
LCS 860-151997/2-B	Lab Control Sample	Total/NA	Water	Filtration	
LCSD 860-151997/3-B	Lab Control Sample Dup	Total/NA	Water	Filtration	

Prep Batch: 152062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	3010A	
860-70517-4	MW-13-20240320-01	Total/NA	Water	3010A	
860-70517-5	MW-14-20240320-01	Total/NA	Water	3010A	
860-70517-7	MW-15-20240320-01	Total/NA	Water	3010A	
860-70517-9	DUP-01-20240320-01	Total/NA	Water	3010A	
MB 860-152062/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-152062/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-152062/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-70869-D-1-A MS	Matrix Spike	Total/NA	Water	3010A	
860-70869-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Metals

Prep Batch: 152093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	3010A	
860-70517-4	MW-13-20240320-01	Total/NA	Water	3010A	
860-70517-5	MW-14-20240320-01	Total/NA	Water	3010A	
860-70517-7	MW-15-20240320-01	Total/NA	Water	3010A	
860-70517-9	DUP-01-20240320-01	Total/NA	Water	3010A	
MB 860-152093/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-152093/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-152093/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
880-41407-B-2-A MS ^10	Matrix Spike	Total/NA	Water	3010A	
880-41407-B-2-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 152153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	6020B	151418
860-70517-6	MW-17-20240320-01	Total/NA	Water	6020B	151418
860-70517-8	MW-11-20240320-01	Total/NA	Water	6020B	151418
MB 860-151418/1-A	Method Blank	Total/NA	Water	6020B	151418
LCS 860-151418/2-A	Lab Control Sample	Total/NA	Water	6020B	151418
LCSD 860-151418/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	151418

Leach Batch: 152205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-152205/1-B	Method Blank	Total/NA	Water	1311	
830-5164-B-1-E MS	Matrix Spike	TCLP	Water	1311	
830-5164-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Prep Batch: 152226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	7470A	
860-70517-6	MW-17-20240320-01	Total/NA	Water	7470A	
860-70517-8	MW-11-20240320-01	Total/NA	Water	7470A	
MB 860-152226/10-A	Method Blank	Total/NA	Water	7470A	
LCS 860-152226/11-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-152226/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-70604-J-14-A MS	Matrix Spike	Total/NA	Water	7470A	
860-70604-K-14-A MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 152286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	7470A	152226
860-70517-6	MW-17-20240320-01	Total/NA	Water	7470A	152226
860-70517-8	MW-11-20240320-01	Total/NA	Water	7470A	152226
MB 860-152226/10-A	Method Blank	Total/NA	Water	7470A	152226
LCS 860-152226/11-A	Lab Control Sample	Total/NA	Water	7470A	152226
LCSD 860-152226/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	152226
860-70604-J-14-A MS	Matrix Spike	Total/NA	Water	7470A	152226
860-70604-K-14-A MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	152226

Analysis Batch: 152315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	6010D	152062

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Metals (Continued)

Analysis Batch: 152315 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-4	MW-13-20240320-01	Total/NA	Water	6010D	152062
860-70517-5	MW-14-20240320-01	Total/NA	Water	6010D	152062
860-70517-7	MW-15-20240320-01	Total/NA	Water	6010D	152062
860-70517-9	DUP-01-20240320-01	Total/NA	Water	6010D	152062
MB 860-152062/1-A	Method Blank	Total/NA	Water	6010D	152062
LCS 860-152062/2-A	Lab Control Sample	Total/NA	Water	6010D	152062
LCSD 860-152062/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	152062
860-70869-D-1-A MS	Matrix Spike	Total/NA	Water	6010D	152062
860-70869-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	6010D	152062

Prep Batch: 152332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	3010A	
LB 860-152205/1-B	Method Blank	Total/NA	Water	3010A	152205
MB 860-151997/1-B	Method Blank	Total/NA	Water	3010A	151997
LCS 860-151997/2-B	Lab Control Sample	Total/NA	Water	3010A	151997
LCSD 860-151997/3-B	Lab Control Sample Dup	Total/NA	Water	3010A	151997
830-5164-B-1-E MS	Matrix Spike	TCLP	Water	3010A	152205
830-5164-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	3010A	152205

Leach Batch: 152399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-152399/1-E	Method Blank	Total/NA	Water	1311	
880-41499-A-1-D MS	Matrix Spike	TCLP	Water	1311	
880-41499-A-1-E MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 152472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	6020B	152093
860-70517-2	MW-7-20240320-01	Total/NA	Water	6020B	152093
860-70517-4	MW-13-20240320-01	Total/NA	Water	6020B	152093
860-70517-4	MW-13-20240320-01	Total/NA	Water	6020B	152093
860-70517-5	MW-14-20240320-01	Total/NA	Water	6020B	152093
860-70517-5	MW-14-20240320-01	Total/NA	Water	6020B	152093
860-70517-7	MW-15-20240320-01	Total/NA	Water	6020B	152093
860-70517-7	MW-15-20240320-01	Total/NA	Water	6020B	152093
860-70517-9	DUP-01-20240320-01	Total/NA	Water	6020B	152093
860-70517-9	DUP-01-20240320-01	Total/NA	Water	6020B	152093
MB 860-152093/1-A	Method Blank	Total/NA	Water	6020B	152093
LCS 860-152093/2-A	Lab Control Sample	Total/NA	Water	6020B	152093
LCSD 860-152093/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	152093
880-41407-B-2-A MS ^10	Matrix Spike	Total/NA	Water	6020B	152093
880-41407-B-2-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	6020B	152093

Analysis Batch: 152474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	6020B	152332
860-70517-3	MW-12-20240320-01	Total/NA	Water	6020B	152332
LB 860-152205/1-B	Method Blank	Total/NA	Water	6020B	152332
MB 860-151997/1-B	Method Blank	Total/NA	Water	6020B	152332
LCS 860-151997/2-B	Lab Control Sample	Total/NA	Water	6020B	152332

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Metals (Continued)

Analysis Batch: 152474 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 860-151997/3-B	Lab Control Sample Dup	Total/NA	Water	6020B	152332
830-5164-B-1-E MS	Matrix Spike	TCLP	Water	6020B	152332
830-5164-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	6020B	152332

Analysis Batch: 152709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	6020B	152093
860-70517-4	MW-13-20240320-01	Total/NA	Water	6020B	152093
860-70517-5	MW-14-20240320-01	Total/NA	Water	6020B	152093
860-70517-7	MW-15-20240320-01	Total/NA	Water	6020B	152093
860-70517-9	DUP-01-20240320-01	Total/NA	Water	6020B	152093

Prep Batch: 152723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	7470A	
860-70517-4	MW-13-20240320-01	Total/NA	Water	7470A	
860-70517-5	MW-14-20240320-01	Total/NA	Water	7470A	
860-70517-7	MW-15-20240320-01	Total/NA	Water	7470A	
860-70517-9	DUP-01-20240320-01	Total/NA	Water	7470A	
LB 860-152399/1-E	Method Blank	Total/NA	Water	7470A	152399
MB 860-152723/1-A	Method Blank	Total/NA	Water	7470A	
LCS 860-152723/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-152723/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
880-41499-A-1-D MS	Matrix Spike	TCLP	Water	7470A	152399
880-41499-A-1-E MSD	Matrix Spike Duplicate	TCLP	Water	7470A	152399

Analysis Batch: 152744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	7470A	152723
860-70517-4	MW-13-20240320-01	Total/NA	Water	7470A	152723
860-70517-5	MW-14-20240320-01	Total/NA	Water	7470A	152723
860-70517-7	MW-15-20240320-01	Total/NA	Water	7470A	152723
860-70517-9	DUP-01-20240320-01	Total/NA	Water	7470A	152723
LB 860-152399/1-E	Method Blank	Total/NA	Water	7470A	152723
MB 860-152723/1-A	Method Blank	Total/NA	Water	7470A	152723
LCS 860-152723/2-A	Lab Control Sample	Total/NA	Water	7470A	152723
LCSD 860-152723/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	152723
880-41499-A-1-D MS	Matrix Spike	TCLP	Water	7470A	152723
880-41499-A-1-E MSD	Matrix Spike Duplicate	TCLP	Water	7470A	152723

Prep Batch: 152797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	3010A	
MB 860-152797/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-152797/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-152797/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-70517-3 MS	MW-12-20240320-01	Total/NA	Water	3010A	
860-70517-3 MSD	MW-12-20240320-01	Total/NA	Water	3010A	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Metals

Analysis Batch: 153005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	6010D	152797
MB 860-152797/1-A	Method Blank	Total/NA	Water	6010D	152797
LCS 860-152797/2-A	Lab Control Sample	Total/NA	Water	6010D	152797
LCSD 860-152797/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	152797
860-70517-3 MS	MW-12-20240320-01	Total/NA	Water	6010D	152797
860-70517-3 MSD	MW-12-20240320-01	Total/NA	Water	6010D	152797

Prep Batch: 153431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	7470A	
MB 860-153431/10-A	Method Blank	Total/NA	Water	7470A	
LCS 860-153431/11-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-153431/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	
870-25640-A-1-C MS	Matrix Spike	Dissolved	Water	7470A	
870-25640-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	

Analysis Batch: 153556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	7470A	153431
MB 860-153431/10-A	Method Blank	Total/NA	Water	7470A	153431
LCS 860-153431/11-A	Lab Control Sample	Total/NA	Water	7470A	153431
LCSD 860-153431/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	153431
870-25640-A-1-C MS	Matrix Spike	Dissolved	Water	7470A	153431
870-25640-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	153431

General Chemistry

Analysis Batch: 151462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	SM 2540C	
MB 860-151462/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-151462/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-151462/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-151462/4	Lab Control Sample	Total/NA	Water	SM 2540C	
880-41128-D-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 151649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	SM 2540C	
860-70517-4	MW-13-20240320-01	Total/NA	Water	SM 2540C	
MB 860-151649/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-151649/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-151649/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-151649/4	Lab Control Sample	Total/NA	Water	SM 2540C	
880-41158-A-8 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 151651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-5	MW-14-20240320-01	Total/NA	Water	SM 2540C	
860-70517-7	MW-15-20240320-01	Total/NA	Water	SM 2540C	
860-70517-9	DUP-01-20240320-01	Total/NA	Water	SM 2540C	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

General Chemistry (Continued)

Analysis Batch: 151651 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-151651/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-151651/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-151651/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-151651/4	Lab Control Sample	Total/NA	Water	SM 2540C	
880-41204-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 151654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-3	MW-12-20240320-01	Total/NA	Water	SM 2540C	
860-70517-6	MW-17-20240320-01	Total/NA	Water	SM 2540C	
860-70517-8	MW-11-20240320-01	Total/NA	Water	SM 2540C	
MB 860-151654/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-151654/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-151654/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
860-70517-6 DU	MW-17-20240320-01	Total/NA	Water	SM 2540C	

Analysis Batch: 151851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	SM 4500 H+ B	
860-70517-3	MW-12-20240320-01	Total/NA	Water	SM 4500 H+ B	
860-70517-6	MW-17-20240320-01	Total/NA	Water	SM 4500 H+ B	
860-70517-8	MW-11-20240320-01	Total/NA	Water	SM 4500 H+ B	
880-41007-C-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 151957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-5	MW-14-20240320-01	Total/NA	Water	SM 4500 H+ B	
860-70517-7	MW-15-20240320-01	Total/NA	Water	SM 4500 H+ B	
860-70517-9	DUP-01-20240320-01	Total/NA	Water	SM 4500 H+ B	
880-41298-O-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 152381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-2	MW-7-20240320-01	Total/NA	Water	SM 4500 H+ B	
860-70517-4	MW-13-20240320-01	Total/NA	Water	SM 4500 H+ B	
830-5142-B-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 152395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
830-5142-B-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-16-20240319-01

Lab Sample ID: 860-70517-1

Date Collected: 03/19/24 17:10

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 18:00	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			153928	04/09/24 18:10	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151434	03/25/24 10:40	MD	EET HOU
Total/NA	Analysis	6010D		1			151647	03/26/24 11:50	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		1			151720	03/25/24 23:16	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		50			151720	03/25/24 23:39	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152153	03/27/24 16:34	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152226	03/28/24 17:12	AGR	EET HOU
Total/NA	Analysis	7470A		1			152286	03/28/24 21:39	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	151462	03/25/24 14:27	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151851	03/26/24 17:01	RY	EET HOU

Client Sample ID: MW-7-20240320-01

Lab Sample ID: 860-70517-2

Date Collected: 03/20/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			154109	04/10/24 17:16	A1S	EET HOU
Total/NA	Analysis	300.0	DL	10			154109	04/10/24 17:27	A1S	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152062	03/28/24 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			152315	03/28/24 18:54	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152472	03/29/24 16:29	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			152472	03/29/24 16:39	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		10			152709	04/01/24 17:03	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152723	04/01/24 18:21	AGR	EET HOU
Total/NA	Analysis	7470A		1			152744	04/01/24 22:43	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	151649	03/26/24 12:59	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			152381	03/29/24 12:24	SC	EET HOU

Client Sample ID: MW-12-20240320-01

Lab Sample ID: 860-70517-3

Date Collected: 03/20/24 12:15

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 21:04	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152797	04/02/24 10:00	MD	EET HOU
Total/NA	Analysis	6010D		1			153005	04/02/24 20:05	JDM	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-12-20240320-01

Lab Sample ID: 860-70517-3

Date Collected: 03/20/24 12:15

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	152332	03/29/24 10:23	MD	EET HOU
Total/NA	Analysis	6020B		1			152474	03/29/24 22:12	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152332	03/29/24 10:23	MD	EET HOU
Total/NA	Analysis	6020B		50			152474	03/29/24 22:14	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	153431	04/05/24 08:49	AGR	EET HOU
Total/NA	Analysis	7470A		1			153556	04/05/24 17:21	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	151654	03/26/24 13:34	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151851	03/26/24 17:02	RY	EET HOU

Client Sample ID: MW-13-20240320-01

Lab Sample ID: 860-70517-4

Date Collected: 03/20/24 13:10

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 21:34	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			154109	04/10/24 13:52	A1S	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152062	03/28/24 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			152315	03/28/24 18:58	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152472	03/29/24 16:31	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			152472	03/29/24 16:41	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152709	04/01/24 17:05	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152723	04/01/24 18:21	AGR	EET HOU
Total/NA	Analysis	7470A		1			152744	04/01/24 22:44	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	151649	03/26/24 12:59	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			152381	03/29/24 12:25	SC	EET HOU

Client Sample ID: MW-14-20240320-01

Lab Sample ID: 860-70517-5

Date Collected: 03/20/24 14:05

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 18:20	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			153928	04/09/24 18:30	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152062	03/28/24 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			152315	03/28/24 19:01	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152472	03/29/24 16:33	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			152472	03/29/24 16:43	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		20			152709	04/01/24 17:07	DP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-14-20240320-01

Lab Sample ID: 860-70517-5

Date Collected: 03/20/24 14:05

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	152723	04/01/24 18:21	AGR	EET HOU
Total/NA	Analysis	7470A		1			152744	04/01/24 22:45	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	151651	03/26/24 13:08	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151957	03/27/24 14:13	RY	EET HOU

Client Sample ID: MW-17-20240320-01

Lab Sample ID: 860-70517-6

Date Collected: 03/20/24 15:00

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 21:45	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			154109	04/10/24 14:02	A1S	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151434	03/25/24 10:40	MD	EET HOU
Total/NA	Analysis	6010D		1			151647	03/26/24 11:51	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		50			151720	03/25/24 23:41	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152153	03/27/24 16:36	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152226	03/28/24 17:12	AGR	EET HOU
Total/NA	Analysis	7470A		1			152286	03/28/24 21:41	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	151654	03/26/24 13:34	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151851	03/26/24 17:03	RY	EET HOU

Client Sample ID: MW-15-20240320-01

Lab Sample ID: 860-70517-7

Date Collected: 03/20/24 16:00

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 21:55	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			154109	04/10/24 14:12	A1S	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152062	03/28/24 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			152315	03/28/24 19:05	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152472	03/29/24 16:35	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			152472	03/29/24 16:45	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		5			152709	04/01/24 17:09	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152723	04/01/24 18:21	AGR	EET HOU
Total/NA	Analysis	7470A		1			152744	04/01/24 22:47	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	151651	03/26/24 13:08	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151957	03/27/24 14:12	RY	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Client Sample ID: MW-11-20240320-01

Lab Sample ID: 860-70517-8

Date Collected: 03/20/24 17:05

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 22:05	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			154109	04/10/24 14:23	A1S	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151434	03/25/24 10:40	MD	EET HOU
Total/NA	Analysis	6010D		1			151647	03/26/24 11:53	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		50			151720	03/25/24 23:43	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	151418	03/25/24 09:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152153	03/27/24 16:38	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152226	03/28/24 17:12	AGR	EET HOU
Total/NA	Analysis	7470A		1			152286	03/28/24 21:42	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	151654	03/26/24 13:34	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151851	03/26/24 17:04	RY	EET HOU

Client Sample ID: DUP-01-20240320-01

Lab Sample ID: 860-70517-9

Date Collected: 03/20/24 07:00

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			153928	04/09/24 18:41	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			153928	04/09/24 18:51	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152062	03/28/24 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			152315	03/28/24 19:08	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		1			152472	03/29/24 16:37	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		50			152472	03/29/24 16:47	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	152093	03/28/24 10:30	MD	EET HOU
Total/NA	Analysis	6020B		20			152709	04/01/24 17:11	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	152723	04/01/24 18:21	AGR	EET HOU
Total/NA	Analysis	7470A		1			152744	04/01/24 22:48	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	151651	03/26/24 13:08	SA	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			151957	03/27/24 14:11	RY	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3010A	Water	Calcium

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-1

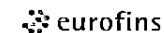
Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-70517-1	MW-16-20240319-01	Water	03/19/24 17:10	03/22/24 09:15
860-70517-2	MW-7-20240320-01	Water	03/20/24 08:55	03/22/24 09:15
860-70517-3	MW-12-20240320-01	Water	03/20/24 12:15	03/22/24 09:15
860-70517-4	MW-13-20240320-01	Water	03/20/24 13:10	03/22/24 09:15
860-70517-5	MW-14-20240320-01	Water	03/20/24 14:05	03/22/24 09:15
860-70517-6	MW-17-20240320-01	Water	03/20/24 15:00	03/22/24 09:15
860-70517-7	MW-15-20240320-01	Water	03/20/24 16:00	03/22/24 09:15
860-70517-8	MW-11-20240320-01	Water	03/20/24 17:05	03/22/24 09:15
860-70517-9	DUP-01-20240320-01	Water	03/20/24 07:00	03/22/24 09:15



Eurofins Houston

4145 Greenbriar Dr
Stafford TX 77477
Phone (281) 240-4200

Chain of Custody Record



Environmental Testing

Client Information		Sampler: <u>K. Naegeli, T. Delle</u>		Lab PM: <u>Patel Anita</u>		Carrier Tracking No(s):		COC No: <u>860-27569-7497 1</u>																																									
Client Contact: <u>Quintin Nel</u>		Phone: <u>512-709-2473</u>		E-Mail: <u>Anita.Patel@et.eurofinsus.com</u>		State of Origin: <u>TX</u>		Page <u>1</u> of <u>2</u>																																									
Company: <u>ERM-Northeast</u>		PWSID:		Analysis Requested																																													
Address: <u>295 Madison Avenue Suite 8A</u>		Due Date Requested:		Field Filtered Sample (Yes or No) Performs MS/MS (Yes or No) Appendix III Metals: Boron, Calcium Appendix II: chloride, fluoride, sulfate by 300 Appendix III: pH and TDS 2540C Appendix IV Metals: 6020 (Sb, As, Ba, Be, Cd, Cr Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg 901.0 and 904.0: Radium 226 and 228(GFPC) 860-70517 Chain of Custody Total Number of containers																																													
City: <u>New York</u>		TAT Requested (days): <u>10 day TAT</u>																																															
State, Zip: <u>NY 10017</u>		Compliance Project: ☐ Yes ☒ No																																															
Phone: <u>512-374-2215(Tel) 512-810-2901(Fax)</u>		PO #: <u>0689854</u>																																															
Email: <u>quintin.nel@erm.com</u>		Purchase Order Requested																																															
Project Name: <u>Twin Oaks Power Plant</u>		Project #: <u>86005616</u>		Preservation Codes: <table border="0"> <tr><td>A HCL</td><td>M Hexane</td></tr> <tr><td>B NaOH</td><td>N None</td></tr> <tr><td>C Zn Acetate</td><td>O AsNaO2</td></tr> <tr><td>D Nitric Acid</td><td>P Na2O4S</td></tr> <tr><td>E NaHSO4</td><td>Q Na2SO3</td></tr> <tr><td>F MeOH</td><td>R Na2S2O3</td></tr> <tr><td>G Amchlor</td><td>S H2SO4</td></tr> <tr><td>H Ascorbic Acid</td><td>T TSP Dodecahydrate</td></tr> <tr><td>I Ice</td><td>U Acetone</td></tr> <tr><td>J DI Water</td><td>V MCAA</td></tr> <tr><td>K EDTA</td><td>W pH 4-5</td></tr> <tr><td>L EDA</td><td>Y Trizma</td></tr> <tr><td></td><td>Z other (specify)</td></tr> </table> Other:						A HCL	M Hexane	B NaOH	N None	C Zn Acetate	O AsNaO2	D Nitric Acid	P Na2O4S	E NaHSO4	Q Na2SO3	F MeOH	R Na2S2O3	G Amchlor	S H2SO4	H Ascorbic Acid	T TSP Dodecahydrate	I Ice	U Acetone	J DI Water	V MCAA	K EDTA	W pH 4-5	L EDA	Y Trizma		Z other (specify)														
A HCL	M Hexane																																																
B NaOH	N None																																																
C Zn Acetate	O AsNaO2																																																
D Nitric Acid	P Na2O4S																																																
E NaHSO4	Q Na2SO3																																																
F MeOH	R Na2S2O3																																																
G Amchlor	S H2SO4																																																
H Ascorbic Acid	T TSP Dodecahydrate																																																
I Ice	U Acetone																																																
J DI Water	V MCAA																																																
K EDTA	W pH 4-5																																																
L EDA	Y Trizma																																																
	Z other (specify)																																																
Site: <u>Bremond, TX</u>		SSOW#:																																															
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Sewage, Solid, BT= Tissue, Air)	Field Filtered Sample (Yes or No)				Performs MS/MS (Yes or No)				Appendix III Metals: Boron, Calcium				Appendix II: chloride, fluoride, sulfate by 300				Appendix III: pH and TDS 2540C				Appendix IV Metals: 6020 (Sb, As, Ba, Be, Cd, Cr Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg				901.0 and 904.0: Radium 226 and 228(GFPC)				860-70517 Chain of Custody				Total Number of containers											
<u>MW-16-20240319-01</u>		<u>3/19/24</u>	<u>1710</u>	<u>G</u>	<u>Water</u>																																												
<u>MW-7-20240320-01</u>		<u>3/20/24</u>	<u>0855</u>	<u>G</u>	<u>Water</u>																																												
<u>MW-12-20240320-01</u>			<u>1215</u>		<u>Water</u>																																												
<u>MW-13-20240320-01</u>			<u>1310</u>		<u>Water</u>																																												
<u>MW-14-20240320-01</u>			<u>1405</u>		<u>Water</u>																																												
<u>MW-17-20240320-01</u>			<u>1500</u>		<u>Water</u>																																												
<u>MW-15-20240320-01</u>			<u>1600</u>		<u>Water</u>																																												
<u>MW-11-20240320-01</u>			<u>1705</u>		<u>Water</u>																																												
<u>DUP-01-20240320-01</u>			<u>0700</u>		<u>Water</u>																																												
<u>MW-11-rad-20240320-01</u>			<u>1700</u>		<u>Water</u>																																												
<u>MW-12-rad-20240320-01</u>			<u>1725</u>		<u>Water</u>																																												
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are not returned)																																							
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological										☐ Return To Client ☒ Disposal By Lab																																							
Deliverable Requested: I II III IV Other (specify)										Special Instructions/QC Requirements.																																							
Empty Kit Relinquished by: <u>Kara Naegeli</u>										Date: <u>3/21/24</u> Time: <u>1115</u> Method of Shipment: <u>Fedex</u>																																							
Relinquished by: <u>Kara Naegeli</u>										Date/Time: <u>3/21/24 1115</u> Company: <u>ERM</u>																																							
Relinquished by: <u>Tyler Delle</u>										Date/Time: <u>3/21/24 1115</u> Company: <u>ERM</u>																																							
Relinquished by: <u>Misha</u>										Date/Time: <u>3/22/24 0915</u> Company: <u></u>																																							
Custody Seals Intact: ☒ Yes ☐ No										Custody Seal No. <u></u>																																							
Cooler Temperature(s) °C and Other Remarks:																																																	

Ver 01/16/2019

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-70517-1

Login Number: 70517

List Number: 1

Creator: Torrez, Lisandra

List Source: Eurofins Houston

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 5/9/2024 10:23:43 AM Revision 3

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-70517-2

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

Generated
5/9/2024 10:23:43 AM
Revision 3

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-70517-2 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	05/09/2024

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 05/09/2024				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-70517-2				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 05/09/2024
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-70517-2
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			✓		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 05/09/2024	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-70517-2	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-70517-2

Job ID: 860-70517-2

Eurofins Houston

Job Narrative 860-70517-2

REVISION

The report being provided is a revision of the original report sent on 4/23/2024. The report (revision 3) is being revised due to removing the detection summary page again since it indicates no detections, but the actual well by well analysis data indicates detections..

Report revision history

Revision 2 - 5/2/2024 - Reason - correcting sample IDs in the original report.

Revision 1 - 4/23/2024 - Reason - correcting the detection summary page since it indicate no detections, but the actual well by well analysis data indicates detections..

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

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

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

Receipt

The samples were received on 3/22/2024 9:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.9°C, 3.1°C, 3.2°C and 3.3°C.

Gas Flow Proportional Counter

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

Rad

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

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: MW-16-20240319-01

Lab Sample ID: 860-70517-1

Date Collected: 03/19/24 17:10

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.883		0.230	0.243	1.00	0.169	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.10		0.379	0.392	1.00	0.438	pCi/L	03/28/24 09:04	04/17/24 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		30 - 110					03/28/24 09:04	04/17/24 11:59	1
Y Carrier	84.5		30 - 110					03/28/24 09:04	04/17/24 11:59	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.98		0.443	0.461	5.00	0.438	pCi/L		04/22/24 22:53	1

Client Sample ID: MW-7-20240320-01

Lab Sample ID: 860-70517-2

Date Collected: 03/20/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.148	U	0.115	0.115	1.00	0.162	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.3		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.437	U	0.316	0.319	1.00	0.476	pCi/L	03/28/24 09:04	04/17/24 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.3		30 - 110					03/28/24 09:04	04/17/24 11:59	1
Y Carrier	82.6		30 - 110					03/28/24 09:04	04/17/24 11:59	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.585		0.336	0.339	5.00	0.476	pCi/L		04/22/24 22:53	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: MW-11-RAD-20240320-01

Lab Sample ID: 860-70517-10

Date Collected: 03/20/24 17:00

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.174	U	0.131	0.132	1.00	0.185	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.67		0.493	0.517	1.00	0.566	pCi/L	03/28/24 09:04	04/17/24 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					03/28/24 09:04	04/17/24 11:59	1
Y Carrier	82.6		30 - 110					03/28/24 09:04	04/17/24 11:59	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.85		0.510	0.534	5.00	0.566	pCi/L		04/22/24 22:53	1

Client Sample ID: MW-12-RAD-20240320-01

Lab Sample ID: 860-70517-11

Date Collected: 03/20/24 17:25

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.06		0.279	0.295	1.00	0.255	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.42		0.452	0.471	1.00	0.519	pCi/L	03/28/24 09:04	04/17/24 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					03/28/24 09:04	04/17/24 11:59	1
Y Carrier	83.7		30 - 110					03/28/24 09:04	04/17/24 11:59	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.48		0.531	0.556	5.00	0.519	pCi/L		04/22/24 22:53	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: MW-13-RAD-20240321-01

Lab Sample ID: 860-70517-12

Date Collected: 03/21/24 07:45

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.519		0.204	0.209	1.00	0.220	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.996		0.415	0.425	1.00	0.543	pCi/L	03/28/24 09:04	04/17/24 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					03/28/24 09:04	04/17/24 11:59	1
Y Carrier	83.4		30 - 110					03/28/24 09:04	04/17/24 11:59	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.52		0.462	0.474	5.00	0.543	pCi/L		04/22/24 22:53	1

Client Sample ID: MW-15-RAD-20240321-01

Lab Sample ID: 860-70517-13

Date Collected: 03/21/24 08:10

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.594		0.197	0.204	1.00	0.171	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.889		0.415	0.423	1.00	0.554	pCi/L	03/28/24 09:04	04/17/24 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					03/28/24 09:04	04/17/24 12:00	1
Y Carrier	77.4		30 - 110					03/28/24 09:04	04/17/24 12:00	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.48		0.459	0.470	5.00	0.554	pCi/L		04/22/24 22:53	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: MW-17-RAD-20240321-01

Lab Sample ID: 860-70517-14

Date Collected: 03/21/24 08:35

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.40		0.295	0.321	1.00	0.203	pCi/L	03/28/24 08:59	04/19/24 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.5		30 - 110					03/28/24 08:59	04/19/24 09:36	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.61		0.699	0.774	1.00	0.704	pCi/L	03/28/24 09:04	04/17/24 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.5		30 - 110					03/28/24 09:04	04/17/24 12:00	1
Y Carrier	81.5		30 - 110					03/28/24 09:04	04/17/24 12:00	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	5.01		0.759	0.838	5.00	0.704	pCi/L		04/22/24 22:53	1

Client Sample ID: MW-14-RAD-20240321-01

Lab Sample ID: 860-70517-15

Date Collected: 03/21/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.387		0.202	0.205	1.00	0.272	pCi/L	03/28/24 08:59	04/19/24 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		30 - 110					03/28/24 08:59	04/19/24 09:37	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.07		0.439	0.450	1.00	0.577	pCi/L	03/28/24 09:04	04/17/24 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		30 - 110					03/28/24 09:04	04/17/24 11:52	1
Y Carrier	81.1		30 - 110					03/28/24 09:04	04/17/24 11:52	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.46		0.483	0.494	5.00	0.577	pCi/L		04/22/24 22:53	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: DUP-01-RAD-20240321-01

Lab Sample ID: 860-70517-16

Date Collected: 03/21/24 07:00

Matrix: Water

Date Received: 03/22/24 09:15

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.444		0.200	0.204	1.00	0.245	pCi/L	03/28/24 08:59	04/19/24 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.0		30 - 110					03/28/24 08:59	04/19/24 09:37	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.24		0.428	0.443	1.00	0.531	pCi/L	03/28/24 09:04	04/17/24 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.0		30 - 110					03/28/24 09:04	04/17/24 11:52	1
Y Carrier	83.7		30 - 110					03/28/24 09:04	04/17/24 11:52	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.68		0.472	0.488	5.00	0.531	pCi/L		04/22/24 22:53	1

Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
860-70517-1	MW-16-20240319-01	96.8
860-70517-2	MW-7-20240320-01	99.3
860-70517-10	MW-11-RAD-20240320-01	91.3
860-70517-11	MW-12-RAD-20240320-01	92.0
860-70517-11 DU	MW-12-RAD-20240320-01	86.8
860-70517-12	MW-13-RAD-20240321-01	92.0
860-70517-13	MW-15-RAD-20240321-01	89.8
860-70517-14	MW-17-RAD-20240321-01	88.5
860-70517-15	MW-14-RAD-20240321-01	90.0
860-70517-16	DUP-01-RAD-20240321-01	96.0
LCS 160-654476/2-A	Lab Control Sample	93.3
MB 160-654476/1-A	Method Blank	93.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
860-70517-1	MW-16-20240319-01	96.8	84.5
860-70517-2	MW-7-20240320-01	99.3	82.6
860-70517-10	MW-11-RAD-20240320-01	91.3	82.6
860-70517-11	MW-12-RAD-20240320-01	92.0	83.7
860-70517-11 DU	MW-12-RAD-20240320-01	86.8	80.4
860-70517-12	MW-13-RAD-20240321-01	92.0	83.4
860-70517-13	MW-15-RAD-20240321-01	89.8	77.4
860-70517-14	MW-17-RAD-20240321-01	88.5	81.5
860-70517-15	MW-14-RAD-20240321-01	90.0	81.1
860-70517-16	DUP-01-RAD-20240321-01	96.0	83.7
LCS 160-654477/2-A	Lab Control Sample	93.3	83.7
MB 160-654477/1-A	Method Blank	93.8	85.6

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-654476/1-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654476

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04443	U	0.112	0.112	1.00	0.206	pCi/L	03/28/24 08:59	04/19/24 09:35	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		30 - 110					03/28/24 08:59	04/19/24 09:35	1

Lab Sample ID: LCS 160-654476/2-A
Matrix: Water
Analysis Batch: 657685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654476

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		11.3	11.12		1.27	1.00	0.224	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	93.3		30 - 110							

Lab Sample ID: 860-70517-11 DU
Matrix: Water
Analysis Batch: 657685

Client Sample ID: MW-12-RAD-20240320-01
Prep Type: Total/NA
Prep Batch: 654476

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	1.06		1.075		0.276	1.00	0.188	pCi/L	0.03	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	86.8		30 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-654477/1-A
Matrix: Water
Analysis Batch: 657403

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 654477

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.04168	U	0.219	0.219	1.00	0.436	pCi/L	03/28/24 09:04	04/17/24 11:58	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		30 - 110					03/28/24 09:04	04/17/24 11:58	1
Y Carrier	85.6		30 - 110					03/28/24 09:04	04/17/24 11:58	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-654477/2-A
Matrix: Water
Analysis Batch: 657403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 654477

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		9.02	9.076		1.24	1.00	0.510	pCi/L	101	75 - 125
	LCS	LCS								
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	93.3		30 - 110							
Y Carrier	83.7		30 - 110							

Lab Sample ID: 860-70517-11 DU
Matrix: Water
Analysis Batch: 657403

Client Sample ID: MW-12-RAD-20240320-01
Prep Type: Total/NA
Prep Batch: 654477

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	1.42		2.131		0.626	1.00	0.690	pCi/L	0.65	1
	DU	DU								
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	86.8		30 - 110							
Y Carrier	80.4		30 - 110							

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Rad

Prep Batch: 654476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	PrecSep-21	
860-70517-2	MW-7-20240320-01	Total/NA	Water	PrecSep-21	
860-70517-10	MW-11-RAD-20240320-01	Total/NA	Water	PrecSep-21	
860-70517-11	MW-12-RAD-20240320-01	Total/NA	Water	PrecSep-21	
860-70517-12	MW-13-RAD-20240321-01	Total/NA	Water	PrecSep-21	
860-70517-13	MW-15-RAD-20240321-01	Total/NA	Water	PrecSep-21	
860-70517-14	MW-17-RAD-20240321-01	Total/NA	Water	PrecSep-21	
860-70517-15	MW-14-RAD-20240321-01	Total/NA	Water	PrecSep-21	
860-70517-16	DUP-01-RAD-20240321-01	Total/NA	Water	PrecSep-21	
MB 160-654476/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-654476/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
860-70517-11 DU	MW-12-RAD-20240320-01	Total/NA	Water	PrecSep-21	

Prep Batch: 654477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-70517-1	MW-16-20240319-01	Total/NA	Water	PrecSep_0	
860-70517-2	MW-7-20240320-01	Total/NA	Water	PrecSep_0	
860-70517-10	MW-11-RAD-20240320-01	Total/NA	Water	PrecSep_0	
860-70517-11	MW-12-RAD-20240320-01	Total/NA	Water	PrecSep_0	
860-70517-12	MW-13-RAD-20240321-01	Total/NA	Water	PrecSep_0	
860-70517-13	MW-15-RAD-20240321-01	Total/NA	Water	PrecSep_0	
860-70517-14	MW-17-RAD-20240321-01	Total/NA	Water	PrecSep_0	
860-70517-15	MW-14-RAD-20240321-01	Total/NA	Water	PrecSep_0	
860-70517-16	DUP-01-RAD-20240321-01	Total/NA	Water	PrecSep_0	
MB 160-654477/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-654477/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
860-70517-11 DU	MW-12-RAD-20240320-01	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: MW-16-20240319-01

Lab Sample ID: 860-70517-1

Date Collected: 03/19/24 17:10

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			990.38 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			990.38 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 11:59	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Client Sample ID: MW-7-20240320-01

Lab Sample ID: 860-70517-2

Date Collected: 03/20/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.74 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			999.74 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 11:59	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Client Sample ID: MW-11-RAD-20240320-01

Lab Sample ID: 860-70517-10

Date Collected: 03/20/24 17:00

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			991.16 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			991.16 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 11:59	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Client Sample ID: MW-12-RAD-20240320-01

Lab Sample ID: 860-70517-11

Date Collected: 03/20/24 17:25

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			995.74 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			995.74 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 11:59	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: MW-13-RAD-20240321-01

Lab Sample ID: 860-70517-12

Date Collected: 03/21/24 07:45

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			997.55 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			997.55 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 11:59	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Client Sample ID: MW-15-RAD-20240321-01

Lab Sample ID: 860-70517-13

Date Collected: 03/21/24 08:10

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			996.12 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			996.12 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 12:00	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Client Sample ID: MW-17-RAD-20240321-01

Lab Sample ID: 860-70517-14

Date Collected: 03/21/24 08:35

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			993.48 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:36	SWS	EET SL
Total/NA	Prep	PrecSep_0			993.48 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657403	04/17/24 12:00	EMH	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Client Sample ID: MW-14-RAD-20240321-01

Lab Sample ID: 860-70517-15

Date Collected: 03/21/24 08:55

Matrix: Water

Date Received: 03/22/24 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			991.10 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:37	SWS	EET SL
Total/NA	Prep	PrecSep_0			991.10 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657405	04/17/24 11:52	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Client Sample ID: DUP-01-RAD-20240321-01
Date Collected: 03/21/24 07:00
Date Received: 03/22/24 09:15

Lab Sample ID: 860-70517-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			996.65 mL	1.0 g	654476	03/28/24 08:59	KAK	EET SL
Total/NA	Analysis	903.0		1			657685	04/19/24 09:37	SWS	EET SL
Total/NA	Prep	PrecSep_0			996.65 mL	1.0 g	654477	03/28/24 09:04	KAK	EET SL
Total/NA	Analysis	904.0		1			657405	04/17/24 11:52	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			658163	04/22/24 22:53	SCB	EET SL

Laboratory References:
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-70517-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-70517-1	MW-16-20240319-01	Water	03/19/24 17:10	03/22/24 09:15
860-70517-2	MW-7-20240320-01	Water	03/20/24 08:55	03/22/24 09:15
860-70517-10	MW-11-RAD-20240320-01	Water	03/20/24 17:00	03/22/24 09:15
860-70517-11	MW-12-RAD-20240320-01	Water	03/20/24 17:25	03/22/24 09:15
860-70517-12	MW-13-RAD-20240321-01	Water	03/21/24 07:45	03/22/24 09:15
860-70517-13	MW-15-RAD-20240321-01	Water	03/21/24 08:10	03/22/24 09:15
860-70517-14	MW-17-RAD-20240321-01	Water	03/21/24 08:35	03/22/24 09:15
860-70517-15	MW-14-RAD-20240321-01	Water	03/21/24 08:55	03/22/24 09:15
860-70517-16	DUP-01-RAD-20240321-01	Water	03/21/24 07:00	03/22/24 09:15

Eurofins Houston
4145 Greenbriar Dr
Stafford TX 77477
Phone (281) 240-4200

Chain of Custody Record



Environment - Testing

Client Information		Sampler: <u>E. Naegele, T. Delle</u>		Lab P/N: <u>Anita</u>		Carrier Tracking No(s):		COC No: <u>860-27569-7497 1</u>	
Client Contact: <u>Quintin Nel</u>		Phone: <u>512-4709-2473</u>		E-Mail: <u>Anita.Patel@eurofins.com</u>		State of Origin: <u>TX</u>		Page <u>1</u> of <u>2</u>	
Company: <u>ERM-Northeast</u>		Due Date Requested:		PWSID:		Analysis Requested		Job #	
Address: <u>295 Madison Avenue Suite 8A</u>		City: <u>New York</u>		State, Zip: <u>NY 10017</u>		Phone: <u>512-374-2215 (Tel) 512-810-2901 (Fax)</u>		Email: <u>quintin.nel@erm.com</u>	
Project Name: <u>Twin Oaks Power Plant</u>		Project #: <u>86005616</u>		SSOW#: <u>Bremont, TX</u>		Field Filtered Sample (Yes or No) <u>Yes</u>		Perfor. MS/MSD (Yes or No) <u>Yes</u>	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (I=Inert, S=Solid, O=Organic, A=Aqueous, M=Metal)	
MW-10-20240319-01		3/19/24		1710		G		Water	
MW-7-20240320-01		3/20/24		0855		G		Water	
MW-12-20240320-01				1215				Water	
MW-13-20240320-01				1310				Water	
MW-14-20240320-01				1405				Water	
MW-17-20240320-01				1500				Water	
MW-15-20240320-01				1600				Water	
MW-11-20240320-01				1705				Water	
DUP-01-20240320-01				0700				Water	
MW-11-1004-20240320-01				1700				Water	
MW-12-1004-20240320-01				1725				Water	
Possible Hazard Identification		☒ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Poison B	
Deliverable Requested: I II III IV Other (specify)		☐ Unknown		☐ Radiological		Sample Disposal (A fee may be assessed if samples are returned to client)		☒ Disposal By Lab	
Empty Kit Relinquished by: <u>Kyle V. L.</u>		Date: <u>3/21/24</u>		Time: <u>11:15</u>		Method of Shipment: <u>FEDEX</u>		Company: <u>ERM</u>	
Relinquished by: <u>Kyle V. L.</u>		Date/Time: <u>3/21/24 11:15</u>		Company: <u>ERM</u>		Received by: <u>Indy</u>		Date/Time: <u>3/22/24 08:15</u>	
Relinquished by: <u>Tyler Delle</u>		Date/Time: <u>3/21/24 11:15</u>		Company: <u>ERM</u>		Received by: <u>Indy</u>		Date/Time: <u>3/22/24 08:15</u>	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Special Instructions/Note: <u>250 mL x 4 for Radiums</u>		Special Instructions/Note: <u>250 mL x 4 for Radiums</u>	

Client Information (Sub Contract Lab)						Sampler:	Lab PM	COC No.								
Shipping/Receiving						Phone:	Patel, Anita	860-107406.1								
Company						E-Mail:	Anita.Patel@et-eurofinsus.com	Page								
Address						Accreditations Required (See note) NELAP - Texas										
City						Due Date Requested:	Job #	Preservation Codes:								
Earth City						3/29/2024	860-70517-2	M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Y - Trizma Z - other (specify) Other:								
State, Zip						TAT Requested (days):										
MO, 63045						PO #										
Phone						WO #										
Email:						Project #										
314-298-8566(Tel) 314-298-8757(Fax)						86005616										
Site						SSOW#										
Project Name: Twin Oaks Power Plant																
Sample Identification - Client ID (Lab ID)						Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium 226 (GFPC)	904.0/PrecSep_0 Radium 228 (GFPC)	Ra226_228GFP_C_P/Combined Radium-226 and Radium-228	Total Number of Containers	Special Instructions/Note:				
MW-16-20240319-01 (860-70517-1)						Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=o-waste/oil, BT=tissue, A=air)	Preservation Code	17.10 Central	X	X	X	8	
MW-7-20240320-01 (860-70517-2)						3/19/24	08:55	Central	Water		Central	X	X	X	8	
MW-11-RAD-20240320-01 (860-70517-10)						3/20/24	17:00	Central	Water		Central	X	X	X	2	
MW-12-RAD-20240320-01 (860-70517-11)						3/20/24	17:25	Central	Water		Central	X	X	X	2	
MW-13-RAD-20240320-01 (860-70517-12)						3/20/24	07:45	Central	Water		Central	X	X	X	2	
MW-15-RAD-20240320-01 (860-70517-13)						3/21/24	08:10	Central	Water		Central	X	X	X	2	
MW-17-RAD-20240320-01 (860-70517-14)						3/21/24	08:35	Central	Water		Central	X	X	X	2	
MW-14-RAD-20240320-01 (860-70517-15)						3/21/24	08:55	Central	Water		Central	X	X	X	2	
DUP-01-RAD-20240320-01 (860-70517-16)						3/21/24	07:00	Central	Water		Central	X	X	X	2	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC													Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab Archive For _____ Months			
Possible Hazard Identification													Special Instructions/QC Requirements:			
Unconfirmed Deliverable Requested I, II, III, IV, Other (specify)													Primary Deliverable Rank: 2			
Empty Kit Relinquished by _____ Date/Time: 3-25-24 1700													Received by _____ Date/Time: MAR 27 2024 0920			
Relinquished by _____													Relieved by _____			
Relinquished by _____													Cooler Temperature(s) °C and Other Remarks:			
Custody Seals Intact: Δ Yes Δ No													Custody Seal No.: _____			

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-70517-2

Login Number: 70517

List Number: 1

Creator: Torrez, Lisandra

List Source: Eurofins Houston

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

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-70517-2

Login Number: 70517

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 03/27/24 03:06 PM

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

Data Usability Summary for Laboratory Packages 860-70517-1 and 860-70517-2

March 2024 Groundwater Sampling – Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Environmental Resources Management Southwest, Inc. (ERM) reviewed laboratory analytical data packages (Work Order Numbers 860-70517-1 and 860-70517-2) from Eurofins of Houston, Texas for the analysis of fourteen (14) groundwater samples, and two (2) blind field duplicate samples, collected between March 19 to March 21, 2024, at Twin Oaks Power Station, Robertson County, Texas. Data were reviewed for general conformance to the requirements of the following documents:

- 1) Twin Oaks Power Station, *Groundwater Sampling and Analysis Plan (October 2017)*;
- 2) Environmental Protection Agency's (EPA's) National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001, January 2017);
- 3) Texas Commission on Environmental Quality's (TCEQ's) *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13, May 2010); and
- 4) *CCR Landfill Draft Technical Guideline No. 32* (May 2020).

Eurofins is NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. Eurofins National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in these reports is referenced in the laboratory reports.

Intended Use of Data: To provide concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in the ground water at the facility.

Analyses requested included:

- SW846 6010D – Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry
- SW846 6020B – Metals by Inductively Coupled Plasma/Mass Spectrometry
- SW846 7470A – Mercury by Cold Vapor Atomic Absorption (CVAA)
- SM 2540C – Solids, Total Dissolved (TDS)
- SM 4500 H+ B - PH
- EPA 300.0 – Anions, Ion Chromatography
- EPA 903.0 – Radium-226 by Gas Flow Proportional Counter (GFPC)
- EPA 904.0 – Radium-228 (GFPC)

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report;
- Laboratory review checklist (LRC);
- Exception reports (ERs); and
- Case narrative.

The results of supporting quality control (QC) analyses are summarized on the LRCs, ERs, and in the case narrative, which were included in this review.

The LRC, ERs, case narrative, and analytical data report are attached to this report.

INTRODUCTION

Fourteen (14) groundwater samples and two (2) blind field duplicate, were submitted to the laboratory for analysis of select metals, anions, general chemistry (TDS and PH), and radium. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Data package 860-70517-1 was revised to include previously missing Appendix IV constituents including arsenic, beryllium, cadmium, chromium, and lead. Data package 860-70517-2 was revised twice to correct the detection summary page and to correct sample IDs.

Project Data Quality Objectives

The QC sample recoveries and relative percent differences (RPD) were evaluated based on the following Project Data Quality Objectives (DQO):

Organic Compounds

Recovery 60-140%

RPD $\leq$ 40%

Inorganic Compounds

Recovery 70-130%

RPD $\leq$ 30%

Data were qualified in accordance with the TCEQ's TRRP-13 guidance document, including data qualifier codes and data qualifier code definitions.

DATA REVIEW / VALIDATION RESULTS

Analytical Results

Groundwater analytical results are reported in milligrams per liter (mg/L). *Not Detected* results are reported as "U" and represent values less than the method detection limit (MDL). Qualified data are listed in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition with the paperwork properly completed. The samples were preserved in the field as specified by the methods. The sample receipt temperature for the four coolers of data packages 860-70517-1 and 860-70517-2 (2.9 °C, 3.1 °C, 3.2 °C, and 3.3 °C) were within the acceptance criteria of 4 +/- 2 degrees Celsius.

Samples were prepared and analyzed within holding times, with the exception of pH. The holding time for pH is 15 minutes according to the method; the samples were analyzed 7 to 9 days after sample collection. Therefore, all pH results were qualified as estimated with low bias (JL) for analysis outside of holding time.

Calibrations

According to the LRC, initial calibrations, continuing calibrations, and calibration verifications data met method requirements for metals, radium, general chemistry (pH and TDS), and anions, as applicable.

Blanks

Radium, anions, total dissolved solids, and metals were not detected in method blanks, with exceptions noted below.

Selenium was detected at an estimated concentration (0.0003170 J mg/L) in the method blank in prep batch 152332. The associated sample (MW-12-20240320-01) was reported with a selenium concentration less than five times the method blank concentration, therefore, the sample was qualified as not detected (U). Method blanks for pH and TDS met DQO acceptance limits and no qualifiers were necessary.

In data package 860-70517-1, the continuing calibration blanks (CCB) for analytical batches 860-153928 and 860-154109, contained chloride, sulfate, and/or fluoride at concentrations greater than the method detection limits. The associated sample results were greater than ten times the CCB concentrations; therefore, no qualifiers were required.

No field blanks were collected.

Mass Spectral Tuning

According to the LRC, mass spectrometry was not applicable for the analyses requested.

Internal Standards and Surrogate Recoveries

According to the LRC, internal standard area counts and retention times were not applicable for the analyses requested. Surrogate recoveries were also not applicable for the analyses requested and therefore were not evaluated. Carrier percent yields for radioactive analyses were within acceptable limits.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) precision and accuracy analysis (i.e., percent recovery and relative percentage difference [RPDs], and relative error ratio [RER]) results for all analyses were within DQO acceptance limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy results using project samples were within project DQO acceptance limits for metals, anions (chloride, sulfate, and fluoride), and mercury, with the following exceptions.

In laboratory data package 860-70517-1, the MS and MSD recoveries for calcium in preparation batch 151418 were greater than DQO acceptance limits; however, the parent sample was not associated with the project site; therefore, no qualifiers were required.

In laboratory data package 860-70517-1, the MS and MSD recoveries for calcium in preparation batch 152093 were greater than DQO acceptance limits; however, the parent sample was not associated with the project site; therefore, no qualifiers were required.

Laboratory Precision

The laboratory duplicate results were within the project DQO limits for all analyses. No qualifiers were required for laboratory precision.

Field Precision

Two field duplicate pairs (MW-14-20240320 / DUP-01-20240320-01 and MW-14-RAD-20240320-01 / DUP-01-RAD-20240320-01) were collected. Field precision calculations are shown in table 3. Field precision RPDs were within DQO acceptance limits and no qualifiers were required.

Field Procedures

The samples were collected using procedures documented in the Groundwater Sampling and Analysis Plan for the site.

SUMMARY

No data were rejected during this review. Groundwater analytical data are useable for the purpose of providing concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in groundwater at the Twin Oaks Power Plant. Qualified data are listed in Table 2.

TABLE 1

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory ID 860-70517-1 and 860-70517-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

<u>Laboratory Identification</u>	<u>Field Identification</u>	<u>Description</u>
860-70517-1	MW-16-20240319-01	Field Sample
860-70517-2	MW-7-20240320-01	Field Sample
860-70517-3	MW-12-20240320-01	Field Sample
860-70517-4	MW-13-20240320-01	Field Sample
860-70517-5	MW-14-20240320-01	Field Sample
860-70517-6	MW-17-20240320-01	Field Sample
860-70517-7	MW-15-20240320-01	Field Sample
860-70517-8	MW-11-20240320-01	Field Sample
860-70517-9	DUP-01-20240320-01	Duplicate Sample
860-70517-10	MW-11-RAD-20240320-01	Field Sample
860-70517-11	MW-12-RAD-20240320-01	Field Sample
860-70517-12	MW-13-RAD-20240321-01	Field Sample
860-70517-13	MW-15-RAD-20240321-01	Field Sample
860-70517-14	MW-17-RAD-20240321-01	Field Sample
860-70517-15	MW-14-RAD-20240321-01	Field Sample
860-70517-16	DUP-01-RAD-20240321-01	Duplicate Sample

TABLE 2

Qualified Data
Laboratory ID 860-70517-1 and 860-70517-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Qualification	Rationale
MW-16-20240319-01	pH	JL	Analysis outside of hold time
MW-7-20240320-01	pH	JL	Analysis outside of hold time
MW-12-20240320-01	pH	JL	Analysis outside of hold time
MW-13-20240320-01	pH	JL	Analysis outside of hold time
MW-14-20240320-01	pH	JL	Analysis outside of hold time
MW-17-20240320-01	pH	JL	Analysis outside of hold time
MW-15-20240320-01	pH	JL	Analysis outside of hold time
MW-11-20240320-01	pH	JL	Analysis outside of hold time
DUP-01-20240320-01	pH	JL	Analysis outside of hold time
MW-12-20240320-01	Selenium	U	Method Blank Contamination

Notes:

JL = Qualified in the DUS as detected at an estimated value with low bias.

U = Qualified in the DUS as not detected.

TABLE 3

Field Precision
Laboratory ID 860-70517-1 and 860-70517-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Sample Result (SR)	Duplicate Result (DR)	Relative Percent Difference (RPD)	Qualified		
MW-14-20240320-01 / DUP-01-20240320-01	Fluoride	0.256	J	0.224	J	13.33	A
	Chloride	539		514		4.75	A
	Sulfate	1370		1320		3.72	A
	Lithium	0.0409		0.0371	J	9.74	A
	Boron	3.75		3.77		0.53	A
	Arsenic	0.000943	J	0.00118	J	22.33	A
	Calcium	296		305		3.00	A
	Barium	0.0199		0.0204		2.48	A
	Cadmium	0.000775	J	0.000802	J	3.42	A
	Cobalt	0.00224		0.00219		2.26	A
	Selenium	0.810		0.817		0.86	A
	Total Dissolved Solids	3170		3200		0.94	A
pH	6.4	HF	6.4	HF	0.00	A	
MW-14-RAD-20240320--01 / DUP-01-RAD-20240320-01	Radium-226	0.387		0.444		13.72	A
	Radium-228	1.07		1.24		14.72	A
	Radium-226 and 228	1.46		1.68		14.01	A

NOTES:

Only detected analytes are listed in table.

Units in milligrams per liter (mg/L) or picoCuries per Liter (pCi/L).

$RPD = ((SR-DR)*200)/(SR+DR)$

A = Acceptable data based on project data quality objectives (DQO).

J = Reported as estimated concentration between the sample detection limit (SDL) and the method quantitation limit (MQL).

HF = Parameter with a holding time of 15 minutes. Sample was analyzed outside of hold time.

ANALYTICAL REPORT

PREPARED FOR

Attn: Quintin Nel
ERM-Northeast
295 Madison Avenue
Suite 8A
New York, New York 10017

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JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-82634-1

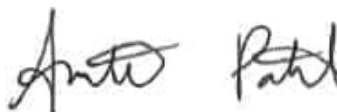
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Glossary

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

Eurofins Houston

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-82634-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program .

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	09/30/2024

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/30/2024				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-82634-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			2
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		✓			3
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/30/2024				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-82634-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP -required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 09/30/2024
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-82634-1
Reviewer Name: Anita Patel		
ER# ¹	Description	
1	Method 6020B: The method blank for preparation batch 860-188705 and analytical batch 860-189144 contained Boron above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.	
2	Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-187408 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-188705 and analytical batch 860-189144 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 860-187408 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria. Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-187408 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.	
3	Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14- 20240911-01 (860-82634-4) and MW-17-20240912-01 (860-82634-9). Elevated reporting limits (RLs) are provided.	
Misc.	TDS and pH cannot be run on the MS/MSD MW-07-20240911-01 (860-82634-1), MW-07-20240911-01-MS (860-82634-1[MS]), MW-07-20240911-01-MSD (860-82634-1[MSD]), MW-11-20240911-01 (860-82634-2), MW-13-20240911-01 (860-82634-3), MW-14-20240911-01 (860-82634-4), MW-15-20240911-01 (860-82634-5), DUP-01-20240911-01 (860-82634-6), FB-01-20240912-01 (860-82634-7), MW-16-20240912-01 (860-82634-8), MW-17-20240912-01 (860-82634-9) and MW-12-20240912-01 (860-82634-10)	
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Case Narrative

Client: ERM-Northeast
Project: Twin Oaks Power Plant

Job ID: 860-82634-1

Job ID: 860-82634-1

Eurofins Houston

Job Narrative 860-82634-1

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

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

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

Receipt

The samples were received on 9/13/2024 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 4.0°C, 4.3°C, 4.8°C and 5.3°C.

Receipt Exceptions

TDS and pH cannot be run on the MS/MSD

MW-07-20240911-01 (860-82634-1), MW-07-20240911-01-MS (860-82634-1[MS]), MW-07-20240911-01-MSD (860-82634-1[MSD]), MW-11-20240911-01 (860-82634-2), MW-13-20240911-01 (860-82634-3), MW-14-20240911-01 (860-82634-4), MW-15-20240911-01 (860-82634-5), DUP-01-20240911-01 (860-82634-6), FB-01-20240912-01 (860-82634-7), MW-16-20240912-01 (860-82634-8), MW-17-20240912-01 (860-82634-9) and MW-12-20240912-01 (860-82634-10)

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-187408 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-187408 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 300_ORGFM_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14-20240911-01 (860-82634-4) and MW-17-20240912-01 (860-82634-9). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 860-187408 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

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

Metals

Method 6020B: The method blank for preparation batch 860-188705 and analytical batch 860-189144 contained Boron above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-188705 and analytical batch 860-189144 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

General Chemistry

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

Eurofins Houston

Case Narrative

Client: ERM-Northeast
Project: Twin Oaks Power Plant

Job ID: 860-82634-1

Job ID: 860-82634-1 (Continued)

Eurofins Houston

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Detection Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-07-20240911-01

Lab Sample ID: 860-82634-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	298		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate	1100		5.00	2.00	mg/L	10		300.0	Total/NA
Antimony	0.00125	J b	0.00200	0.000750	mg/L	1		6020B	Total/NA
Boron	0.255	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	241		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0215		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000570	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00150	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Molybdenum	0.000264	J	0.00200	0.000255	mg/L	1		6020B	Total/NA
Thallium	0.000185	J	0.00200	0.000185	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2010		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.0	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11-20240911-01

Lab Sample ID: 860-82634-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	97.7		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	277		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.171	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	77.0		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0260		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000491	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00172	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	680		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.3	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	104		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	139		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0900	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	37.7		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0593		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00169	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00427		0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	519		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.0	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14-20240911-01

Lab Sample ID: 860-82634-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	488		0.500	0.250	mg/L	1		300.0	Total/NA
Fluoride	0.200	J	0.500	0.100	mg/L	1		300.0	Total/NA
Sulfate - DL	1340		5.00	2.00	mg/L	10		300.0	Total/NA
Lithium	0.214		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	3.22	b	0.500	0.200	mg/L	50		6020B	Total/NA
Calcium	248		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0233		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000893	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.00214	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Cobalt	0.00530		0.00200	0.000355	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-14-20240911-01 (Continued)

Lab Sample ID: 860-82634-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.886		0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	3100		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15-20240911-01

Lab Sample ID: 860-82634-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16.0		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	24.8		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.312	J	0.500	0.100	mg/L	1		300.0	Total/NA
Boron	0.254	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	27.4		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.133		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00469		0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	567		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-01-20240911-01

Lab Sample ID: 860-82634-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	105		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	139		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.106	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0475		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.149	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	36.7		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0602		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00152	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00455		0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	526		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.0	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: FB-01-20240912-01

Lab Sample ID: 860-82634-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.351	J	0.500	0.250	mg/L	1		300.0	Total/NA
Boron	0.00882	J b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Selenium	0.000707	J	0.00200	0.000590	mg/L	1		6020B	Total/NA
pH	5.9	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-16-20240912-01

Lab Sample ID: 860-82634-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	211		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	108		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.103	J	0.500	0.100	mg/L	1		300.0	Total/NA
Boron	0.0337	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	62.2		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0519		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000432	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000894	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Selenium	0.00337		0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	821		10.0	10.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-16-20240912-01 (Continued)

Lab Sample ID: 860-82634-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-17-20240912-01

Lab Sample ID: 860-82634-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	131		0.500	0.200	mg/L	1		300.0	Total/NA
Chloride - DL	791		5.00	2.50	mg/L	10		300.0	Total/NA
Lithium	0.120		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0355	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	129		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.154		0.00400	0.00134	mg/L	1		6020B	Total/NA
Beryllium	0.000471	J	0.00200	0.000271	mg/L	1		6020B	Total/NA
Cadmium	0.00241		0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.00163	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Cobalt	0.00182	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00715		0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2100		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	5.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-12-20240912-01

Lab Sample ID: 860-82634-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	79.8		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	51.8		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0447		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0252	b	0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	14.3		5.00	1.50	mg/L	50		6020B	Total/NA
Barium	0.0856		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00265		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000870	J	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	305		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-07-20240911-01

Lab Sample ID: 860-82634-1

Date Collected: 09/11/24 09:20

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	298		5.00	2.50	mg/L			09/16/24 18:56	10
Sulfate	1100		5.00	2.00	mg/L			09/16/24 18:56	10
Fluoride	<1.00	U	5.00	1.00	mg/L			09/16/24 18:56	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0868	U	0.200	0.0868	mg/L		09/22/24 11:00	09/23/24 15:44	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00125	J b	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:21	1
Boron	0.255	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 17:21	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:21	1
Calcium	241		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 17:38	50
Barium	0.0215		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:21	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:21	1
Cadmium	0.000570	J	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:21	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:21	1
Cobalt	0.00150	J	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:21	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:21	1
Molybdenum	0.000264	J	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:21	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:21	1
Thallium	0.000185	J	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:21	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2010		20.0	20.0	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	6.0	HF			SU			09/18/24 19:12	1

Client Sample ID: MW-11-20240911-01

Lab Sample ID: 860-82634-2

Date Collected: 09/11/24 11:10

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.7		0.500	0.250	mg/L			09/16/24 12:45	1
Sulfate	277		0.500	0.200	mg/L			09/16/24 12:45	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/24 12:45	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/22/24 11:00	09/23/24 15:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:50	1
Boron	0.171	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 17:50	1

Eurofins Houston

Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-11-20240911-01

Lab Sample ID: 860-82634-2

Date Collected: 09/11/24 11:10

Matrix: Water

Date Received: 09/13/24 09:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:50	1
Calcium	77.0		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:01	50
Barium	0.0260		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:50	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:50	1
Cadmium	0.000491	J	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:50	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:50	1
Cobalt	0.00172	J	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:50	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:50	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:50	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:50	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:50	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	680		10.0	10.0	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	6.3	HF			SU			09/18/24 19:08	1

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Date Collected: 09/11/24 13:25

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	104		0.500	0.250	mg/L			09/16/24 12:54	1
Sulfate	139		0.500	0.200	mg/L			09/16/24 12:54	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/24 12:54	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/20/24 10:30	09/20/24 17:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:52	1
Boron	0.0900	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 17:52	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:52	1
Calcium	37.7		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:03	50
Barium	0.0593		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:52	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:52	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:52	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:52	1
Cobalt	0.00169	J	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:52	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:52	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:52	1
Selenium	0.00427		0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:52	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:52	1

Eurofins Houston

Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Date Collected: 09/11/24 13:25

Matrix: Water

Date Received: 09/13/24 09:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	519		10.0	10.0	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	6.0	HF			SU			09/18/24 19:01	1

Client Sample ID: MW-14-20240911-01

Lab Sample ID: 860-82634-4

Date Collected: 09/11/24 16:05

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	488		0.500	0.250	mg/L			09/16/24 13:22	1
Fluoride	0.200	J	0.500	0.100	mg/L			09/16/24 13:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1340		5.00	2.00	mg/L			09/16/24 19:23	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.214		0.0400	0.0174	mg/L		09/22/24 12:00	09/23/24 10:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:54	1
Boron	3.22	b	0.500	0.200	mg/L		09/21/24 10:42	09/23/24 18:07	50
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:54	1
Calcium	248		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:07	50
Barium	0.0233		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:54	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:54	1
Cadmium	0.000893	J	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:54	1
Chromium	0.00214	J	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:54	1
Cobalt	0.00530		0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:54	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:54	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:54	1
Selenium	0.886		0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:54	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:54	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/19/24 03:45	09/19/24 19:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3100		40.0	40.0	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	6.4	HF			SU			09/18/24 18:46	1

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Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-15-20240911-01

Lab Sample ID: 860-82634-5

Date Collected: 09/11/24 17:40

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.0		0.500	0.250	mg/L			09/16/24 15:09	1
Sulfate	24.8		0.500	0.200	mg/L			09/16/24 15:09	1
Fluoride	0.312	J	0.500	0.100	mg/L			09/16/24 15:09	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/22/24 11:00	09/23/24 15:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:56	1
Boron	0.254	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 17:56	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:56	1
Calcium	27.4		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:05	50
Barium	0.133		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:56	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:56	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:56	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:56	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:56	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:56	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:56	1
Selenium	0.00469		0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:56	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	567		10.0	10.0	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	6.2	HF			SU			09/18/24 19:20	1

Client Sample ID: DUP-01-20240911-01

Lab Sample ID: 860-82634-6

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	105		0.500	0.250	mg/L			09/16/24 15:18	1
Sulfate	139		0.500	0.200	mg/L			09/16/24 15:18	1
Fluoride	0.106	J	0.500	0.100	mg/L			09/16/24 15:18	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0475		0.0400	0.0174	mg/L		09/22/24 12:00	09/23/24 11:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:58	1
Boron	0.149	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 17:58	1

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Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: DUP-01-20240911-01

Lab Sample ID: 860-82634-6

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/13/24 09:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:58	1
Calcium	36.7		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:09	50
Barium	0.0602		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:58	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:58	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:58	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:58	1
Cobalt	0.00152	J	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:58	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:58	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:58	1
Selenium	0.00455		0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:58	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:58	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/19/24 03:45	09/19/24 19:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	526		10.0	10.0	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	6.0	HF			SU			09/18/24 18:58	1

Client Sample ID: FB-01-20240912-01

Lab Sample ID: 860-82634-7

Date Collected: 09/12/24 08:55

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.351	J	0.500	0.250	mg/L			09/16/24 15:27	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/16/24 15:27	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/24 15:27	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/22/24 11:00	09/23/24 15:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 18:21	1
Boron	0.00882	J b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 18:21	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 18:21	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		09/21/24 10:42	09/23/24 18:21	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 18:21	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 18:21	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 18:21	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 18:21	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 18:21	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 18:21	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 18:21	1
Selenium	0.000707	J	0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 18:21	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 18:21	1

Eurofins Houston

Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: FB-01-20240912-01

Lab Sample ID: 860-82634-7

Date Collected: 09/12/24 08:55

Matrix: Water

Date Received: 09/13/24 09:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			09/16/24 09:38	1
pH (SM 4500 H+ B)	5.9	HF			SU			09/18/24 18:43	1

Client Sample ID: MW-16-20240912-01

Lab Sample ID: 860-82634-8

Date Collected: 09/12/24 09:10

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	211		0.500	0.250	mg/L			09/16/24 15:36	1
Sulfate	108		0.500	0.200	mg/L			09/16/24 15:36	1
Fluoride	0.103	J	0.500	0.100	mg/L			09/16/24 15:36	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/20/24 10:30	09/20/24 17:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 18:23	1
Boron	0.0337	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 18:23	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 18:23	1
Calcium	62.2		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:32	50
Barium	0.0519		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 18:23	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 18:23	1
Cadmium	0.000432	J	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 18:23	1
Chromium	0.000894	J	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 18:23	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 18:23	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 18:23	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 18:23	1
Selenium	0.00337		0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 18:23	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 18:23	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	821		10.0	10.0	mg/L			09/16/24 09:42	1
pH (SM 4500 H+ B)	6.6	HF			SU			09/18/24 18:38	1

Eurofins Houston

Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-17-20240912-01

Lab Sample ID: 860-82634-9

Date Collected: 09/12/24 10:15

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	131		0.500	0.200	mg/L			09/16/24 15:45	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/24 15:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	791		5.00	2.50	mg/L			09/16/24 19:32	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.120		0.0400	0.0174	mg/L		09/22/24 12:00	09/23/24 11:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 18:25	1
Boron	0.0355	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 18:25	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 18:25	1
Calcium	129		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:34	50
Barium	0.154		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 18:25	1
Beryllium	0.000471	J	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 18:25	1
Cadmium	0.00241		0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 18:25	1
Chromium	0.00163	J	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 18:25	1
Cobalt	0.00182	J	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 18:25	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 18:25	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 18:25	1
Selenium	0.00715		0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 18:25	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 18:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/19/24 03:45	09/19/24 19:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2100		20.0	20.0	mg/L			09/16/24 09:42	1
pH (SM 4500 H+ B)	5.5	HF			SU			09/18/24 19:05	1

Client Sample ID: MW-12-20240912-01

Lab Sample ID: 860-82634-10

Date Collected: 09/12/24 12:15

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79.8		0.500	0.250	mg/L			09/16/24 15:54	1
Sulfate	51.8		0.500	0.200	mg/L			09/16/24 15:54	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/24 15:54	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0447		0.0400	0.0174	mg/L		09/22/24 12:00	09/23/24 11:03	1

Eurofins Houston

Client Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-12-20240912-01

Lab Sample ID: 860-82634-10

Date Collected: 09/12/24 12:15

Matrix: Water

Date Received: 09/13/24 09:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 18:28	1
Boron	0.0252	b	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 18:28	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 18:28	1
Calcium	14.3		5.00	1.50	mg/L		09/21/24 10:42	09/23/24 18:36	50
Barium	0.0856		0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 18:28	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 18:28	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 18:28	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 18:28	1
Cobalt	0.00265		0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 18:28	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 18:28	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 18:28	1
Selenium	0.000870	J	0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 18:28	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 18:28	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/19/24 03:45	09/19/24 19:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	305		10.0	10.0	mg/L			09/16/24 09:42	1
pH (SM 4500 H+ B)	6.4	HF			SU			09/19/24 20:49	1

QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-187408/3

Matrix: Water

Analysis Batch: 187408

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/16/24 11:28	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/16/24 11:28	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/24 11:28	1

Lab Sample ID: LCS 860-187408/4

Matrix: Water

Analysis Batch: 187408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.811		mg/L		98	90 - 110
Sulfate	10.0	9.886		mg/L		99	90 - 110
Fluoride	10.0	9.891		mg/L		99	90 - 110

Lab Sample ID: LCSD 860-187408/5

Matrix: Water

Analysis Batch: 187408

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.868		mg/L		99	90 - 110	1	20
Sulfate	10.0	9.917		mg/L		99	90 - 110	0	20
Fluoride	10.0	9.976		mg/L		100	90 - 110	1	20

Lab Sample ID: LLCS 860-187408/7

Matrix: Water

Analysis Batch: 187408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.5042		mg/L		101	50 - 150
Sulfate	0.500	0.4421	J	mg/L		88	50 - 150
Fluoride	0.500	0.3678	J	mg/L		74	50 - 150

Lab Sample ID: 860-82634-1 MS

Matrix: Water

Analysis Batch: 187408

Client Sample ID: MW-07-20240911-01-MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	298		100	382.8	N1	mg/L		85	90 - 110
Sulfate	1100		100	1134	4	mg/L		38	90 - 110
Fluoride	<1.00	U	100	106.2		mg/L		106	90 - 110

Lab Sample ID: 860-82634-1 MSD

Matrix: Water

Analysis Batch: 187408

Client Sample ID: MW-07-20240911-01-MSD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	298		100	383.5	N1	mg/L		85	90 - 110	0	15
Sulfate	1100		100	1136	4	mg/L		40	90 - 110	0	15
Fluoride	<1.00	U	100	107.7		mg/L		108	90 - 110	1	15

Eurofins Houston

QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 860-82634-10 MS

Matrix: Water

Analysis Batch: 187408

Client Sample ID: MW-12-20240912-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	79.8		10.0	88.82	4	mg/L		90	90 - 110
Sulfate	51.8		10.0	61.91	4	mg/L		101	90 - 110
Fluoride	<0.100	U	10.0	10.43		mg/L		104	90 - 110

Lab Sample ID: 860-82634-10 MSD

Matrix: Water

Analysis Batch: 187408

Client Sample ID: MW-12-20240912-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	79.8		10.0	88.93	4	mg/L		91	90 - 110	0	15
Sulfate	51.8		10.0	61.97	4	mg/L		102	90 - 110	0	15
Fluoride	<0.100	U	10.0	10.53		mg/L		105	90 - 110	1	15

Method: 6010D - Metals (ICP)

Lab Sample ID: LB 860-188201/1-C

Matrix: Water

Analysis Batch: 188854

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 188536

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/20/24 10:30	09/20/24 16:57	1

Lab Sample ID: MB 860-188045/19-B

Matrix: Water

Analysis Batch: 188854

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 188536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/20/24 10:30	09/20/24 16:28	1

Lab Sample ID: LCS 860-188045/20-B

Matrix: Water

Analysis Batch: 188854

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 188536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.000		mg/L		100	80 - 120

Lab Sample ID: LCSD 860-188045/21-B

Matrix: Water

Analysis Batch: 188854

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 188536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9980		mg/L		100	80 - 120	0	20

Lab Sample ID: 870-30127-C-1-C MS

Matrix: Water

Analysis Batch: 188854

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 188536

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.0174	U	1.00	1.030		mg/L		103	75 - 125

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QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 870-30127-C-1-D MSD

Matrix: Water

Analysis Batch: 188854

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 188536

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.0174	U	1.00	1.020		mg/L		102	75 - 125	1	20

Lab Sample ID: MB 860-188772/1-A

Matrix: Water

Analysis Batch: 189085

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 188772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/22/24 11:00	09/23/24 15:31	1

Lab Sample ID: LCS 860-188772/2-A

Matrix: Water

Analysis Batch: 189085

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 188772

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9640		mg/L		96	80 - 120

Lab Sample ID: LCSD 860-188772/3-A

Matrix: Water

Analysis Batch: 189085

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 188772

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9630		mg/L		96	80 - 120	0	20

Lab Sample ID: 860-82634-1 MS

Matrix: Water

Analysis Batch: 189085

Client Sample ID: MW-07-20240911-01-MS

Prep Type: Total/NA

Prep Batch: 188772

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.0868	U	1.00	0.9850		mg/L		99	75 - 125

Lab Sample ID: 860-82634-1 MSD

Matrix: Water

Analysis Batch: 189085

Client Sample ID: MW-07-20240911-01-MSD

Prep Type: Total/NA

Prep Batch: 188772

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.0868	U	1.00	0.9680		mg/L		97	75 - 125	2	20

Lab Sample ID: MB 860-188776/1-A

Matrix: Water

Analysis Batch: 188938

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 188776

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/22/24 12:00	09/23/24 10:34	1

Lab Sample ID: LCS 860-188776/2-A

Matrix: Water

Analysis Batch: 188938

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 188776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.040		mg/L		104	80 - 120

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QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: 6010D - Metals (ICP)

Lab Sample ID: LCSD 860-188776/3-A
Matrix: Water
Analysis Batch: 188938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 188776

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.040		mg/L		104	80 - 120	0	20

Lab Sample ID: 860-82634-4 MS
Matrix: Water
Analysis Batch: 188938

Client Sample ID: MW-14-20240911-01
Prep Type: Total/NA
Prep Batch: 188776

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.214		1.00	1.320		mg/L		111	75 - 125

Lab Sample ID: 860-82634-4 MSD
Matrix: Water
Analysis Batch: 188938

Client Sample ID: MW-14-20240911-01
Prep Type: Total/NA
Prep Batch: 188776

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.214		1.00	1.320		mg/L		111	75 - 125	0	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-188705/1-A
Matrix: Water
Analysis Batch: 189144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 188705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.001685	J	0.00200	0.000750	mg/L		09/21/24 10:42	09/23/24 17:15	1
Boron	0.009676	J	0.0100	0.00401	mg/L		09/21/24 10:42	09/23/24 17:15	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/21/24 10:42	09/23/24 17:15	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		09/21/24 10:42	09/23/24 17:15	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		09/21/24 10:42	09/23/24 17:15	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/21/24 10:42	09/23/24 17:15	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/21/24 10:42	09/23/24 17:15	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/21/24 10:42	09/23/24 17:15	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/21/24 10:42	09/23/24 17:15	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/21/24 10:42	09/23/24 17:15	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/21/24 10:42	09/23/24 17:15	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/21/24 10:42	09/23/24 17:15	1
Thallium	<0.000185	U	0.00200	0.000185	mg/L		09/21/24 10:42	09/23/24 17:15	1

Lab Sample ID: LCS 860-188705/2-A
Matrix: Water
Analysis Batch: 189144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 188705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09979		mg/L		100	80 - 120
Boron	0.100	0.1091		mg/L		109	80 - 120
Arsenic	0.100	0.09948		mg/L		99	80 - 120
Calcium	2.50	2.393		mg/L		96	80 - 120
Barium	0.100	0.1013		mg/L		101	80 - 120
Beryllium	0.100	0.09841		mg/L		98	80 - 120
Cadmium	0.100	0.09585		mg/L		96	80 - 120
Chromium	0.100	0.09998		mg/L		100	80 - 120

Eurofins Houston

QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

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

Lab Sample ID: LCS 860-188705/2-A

Matrix: Water

Analysis Batch: 189144

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 188705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.100	0.09966		mg/L		100	80 - 120
Lead	0.100	0.1027		mg/L		103	80 - 120
Molybdenum	0.100	0.09756		mg/L		98	80 - 120
Selenium	0.100	0.09446		mg/L		94	80 - 120
Thallium	0.100	0.1042		mg/L		104	80 - 120

Lab Sample ID: LCSD 860-188705/3-A

Matrix: Water

Analysis Batch: 189144

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 188705

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09701		mg/L		97	80 - 120	3	20
Boron	0.100	0.1115		mg/L		111	80 - 120	2	20
Arsenic	0.100	0.09593		mg/L		96	80 - 120	4	20
Calcium	2.50	2.321		mg/L		93	80 - 120	3	20
Barium	0.100	0.09783		mg/L		98	80 - 120	3	20
Beryllium	0.100	0.09591		mg/L		96	80 - 120	3	20
Cadmium	0.100	0.09288		mg/L		93	80 - 120	3	20
Chromium	0.100	0.09649		mg/L		96	80 - 120	4	20
Cobalt	0.100	0.09625		mg/L		96	80 - 120	3	20
Lead	0.100	0.09999		mg/L		100	80 - 120	3	20
Molybdenum	0.100	0.09538		mg/L		95	80 - 120	2	20
Selenium	0.100	0.09053		mg/L		91	80 - 120	4	20
Thallium	0.100	0.1018		mg/L		102	80 - 120	2	20

Lab Sample ID: 860-82634-1 MS

Matrix: Water

Analysis Batch: 189144

Client Sample ID: MW-07-20240911-01-MS

Prep Type: Total/NA

Prep Batch: 188705

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00125	J b	0.100	0.08812		mg/L		87	75 - 125
Boron	0.255	b	0.100	0.3431		mg/L		88	75 - 125
Arsenic	<0.000690	U	0.100	0.08904		mg/L		89	75 - 125
Barium	0.0215		0.100	0.1129		mg/L		91	75 - 125
Beryllium	<0.000271	U	0.100	0.08464		mg/L		85	75 - 125
Cadmium	0.000570	J	0.100	0.08303		mg/L		82	75 - 125
Chromium	<0.000560	U	0.100	0.08798		mg/L		88	75 - 125
Cobalt	0.00150	J	0.100	0.08861		mg/L		87	75 - 125
Lead	<0.000367	U	0.100	0.09174		mg/L		92	75 - 125
Molybdenum	0.000264	J	0.100	0.08758		mg/L		87	75 - 125
Selenium	<0.000590	U	0.100	0.08323		mg/L		83	75 - 125
Thallium	0.000185	J	0.100	0.09331		mg/L		93	75 - 125

Lab Sample ID: 860-82634-1 MS

Matrix: Water

Analysis Batch: 189144

Client Sample ID: MW-07-20240911-01-MS

Prep Type: Total/NA

Prep Batch: 188705

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	241		2.50	237.3	4	mg/L		-138	75 - 125

Eurofins Houston

QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

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

Lab Sample ID: 860-82634-1 MSD

Matrix: Water

Analysis Batch: 189144

Client Sample ID: MW-07-20240911-01-MSD

Prep Type: Total/NA

Prep Batch: 188705

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00125	J b	0.100	0.08878		mg/L		88	75 - 125	1	20
Boron	0.255	b	0.100	0.3651		mg/L		110	75 - 125	6	20
Arsenic	<0.000690	U	0.100	0.08982		mg/L		90	75 - 125	1	20
Barium	0.0215		0.100	0.1137		mg/L		92	75 - 125	1	20
Beryllium	<0.000271	U	0.100	0.08726		mg/L		87	75 - 125	3	20
Cadmium	0.000570	J	0.100	0.08412		mg/L		84	75 - 125	1	20
Chromium	<0.000560	U	0.100	0.08902		mg/L		89	75 - 125	1	20
Cobalt	0.00150	J	0.100	0.08871		mg/L		87	75 - 125	0	20
Lead	<0.000367	U	0.100	0.09233		mg/L		92	75 - 125	1	20
Molybdenum	0.000264	J	0.100	0.08786		mg/L		88	75 - 125	0	20
Selenium	<0.000590	U	0.100	0.08544		mg/L		85	75 - 125	3	20
Thallium	0.000185	J	0.100	0.09428		mg/L		94	75 - 125	1	20

Lab Sample ID: 860-82634-1 MSD

Matrix: Water

Analysis Batch: 189144

Client Sample ID: MW-07-20240911-01-MSD

Prep Type: Total/NA

Prep Batch: 188705

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	241		2.50	232.9	4	mg/L		-316	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 860-188129/10-A

Matrix: Water

Analysis Batch: 188421

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 188129

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/19/24 03:45	09/19/24 19:08	1

Lab Sample ID: LCS 860-188129/11-A

Matrix: Water

Analysis Batch: 188421

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 188129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.001936		mg/L		97	80 - 120

Lab Sample ID: LCSD 860-188129/12-A

Matrix: Water

Analysis Batch: 188421

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 188129

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.001993		mg/L		100	80 - 120	3	20

Lab Sample ID: 860-82634-9 MS

Matrix: Water

Analysis Batch: 188421

Client Sample ID: MW-17-20240912-01

Prep Type: Total/NA

Prep Batch: 188129

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.001875		mg/L		94	75 - 125

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QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 860-82634-9 MSD

Matrix: Water

Analysis Batch: 188421

Client Sample ID: MW-17-20240912-01

Prep Type: Total/NA

Prep Batch: 188129

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.001846		mg/L		92	75 - 125	2	20

Lab Sample ID: MB 860-188424/10-A

Matrix: Water

Analysis Batch: 188696

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 188424

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/20/24 03:58	09/20/24 19:30	1

Lab Sample ID: LCS 860-188424/11-A

Matrix: Water

Analysis Batch: 188696

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 188424

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.002042		mg/L		102	80 - 120

Lab Sample ID: LCSD 860-188424/12-A

Matrix: Water

Analysis Batch: 188696

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 188424

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.002024		mg/L		101	80 - 120	1	20

Lab Sample ID: 860-82634-1 MS

Matrix: Water

Analysis Batch: 188696

Client Sample ID: MW-07-20240911-01-MS

Prep Type: Total/NA

Prep Batch: 188424

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.002026		mg/L		101	75 - 125

Lab Sample ID: 860-82634-1 MSD

Matrix: Water

Analysis Batch: 188696

Client Sample ID: MW-07-20240911-01-MSD

Prep Type: Total/NA

Prep Batch: 188424

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.001978		mg/L		99	75 - 125	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-187349/1

Matrix: Water

Analysis Batch: 187349

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			09/16/24 09:38	1

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QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 860-187349/2

Matrix: Water

Analysis Batch: 187349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	910.0		mg/L		91	80 - 120

Lab Sample ID: LLCS 860-187349/3

Matrix: Water

Analysis Batch: 187349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	5.00	<5.00	U	mg/L		90	50 - 150

Lab Sample ID: 860-82595-C-1 DU

Matrix: Water

Analysis Batch: 187349

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1020		994.0		mg/L		3	10

Lab Sample ID: MB 860-187350/1

Matrix: Water

Analysis Batch: 187350

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			09/16/24 09:41	1

Lab Sample ID: LCS 860-187350/2

Matrix: Water

Analysis Batch: 187350

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	936.0		mg/L		94	80 - 120

Lab Sample ID: LLCS 860-187350/3

Matrix: Water

Analysis Batch: 187350

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	5.00	5.000		mg/L		100	50 - 150

Lab Sample ID: 860-82629-A-1 DU

Matrix: Water

Analysis Batch: 187350

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1070		1021		mg/L		5	10

Lab Sample ID: MB 860-187697/1

Matrix: Water

Analysis Batch: 187697

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			09/17/24 13:38	1

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QC Sample Results

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 860-187697/2

Matrix: Water

Analysis Batch: 187697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1007		mg/L		101	80 - 120

Lab Sample ID: 860-82793-A-1 DU

Matrix: Water

Analysis Batch: 187697

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1790		1750		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 860-82634-1 DU

Matrix: Water

Analysis Batch: 188330

Client Sample ID: MW-07-20240911-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.0	HF	6.1		SU		0.7	20

Lab Sample ID: 860-82634-2 DU

Matrix: Water

Analysis Batch: 188330

Client Sample ID: MW-11-20240911-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.3	HF	6.3		SU		0.8	20

Lab Sample ID: 740-2839-D-3 DU

Matrix: Water

Analysis Batch: 188598

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9		7.1		SU		3	20

QC Association Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

HPLC/IC

Analysis Batch: 187408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	300.0	
860-82634-2	MW-11-20240911-01	Total/NA	Water	300.0	
860-82634-3	MW-13-20240911-01	Total/NA	Water	300.0	
860-82634-4	MW-14-20240911-01	Total/NA	Water	300.0	
860-82634-4 - DL	MW-14-20240911-01	Total/NA	Water	300.0	
860-82634-5	MW-15-20240911-01	Total/NA	Water	300.0	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	300.0	
860-82634-7	FB-01-20240912-01	Total/NA	Water	300.0	
860-82634-8	MW-16-20240912-01	Total/NA	Water	300.0	
860-82634-9	MW-17-20240912-01	Total/NA	Water	300.0	
860-82634-9 - DL	MW-17-20240912-01	Total/NA	Water	300.0	
860-82634-10	MW-12-20240912-01	Total/NA	Water	300.0	
MB 860-187408/3	Method Blank	Total/NA	Water	300.0	
LCS 860-187408/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-187408/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-187408/7	Lab Control Sample	Total/NA	Water	300.0	
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	300.0	
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	300.0	
860-82634-10 MS	MW-12-20240912-01	Total/NA	Water	300.0	
860-82634-10 MSD	MW-12-20240912-01	Total/NA	Water	300.0	

Metals

Filtration Batch: 188045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-188045/19-B	Method Blank	Total/NA	Water	Filtration	
LCS 860-188045/20-B	Lab Control Sample	Total/NA	Water	Filtration	
LCSD 860-188045/21-B	Lab Control Sample Dup	Total/NA	Water	Filtration	
870-30127-C-1-C MS	Matrix Spike	Total/NA	Water	Filtration	
870-30127-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	Filtration	

Prep Batch: 188129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-4	MW-14-20240911-01	Total/NA	Water	7470A	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	7470A	
860-82634-9	MW-17-20240912-01	Total/NA	Water	7470A	
860-82634-10	MW-12-20240912-01	Total/NA	Water	7470A	
MB 860-188129/10-A	Method Blank	Total/NA	Water	7470A	
LCS 860-188129/11-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-188129/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-82634-9 MS	MW-17-20240912-01	Total/NA	Water	7470A	
860-82634-9 MSD	MW-17-20240912-01	Total/NA	Water	7470A	

Leach Batch: 188201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-188201/1-C	Method Blank	Total/NA	Water	1312	

Analysis Batch: 188421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-4	MW-14-20240911-01	Total/NA	Water	7470A	188129
860-82634-6	DUP-01-20240911-01	Total/NA	Water	7470A	188129

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QC Association Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Metals (Continued)

Analysis Batch: 188421 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-9	MW-17-20240912-01	Total/NA	Water	7470A	188129
860-82634-10	MW-12-20240912-01	Total/NA	Water	7470A	188129
MB 860-188129/10-A	Method Blank	Total/NA	Water	7470A	188129
LCS 860-188129/11-A	Lab Control Sample	Total/NA	Water	7470A	188129
LCSD 860-188129/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	188129
860-82634-9 MS	MW-17-20240912-01	Total/NA	Water	7470A	188129
860-82634-9 MSD	MW-17-20240912-01	Total/NA	Water	7470A	188129

Prep Batch: 188424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	7470A	
860-82634-2	MW-11-20240911-01	Total/NA	Water	7470A	
860-82634-3	MW-13-20240911-01	Total/NA	Water	7470A	
860-82634-5	MW-15-20240911-01	Total/NA	Water	7470A	
860-82634-7	FB-01-20240912-01	Total/NA	Water	7470A	
860-82634-8	MW-16-20240912-01	Total/NA	Water	7470A	
MB 860-188424/10-A	Method Blank	Total/NA	Water	7470A	
LCS 860-188424/11-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-188424/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	7470A	
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	7470A	

Prep Batch: 188536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-3	MW-13-20240911-01	Total/NA	Water	3010A	
860-82634-8	MW-16-20240912-01	Total/NA	Water	3010A	
LB 860-188201/1-C	Method Blank	Total/NA	Water	3010A	188201
MB 860-188045/19-B	Method Blank	Total/NA	Water	3010A	188045
LCS 860-188045/20-B	Lab Control Sample	Total/NA	Water	3010A	188045
LCSD 860-188045/21-B	Lab Control Sample Dup	Total/NA	Water	3010A	188045
870-30127-C-1-C MS	Matrix Spike	Total/NA	Water	3010A	188045
870-30127-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	188045

Analysis Batch: 188696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	7470A	188424
860-82634-2	MW-11-20240911-01	Total/NA	Water	7470A	188424
860-82634-3	MW-13-20240911-01	Total/NA	Water	7470A	188424
860-82634-5	MW-15-20240911-01	Total/NA	Water	7470A	188424
860-82634-7	FB-01-20240912-01	Total/NA	Water	7470A	188424
860-82634-8	MW-16-20240912-01	Total/NA	Water	7470A	188424
MB 860-188424/10-A	Method Blank	Total/NA	Water	7470A	188424
LCS 860-188424/11-A	Lab Control Sample	Total/NA	Water	7470A	188424
LCSD 860-188424/12-A	Lab Control Sample Dup	Total/NA	Water	7470A	188424
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	7470A	188424
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	7470A	188424

Prep Batch: 188705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	3010A	
860-82634-2	MW-11-20240911-01	Total/NA	Water	3010A	

Eurofins Houston

QC Association Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Metals (Continued)

Prep Batch: 188705 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-3	MW-13-20240911-01	Total/NA	Water	3010A	
860-82634-4	MW-14-20240911-01	Total/NA	Water	3010A	
860-82634-5	MW-15-20240911-01	Total/NA	Water	3010A	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	3010A	
860-82634-7	FB-01-20240912-01	Total/NA	Water	3010A	
860-82634-8	MW-16-20240912-01	Total/NA	Water	3010A	
860-82634-9	MW-17-20240912-01	Total/NA	Water	3010A	
860-82634-10	MW-12-20240912-01	Total/NA	Water	3010A	
MB 860-188705/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-188705/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-188705/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	3010A	
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	3010A	

Prep Batch: 188772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	3010A	
860-82634-2	MW-11-20240911-01	Total/NA	Water	3010A	
860-82634-5	MW-15-20240911-01	Total/NA	Water	3010A	
860-82634-7	FB-01-20240912-01	Total/NA	Water	3010A	
MB 860-188772/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-188772/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-188772/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	3010A	
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	3010A	

Prep Batch: 188776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-4	MW-14-20240911-01	Total/NA	Water	3010A	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	3010A	
860-82634-9	MW-17-20240912-01	Total/NA	Water	3010A	
860-82634-10	MW-12-20240912-01	Total/NA	Water	3010A	
MB 860-188776/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-188776/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-188776/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-82634-4 MS	MW-14-20240911-01	Total/NA	Water	3010A	
860-82634-4 MSD	MW-14-20240911-01	Total/NA	Water	3010A	

Analysis Batch: 188854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-3	MW-13-20240911-01	Total/NA	Water	6010D	188536
860-82634-8	MW-16-20240912-01	Total/NA	Water	6010D	188536
LB 860-188201/1-C	Method Blank	Total/NA	Water	6010D	188536
MB 860-188045/19-B	Method Blank	Total/NA	Water	6010D	188536
LCS 860-188045/20-B	Lab Control Sample	Total/NA	Water	6010D	188536
LCSD 860-188045/21-B	Lab Control Sample Dup	Total/NA	Water	6010D	188536
870-30127-C-1-C MS	Matrix Spike	Total/NA	Water	6010D	188536
870-30127-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	6010D	188536

Eurofins Houston

QC Association Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Metals

Analysis Batch: 188938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-4	MW-14-20240911-01	Total/NA	Water	6010D	188776
860-82634-6	DUP-01-20240911-01	Total/NA	Water	6010D	188776
860-82634-9	MW-17-20240912-01	Total/NA	Water	6010D	188776
860-82634-10	MW-12-20240912-01	Total/NA	Water	6010D	188776
MB 860-188776/1-A	Method Blank	Total/NA	Water	6010D	188776
LCS 860-188776/2-A	Lab Control Sample	Total/NA	Water	6010D	188776
LCSD 860-188776/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	188776
860-82634-4 MS	MW-14-20240911-01	Total/NA	Water	6010D	188776
860-82634-4 MSD	MW-14-20240911-01	Total/NA	Water	6010D	188776

Analysis Batch: 189085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	6010D	188772
860-82634-2	MW-11-20240911-01	Total/NA	Water	6010D	188772
860-82634-5	MW-15-20240911-01	Total/NA	Water	6010D	188772
860-82634-7	FB-01-20240912-01	Total/NA	Water	6010D	188772
MB 860-188772/1-A	Method Blank	Total/NA	Water	6010D	188772
LCS 860-188772/2-A	Lab Control Sample	Total/NA	Water	6010D	188772
LCSD 860-188772/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	188772
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	6010D	188772
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	6010D	188772

Analysis Batch: 189144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	6020B	188705
860-82634-1	MW-07-20240911-01	Total/NA	Water	6020B	188705
860-82634-2	MW-11-20240911-01	Total/NA	Water	6020B	188705
860-82634-2	MW-11-20240911-01	Total/NA	Water	6020B	188705
860-82634-3	MW-13-20240911-01	Total/NA	Water	6020B	188705
860-82634-3	MW-13-20240911-01	Total/NA	Water	6020B	188705
860-82634-4	MW-14-20240911-01	Total/NA	Water	6020B	188705
860-82634-4	MW-14-20240911-01	Total/NA	Water	6020B	188705
860-82634-5	MW-15-20240911-01	Total/NA	Water	6020B	188705
860-82634-5	MW-15-20240911-01	Total/NA	Water	6020B	188705
860-82634-6	DUP-01-20240911-01	Total/NA	Water	6020B	188705
860-82634-6	DUP-01-20240911-01	Total/NA	Water	6020B	188705
860-82634-7	FB-01-20240912-01	Total/NA	Water	6020B	188705
860-82634-8	MW-16-20240912-01	Total/NA	Water	6020B	188705
860-82634-8	MW-16-20240912-01	Total/NA	Water	6020B	188705
860-82634-9	MW-17-20240912-01	Total/NA	Water	6020B	188705
860-82634-9	MW-17-20240912-01	Total/NA	Water	6020B	188705
860-82634-10	MW-12-20240912-01	Total/NA	Water	6020B	188705
860-82634-10	MW-12-20240912-01	Total/NA	Water	6020B	188705
MB 860-188705/1-A	Method Blank	Total/NA	Water	6020B	188705
LCS 860-188705/2-A	Lab Control Sample	Total/NA	Water	6020B	188705
LCSD 860-188705/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	188705
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	6020B	188705
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	6020B	188705
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	6020B	188705
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	6020B	188705

Eurofins Houston

QC Association Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

General Chemistry

Analysis Batch: 187349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	SM 2540C	
860-82634-2	MW-11-20240911-01	Total/NA	Water	SM 2540C	
860-82634-3	MW-13-20240911-01	Total/NA	Water	SM 2540C	
860-82634-4	MW-14-20240911-01	Total/NA	Water	SM 2540C	
860-82634-5	MW-15-20240911-01	Total/NA	Water	SM 2540C	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	SM 2540C	
860-82634-7	FB-01-20240912-01	Total/NA	Water	SM 2540C	
MB 860-187349/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-187349/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LLCS 860-187349/3	Lab Control Sample	Total/NA	Water	SM 2540C	
860-82595-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 187350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-8	MW-16-20240912-01	Total/NA	Water	SM 2540C	
860-82634-9	MW-17-20240912-01	Total/NA	Water	SM 2540C	
860-82634-10	MW-12-20240912-01	Total/NA	Water	SM 2540C	
MB 860-187350/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-187350/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LLCS 860-187350/3	Lab Control Sample	Total/NA	Water	SM 2540C	
860-82629-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 187697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-187697/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-187697/2	Lab Control Sample	Total/NA	Water	SM 2540C	
860-82793-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 188330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-2	MW-11-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-3	MW-13-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-4	MW-14-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-5	MW-15-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-7	FB-01-20240912-01	Total/NA	Water	SM 4500 H+ B	
860-82634-8	MW-16-20240912-01	Total/NA	Water	SM 4500 H+ B	
860-82634-9	MW-17-20240912-01	Total/NA	Water	SM 4500 H+ B	
860-82634-1 DU	MW-07-20240911-01	Total/NA	Water	SM 4500 H+ B	
860-82634-2 DU	MW-11-20240911-01	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 188598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-10	MW-12-20240912-01	Total/NA	Water	SM 4500 H+ B	
740-2839-D-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-07-20240911-01

Lab Sample ID: 860-82634-1

Date Collected: 09/11/24 09:20

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			187408	09/16/24 18:56	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188772	09/22/24 11:00	MD	EET HOU
Total/NA	Analysis	6010D		5			189085	09/23/24 15:44	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 17:21	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 17:38	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188424	09/20/24 03:58	AGR	EET HOU
Total/NA	Analysis	7470A		1			188696	09/20/24 19:34	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 19:12	RY	EET HOU

Client Sample ID: MW-11-20240911-01

Lab Sample ID: 860-82634-2

Date Collected: 09/11/24 11:10

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 12:45	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188772	09/22/24 11:00	MD	EET HOU
Total/NA	Analysis	6010D		1			189085	09/23/24 15:51	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 17:50	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:01	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188424	09/20/24 03:58	AGR	EET HOU
Total/NA	Analysis	7470A		1			188696	09/20/24 19:40	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 19:08	RY	EET HOU

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Date Collected: 09/11/24 13:25

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 12:54	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188536	09/20/24 10:30	MD	EET HOU
Total/NA	Analysis	6010D		1			188854	09/20/24 17:49	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 17:52	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:03	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188424	09/20/24 03:58	AGR	EET HOU
Total/NA	Analysis	7470A		1			188696	09/20/24 19:42	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Date Collected: 09/11/24 13:25

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 19:01	RY	EET HOU

Client Sample ID: MW-14-20240911-01

Lab Sample ID: 860-82634-4

Date Collected: 09/11/24 16:05

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 13:22	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			187408	09/16/24 19:23	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188776	09/22/24 12:00	MD	EET HOU
Total/NA	Analysis	6010D		1			188938	09/23/24 10:39	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 17:54	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:07	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188129	09/19/24 03:45	AGR	EET HOU
Total/NA	Analysis	7470A		1			188421	09/19/24 19:19	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 18:46	RY	EET HOU

Client Sample ID: MW-15-20240911-01

Lab Sample ID: 860-82634-5

Date Collected: 09/11/24 17:40

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 15:09	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188772	09/22/24 11:00	MD	EET HOU
Total/NA	Analysis	6010D		1			189085	09/23/24 15:53	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 17:56	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:05	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188424	09/20/24 03:58	AGR	EET HOU
Total/NA	Analysis	7470A		1			188696	09/20/24 19:46	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 19:20	RY	EET HOU

Client Sample ID: DUP-01-20240911-01

Lab Sample ID: 860-82634-6

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 15:18	WP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: DUP-01-20240911-01
Date Collected: 09/11/24 06:00
Date Received: 09/13/24 09:35

Lab Sample ID: 860-82634-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	188776	09/22/24 12:00	MD	EET HOU
Total/NA	Analysis	6010D		1			188938	09/23/24 11:00	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 17:58	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:09	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188129	09/19/24 03:45	AGR	EET HOU
Total/NA	Analysis	7470A		1			188421	09/19/24 19:24	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 18:58	RY	EET HOU

Client Sample ID: FB-01-20240912-01
Date Collected: 09/12/24 08:55
Date Received: 09/13/24 09:35

Lab Sample ID: 860-82634-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 15:27	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188772	09/22/24 11:00	MD	EET HOU
Total/NA	Analysis	6010D		1			189085	09/23/24 15:55	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 18:21	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188424	09/20/24 03:58	AGR	EET HOU
Total/NA	Analysis	7470A		1			188696	09/20/24 19:47	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	187349	09/16/24 09:38	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 18:43	RY	EET HOU

Client Sample ID: MW-16-20240912-01
Date Collected: 09/12/24 09:10
Date Received: 09/13/24 09:35

Lab Sample ID: 860-82634-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 15:36	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188536	09/20/24 10:30	MD	EET HOU
Total/NA	Analysis	6010D		1			188854	09/20/24 17:50	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 18:23	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:32	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188424	09/20/24 03:58	AGR	EET HOU
Total/NA	Analysis	7470A		1			188696	09/20/24 19:49	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	187350	09/16/24 09:42	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 18:38	RY	EET HOU

Lab Chronicle

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Client Sample ID: MW-17-20240912-01
Date Collected: 09/12/24 10:15
Date Received: 09/13/24 09:35

Lab Sample ID: 860-82634-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 15:45	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			187408	09/16/24 19:32	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188776	09/22/24 12:00	MD	EET HOU
Total/NA	Analysis	6010D		1			188938	09/23/24 11:02	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 18:25	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:34	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188129	09/19/24 03:45	AGR	EET HOU
Total/NA	Analysis	7470A		1			188421	09/19/24 19:13	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	187350	09/16/24 09:42	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188330	09/18/24 19:05	RY	EET HOU

Client Sample ID: MW-12-20240912-01
Date Collected: 09/12/24 12:15
Date Received: 09/13/24 09:35

Lab Sample ID: 860-82634-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			187408	09/16/24 15:54	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188776	09/22/24 12:00	MD	EET HOU
Total/NA	Analysis	6010D		1			188938	09/23/24 11:03	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		1			189144	09/23/24 18:28	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	188705	09/21/24 10:42	AGR	EET HOU
Total/NA	Analysis	6020B		50			189144	09/23/24 18:36	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	188129	09/19/24 03:45	AGR	EET HOU
Total/NA	Analysis	7470A		1			188421	09/19/24 19:25	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	187350	09/16/24 09:42	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			188598	09/19/24 20:49	RY	EET HOU

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

Accreditation/Certification Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3010A	Water	Calcium

Method Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: ERM-Northeast
Project/Site: Twin Oaks Power Plant

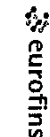
Job ID: 860-82634-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-82634-1	MW-07-20240911-01	Water	09/11/24 09:20	09/13/24 09:35
860-82634-2	MW-11-20240911-01	Water	09/11/24 11:10	09/13/24 09:35
860-82634-3	MW-13-20240911-01	Water	09/11/24 13:25	09/13/24 09:35
860-82634-4	MW-14-20240911-01	Water	09/11/24 16:05	09/13/24 09:35
860-82634-5	MW-15-20240911-01	Water	09/11/24 17:40	09/13/24 09:35
860-82634-6	DUP-01-20240911-01	Water	09/11/24 06:00	09/13/24 09:35
860-82634-7	FB-01-20240912-01	Water	09/12/24 08:55	09/13/24 09:35
860-82634-8	MW-16-20240912-01	Water	09/12/24 09:10	09/13/24 09:35
860-82634-9	MW-17-20240912-01	Water	09/12/24 10:15	09/13/24 09:35
860-82634-10	MW-12-20240912-01	Water	09/12/24 12:15	09/13/24 09:35



4145 Greenbriar Dr
Stafford TX 77477
Phone (281) 240-4200

Chain of Custody Record



Environment Testing

Client Information		Sampler: <u>K. Nagel & T. Belle</u>		Lab Pk: <u>Antia</u>		Carrier Tracking No(s):		COC No: <u>860-27569-7497 1</u>	
Client Contact: <u>Quinn Nel</u>		Phone: <u>512-309-2473</u>		E-Mail: <u>Antia.Patel@eurofins.com</u>		State of Origin: <u>TX</u>		Page: <u>1</u> of <u>2</u>	
Company: <u>ERM-Northeast</u>		Due Date Requested:		Analysis Requested		Job #:		Preservation Codes:	
Address: <u>295 Madison Avenue Suite 8A</u>		TAT Requested (days): <u>Standard</u>						A HCL M Hexane B NaOH N None C Zn Acetate O Acetic Acid D Nitric Acid P Na2CO3 E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amorphous S H2SO4 H Ascorbic Acid T TSP Dodecylhydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z Other (specify)	
City: <u>New York</u>		Compliance Project: <u>Yes</u> <u>No</u>							
State, Zip: <u>NY 10017</u>		Purchase Order Requested							
Phone: <u>512-374-2215(Tel) 512-810-2901(Fax)</u>		WFO #:							
Email: <u>quinn.nel@erm.com</u>		Project #:							
Project Name: <u>Twin Oaks Power Plant</u>		SSOW#:							
Site: <u>Twin Oaks Power Plant</u>									
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
<u>MW-03-20240911-01</u>		<u>9/11/24</u>		<u>0920</u>		<u>G</u>		<u>Water</u>	
<u>MW-07-20240911-01-MS</u>				<u>0925</u>				<u>Water</u>	
<u>MW-07-20240911-01-MSD</u>				<u>0930</u>				<u>Water</u>	
<u>MW-11-20240911-01</u>				<u>1110</u>				<u>Water</u>	
<u>MW-13-20240911-01</u>				<u>1325</u>				<u>Water</u>	
<u>MW-14-20240911-01</u>				<u>1605</u>				<u>Water</u>	
<u>MW-15-20240911-01</u>				<u>1740</u>				<u>Water</u>	
<u>DUP-01-20240911-01</u>				<u>0600</u>				<u>Water</u>	
<u>FB-01-20240912-01</u>		<u>9/12/24</u>		<u>0855</u>				<u>Water</u>	
<u>MW-16-20240912-01</u>				<u>0910</u>				<u>Water</u>	
<u>MW-17-20240912-01</u>				<u>1015</u>				<u>Water</u>	
Possible Hazard Identification		☐ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Poison B	
		☐ Unknown		☐ Radiological					
Deliverable Requested: I, II, III, IV Other (Specify) <u>Per Trip 13</u>									
Empty Kit Relinquished by: <u>Antia Patel</u>		Date: <u>9/12/24</u>		Time: <u>1500</u>		Company: <u>ERM</u>		Received by: <u>Neenan</u>	
Relinquished by: <u>Antia Patel</u>		Date/Time: <u>9/12/24 1500</u>		Company: <u>ERM</u>		Received by: <u>Neenan</u>		Date/Time: <u>9/13/24 935</u>	
Relinquished by: <u>Antia Patel</u>		Date/Time: <u>9/12/24 1500</u>		Company: <u>ERM</u>		Received by: <u>Neenan</u>		Date/Time: <u>9/13/24 935</u>	
Custody Seal Intact: <u>Yes</u> <u>No</u>		Custody Seal No. <u>5.1 5.3 3.8 4.0 4.6 4.3 4.1 4.3 4.0 3.6</u>							

Ver 01/16/2019

Login Sample Receipt Checklist

Client: ERM-Northeast

Job Number: 860-82634-1

Login Number: 82634

List Source: Eurofins Houston

List Number: 1

Creator: Jimenez, Nicanor

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 10/21/2024 9:56:43 AM Revision 2

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-82634-2

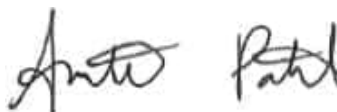
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

Generated
10/21/2024 9:56:43 AM
Revision 2



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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-82634-2 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	10/18/2024

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/18/2024				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-82634-2				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 10/18/2024
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-82634-2
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			✓		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 10/18/2024	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-82634-2	
Reviewer Name: Anita Patel			
ER# ¹	Description		
Misc.	TDS and pH cannot be run on the MS/MSD		
	MW-07-20240911-01 (860-82634-1), MW-07-20240911-01-MS (860-82634-1[MS]), MW-07-20240911-01-MSD (860-82634-1[MSD]), MW-11-20240911-01 (860-82634-2), MW-13-20240911-01 (860-82634-3), MW-14-20240911-01 (860-82634-4), MW-15-20240911-01 (860-82634-5), DUP-01-20240911-01 (860-82634-6), FB-01-20240912-01 (860-82634-7), MW-16-20240912-01 (860-82634-8), MW-17-20240912-01 (860-82634-9) and MW-12-20240912-01 (860-82634-10)		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).			

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-82634-2

Job ID: 860-82634-2

Eurofins Houston

Job Narrative 860-82634-2

REVISION

The report being provided is a revision of the original report sent on 10/16/2024. The report (revision 1) is being revised due to remove the detection summary from report.

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

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

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

Receipt

The samples were received on 9/13/2024 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 4.0°C, 4.3°C, 4.8°C and 5.3°C.

Receipt Exceptions

TDS and pH cannot be run on the MS/MSD

MW-07-20240911-01 (860-82634-1), MW-07-20240911-01-MS (860-82634-1[MS]), MW-07-20240911-01-MSD (860-82634-1[MSD]), MW-11-20240911-01 (860-82634-2), MW-13-20240911-01 (860-82634-3), MW-14-20240911-01 (860-82634-4), MW-15-20240911-01 (860-82634-5), DUP-01-20240911-01 (860-82634-6), FB-01-20240912-01 (860-82634-7), MW-16-20240912-01 (860-82634-8), MW-17-20240912-01 (860-82634-9) and MW-12-20240912-01 (860-82634-10)

Gas Flow Proportional Counter

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

Rad

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

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-07-20240911-01

Lab Sample ID: 860-82634-1

Date Collected: 09/11/24 09:20

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.215		0.0970	0.0989	1.00	0.107	pCi/L	09/18/24 08:13	10/10/24 17:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		30 - 110					09/18/24 08:13	10/10/24 17:53	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.09		0.541	0.574	1.00	0.582	pCi/L	09/18/24 08:23	10/02/24 11:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		30 - 110					09/18/24 08:23	10/02/24 11:44	1
Y Carrier	84.1		30 - 110					09/18/24 08:23	10/02/24 11:44	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.30		0.550	0.582	5.00	0.582	pCi/L		10/14/24 22:32	1

Client Sample ID: MW-11-20240911-01

Lab Sample ID: 860-82634-2

Date Collected: 09/11/24 11:10

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.137		0.0767	0.0776	1.00	0.0901	pCi/L	09/18/24 08:13	10/10/24 17:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		30 - 110					09/18/24 08:13	10/10/24 17:55	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.77		0.531	0.556	1.00	0.609	pCi/L	09/18/24 08:23	10/02/24 11:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		30 - 110					09/18/24 08:23	10/02/24 11:45	1
Y Carrier	76.6		30 - 110					09/18/24 08:23	10/02/24 11:45	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.91		0.537	0.561	5.00	0.609	pCi/L		10/14/24 22:32	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Date Collected: 09/11/24 13:25

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.558		0.147	0.155	1.00	0.114	pCi/L	09/18/24 08:13	10/10/24 17:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.1		30 - 110					09/18/24 08:13	10/10/24 17:55	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.40		0.592	0.632	1.00	0.620	pCi/L	09/18/24 08:23	10/02/24 11:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.1		30 - 110					09/18/24 08:23	10/02/24 11:45	1
Y Carrier	81.1		30 - 110					09/18/24 08:23	10/02/24 11:45	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.96		0.610	0.651	5.00	0.620	pCi/L		10/14/24 22:32	1

Client Sample ID: MW-14-20240911-01

Lab Sample ID: 860-82634-4

Date Collected: 09/11/24 16:05

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.349		0.116	0.120	1.00	0.106	pCi/L	09/18/24 08:13	10/10/24 20:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		30 - 110					09/18/24 08:13	10/10/24 20:13	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.55		0.473	0.494	1.00	0.531	pCi/L	09/18/24 08:23	10/02/24 11:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		30 - 110					09/18/24 08:23	10/02/24 11:46	1
Y Carrier	82.6		30 - 110					09/18/24 08:23	10/02/24 11:46	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.90		0.487	0.508	5.00	0.531	pCi/L		10/14/24 22:32	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-15-20240911-01

Lab Sample ID: 860-82634-5

Date Collected: 09/11/24 17:40

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.525		0.135	0.143	1.00	0.105	pCi/L	09/18/24 08:13	10/10/24 20:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		30 - 110					09/18/24 08:13	10/10/24 20:13	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.30		0.432	0.448	1.00	0.501	pCi/L	09/18/24 08:23	10/02/24 11:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		30 - 110					09/18/24 08:23	10/02/24 11:46	1
Y Carrier	81.5		30 - 110					09/18/24 08:23	10/02/24 11:46	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.83		0.453	0.470	5.00	0.501	pCi/L		10/14/24 22:32	1

Client Sample ID: DUP-01-20240911-01

Lab Sample ID: 860-82634-6

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.503		0.156	0.162	1.00	0.165	pCi/L	09/18/24 08:13	10/10/24 20:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		30 - 110					09/18/24 08:13	10/10/24 20:13	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.78		0.540	0.565	1.00	0.612	pCi/L	09/18/24 08:23	10/02/24 11:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		30 - 110					09/18/24 08:23	10/02/24 11:46	1
Y Carrier	80.7		30 - 110					09/18/24 08:23	10/02/24 11:46	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.29		0.562	0.588	5.00	0.612	pCi/L		10/14/24 22:32	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: FB-01-20240912-01

Lab Sample ID: 860-82634-7

Date Collected: 09/12/24 08:55

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00700	U	0.0514	0.0514	1.00	0.104	pCi/L	09/18/24 08:13	10/10/24 20:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					09/18/24 08:13	10/10/24 20:15	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.832		0.416	0.423	1.00	0.573	pCi/L	09/18/24 08:23	10/02/24 11:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					09/18/24 08:23	10/02/24 11:46	1
Y Carrier	80.7		30 - 110					09/18/24 08:23	10/02/24 11:46	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.839		0.419	0.426	5.00	0.573	pCi/L		10/14/24 22:32	1

Client Sample ID: MW-16-20240912-01

Lab Sample ID: 860-82634-8

Date Collected: 09/12/24 09:10

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.07		0.189	0.212	1.00	0.111	pCi/L	09/18/24 08:13	10/10/24 20:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		30 - 110					09/18/24 08:13	10/10/24 20:15	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.46		0.462	0.481	1.00	0.542	pCi/L	09/18/24 08:23	10/02/24 11:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		30 - 110					09/18/24 08:23	10/02/24 11:42	1
Y Carrier	83.0		30 - 110					09/18/24 08:23	10/02/24 11:42	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.52		0.499	0.526	5.00	0.542	pCi/L		10/14/24 22:32	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-17-20240912-01

Lab Sample ID: 860-82634-9

Date Collected: 09/12/24 10:15

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.980		0.181	0.201	1.00	0.106	pCi/L	09/18/24 08:13	10/10/24 20:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					09/18/24 08:13	10/10/24 20:15	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.07		0.662	0.761	1.00	0.508	pCi/L	09/18/24 08:23	10/02/24 11:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					09/18/24 08:23	10/02/24 11:43	1
Y Carrier	84.5		30 - 110					09/18/24 08:23	10/02/24 11:43	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	5.05		0.686	0.787	5.00	0.508	pCi/L		10/14/24 22:32	1

Client Sample ID: MW-12-20240912-01

Lab Sample ID: 860-82634-10

Date Collected: 09/12/24 12:15

Matrix: Water

Date Received: 09/13/24 09:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.906		0.178	0.196	1.00	0.113	pCi/L	09/18/24 08:13	10/10/24 20:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		30 - 110					09/18/24 08:13	10/10/24 20:15	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.18		0.581	0.614	1.00	0.657	pCi/L	09/18/24 08:23	10/02/24 11:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		30 - 110					09/18/24 08:23	10/02/24 11:43	1
Y Carrier	80.4		30 - 110					09/18/24 08:23	10/02/24 11:43	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.08		0.608	0.645	5.00	0.657	pCi/L		10/14/24 22:32	1

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Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba					
		(30-110)					
860-82634-1	MW-07-20240911-01	85.4					
860-82634-1 MS	MW-07-20240911-01-MS	77.7					
860-82634-1 MSD	MW-07-20240911-01-MSD	88.8					
860-82634-2	MW-11-20240911-01	89.3					
860-82634-3	MW-13-20240911-01	83.1					
860-82634-4	MW-14-20240911-01	88.1					
860-82634-5	MW-15-20240911-01	92.3					
860-82634-6	DUP-01-20240911-01	79.9					
860-82634-7	FB-01-20240912-01	87.6					
860-82634-8	MW-16-20240912-01	89.6					
860-82634-9	MW-17-20240912-01	89.8					
860-82634-10	MW-12-20240912-01	85.4					
LCS 160-680014/2-A	Lab Control Sample	88.8					
MB 160-680014/1-A	Method Blank	93.1					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba	Y				
		(30-110)	(30-110)				
860-82634-1	MW-07-20240911-01	85.4	84.1				
860-82634-1 MS	MW-07-20240911-01-MS	77.7	81.1				
860-82634-1 MSD	MW-07-20240911-01-MSD	88.8	83.0				
860-82634-2	MW-11-20240911-01	89.3	76.6				
860-82634-3	MW-13-20240911-01	83.1	81.1				
860-82634-4	MW-14-20240911-01	88.1	82.6				
860-82634-5	MW-15-20240911-01	92.3	81.5				
860-82634-6	DUP-01-20240911-01	79.9	80.7				
860-82634-7	FB-01-20240912-01	87.6	80.7				
860-82634-8	MW-16-20240912-01	89.6	83.0				
860-82634-9	MW-17-20240912-01	89.8	84.5				
860-82634-10	MW-12-20240912-01	85.4	80.4				
LCS 160-680015/2-A	Lab Control Sample	88.8	80.7				
MB 160-680015/1-A	Method Blank	93.1	81.9				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-680014/1-A

Matrix: Water

Analysis Batch: 682913

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 680014

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.004488	U	0.0495	0.0495	1.00	0.102	pCi/L	09/18/24 08:13	10/10/24 17:52	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					09/18/24 08:13	10/10/24 17:52	1

Lab Sample ID: LCS 160-680014/2-A

Matrix: Water

Analysis Batch: 682913

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 680014

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.58	9.730		1.04	1.00	0.109	pCi/L	102	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	88.8		30 - 110							

Lab Sample ID: 860-82634-1 MS

Matrix: Water

Analysis Batch: 682913

Client Sample ID: MW-07-20240911-01-MS

Prep Type: Total/NA

Prep Batch: 680014

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	0.215		9.59	9.653		1.05	1.00	0.123	pCi/L	98	60 - 140
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	77.7		30 - 110								

Lab Sample ID: 860-82634-1 MSD

Matrix: Water

Analysis Batch: 682913

Client Sample ID: MW-07-20240911-01-MSD

Prep Type: Total/NA

Prep Batch: 680014

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.215		9.64	9.257		0.993	1.00	0.118	pCi/L	94	60 - 140	0.19	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	88.8		30 - 110										

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-680015/1-A

Matrix: Water

Analysis Batch: 681975

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 680015

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2028	U	0.286	0.286	1.00	0.481	pCi/L	09/18/24 08:23	10/02/24 11:43	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

<i>Carrier</i>	<i>MB</i> <i>%Yield</i>	<i>MB</i> <i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	93.1		30 - 110	09/18/24 08:23	10/02/24 11:43	1
Y Carrier	81.9		30 - 110	09/18/24 08:23	10/02/24 11:43	1

Lab Sample ID: LCS 160-680015/2-A
Matrix: Water
Analysis Batch: 681975

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 680015

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Radium-228	8.46	9.996		1.36	1.00	0.509	pCi/L	118	75 - 125

<i>Carrier</i>	<i>LCS</i> <i>%Yield</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
Ba Carrier	88.8		30 - 110
Y Carrier	80.7		30 - 110

Lab Sample ID: 860-82634-1 MS
Matrix: Water
Analysis Batch: 681975

Client Sample ID: MW-07-20240911-01-MS
Prep Type: Total/NA
Prep Batch: 680015

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qual</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Radium-228	2.09		8.47	12.92		1.70	1.00	0.639	pCi/L	128	60 - 140

<i>Carrier</i>	<i>MS</i> <i>%Yield</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
Ba Carrier	77.7		30 - 110
Y Carrier	81.1		30 - 110

Lab Sample ID: 860-82634-1 MSD
Matrix: Water
Analysis Batch: 681975

Client Sample ID: MW-07-20240911-01-MSD
Prep Type: Total/NA
Prep Batch: 680015

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qual</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RER</i>	<i>RER Limit</i>
Radium-228	2.09		8.52	10.63		1.42	1.00	0.509	pCi/L	100	60 - 140	0.73	1

<i>Carrier</i>	<i>MSD</i> <i>%Yield</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
Ba Carrier	88.8		30 - 110
Y Carrier	83.0		30 - 110

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Rad

Prep Batch: 680014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	PrecSep-21	
860-82634-2	MW-11-20240911-01	Total/NA	Water	PrecSep-21	
860-82634-3	MW-13-20240911-01	Total/NA	Water	PrecSep-21	
860-82634-4	MW-14-20240911-01	Total/NA	Water	PrecSep-21	
860-82634-5	MW-15-20240911-01	Total/NA	Water	PrecSep-21	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	PrecSep-21	
860-82634-7	FB-01-20240912-01	Total/NA	Water	PrecSep-21	
860-82634-8	MW-16-20240912-01	Total/NA	Water	PrecSep-21	
860-82634-9	MW-17-20240912-01	Total/NA	Water	PrecSep-21	
860-82634-10	MW-12-20240912-01	Total/NA	Water	PrecSep-21	
MB 160-680014/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-680014/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	PrecSep-21	
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	PrecSep-21	

Prep Batch: 680015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-82634-1	MW-07-20240911-01	Total/NA	Water	PrecSep_0	
860-82634-2	MW-11-20240911-01	Total/NA	Water	PrecSep_0	
860-82634-3	MW-13-20240911-01	Total/NA	Water	PrecSep_0	
860-82634-4	MW-14-20240911-01	Total/NA	Water	PrecSep_0	
860-82634-5	MW-15-20240911-01	Total/NA	Water	PrecSep_0	
860-82634-6	DUP-01-20240911-01	Total/NA	Water	PrecSep_0	
860-82634-7	FB-01-20240912-01	Total/NA	Water	PrecSep_0	
860-82634-8	MW-16-20240912-01	Total/NA	Water	PrecSep_0	
860-82634-9	MW-17-20240912-01	Total/NA	Water	PrecSep_0	
860-82634-10	MW-12-20240912-01	Total/NA	Water	PrecSep_0	
MB 160-680015/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-680015/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
860-82634-1 MS	MW-07-20240911-01-MS	Total/NA	Water	PrecSep_0	
860-82634-1 MSD	MW-07-20240911-01-MSD	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-07-20240911-01

Lab Sample ID: 860-82634-1

Date Collected: 09/11/24 09:20

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			994.29 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 17:53	SWS	EET SL
Total/NA	Prep	PrecSep_0			994.29 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:44	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: MW-11-20240911-01

Lab Sample ID: 860-82634-2

Date Collected: 09/11/24 11:10

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			998.65 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 17:55	SWS	EET SL
Total/NA	Prep	PrecSep_0			998.65 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:45	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: MW-13-20240911-01

Lab Sample ID: 860-82634-3

Date Collected: 09/11/24 13:25

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			989.84 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 17:55	SWS	EET SL
Total/NA	Prep	PrecSep_0			989.84 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:45	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: MW-14-20240911-01

Lab Sample ID: 860-82634-4

Date Collected: 09/11/24 16:05

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			996.46 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1			682913	10/10/24 20:13	SWS	EET SL
Total/NA	Prep	PrecSep_0			996.46 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:46	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-15-20240911-01

Lab Sample ID: 860-82634-5

Date Collected: 09/11/24 17:40

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			996.83 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1			682913	10/10/24 20:13	SWS	EET SL
Total/NA	Prep	PrecSep_0			996.83 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:46	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: DUP-01-20240911-01

Lab Sample ID: 860-82634-6

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.32 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1			682913	10/10/24 20:13	SWS	EET SL
Total/NA	Prep	PrecSep_0			999.32 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:46	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: FB-01-20240912-01

Lab Sample ID: 860-82634-7

Date Collected: 09/12/24 08:55

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			995.73 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 20:15	SWS	EET SL
Total/NA	Prep	PrecSep_0			995.73 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681975	10/02/24 11:46	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: MW-16-20240912-01

Lab Sample ID: 860-82634-8

Date Collected: 09/12/24 09:10

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1003.20 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 20:15	SWS	EET SL
Total/NA	Prep	PrecSep_0			1003.20 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681957	10/02/24 11:42	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Client Sample ID: MW-17-20240912-01

Lab Sample ID: 860-82634-9

Date Collected: 09/12/24 10:15

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			995.92 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 20:15	SWS	EET SL
Total/NA	Prep	PrecSep_0			995.92 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681957	10/02/24 11:43	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Client Sample ID: MW-12-20240912-01

Lab Sample ID: 860-82634-10

Date Collected: 09/12/24 12:15

Matrix: Water

Date Received: 09/13/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1009.28 mL	1.0 g	680014	09/18/24 08:13	BCE	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	682913	10/10/24 20:15	SWS	EET SL
Total/NA	Prep	PrecSep_0			1009.28 mL	1.0 g	680015	09/18/24 08:23	BCE	EET SL
Total/NA	Analysis	904.0		1			681957	10/02/24 11:43	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			683554	10/14/24 22:32	EMH	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

- EPA = US Environmental Protection Agency
- None = None
- TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

- EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-82634-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-82634-1	MW-07-20240911-01	Water	09/11/24 09:20	09/13/24 09:35
860-82634-2	MW-11-20240911-01	Water	09/11/24 11:10	09/13/24 09:35
860-82634-3	MW-13-20240911-01	Water	09/11/24 13:25	09/13/24 09:35
860-82634-4	MW-14-20240911-01	Water	09/11/24 16:05	09/13/24 09:35
860-82634-5	MW-15-20240911-01	Water	09/11/24 17:40	09/13/24 09:35
860-82634-6	DUP-01-20240911-01	Water	09/11/24 06:00	09/13/24 09:35
860-82634-7	FB-01-20240912-01	Water	09/12/24 08:55	09/13/24 09:35
860-82634-8	MW-16-20240912-01	Water	09/12/24 09:10	09/13/24 09:35
860-82634-9	MW-17-20240912-01	Water	09/12/24 10:15	09/13/24 09:35
860-82634-10	MW-12-20240912-01	Water	09/12/24 12:15	09/13/24 09:35



4145 Greenbriar Dr
Stafford TX 77477
Phone (281) 240-4200

Chain of Custody Record

eurolfins
Environment Testing

Client Information		Sampler: <u>K. Naegele, T. Dele</u>		Lab Pk: <u>Antia</u>		Carrier Tracking No(s):		COC No: <u>860-27569-7497 1</u>	
Client Contact: <u>Quinn Nel</u>		Phone: <u>512-309-2473</u>		E-Mail: <u>Antia.Pate@et.eurolfins.com</u>		State of Origin: <u>TX</u>		Page: <u>1</u> of <u>2</u>	
Company: <u>ERM-Northeast</u>		Due Date Requested:		Analysis Requested		Job #:		Preservation Codes:	
Address: <u>295 Madison Avenue Suite 8A</u>		TAT Requested (days): <u>Standard</u>						A HCL M Hexane B NaOH N None C Zn Acetate O Acetic Acid D Nitric Acid P Na2CO3 E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amorphous S H2SO4 H Ascorbic Acid T TSP Dodecylhydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z Other (specify)	
City: <u>New York</u>		Compliance Project: <u>Yes</u> <u>No</u>							
State, Zip: <u>NY 10017</u>		Purchase Order Requested							
Phone: <u>512-374-2215 (Tel) 512-810-2901 (Fax)</u>		WFO #:							
Email: <u>quinn.nel@erm.com</u>		Project #:							
Project Name: <u>Twin Oaks Power Plant</u>		SSOW#:							
Site: <u>Twin Oaks Power Plant</u>									
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
<u>MW-03-20240911-01</u>		<u>9/11/24</u>		<u>0920</u>		<u>G</u>		<u>Water</u>	
<u>MW-07-20240911-01-MS</u>				<u>0925</u>				<u>Water</u>	
<u>MW-07-20240911-01-MSD</u>				<u>0930</u>				<u>Water</u>	
<u>MW-11-20240911-01</u>				<u>1110</u>				<u>Water</u>	
<u>MW-13-20240911-01</u>				<u>1325</u>				<u>Water</u>	
<u>MW-14-20240911-01</u>				<u>1605</u>				<u>Water</u>	
<u>MW-15-20240911-01</u>				<u>1740</u>				<u>Water</u>	
<u>DUP-01-20240911-01</u>				<u>0600</u>				<u>Water</u>	
<u>FB-01-20240912-01</u>		<u>9/12/24</u>		<u>0855</u>				<u>Water</u>	
<u>MW-16-20240912-01</u>				<u>0910</u>				<u>Water</u>	
<u>MW-17-20240912-01</u>				<u>1015</u>				<u>Water</u>	
Possible Hazard Identification		☐ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Poison B	
		☐ Unknown		☐ Radiological					
Deliverable Requested: I, II, III, IV Other (Specify) <u>Per Trip 13</u>									
Empty Kit Relinquished by: <u>Antia</u>		Date: <u>9/12/24</u>		Time: <u>1500</u>		Company: <u>ERM</u>		Received by: <u>Neenan</u>	
Relinquished by: <u>Antia</u>		Date/Time: <u>9/12/24 1500</u>		Company: <u>ERM</u>		Received by: <u>Neenan</u>		Date/Time: <u>9/13/24 935</u>	
Relinquished by: <u>Antia</u>		Date/Time: <u>9/12/24 1500</u>		Company: <u>ERM</u>		Received by: <u>Neenan</u>		Date/Time: <u>9/13/24 935</u>	
Custody Seals Intact: <u>Yes</u> <u>No</u>		Custody Seal No. <u>5.1 5.3 3.8 4.0 4.6 4.3 4.1 4.5 4.00 3.60</u>							

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-82634-2

Login Number: 82634

List Source: Eurofins Houston

List Number: 1

Creator: Jimenez, Nicanor

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

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-82634-2

Login Number: 82634

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

List Creation: 09/17/24 11:41 AM

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

Data Usability Summary for Laboratory Packages 860-82634-1 and 860-82634-2

September 2024 Groundwater Sampling – Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Environmental Resources Management Southwest, Inc. (ERM) reviewed laboratory analytical data packages (Work Order Numbers 860-82634-1 and 860-82634-2) from Eurofins of Houston, Texas for the analysis of eight (8) groundwater samples, one (1) blind field duplicate sample, one (1) field blank, one (1) matrix spike (MS) and one (1) matrix spike duplicate (MSD), collected between September 11 to September 12, 2024, at Twin Oaks Power Station, Robertson County, Texas. Data were reviewed for general conformance to the requirements of the following documents:

- 1) Twin Oaks Power Station, *Groundwater Sampling and Analysis Plan (October 2017)*;
- 2) Environmental Protection Agency's (EPA's) National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001, January 2017);
- 3) Texas Commission on Environmental Quality's (TCEQ's) *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13, May 2010); and
- 4) *CCR Landfill Draft Technical Guideline No. 32* (May 2020).

Eurofins is NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. Eurofins National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in these reports is referenced in the laboratory reports.

Intended Use of Data: To provide concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in the ground water at the facility.

Analyses requested included:

- SW846 6010D – Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry
- SW846 6020B – Metals by Inductively Coupled Plasma/Mass Spectrometry
- SW846 7470A – Mercury by Cold Vapor Atomic Absorption (CVAA)
- SM 2540C – Solids, Total Dissolved (TDS)
- SM 4500 H+ B – pH
- EPA 300.0 – Anions, Ion Chromatography
- EPA 903.0 – Radium-226 by Gas Flow Proportional Counter (GFPC)
- EPA 904.0 – Radium-228 (GFPC)

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report;
- Laboratory review checklist (LRC);
- Exception reports (ERs); and
- Case narrative.

The results of supporting quality control (QC) analyses are summarized on the LRCs, ERs, and in the case narrative, which were included in this review.

The LRC, ERs, case narrative, and analytical data report are attached to this report.

INTRODUCTION

Eight (8) groundwater samples, one (1) blind field duplicate sample, one (1) field blank, one (1) MS and one (1) MSD, were submitted to the laboratory for analysis of select metals, anions, general chemistry (TDS and pH), and radium. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Data package 860-82634-2 was revised to correct the detection summary page.

Project Data Quality Objectives

The QC sample recoveries and relative percent differences (RPD) were evaluated based on the following Project Data Quality Objectives (DQO):

Organic Compounds

Recovery 60-140%

RPD $\leq$ 40%

Inorganic Compounds

Recovery 70-130%

RPD $\leq$ 30%

Data were qualified in accordance with the TCEQ's TRRP-13 guidance document, including data qualifier codes and data qualifier code definitions.

DATA REVIEW / VALIDATION RESULTS

Analytical Results

Groundwater analytical results are reported in milligrams per liter (mg/L). *Not Detected* results are reported as "U" and represent values less than the method detection limit (MDL). Qualified data are listed in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition with the paperwork properly completed. The samples were preserved in the field as specified by the methods. The sample receipt temperature for the four coolers of data packages 860-82634-1 and 860-82634-2 (4.0 °C, 4.3 °C, 4.8 °C, and 5.3 °C) were within the acceptance criteria of 4 +/- 2 degrees Celsius.

Samples were prepared and analyzed within holding times, with the exception of pH. The holding time for pH is 15 minutes according to the method; the samples were analyzed 6 to 7 days after sample collection. Therefore, all pH results were qualified as estimated with low bias (JL) for analysis outside of holding time.

Calibrations

According to the LRC, initial calibrations, continuing calibrations, and calibration verifications data met method requirements for metals, radium, general chemistry (pH and TDS), and anions, as applicable.

Blanks

Radium, anions, total dissolved solids, and metals were not detected in method blanks or the field blank, with exceptions noted below.

For laboratory report 860-82634-1, boron (0.009676 J mg/L), and antimony (0.001685 J mg/L) were detected in the method blank in prep batch 860-188705. Except as specified below, detected results for these analytes were greater than five times the method blank concentrations.

Samples MW-16-20240912-01, MW-17-20240912-01, MW-12-20240912-01, and FB-10-20240912-01 had reported boron concentrations less than 5 times the method blank concentration and were qualified as undetected (U).

Sample MW-07-20240911-01 had a reported antimony concentration less than 5 times the method blank concentration and was qualified as undetected (U).

For laboratory report 860-82634-1, chloride (0.351 J mg/L), boron (0.00882 J mg/L), and selenium (0.000707 J mg/L) were detected in the field blank. Except as specified below, detected results for chloride, boron, and selenium were greater than five times the field blank concentrations; as such, no qualifiers were required for most samples. The boron detection in the field blank was previously qualified as non-detect from method blank contamination; therefore, no additional qualifiers were required for boron.

Samples MW-16-20240912-01 and MW-12-20240912-01 had reported selenium concentrations within 5 times the field blank concentration and were qualified as estimated with high bias (JH).

For laboratory report 860-82634-2, Radium-228 (0.832 pCi/L) and Combined Radium-226 and Radium-228 (0.839 pCi/L) were detected in the field blank. Except as specified below, detected results for Radium-228 and Combined Radium-226 and Radium-228 were greater than five times the field blank concentrations.

Samples MW-07-20240911-01, MW-11-20240911-01, MW-13-20240911-01, MW-14-20240911-01, MW-15-20240911-01, DUP-01-20240911-01, MW-16-20240911-01, MW-17-20240911-01, and MW-12-20240911-01 had reported Radium-228 and Combined Radium-226 and Radium-228 concentrations within 5 times the field blank concentrations and were qualified as estimated with high bias (JH) for these analytes.

Mass Spectral Tuning

According to the LRC, mass spectrometry was not applicable for the analyses requested.

Internal Standards and Surrogate Recoveries

According to the LRC, internal standard area counts, and retention times were not applicable for the analyses requested. Surrogate recoveries were also not applicable for the analyses requested and therefore were not evaluated. Carrier percent yields for radioactive analyses were within acceptable limits.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) precision and accuracy analysis (i.e., percent recovery and relative percentage difference [RPDs], and relative error ratio [RER]) results for all analyses were within DQO acceptance limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy results using project samples were within project DQO acceptance limits for metals, anions (chloride, sulfate, and fluoride), and mercury, with the following exceptions.

In laboratory data package 860-82634-1, the MS and MSD recoveries for calcium in preparation batch 188705 were less than DQO acceptance limits; however, the unspiked parent sample (MW-07-20240911-01) had a calcium concentration greater than four times the amount spiked, and as a result may not represent the matrix effect; therefore, no qualifiers were required.

In laboratory data package 860-82634-1, the MS and MSD recoveries for sulfate in analysis batch 187408 were less than DQO acceptance limits; however, the unspiked parent sample (MW-07-20240911-01) had a sulfate concentration greater than four times the amount spiked, and as a result may not represent the matrix effect; therefore, no qualifiers were required.

Laboratory Precision

The laboratory duplicate results were within the project DQO limits for all analyses. No qualifiers were required for laboratory precision.

Field Precision

One field duplicate pair (MW-13-20240911-01 / DUP-01-20240911-01) was collected. Field precision calculations are shown in Table 3. Field precision RPDs were within DQO acceptance limits, with the following exceptions.

The field precision RPD for MW-13-20240911-01/DUP-01-20240911-01 for boron (0.0900 mg/L and 0.149 mg/L, respectively) was outside the DQO acceptance limit and the concentrations were greater than 5 times the MQL; therefore, the sample results were qualified as estimated (J).

The field precision RPD for MW-13-20240911-01/DUP-01-20240911-01 for lithium (<0.0174 U mg/L and 0.0475 mg/L) was outside the DQO acceptance limit and concentrations were less than 2 times the MQL; therefore, no qualifiers were required.

Field Procedures

The samples were collected using procedures documented in the Groundwater Sampling and Analysis Plan for the site.

SUMMARY

No data were rejected during this review. Groundwater analytical data are useable for the purpose of providing concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in ground water at the Twin Oaks Power Plant. Qualified data are listed in Table 2.

TABLE 1

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory ID 860-82634-1 and 860-82634-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

<u>Laboratory Identification</u>	<u>Field Identification</u>	<u>Description</u>
860-82634-1	MW-07-20240911-01	Field Sample
860-82634-2	MW-11-20240911-01	Field Sample
860-82634-3	MW-13-20240911-01	Field Sample
860-82634-4	MW-14-20240911-01	Field Sample
860-82634-5	MW-15-20240911-01	Field Sample
860-82634-6	DUP-01-20240911-01	Duplicate Sample
860-82634-7	FB-01-20240912-01	Field Blank
860-82634-8	MW-16-20240912-01	Field Sample
860-82634-9	MW-17-20240912-01	Field Sample
860-82634-10	MW-12-20240912-01	Field Sample

TABLE 2
Qualified Data
Laboratory ID 860-82634-1 and 860-82634-2
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Qualification	Rationale
MW-13-20240911-01	Boron	J	High field duplicate RPD
FB-01-20240912-01	Boron	U	Result <5X method blank
MW-16-20240912-01	Boron	U	Result <5X method blank
MW-16-20240912-01	Selenium	JH	Result <5X field blank
MW-17-20240912-01	Boron	U	Result <5X method blank
MW-12-20240912-01	Boron	U	Result <5X method blank
MW-12-20240912-01	Selenium	JH	Result <5X field blank
MW-07-20240911-01	Antimony	U	Result <5X method blank
MW-07-20240911-01	Radium-228	JH	Result <5X field blank
MW-07-20240911-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
MW-11-20240911-01	Radium-228	JH	Result <5X field blank
MW-11-20240911-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
MW-13-20240911-01	Radium-228	JH	Result <5X field blank
MW-13-20240911-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
MW-14-20240911-01	Radium-228	JH	Result <5X field blank
MW-14-20240911-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
MW-15-20240911-01	Radium-228	JH	Result <5X field blank
MW-15-20240911-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
DUP-01-20240911-01	Radium-228	JH	Result <5X field blank
DUP-01-20240911-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
MW-16-20240912-01	Radium-228	JH	Result <5X field blank
MW-16-20240912-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank
MW-17-20240912-01	Radium-228	JH	Result <5X field blank
MW-12-20240912-01	Radium-228	JH	Result <5X field blank
MW-12-20240912-01	Combined Radium-226 and Radium-228	JH	Result <5X field blank

TABLE 2
 Qualified Data
 Laboratory ID 860-82634-1 and 860-82634-2
 Twin Oaks Power Station
 Coal Combustion Residuals (CCR) Landfill
 Robertson County, Texas

Field Identification	Analyte	Qualification	Rationale
MW-07-20240911-01	pH	JL	Analysis outside of hold time
MW-11-20240911-01	pH	JL	Analysis outside of hold time
MW-13-20240911-01	pH	JL	Analysis outside of hold time
MW-14-20240911-01	pH	JL	Analysis outside of hold time
MW-15-20240911-01	pH	JL	Analysis outside of hold time
DUP-01-20240911-01	pH	JL	Analysis outside of hold time
FB-01-20240912-01	pH	JL	Analysis outside of hold time
MW-16-20240912-01	pH	JL	Analysis outside of hold time
MW-17-20240912-01	pH	JL	Analysis outside of hold time
MW-12-20240912-01	pH	JL	Analysis outside of hold time

Notes:

J = Qualified in the DUS as detected at an estimated value.

JH = Qualified in the DUS as detected at an estimated value with high bias.

JL = Qualified in the DUS as detected at an estimated value with low bias.

U = Qualified in the DUS as a not detected.

TABLE 3

Field Precision
Laboratory ID 860-82634-1 and 860-82634-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Sample Result (SR)		Duplicate Result (DR)		Relative Percent Difference (RPD)	Qualified
MW-13-20240911-01 / DUP-01-20240911-01	Chloride	104		105		0.96	A
	Sulfate	139		139		0.00	A
	Fluoride	0.100	U	0.106	J	5.83	A
	Lithium	0.0174	U	0.0475		92.76	A*
	Boron	0.0900	b	0.149	b	49.37	J
	Calcium	37.7		36.7		2.69	A
	Barium	0.0593		0.0602		1.51	A
	Cobalt	0.00169	J	0.00152	J	10.59	A
	Selenium	0.00427		0.00455		6.35	A
	TDS	519		526		1.34	A
	pH	6.0	HF	6.0	HF	0.00	A
	Radium-226	0.558		0.503		10.37	A
	Radium-228	2.40		1.78		29.67	A
	Radium-226 and 228	2.96		2.29		25.52	A

NOTES:

Only detected analytes are listed in table.

Units in milligrams per liter (mg/L) or picoCuries per Liter (pCi/L).

$RPD = ((SR-DR)*200)/(SR+DR)$

A = Acceptable data based on project data quality objectives (DQO).

J = Reported as estimated concentration between the sample detection limit (SDL) and the method quantitation limit (MQL).

U = Analyzed but not detected above the Method Detection Limit (MDL) or the SDL.

A* = Acceptable data based on TRRP-13 guidance document.

HF = Parameter with a holding time of 15 minutes. Sample was analyzed outside of hold time.

b = The compound was found in the blank and sample.

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/22/2025 10:31:51 AM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97961-1

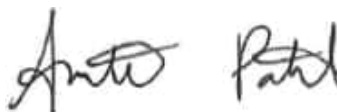
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Total/NA			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A311					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97961-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/22/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/22/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97961-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/22/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97961-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/22/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97961-1	
Reviewer Name: Anita Patel			
ER#¹	Description		
1	Method 6020B: The method blank for preparation batch 860-228534 and analytical batch 860-228666 contained Selenium above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore re-analysis of samples was not performed.		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97961-1

Job ID: 860-97961-1

Eurofins Houston

Job Narrative 860-97961-1

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

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

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

Receipt

The samples were received on 4/9/2025 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.9°C.

Metals

Method 6020B: The method blank for preparation batch 860-228534 and analytical batch 860-228666 contained Selenium above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore re-analysis of samples was not performed.

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97961-1

☐ No Detections.

Client Sample ID: MW-25-20250409-01

Lab Sample ID: 860-97961-2

☐ No Detections.

Client Sample ID: MW-24-20250409-01

Lab Sample ID: 860-97961-3

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Houston

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97961-1

Date Collected: 04/09/25 13:45

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 21:34	1

Client Sample ID: MW-25-20250409-01

Lab Sample ID: 860-97961-2

Date Collected: 04/09/25 15:20

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 21:37	1

Client Sample ID: MW-24-20250409-01

Lab Sample ID: 860-97961-3

Date Collected: 04/09/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 21:39	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-228534/1-A
Matrix: Water
Analysis Batch: 228666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.0005941	J	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 20:42	1

Lab Sample ID: LCS 860-228534/2-A
Matrix: Water
Analysis Batch: 228666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.09925		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-228534/3-A
Matrix: Water
Analysis Batch: 228666

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 228534

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.09427		mg/L		94	80 - 120	5	20

Lab Sample ID: 860-98045-K-4-A MS
Matrix: Water
Analysis Batch: 228666

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 228534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.000590	U	0.100	0.08725		mg/L		87	75 - 125

Lab Sample ID: 860-98045-L-4-A MSD
Matrix: Water
Analysis Batch: 228666

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 228534

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	<0.000590	U	0.100	0.08927		mg/L		89	75 - 125	2	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Metals

Prep Batch: 228534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97961-1	MW-26-20250409-01	Total/NA	Water	3010A	
860-97961-2	MW-25-20250409-01	Total/NA	Water	3010A	
860-97961-3	MW-24-20250409-01	Total/NA	Water	3010A	
MB 860-228534/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228534/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228534/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-98045-K-4-A MS	Matrix Spike	Total/NA	Water	3010A	
860-98045-L-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 228666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97961-1	MW-26-20250409-01	Total/NA	Water	6020B	228534
860-97961-2	MW-25-20250409-01	Total/NA	Water	6020B	228534
860-97961-3	MW-24-20250409-01	Total/NA	Water	6020B	228534
MB 860-228534/1-A	Method Blank	Total/NA	Water	6020B	228534
LCS 860-228534/2-A	Lab Control Sample	Total/NA	Water	6020B	228534
LCSD 860-228534/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228534
860-98045-K-4-A MS	Matrix Spike	Total/NA	Water	6020B	228534
860-98045-L-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	228534

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97961-1

Date Collected: 04/09/25 13:45

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228534	04/11/25 13:30	MD	EET HOU
Total/NA	Analysis	6020B		1			228666	04/11/25 21:34	SHZ	EET HOU

Client Sample ID: MW-25-20250409-01

Lab Sample ID: 860-97961-2

Date Collected: 04/09/25 15:20

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228534	04/11/25 13:30	MD	EET HOU
Total/NA	Analysis	6020B		1			228666	04/11/25 21:37	SHZ	EET HOU

Client Sample ID: MW-24-20250409-01

Lab Sample ID: 860-97961-3

Date Collected: 04/09/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228534	04/11/25 13:30	MD	EET HOU
Total/NA	Analysis	6020B		1			228666	04/11/25 21:39	SHZ	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26

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Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97961-1	MW-26-20250409-01	Water	04/09/25 13:45	04/09/25 19:35
860-97961-2	MW-25-20250409-01	Water	04/09/25 15:20	04/09/25 19:35
860-97961-3	MW-24-20250409-01	Water	04/09/25 16:15	04/09/25 19:35

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97961-1

Login Number: 97961

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/16/2025 3:07:08 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97962-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
4/16/2025 3:07:08 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Glossary

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

Eurofins Houston

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography

Matrix: Water
Prep Method: N/A
Instrument: A263

Prep Type: Total/NA

Detector: IC/0

Column: AS-18

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Chloride	0.500	0.367	J	mg/L	0.500	0.250	03/26/2025	860-224967
Sulfate	0.500	0.361	J	mg/L	0.500	0.200	03/26/2025	860-224967
Fluoride	0.500	0.396	J	mg/L	0.500	0.100	03/26/2025	860-224967

Matrix: Water
Prep Method: N/A
Instrument: a401

Prep Type: Total/NA

Detector: IC/0

Column: AS-18

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Chloride	0.500	0.486	J	mg/L	0.500	0.250	03/31/2025	860-225866
Sulfate	0.500	0.561		mg/L	0.500	0.200	03/31/2025	860-225866
Fluoride	0.500	0.210	J	mg/L	0.500	0.100	03/31/2025	860-225866

Method: 6020B - Metals (ICP/MS)

Matrix: Water
Prep Method: 3010A-Preparation, Total Metals
Instrument: A311

Prep Type: Total/NA

Detector: MSD/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.00140	0.0014	J	mg/L	0.0020	0.00075	03/26/2025	860-225009
Boron	0.00700	0.0075	J	mg/L	0.010	0.0040	03/26/2025	860-225009
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009
Thallium	0.00140	0.0014	J	mg/L	0.0020	0.00042	03/26/2025	860-225009
Arsenic	0.00280	0.0029	J	mg/L	0.0040	0.00069	03/26/2025	860-225009
Calcium	0.0700	0.074	J	mg/L	0.10	0.030	03/26/2025	860-225009
Barium	0.00280	0.0028	J	mg/L	0.0040	0.0013	03/26/2025	860-225009
Beryllium	0.00140	0.0014	J	mg/L	0.0020	0.00027	03/26/2025	860-225009
Cadmium	0.00140	0.0014	J	mg/L	0.0020	0.00024	03/26/2025	860-225009
Chromium	0.00280	0.0029	J	mg/L	0.0040	0.00056	03/26/2025	860-225009
Cobalt	0.00140	0.0014	J	mg/L	0.0020	0.00036	03/26/2025	860-225009
Lead	0.00140	0.0013	J	mg/L	0.0020	0.00037	03/26/2025	860-225009
Molybdenum	0.00140	0.0015	J	mg/L	0.0020	0.00026	03/26/2025	860-225009

Method: 7470A - Mercury (CVAA)

Matrix: Water
Prep Method: 7470A-Preparation, Mercury
Instrument: A336

Prep Type: Total/NA

Detector: AA/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Mercury	0.000130	0.00018	J	mg/L	0.00020	0.000071	01/13/2025	860-210513

Eurofins Houston

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97962-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/16/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/16/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97962-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			2
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 04/16/2025
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-97962-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/16/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97962-1	
Reviewer Name: Anita Patel			
ER#¹	Description		
1	Method 6020B: The method blank for preparation batch 860-228784 and analytical batch 860-229259 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.		
2	Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-228468 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97962-1

Job ID: 860-97962-1

Eurofins Houston

Job Narrative 860-97962-1

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

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

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

Receipt

The samples were received on 4/9/2025 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.6°C, 2.9°C and 3.8°C.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-228468 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Metals

Method 6020B: The method blank for preparation batch 860-228784 and analytical batch 860-229259 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

General Chemistry

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	242		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	989		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.204	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.154		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.300		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	296		1.00	0.301	mg/L	10		6020B	Total/NA
Barium	0.0197		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000568	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00125	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000891	J b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1960		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.3	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	101		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	349		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0438		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.157		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	98.3		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.0206		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000425	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00131	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	752		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78.5		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	62.4		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0362		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	24.8		0.100	0.0301	mg/L	1		6020B	Total/NA
Barium	0.122		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00390		0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	403		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	109		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	127		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.109	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0261	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.145		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	40.1		0.100	0.0301	mg/L	1		6020B	Total/NA
Barium	0.0503		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00121	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000781	J b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Mercury	0.000166	J	0.000200	0.0000706	mg/L	1		7470A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-13-20250408-01 (Continued)

Lab Sample ID: 860-97962-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	491		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	606		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate	350		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0933		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0306		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	164		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.102		0.00400	0.00134	mg/L	1		6020B	Total/NA
Beryllium	0.000331	J	0.00200	0.000271	mg/L	1		6020B	Total/NA
Cadmium	0.00175	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00156	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00847	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2040		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.0	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	129		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	53.3		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0514		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	30.7		0.100	0.0301	mg/L	1		6020B	Total/NA
Barium	0.125		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00364	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	551		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	157		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	110		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0197	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0395		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	54.9		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.0463		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000380	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000758	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Selenium	0.00486	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	683		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	472		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	1440		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.183	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.193		0.0400	0.0174	mg/L	1		6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-14-20250409-01 (Continued)

Lab Sample ID: 860-97962-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.19		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	304		1.00	0.301	mg/L	10		6020B	Total/NA
Barium	0.0215		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000789	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00288		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.815	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2940		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	162		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	113		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.116	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0220	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0800		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	55.9		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.0441		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000393	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000675	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Selenium	0.00484	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	677		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.952		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	0.372	J	0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0194		0.0100	0.00401	mg/L	1		6020B	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.963		0.500	0.250	mg/L	1		300.0	Total/NA
Boron	0.0147		0.0100	0.00401	mg/L	1		6020B	Total/NA
pH	7.1	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Date Collected: 04/08/25 10:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	242		0.500	0.250	mg/L			04/14/25 18:18	1
Sulfate	989		5.00	2.00	mg/L			04/14/25 18:28	10
Fluoride	0.204	J	0.500	0.100	mg/L			04/14/25 18:18	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.154		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 15:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:36	1
Boron	0.300		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:36	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:36	1
Calcium	296		1.00	0.301	mg/L		04/13/25 11:30	04/14/25 20:38	10
Barium	0.0197		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:36	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:36	1
Cadmium	0.000568	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:36	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:36	1
Cobalt	0.00125	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:36	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:36	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:36	1
Selenium	0.000891	J b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:36	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:36	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1960		20.0	20.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.3	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	101		0.500	0.250	mg/L			04/11/25 21:13	1
Sulfate	349		0.500	0.200	mg/L			04/11/25 21:13	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 21:13	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0438		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:41	1
Boron	0.157		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:41	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:41	1
Calcium	98.3		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 20:44	5
Barium	0.0206		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:41	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:41	1
Cadmium	0.000425	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:41	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:41	1
Cobalt	0.00131	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:41	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:41	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:41	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:41	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:41	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	752		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.5	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.5		0.500	0.250	mg/L			04/14/25 17:28	1
Sulfate	62.4		0.500	0.200	mg/L			04/14/25 17:28	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 17:28	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:46	1
Boron	0.0362		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:46	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:46	1
Calcium	24.8		0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 20:46	1
Barium	0.122		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:46	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:46	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:46	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:46	1
Cobalt	0.00390		0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:46	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:46	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:46	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:46	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:46	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	403		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.2	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Date Collected: 04/08/25 14:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	109		0.500	0.250	mg/L			04/11/25 21:20	1
Sulfate	127		0.500	0.200	mg/L			04/11/25 21:20	1
Fluoride	0.109	J	0.500	0.100	mg/L			04/11/25 21:20	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0261	J	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:48	1
Boron	0.145		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:48	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:48	1
Calcium	40.1		0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 20:48	1
Barium	0.0503		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:48	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:48	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:48	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:48	1
Cobalt	0.00121	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:48	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:48	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:48	1
Selenium	0.000781	J b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:48	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000166	J	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	491		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.2	HF			SU			04/11/25 12:56	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Date Collected: 04/08/25 15:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	606		5.00	2.50	mg/L			04/14/25 19:08	10
Sulfate	350		0.500	0.200	mg/L			04/14/25 18:58	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 18:58	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0933		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:51	1
Boron	0.0306		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:51	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:51	1
Calcium	164		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 20:53	5
Barium	0.102		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:51	1
Beryllium	0.000331	J	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:51	1
Cadmium	0.00175	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:51	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:51	1
Cobalt	0.00156	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:51	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:51	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:51	1
Selenium	0.00847	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:51	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2040		20.0	20.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.0	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	129		0.500	0.250	mg/L			04/14/25 17:58	1
Sulfate	53.3		0.500	0.200	mg/L			04/14/25 17:58	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 17:58	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:56	1
Boron	0.0514		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:56	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:56	1
Calcium	30.7		0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 20:56	1
Barium	0.125		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:56	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:56	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:56	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:56	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:56	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:56	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:56	1
Selenium	0.00364	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:56	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	551		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.5	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	157		0.500	0.250	mg/L			04/14/25 18:08	1
Sulfate	110		0.500	0.200	mg/L			04/14/25 18:08	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 18:08	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0197	J	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:58	1
Boron	0.0395		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:58	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:58	1
Calcium	54.9		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 21:05	5
Barium	0.0463		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:58	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:58	1
Cadmium	0.000380	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:58	1
Chromium	0.000758	J	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:58	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:58	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:58	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:58	1
Selenium	0.00486	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:58	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:58	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	683		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.6	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	472		0.500	0.250	mg/L			04/14/25 19:18	1
Sulfate	1440		5.00	2.00	mg/L			04/14/25 19:28	10
Fluoride	0.183	J	0.500	0.100	mg/L			04/14/25 19:18	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.193		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:08	1
Boron	4.19		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:08	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:08	1
Calcium	304		1.00	0.301	mg/L		04/13/25 11:30	04/14/25 21:10	10
Barium	0.0215		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:08	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:08	1
Cadmium	0.000789	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:08	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:08	1
Cobalt	0.00288		0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:08	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:08	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:08	1
Selenium	0.815	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:08	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2940		40.0	40.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.5	HF			SU			04/11/25 12:56	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	162		0.500	0.250	mg/L			04/11/25 19:33	1
Sulfate	113		0.500	0.200	mg/L			04/11/25 19:33	1
Fluoride	0.116	J	0.500	0.100	mg/L			04/11/25 19:33	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0220	J	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:13	1
Boron	0.0800		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:13	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:13	1
Calcium	55.9		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 21:15	5
Barium	0.0441		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:13	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:13	1
Cadmium	0.000393	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:13	1
Chromium	0.000675	J	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:13	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:13	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:13	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:13	1
Selenium	0.00484	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:13	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	677		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.6	HF			SU			04/11/25 12:56	1

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.952		0.500	0.250	mg/L			04/11/25 19:41	1
Sulfate	0.372	J	0.500	0.200	mg/L			04/11/25 19:41	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 19:41	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:18	1
Boron	0.0194		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:18	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:18	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 21:18	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:18	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:18	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:18	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:18	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:18	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:18	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:18	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:18	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:18	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.6	HF			SU			04/11/25 12:56	1

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.963		0.500	0.250	mg/L			04/11/25 19:48	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/11/25 19:48	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 19:48	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:20	1
Boron	0.0147		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:20	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:20	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 21:20	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:20	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:20	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:20	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:20	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:20	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:20	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:20	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:20	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:20	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	7.1	HF			SU			04/11/25 12:56	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-228468/3

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/11/25 10:36	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/11/25 10:36	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 10:36	1

Lab Sample ID: MB 860-228468/49

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/11/25 17:15	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/11/25 17:15	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 17:15	1

Lab Sample ID: LCS 860-228468/52

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.02		mg/L		100	90 - 110
Sulfate	10.0	10.03		mg/L		100	90 - 110
Fluoride	10.0	10.32		mg/L		103	90 - 110

Lab Sample ID: LCSD 860-228468/53

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.953		mg/L		100	90 - 110	1	20
Sulfate	10.0	10.18		mg/L		102	90 - 110	1	20
Fluoride	10.0	10.37		mg/L		104	90 - 110	0	20

Lab Sample ID: LLCS 860-228468/7

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.6736		mg/L		135	50 - 150
Sulfate	0.500	0.7215		mg/L		144	50 - 150
Fluoride	0.500	0.4821	J	mg/L		96	50 - 150

Lab Sample ID: 870-35255-G-1 MS

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	9.45		10.0	20.99	N1	mg/L		115	90 - 110
Sulfate	18.8		10.0	29.54		mg/L		107	90 - 110
Fluoride	0.157	J	10.0	11.02		mg/L		109	90 - 110

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 870-35255-G-1 MSD

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	9.45		10.0	20.79	N1	mg/L		113	90 - 110	1	15
Sulfate	18.8		10.0	28.96		mg/L		101	90 - 110	2	15
Fluoride	0.157	J	10.0	10.93		mg/L		108	90 - 110	1	15

Lab Sample ID: 870-35305-A-2 MS

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.7		10.0	20.91		mg/L		102	90 - 110		
Sulfate	90.4		10.0	99.85	4	mg/L		95	90 - 110		
Fluoride	0.171	J	10.0	11.16		mg/L		110	90 - 110		

Lab Sample ID: 870-35305-A-2 MSD

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.7		10.0	20.96		mg/L		103	90 - 110	0	15
Sulfate	90.4		10.0	99.99	4	mg/L		96	90 - 110	0	15
Fluoride	0.171	J	10.0	11.19		mg/L		110	90 - 110	0	15

Lab Sample ID: MB 860-228985/3

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/14/25 12:05	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/14/25 12:05	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 12:05	1

Lab Sample ID: LCS 860-228985/4

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.0	9.300		mg/L		93	90 - 110		
Sulfate	10.0	10.30		mg/L		103	90 - 110		
Fluoride	10.0	9.628		mg/L		96	90 - 110		

Lab Sample ID: LCSD 860-228985/5

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.275		mg/L		93	90 - 110	0	20
Sulfate	10.0	10.23		mg/L		102	90 - 110	1	20
Fluoride	10.0	9.617		mg/L		96	90 - 110	0	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LLCS 860-228985/7

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4125	J	mg/L		82	50 - 150
Sulfate	0.500	0.3713	J	mg/L		74	50 - 150
Fluoride	0.500	0.3946	J	mg/L		79	50 - 150

Lab Sample ID: 860-97962-3 MS

Matrix: Water

Analysis Batch: 228985

Client Sample ID: MW-12-20250408-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	78.5		10.0	87.76	4	mg/L		93	90 - 110
Sulfate	62.4		10.0	72.66	4	mg/L		103	90 - 110
Fluoride	<0.100	U	10.0	8.911	N1	mg/L		89	90 - 110

Lab Sample ID: 860-97962-3 MSD

Matrix: Water

Analysis Batch: 228985

Client Sample ID: MW-12-20250408-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	78.5		10.0	87.87	4	mg/L		94	90 - 110	0	15
Sulfate	62.4		10.0	72.71	4	mg/L		104	90 - 110	0	15
Fluoride	<0.100	U	10.0	9.042		mg/L		90	90 - 110	1	15

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-228453/1-A

Matrix: Water

Analysis Batch: 228879

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228453

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 15:41	1

Lab Sample ID: LCS 860-228453/2-A

Matrix: Water

Analysis Batch: 228879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.010		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-228453/3-A

Matrix: Water

Analysis Batch: 228879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.010		mg/L		101	80 - 120	0	20

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 860-97962-1 MS

Matrix: Water

Analysis Batch: 228879

Client Sample ID: MW-07-20250408-01

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.154		1.00	1.260		mg/L		111	75 - 125

Lab Sample ID: 860-97962-1 MSD

Matrix: Water

Analysis Batch: 228879

Client Sample ID: MW-07-20250408-01

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.154		1.00	1.200		mg/L		105	75 - 125	5	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: LB 860-228512/1-D

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228784

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00375	U	0.0100	0.00375	mg/L		04/13/25 11:30	04/14/25 19:43	1
Boron	<0.0200	U	0.0500	0.0200	mg/L		04/13/25 11:30	04/14/25 19:43	1
Arsenic	<0.00345	U	0.0200	0.00345	mg/L		04/13/25 11:30	04/14/25 19:43	1
Calcium	<0.150	U	0.500	0.150	mg/L		04/13/25 11:30	04/14/25 19:43	1
Barium	<0.00671	U	0.0200	0.00671	mg/L		04/13/25 11:30	04/14/25 19:43	1
Beryllium	<0.00136	U	0.0100	0.00136	mg/L		04/13/25 11:30	04/14/25 19:43	1
Cadmium	<0.00120	U	0.0100	0.00120	mg/L		04/13/25 11:30	04/14/25 19:43	1
Chromium	<0.00280	U	0.0200	0.00280	mg/L		04/13/25 11:30	04/14/25 19:43	1
Cobalt	<0.00178	U	0.0100	0.00178	mg/L		04/13/25 11:30	04/14/25 19:43	1
Lead	<0.00184	U	0.0100	0.00184	mg/L		04/13/25 11:30	04/14/25 19:43	1
Molybdenum	<0.00128	U	0.0100	0.00128	mg/L		04/13/25 11:30	04/14/25 19:43	1
Selenium	<0.00295	U	0.0100	0.00295	mg/L		04/13/25 11:30	04/14/25 19:43	1
Thallium	<0.00208	U	0.0100	0.00208	mg/L		04/13/25 11:30	04/14/25 19:43	1

Lab Sample ID: MB 860-228784/1-A

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 19:36	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 19:36	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 19:36	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 19:36	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 19:36	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 19:36	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 19:36	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 19:36	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 19:36	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 19:36	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 19:36	1
Selenium	0.0007027	J	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 19:36	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 19:36	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

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

Lab Sample ID: LCS 860-228784/2-A

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228784

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09565		mg/L		96	80 - 120
Boron	0.100	0.09504		mg/L		95	80 - 120
Arsenic	0.100	0.09716		mg/L		97	80 - 120
Calcium	2.50	2.587		mg/L		103	80 - 120
Barium	0.100	0.09716		mg/L		97	80 - 120
Beryllium	0.100	0.09485		mg/L		95	80 - 120
Cadmium	0.100	0.09684		mg/L		97	80 - 120
Chromium	0.100	0.09837		mg/L		98	80 - 120
Cobalt	0.100	0.09831		mg/L		98	80 - 120
Lead	0.100	0.09689		mg/L		97	80 - 120
Molybdenum	0.100	0.09665		mg/L		97	80 - 120
Selenium	0.100	0.09346		mg/L		93	80 - 120
Thallium	0.100	0.09892		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-228784/3-A

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228784

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09701		mg/L		97	80 - 120	1	20
Boron	0.100	0.09537		mg/L		95	80 - 120	0	20
Arsenic	0.100	0.09825		mg/L		98	80 - 120	1	20
Calcium	2.50	2.612		mg/L		104	80 - 120	1	20
Barium	0.100	0.09528		mg/L		95	80 - 120	2	20
Beryllium	0.100	0.09461		mg/L		95	80 - 120	0	20
Cadmium	0.100	0.09707		mg/L		97	80 - 120	0	20
Chromium	0.100	0.09878		mg/L		99	80 - 120	0	20
Cobalt	0.100	0.09736		mg/L		97	80 - 120	1	20
Lead	0.100	0.09709		mg/L		97	80 - 120	0	20
Molybdenum	0.100	0.09747		mg/L		97	80 - 120	1	20
Selenium	0.100	0.09727		mg/L		97	80 - 120	4	20
Thallium	0.100	0.09623		mg/L		96	80 - 120	3	20

Lab Sample ID: 870-35335-B-1-E MS

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 228784

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00375	U	0.100	0.1008		mg/L		101	75 - 125
Boron	0.0625		0.100	0.1532		mg/L		91	75 - 125
Arsenic	0.00932	J	0.100	0.1137		mg/L		104	75 - 125
Calcium	24.1		2.50	26.36	4	mg/L		90	75 - 125
Barium	0.187		0.100	0.2815		mg/L		95	75 - 125
Beryllium	<0.00136	U	0.100	0.1008		mg/L		101	75 - 125
Cadmium	<0.00120	U	0.100	0.1011		mg/L		101	75 - 125
Chromium	<0.00280	U	0.100	0.1065		mg/L		106	75 - 125
Cobalt	<0.00178	U	0.100	0.1062		mg/L		106	75 - 125
Lead	0.00240	J	0.100	0.1053		mg/L		103	75 - 125
Molybdenum	<0.00128	U	0.100	0.1035		mg/L		104	75 - 125

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

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

Lab Sample ID: 870-35335-B-1-E MS

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 228784

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.00295	U	0.100	0.09593		mg/L		96	75 - 125
Thallium	<0.00208	U	0.100	0.09686		mg/L		97	75 - 125

Lab Sample ID: 870-35335-B-1-F MSD

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 228784

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.00375	U	0.100	0.1018		mg/L		102	75 - 125	1	20
Boron	0.0625		0.100	0.1534		mg/L		91	75 - 125	0	20
Arsenic	0.00932	J	0.100	0.1130		mg/L		104	75 - 125	1	20
Calcium	24.1		2.50	26.62	4	mg/L		100	75 - 125	1	20
Barium	0.187		0.100	0.2983		mg/L		112	75 - 125	6	20
Beryllium	<0.00136	U	0.100	0.09889		mg/L		99	75 - 125	2	20
Cadmium	<0.00120	U	0.100	0.1013		mg/L		101	75 - 125	0	20
Chromium	<0.00280	U	0.100	0.1060		mg/L		106	75 - 125	0	20
Cobalt	<0.00178	U	0.100	0.1084		mg/L		108	75 - 125	2	20
Lead	0.00240	J	0.100	0.1079		mg/L		106	75 - 125	2	20
Molybdenum	<0.00128	U	0.100	0.1061		mg/L		106	75 - 125	2	20
Selenium	<0.00295	U	0.100	0.09316		mg/L		93	75 - 125	3	20
Thallium	<0.00208	U	0.100	0.09936		mg/L		99	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LB 860-227833/1-F

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228375

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:19	1

Lab Sample ID: MB 860-228375/1-A

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:46	04/11/25 11:15	1

Lab Sample ID: LCS 860-228375/2-A

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.001844		mg/L		92	80 - 120

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 860-228375/3-A

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228375

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.001942		mg/L		97	80 - 120	5	20

Lab Sample ID: 860-97788-A-1-I MS

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 228375

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.001887		mg/L		94	75 - 125		

Lab Sample ID: 860-97788-A-1-J MSD

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 228375

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.002057		mg/L		103	75 - 125	9	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-228850/1

Matrix: Water

Analysis Batch: 228850

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			04/14/25 08:31	1

Lab Sample ID: LCS 860-228850/2

Matrix: Water

Analysis Batch: 228850

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	956.0		mg/L		96	80 - 120		

Lab Sample ID: 880-56604-D-4 DU

Matrix: Water

Analysis Batch: 228850

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	127000		120800		mg/L		5	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 860-97962-1 DU

Matrix: Water

Analysis Batch: 228551

Client Sample ID: MW-07-20250408-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.3	HF	6.3		SU		0.2	20

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

HPLC/IC

Analysis Batch: 228468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-2	MW-11-20250408-01	Total/NA	Water	300.0	
860-97962-4	MW-13-20250408-01	Total/NA	Water	300.0	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	300.0	
860-97962-10	FB-01-20250409-01	Total/NA	Water	300.0	
860-97962-11	EB-01-20250409-01	Total/NA	Water	300.0	
MB 860-228468/3	Method Blank	Total/NA	Water	300.0	
MB 860-228468/49	Method Blank	Total/NA	Water	300.0	
LCS 860-228468/52	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-228468/53	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-228468/7	Lab Control Sample	Total/NA	Water	300.0	
870-35255-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-35255-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
870-35305-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
870-35305-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 228985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	300.0	
860-97962-1	MW-07-20250408-01	Total/NA	Water	300.0	
860-97962-3	MW-12-20250408-01	Total/NA	Water	300.0	
860-97962-5	MW-17-20250408-01	Total/NA	Water	300.0	
860-97962-5	MW-17-20250408-01	Total/NA	Water	300.0	
860-97962-6	MW-15-20250408-01	Total/NA	Water	300.0	
860-97962-7	MW-16-20250409-01	Total/NA	Water	300.0	
860-97962-8	MW-14-20250409-01	Total/NA	Water	300.0	
860-97962-8	MW-14-20250409-01	Total/NA	Water	300.0	
MB 860-228985/3	Method Blank	Total/NA	Water	300.0	
LCS 860-228985/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-228985/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-228985/7	Lab Control Sample	Total/NA	Water	300.0	
860-97962-3 MS	MW-12-20250408-01	Total/NA	Water	300.0	
860-97962-3 MSD	MW-12-20250408-01	Total/NA	Water	300.0	

Metals

Leach Batch: 227833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-227833/1-F	Method Blank	Total/NA	Water	1311	
860-97788-A-1-I MS	Matrix Spike	TCLP	Water	1311	
860-97788-A-1-J MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Prep Batch: 228375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	7470A	
860-97962-2	MW-11-20250408-01	Total/NA	Water	7470A	
860-97962-3	MW-12-20250408-01	Total/NA	Water	7470A	
860-97962-4	MW-13-20250408-01	Total/NA	Water	7470A	
860-97962-5	MW-17-20250408-01	Total/NA	Water	7470A	
860-97962-6	MW-15-20250408-01	Total/NA	Water	7470A	
860-97962-7	MW-16-20250409-01	Total/NA	Water	7470A	
860-97962-8	MW-14-20250409-01	Total/NA	Water	7470A	

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Metals (Continued)

Prep Batch: 228375 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-9	DUP-01-20250409-01	Total/NA	Water	7470A	227833
860-97962-10	FB-01-20250409-01	Total/NA	Water	7470A	
860-97962-11	EB-01-20250409-01	Total/NA	Water	7470A	
LB 860-227833/1-F	Method Blank	Total/NA	Water	7470A	
MB 860-228375/1-A	Method Blank	Total/NA	Water	7470A	
LCS 860-228375/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-228375/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-97788-A-1-I MS	Matrix Spike	TCLP	Water	7470A	227833
860-97788-A-1-J MSD	Matrix Spike Duplicate	TCLP	Water	7470A	227833

Prep Batch: 228453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	3010A	228453
860-97962-2	MW-11-20250408-01	Total/NA	Water	3010A	
860-97962-3	MW-12-20250408-01	Total/NA	Water	3010A	
860-97962-4	MW-13-20250408-01	Total/NA	Water	3010A	
860-97962-5	MW-17-20250408-01	Total/NA	Water	3010A	
860-97962-6	MW-15-20250408-01	Total/NA	Water	3010A	
860-97962-7	MW-16-20250409-01	Total/NA	Water	3010A	
860-97962-8	MW-14-20250409-01	Total/NA	Water	3010A	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	3010A	
860-97962-10	FB-01-20250409-01	Total/NA	Water	3010A	
860-97962-11	EB-01-20250409-01	Total/NA	Water	3010A	
MB 860-228453/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228453/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228453/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-97962-1 MS	MW-07-20250408-01	Total/NA	Water	3010A	
860-97962-1 MSD	MW-07-20250408-01	Total/NA	Water	3010A	

Leach Batch: 228512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-228512/1-D	Method Blank	Total/NA	Water	1311	228512
870-35335-B-1-E MS	Matrix Spike	TCLP	Water	1311	
870-35335-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 228532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	7470A	228375
860-97962-2	MW-11-20250408-01	Total/NA	Water	7470A	228375
860-97962-3	MW-12-20250408-01	Total/NA	Water	7470A	228375
860-97962-4	MW-13-20250408-01	Total/NA	Water	7470A	228375
860-97962-5	MW-17-20250408-01	Total/NA	Water	7470A	228375
860-97962-6	MW-15-20250408-01	Total/NA	Water	7470A	228375
860-97962-7	MW-16-20250409-01	Total/NA	Water	7470A	228375
860-97962-8	MW-14-20250409-01	Total/NA	Water	7470A	228375
860-97962-9	DUP-01-20250409-01	Total/NA	Water	7470A	228375
860-97962-10	FB-01-20250409-01	Total/NA	Water	7470A	228375
860-97962-11	EB-01-20250409-01	Total/NA	Water	7470A	228375
LB 860-227833/1-F	Method Blank	Total/NA	Water	7470A	228375
MB 860-228375/1-A	Method Blank	Total/NA	Water	7470A	228375
LCS 860-228375/2-A	Lab Control Sample	Total/NA	Water	7470A	228375

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Metals (Continued)

Analysis Batch: 228532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 860-228375/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	228375
860-97788-A-1-I MS	Matrix Spike	TCLP	Water	7470A	228375
860-97788-A-1-J MSD	Matrix Spike Duplicate	TCLP	Water	7470A	228375

Prep Batch: 228784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	3010A	228512
860-97962-2	MW-11-20250408-01	Total/NA	Water	3010A	
860-97962-3	MW-12-20250408-01	Total/NA	Water	3010A	
860-97962-4	MW-13-20250408-01	Total/NA	Water	3010A	
860-97962-5	MW-17-20250408-01	Total/NA	Water	3010A	
860-97962-6	MW-15-20250408-01	Total/NA	Water	3010A	
860-97962-7	MW-16-20250409-01	Total/NA	Water	3010A	
860-97962-8	MW-14-20250409-01	Total/NA	Water	3010A	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	3010A	
860-97962-10	FB-01-20250409-01	Total/NA	Water	3010A	228512
860-97962-11	EB-01-20250409-01	Total/NA	Water	3010A	
LB 860-228512/1-D	Method Blank	Total/NA	Water	3010A	
MB 860-228784/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228784/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228784/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
870-35335-B-1-E MS	Matrix Spike	TCLP	Water	3010A	
870-35335-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	3010A	

Analysis Batch: 228879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	6010D	228453
860-97962-2	MW-11-20250408-01	Total/NA	Water	6010D	228453
860-97962-3	MW-12-20250408-01	Total/NA	Water	6010D	228453
860-97962-4	MW-13-20250408-01	Total/NA	Water	6010D	228453
860-97962-5	MW-17-20250408-01	Total/NA	Water	6010D	228453
860-97962-6	MW-15-20250408-01	Total/NA	Water	6010D	228453
860-97962-7	MW-16-20250409-01	Total/NA	Water	6010D	228453
860-97962-8	MW-14-20250409-01	Total/NA	Water	6010D	228453
860-97962-9	DUP-01-20250409-01	Total/NA	Water	6010D	228453
860-97962-10	FB-01-20250409-01	Total/NA	Water	6010D	228453
860-97962-11	EB-01-20250409-01	Total/NA	Water	6010D	228453
MB 860-228453/1-A	Method Blank	Total/NA	Water	6010D	228453
LCS 860-228453/2-A	Lab Control Sample	Total/NA	Water	6010D	228453
LCSD 860-228453/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	228453
860-97962-1 MS	MW-07-20250408-01	Total/NA	Water	6010D	228453
860-97962-1 MSD	MW-07-20250408-01	Total/NA	Water	6010D	228453

Analysis Batch: 229259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	6020B	228784
860-97962-1	MW-07-20250408-01	Total/NA	Water	6020B	228784
860-97962-2	MW-11-20250408-01	Total/NA	Water	6020B	228784
860-97962-2	MW-11-20250408-01	Total/NA	Water	6020B	228784
860-97962-3	MW-12-20250408-01	Total/NA	Water	6020B	228784
860-97962-4	MW-13-20250408-01	Total/NA	Water	6020B	228784

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Metals (Continued)

Analysis Batch: 229259 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-5	MW-17-20250408-01	Total/NA	Water	6020B	228784
860-97962-5	MW-17-20250408-01	Total/NA	Water	6020B	228784
860-97962-6	MW-15-20250408-01	Total/NA	Water	6020B	228784
860-97962-7	MW-16-20250409-01	Total/NA	Water	6020B	228784
860-97962-7	MW-16-20250409-01	Total/NA	Water	6020B	228784
860-97962-8	MW-14-20250409-01	Total/NA	Water	6020B	228784
860-97962-8	MW-14-20250409-01	Total/NA	Water	6020B	228784
860-97962-9	DUP-01-20250409-01	Total/NA	Water	6020B	228784
860-97962-9	DUP-01-20250409-01	Total/NA	Water	6020B	228784
860-97962-10	FB-01-20250409-01	Total/NA	Water	6020B	228784
860-97962-11	EB-01-20250409-01	Total/NA	Water	6020B	228784
LB 860-228512/1-D	Method Blank	Total/NA	Water	6020B	228784
MB 860-228784/1-A	Method Blank	Total/NA	Water	6020B	228784
LCS 860-228784/2-A	Lab Control Sample	Total/NA	Water	6020B	228784
LCSD 860-228784/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228784
870-35335-B-1-E MS	Matrix Spike	TCLP	Water	6020B	228784
870-35335-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	6020B	228784

General Chemistry

Analysis Batch: 228551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-2	MW-11-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-3	MW-12-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-4	MW-13-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-5	MW-17-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-6	MW-15-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-7	MW-16-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-8	MW-14-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-10	FB-01-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-11	EB-01-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-1 DU	MW-07-20250408-01	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 228850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	SM 2540C	
860-97962-2	MW-11-20250408-01	Total/NA	Water	SM 2540C	
860-97962-3	MW-12-20250408-01	Total/NA	Water	SM 2540C	
860-97962-4	MW-13-20250408-01	Total/NA	Water	SM 2540C	
860-97962-5	MW-17-20250408-01	Total/NA	Water	SM 2540C	
860-97962-6	MW-15-20250408-01	Total/NA	Water	SM 2540C	
860-97962-7	MW-16-20250409-01	Total/NA	Water	SM 2540C	
860-97962-8	MW-14-20250409-01	Total/NA	Water	SM 2540C	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	SM 2540C	
860-97962-10	FB-01-20250409-01	Total/NA	Water	SM 2540C	
860-97962-11	EB-01-20250409-01	Total/NA	Water	SM 2540C	
MB 860-228850/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-228850/2	Lab Control Sample	Total/NA	Water	SM 2540C	
880-56604-D-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Date Collected: 04/08/25 10:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 18:18	HN	EET HOU
Total/NA	Analysis	300.0		10			228985	04/14/25 18:28	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 15:48	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:36	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		10			229259	04/14/25 20:38	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:39	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 21:13	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:02	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:41	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 20:44	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:40	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 17:28	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:04	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:46	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:41	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Date Collected: 04/08/25 14:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 21:20	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:06	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:48	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:43	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Date Collected: 04/08/25 15:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 18:58	HN	EET HOU
Total/NA	Analysis	300.0		10			228985	04/14/25 19:08	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:07	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:51	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 20:53	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:47	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 17:58	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:09	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:56	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:48	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 18:08	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:11	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:58	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 21:05	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:50	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 19:18	HN	EET HOU
Total/NA	Analysis	300.0		10			228985	04/14/25 19:28	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:12	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:08	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		10			229259	04/14/25 21:10	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:51	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 19:33	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:14	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:13	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 21:15	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:52	JDM	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 19:41	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:23	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:18	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:54	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 19:48	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:24	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:20	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:55	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3010A	Water	Calcium

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97962-1	MW-07-20250408-01	Water	04/08/25 10:15	04/09/25 19:35
860-97962-2	MW-11-20250408-01	Water	04/08/25 11:20	04/09/25 19:35
860-97962-3	MW-12-20250408-01	Water	04/08/25 12:55	04/09/25 19:35
860-97962-4	MW-13-20250408-01	Water	04/08/25 14:15	04/09/25 19:35
860-97962-5	MW-17-20250408-01	Water	04/08/25 15:15	04/09/25 19:35
860-97962-6	MW-15-20250408-01	Water	04/08/25 16:15	04/09/25 19:35
860-97962-7	MW-16-20250409-01	Water	04/09/25 09:45	04/09/25 19:35
860-97962-8	MW-14-20250409-01	Water	04/09/25 11:15	04/09/25 19:35
860-97962-9	DUP-01-20250409-01	Water	04/09/25 08:00	04/09/25 19:35
860-97962-10	FB-01-20250409-01	Water	04/09/25 10:40	04/09/25 19:35
860-97962-11	EB-01-20250409-01	Water	04/09/25 10:50	04/09/25 19:35

Eurofins Houston

4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



Eurofins
Environment Testing

860-97962 Chain of Custody

Client Information

Client Contact: **Kara Nagel**
Quinn Neil

Sampler: **Kara Nagel, & Hector Saenz**
Phone: **512-709-2473**

Lab P#: **Anita Patel**
E-Mail: **Anita.Patel@eurofins.com**

State: **Texas**

Company: **ERM-Northeast**

Address: **295 Madison Avenue Suite 8A**

City: **New York**

State: **NY**

Zip: **10017**

Phone: **512-374-2215 (Tel) 512-810-2901 (Fax)**

Email: **quinn.neil@erm.com**

Project Name: **Twin Oaks Power Plant**

Site: **Twin Oaks Power Plant**

Due Date Requested:

TAI Requested (days):

Compliance Project: **Standard**

PO #: **Purchase Order Requested**

WO #: **0689854**

Project #: **86005616**

SSOW#: **86005616**

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab, P=Preserve, A=As)	Matrix (Water, Soil, Sediment, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Appendix III Metals Boron, Calcium	Appendix III chloride, fluoride, sulfate by 300	Appendix III pH and TDS 2540C	Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg	903.0 and 904.0- Radium 226 and 228(GFPC)	Total Number of containers
MW-03-20250408-01	4/8/25	1015	G	Water	X	X	X	X	X	X	X	5
MW-11-20250408-01		1120		Water								
MW-12-20250408-01		1255		Water								
MW-13-20250408-01		1415		Water								
MW-17-20250408-01		1515		Water								
MW-15-20250408-01		1615		Water								
MW-16-20250409-01	4/9/25	0945		Water								
MW-14-20250409-01		1115		Water								
DUP-01-20250409-01		0800		Water								
FB-01-20250409-01		1040		Water								
FB-01-20250409-01		1050		Water								

Preservation Codes:
A HCL
B NaOH
C Zn Acetate
D Nitric Acid
E NaHSO4
F MeOH
G Amchlor
H Ascorbic Acid
I Ice
J DI Water
K EDTA
L EDA
Other:
M Hexane
N None
O AsNaO2
P Na2O4S
Q Na2SO3
R Na2S2O3
S H2SO4
T TSP Dodecahydrate
U Acetone
V MCAA
W pH 4.5
Y Triuma
Z other (specify)

Special Instructions/Note:

☒ Non-Hazard	☐ Flammable	☐ Skin Irritant	☐ Poison B	☐ Unknown	☐ Radiological
Deliverable Requested: I, II, III, IV Other (specify): TRAPS B					
Empty Kit Relinquished by: Date:					
Relinquished by: Kara Nagel Date/Time: 4/9/25 1645 Company:					
Relinquished by: Quinn Neil Date/Time: 4/9/25 1935 Company:					
Relinquished by: Quinn Neil Date/Time: 4/9/25 1935 Company:					
Custody Seals Intact: Δ Yes Δ No Custody Seal No.:					
Cooler Temperature(s) °C and Other Remarks:					

Temp: **30.2.9** IR ID: HOU-368
Corrected Temp:
Temp: **39** IR ID: HOU-368
Corrected Temp:
Temp: **2.7** IR ID: HOU-368
Corrected Temp: **26**

4145 Greenbrier Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



860-97962 Chain of Custody

Environment Testing

Client Information

Client Contact:
Quinn Nel

Company:
ERM-Northeast

Address:
295 Madison Avenue Suite 8A

City:
New York

State, Zip:
NY 10017

Phone:
512-374-2215(Tel) 512-810-2901(Fax)

Email:
quinn.nel@erm.com

Project Name:
Twin Oaks Power Plant

Site:
Twin Oaks Power Plant

Sampler: Kara Naegele & Hector Saenz
Phone: 512-709-2473
Lab PM: Anita Patel

Due Date Requested:
TAT Requested (days):

Compliance Project: ☐ Yes ☒ No

Purchase Order Requested

PO #:

WO #:

Project #:

SSOW#:

Analysis Requested

Page 1 of 1

COC No: 860-27569-7497.1

Page: 1 of 1

Job #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Other, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Appendix III Metals Boron, Calcium	Appendix III chloride, fluoride, sulfate by 300	Appendix III pH and TDS 2540C	Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg	903.0 and 904.0- Radium 226 and 228(GFPC)	Preservation Codes:
MW-07-20250408-01	4/8/25	1015	G	Water	☒	☒	☒	☒	☒	☒	☒	A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amphot H Ascorbic Acid I Ice J DI Water K EDTA L EDA M Heptane N None O AsNaO2 P Na2OAS Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)
MW-11-20250408-01		1120		Water	☒	☒	☒	☒	☒	☒	☒	
MW-12-20250408-01		1255		Water	☒	☒	☒	☒	☒	☒	☒	
MW-13-20250408-01		1415		Water	☒	☒	☒	☒	☒	☒	☒	
MW-17-20250408-01		1515		Water	☒	☒	☒	☒	☒	☒	☒	
MW-15-20250408-01	4/9/25	1615		Water	☒	☒	☒	☒	☒	☒	☒	
MW-16-20250409-01		0945		Water	☒	☒	☒	☒	☒	☒	☒	
MW-14-20250409-01		1115		Water	☒	☒	☒	☒	☒	☒	☒	
DUP-01-20250409-01		0800		Water	☒	☒	☒	☒	☒	☒	☒	
FB-01-20250409-01		1040		Water	☒	☒	☒	☒	☒	☒	☒	
FB-01-20250409-01		1050		Water	☒	☒	☒	☒	☒	☒	☒	

Special Instructions/Note:

Temp: 30.2.9
C/F: 0.1
Corrected Temp: 3.9
Temp: 39
C/F: 0.1
Corrected Temp: 3.8
Temp: 2.7
C/F: 0.1
Corrected Temp: 2.6

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III IV Other (specify) TRPS B

Empty Kit Relinquished by: Kara Naegele Date: 4/9/25 Time: 1645 Method of Shipment: ☒ Return To Client ☐ Archive For

Relinquished by: Kara Naegele Date: 4/9/25 Time: 1645 Company: ☒ Disposal By Lab ☐ Months

Relinquished by: Kara Naegele Date: 4/9/25 Time: 1645 Company: ☒ Disposal By Lab ☐ Months

Custody Seals Intact: ☒ Yes ☐ No Custody Seal No. 4925 1935

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97962-1

Login Number: 97962

List Source: Eurofins Houston

List Number: 1

Creator: Torres, Sandra

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9, 3.8, 2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 5/28/2025 1:27:12 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97962-2

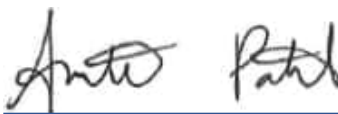
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
5/28/2025 1:27:12 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97962-2

Job ID: 860-97962-2

Eurofins Houston

Job Narrative 860-97962-2

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

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

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

Receipt

The samples were received on 4/9/2025 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.6°C, 2.9°C and 3.8°C.

Gas Flow Proportional Counter

Method 904.0: Radium-228 batch 712640

The LCS recovered at (126%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (68-154%) per method requirements. The LCS passes, no further action is required (LCS 160-712640/2-A)

Method 904.0: Radium-228 prep batch 160-718259:

Insufficient sample volume was available to perform a sample duplicate for the following samples: FB-01-20250409-01 (860-97962-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Rad

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

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Date Collected: 04/08/25 10:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.167		0.108	0.109	1.00	0.129	pCi/L	04/18/25 07:45	05/19/25 09:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		30 - 110					04/18/25 07:45	05/19/25 09:42	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.28		0.427	0.443	1.00	0.512	pCi/L	04/18/25 07:48	05/17/25 10:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		30 - 110					04/18/25 07:48	05/17/25 10:07	1
Y Carrier	86.4		30 - 110					04/18/25 07:48	05/17/25 10:07	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.45		0.440	0.456	5.00	0.512	pCi/L		05/27/25 14:17	1

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0812	U	0.180	0.180	1.00	0.329	pCi/L	04/16/25 07:48	05/14/25 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		30 - 110					04/16/25 07:48	05/14/25 15:58	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.201	U	0.349	0.350	1.00	0.599	pCi/L	04/16/25 07:52	05/14/25 09:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		30 - 110					04/16/25 07:52	05/14/25 09:56	1
Y Carrier	81.1		30 - 110					04/16/25 07:52	05/14/25 09:56	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.282	U	0.393	0.394	5.00	0.599	pCi/L		05/27/25 14:18	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.582		0.260	0.265	1.00	0.280	pCi/L	04/16/25 07:48	05/14/25 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		30 - 110					04/16/25 07:48	05/14/25 15:58	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.95		0.511	0.542	1.00	0.550	pCi/L	04/16/25 07:52	05/14/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		30 - 110					04/16/25 07:52	05/14/25 09:57	1
Y Carrier	82.2		30 - 110					04/16/25 07:52	05/14/25 09:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.54		0.573	0.603	5.00	0.550	pCi/L		05/27/25 14:18	1

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Date Collected: 04/08/25 14:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.369		0.186	0.189	1.00	0.240	pCi/L	04/18/25 07:45	05/19/25 09:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		30 - 110					04/18/25 07:45	05/19/25 09:42	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.12		0.415	0.428	1.00	0.490	pCi/L	04/18/25 07:48	05/17/25 10:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		30 - 110					04/18/25 07:48	05/17/25 10:07	1
Y Carrier	79.6		30 - 110					04/18/25 07:48	05/17/25 10:07	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.49		0.455	0.468	5.00	0.490	pCi/L		05/27/25 14:17	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Date Collected: 04/08/25 15:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.701		0.219	0.228	1.00	0.207	pCi/L	04/18/25 07:45	05/19/25 09:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		30 - 110					04/18/25 07:45	05/19/25 09:42	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.41		0.634	0.708	1.00	0.585	pCi/L	04/18/25 07:48	05/17/25 10:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		30 - 110					04/18/25 07:48	05/17/25 10:07	1
Y Carrier	85.6		30 - 110					04/18/25 07:48	05/17/25 10:07	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	4.11		0.671	0.744	5.00	0.585	pCi/L		05/27/25 14:17	1

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.385		0.213	0.216	1.00	0.239	pCi/L	04/16/25 07:48	05/14/25 15:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		30 - 110					04/16/25 07:48	05/14/25 15:58	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.985		0.454	0.463	1.00	0.624	pCi/L	04/16/25 07:52	05/14/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		30 - 110					04/16/25 07:52	05/14/25 09:57	1
Y Carrier	83.7		30 - 110					04/16/25 07:52	05/14/25 09:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.37		0.501	0.511	5.00	0.624	pCi/L		05/27/25 14:18	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.641		0.284	0.290	1.00	0.332	pCi/L	04/16/25 07:48	05/14/25 16:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		30 - 110					04/16/25 07:48	05/14/25 16:01	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.490	U	0.401	0.404	1.00	0.629	pCi/L	04/16/25 07:52	05/14/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		30 - 110					04/16/25 07:52	05/14/25 09:58	1
Y Carrier	81.1		30 - 110					04/16/25 07:52	05/14/25 09:58	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.13		0.491	0.497	5.00	0.629	pCi/L		05/27/25 14:18	1

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.148	U	0.196	0.196	1.00	0.327	pCi/L	04/16/25 07:48	05/14/25 16:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		30 - 110					04/16/25 07:48	05/14/25 16:01	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.18		0.460	0.472	1.00	0.585	pCi/L	04/16/25 07:52	05/14/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		30 - 110					04/16/25 07:52	05/14/25 09:58	1
Y Carrier	80.4		30 - 110					04/16/25 07:52	05/14/25 09:58	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.33		0.500	0.511	5.00	0.585	pCi/L		05/27/25 14:18	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.694		0.210	0.219	1.00	0.190	pCi/L	04/18/25 07:45	05/19/25 09:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		30 - 110					04/18/25 07:45	05/19/25 09:43	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.881		0.409	0.417	1.00	0.563	pCi/L	04/18/25 07:48	05/17/25 10:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		30 - 110					04/18/25 07:48	05/17/25 10:08	1
Y Carrier	83.7		30 - 110					04/18/25 07:48	05/17/25 10:08	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.57		0.460	0.471	5.00	0.563	pCi/L		05/27/25 14:17	1

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0324	U	0.0972	0.0973	1.00	0.186	pCi/L	04/18/25 07:50	05/19/25 07:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		30 - 110					04/18/25 07:50	05/19/25 07:40	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0685	U	0.337	0.337	1.00	0.651	pCi/L	05/20/25 08:23	05/27/25 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		30 - 110					05/20/25 08:23	05/27/25 09:48	1
Y Carrier	81.1		30 - 110					05/20/25 08:23	05/27/25 09:48	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0324	U	0.351	0.351	5.00	0.651	pCi/L		05/27/25 14:16	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0302	U	0.147	0.147	1.00	0.327	pCi/L	04/16/25 07:48	05/14/25 16:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110					04/16/25 07:48	05/14/25 16:01	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0824	U	0.379	0.379	1.00	0.722	pCi/L	04/16/25 07:52	05/14/25 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110					04/16/25 07:52	05/14/25 09:58	1
Y Carrier	80.7		30 - 110					04/16/25 07:52	05/14/25 09:58	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.407	0.407	5.00	0.722	pCi/L		05/27/25 14:18	1

Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)						
		Ba						
Lab Sample ID	Client Sample ID	(30-110)						
280-205896-B-1-A DU	Duplicate	85.9						
480-228644-A-16-A DU	Duplicate	87.5						
500-266421-H-34-A MS	Matrix Spike	89.1						
500-266421-H-34-B MSD	Matrix Spike Duplicate	87.6						
860-97962-1	MW-07-20250408-01	91.6						
860-97962-2	MW-11-20250408-01	84.1						
860-97962-3	MW-12-20250408-01	91.2						
860-97962-4	MW-13-20250408-01	89.3						
860-97962-5	MW-17-20250408-01	87.2						
860-97962-6	MW-15-20250408-01	88.4						
860-97962-7	MW-16-20250409-01	88.6						
860-97962-8	MW-14-20250409-01	89.1						
860-97962-9	DUP-01-20250409-01	92.6						
860-97962-10	FB-01-20250409-01	83.9						
860-97962-11	EB-01-20250409-01	84.8						
LCS 160-712639/2-A	Lab Control Sample	88.6						
LCS 160-713055/2-A	Lab Control Sample	87.5						
LCS 160-713061/2-A	Lab Control Sample	85.9						
MB 160-712639/1-A	Method Blank	90.2						
MB 160-713055/1-A	Method Blank	89.0						
MB 160-713061/1-A	Method Blank	80.1						
Tracer/Carrier Legend								
Ba = Ba Carrier								

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba	Y				
Lab Sample ID	Client Sample ID	(30-110)	(30-110)				
480-228644-A-16-B DU	Duplicate	87.5	83.0				
500-266421-H-34-C MS	Matrix Spike	89.1	83.4				
500-266421-H-34-D MSD	Matrix Spike Duplicate	87.6	83.7				
860-97962-1	MW-07-20250408-01	91.6	86.4				
860-97962-2	MW-11-20250408-01	84.1	81.1				
860-97962-3	MW-12-20250408-01	91.2	82.2				
860-97962-4	MW-13-20250408-01	89.3	79.6				
860-97962-5	MW-17-20250408-01	87.2	85.6				
860-97962-6	MW-15-20250408-01	88.4	83.7				
860-97962-7	MW-16-20250409-01	88.6	81.1				
860-97962-8	MW-14-20250409-01	89.1	80.4				
860-97962-9	DUP-01-20250409-01	92.6	83.7				
860-97962-10	FB-01-20250409-01	80.3	81.1				
860-97962-11	EB-01-20250409-01	84.8	80.7				
LCS 160-712640/2-A	Lab Control Sample	88.6	82.2				
LCS 160-713056/2-A	Lab Control Sample	87.5	79.3				
LCS 160-718259/2-A	Lab Control Sample	87.3	77.0				
LCSD 160-718259/3-A	Lab Control Sample Dup	76.1	73.3				
MB 160-712640/1-A	Method Blank	90.2	84.5				

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Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)			
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)		
MB 160-713056/1-A	Method Blank	89.0	81.5		
MB 160-718259/1-A	Method Blank	63.4	80.7		
Tracer/Carrier Legend					
Ba = Ba Carrier					
Y = Y Carrier					

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-712639/1-A

Matrix: Water

Analysis Batch: 717539

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 712639

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1603	U	0.178	0.178	1.00	0.284	pCi/L	04/16/25 07:48	05/14/25 15:55	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		30 - 110					04/16/25 07:48	05/14/25 15:55	1

Lab Sample ID: LCS 160-712639/2-A

Matrix: Water

Analysis Batch: 717539

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 712639

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226			9.58	9.535		1.26	1.00	0.325	pCi/L	100	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits								
Ba Carrier	88.6		30 - 110								

Lab Sample ID: 500-266421-H-34-A MS

Matrix: Water

Analysis Batch: 717542

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 712639

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	0.183	U	9.54	8.429		1.15	1.00	0.326	pCi/L	86	60 - 140
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	89.1		30 - 110								

Lab Sample ID: 500-266421-H-34-B MSD

Matrix: Water

Analysis Batch: 717542

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 712639

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-226	0.183	U	9.54	9.181		1.23	1.00	0.303	pCi/L	94	60 - 140	0.32	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	87.6		30 - 110										

Lab Sample ID: MB 160-713055/1-A

Matrix: Water

Analysis Batch: 718201

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 713055

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1097	U	0.118	0.118	1.00	0.188	pCi/L	04/18/25 07:45	05/19/25 09:47	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-713055/1-A
Matrix: Water
Analysis Batch: 718201

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 713055

	MB	MB	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	89.0		30 - 110

Prepared	Analyzed	Dil Fac
04/18/25 07:45	05/19/25 09:47	1

Lab Sample ID: LCS 160-713055/2-A
Matrix: Water
Analysis Batch: 718201

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 713055

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	8.979		1.07	1.00	0.208	pCi/L	94	75 - 125

	LCS	LCS	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	87.5		30 - 110

Lab Sample ID: 480-228644-A-16-A DU
Matrix: Water
Analysis Batch: 718202

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 713055

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	-0.0294	U	0.1248	U	0.125	1.00	0.196	pCi/L	0.76	1

	DU	DU	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	87.5		30 - 110

Lab Sample ID: MB 160-713061/1-A
Matrix: Water
Analysis Batch: 718065

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 713061

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.09349	U	0.134	0.134	1.00	0.227	pCi/L	04/18/25 07:50	05/19/25 07:39	1

	MB	MB	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	80.1		30 - 110

Prepared	Analyzed	Dil Fac
04/18/25 07:50	05/19/25 07:39	1

Lab Sample ID: LCS 160-713061/2-A
Matrix: Water
Analysis Batch: 718065

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 713061

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	8.195		1.01	1.00	0.221	pCi/L	86	75 - 125

	LCS	LCS	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	85.9		30 - 110

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 280-205896-B-1-A DU
Matrix: Water
Analysis Batch: 718201

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 713061

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.209		0.1400	U	0.116	1.00	0.163	pCi/L	0.27	1
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	85.9		30 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-712640/1-A
Matrix: Water
Analysis Batch: 717541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 712640

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2389	U	0.319	0.319	1.00	0.533	pCi/L	04/16/25 07:52	05/14/25 09:55	1
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	90.2		30 - 110							
Y Carrier	84.5		30 - 110							

Lab Sample ID: LCS 160-712640/2-A
Matrix: Water
Analysis Batch: 717541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 712640

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.45	11.86		1.54	1.00	0.475	pCi/L	126	75 - 125
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	88.6		30 - 110						
Y Carrier	82.2		30 - 110						

Lab Sample ID: 500-266421-H-34-C MS
Matrix: Water
Analysis Batch: 717539

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 712640

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	0.187	U	9.41	10.68		1.41	1.00	0.546	pCi/L	111	60 - 140
Carrier	%Yield	Qualifier	Limits								
Ba Carrier	89.1		30 - 110								
Y Carrier	83.4		30 - 110								

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 500-266421-H-34-D MSD
Matrix: Water
Analysis Batch: 717539

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 712640

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	0.187	U	9.41	10.76		1.42	1.00	0.542	pCi/L	112	60 - 140	0.03	1
Carrier	%Yield	MSD Qualifier	Limits										
Ba Carrier	87.6		30 - 110										
Y Carrier	83.7		30 - 110										

Lab Sample ID: MB 160-713056/1-A
Matrix: Water
Analysis Batch: 717954

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 713056

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1024	U	0.315	0.315	1.00	0.562	pCi/L	04/18/25 07:48	05/17/25 09:53	1
Carrier	%Yield	MB Qualifier	Limits							
Ba Carrier	89.0		30 - 110							
Y Carrier	81.5		30 - 110							
								Prepared	Analyzed	Dil Fac
								04/18/25 07:48	05/17/25 09:53	1
								04/18/25 07:48	05/17/25 09:53	1

Lab Sample ID: LCS 160-713056/2-A
Matrix: Water
Analysis Batch: 717954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 713056

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.44	10.11		1.39	1.00	0.567	pCi/L	107	75 - 125
Carrier	%Yield	LCS Qualifier	Limits						
Ba Carrier	87.5		30 - 110						
Y Carrier	79.3		30 - 110						

Lab Sample ID: 480-228644-A-16-B DU
Matrix: Water
Analysis Batch: 717954

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 713056

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.504		0.5074	U	0.355	1.00	0.526	pCi/L	0.01	1
Carrier	%Yield	DU Qualifier	Limits							
Ba Carrier	87.5		30 - 110							
Y Carrier	83.0		30 - 110							

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-718259/1-A
Matrix: Water
Analysis Batch: 719420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 718259

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4531	U	0.506	0.508	1.00	0.829	pCi/L	05/20/25 08:23	05/27/25 09:48	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.4		30 - 110					05/20/25 08:23	05/27/25 09:48	1
Y Carrier	80.7		30 - 110					05/20/25 08:23	05/27/25 09:48	1

Lab Sample ID: LCS 160-718259/2-A
Matrix: Water
Analysis Batch: 719420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 718259

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		9.41	10.54		1.43	1.00	0.593	pCi/L	112	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	87.3		30 - 110							
Y Carrier	77.0		30 - 110							

Lab Sample ID: LCSD 160-718259/3-A
Matrix: Water
Analysis Batch: 719420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 718259

Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228		9.41	9.636		1.43	1.00	0.720	pCi/L	102	75 - 125	0.32	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits									
Ba Carrier	76.1		30 - 110									
Y Carrier	73.3		30 - 110									

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Rad

Prep Batch: 712639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-2	MW-11-20250408-01	Total/NA	Water	PrecSep-21	
860-97962-3	MW-12-20250408-01	Total/NA	Water	PrecSep-21	
860-97962-6	MW-15-20250408-01	Total/NA	Water	PrecSep-21	
860-97962-7	MW-16-20250409-01	Total/NA	Water	PrecSep-21	
860-97962-8	MW-14-20250409-01	Total/NA	Water	PrecSep-21	
860-97962-11	EB-01-20250409-01	Total/NA	Water	PrecSep-21	
MB 160-712639/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-712639/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-266421-H-34-A MS	Matrix Spike	Total/NA	Water	PrecSep-21	
500-266421-H-34-B MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 712640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-2	MW-11-20250408-01	Total/NA	Water	PrecSep_0	
860-97962-3	MW-12-20250408-01	Total/NA	Water	PrecSep_0	
860-97962-6	MW-15-20250408-01	Total/NA	Water	PrecSep_0	
860-97962-7	MW-16-20250409-01	Total/NA	Water	PrecSep_0	
860-97962-8	MW-14-20250409-01	Total/NA	Water	PrecSep_0	
860-97962-11	EB-01-20250409-01	Total/NA	Water	PrecSep_0	
MB 160-712640/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-712640/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-266421-H-34-C MS	Matrix Spike	Total/NA	Water	PrecSep_0	
500-266421-H-34-D MSD	Matrix Spike Duplicate	Total/NA	Water	PrecSep_0	

Prep Batch: 713055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	PrecSep-21	
860-97962-4	MW-13-20250408-01	Total/NA	Water	PrecSep-21	
860-97962-5	MW-17-20250408-01	Total/NA	Water	PrecSep-21	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	PrecSep-21	
MB 160-713055/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-713055/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
480-228644-A-16-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 713056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	PrecSep_0	
860-97962-4	MW-13-20250408-01	Total/NA	Water	PrecSep_0	
860-97962-5	MW-17-20250408-01	Total/NA	Water	PrecSep_0	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	PrecSep_0	
MB 160-713056/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-713056/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
480-228644-A-16-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Prep Batch: 713061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-10	FB-01-20250409-01	Total/NA	Water	PrecSep-21	
MB 160-713061/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-713061/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
280-205896-B-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Rad

Prep Batch: 718259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-10	FB-01-20250409-01	Total/NA	Water	PrecSep_0	
MB 160-718259/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-718259/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-718259/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Date Collected: 04/08/25 10:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1001.65 mL	1.0 g	713055	04/18/25 07:45	OGC	EET SL
Total/NA	Analysis	903.0		1			718202	05/19/25 09:42	SWS	EET SL
Total/NA	Prep	PrecSep_0			1001.65 mL	1.0 g	713056	04/18/25 07:48	OGC	EET SL
Total/NA	Analysis	904.0		1			717957	05/17/25 10:07	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719431	05/27/25 14:17	SCB	EET SL

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1005.84 mL	1.0 g	712639	04/16/25 07:48	OGC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	717539	05/14/25 15:58	SWS	EET SL
Total/NA	Prep	PrecSep_0			1005.84 mL	1.0 g	712640	04/16/25 07:52	OGC	EET SL
Total/NA	Analysis	904.0		1			717541	05/14/25 09:56	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719432	05/27/25 14:18	SCB	EET SL

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.50 mL	1.0 g	712639	04/16/25 07:48	OGC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	717539	05/14/25 15:58	SWS	EET SL
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	712640	04/16/25 07:52	OGC	EET SL
Total/NA	Analysis	904.0		1			717541	05/14/25 09:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719432	05/27/25 14:18	SCB	EET SL

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Date Collected: 04/08/25 14:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			993.56 mL	1.0 g	713055	04/18/25 07:45	OGC	EET SL
Total/NA	Analysis	903.0		1			718202	05/19/25 09:42	SWS	EET SL
Total/NA	Prep	PrecSep_0			993.56 mL	1.0 g	713056	04/18/25 07:48	OGC	EET SL
Total/NA	Analysis	904.0		1			717957	05/17/25 10:07	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719431	05/27/25 14:17	SCB	EET SL

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Date Collected: 04/08/25 15:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1010.71 mL	1.0 g	713055	04/18/25 07:45	OGC	EET SL
Total/NA	Analysis	903.0		1			718202	05/19/25 09:42	SWS	EET SL
Total/NA	Prep	PrecSep_0			1010.71 mL	1.0 g	713056	04/18/25 07:48	OGC	EET SL
Total/NA	Analysis	904.0		1			717957	05/17/25 10:07	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719431	05/27/25 14:17	SCB	EET SL

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1002.00 mL	1.0 g	712639	04/16/25 07:48	OGC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	717539	05/14/25 15:58	SWS	EET SL
Total/NA	Prep	PrecSep_0			1002.00 mL	1.0 g	712640	04/16/25 07:52	OGC	EET SL
Total/NA	Analysis	904.0		1			717541	05/14/25 09:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719432	05/27/25 14:18	SCB	EET SL

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1003.10 mL	1.0 g	712639	04/16/25 07:48	OGC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	717542	05/14/25 16:01	FLC	EET SL
Total/NA	Prep	PrecSep_0			1003.10 mL	1.0 g	712640	04/16/25 07:52	OGC	EET SL
Total/NA	Analysis	904.0		1			717541	05/14/25 09:58	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719432	05/27/25 14:18	SCB	EET SL

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.28 mL	1.0 g	712639	04/16/25 07:48	OGC	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	717542	05/14/25 16:01	FLC	EET SL
Total/NA	Prep	PrecSep_0			1000.28 mL	1.0 g	712640	04/16/25 07:52	OGC	EET SL
Total/NA	Analysis	904.0		1			717541	05/14/25 09:58	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719432	05/27/25 14:18	SCB	EET SL

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1006.61 mL	1.0 g	713055	04/18/25 07:45	OGC	EET SL
Total/NA	Analysis	903.0		1			718202	05/19/25 09:43	SWS	EET SL
Total/NA	Prep	PrecSep_0			1006.61 mL	1.0 g	713056	04/18/25 07:48	OGC	EET SL
Total/NA	Analysis	904.0		1			717957	05/17/25 10:08	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719431	05/27/25 14:17	SCB	EET SL

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.09 mL	1.0 g	713061	04/18/25 07:50	OGC	EET SL
Total/NA	Analysis	903.0		1			718065	05/19/25 07:40	SWS	EET SL
Total/NA	Prep	PrecSep_0			956.12 mL	1.0 g	718259	05/20/25 08:23	OGC	EET SL
Total/NA	Analysis	904.0		1			719420	05/27/25 09:48	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719430	05/27/25 14:16	SCB	EET SL

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			952.29 mL	1.0 g	712639	04/16/25 07:48	OGC	EET SL
Total/NA	Analysis	903.0		1			717542	05/14/25 16:01	FLC	EET SL
Total/NA	Prep	PrecSep_0			952.29 mL	1.0 g	712640	04/16/25 07:52	OGC	EET SL
Total/NA	Analysis	904.0		1			717541	05/14/25 09:58	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			719432	05/27/25 14:18	SCB	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

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

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97962-1	MW-07-20250408-01	Water	04/08/25 10:15	04/09/25 19:35
860-97962-2	MW-11-20250408-01	Water	04/08/25 11:20	04/09/25 19:35
860-97962-3	MW-12-20250408-01	Water	04/08/25 12:55	04/09/25 19:35
860-97962-4	MW-13-20250408-01	Water	04/08/25 14:15	04/09/25 19:35
860-97962-5	MW-17-20250408-01	Water	04/08/25 15:15	04/09/25 19:35
860-97962-6	MW-15-20250408-01	Water	04/08/25 16:15	04/09/25 19:35
860-97962-7	MW-16-20250409-01	Water	04/09/25 09:45	04/09/25 19:35
860-97962-8	MW-14-20250409-01	Water	04/09/25 11:15	04/09/25 19:35
860-97962-9	DUP-01-20250409-01	Water	04/09/25 08:00	04/09/25 19:35
860-97962-10	FB-01-20250409-01	Water	04/09/25 10:40	04/09/25 19:35
860-97962-11	EB-01-20250409-01	Water	04/09/25 10:50	04/09/25 19:35

Eurofins Houston

4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



Eurofins
Environment Testing

860-97962 Chain of Custody

Client Information

Client Contact:
Quinn Neil

Sampler:
Kara Nagel, & Hector Saez

Lab P#: Anita Patel
E-Mail: Anita.Patel@eurofins.com

State: TX
City: Houston

Address: 295 Madison Avenue Suite 8A
City: New York
State: NY
Zip: 10017

Phone: 512-374-2215 (Tel) 512-810-2901 (Fax)
Email: quinn.neil@erm.com
Project Name: Twin Oaks Power Plant
SSOW#: 86005616

Company:

ERM-Northeast

Due Date Requested:

Analysis Requested

Standard

Compliance Project: ☐ Yes ☒ No

Purchase Order Requested

PO #:

WO #: 0689854
Project #: 86005616

Site:

Twin Oaks Power Plant

Sample Identification

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab, P=Preserve, A=As)

Matrix (Water, Soil, Sediment, Gas, etc.)

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

Appendix III Metals Boron, Calcium

Appendix III chloride, fluoride, sulfate by 300

Appendix III pH and TDS 2540C

Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg

903.0 and 904.0- Radium 226 and 228(GFPC)

Total Number of containers

Special Instructions/Note:

Preservation Codes:

A HCL
B NaOH
C Zn Acetate
D Nitric Acid
E NaHSO4
F MeOH
G Amchlor
H Ascorbic Acid
I Ice
J DI Water
K EDTA
L EDA
Other (specify)

M Hexane
N None
O AsNaO2
P Na2OAS
Q Na2SO3
R Na2S2O3
S H2SO4
T TSP Dodecahydrate
U Acetone
V MCAA
W pH 4.5
Y Trioma
Z other (specify)

Empty Kit Relinquished by:

Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

Relinquished by:

Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

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Kara Nagel

Date/Time: 4/9/15 16:45

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Company: Eurofins

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Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

Relinquished by:

Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

Relinquished by:

Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

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Date/Time: 4/9/15 16:45

Company: Eurofins

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Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

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Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

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Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

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Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

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Kara Nagel

Date/Time: 4/9/15 16:45

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Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Received by: Kara Nagel

Date/Time: 4/9/15 16:45

Company: Eurofins

Relinquished by: Kara Nagel

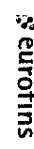
Eurofins Houston

4145 Greenbrier Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



860-97962 Chain of Custody



Environment Testing

Client Information

Client Contact
Quinn Nel

Company:
ERM-Northeast

Address:
295 Madison Avenue Suite 8A

City:
New York

State, Zip:
NY 10017

Phone:
512-374-2215(Tel) 512-810-2901(Fax)

Email:
quinn.nel@erm.com

Project Name:
Twin Oaks Power Plant

Site:
Twin Oaks Power Plant

Sampler: Kara Naegele & Hector Saenz
Phone: 512-709-2473
Lab PM: Anita Patel

Due Date Requested:
TAT Requested (days):
Compliance Project: ☐ Yes ☒ No

PO #:
Purchase Order Requested

WO #:
8609854

Project #:
86005616

SSOW#:

Analysis Requested

State or Use:
Texas

COC No:
860-27569-7497.1

Page:
Page 1 of 1

Job #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Other, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Appendix III Metals Boron, Calcium	Appendix III chloride, fluoride, sulfate by 300	Appendix III pH and TDS 2540C	Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg	903.0 and 904.0- Radium 226 and 228(GFPC)	Preservation Codes:
MW-07-20250408-01	4/8/25	1015	G	Water	☒	☒	☒	☒	☒	☒	☒	A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amphot H Ascorbic Acid I Ice J DI Water K EDTA L EDA M Heptane N None O AsNaO2 P Na2OAS Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Triaza Z other (specify)
MW-11-20250408-01		1120		Water	☒	☒	☒	☒	☒	☒	☒	
MW-12-20250408-01		1255		Water	☒	☒	☒	☒	☒	☒	☒	
MW-13-20250408-01		1415		Water	☒	☒	☒	☒	☒	☒	☒	
MW-17-20250408-01		1515		Water	☒	☒	☒	☒	☒	☒	☒	
MW-15-20250408-01	4/9/25	1615		Water	☒	☒	☒	☒	☒	☒	☒	
MW-16-20250409-01		0945		Water	☒	☒	☒	☒	☒	☒	☒	
MW-14-20250409-01		1115		Water	☒	☒	☒	☒	☒	☒	☒	
DUP-01-20250409-01		0800		Water	☒	☒	☒	☒	☒	☒	☒	
FB-01-20250409-01		1040		Water	☒	☒	☒	☒	☒	☒	☒	
FB-01-20250409-01		1050		Water	☒	☒	☒	☒	☒	☒	☒	

Special Instructions/Note:

Temp: 30.2.9
C/F: 0.1
Corrected Temp: 3.9
Temp: 39
C/F: 0.1
Corrected Temp: 3.8
Temp: 2.7
C/F: 0.1
Corrected Temp: 2.6

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III IV Other (specify) TRPS B

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: Kara Naegele Date Time: 4/9/25 1645 Company: Texas Power

Relinquished by: Terry Pearce Date Time: 4/9/25 1935 Company: EF

Custody Seals Intact: ☒ Yes ☐ No Custody Seal No. Cooler Temperature(s) °C and Other Remarks:

Client Information (Sub Contract Lab)						Sampler: N/A		Lab PM: Patel, Anita		Carrier Tracking No(s): 860-212081.1		COC No: 860-212081.1			
Client Contact:						Phone: N/A		E-Mail: Anita.Patel@et.eurofinsus.com		State of Origin: Texas		Page: Page 1 of 2			
Company: TestAmerica Laboratories, Inc.										Accreditations Required (See note): NELAP - Texas		Job #: 860-97962-2			
Address: 13715 Rider Trail North,						Due Date Requested: 5/7/2025		Preservation Codes:							
City: Earth City						TAT Requested (days): N/A		Analysis Requested							
State, Zip: MO, 63045															
Phone: 314-298-8566(Tel) 314-298-8757(Fax)						PO #: N/A									
Email: N/A						WO #: N/A									
Project Name: Twin Oaks Power Plant						Project #: 86005616									
Site: N/A						SSOW#: N/A									
Sample Identification - Client ID (Lab ID)						Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=material, BT=Tissue, AA=Air)			
MW-07-20250408-01 (860-97962-1)						4/8/25		10:15 Central		G		Water			
MW-11-20250408-01 (860-97962-2)						4/8/25		11:20 Central		G		Water			
MW-12-20250408-01 (860-97962-3)						4/8/25		12:55 Central		G		Water			
MW-13-20250408-01 (860-97962-4)						4/8/25		14:15 Central		G		Water			
MW-17-20250408-01 (860-97962-5)						4/8/25		15:15 Central		G		Water			
MW-15-20250408-01 (860-97962-6)						4/8/25		16:15 Central		G		Water			
MW-16-20250409-01 (860-97962-7)						4/9/25		09:45 Central		G		Water			
MW-14-20250409-01 (860-97962-8)						4/9/25		11:15 Central		G		Water			
DUP-01-20250409-01 (860-97962-9)						4/9/25		08:00 Central		G		Water			
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.															
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months									
Unconfirmed						Special Instructions/QC Requirements:									
Deliverable Requested: I, II, III, IV, Other (specify)						Primary Deliverable Rank: 2									
Empty Kit Relinquished by:						Date:		Time:		Method of Shipment:					
Relinquished by:						Date/Time:		Company		Received by: <i>Cheyenne Forrest</i>					
Relinquished by:						Date/Time:		Company		Received by: Cheyenne Forrest					
Relinquished by:						Date/Time:		Company		Received by:					
Custody Seals Intact: A Yes A No						Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							

Ver: 10/10/2024

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: N/A	Lab P/N: Patel, Anita	Carrier Tracking No(s): N/A	COC No: 860-212081.1
Client Contact: Shipping/Receiving		Phone: N/A	E-Mail: Anita.Patel@eurofins.com	State of Origin: Texas	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas			Job #: 860-97962-2
Address: 13715 Rider Trail North,		Preservation Codes:			
City: Earth City		Analysis Requested			
State, Zip: MO, 63045		Total Number of Containers			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		Field Filtered Sample (Yes or No)			
Email: N/A		Perform MS/MSD (Yes or No)			
Project Name: Twin Oaks Power Plant		903.0/PrecSep_21 Radium 226 (GFC)			
Site: N/A		904.0/PrecSep_0 Radium 226 (GFC)			
		Radium-226, 228GFC, P/ Combined Radium-226 and			
		Special Instructions/Note:			
		Other: N/A			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, A=air)
MW-07-20250408-01 (860-97962-1)	4/8/25	10:15	Central	G	Water
MW-11-20250408-01 (860-97962-2)	4/8/25	11:20	Central	G	Water
MW-12-20250408-01 (860-97962-3)	4/8/25	12:55	Central	G	Water
MW-13-20250408-01 (860-97962-4)	4/8/25	14:15	Central	G	Water
MW-17-20250408-01 (860-97962-5)	4/8/25	15:15	Central	G	Water
MW-15-20250408-01 (860-97962-6)	4/8/25	16:15	Central	G	Water
MW-16-20250409-01 (860-97962-7)	4/9/25	09:45	Central	G	Water
MW-14-20250409-01 (860-97962-8)	4/9/25	11:15	Central	G	Water
DUP-01-20250409-01 (860-97962-9)	4/9/25	08:00	Central	G	Water
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Return To Client Disposal By Lab Archive For Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by:					
Relinquished by: Date/Time: 4-14-25 12:06 Company: Company					
Relinquished by: Date/Time: Company: Company					
Relinquished by: Date/Time: Company: Company					
Custody Seals Intact: Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:					

Environment Testing

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97962-2

Login Number: 97962

List Source: Eurofins Houston

List Number: 1

Creator: Torres, Sandra

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9, 3.8, 2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97962-2

Login Number: 97962

List Number: 2

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 04/15/25 10:48 AM

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.



Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97962-2

Login Number: 97962

List Number: 3

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 04/16/25 11:02 AM

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston



ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/14/2025 1:10:26 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97986-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
4/14/2025 1:10:26 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Total/NA			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A311					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97986-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/14/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/14/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97986-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/14/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97986-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/14/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97986-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97986-1

Job ID: 860-97986-1

Eurofins Houston

Job Narrative 860-97986-1

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

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

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

Receipt

The sample was received on 4/10/2025 12:03 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

Metals

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Client Sample ID: MW-23-20250409-01

Lab Sample ID: 860-97986-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.000830	J	0.00200	0.000590	mg/L	1		6020B	Total/NA

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Client Sample ID: MW-23-20250409-01
Date Collected: 04/09/25 17:55
Date Received: 04/10/25 12:03

Lab Sample ID: 860-97986-1
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000830	J	0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 02:55	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-228449/1-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 01:44	1

Lab Sample ID: LCS 860-228449/2-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.1007		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-228449/3-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.09799		mg/L		98	80 - 120	3	20

Lab Sample ID: 860-97908-A-3-B MS

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.00330		0.100	0.1026		mg/L		99	75 - 125

Lab Sample ID: 860-97908-A-3-C MSD

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00330		0.100	0.08653		mg/L		83	75 - 125	17	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Metals

Prep Batch: 228449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97986-1	MW-23-20250409-01	Total/NA	Water	3010A	
MB 860-228449/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228449/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228449/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-97908-A-3-B MS	Matrix Spike	Total/NA	Water	3010A	
860-97908-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 228939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97986-1	MW-23-20250409-01	Total/NA	Water	6020B	228449
MB 860-228449/1-A	Method Blank	Total/NA	Water	6020B	228449
LCS 860-228449/2-A	Lab Control Sample	Total/NA	Water	6020B	228449
LCSD 860-228449/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228449
860-97908-A-3-B MS	Matrix Spike	Total/NA	Water	6020B	228449
860-97908-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	228449

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Client Sample ID: MW-23-20250409-01
Date Collected: 04/09/25 17:55
Date Received: 04/10/25 12:03

Lab Sample ID: 860-97986-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228449	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6020B		1			228939	04/12/25 02:55	DP	EET HOU

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

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Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26

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Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97986-1	MW-23-20250409-01	Water	04/09/25 17:55	04/10/25 12:03

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Chain of Custody Record

Client Information		Sampler: <u>Kara Nagel, Hector Saenz</u>		Lab P/N: <u>Patel, Anita</u>		Camer Tracking No(s):		COC No: <u>860-27569-7497 1</u>	
Client Contact: <u>Quintin Nel</u>		Phone: <u>912-709-2473</u>		E-Mail: <u>Anita.Patel@eurofins.com</u>		State of Origin: <u>TX</u>		Page: <u>1</u> of <u>1</u>	
Company: <u>ERM-Northeast</u>		PWSID:		Analysis Requested		Job #:		Preservation Codes:	
Address: <u>295 Madison Avenue Suite 8A</u>		Due Date Requested:		TAT Requested (days): <u>Standard TAT</u>		Compliance Project: <u>Δ Yes Δ No</u>		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:	
Phone: <u>512-374-2215(Tel) 512-810-2901(Fax)</u>		PO #: <u>0689854</u>		Purchase Order Requested		Perform MS/MSD (Yes or No)		M Hexane N None O AgNO3 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-S X Trizma Z other (specify)	
Email: <u>quintin.nel@erm.com</u>		Project #: <u>86005616</u>		SSOW#:		Field Filtered Sample (Yes or No)		Total Number of Containers	
Project Name: <u>Twin Oaks Power Plant</u>		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type (C=Comp, G=grab): <u>G</u>		Matrix (Weigher, Swab, On-site, etc.): <u>Water</u>	
Site: <u>Twin Oaks Power Plant</u>		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type (C=Comp, G=grab): <u>G</u>		Matrix (Weigher, Swab, On-site, etc.): <u>Water</u>	
Sample Identification		MW-23-20250409-01		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type (C=Comp, G=grab): <u>G</u>	
Barcode: 		860-97986 Chain of Custody		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type (C=Comp, G=grab): <u>G</u>	
Possible Hazard Identification		☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested: <u>I II III IV Other (specify) TRPS 13</u>		Empty Kit Relinquished by: <u>Hector Saenz</u>		Special Instructions/Note: <u>Temp. 19 IR ID: HOU-368</u> <u>C/F -0.1</u> <u>Corrected Temp: 1.8</u>	
Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 09:15</u>		Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 09:15</u>		Relinquished by: <u>Hector Saenz</u>	
Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 09:15</u>		Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 09:15</u>		Relinquished by: <u>Hector Saenz</u>	
Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 09:15</u>		Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 09:15</u>		Relinquished by: <u>Hector Saenz</u>	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No. <u>410</u>		Custody Seal No. <u>410</u>		Custody Seal No. <u>410</u>		Custody Seal No. <u>410</u>	

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97986-1

Login Number: 97986

List Source: Eurofins Houston

List Number: 1

Creator: Rubio, Yuri

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

Data Usability Summary for Laboratory Packages 860-97961-1, 860-97962-1, 860-97962-2, and 860-97986-1

April 2025 Groundwater Sampling – Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Environmental Resources Management Southwest, Inc. (ERM) reviewed laboratory analytical data packages (Work Order Numbers 860-97961-1, 860-97962-1, 860-97962-2, and 860-97986-1) from Eurofins of Houston, Texas for the analysis of twelve (12) groundwater samples, one (1) blind field duplicate sample, one (1) field blank, and one (1) equipment blank collected between April 8 to April 9, 2025, at Twin Oaks Power Station, Robertson County, Texas. Data were reviewed for general conformance to the requirements of the following documents:

- 1) Twin Oaks Power Station, *Groundwater Sampling and Analysis Plan (October 2017)*;
- 2) Environmental Protection Agency's (EPA's) National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001, January 2017);
- 3) Texas Commission on Environmental Quality's (TCEQ's) *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13, May 2010); and
- 4) *CCR Landfill Draft Technical Guideline No. 32* (May 2020).

Eurofins is NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. Eurofins National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in these reports is referenced in the laboratory reports.

Intended Use of Data: To provide concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in the ground water at the facility.

Analyses requested included:

- SW846 6010D – Metals (Lithium) by Inductively Coupled Plasma/Atomic Emission Spectrometry
- SW846 6020B – Metals by Inductively Coupled Plasma/Mass Spectrometry
- SW846 7470A – Mercury by Cold Vapor Atomic Absorption (CVAA)
- SM 2540C – Solids, Total Dissolved (TDS)
- SM 4500 H+ B – pH
- EPA 300.0 – Anions, Ion Chromatography
- EPA 903.0 – Radium-226 by Gas Flow Proportional Counter (GFPC)
- EPA 904.0 – Radium-228 (GFPC)
- TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report;

- Laboratory review checklist (LRC);
- Exception reports (ERs); and
- Case narrative.

The results of supporting quality control (QC) analyses are summarized on the LRCs, ERs, and in the case narrative, which were included in this review.

The LRC, ERs, case narrative, and analytical data report are attached to this report.

INTRODUCTION

Twelve (12) groundwater samples, one (1) blind field duplicate sample, one (1) field blank, and one (1) equipment blank, were submitted to the laboratory for analysis of select metals, anions, general chemistry (TDS and pH), and radium. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Project Data Quality Objectives

The QC sample recoveries and relative percent differences (RPD) were evaluated based on the following Project Data Quality Objectives (DQO):

Organic Compounds

Recovery 60-140%
RPD $\leq$ 40%

Inorganic Compounds

Recovery 70-130%
RPD $\leq$ 30%

Data were qualified in accordance with the TCEQ's TRRP-13 guidance document, including data qualifier codes and data qualifier code definitions.

DATA REVIEW / VALIDATION RESULTS

Analytical Results

Groundwater analytical results are reported in milligrams per liter (mg/L) or picocuries per liter (pCi/L). *Not Detected* results are reported as "U" and represent values less than the method detection limit (MDL). Qualified data are listed in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition with the paperwork properly completed. The samples were preserved in the field as specified by the methods. The sample receipt temperature for the three coolers of data packages 860-97961-1, 860-97962-1, 860-97962-2, (2.9 °C, 2.6 °C, and/or 3.8 °C) were within the acceptance criteria of 4 +/- 2 degrees Celsius. The cooler for data package 860-97986-1 (1.8 °C) was below the acceptance criteria of 4 +/- 2 degrees Celsius. The samples were received on ice and were not frozen; therefore, according to professional judgement, no qualifiers were required.

Samples were prepared and analyzed within holding times, with the exception of pH. The holding time for pH is 15 minutes according to the method; the samples were analyzed 2 to 3 days after sample collection. Therefore, all pH results were qualified as estimated with low bias (JL) for analysis outside of holding time.

Calibrations

According to the LRC, initial calibrations, continuing calibrations, and calibration verifications data met method requirements for metals, radium, general chemistry (pH and TDS), and anions, as applicable.

Blanks

Radium, anions, total dissolved solids, and metals were not detected in method blanks or the field blank, with exceptions noted below.

For laboratory report 860-97961-1, selenium (0.0005941 J mg/L) was detected in the method blank in prep batch 228534. Associated samples were non-detect for selenium; therefore, no qualifiers were required.

For laboratory report 860-97962-1, selenium (0.0007027 J mg/L) was detected in the method blank in analysis batch 229259. Except as specified below, detected results for these analytes were greater than five times the method blank concentration. Samples MW-07-20250408-01 and MW-13-20250408-01 had reported selenium concentrations within 5 times the method blank concentration and were qualified as not detected (U).

For laboratory report 860-97962-1, boron (0.0194 mg/L), chloride (0.952 mg/L), and sulfate (0.372 J mg/L) were detected in the field blank. Additionally, chloride (0.963 mg/L) and boron (0.0147 mg/L) were detected in the equipment blank. Except as specified below, detected results in associated samples for these analytes were reported at concentrations greater than five times the field blank and equipment blank concentrations.

Samples MW-12-20250408-01, MW-17-20250408-01, MW-15-20250408-01, MW-16-20250408-01, and DUP-01-20250409-01 had reported boron concentrations within 5 times the field blank and/or equipment blank concentrations and were qualified as estimated high (JH).

Mass Spectral Tuning

According to the LRC, mass spectrometry was not applicable for the analyses requested.

Internal Standards, Surrogate Recoveries, and Carrier Percent Yields

According to the LRC, internal standard area counts, and retention times were not applicable for the analyses requested. Surrogate recoveries were also not applicable for the analyses requested and therefore were not evaluated. Carrier percent yields for radioactive analyses were within acceptable limits.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) precision and accuracy analysis (i.e., percent recovery and relative percentage difference [RPDs], and relative error ratio [RER]) results for all analyses were within DQO acceptance limits, with the following exceptions.

In laboratory report 860-97962-1, the LCS recoveries for chloride and sulfate for batch 228468 were greater than DQO limits; therefore, associated detected results for the affected batch (samples MW-11-20250408-01, MW-13-20250408-01, DUP-01-20250409-01, FB-01-20250409-01, and EB-01-20250409-01) were qualified as estimated high (JH).

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy results using project samples were within project DQO acceptance limits for metals, anions (chloride, sulfate, and fluoride), and mercury.

Laboratory Precision

The laboratory duplicate results were within the project DQO limits for all analyses. No qualifiers were required for laboratory precision.

Field Precision

One field duplicate pair (MW-16-20250409-01 / DUP-01-20250409-01) was collected. Field precision calculations are shown in Table 3. Field precision RPDs were within DQO acceptance limits, with the following exceptions.

The field precision RPD for MW-16-20250409-01 / DUP-01-20250409-01 for boron (0.0395 mg/L and 0.0800 mg/L, respectively) was outside the DQO acceptance limit and the concentrations were greater than 5 times the MQL; therefore, the sample results were qualified as estimated (J).

The field precision RPD for MW-16-20250409-01 / DUP-01-20250409-01 for radium 228 (0.490 pCi/L and 0.881 pCi/L, respectively) was outside the DQO acceptance limit and the concentrations were less than 2 times the MQL; therefore, no qualifiers were required.

The field precision RPD for MW-16-20250409-01 / DUP-01-20250409-01 for radium 226 and 228 (1.13 pCi/L and 1.57 pCi/L, respectively) was outside the DQO acceptance limit and the concentrations were less than 2 times the MQL; therefore, no qualifiers were required.

Field Procedures

The samples were collected using procedures documented in the Groundwater Sampling and Analysis Plan for the site.

SUMMARY

No data were rejected during this review. Groundwater analytical data are useable for the purpose of providing concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in ground water at the Twin Oaks Power Plant. Qualified data are listed in Table 2.

TABLE 1

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory Work Order Numbers 860-97961-1, 860-97962-1, 860-97962-2, and 860-97986-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

<u>Laboratory Package</u>	<u>Laboratory Identification</u>	<u>Field Identification</u>	<u>Description</u>
860-97961-1	860-97961-1	MW-26-20250409-01	Field Sample
860-97961-1	860-97961-2	MW-25-20250409-01	Field Sample
860-97961-1	860-97961-3	MW-24-20250409-01	Field Sample
860-97962-1, 860-97962-2	860-97962-1	MW-07-20250408-01	Field Sample
860-97962-1, 860-97962-2	860-97962-2	MW-11-20250408-01	Field Sample
860-97962-1, 860-97962-2	860-97962-3	MW-12-20250408-01	Field Sample
860-97962-1, 860-97962-2	860-97962-4	MW-13-20250408-01	Field Sample
860-97962-1, 860-97962-2	860-97962-5	MW-17-20250408-01	Field Sample
860-97962-1, 860-97962-2	860-97962-6	MW-15-20250408-01	Field Sample
860-97962-1, 860-97962-2	860-97962-7	MW-16-20250409-01	Field Sample
860-97962-1, 860-97962-2	860-97962-8	MW-14-20250409-01	Field Sample
860-97962-1, 860-97962-2	860-97962-9	DUP-01-20250409-01	Duplicate Sample
860-97962-1, 860-97962-2	860-97962-10	FB-01-20250409-01	Field Blank
860-97962-1, 860-97962-2	860-97962-11	EB-01-20250409-01	Equipment Blank
860-97986-1	860-97986-1	MW-23-20250409-01	Field Sample

TABLE 2

Qualified Data
Laboratory Work Order Numbers 860-97961-1, 860-97962-1, 860-97962-2, and 860-97986-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Qualification	Rationale
MW-07-20250408-01	Selenium	U	Result <5X MB concentration
MW-13-20250408-01	Selenium	U	Result <5X MB concentration
MW-12-20250408-01	Boron	JH	Result <5X EB and FB concentration
MW-17-20250408-01	Boron	JH	Result <5X EB and FB concentration
MW-15-20250408-01	Boron	JH	Result <5X EB and FB concentration
MW-16-20250409-01	Boron	JH	Result <5X EB and FB concentration / Duplicate RPD above DOOs
DUP-01-20250409-01	Boron	JH	Result <5X EB concentration / Duplicate RPD above DOOs
MW-07-20250408-01	pH	JL	Analysis outside of hold time
MW-11-20250408-01	pH	JL	Analysis outside of hold time
MW-12-20250408-01	pH	JL	Analysis outside of hold time
MW-13-20250408-01	pH	JL	Analysis outside of hold time
MW-17-20250408-01	pH	JL	Analysis outside of hold time
MW-15-20250408-01	pH	JL	Analysis outside of hold time
MW-16-20250409-01	pH	JL	Analysis outside of hold time
MW-14-20250409-01	pH	JL	Analysis outside of hold time
DUP-01-20250409-01	pH	JL	Analysis outside of hold time
FB-01-20250408-01	pH	JL	Analysis outside of hold time
EB-01-20250408-01	pH	JL	Analysis outside of hold time
MW-11-20250408-01	Sulfate	JH	LCS Percent Recovery greater than DQOs
MW-13-20250408-01	Sulfate	JH	LCS Percent Recovery greater than DQOs
DUP-01-20250408-01	Sulfate	JH	LCS Percent Recovery greater than DQOs
FB-01-20250408-01	Sulfate	JH	LCS Percent Recovery greater than DQOs
MW-11-20250408-01	Chloride	JH	LCS Percent Recovery greater than DQOs
MW-13-20250408-01	Chloride	JH	LCS Percent Recovery greater than DQOs
DUP-01-20250408-01	Chloride	JH	LCS Percent Recovery greater than DQOs
FB-01-20250408-01	Chloride	JH	LCS Percent Recovery greater than DQOs
EB-01-20250408-01	Chloride	JH	LCS Percent Recovery greater than DQOs

Notes:

J = Qualified in the DUS as detected at an estimated value.

JH = Qualified in the DUS as detected at an estimated value with high bias.

JL = Qualified in the DUS as detected at an estimated value with low bias.

U = Qualified in the DUS as a not detected.

TABLE 3

Field Precision
Laboratory Work Order Numbers 860-97961-1, 860-97962-1, 860-97962-2, and 860-97986-1

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Sample Result (SR)		Duplicate Result (DR)		Relative Percent Difference (RPD)	Qualified
MW-16-20250408-01 / DUP-01-20250408-01	Chloride	157		162		3.13	A
	Sulfate	110		113		2.69	A
	Fluoride	<0.100	U	0.116	J	14.81	A
	Lithium	0.0197	J	0.0220	J	11.03	A
	Antimony	<0.000750	U	<0.000750	U	ND	N/A
	Boron	0.0395		0.0800		67.78	J
	Arsenic	<0.000690	U	<0.000690	U	ND	N/A
	Calcium	54.9		55.9		1.81	A
	Barium	0.0463		0.0441		4.87	A
	Beryllium	<0.000271	U	<0.000271	U	ND	N/A
	Cadmium	0.000380	J	0.000393	J	3.36	A
	Chromium	0.000758	J	0.000675	J	18.62	A
	Cobalt	<0.000355	U	<0.000355	U	ND	N/A
	Lead	<0.000367	U	<0.000367	U	ND	N/A
	Molybdenum	<0.000255	U	<0.000255	U	ND	N/A
	Selenium	0.00486	b	0.00484	b	0.41	A
	Thallium	<0.000415	U	<0.000415	U	ND	N/A
	Mercury	<0.0000706	U	<0.0000706	U	ND	N/A
	Total Dissolved Solids	683		677		0.88	A
	pH	6.6	HF	6.6	HF	0.00	A
	Radium 226	0.641		0.694		7.94	A
	Radium 228	0.490	U	0.881		57.04	A*
	Radium 226 & 228	1.13		1.57		32.59	A*

NOTES:

Only detected analytes are listed in table.

Units in milligrams per liter (mg/L) or picoCuries per Liter (pCi/L).

RPD = ((SR-DR)*200)/(SR+DR)

A = Acceptable data based on project data quality objectives (DQO).

J = Reported as estimated concentration between the sample detection limit (SDL) and the method quantitation limit (MQL).

U = Analyzed but not detected above the Method Detection Limit (MDL) or the SDL.

A* = Acceptable data based on TRRP-13 guidance document.

HF = Parameter with a holding time of 15 minutes. Sample was analyzed outside of hold time.

b = The compound was found in the blank and sample.

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

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JOB DESCRIPTION

Twin Oaks Power Plant
0769156

JOB NUMBER

860-111457-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Anita Patel, Project Manager
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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Total/NA			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A311					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00160	0.0015	J	mg/L	0.0020	0.00059	06/26/2025	860-245372

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-111457-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	09/17/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/17/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111457-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 09/17/2025
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-111457-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 09/17/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-111457-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-111457-1

Job ID: 860-111457-1

Eurofins Houston

Job Narrative 860-111457-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/10/2025 7:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.3°C.

Metals

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Client Sample ID: MW-26-20250909-01

Lab Sample ID: 860-111457-1

☐ No Detections.

Client Sample ID: MW-25-20250909-01

Lab Sample ID: 860-111457-2

☐ No Detections.

Client Sample ID: MW-23-20250909-01

Lab Sample ID: 860-111457-3

☐ No Detections.

Client Sample ID: MW-24-20250910-01

Lab Sample ID: 860-111457-4

☐ No Detections.

Client Sample ID: EB-01-20250910-01

Lab Sample ID: 860-111457-5

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Client Sample ID: MW-26-20250909-01

Lab Sample ID: 860-111457-1

Date Collected: 09/09/25 10:25

Matrix: Water

Date Received: 09/10/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 12:45	09/16/25 21:45	1

Client Sample ID: MW-25-20250909-01

Lab Sample ID: 860-111457-2

Date Collected: 09/09/25 12:05

Matrix: Water

Date Received: 09/10/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 12:45	09/16/25 21:48	1

Client Sample ID: MW-23-20250909-01

Lab Sample ID: 860-111457-3

Date Collected: 09/09/25 15:25

Matrix: Water

Date Received: 09/10/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 12:45	09/16/25 21:51	1

Client Sample ID: MW-24-20250910-01

Lab Sample ID: 860-111457-4

Date Collected: 09/10/25 14:15

Matrix: Water

Date Received: 09/10/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 10:20	09/15/25 23:33	1

Client Sample ID: EB-01-20250910-01

Lab Sample ID: 860-111457-5

Date Collected: 09/10/25 14:20

Matrix: Water

Date Received: 09/10/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 10:20	09/15/25 23:30	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-261928/1-A

Matrix: Water

Analysis Batch: 262230

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 261928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 10:20	09/15/25 21:59	1

Lab Sample ID: LCS 860-261928/2-A

Matrix: Water

Analysis Batch: 262230

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 261928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.1009		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-261928/3-A

Matrix: Water

Analysis Batch: 262230

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 261928

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.1007		mg/L		101	80 - 120	0	20

Lab Sample ID: MB 860-262030/1-A

Matrix: Water

Analysis Batch: 262539

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 262030

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 12:44	09/16/25 19:27	1

Lab Sample ID: LCS 860-262030/2-A

Matrix: Water

Analysis Batch: 262539

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 262030

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.1025		mg/L		102	80 - 120

Lab Sample ID: LCSD 860-262030/3-A

Matrix: Water

Analysis Batch: 262539

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 262030

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.1014		mg/L		101	80 - 120	1	20

Lab Sample ID: 860-111377-J-4-B MS

Matrix: Water

Analysis Batch: 262539

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 262030

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.000590	U	0.100	0.1008		mg/L		101	75 - 125

Lab Sample ID: 860-111377-J-4-C MSD

Matrix: Water

Analysis Batch: 262539

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 262030

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	<0.000590	U	0.100	0.09981		mg/L		100	75 - 125	1	20

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: 870-39162-A-7-G MS

Matrix: Water

Analysis Batch: 262230

Client Sample ID: Matrix Spike

Prep Type: SPLP West

Prep Batch: 261928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.000590	U	0.100	0.09528		mg/L		95	75 - 125

Lab Sample ID: 870-39162-A-7-H MSD

Matrix: Water

Analysis Batch: 262230

Client Sample ID: Matrix Spike Duplicate

Prep Type: SPLP West

Prep Batch: 261928

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	<0.000590	U	0.100	0.09206		mg/L		92	75 - 125	3	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Metals

Leach Batch: 260761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
870-39162-A-7-G MS	Matrix Spike	SPLP West	Water	1312	
870-39162-A-7-H MSD	Matrix Spike Duplicate	SPLP West	Water	1312	

Prep Batch: 261928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111457-4	MW-24-20250910-01	Total/NA	Water	3010A	
860-111457-5	EB-01-20250910-01	Total/NA	Water	3010A	
MB 860-261928/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-261928/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-261928/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
870-39162-A-7-G MS	Matrix Spike	SPLP West	Water	3010A	260761
870-39162-A-7-H MSD	Matrix Spike Duplicate	SPLP West	Water	3010A	260761

Prep Batch: 262030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111457-1	MW-26-20250909-01	Total/NA	Water	3010A	
860-111457-2	MW-25-20250909-01	Total/NA	Water	3010A	
860-111457-3	MW-23-20250909-01	Total/NA	Water	3010A	
MB 860-262030/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-262030/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-262030/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-111377-J-4-B MS	Matrix Spike	Total/NA	Water	3010A	
860-111377-J-4-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 262230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111457-4	MW-24-20250910-01	Total/NA	Water	6020B	261928
860-111457-5	EB-01-20250910-01	Total/NA	Water	6020B	261928
MB 860-261928/1-A	Method Blank	Total/NA	Water	6020B	261928
LCS 860-261928/2-A	Lab Control Sample	Total/NA	Water	6020B	261928
LCSD 860-261928/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	261928
870-39162-A-7-G MS	Matrix Spike	SPLP West	Water	6020B	261928
870-39162-A-7-H MSD	Matrix Spike Duplicate	SPLP West	Water	6020B	261928

Analysis Batch: 262539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111457-1	MW-26-20250909-01	Total/NA	Water	6020B	262030
860-111457-2	MW-25-20250909-01	Total/NA	Water	6020B	262030
860-111457-3	MW-23-20250909-01	Total/NA	Water	6020B	262030
MB 860-262030/1-A	Method Blank	Total/NA	Water	6020B	262030
LCS 860-262030/2-A	Lab Control Sample	Total/NA	Water	6020B	262030
LCSD 860-262030/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	262030
860-111377-J-4-B MS	Matrix Spike	Total/NA	Water	6020B	262030
860-111377-J-4-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	262030

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Client Sample ID: MW-26-20250909-01

Lab Sample ID: 860-111457-1

Date Collected: 09/09/25 10:25

Matrix: Water

Date Received: 09/10/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	262030	09/15/25 12:45	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 21:45	DP	EET HOU

Client Sample ID: MW-25-20250909-01

Lab Sample ID: 860-111457-2

Date Collected: 09/09/25 12:05

Matrix: Water

Date Received: 09/10/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	262030	09/15/25 12:45	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 21:48	DP	EET HOU

Client Sample ID: MW-23-20250909-01

Lab Sample ID: 860-111457-3

Date Collected: 09/09/25 15:25

Matrix: Water

Date Received: 09/10/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	262030	09/15/25 12:45	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 21:51	DP	EET HOU

Client Sample ID: MW-24-20250910-01

Lab Sample ID: 860-111457-4

Date Collected: 09/10/25 14:15

Matrix: Water

Date Received: 09/10/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	261928	09/15/25 10:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262230	09/15/25 23:33	DP	EET HOU

Client Sample ID: EB-01-20250910-01

Lab Sample ID: 860-111457-5

Date Collected: 09/10/25 14:20

Matrix: Water

Date Received: 09/10/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	261928	09/15/25 10:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262230	09/15/25 23:30	DP	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-26

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Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111457-1
SDG: 0769156

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
860-111457-1	MW-26-20250909-01	Water	09/09/25 10:25	09/10/25 19:04	Texas
860-111457-2	MW-25-20250909-01	Water	09/09/25 12:05	09/10/25 19:04	Texas
860-111457-3	MW-23-20250909-01	Water	09/09/25 15:25	09/10/25 19:04	Texas
860-111457-4	MW-24-20250910-01	Water	09/10/25 14:15	09/10/25 19:04	Texas
860-111457-5	EB-01-20250910-01	Water	09/10/25 14:20	09/10/25 19:04	Texas

860-111457 Chain of Custody

Temp: 4.5 IR ID:HOU-368
C/F:-0.2
Corrected Temp: 4.3

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111457-1

SDG Number: 0769156

Login Number: 111457

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 9/19/2025 10:29:30 AM

JOB DESCRIPTION

Twin Oaks Power Plant
0769156

JOB NUMBER

860-111458-1

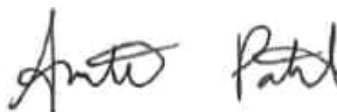
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/19/2025 10:29:30 AM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 300.0 - Anions, Ion Chromatography

Matrix: Water
Prep Method: N/A
Instrument: A391

Prep Type: Total/NA

Detector: IC/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Chloride	0.500	0.422	J	mg/L	0.500	0.250	06/23/2025	860-244265
Sulfate	0.500	0.415	J	mg/L	0.500	0.200	06/23/2025	860-244265
Fluoride	0.500	0.483	J	mg/L	0.500	0.100	06/23/2025	860-244265

Method: 6020B - Metals (ICP/MS)

Matrix: Water
Prep Method: 3010A-Preparation, Total Metals
Instrument: A311

Prep Type: Total/NA

Detector: MSD/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.00160	0.0015	J	mg/L	0.0020	0.00075	06/26/2025	860-245372
Selenium	0.00160	0.0015	J	mg/L	0.0020	0.00059	06/26/2025	860-245372
Thallium	0.00160	0.0014	J	mg/L	0.0020	0.00042	06/26/2025	860-245372
Calcium	0.0800	0.077	J	mg/L	0.10	0.030	06/26/2025	860-245372
Arsenic	0.00320	0.0029	J	mg/L	0.0040	0.00069	06/26/2025	860-245372
Boron	0.00800	0.0054	J	mg/L	0.010	0.0040	06/26/2025	860-245372
Barium	0.00320	0.0028	J	mg/L	0.0040	0.0013	06/26/2025	860-245372
Beryllium	0.00160	0.0014	J	mg/L	0.0020	0.00027	06/26/2025	860-245372
Cadmium	0.00160	0.0015	J	mg/L	0.0020	0.00024	06/26/2025	860-245372
Chromium	0.00320	0.0030	J	mg/L	0.0040	0.00056	06/26/2025	860-245372
Cobalt	0.00160	0.0015	J	mg/L	0.0020	0.00036	06/26/2025	860-245372
Lead	0.00160	0.0014	J	mg/L	0.0020	0.00037	06/26/2025	860-245372
Molybdenum	0.00160	0.0016	J	mg/L	0.0020	0.00026	06/26/2025	860-245372

Method: 7470A - Mercury (CVAA)

Matrix: Water
Prep Method: 7470A-Preparation, Mercury
Instrument: A336

Prep Type: Total/NA

Detector: AA/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Mercury	0.000120	0.00015	J	mg/L	0.00020	0.000071	06/24/2025	860-244706

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-111458-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	09/19/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/19/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111458-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		✓			1
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			2
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			3
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		✓			4
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/19/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111458-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		✓			5
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 09/19/2025
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-111458-1
Reviewer Name: Anita Patel		
ER# ¹	Description	
1	The reference method requires samples to have a pH of less than 2. The following sample was received with a pH of 7: MW-11-20250910-01 (860-111458-4). The sample was adjusted to the appropriate pH in the laboratory. Affected container: B-4	
2	Method 6010D: The method blank for preparation batch 860-262301 and analytical batch 860-262671 contained Lithium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.	
3	Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-261484 and 860-262054 and analytical batch 860-262381 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-262251 and analytical batch 860-262540 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-262251 and analytical batch 860-262690 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.	
4	Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14-20250909-01 (860-111458-1), MW-17-20250909-01 (860-111458-2), MW-11-20250910-01 (860-111458-4), MW-13-20250910-01 (860-111458-6) and DUP-01-20250910-01 (860-111458-7). Elevated reporting limits (RLs) are provided. Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14-20250909-01 (860-111458-1), MW-17-20250909-01 (860-111458-2), MW-07-20250910-01 (860-111458-3) and DUP-01-20250910-01 (860-111458-7). Elevated reporting limits (RLs) are provided.	
5	Method 300.0: The continuing calibration blank (CCB) for analytical batch 860-262533 contained Chloride and Sulfate above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.	
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).		

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-111458-1

Job ID: 860-111458-1

Eurofins Houston

Job Narrative 860-111458-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/11/2025 7:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8°C and 4.3°C.

Receipt Exceptions

The reference method requires samples to have a pH of less than 2. The following sample was received with a pH of 7: MW-11-20250910-01 (860-111458-4). The sample was adjusted to the appropriate pH in the laboratory.

Affected container:
B-4

HPLC/IC

Method 300_ORGFM_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14-20250909-01 (860-111458-1), MW-17-20250909-01 (860-111458-2), MW-07-20250910-01 (860-111458-3) and DUP-01-20250910-01 (860-111458-7). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The continuing calibration blank (CCB) for analytical batch 860-262533 contained Chloride and Sulfate above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Metals

Method 6010D: The method blank for preparation batch 860-262301 and analytical batch 860-262671 contained Lithium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-261484 and 860-262054 and analytical batch 860-262381 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14-20250909-01 (860-111458-1), MW-17-20250909-01 (860-111458-2), MW-11-20250910-01 (860-111458-4), MW-13-20250910-01 (860-111458-6) and DUP-01-20250910-01 (860-111458-7). Elevated reporting limits (RLs) are provided.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-262251 and analytical batch 860-262540 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-262251 and analytical batch 860-262690 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Eurofins Houston

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-111458-1

Job ID: 860-111458-1 (Continued)

Eurofins Houston

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

General Chemistry

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

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Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-14-20250909-01

Lab Sample ID: 860-111458-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1460		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.469	J	0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	541		5.00	2.50	mg/L	10		300.0	Total/NA
Lithium	0.0697		0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0221		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000958	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00524		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.824		0.00200	0.000590	mg/L	1		6020B	Total/NA
Calcium	274		1.00	0.301	mg/L	10		6020B	Total/NA
Boron	4.68		0.200	0.0801	mg/L	20		6020B	Total/NA
Total Dissolved Solids	3720		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-17-20250909-01

Lab Sample ID: 860-111458-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	389		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.109	J	0.500	0.100	mg/L	1		300.0	Total/NA
Chloride - DL	728		5.00	2.50	mg/L	10		300.0	Total/NA
Lithium	0.0272	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0775		0.00400	0.00134	mg/L	1		6020B	Total/NA
Beryllium	0.000278	J	0.00200	0.000271	mg/L	1		6020B	Total/NA
Cadmium	0.00161	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000693	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Cobalt	0.00162	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00953		0.00200	0.000590	mg/L	1		6020B	Total/NA
Calcium	142		0.500	0.150	mg/L	5		6020B	Total/NA
Boron	0.0331		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2420		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	295		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	1010		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.230	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0234	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0214		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000481	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00126	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Calcium	280		1.00	0.301	mg/L	10		6020B	Total/NA
Boron	0.296		0.0500	0.0200	mg/L	5		6020B	Total/NA
Total Dissolved Solids	2290		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11-20250910-01

Lab Sample ID: 860-111458-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	132		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	327		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.194	J	0.500	0.100	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-11-20250910-01 (Continued)

Lab Sample ID: 860-111458-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0274	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0215		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000452	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00135	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Calcium	91.4		0.500	0.150	mg/L	5		6020B	Total/NA
Boron	0.154		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	942		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-12-20250910-01

Lab Sample ID: 860-111458-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	93.6		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	65.4		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.235	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0271	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.118		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00211		0.00200	0.000355	mg/L	1		6020B	Total/NA
Calcium	21.1		0.100	0.0301	mg/L	1		6020B	Total/NA
Boron	0.0311		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	508		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-13-20250910-01

Lab Sample ID: 860-111458-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	131		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	318		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.421	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0342	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0492		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00168	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.0189		0.00200	0.000590	mg/L	1		6020B	Total/NA
Calcium	70.4		0.500	0.150	mg/L	5		6020B	Total/NA
Boron	0.211		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	985		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	291		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	674		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.208	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0282	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0195		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000476	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00127	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Calcium	250		1.00	0.301	mg/L	10		6020B	Total/NA
Boron	0.277		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2310		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: FB-01-20250910-01

Lab Sample ID: 860-111458-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0324	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.00699	J	0.0100	0.00401	mg/L	1		6020B	Total/NA
pH	5.9	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-14-20250909-01

Lab Sample ID: 860-111458-1

Date Collected: 09/09/25 16:10

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1460		5.00	2.00	mg/L			09/18/25 12:05	10
Fluoride	0.469	J	0.500	0.100	mg/L			09/17/25 23:30	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	541		5.00	2.50	mg/L			09/17/25 23:38	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0697		0.0400	0.0174	mg/L		09/15/25 13:25	09/16/25 13:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:08	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:08	1
Barium	0.0221		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:08	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:08	1
Cadmium	0.000958	J	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:08	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:08	1
Cobalt	0.00524		0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:08	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:08	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:08	1
Selenium	0.824		0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:08	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:08	1
Calcium	274		1.00	0.301	mg/L		09/15/25 13:20	09/16/25 15:12	10
Boron	4.68		0.200	0.0801	mg/L		09/15/25 13:20	09/16/25 18:29	20

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3720		40.0	40.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.7	HF			SU			09/16/25 18:45	1

Client Sample ID: MW-17-20250909-01

Lab Sample ID: 860-111458-2

Date Collected: 09/09/25 17:15

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	389		5.00	2.00	mg/L			09/18/25 12:13	10
Fluoride	0.109	J	0.500	0.100	mg/L			09/17/25 23:46	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	728		5.00	2.50	mg/L			09/17/25 23:53	10

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0272	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 17:49	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-17-20250909-01

Lab Sample ID: 860-111458-2

Date Collected: 09/09/25 17:15

Matrix: Water

Date Received: 09/11/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:15	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:15	1
Barium	0.0775		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:15	1
Beryllium	0.000278	J	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:15	1
Cadmium	0.00161	J	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:15	1
Chromium	0.000693	J	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:15	1
Cobalt	0.00162	J	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:15	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:15	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:15	1
Selenium	0.00953		0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:15	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:15	1
Calcium	142		0.500	0.150	mg/L		09/15/25 13:20	09/16/25 15:18	5
Boron	0.0331		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 18:32	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2420		40.0	40.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.6	HF			SU			09/16/25 18:48	1

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Date Collected: 09/10/25 09:50

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	295		0.500	0.250	mg/L			09/18/25 00:01	1
Sulfate	1010		5.00	2.00	mg/L			09/18/25 12:21	10
Fluoride	0.230	J	0.500	0.100	mg/L			09/18/25 00:01	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0234	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 17:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/16/25 10:20	09/17/25 06:18	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/16/25 10:20	09/17/25 06:18	1
Barium	0.0214		0.00400	0.00134	mg/L		09/16/25 10:20	09/17/25 06:18	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/16/25 10:20	09/17/25 06:18	1
Cadmium	0.000481	J	0.00200	0.000240	mg/L		09/16/25 10:20	09/17/25 06:18	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/16/25 10:20	09/17/25 06:18	1
Cobalt	0.00126	J	0.00200	0.000355	mg/L		09/16/25 10:20	09/17/25 06:18	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/16/25 10:20	09/17/25 06:18	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/16/25 10:20	09/17/25 06:18	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/16/25 10:20	09/17/25 06:18	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/16/25 10:20	09/17/25 06:18	1
Calcium	280		1.00	0.301	mg/L		09/16/25 10:20	09/17/25 06:22	10

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Date Collected: 09/10/25 09:50

Matrix: Water

Date Received: 09/11/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.296		0.0500	0.0200	mg/L		09/16/25 10:20	09/17/25 15:43	5

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2290		20.0	20.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.5	HF			SU			09/16/25 18:46	1

Client Sample ID: MW-11-20250910-01

Lab Sample ID: 860-111458-4

Date Collected: 09/10/25 11:05

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	132		0.500	0.250	mg/L			09/17/25 22:43	1
Sulfate	327		0.500	0.200	mg/L			09/18/25 11:18	1
Fluoride	0.194	J	0.500	0.100	mg/L			09/17/25 22:43	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0274	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 17:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:20	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:20	1
Barium	0.0215		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:20	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:20	1
Cadmium	0.000452	J	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:20	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:20	1
Cobalt	0.00135	J	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:20	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:20	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:20	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:20	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:20	1
Calcium	91.4		0.500	0.150	mg/L		09/15/25 13:20	09/16/25 15:24	5
Boron	0.154		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 18:38	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	942		10.0	10.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.5	HF			SU			09/12/25 15:51	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-12-20250910-01

Lab Sample ID: 860-111458-5

Date Collected: 09/10/25 12:15

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93.6		0.500	0.250	mg/L			09/17/25 22:51	1
Sulfate	65.4		0.500	0.200	mg/L			09/18/25 11:25	1
Fluoride	0.235	J	0.500	0.100	mg/L			09/17/25 22:51	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0271	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 17:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:26	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:26	1
Barium	0.118		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:26	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:26	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:26	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:26	1
Cobalt	0.00211		0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:26	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:26	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:26	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:26	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:26	1
Calcium	21.1		0.100	0.0301	mg/L		09/15/25 13:20	09/16/25 15:26	1
Boron	0.0311		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 18:44	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	508		10.0	10.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.2	HF			SU			09/12/25 15:55	1

Client Sample ID: MW-13-20250910-01

Lab Sample ID: 860-111458-6

Date Collected: 09/10/25 15:20

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	131		0.500	0.250	mg/L			09/17/25 23:14	1
Sulfate	318		0.500	0.200	mg/L			09/18/25 11:33	1
Fluoride	0.421	J	0.500	0.100	mg/L			09/17/25 23:14	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0342	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 17:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:29	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:29	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-13-20250910-01

Lab Sample ID: 860-111458-6

Date Collected: 09/10/25 15:20

Matrix: Water

Date Received: 09/11/25 19:04

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.0492		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:29	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:29	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:29	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:29	1
Cobalt	0.00168	J	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:29	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:29	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:29	1
Selenium	0.0189		0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:29	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:29	1
Calcium	70.4		0.500	0.150	mg/L		09/15/25 13:20	09/16/25 15:38	5
Boron	0.211		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 18:47	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	985		10.0	10.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.2	HF			SU			09/12/25 15:53	1

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Date Collected: 09/10/25 08:00

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	291		0.500	0.250	mg/L			09/18/25 00:17	1
Sulfate	674		5.00	2.00	mg/L			09/18/25 12:30	10
Fluoride	0.208	J	0.500	0.100	mg/L			09/18/25 00:17	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0282	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 18:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:41	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:41	1
Barium	0.0195		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:41	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:41	1
Cadmium	0.000476	J	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:41	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:41	1
Cobalt	0.00127	J	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:41	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:41	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:41	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:41	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:41	1
Calcium	250		1.00	0.301	mg/L		09/15/25 13:20	09/16/25 15:44	10
Boron	0.277		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 18:53	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Date Collected: 09/10/25 08:00

Matrix: Water

Date Received: 09/11/25 19:04

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2310		20.0	20.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.4	HF			SU			09/12/25 15:49	1

Client Sample ID: FB-01-20250910-01

Lab Sample ID: 860-111458-8

Date Collected: 09/10/25 15:30

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/18/25 13:41	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/18/25 13:41	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/18/25 13:41	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0324	J b	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 18:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:47	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:47	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:47	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:47	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:47	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:47	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:47	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:47	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:47	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:47	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:47	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		09/15/25 13:20	09/16/25 15:47	1
Boron	0.00699	J	0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 18:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	5.9	HF			SU			09/12/25 15:45	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-262533/115

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/18/25 03:10	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/18/25 03:10	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/18/25 03:10	1

Lab Sample ID: MB 860-262533/171

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/18/25 10:30	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/18/25 10:30	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/18/25 10:30	1

Lab Sample ID: MB 860-262533/3

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/17/25 12:24	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/17/25 12:24	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/17/25 12:24	1

Lab Sample ID: MB 860-262533/62

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/17/25 20:13	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/17/25 20:13	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/17/25 20:13	1

Lab Sample ID: LCS 860-262533/116

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.844		mg/L		98	90 - 110
Sulfate	10.0	9.799		mg/L		98	90 - 110
Fluoride	10.0	9.966		mg/L		100	90 - 110

Lab Sample ID: LCS 860-262533/172

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.880		mg/L		99	90 - 110
Sulfate	10.0	9.761		mg/L		98	90 - 110
Fluoride	10.0	9.971		mg/L		100	90 - 110

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 860-262533/63

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.948		mg/L		99	90 - 110
Sulfate	10.0	9.906		mg/L		99	90 - 110
Fluoride	10.0	10.09		mg/L		101	90 - 110

Lab Sample ID: LCSD 860-262533/117

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.839		mg/L		98	90 - 110	0	20
Sulfate	10.0	9.794		mg/L		98	90 - 110	0	20
Fluoride	10.0	9.969		mg/L		100	90 - 110	0	20

Lab Sample ID: LCSD 860-262533/173

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	10.04		mg/L		100	90 - 110	2	20
Sulfate	10.0	9.823		mg/L		98	90 - 110	1	20
Fluoride	10.0	10.00		mg/L		100	90 - 110	0	20

Lab Sample ID: LCSD 860-262533/64

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.939		mg/L		99	90 - 110	0	20
Sulfate	10.0	9.908		mg/L		99	90 - 110	0	20
Fluoride	10.0	10.09		mg/L		101	90 - 110	0	20

Lab Sample ID: LLCS 860-262533/7

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4421	J	mg/L		88	50 - 150
Sulfate	0.500	0.4874	J	mg/L		97	50 - 150
Fluoride	0.500	0.4747	J	mg/L		95	50 - 150

Lab Sample ID: 860-111574-C-15 MS

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	52.2		10.0	63.16	4	mg/L		110	90 - 110
Sulfate	9.15		10.0	19.27		mg/L		101	90 - 110
Fluoride	0.868		10.0	10.81		mg/L		99	90 - 110

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 860-111574-C-15 MSD

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	52.2		10.0	63.18	4	mg/L		110	90 - 110	0	15
Sulfate	9.15		10.0	19.35		mg/L		102	90 - 110	0	15
Fluoride	0.868		10.0	10.81		mg/L		99	90 - 110	0	15

Lab Sample ID: 860-111864-E-1 MS

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	12.8		10.0	23.47		mg/L		107	90 - 110		
Sulfate	11.5		10.0	21.53		mg/L		100	90 - 110		
Fluoride	0.128	J	10.0	10.43		mg/L		103	90 - 110		

Lab Sample ID: 860-111864-E-1 MSD

Matrix: Water

Analysis Batch: 262533

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	12.8		10.0	23.49		mg/L		107	90 - 110	0	15
Sulfate	11.5		10.0	21.49		mg/L		100	90 - 110	0	15
Fluoride	0.128	J	10.0	10.40		mg/L		103	90 - 110	0	15

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-262055/1-A

Matrix: Water

Analysis Batch: 262378

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 262055

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		09/15/25 13:25	09/16/25 12:36	1

Lab Sample ID: LCS 860-262055/2-A

Matrix: Water

Analysis Batch: 262378

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 262055

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	1.00	1.020		mg/L		102	80 - 120		

Lab Sample ID: LCSD 860-262055/3-A

Matrix: Water

Analysis Batch: 262378

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 262055

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.010		mg/L		101	80 - 120	1	20

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 860-262301/1-A
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 262301

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.01800	J	0.0400	0.0174	mg/L		09/16/25 12:44	09/17/25 17:03	1

Lab Sample ID: LCS 860-262301/2-A
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 262301

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.030		mg/L		103	80 - 120

Lab Sample ID: LCSD 860-262301/3-A
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 262301

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.040		mg/L		104	80 - 120	1	20

Lab Sample ID: 400-282214-G-6-A MS
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 262301

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.195	J b	1.00	1.310		mg/L		112	75 - 125

Lab Sample ID: 400-282214-H-6-A MSD
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 262301

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.195	J b	1.00	1.200		mg/L		101	75 - 125	9	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-261484/1-C
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 262054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 13:39	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 13:39	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 13:39	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 13:39	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 13:39	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 13:39	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 13:39	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 13:39	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 13:39	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 13:39	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 13:39	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		09/15/25 13:20	09/16/25 13:39	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 13:39	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: LCS 860-261484/2-C

Matrix: Water

Analysis Batch: 262381

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 262054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.08664		mg/L		87	80 - 120
Arsenic	0.100	0.09941		mg/L		99	80 - 120
Barium	0.100	0.09909		mg/L		99	80 - 120
Beryllium	0.100	0.09770		mg/L		98	80 - 120
Cadmium	0.100	0.09769		mg/L		98	80 - 120
Chromium	0.100	0.09899		mg/L		99	80 - 120
Cobalt	0.100	0.09873		mg/L		99	80 - 120
Lead	0.100	0.09984		mg/L		100	80 - 120
Molybdenum	0.100	0.09395		mg/L		94	80 - 120
Selenium	0.100	0.1017		mg/L		102	80 - 120
Thallium	0.100	0.1014		mg/L		101	80 - 120
Calcium	2.50	2.497		mg/L		100	80 - 120
Boron	0.100	0.09128		mg/L		91	80 - 120

Lab Sample ID: LCSD 860-261484/3-C

Matrix: Water

Analysis Batch: 262381

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 262054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09388		mg/L		94	80 - 120	8	20
Arsenic	0.100	0.09972		mg/L		100	80 - 120	0	20
Barium	0.100	0.09887		mg/L		99	80 - 120	0	20
Beryllium	0.100	0.09795		mg/L		98	80 - 120	0	20
Cadmium	0.100	0.09804		mg/L		98	80 - 120	0	20
Chromium	0.100	0.09895		mg/L		99	80 - 120	0	20
Cobalt	0.100	0.09821		mg/L		98	80 - 120	1	20
Lead	0.100	0.1001		mg/L		100	80 - 120	0	20
Molybdenum	0.100	0.09406		mg/L		94	80 - 120	0	20
Selenium	0.100	0.1018		mg/L		102	80 - 120	0	20
Thallium	0.100	0.1019		mg/L		102	80 - 120	1	20
Calcium	2.50	2.376		mg/L		95	80 - 120	5	20
Boron	0.100	0.09631		mg/L		96	80 - 120	5	20

Lab Sample ID: MB 860-262251/1-A

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 262251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/16/25 10:20	09/17/25 04:09	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/16/25 10:20	09/17/25 04:09	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		09/16/25 10:20	09/17/25 04:09	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/16/25 10:20	09/17/25 04:09	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/16/25 10:20	09/17/25 04:09	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/16/25 10:20	09/17/25 04:09	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/16/25 10:20	09/17/25 04:09	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/16/25 10:20	09/17/25 04:09	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/16/25 10:20	09/17/25 04:09	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/16/25 10:20	09/17/25 04:09	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/16/25 10:20	09/17/25 04:09	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

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

Lab Sample ID: MB 860-262251/1-A

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 262251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.0301	U	0.100	0.0301	mg/L		09/16/25 10:20	09/17/25 04:09	1

Lab Sample ID: MB 860-262251/1-A

Matrix: Water

Analysis Batch: 262690

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 262251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.00401	U	0.0100	0.00401	mg/L		09/16/25 10:20	09/17/25 15:25	1

Lab Sample ID: LCS 860-262251/2-A

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09319		mg/L		93	80 - 120
Arsenic	0.100	0.1007		mg/L		101	80 - 120
Barium	0.100	0.1009		mg/L		101	80 - 120
Beryllium	0.100	0.09671		mg/L		97	80 - 120
Cadmium	0.100	0.1004		mg/L		100	80 - 120
Chromium	0.100	0.1017		mg/L		102	80 - 120
Cobalt	0.100	0.1004		mg/L		100	80 - 120
Lead	0.100	0.1007		mg/L		101	80 - 120
Molybdenum	0.100	0.09765		mg/L		98	80 - 120
Selenium	0.100	0.1008		mg/L		101	80 - 120
Thallium	0.100	0.1016		mg/L		102	80 - 120
Calcium	2.50	2.721		mg/L		109	80 - 120

Lab Sample ID: LCS 860-262251/2-A

Matrix: Water

Analysis Batch: 262690

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.100	0.09048		mg/L		90	80 - 120

Lab Sample ID: LCSD 860-262251/3-A

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09600		mg/L		96	80 - 120	3	20
Arsenic	0.100	0.1019		mg/L		102	80 - 120	1	20
Barium	0.100	0.1008		mg/L		101	80 - 120	0	20
Beryllium	0.100	0.09790		mg/L		98	80 - 120	1	20
Cadmium	0.100	0.1001		mg/L		100	80 - 120	0	20
Chromium	0.100	0.1021		mg/L		102	80 - 120	0	20
Cobalt	0.100	0.1000		mg/L		100	80 - 120	0	20
Lead	0.100	0.1014		mg/L		101	80 - 120	1	20
Molybdenum	0.100	0.09813		mg/L		98	80 - 120	0	20
Selenium	0.100	0.1009		mg/L		101	80 - 120	0	20
Thallium	0.100	0.1023		mg/L		102	80 - 120	1	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

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

Lab Sample ID: LCSD 860-262251/3-A

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	2.50	2.707		mg/L		108	80 - 120	1	20

Lab Sample ID: LCSD 860-262251/3-A

Matrix: Water

Analysis Batch: 262690

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.100	0.09276		mg/L		93	80 - 120	2	20

Lab Sample ID: 860-111578-AA-1-B MSD

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00512	^	0.100	0.1134		mg/L		108	75 - 125	2	20
Arsenic	0.00673		0.100	0.1051		mg/L		98	75 - 125	3	20
Barium	1.19		0.100	1.275	4	mg/L		83	75 - 125	4	20
Beryllium	<0.000271	U	0.100	0.09427		mg/L		94	75 - 125	3	20
Cadmium	<0.000240	U	0.100	0.09243		mg/L		92	75 - 125	2	20
Chromium	0.00126	J	0.100	0.09863		mg/L		97	75 - 125	1	20
Cobalt	0.00217		0.100	0.09598		mg/L		94	75 - 125	2	20
Lead	0.000652	J	0.100	0.1047		mg/L		104	75 - 125	2	20
Molybdenum	0.000941	J	0.100	0.09988		mg/L		99	75 - 125	2	20
Selenium	<0.000590	U	0.100	0.09224		mg/L		92	75 - 125	4	20
Thallium	<0.000415	U	0.100	0.1062		mg/L		106	75 - 125	2	20
Calcium	223		2.50	219.2	4	mg/L		-169	75 - 125	5	20

Lab Sample ID: 860-111578-AA-1-B MSD

Matrix: Water

Analysis Batch: 262690

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.97		0.100	2.138	4	mg/L		170	75 - 125	1	20

Lab Sample ID: 860-111578-U-1-A MS

Matrix: Water

Analysis Batch: 262540

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 262251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00512	^	0.100	0.1152		mg/L		110	75 - 125		
Arsenic	0.00673		0.100	0.1084		mg/L		102	75 - 125		
Barium	1.19		0.100	1.333	4	mg/L		141	75 - 125		
Beryllium	<0.000271	U	0.100	0.09727		mg/L		97	75 - 125		
Cadmium	<0.000240	U	0.100	0.09388		mg/L		94	75 - 125		
Chromium	0.00126	J	0.100	0.1001		mg/L		99	75 - 125		
Cobalt	0.00217		0.100	0.09790		mg/L		96	75 - 125		
Lead	0.000652	J	0.100	0.1068		mg/L		106	75 - 125		
Molybdenum	0.000941	J	0.100	0.1017		mg/L		101	75 - 125		
Selenium	<0.000590	U	0.100	0.09639		mg/L		96	75 - 125		
Thallium	<0.000415	U	0.100	0.1082		mg/L		108	75 - 125		

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

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

Lab Sample ID: 860-111578-U-1-A MS
Matrix: Water
Analysis Batch: 262540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 262251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	223		2.50	229.3	4	mg/L		237	75 - 125

Lab Sample ID: 860-111578-U-1-A MS
Matrix: Water
Analysis Batch: 262690

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 262251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.97		0.100	2.151	4	mg/L		184	75 - 125

Lab Sample ID: 860-111377-B-4-E MS
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 262054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00457		0.100	0.1037		mg/L		99	75 - 125
Arsenic	0.0126		0.100	0.1098		mg/L		97	75 - 125
Barium	0.414		0.100	0.5080	4	mg/L		94	75 - 125
Beryllium	<0.000271	U	0.100	0.09697		mg/L		97	75 - 125
Cadmium	<0.000240	U	0.100	0.09496		mg/L		95	75 - 125
Chromium	<0.000560	U	0.100	0.09981		mg/L		100	75 - 125
Cobalt	0.000692	J	0.100	0.09751		mg/L		97	75 - 125
Lead	<0.000367	U	0.100	0.1036		mg/L		104	75 - 125
Molybdenum	0.00414		0.100	0.1026		mg/L		98	75 - 125
Selenium	<0.000590	U	0.100	0.1001		mg/L		100	75 - 125
Thallium	<0.000415	U	0.100	0.1057		mg/L		106	75 - 125
Calcium	82.9		2.50	82.93	4	mg/L		-0.5	75 - 125
Boron	0.150		0.100	0.2444		mg/L		94	75 - 125

Lab Sample ID: 860-111377-B-4-F MSD
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 262054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	0.00457		0.100	0.1056		mg/L		101	75 - 125	2	20
Arsenic	0.0126		0.100	0.1107		mg/L		98	75 - 125	1	20
Barium	0.414		0.100	0.5285	4	mg/L		114	75 - 125	4	20
Beryllium	<0.000271	U	0.100	0.09735		mg/L		97	75 - 125	0	20
Cadmium	<0.000240	U	0.100	0.09592		mg/L		96	75 - 125	1	20
Chromium	<0.000560	U	0.100	0.1001		mg/L		100	75 - 125	0	20
Cobalt	0.000692	J	0.100	0.09796		mg/L		97	75 - 125	0	20
Lead	<0.000367	U	0.100	0.1065		mg/L		106	75 - 125	3	20
Molybdenum	0.00414		0.100	0.1026		mg/L		98	75 - 125	0	20
Selenium	<0.000590	U	0.100	0.1010		mg/L		101	75 - 125	1	20
Thallium	<0.000415	U	0.100	0.1089		mg/L		109	75 - 125	3	20
Calcium	82.9		2.50	84.46	4	mg/L		61	75 - 125	2	20
Boron	0.150		0.100	0.2465		mg/L		97	75 - 125	1	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 860-261839/1-A
Matrix: Water
Analysis Batch: 262165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 261839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:04	09/16/25 00:06	1

Lab Sample ID: LCS 860-261839/2-A
Matrix: Water
Analysis Batch: 262165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 261839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.001971		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-261839/3-A
Matrix: Water
Analysis Batch: 262165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 261839

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.002002		mg/L		100	80 - 120	2	20

Lab Sample ID: 860-111458-3 MS
Matrix: Water
Analysis Batch: 262165

Client Sample ID: MW-07-20250910-01
Prep Type: Total/NA
Prep Batch: 261839

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.002025		mg/L		101	75 - 125

Lab Sample ID: 860-111458-3 MSD
Matrix: Water
Analysis Batch: 262165

Client Sample ID: MW-07-20250910-01
Prep Type: Total/NA
Prep Batch: 261839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.002020		mg/L		101	75 - 125	0	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-261640/1
Matrix: Water
Analysis Batch: 261640

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			09/12/25 12:33	1

Lab Sample ID: LCS 860-261640/2
Matrix: Water
Analysis Batch: 261640

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	957.0		mg/L		96	80 - 120

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 860-111458-1 DU
Matrix: Water
Analysis Batch: 261640

Client Sample ID: MW-14-20250909-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3720		3664		mg/L		1	10

Lab Sample ID: 860-111458-2 DU
Matrix: Water
Analysis Batch: 261640

Client Sample ID: MW-17-20250909-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2420		2508		mg/L		4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 880-62422-A-1 DU
Matrix: Water
Analysis Batch: 261746

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6		7.6		SU		0	20

Lab Sample ID: 860-111613-A-2 DU
Matrix: Water
Analysis Batch: 262494

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8		7.8		SU		0	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

HPLC/IC

Analysis Batch: 262533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	300.0	
860-111458-1 - DL	MW-14-20250909-01	Total/NA	Water	300.0	
860-111458-1	MW-14-20250909-01	Total/NA	Water	300.0	
860-111458-2	MW-17-20250909-01	Total/NA	Water	300.0	
860-111458-2 - DL	MW-17-20250909-01	Total/NA	Water	300.0	
860-111458-2	MW-17-20250909-01	Total/NA	Water	300.0	
860-111458-3	MW-07-20250910-01	Total/NA	Water	300.0	
860-111458-3	MW-07-20250910-01	Total/NA	Water	300.0	
860-111458-4	MW-11-20250910-01	Total/NA	Water	300.0	
860-111458-4	MW-11-20250910-01	Total/NA	Water	300.0	
860-111458-5	MW-12-20250910-01	Total/NA	Water	300.0	
860-111458-5	MW-12-20250910-01	Total/NA	Water	300.0	
860-111458-6	MW-13-20250910-01	Total/NA	Water	300.0	
860-111458-6	MW-13-20250910-01	Total/NA	Water	300.0	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	300.0	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	300.0	
860-111458-8	FB-01-20250910-01	Total/NA	Water	300.0	
MB 860-262533/115	Method Blank	Total/NA	Water	300.0	
MB 860-262533/171	Method Blank	Total/NA	Water	300.0	
MB 860-262533/3	Method Blank	Total/NA	Water	300.0	
MB 860-262533/62	Method Blank	Total/NA	Water	300.0	
LCS 860-262533/116	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-262533/172	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-262533/63	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-262533/117	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-262533/173	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-262533/64	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-262533/7	Lab Control Sample	Total/NA	Water	300.0	
860-111574-C-15 MS	Matrix Spike	Total/NA	Water	300.0	
860-111574-C-15 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
860-111864-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
860-111864-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Filtration Batch: 261484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-261484/1-C	Method Blank	Total/NA	Water	Filtration	
LCS 860-261484/2-C	Lab Control Sample	Total/NA	Water	Filtration	
LCSD 860-261484/3-C	Lab Control Sample Dup	Total/NA	Water	Filtration	
860-111377-B-4-E MS	Matrix Spike	Dissolved	Water	Filtration	
860-111377-B-4-F MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 261839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	7470A	
860-111458-2	MW-17-20250909-01	Total/NA	Water	7470A	
860-111458-3	MW-07-20250910-01	Total/NA	Water	7470A	
860-111458-4	MW-11-20250910-01	Total/NA	Water	7470A	
860-111458-5	MW-12-20250910-01	Total/NA	Water	7470A	
860-111458-6	MW-13-20250910-01	Total/NA	Water	7470A	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Metals (Continued)

Prep Batch: 261839 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-7	DUP-01-20250910-01	Total/NA	Water	7470A	
860-111458-8	FB-01-20250910-01	Total/NA	Water	7470A	
MB 860-261839/1-A	Method Blank	Total/NA	Water	7470A	
LCS 860-261839/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-261839/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-111458-3 MS	MW-07-20250910-01	Total/NA	Water	7470A	
860-111458-3 MSD	MW-07-20250910-01	Total/NA	Water	7470A	

Prep Batch: 262054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	3010A	
860-111458-2	MW-17-20250909-01	Total/NA	Water	3010A	
860-111458-4	MW-11-20250910-01	Total/NA	Water	3010A	
860-111458-5	MW-12-20250910-01	Total/NA	Water	3010A	
860-111458-6	MW-13-20250910-01	Total/NA	Water	3010A	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	3010A	
860-111458-8	FB-01-20250910-01	Total/NA	Water	3010A	
MB 860-261484/1-C	Method Blank	Total/NA	Water	3010A	261484
LCS 860-261484/2-C	Lab Control Sample	Total/NA	Water	3010A	261484
LCSD 860-261484/3-C	Lab Control Sample Dup	Total/NA	Water	3010A	261484
860-111377-B-4-E MS	Matrix Spike	Dissolved	Water	3010A	261484
860-111377-B-4-F MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	261484

Prep Batch: 262055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	3010A	
MB 860-262055/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-262055/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-262055/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	

Analysis Batch: 262165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	7470A	261839
860-111458-2	MW-17-20250909-01	Total/NA	Water	7470A	261839
860-111458-3	MW-07-20250910-01	Total/NA	Water	7470A	261839
860-111458-4	MW-11-20250910-01	Total/NA	Water	7470A	261839
860-111458-5	MW-12-20250910-01	Total/NA	Water	7470A	261839
860-111458-6	MW-13-20250910-01	Total/NA	Water	7470A	261839
860-111458-7	DUP-01-20250910-01	Total/NA	Water	7470A	261839
860-111458-8	FB-01-20250910-01	Total/NA	Water	7470A	261839
MB 860-261839/1-A	Method Blank	Total/NA	Water	7470A	261839
LCS 860-261839/2-A	Lab Control Sample	Total/NA	Water	7470A	261839
LCSD 860-261839/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	261839
860-111458-3 MS	MW-07-20250910-01	Total/NA	Water	7470A	261839
860-111458-3 MSD	MW-07-20250910-01	Total/NA	Water	7470A	261839

Prep Batch: 262251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-3	MW-07-20250910-01	Total/NA	Water	3010A	
MB 860-262251/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-262251/2-A	Lab Control Sample	Total/NA	Water	3010A	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Metals (Continued)

Prep Batch: 262251 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 860-262251/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-111578-AA-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
860-111578-U-1-A MS	Matrix Spike	Total/NA	Water	3010A	

Prep Batch: 262301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-2	MW-17-20250909-01	Total/NA	Water	3010A	
860-111458-3	MW-07-20250910-01	Total/NA	Water	3010A	
860-111458-4	MW-11-20250910-01	Total/NA	Water	3010A	
860-111458-5	MW-12-20250910-01	Total/NA	Water	3010A	
860-111458-6	MW-13-20250910-01	Total/NA	Water	3010A	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	3010A	
860-111458-8	FB-01-20250910-01	Total/NA	Water	3010A	
MB 860-262301/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-262301/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-262301/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
400-282214-G-6-A MS	Matrix Spike	Total/NA	Water	3010A	
400-282214-H-6-A MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 262378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	6010D	262055
MB 860-262055/1-A	Method Blank	Total/NA	Water	6010D	262055
LCS 860-262055/2-A	Lab Control Sample	Total/NA	Water	6010D	262055
LCSD 860-262055/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	262055

Analysis Batch: 262381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	6020B	262054
860-111458-1	MW-14-20250909-01	Total/NA	Water	6020B	262054
860-111458-2	MW-17-20250909-01	Total/NA	Water	6020B	262054
860-111458-2	MW-17-20250909-01	Total/NA	Water	6020B	262054
860-111458-4	MW-11-20250910-01	Total/NA	Water	6020B	262054
860-111458-4	MW-11-20250910-01	Total/NA	Water	6020B	262054
860-111458-5	MW-12-20250910-01	Total/NA	Water	6020B	262054
860-111458-6	MW-13-20250910-01	Total/NA	Water	6020B	262054
860-111458-6	MW-13-20250910-01	Total/NA	Water	6020B	262054
860-111458-7	DUP-01-20250910-01	Total/NA	Water	6020B	262054
860-111458-7	DUP-01-20250910-01	Total/NA	Water	6020B	262054
860-111458-8	FB-01-20250910-01	Total/NA	Water	6020B	262054
MB 860-261484/1-C	Method Blank	Total/NA	Water	6020B	262054
LCS 860-261484/2-C	Lab Control Sample	Total/NA	Water	6020B	262054
LCSD 860-261484/3-C	Lab Control Sample Dup	Total/NA	Water	6020B	262054
860-111377-B-4-E MS	Matrix Spike	Dissolved	Water	6020B	262054
860-111377-B-4-F MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	262054

Analysis Batch: 262539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	6020B	262054
860-111458-2	MW-17-20250909-01	Total/NA	Water	6020B	262054
860-111458-4	MW-11-20250910-01	Total/NA	Water	6020B	262054

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Metals (Continued)

Analysis Batch: 262539 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-5	MW-12-20250910-01	Total/NA	Water	6020B	262054
860-111458-6	MW-13-20250910-01	Total/NA	Water	6020B	262054
860-111458-7	DUP-01-20250910-01	Total/NA	Water	6020B	262054
860-111458-8	FB-01-20250910-01	Total/NA	Water	6020B	262054

Analysis Batch: 262540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-3	MW-07-20250910-01	Total/NA	Water	6020B	262251
860-111458-3	MW-07-20250910-01	Total/NA	Water	6020B	262251
MB 860-262251/1-A	Method Blank	Total/NA	Water	6020B	262251
LCS 860-262251/2-A	Lab Control Sample	Total/NA	Water	6020B	262251
LCSD 860-262251/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	262251
860-111578-AA-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	262251
860-111578-U-1-A MS	Matrix Spike	Total/NA	Water	6020B	262251

Analysis Batch: 262671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-2	MW-17-20250909-01	Total/NA	Water	6010D	262301
860-111458-3	MW-07-20250910-01	Total/NA	Water	6010D	262301
860-111458-4	MW-11-20250910-01	Total/NA	Water	6010D	262301
860-111458-5	MW-12-20250910-01	Total/NA	Water	6010D	262301
860-111458-6	MW-13-20250910-01	Total/NA	Water	6010D	262301
860-111458-7	DUP-01-20250910-01	Total/NA	Water	6010D	262301
860-111458-8	FB-01-20250910-01	Total/NA	Water	6010D	262301
MB 860-262301/1-A	Method Blank	Total/NA	Water	6010D	262301
LCS 860-262301/2-A	Lab Control Sample	Total/NA	Water	6010D	262301
LCSD 860-262301/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	262301
400-282214-G-6-A MS	Matrix Spike	Total/NA	Water	6010D	262301
400-282214-H-6-A MSD	Matrix Spike Duplicate	Total/NA	Water	6010D	262301

Analysis Batch: 262690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-3	MW-07-20250910-01	Total/NA	Water	6020B	262251
MB 860-262251/1-A	Method Blank	Total/NA	Water	6020B	262251
LCS 860-262251/2-A	Lab Control Sample	Total/NA	Water	6020B	262251
LCSD 860-262251/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	262251
860-111578-AA-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	262251
860-111578-U-1-A MS	Matrix Spike	Total/NA	Water	6020B	262251

General Chemistry

Analysis Batch: 261640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	SM 2540C	
860-111458-2	MW-17-20250909-01	Total/NA	Water	SM 2540C	
860-111458-3	MW-07-20250910-01	Total/NA	Water	SM 2540C	
860-111458-4	MW-11-20250910-01	Total/NA	Water	SM 2540C	
860-111458-5	MW-12-20250910-01	Total/NA	Water	SM 2540C	
860-111458-6	MW-13-20250910-01	Total/NA	Water	SM 2540C	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	SM 2540C	
860-111458-8	FB-01-20250910-01	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

General Chemistry (Continued)

Analysis Batch: 261640 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-261640/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-261640/2	Lab Control Sample	Total/NA	Water	SM 2540C	
860-111458-1 DU	MW-14-20250909-01	Total/NA	Water	SM 2540C	
860-111458-2 DU	MW-17-20250909-01	Total/NA	Water	SM 2540C	

Analysis Batch: 261746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-4	MW-11-20250910-01	Total/NA	Water	SM 4500 H+ B	
860-111458-5	MW-12-20250910-01	Total/NA	Water	SM 4500 H+ B	
860-111458-6	MW-13-20250910-01	Total/NA	Water	SM 4500 H+ B	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	SM 4500 H+ B	
860-111458-8	FB-01-20250910-01	Total/NA	Water	SM 4500 H+ B	
880-62422-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 262494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	SM 4500 H+ B	
860-111458-2	MW-17-20250909-01	Total/NA	Water	SM 4500 H+ B	
860-111458-3	MW-07-20250910-01	Total/NA	Water	SM 4500 H+ B	
860-111613-A-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-14-20250909-01

Lab Sample ID: 860-111458-1

Date Collected: 09/09/25 16:10

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/17/25 23:30	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			262533	09/17/25 23:38	WP	EET HOU
Total/NA	Analysis	300.0		10			262533	09/18/25 12:05	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262055	09/15/25 13:25	MD	EET HOU
Total/NA	Analysis	6010D		1			262378	09/16/25 13:43	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:08	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		10			262381	09/16/25 15:12	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		20			262539	09/16/25 18:29	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:28	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			262494	09/16/25 18:45	VS	EET HOU

Client Sample ID: MW-17-20250909-01

Lab Sample ID: 860-111458-2

Date Collected: 09/09/25 17:15

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/17/25 23:46	WP	EET HOU
Total/NA	Analysis	300.0	DL	10			262533	09/17/25 23:53	WP	EET HOU
Total/NA	Analysis	300.0		10			262533	09/18/25 12:13	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 17:49	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:15	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		5			262381	09/16/25 15:18	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 18:32	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:46	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			262494	09/16/25 18:48	VS	EET HOU

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Date Collected: 09/10/25 09:50

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/18/25 00:01	WP	EET HOU
Total/NA	Analysis	300.0		10			262533	09/18/25 12:21	WP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Date Collected: 09/10/25 09:50

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 17:51	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262251	09/16/25 10:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262540	09/17/25 06:18	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262251	09/16/25 10:20	MD	EET HOU
Total/NA	Analysis	6020B		10			262540	09/17/25 06:22	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262251	09/16/25 10:20	MD	EET HOU
Total/NA	Analysis	6020B		5			262690	09/17/25 15:43	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:10	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			262494	09/16/25 18:46	VS	EET HOU

Client Sample ID: MW-11-20250910-01

Lab Sample ID: 860-111458-4

Date Collected: 09/10/25 11:05

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/17/25 22:43	WP	EET HOU
Total/NA	Analysis	300.0		1			262533	09/18/25 11:18	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 17:52	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:20	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		5			262381	09/16/25 15:24	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 18:38	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:34	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			261746	09/12/25 15:51	CT	EET HOU

Client Sample ID: MW-12-20250910-01

Lab Sample ID: 860-111458-5

Date Collected: 09/10/25 12:15

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/17/25 22:51	WP	EET HOU
Total/NA	Analysis	300.0		1			262533	09/18/25 11:25	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 17:54	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:26	DP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: MW-12-20250910-01

Lab Sample ID: 860-111458-5

Date Collected: 09/10/25 12:15

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 18:44	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:26	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			261746	09/12/25 15:55	CT	EET HOU

Client Sample ID: MW-13-20250910-01

Lab Sample ID: 860-111458-6

Date Collected: 09/10/25 15:20

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/17/25 23:14	WP	EET HOU
Total/NA	Analysis	300.0		1			262533	09/18/25 11:33	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 17:55	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:29	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		5			262381	09/16/25 15:38	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 18:47	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:32	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			261746	09/12/25 15:53	CT	EET HOU

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Date Collected: 09/10/25 08:00

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/18/25 00:17	WP	EET HOU
Total/NA	Analysis	300.0		10			262533	09/18/25 12:30	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 18:05	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:41	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		10			262381	09/16/25 15:44	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 18:53	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:24	SHZ	EET HOU

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Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Date Collected: 09/10/25 08:00

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			261746	09/12/25 15:49	CT	EET HOU

Client Sample ID: FB-01-20250910-01

Lab Sample ID: 860-111458-8

Date Collected: 09/10/25 15:30

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262533	09/18/25 13:41	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262301	09/16/25 12:44	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 18:07	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:47	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 18:26	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:27	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	261640	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			261746	09/12/25 15:45	CT	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3010A	Water	Calcium

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-1
SDG: 0769156

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
860-111458-1	MW-14-20250909-01	Water	09/09/25 16:10	09/11/25 19:04	Texas
860-111458-2	MW-17-20250909-01	Water	09/09/25 17:15	09/11/25 19:04	Texas
860-111458-3	MW-07-20250910-01	Water	09/10/25 09:50	09/11/25 19:04	Texas
860-111458-4	MW-11-20250910-01	Water	09/10/25 11:05	09/11/25 19:04	Texas
860-111458-5	MW-12-20250910-01	Water	09/10/25 12:15	09/11/25 19:04	Texas
860-111458-6	MW-13-20250910-01	Water	09/10/25 15:20	09/11/25 19:04	Texas
860-111458-7	DUP-01-20250910-01	Water	09/10/25 08:00	09/11/25 19:04	Texas
860-111458-8	FB-01-20250910-01	Water	09/10/25 15:30	09/11/25 19:04	Texas

[illegible]

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111458-1

SDG Number: 0769156

Login Number: 111458

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8, 4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 10/11/2025 2:50:27 PM

JOB DESCRIPTION

Twin Oaks Power Plant
0769156

JOB NUMBER

860-111458-2

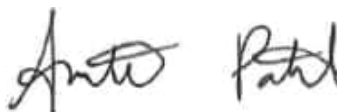
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
10/11/2025 2:50:27 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-111458-2 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	10/10/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/10/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111458-2				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		✓			1
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/10/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111458-2				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			✓		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 10/10/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-111458-2	
Reviewer Name: Anita Patel			
ER# ¹	Description		
1	The reference method requires samples to have a pH of less than 2. The following sample was received with a pH of 7: MW-11-20250910-01 (860-111458-4). The sample was adjusted to the appropriate pH in the laboratory. Affected container: B-4		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-111458-2

Job ID: 860-111458-2

Eurofins Houston

Job Narrative 860-111458-2

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/11/2025 7:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8°C and 4.3°C.

Receipt Exceptions

The reference method requires samples to have a pH of less than 2. The following sample was received with a pH of 7: MW-11-20250910-01 (860-111458-4). The sample was adjusted to the appropriate pH in the laboratory.

Affected container:

B-4

Gas Flow Proportional Counter

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

Rad

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

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Client Sample ID: MW-14-20250909-01

Lab Sample ID: 860-111458-1

Date Collected: 09/09/25 16:10

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.474		0.253	0.257	1.00	0.317	pCi/L	09/16/25 07:53	10/08/25 20:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		30 - 110					09/16/25 07:53	10/08/25 20:48	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.51		0.471	0.491	1.00	0.553	pCi/L	09/16/25 07:59	10/08/25 11:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		30 - 110					09/16/25 07:59	10/08/25 11:56	1
Y Carrier	81.1		30 - 110					09/16/25 07:59	10/08/25 11:56	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.98		0.535	0.554	5.00	0.553	pCi/L		10/09/25 14:59	1

Client Sample ID: MW-17-20250909-01

Lab Sample ID: 860-111458-2

Date Collected: 09/09/25 17:15

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.01		0.338	0.350	1.00	0.334	pCi/L	09/16/25 07:53	10/08/25 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		30 - 110					09/16/25 07:53	10/08/25 20:49	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.85		0.611	0.665	1.00	0.588	pCi/L	09/16/25 07:59	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		30 - 110					09/16/25 07:59	10/08/25 11:57	1
Y Carrier	77.4		30 - 110					09/16/25 07:59	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.87		0.698	0.751	5.00	0.588	pCi/L		10/09/25 14:59	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Date Collected: 09/10/25 09:50

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.168	U	0.180	0.181	1.00	0.285	pCi/L	09/16/25 07:53	10/08/25 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					09/16/25 07:53	10/08/25 20:49	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.31		0.472	0.487	1.00	0.588	pCi/L	09/16/25 07:59	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					09/16/25 07:59	10/08/25 11:57	1
Y Carrier	77.0		30 - 110					09/16/25 07:59	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.47		0.505	0.520	5.00	0.588	pCi/L		10/09/25 14:59	1

Client Sample ID: MW-11-20250910-01

Lab Sample ID: 860-111458-4

Date Collected: 09/10/25 11:05

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.520		0.316	0.319	1.00	0.442	pCi/L	09/16/25 07:53	10/08/25 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		30 - 110					09/16/25 07:53	10/08/25 20:49	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.411	U	0.366	0.368	1.00	0.579	pCi/L	09/16/25 07:59	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.6		30 - 110					09/16/25 07:59	10/08/25 11:57	1
Y Carrier	81.5		30 - 110					09/16/25 07:59	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.931		0.484	0.487	5.00	0.579	pCi/L		10/09/25 14:59	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Client Sample ID: MW-12-20250910-01

Lab Sample ID: 860-111458-5

Date Collected: 09/10/25 12:15

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.19		0.382	0.396	1.00	0.378	pCi/L	09/16/25 07:53	10/08/25 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					09/16/25 07:53	10/08/25 20:49	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.79		0.505	0.531	1.00	0.548	pCi/L	09/16/25 08:00	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					09/16/25 08:00	10/08/25 11:57	1
Y Carrier	77.4		30 - 110					09/16/25 08:00	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.98		0.633	0.662	5.00	0.548	pCi/L		10/09/25 14:59	1

Client Sample ID: MW-13-20250910-01

Lab Sample ID: 860-111458-6

Date Collected: 09/10/25 15:20

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.561		0.279	0.283	1.00	0.338	pCi/L	09/16/25 07:53	10/08/25 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.6		30 - 110					09/16/25 07:53	10/08/25 20:49	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.66		0.497	0.520	1.00	0.554	pCi/L	09/16/25 08:00	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.6		30 - 110					09/16/25 08:00	10/08/25 11:57	1
Y Carrier	79.6		30 - 110					09/16/25 08:00	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.22		0.570	0.592	5.00	0.554	pCi/L		10/09/25 14:59	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Date Collected: 09/10/25 08:00

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.389	U	0.290	0.292	1.00	0.434	pCi/L	09/16/25 07:53	10/08/25 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		30 - 110					09/16/25 07:53	10/08/25 20:49	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.730		0.393	0.399	1.00	0.556	pCi/L	09/16/25 08:00	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		30 - 110					09/16/25 08:00	10/08/25 11:57	1
Y Carrier	80.0		30 - 110					09/16/25 08:00	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.12		0.488	0.494	5.00	0.556	pCi/L		10/09/25 14:59	1

Client Sample ID: FB-01-20250910-01

Lab Sample ID: 860-111458-8

Date Collected: 09/10/25 15:30

Matrix: Water

Date Received: 09/11/25 19:04

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0513	U	0.209	0.209	1.00	0.391	pCi/L	09/16/25 07:53	10/08/25 20:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		30 - 110					09/16/25 07:53	10/08/25 20:47	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.448	U	0.463	0.465	1.00	0.752	pCi/L	09/16/25 08:00	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		30 - 110					09/16/25 08:00	10/08/25 11:57	1
Y Carrier	74.4		30 - 110					09/16/25 08:00	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.499	U	0.508	0.510	5.00	0.752	pCi/L		10/09/25 14:59	1

Eurofins Houston

Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
860-111458-1	MW-14-20250909-01	89.5	
860-111458-1 DU	MW-14-20250909-01	93.4	
860-111458-2	MW-17-20250909-01	86.3	
860-111458-3	MW-07-20250910-01	89.8	
860-111458-4	MW-11-20250910-01	86.6	
860-111458-5	MW-12-20250910-01	87.6	
860-111458-6	MW-13-20250910-01	84.6	
860-111458-7	DUP-01-20250910-01	87.3	
860-111458-8	FB-01-20250910-01	83.9	
LCS 160-736235/2-A	Lab Control Sample	92.2	
MB 160-736235/1-A	Method Blank	92.7	
Tracer/Carrier Legend			
Ba = Ba Carrier			

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
860-111458-1	MW-14-20250909-01	89.5	81.1
860-111458-1 DU	MW-14-20250909-01	93.4	81.1
860-111458-2	MW-17-20250909-01	86.3	77.4
860-111458-3	MW-07-20250910-01	89.8	77.0
860-111458-4	MW-11-20250910-01	86.6	81.5
860-111458-5	MW-12-20250910-01	87.6	77.4
860-111458-6	MW-13-20250910-01	84.6	79.6
860-111458-7	DUP-01-20250910-01	87.3	80.0
860-111458-8	FB-01-20250910-01	83.9	74.4
LCS 160-736236/2-A	Lab Control Sample	92.2	78.5
MB 160-736236/1-A	Method Blank	92.7	82.2
Tracer/Carrier Legend			
Ba = Ba Carrier			
Y = Y Carrier			

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-736235/1-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 736235

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05587	U	0.178	0.178	1.00	0.332	pCi/L	09/16/25 07:53	10/08/25 20:48	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		30 - 110					09/16/25 07:53	10/08/25 20:48	1

Lab Sample ID: LCS 160-736235/2-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 736235

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.57	8.789		1.19	1.00	0.375	pCi/L	92	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	92.2		30 - 110							

Lab Sample ID: 860-111458-1 DU
Matrix: Water
Analysis Batch: 739713

Client Sample ID: MW-14-20250909-01
Prep Type: Total/NA
Prep Batch: 736235

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.474		0.3058	U	0.221	1.00	0.311	pCi/L	0.35	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	93.4		30 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-736236/1-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 736236

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08255	U	0.303	0.303	1.00	0.543	pCi/L	09/16/25 07:59	10/08/25 11:56	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		30 - 110					09/16/25 07:59	10/08/25 11:56	1
Y Carrier	82.2		30 - 110					09/16/25 07:59	10/08/25 11:56	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-736236/2-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 736236

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228		9.00	9.347		1.29	1.00	0.502	pCi/L	104	75 - 125		
	LCS	LCS										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	92.2		30 - 110									
Y Carrier	78.5		30 - 110									

Lab Sample ID: 860-111458-1 DU
Matrix: Water
Analysis Batch: 739713

Client Sample ID: MW-14-20250909-01
Prep Type: Total/NA
Prep Batch: 736236

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit		RER	RER Limit
Radium-228	1.51		2.626		0.618	1.00	0.572	pCi/L		1.01	1
	DU	DU									
Carrier	%Yield	Qualifier	Limits								
Ba Carrier	93.4		30 - 110								
Y Carrier	81.1		30 - 110								

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Rad

Prep Batch: 736235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	PrecSep-21	
860-111458-2	MW-17-20250909-01	Total/NA	Water	PrecSep-21	
860-111458-3	MW-07-20250910-01	Total/NA	Water	PrecSep-21	
860-111458-4	MW-11-20250910-01	Total/NA	Water	PrecSep-21	
860-111458-5	MW-12-20250910-01	Total/NA	Water	PrecSep-21	
860-111458-6	MW-13-20250910-01	Total/NA	Water	PrecSep-21	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	PrecSep-21	
860-111458-8	FB-01-20250910-01	Total/NA	Water	PrecSep-21	
MB 160-736235/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-736235/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
860-111458-1 DU	MW-14-20250909-01	Total/NA	Water	PrecSep-21	

Prep Batch: 736236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111458-1	MW-14-20250909-01	Total/NA	Water	PrecSep_0	
860-111458-2	MW-17-20250909-01	Total/NA	Water	PrecSep_0	
860-111458-3	MW-07-20250910-01	Total/NA	Water	PrecSep_0	
860-111458-4	MW-11-20250910-01	Total/NA	Water	PrecSep_0	
860-111458-5	MW-12-20250910-01	Total/NA	Water	PrecSep_0	
860-111458-6	MW-13-20250910-01	Total/NA	Water	PrecSep_0	
860-111458-7	DUP-01-20250910-01	Total/NA	Water	PrecSep_0	
860-111458-8	FB-01-20250910-01	Total/NA	Water	PrecSep_0	
MB 160-736236/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-736236/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
860-111458-1 DU	MW-14-20250909-01	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Client Sample ID: MW-14-20250909-01

Lab Sample ID: 860-111458-1

Date Collected: 09/09/25 16:10

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.19 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:48	SWS	EET SL
Total/NA	Prep	PrecSep_0			999.19 mL	1.0 g	736236	09/16/25 07:59	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:56	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: MW-17-20250909-01

Lab Sample ID: 860-111458-2

Date Collected: 09/09/25 17:15

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1006.87 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:49	SWS	EET SL
Total/NA	Prep	PrecSep_0			1006.87 mL	1.0 g	736236	09/16/25 07:59	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: MW-07-20250910-01

Lab Sample ID: 860-111458-3

Date Collected: 09/10/25 09:50

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1003.06 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:49	SWS	EET SL
Total/NA	Prep	PrecSep_0			1003.06 mL	1.0 g	736236	09/16/25 07:59	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: MW-11-20250910-01

Lab Sample ID: 860-111458-4

Date Collected: 09/10/25 11:05

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1004.50 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:49	SWS	EET SL
Total/NA	Prep	PrecSep_0			1004.50 mL	1.0 g	736236	09/16/25 07:59	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Client Sample ID: MW-12-20250910-01

Lab Sample ID: 860-111458-5

Date Collected: 09/10/25 12:15

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1007.51 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:49	SWS	EET SL
Total/NA	Prep	PrecSep_0			1007.51 mL	1.0 g	736236	09/16/25 08:00	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: MW-13-20250910-01

Lab Sample ID: 860-111458-6

Date Collected: 09/10/25 15:20

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			982.60 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:49	SWS	EET SL
Total/NA	Prep	PrecSep_0			982.60 mL	1.0 g	736236	09/16/25 08:00	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: DUP-01-20250910-01

Lab Sample ID: 860-111458-7

Date Collected: 09/10/25 08:00

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1003.99 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739713	10/08/25 20:49	SWS	EET SL
Total/NA	Prep	PrecSep_0			1003.99 mL	1.0 g	736236	09/16/25 08:00	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: FB-01-20250910-01

Lab Sample ID: 860-111458-8

Date Collected: 09/10/25 15:30

Matrix: Water

Date Received: 09/11/25 19:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1001.72 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739717	10/08/25 20:47	SWS	EET SL
Total/NA	Prep	PrecSep_0			1001.72 mL	1.0 g	736236	09/16/25 08:00	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Houston

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111458-2
SDG: 0769156

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
860-111458-1	MW-14-20250909-01	Water	09/09/25 16:10	09/11/25 19:04	Texas
860-111458-2	MW-17-20250909-01	Water	09/09/25 17:15	09/11/25 19:04	Texas
860-111458-3	MW-07-20250910-01	Water	09/10/25 09:50	09/11/25 19:04	Texas
860-111458-4	MW-11-20250910-01	Water	09/10/25 11:05	09/11/25 19:04	Texas
860-111458-5	MW-12-20250910-01	Water	09/10/25 12:15	09/11/25 19:04	Texas
860-111458-6	MW-13-20250910-01	Water	09/10/25 15:20	09/11/25 19:04	Texas
860-111458-7	DUP-01-20250910-01	Water	09/10/25 08:00	09/11/25 19:04	Texas
860-111458-8	FB-01-20250910-01	Water	09/10/25 15:30	09/11/25 19:04	Texas

4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



INS

860-111458 Chain of Custody

7497 1

10/11/2025

Client Information		Sampler	Lab P/N										
Client Contact:	Quintin Nel	Hecktor Sene/Andrew Peden	Patel Anita										
Company:	ERM-Northeast	Phone: 956-135-5652	E-Mail: Anita.Patel@eurofins.com										
Address:	295 Madison Avenue Suite 8A	Due Date Requested:	Analysis Requested										
City:	New York	TAT Requested (days):											
State, Zip:	NY 10017	Compliance Project: A Yes A No											
Phone:	512-374-2215(Tel) 512-810-2901(Fax)	Purchase Order Requested											
Email:	quintin.nel@erm.com	ERM Project #:											
Project Name:	Twin Oaks Power Plant	Eurofins Project #:											
Site:	Twin Oaks Power Plant	SSOW#:											
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab, S=grab, L=lab)	Matrix (Water, Soil, Oil, Gas, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Appendix III Metals 6020 Boron, Calcium	Appendix III chloride, fluoride, sulfate by 300	Appendix III pH and TDS 2540C	Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg	903.0 and 904.0- Radium 226 and 228(GFPC)	Total Number of Containers	Special Instructions/Note:
MW-14-20250909-01	9/9	1610	G	Water	X	X	N	X	X	X	X	5	
MW-17-20250909-01	9/10	0950	1	Water	X	X	X	X	X	X	X		
MW-07-20250910-01	9/10	1105	1	Water	X	X	X	X	X	X	X		
MW-12-20250910-01	9/10	1215	1	Water	X	X	X	X	X	X	X		
MW-13-20250910-01	9/10	1300	1	Water	X	X	X	X	X	X	X		
DUP-01-20250910-01	9/10	0800	1	Water	X	X	X	X	X	X	X		
FS-01-20250910-01	9/10	1530	1	Water	X	X	X	X	X	X	X		
Possible Hazard Identification													
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological													
Deliverable Requested: I, II, III, IV Other (specify) TARP 13													
Empty Kit Relinquished by: Date: Time: Method of Shipment:													
Relinquished by: Hecktor Sene Date: 9/10/2025 1600 Company: ERM													
Relinquished by: Andrew Peden Date: 9/10/2025 1904 Company: Eurofins													
Relinquished by: Date: Time: Company:													
Custody Seals Intact: A Yes A No Custody Seal No. Cooler Temperature(s) °C and Other Remarks:													

Temp: 3.0 IR ID: HOU-368
C/F: -0.2
Corrected Temp: 2.8
Temp: 4.5 IR ID: HOU-368
C/F: -0.2
Corrected Temp: 4.3

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111458-2

SDG Number: 0769156

Login Number: 111458

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8, 4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111458-2

SDG Number: 0769156

Login Number: 111458

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 09/15/25 11:10 AM

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 9/18/2025 11:27:40 AM

JOB DESCRIPTION

Twin Oaks Power Plant
0789156

JOB NUMBER

860-111491-1

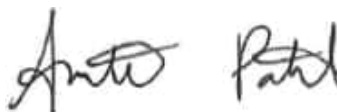
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
9/18/2025 11:27:40 AM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Glossary

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

Eurofins Houston

Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

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Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Method: 300.0 - Anions, Ion Chromatography

Matrix: Water
Prep Method: N/A
Instrument: A391

Prep Type: Total/NA

Detector: IC/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Chloride	0.500	0.422	J	mg/L	0.500	0.250	06/23/2025	860-244265
Sulfate	0.500	0.415	J	mg/L	0.500	0.200	06/23/2025	860-244265
Fluoride	0.500	0.483	J	mg/L	0.500	0.100	06/23/2025	860-244265

Method: 6020B - Metals (ICP/MS)

Matrix: Water
Prep Method: 3010A-Preparation, Total Metals
Instrument: A311

Prep Type: Total/NA

Detector: MSD/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.00160	0.0015	J	mg/L	0.0020	0.00075	06/26/2025	860-245372
Selenium	0.00160	0.0015	J	mg/L	0.0020	0.00059	06/26/2025	860-245372
Thallium	0.00160	0.0014	J	mg/L	0.0020	0.00042	06/26/2025	860-245372
Calcium	0.0800	0.077	J	mg/L	0.10	0.030	06/26/2025	860-245372
Arsenic	0.00320	0.0029	J	mg/L	0.0040	0.00069	06/26/2025	860-245372
Boron	0.00800	0.0054	J	mg/L	0.010	0.0040	06/26/2025	860-245372
Barium	0.00320	0.0028	J	mg/L	0.0040	0.0013	06/26/2025	860-245372
Beryllium	0.00160	0.0014	J	mg/L	0.0020	0.00027	06/26/2025	860-245372
Cadmium	0.00160	0.0015	J	mg/L	0.0020	0.00024	06/26/2025	860-245372
Chromium	0.00320	0.0030	J	mg/L	0.0040	0.00056	06/26/2025	860-245372
Cobalt	0.00160	0.0015	J	mg/L	0.0020	0.00036	06/26/2025	860-245372
Lead	0.00160	0.0014	J	mg/L	0.0020	0.00037	06/26/2025	860-245372
Molybdenum	0.00160	0.0016	J	mg/L	0.0020	0.00026	06/26/2025	860-245372

Method: 7470A - Mercury (CVAA)

Matrix: Water
Prep Method: 7470A-Preparation, Mercury
Instrument: A336

Prep Type: Total/NA

Detector: AA/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Mercury	0.000120	0.00015	J	mg/L	0.00020	0.000071	06/24/2025	860-244706

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-111491-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	09/18/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/18/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111491-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			2
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		✓			3
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 09/18/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111491-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		✓			4
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 09/18/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-111491-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
1	Method 6010D: The method blank for preparation batch 860-262503 and analytical batch 860-262671 contained Lithium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.		
2	Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-261484 and 860-262054 and analytical batch 860-262381 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-262374 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Method 6010D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-262503 and analytical batch 860-262671 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.		
3	Method 6020B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-16-20250911-01 (860-111491-2). Elevated reporting limits (RLs) are provided.		
4	Method 300.0: The continuing calibration blank (CCB) for analytical batch 860-262374 contained Chloride above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-111491-1

Job ID: 860-111491-1

Eurofins Houston

Job Narrative 860-111491-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/11/2025 5:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-262374 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300_ORGFM_28D: The continuing calibration blank (CCB) for analytical batch 860-262374 contained Chloride above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Metals

Method 6010D: The method blank for preparation batch 860-262503 and analytical batch 860-262671 contained Lithium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-262503 and analytical batch 860-262671 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-261484 and 860-262054 and analytical batch 860-262381 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-16-20250911-01 (860-111491-2). Elevated reporting limits (RLs) are provided.

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

General Chemistry

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Client Sample ID: MW-15-20250911-01

Lab Sample ID: 860-111491-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	153		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	50.7		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.249	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0259	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.115		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00388		0.00200	0.000590	mg/L	1		6020B	Total/NA
Calcium	23.8		0.100	0.0301	mg/L	1		6020B	Total/NA
Boron	0.0515		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	641		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-16-20250911-01

Lab Sample ID: 860-111491-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	221		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	118		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.217	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0223	J b	0.0400	0.0174	mg/L	1		6010D	Total/NA
Barium	0.0473		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000460	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Selenium	0.00457		0.00200	0.000590	mg/L	1		6020B	Total/NA
Calcium	53.0		0.500	0.150	mg/L	5		6020B	Total/NA
Boron	0.0393		0.0100	0.00401	mg/L	1		6020B	Total/NA
Total Dissolved Solids	996		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.8	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Client Sample ID: MW-15-20250911-01

Lab Sample ID: 860-111491-1

Date Collected: 09/11/25 10:20

Matrix: Water

Date Received: 09/11/25 17:06

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	153		0.500	0.250	mg/L			09/16/25 23:21	1
Sulfate	50.7		0.500	0.200	mg/L			09/16/25 23:21	1
Fluoride	0.249	J	0.500	0.100	mg/L			09/16/25 23:21	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0259	J b	0.0400	0.0174	mg/L		09/17/25 09:29	09/17/25 18:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:49	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:49	1
Barium	0.115		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:49	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:49	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:49	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:49	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:49	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:49	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:49	1
Selenium	0.00388		0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:49	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:49	1
Calcium	23.8		0.100	0.0301	mg/L		09/15/25 13:20	09/16/25 15:49	1
Boron	0.0515		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 19:04	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	641		10.0	10.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.7	HF			SU			09/15/25 17:05	1

Client Sample ID: MW-16-20250911-01

Lab Sample ID: 860-111491-2

Date Collected: 09/11/25 11:40

Matrix: Water

Date Received: 09/11/25 17:06

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	221		0.500	0.250	mg/L			09/16/25 23:29	1
Sulfate	118		0.500	0.200	mg/L			09/16/25 23:29	1
Fluoride	0.217	J	0.500	0.100	mg/L			09/16/25 23:29	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0223	J b	0.0400	0.0174	mg/L		09/17/25 09:29	09/17/25 18:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 15:52	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 15:52	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Client Sample ID: MW-16-20250911-01

Lab Sample ID: 860-111491-2

Date Collected: 09/11/25 11:40

Matrix: Water

Date Received: 09/11/25 17:06

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.0473		0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 15:52	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 15:52	1
Cadmium	0.000460	J	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 15:52	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 15:52	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 15:52	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 15:52	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 15:52	1
Selenium	0.00457		0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 15:52	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 15:52	1
Calcium	53.0		0.500	0.150	mg/L		09/15/25 13:20	09/16/25 15:55	5
Boron	0.0393		0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 19:07	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:05	09/16/25 00:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	996		10.0	10.0	mg/L			09/12/25 12:34	1
pH (SM 4500 H+ B)	6.8	HF			SU			09/15/25 17:07	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-262374/36

Matrix: Water

Analysis Batch: 262374

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			09/16/25 21:08	1
Sulfate	<0.200	U	0.500	0.200	mg/L			09/16/25 21:08	1
Fluoride	<0.100	U	0.500	0.100	mg/L			09/16/25 21:08	1

Lab Sample ID: LCS 860-262374/37

Matrix: Water

Analysis Batch: 262374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.804		mg/L		98	90 - 110
Sulfate	10.0	9.787		mg/L		98	90 - 110
Fluoride	10.0	9.946		mg/L		99	90 - 110

Lab Sample ID: LCSD 860-262374/38

Matrix: Water

Analysis Batch: 262374

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.821		mg/L		98	90 - 110	0	20
Sulfate	10.0	9.773		mg/L		98	90 - 110	0	20
Fluoride	10.0	9.955		mg/L		100	90 - 110	0	20

Lab Sample ID: LLCS 860-262374/39

Matrix: Water

Analysis Batch: 262374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4142	J	mg/L		83	50 - 150
Sulfate	0.500	0.4594	J	mg/L		92	50 - 150
Fluoride	0.500	0.4351	J	mg/L		87	50 - 150

Lab Sample ID: 560-128433-A-1 MS

Matrix: Water

Analysis Batch: 262374

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	320		10.0	331.6	4	mg/L		118	90 - 110
Sulfate	238		10.0	247.1	4	mg/L		86	90 - 110
Fluoride	1.32		10.0	4.468	N1	mg/L		31	90 - 110

Lab Sample ID: 560-128433-A-1 MSD

Matrix: Water

Analysis Batch: 262374

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	320		10.0	331.3	4	mg/L		115	90 - 110	0	15
Sulfate	238		10.0	246.8	4	mg/L		84	90 - 110	0	15
Fluoride	1.32		10.0	4.342	N1	mg/L		30	90 - 110	3	15

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-262503/1-A
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 262503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.02630	J	0.0400	0.0174	mg/L		09/17/25 09:29	09/17/25 18:20	1

Lab Sample ID: LCS 860-262503/2-A
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 262503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.050		mg/L		105	80 - 120

Lab Sample ID: LCSD 860-262503/3-A
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 262503

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.050		mg/L		105	80 - 120	0	20

Lab Sample ID: 860-111460-F-3-B MS
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 262503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.99	J b	1.00	3.250	N1	mg/L		127	75 - 125

Lab Sample ID: 860-111460-F-3-C MSD
Matrix: Water
Analysis Batch: 262671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 262503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.99	J b	1.00	3.050		mg/L		107	75 - 125	6	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-261484/1-C
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 262054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		09/15/25 13:20	09/16/25 13:39	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		09/15/25 13:20	09/16/25 13:39	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		09/15/25 13:20	09/16/25 13:39	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		09/15/25 13:20	09/16/25 13:39	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		09/15/25 13:20	09/16/25 13:39	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		09/15/25 13:20	09/16/25 13:39	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		09/15/25 13:20	09/16/25 13:39	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		09/15/25 13:20	09/16/25 13:39	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		09/15/25 13:20	09/16/25 13:39	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		09/15/25 13:20	09/16/25 13:39	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		09/15/25 13:20	09/16/25 13:39	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		09/15/25 13:20	09/16/25 13:39	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		09/15/25 13:20	09/16/25 13:39	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: LCS 860-261484/2-C
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 262054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.08664		mg/L		87	80 - 120
Arsenic	0.100	0.09941		mg/L		99	80 - 120
Barium	0.100	0.09909		mg/L		99	80 - 120
Beryllium	0.100	0.09770		mg/L		98	80 - 120
Cadmium	0.100	0.09769		mg/L		98	80 - 120
Chromium	0.100	0.09899		mg/L		99	80 - 120
Cobalt	0.100	0.09873		mg/L		99	80 - 120
Lead	0.100	0.09984		mg/L		100	80 - 120
Molybdenum	0.100	0.09395		mg/L		94	80 - 120
Selenium	0.100	0.1017		mg/L		102	80 - 120
Thallium	0.100	0.1014		mg/L		101	80 - 120
Calcium	2.50	2.497		mg/L		100	80 - 120
Boron	0.100	0.09128		mg/L		91	80 - 120

Lab Sample ID: LCSD 860-261484/3-C
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 262054

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09388		mg/L		94	80 - 120	8	20
Arsenic	0.100	0.09972		mg/L		100	80 - 120	0	20
Barium	0.100	0.09887		mg/L		99	80 - 120	0	20
Beryllium	0.100	0.09795		mg/L		98	80 - 120	0	20
Cadmium	0.100	0.09804		mg/L		98	80 - 120	0	20
Chromium	0.100	0.09895		mg/L		99	80 - 120	0	20
Cobalt	0.100	0.09821		mg/L		98	80 - 120	1	20
Lead	0.100	0.1001		mg/L		100	80 - 120	0	20
Molybdenum	0.100	0.09406		mg/L		94	80 - 120	0	20
Selenium	0.100	0.1018		mg/L		102	80 - 120	0	20
Thallium	0.100	0.1019		mg/L		102	80 - 120	1	20
Calcium	2.50	2.376		mg/L		95	80 - 120	5	20
Boron	0.100	0.09631		mg/L		96	80 - 120	5	20

Lab Sample ID: 860-111377-B-4-E MS
Matrix: Water
Analysis Batch: 262381

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 262054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00457		0.100	0.1037		mg/L		99	75 - 125
Arsenic	0.0126		0.100	0.1098		mg/L		97	75 - 125
Barium	0.414		0.100	0.5080	4	mg/L		94	75 - 125
Beryllium	<0.000271	U	0.100	0.09697		mg/L		97	75 - 125
Cadmium	<0.000240	U	0.100	0.09496		mg/L		95	75 - 125
Chromium	<0.000560	U	0.100	0.09981		mg/L		100	75 - 125
Cobalt	0.000692	J	0.100	0.09751		mg/L		97	75 - 125
Lead	<0.000367	U	0.100	0.1036		mg/L		104	75 - 125
Molybdenum	0.00414		0.100	0.1026		mg/L		98	75 - 125
Selenium	<0.000590	U	0.100	0.1001		mg/L		100	75 - 125
Thallium	<0.000415	U	0.100	0.1057		mg/L		106	75 - 125

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

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

Lab Sample ID: 860-111377-B-4-E MS

Matrix: Water

Analysis Batch: 262381

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 262054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	82.9		2.50	82.93	4	mg/L		-0.5	75 - 125
Boron	0.150		0.100	0.2444		mg/L		94	75 - 125

Lab Sample ID: 860-111377-B-4-F MSD

Matrix: Water

Analysis Batch: 262381

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 262054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00457		0.100	0.1056		mg/L		101	75 - 125	2	20
Arsenic	0.0126		0.100	0.1107		mg/L		98	75 - 125	1	20
Barium	0.414		0.100	0.5285	4	mg/L		114	75 - 125	4	20
Beryllium	<0.000271	U	0.100	0.09735		mg/L		97	75 - 125	0	20
Cadmium	<0.000240	U	0.100	0.09592		mg/L		96	75 - 125	1	20
Chromium	<0.000560	U	0.100	0.1001		mg/L		100	75 - 125	0	20
Cobalt	0.000692	J	0.100	0.09796		mg/L		97	75 - 125	0	20
Lead	<0.000367	U	0.100	0.1065		mg/L		106	75 - 125	3	20
Molybdenum	0.00414		0.100	0.1026		mg/L		98	75 - 125	0	20
Selenium	<0.000590	U	0.100	0.1010		mg/L		101	75 - 125	1	20
Thallium	<0.000415	U	0.100	0.1089		mg/L		109	75 - 125	3	20
Calcium	82.9		2.50	84.46	4	mg/L		61	75 - 125	2	20
Boron	0.150		0.100	0.2465		mg/L		97	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 860-261839/1-A

Matrix: Water

Analysis Batch: 262165

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 261839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		09/14/25 19:04	09/16/25 00:06	1

Lab Sample ID: LCS 860-261839/2-A

Matrix: Water

Analysis Batch: 262165

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 261839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.001971		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-261839/3-A

Matrix: Water

Analysis Batch: 262165

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 261839

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.002002		mg/L		100	80 - 120	2	20

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 860-111458-I-3-A MS

Matrix: Water

Analysis Batch: 262165

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 261839

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.0000706	U	0.00200	0.002025		mg/L		101	75 - 125

Lab Sample ID: 860-111458-J-3-A MSD

Matrix: Water

Analysis Batch: 262165

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 261839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.002020		mg/L		101	75 - 125	0	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-261641/1

Matrix: Water

Analysis Batch: 261641

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			09/12/25 12:34	1

Lab Sample ID: LCS 860-261641/2

Matrix: Water

Analysis Batch: 261641

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	973.0		mg/L		97	80 - 120

Lab Sample ID: 860-111347-A-7 DU

Matrix: Water

Analysis Batch: 261641

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	464		479.0		mg/L		3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 820-20901-B-1 DU

Matrix: Water

Analysis Batch: 262128

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.6		8.6		SU		0	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

HPLC/IC

Analysis Batch: 262374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	300.0	
860-111491-2	MW-16-20250911-01	Total/NA	Water	300.0	
MB 860-262374/36	Method Blank	Total/NA	Water	300.0	
LCS 860-262374/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-262374/38	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-262374/39	Lab Control Sample	Total/NA	Water	300.0	
560-128433-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
560-128433-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Filtration Batch: 261484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-261484/1-C	Method Blank	Total/NA	Water	Filtration	
LCS 860-261484/2-C	Lab Control Sample	Total/NA	Water	Filtration	
LCSD 860-261484/3-C	Lab Control Sample Dup	Total/NA	Water	Filtration	
860-111377-B-4-E MS	Matrix Spike	Dissolved	Water	Filtration	
860-111377-B-4-F MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 261839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	7470A	
860-111491-2	MW-16-20250911-01	Total/NA	Water	7470A	
MB 860-261839/1-A	Method Blank	Total/NA	Water	7470A	
LCS 860-261839/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-261839/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-111458-I-3-A MS	Matrix Spike	Total/NA	Water	7470A	
860-111458-J-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 262054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	3010A	
860-111491-2	MW-16-20250911-01	Total/NA	Water	3010A	
MB 860-261484/1-C	Method Blank	Total/NA	Water	3010A	261484
LCS 860-261484/2-C	Lab Control Sample	Total/NA	Water	3010A	261484
LCSD 860-261484/3-C	Lab Control Sample Dup	Total/NA	Water	3010A	261484
860-111377-B-4-E MS	Matrix Spike	Dissolved	Water	3010A	261484
860-111377-B-4-F MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	261484

Analysis Batch: 262165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	7470A	261839
860-111491-2	MW-16-20250911-01	Total/NA	Water	7470A	261839
MB 860-261839/1-A	Method Blank	Total/NA	Water	7470A	261839
LCS 860-261839/2-A	Lab Control Sample	Total/NA	Water	7470A	261839
LCSD 860-261839/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	261839
860-111458-I-3-A MS	Matrix Spike	Total/NA	Water	7470A	261839
860-111458-J-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	261839

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Metals

Analysis Batch: 262381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	6020B	262054
860-111491-2	MW-16-20250911-01	Total/NA	Water	6020B	262054
860-111491-2	MW-16-20250911-01	Total/NA	Water	6020B	262054
MB 860-261484/1-C	Method Blank	Total/NA	Water	6020B	262054
LCS 860-261484/2-C	Lab Control Sample	Total/NA	Water	6020B	262054
LCSD 860-261484/3-C	Lab Control Sample Dup	Total/NA	Water	6020B	262054
860-111377-B-4-E MS	Matrix Spike	Dissolved	Water	6020B	262054
860-111377-B-4-F MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	262054

Prep Batch: 262503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	3010A	
860-111491-2	MW-16-20250911-01	Total/NA	Water	3010A	
MB 860-262503/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-262503/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-262503/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-111460-F-3-B MS	Matrix Spike	Total/NA	Water	3010A	
860-111460-F-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 262539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	6020B	262054
860-111491-2	MW-16-20250911-01	Total/NA	Water	6020B	262054

Analysis Batch: 262671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	6010D	262503
860-111491-2	MW-16-20250911-01	Total/NA	Water	6010D	262503
MB 860-262503/1-A	Method Blank	Total/NA	Water	6010D	262503
LCS 860-262503/2-A	Lab Control Sample	Total/NA	Water	6010D	262503
LCSD 860-262503/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	262503
860-111460-F-3-B MS	Matrix Spike	Total/NA	Water	6010D	262503
860-111460-F-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010D	262503

General Chemistry

Analysis Batch: 261641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	SM 2540C	
860-111491-2	MW-16-20250911-01	Total/NA	Water	SM 2540C	
MB 860-261641/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-261641/2	Lab Control Sample	Total/NA	Water	SM 2540C	
860-111347-A-7 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 262128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	SM 4500 H+ B	
860-111491-2	MW-16-20250911-01	Total/NA	Water	SM 4500 H+ B	
820-20901-B-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

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Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Client Sample ID: MW-15-20250911-01

Lab Sample ID: 860-111491-1

Date Collected: 09/11/25 10:20

Matrix: Water

Date Received: 09/11/25 17:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262374	09/16/25 23:21	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262503	09/17/25 09:29	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 18:48	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:49	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 19:04	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:44	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	261641	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			262128	09/15/25 17:05	VS	EET HOU

Client Sample ID: MW-16-20250911-01

Lab Sample ID: 860-111491-2

Date Collected: 09/11/25 11:40

Matrix: Water

Date Received: 09/11/25 17:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			262374	09/16/25 23:29	WP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262503	09/17/25 09:29	MD	EET HOU
Total/NA	Analysis	6010D		1			262671	09/17/25 18:49	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262381	09/16/25 15:52	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		5			262381	09/16/25 15:55	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	262054	09/15/25 13:20	MD	EET HOU
Total/NA	Analysis	6020B		1			262539	09/16/25 19:07	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	261839	09/14/25 19:05	PB	EET HOU
Total/NA	Analysis	7470A		1			262165	09/16/25 00:30	SHZ	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	261641	09/12/25 12:34	AP	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			262128	09/15/25 17:07	VS	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3010A	Water	Calcium

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-1
SDG: 0789156

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
860-111491-1	MW-15-20250911-01	Water	09/11/25 10:20	09/11/25 17:06	Texas
860-111491-2	MW-16-20250911-01	Water	09/11/25 11:40	09/11/25 17:06	Texas

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4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



irofins

27569-7497 1

860-111491 Chain of Custody

Client Information		Sampler: Andrew Ryan/Hector Saut		Lab PW: Antia Patel, Antia	
Client Contact: Quentin Nel		Phone: 512-374-2215(Tel) 512-810-2901(Fax)		E-Mail: Antia.Patel@eurofins.com	
Company: ERM-Northeast		PWSID: Standard TAT		Analysis Requested	
Address: 295 Madison Avenue Suite 8A		Due Date Requested:		Job #:	
City: New York		TAT Requested (days):		Preservation Codes:	
State Zip: NY 10017		Compliance Project: Δ Yes Δ No		A HCL M Hexane	
Phone: 512-374-2215(Tel) 512-810-2901(Fax)		Purchase Order Requested		B NaOH N None	
Email: quintin.nel@erm.com		ERM Project #:		C Zn Acetate O ASNAO2	
Project Name: Twin Oaks Power Plant		Eurofins Project #:		D Nitric Acid P NA2O4S	
Site: Twin Oaks Power Plant		SSOW#: 86005616		E NaHSO4 R NA2SO3	
Sample Identification		Sample Date		F MeOH S H2SO4	
MW-15-20250911-01		9/11		G Arsenic T TSP Dodecahydrate	
MW-16-20250911-01		10/20		H Ascorbic Acid U Acetone	
		11/40		I Ice V MCAA	
				J DI Water W pH 4-5	
				K EDTA Y Trizma	
				L EDA Z other (specify)	
				Other	
				Special Instructions/Note:	
				Field Filtered Sample (Yes or No)	
				Perform MS/MSD (Yes or No)	
				Appendix III Metals 6020 Boron, Calcium	
				Appendix III chloride, fluoride, sulfate by 300	
				Appendix III pH and TDS 2540C	
				Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg	
				903.0 and 904.0- Radium 226 and 228(GFPC)	
				Total Number of containers	
				Temp 32 IR ID: HOU-368	
				C/F -0.2	
				Corrected Temp: 3.0	
				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
				Return To Client	
				Disposal By Lab	
				Archive For	
				Months	
				Special Instructions/QC Requirements:	
				Empty Kit Relinquished by:	
				Date:	
				Time:	
				Method of Shipment:	
				Relinquished by:	
				Date/Time:	
				Company:	
				Relinquished by:	
				Date/Time:	
				Company:	
				Relinquished by:	
				Date/Time:	
				Company:	
				Custody Seals Intact	
				Custody Seal No.	
				Cooler Temperature(s) °C and Other Remarks:	

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111491-1

SDG Number: 0789156

Login Number: 111491

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 10/11/2025 2:59:32 PM

JOB DESCRIPTION

Twin Oaks Power Plant
0789156

JOB NUMBER

860-111491-2

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
10/11/2025 2:59:32 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-111491-2 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	10/10/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/10/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111491-2				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 10/10/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-111491-2				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			✓		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 10/10/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-111491-2	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-111491-2

Job ID: 860-111491-2

Eurofins Houston

Job Narrative 860-111491-2

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/11/2025 5:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

Gas Flow Proportional Counter

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

Rad

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

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Client Sample ID: MW-15-20250911-01

Lab Sample ID: 860-111491-1

Date Collected: 09/11/25 10:20

Matrix: Water

Date Received: 09/11/25 17:06

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.635		0.280	0.286	1.00	0.327	pCi/L	09/16/25 07:53	10/08/25 20:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		30 - 110					09/16/25 07:53	10/08/25 20:47	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.19		0.462	0.475	1.00	0.605	pCi/L	09/16/25 08:00	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		30 - 110					09/16/25 08:00	10/08/25 11:57	1
Y Carrier	81.9		30 - 110					09/16/25 08:00	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.83		0.540	0.554	5.00	0.605	pCi/L		10/09/25 14:59	1

Client Sample ID: MW-16-20250911-01

Lab Sample ID: 860-111491-2

Date Collected: 09/11/25 11:40

Matrix: Water

Date Received: 09/11/25 17:06

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.835		0.310	0.319	1.00	0.312	pCi/L	09/16/25 07:53	10/08/25 20:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.7		30 - 110					09/16/25 07:53	10/08/25 20:46	1

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.41		0.544	0.559	1.00	0.721	pCi/L	09/16/25 08:00	10/08/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.7		30 - 110					09/16/25 08:00	10/08/25 11:57	1
Y Carrier	79.3		30 - 110					09/16/25 08:00	10/08/25 11:57	1

Method: TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.24		0.626	0.644	5.00	0.721	pCi/L		10/09/25 14:59	1

Eurofins Houston

Tracer/Carrier Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba					
Lab Sample ID	Client Sample ID	(30-110)					
860-111458-B-1-A DU	Duplicate	93.4					
860-111491-1	MW-15-20250911-01	88.8					
860-111491-2	MW-16-20250911-01	82.7					
LCS 160-736235/2-A	Lab Control Sample	92.2					
MB 160-736235/1-A	Method Blank	92.7					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba	Y				
Lab Sample ID	Client Sample ID	(30-110)	(30-110)				
860-111458-B-1-B DU	Duplicate	93.4	81.1				
860-111491-1	MW-15-20250911-01	88.8	81.9				
860-111491-2	MW-16-20250911-01	82.7	79.3				
LCS 160-736236/2-A	Lab Control Sample	92.2	78.5				
MB 160-736236/1-A	Method Blank	92.7	82.2				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-736235/1-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 736235

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05587	U	0.178	0.178	1.00	0.332	pCi/L	09/16/25 07:53	10/08/25 20:48	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		30 - 110					09/16/25 07:53	10/08/25 20:48	1

Lab Sample ID: LCS 160-736235/2-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 736235

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.57	8.789		1.19	1.00	0.375	pCi/L	92	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	92.2		30 - 110							

Lab Sample ID: 860-111458-B-1-A DU
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 736235

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.474		0.3058	U	0.221	1.00	0.311	pCi/L	0.35	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	93.4		30 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-736236/1-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 736236

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08255	U	0.303	0.303	1.00	0.543	pCi/L	09/16/25 07:59	10/08/25 11:56	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		30 - 110					09/16/25 07:59	10/08/25 11:56	1
Y Carrier	82.2		30 - 110					09/16/25 07:59	10/08/25 11:56	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-736236/2-A
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 736236

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.00	9.347		1.29	1.00	0.502	pCi/L	104	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	92.2		30 - 110
Y Carrier	78.5		30 - 110

Lab Sample ID: 860-111458-B-1-B DU
Matrix: Water
Analysis Batch: 739713

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 736236

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	1.51		2.626		0.618	1.00	0.572	pCi/L	1.01	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	93.4		30 - 110
Y Carrier	81.1		30 - 110

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Rad

Prep Batch: 736235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	PrecSep-21	
860-111491-2	MW-16-20250911-01	Total/NA	Water	PrecSep-21	
MB 160-736235/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-736235/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
860-111458-B-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 736236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-111491-1	MW-15-20250911-01	Total/NA	Water	PrecSep_0	
860-111491-2	MW-16-20250911-01	Total/NA	Water	PrecSep_0	
MB 160-736236/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-736236/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
860-111458-B-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Client Sample ID: MW-15-20250911-01

Lab Sample ID: 860-111491-1

Date Collected: 09/11/25 10:20

Matrix: Water

Date Received: 09/11/25 17:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1002.57 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739717	10/08/25 20:47	SWS	EET SL
Total/NA	Prep	PrecSep_0			1002.57 mL	1.0 g	736236	09/16/25 08:00	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Client Sample ID: MW-16-20250911-01

Lab Sample ID: 860-111491-2

Date Collected: 09/11/25 11:40

Matrix: Water

Date Received: 09/11/25 17:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1007.32 mL	1.0 g	736235	09/16/25 07:53	JTR	EET SL
Total/NA	Analysis	903.0		1			739694	10/08/25 20:46	SWS	EET SL
Total/NA	Prep	PrecSep_0			1007.32 mL	1.0 g	736236	09/16/25 08:00	JTR	EET SL
Total/NA	Analysis	904.0		1			739713	10/08/25 11:57	SWS	EET SL
Total/NA	Analysis	Ra226_Ra228 Pos		1			739929	10/09/25 14:59	SCB	EET SL

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Laboratory: Eurofins St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
Ra226_Ra228 Pos		Water	Radium 226 and 228

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-111491-2
SDG: 0789156

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
860-111491-1	MW-15-20250911-01	Water	09/11/25 10:20	09/11/25 17:06	Texas
860-111491-2	MW-16-20250911-01	Water	09/11/25 11:40	09/11/25 17:06	Texas

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

860-111491 Chain of Custody

do:
27569-7497 1

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111491-2

SDG Number: 0789156

Login Number: 111491

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-111491-2

SDG Number: 0789156

Login Number: 111491

List Number: 2

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 09/15/25 11:10 AM

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

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

Data Usability Summary for Laboratory Packages 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1, and 860-111491-2

September 2025 Groundwater Sampling – Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Environmental Resources Management Southwest, Inc. (ERM) reviewed laboratory analytical data packages (Work Order Numbers 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1, and 860-111491-2) from Eurofins of Houston, Texas for the analysis of twelve (12) groundwater samples, one (1) blind field duplicate sample, one (1) field blank, and one (1) equipment blank collected between September 9 to September 11, 2025, at Twin Oaks Power Station, Robertson County, Texas. Data were reviewed for general conformance to the requirements of the following documents:

- 1) Twin Oaks Power Station, *Groundwater Sampling and Analysis Plan (October 2017)*;
- 2) Environmental Protection Agency's (EPA's) National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001, January 2017);
- 3) Texas Commission on Environmental Quality's (TCEQ's) *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13, May 2010); and
- 4) *CCR Landfill Draft Technical Guideline No. 32* (May 2020).

Eurofins is NELAC-accredited under the Texas Laboratory Accreditation Program for the matrices, analytes, and methods of analysis requested on the chain-of-custody documentation. Eurofins National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in these reports is referenced in the laboratory reports.

Intended Use of Data: To provide concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in the ground water at the facility.

Analyses requested included:

- SW846 6010D – Metals (Lithium) by Inductively Coupled Plasma/Atomic Emission Spectrometry
- SW846 6020B – Metals by Inductively Coupled Plasma/Mass Spectrometry
- SW846 7470A – Mercury by Cold Vapor Atomic Absorption (CVAA)
- SM 2540C – Solids, Total Dissolved (TDS)
- SM 4500 H+ B – pH
- EPA 300.0 – Anions, Ion Chromatography
- EPA 903.0 – Radium-226 by Gas Flow Proportional Counter (GFPC)
- EPA 904.0 – Radium-228 (GFPC)
- TAL-STL Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report;

- Laboratory review checklist (LRC);
- Exception reports (ERs); and
- Case narrative.

The results of supporting quality control (QC) analyses are summarized on the LRCs, ERs, and in the case narrative, which were included in this review.

The LRC, ERs, case narrative, and analytical data report are attached to this report.

INTRODUCTION

Twelve (12) groundwater samples, one (1) blind field duplicate sample, one (1) field blank, and one (1) equipment blank, were submitted to the laboratory for analysis of select metals, anions, general chemistry (TDS and pH), and radium. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Project Data Quality Objectives

The QC sample recoveries and relative percent differences (RPD) were evaluated based on the following Project Data Quality Objectives (DQO):

Organic Compounds

Recovery 60-140%
RPD $\leq$ 40%

Inorganic Compounds

Recovery 70-130%
RPD $\leq$ 30%

Data were qualified in accordance with the TCEQ's TRRP-13 guidance document, including data qualifier codes and data qualifier code definitions.

DATA REVIEW / VALIDATION RESULTS

Analytical Results

Groundwater analytical results are reported in milligrams per liter (mg/L) or picocuries per liter (pCi/L). *Not Detected* results are reported as "U" and represent values less than the method detection limit (MDL). Qualified data are listed in Table 2.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition with the paperwork properly completed. The samples were preserved in the field as specified by the methods. The sample receipt temperature for the three coolers of data packages 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1, and 860-111491-2, (4.3 °C, 3.0 °C, and/or 2.8 °C) were within the acceptance criteria of 4 +/- 2 degrees Celsius.

Samples were prepared and analyzed within holding times, with the exception of pH. The holding time for pH is 15 minutes according to the method; the samples were analyzed 2 to 3 days after sample collection. Therefore, all pH results were qualified as estimated with low bias (JL) for analysis outside of holding time.

In laboratory report 860-111458-1, one sample (MW-11-20250910-01) was received with a pH of 7. The sample was adjusted to the appropriate pH in the laboratory. No qualifiers were required.

Calibrations

According to the LRC, initial calibrations, continuing calibrations, and calibration verifications data met method requirements for metals, radium, general chemistry (pH and TDS), and anions, as applicable.

Blanks

Radium, anions, total dissolved solids, and metals were not detected in method blanks or the field blank, with the following exceptions.

For laboratory report 860-111458-1 the Continuing Calibration Blank (CCB) for analytical batch 860-262533 contained chloride and sulfate above the MDL. The laboratory did not provide the CCB concentration results. The laboratory report stated that all reported samples associated with this CCB were either ND for the analytes or contained the analytes at concentrations greater than ten times the values found in the CCB. Analyte concentrations were greater than ten times, and often greater than 100 times, the reporting limit; therefore, no qualifiers were applied.

For laboratory report 860-111491-1 the CCB for analytical batch 860-262374 contained chloride above the MDL. The laboratory did not provide the CCB concentration results. The laboratory report stated that all reported samples associated with this CCB were either ND for the analytes or contained the analytes at concentrations greater than ten times the values found in the CCB. Analyte concentrations were greater than ten times, and often greater than 100 times, the reporting limit; therefore, no qualifiers were applied.

For laboratory report 860-111458-1, lithium (0.01800 J mg/L) was detected in the method blank in preparation batch 262301 and analytical batch 262671. Associated samples with lithium concentrations less than five times the blank concentration (MW-17-20250909-01, MW-07-20250910-01, MW-11-20250910-01, MW-12-20250910-01, MW-13-20250910-01, DUP-01-20250910-01, and FB-01-20250910-01) were qualified as not detected (U).

For laboratory report 860-111491-1, lithium (0.02630 J mg/L) was detected in the method blank in preparation batch 262503 and analytical batch 262671. Associated samples with lithium concentrations less than five times the blank concentration (MW-15-20250911-01 and MW-16-20250911-01) were qualified as not detected (U).

For laboratory report 860-111458-1, lithium (0.0324 J mg/L) and boron (0.00699 J mg/L) were detected in the field blank (FB-01-20250910-01). The lithium in this sample was qualified as non-detect due to method blank contamination; therefore, no additional qualifiers were required. Samples associated with the field blank with detected results for boron less than five times the field blank concentration (MW-12-20250910-01 and MW-17-20250909-01) were qualified as estimated high (JH) for boron.

Mass Spectral Tuning

According to the LRC, mass spectrometry was not applicable for the analyses requested.

Internal Standards, Surrogate Recoveries, and Carrier Percent Yields

According to the LRC, internal standard area counts, and retention times were not applicable for the analyses requested. Surrogate recoveries were also not applicable for the analyses requested and therefore were not evaluated. Carrier percent yields for radioactive analyses were within acceptable limits.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) precision and accuracy analysis (i.e., percent recovery and relative percentage difference [RPDs], and relative error ratio [RER]) results for all analyses were within DQO acceptance limits.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy results using project samples were within project DQO acceptance limits for metals, anions (chloride, sulfate, and fluoride), and mercury.

Laboratory Precision

The laboratory duplicate results were within the project DQO limits for all analyses except as noted below. No qualifiers were required for laboratory precision.

For laboratory report 860-111458-2 and 860-111481-2, in preparation batch 736236 and analysis batch 739713, the relative error ratio for the laboratory duplicate using site sample MW-14-20250909-01 was greater than 1 (1.01). The parent sample concentration was less than five times the reporting limit and associated samples greater than the reporting limit (MW-14-20250909-01, MW-17-20250909-01, MW-07-20250910-01, MW-12-20250910-01, MW-13-20250910-01, MW-15-20250911-01, and MW-20250911-01) were qualified as estimated (J) for radium-228 and radium 226 and 228.

Field Precision

One pair of field precision samples was collected during the September 2025 event (MW-07-20250910-01 / DUP-01-20250910-01). RPD calculations for detected analytes for the field precision pair are shown in Table 3. All RPD were within DQO limits or had sample concentrations less than two times the value of the MQL, with the following exceptions.

The field precision RPDs for MW-07-20250910-01 / DUP-01-20250910-01 for sulfate (1,010 mg/L and 674 mg/L, respectively) and radium 228 (1.31 pCi/L and 0.730 pCi/L, respectively) were greater than the DQO acceptance limits. The concentration of sulfate in parent sample MW-07-20250910-01 was greater than five times the MQL; therefore, the sample results were qualified as estimated (J). The concentration of radium 228 in MW-07-20250910-01 was less than 2 times the MQL; therefore, no qualifiers were required.

Field Procedures

The samples were collected using procedures documented in the Groundwater Sampling and Analysis Plan for the site.

SUMMARY

No data were rejected during this review. Groundwater analytical data are useable for the purpose of providing concentration data on Appendix III and Appendix IV Coal Combustion Residuals (CCR) Rule parameters in ground water at the Twin Oaks Power Plant. Qualified data are listed in Table 2.

TABLE 1

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory Work Order Numbers 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1 and 860-111491-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

<u>Laboratory Package</u>	<u>Laboratory Identification</u>	<u>Field Identification</u>	<u>Description</u>
860-111457-1	860-111457-1	MW-26-20250909-01	Field Sample
860-111457-1	860-111457-2	MW-25-20250909-01	Field Sample
860-111457-1	860-111457-3	MW-23-20250909-01	Field Sample
860-111457-1	860-111457-4	MW-24-20250910-01	Field Sample
860-111457-1	860-111457-5	EB-01-20250910-01	Equipment Blank
860-111458-1	860-111458-1	MW-14-20250909-01	Field Sample
860-111458-2	860-111458-2	MW-17-20250909-01	Field Sample
860-111458-1	860-111458-3	MW-07-20250910-01	Field Sample
860-111458-2	860-111458-4	MW-11-20250910-01	Field Sample
860-111458-1	860-111458-5	MW-12-20250910-01	Field Sample
860-111458-2	860-111458-6	MW-13-20250910-01	Field Sample
860-111458-1	860-111458-7	DUP-01-20250910-01	Duplicate Sample
860-111458-2	860-111458-8	FB-01-20250910-01	Field Blank
860-111491-1	860-111491-1	MW-15-20250911-01	Field Sample
860-111491-2	860-111491-2	MW-16-20250911-01	Field Sample

TABLE 2

Qualified Data

Laboratory Work Order Numbers 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1 and 860-111491-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Laboratory Report	Field Identification	Analyte	Qualification	Rationale
860-111458-1	MW-14-20250909-01	pH	JL	Analysis outside of hold time
860-111458-1	MW-17-20250909-01	pH	JL	Analysis outside of hold time
860-111458-1	MW-07-20250910-01	pH	JL	Analysis outside of hold time
860-111458-1	MW-11-20250910-01	pH	JL	Analysis outside of hold time
860-111458-1	MW-12-20250910-01	pH	JL	Analysis outside of hold time
860-111458-1	MW-13-20250910-01	pH	JL	Analysis outside of hold time
860-111458-1	DUP-01-20250910-01	pH	JL	Analysis outside of hold time
860-111458-1	FB-01-20250910-01	pH	JL	Analysis outside of hold time
860-111491-1	MW-15-20250911-01	pH	JL	Analysis outside of hold time
860-111491-1	MW-16-20250911-01	pH	JL	Analysis outside of hold time
860-111458-1	MW-17-20250909-01	Lithium	U	Analyte detected in method blank
860-111458-1	MW-07-20250910-01	Lithium	U	Analyte detected in method blank
860-111458-1	MW-11-20250910-01	Lithium	U	Analyte detected in method blank
860-111458-1	MW-12-20250910-01	Lithium	U	Analyte detected in method blank
860-111458-1	MW-13-20250910-01	Lithium	U	Analyte detected in method blank
860-111458-1	DUP-01-20250910-01	Lithium	U	Analyte detected in method blank
860-111458-1	FB-01-20250910-01	Lithium	U	Analyte detected in method blank
860-111458-1	MW-12-20250910-01	Boron	JH	Analyte detected in field blank
860-111458-1	MW-17-20250909-01	Boron	JH	Analyte detected in field blank
860-111491-1	MW-15-20250911-01	Lithium	U	Analyte detected in method blank

TABLE 2

Qualified Data

Laboratory Work Order Numbers 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1 and 860-111491-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Laboratory Report	Field Identification	Analyte	Qualification	Rationale
860-111491-1	MW-16-20250911-01	Lithium	U	Analyte detected in method blank
860-111458-1	MW-07-20250910-01	Sulfate	J	Field duplicate RPD greater than limits
860-111458-1	DUP-01-20250910-01	Sulfate	J	Field duplicate RPD greater than limits
860-111458-2	MW-14-20250909-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-17-20250909-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-07-20250910-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-12-20250910-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-13-20250910-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111491-2	MW-15-20250911-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111491-2	MW-16-20250911-01	Radium 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-14-20250909-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-17-20250909-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-07-20250910-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits

TABLE 2

Qualified Data

Laboratory Work Order Numbers 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1 and 860-111491-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Laboratory Report	Field Identification	Analyte	Qualification	Rationale
860-111458-2	MW-12-20250910-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits
860-111458-2	MW-13-20250910-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits
860-111491-2	MW-15-20250911-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits
860-111491-2	MW-16-20250911-01	Radium 226 and 228	J	Laboratory duplicate RER greater than limits

Notes:

J = Qualified in the DUS as detected at an estimated value.

JH = Qualified in the DUS as detected at an estimated value with high bias.

JL = Qualified in the DUS as detected at an estimated value with low bias.

U = Qualified in the DUS as a not detected.

TABLE 3

Field Precision
Laboratory Work Order Numbers 860-111457-1, 860-111458-1, 860-111458-2, 860-111491-1 and 860-111491-2

Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Field Identification	Analyte	Sample Result (SR)	Duplicate Result (DR)	Relative Percent Difference (RPD)	Qualified
MW-07-20250910-01 / DUP-01-20250910-01	Chloride	295	291	1.37	A
	Sulfate	1010	674	39.90	J
	Fluoride	0.230	J 0.208	J 10.05	A
	Lithium	0.0234	J b 0.0282	J b 18.60	A
	Antimony	<0.000750	U <0.000750	U NA	A
	Arsenic	<0.000690	U <0.000690	U NA	A
	Barium	0.0214	0.0195	9.29	A
	Beryllium	<0.000271	U <0.000271	U NA	A
	Cadmium	0.000481	J 0.000476	J 1.04	A
	Chromium	<0.000560	U <0.000560	U NA	A
	Cobalt	0.00126	J 0.00127	J 0.79	A
	Lead	<0.000367	U <0.000367	U NA	A
	Molybdenum	<0.000255	U <0.000255	U NA	A
	Selenium	<0.000590	U <0.000590	U NA	A
	Thallium	<0.000415	U <0.000415	U NA	A
	Calcium	280	250	11.32	A
	Boron	0.296	0.277	6.63	A
	Mercury	<0.0000706	U <0.0000706	U NA	A
	Total Dissolved Solids	2290	2310	0.87	A
	pH	6.5	HF 6.4	HF 1.55	A
	Radium 226	0.168	U 0.389	U NA	A
	Radium 228	1.31	0.730	56.86	A*
	Radium 226 & 228	1.47	1.12	27.03	A

NOTES:

Only detected analytes are listed in table.

Units in milligrams per liter (mg/L) or picoCuries per Liter (pCi/L).

RPD = ((SR-DR)*200)/(SR+DR)

NA = Not applicable

A = Acceptable data based on project data quality objectives (DQO).

J = Reported as estimated concentration between the sample detection limit (SDL) and the method quantitation limit (MQL).

U = Analyzed but not detected above the Method Detection Limit (MDL) or the SDL.

A* = Acceptable data based on TRRP-13 guidance document.

HF = Parameter with a holding time of 15 minutes. Sample was analyzed outside of hold time.

b = The compound was found in the blank and sample.



III. ASSESSMENT OF CORRECTIVE MEASURES REPORT



Twin Oaks Power Station – Coal Combustion Residuals Landfill Assessment of Corrective Measures

PREPARED FOR
Major Oak Power, LLC

DATE
23 July 2025

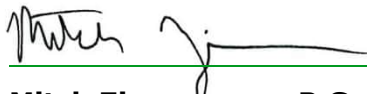
REFERENCE
0770892



Twin Oaks Power Station – Coal Combustion Residuals Landfill

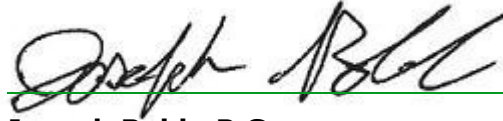
Assessment of Corrective Measures

0770892



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Partner



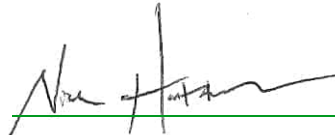
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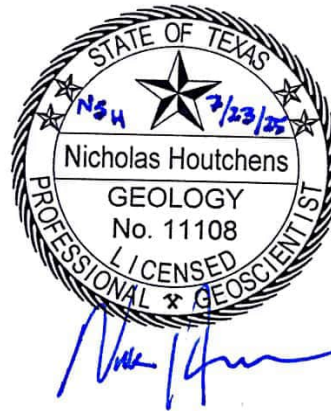
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ACRONYMS AND ABBREVIATIONS

Acronym	Description
ACM	Assessment of Corrective Measures
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
ERM	Environmental Resources Management Southwest, Inc.
GWPS	Groundwater Protection Standards
LCL	Lower Confidence Limit
SSL	Statistically Significant Level
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
Twin Oaks	Twin Oaks Power Station
US EPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

On Behalf of Major Oak Power, LLC, Environmental Resources Management Southwest, Inc. (ERM) has prepared this 2025 Assessment of Corrective Measures summarizing remedial options for the Twin Oaks Power Station (Twin Oaks or Site) Coal Combustion Residuals (CCR) Landfill located in Robertson County, Texas. The CCR Landfill at the Site is subject to regulation under Title 40, Code of Federal Regulations (CFR), Sections 257.96 and 257.97 (40 CFR Part 257), also known as the Federal CCR Rule, and Title 30, Texas Administrative Code (TAC), Sections 352.961 and 352.971 (30 TAC Chapter 352), also known as the Texas CCR Rule (collectively referred to as the CCR Rules).

Groundwater protection standards (GWPS) were previously established for Appendix IV constituents in accordance with 40 CFR § 257.95(d) and 30 TAC § 352.951(b). A statistical analysis of the assessment monitoring data was completed on 3 December 2024. The analysis identified a statistically significant level (SSL) of selenium above the GWPS at monitoring well MW-14.

Notification of the SSL of selenium above the applicable GWPS, in accordance with 30 TAC §352.951(d), was made to the Texas Commission on Environmental Quality (TCEQ) on 17 December 2024 and the notification was placed in the facility's operating record, in accordance with 40 CFR 257.105(h)(8) and 30 TAC §352.1301, on 2 January 2025.

As a result, Major Oak has performed an assessment of corrective measures for selenium to prevent further releases, to remediate any releases and to restore the affected area to original conditions in accordance with environmental regulations 40 CFR § 257.96 and 30 TAC § 352.961 and has included an analysis of the effectiveness of potential corrective measures in meeting the requirements and objectives described under 40 CFR §257.96-97.

Source control is one technology in managing and mitigating the potential impact of CCR constituents on groundwater. When addressing potential impacts, particularly from leachate—the liquid that has percolated through CCR material—source control options can help limit the migration of CCR constituents to groundwater. Both enhanced compaction and capping are important source control technologies for mitigating future leachate from impacting groundwater. Enhanced compaction has the potential to reduce the permeability of the CCR material and creates a physical barrier that reduces or prevents water from contacting CCR material, significantly reducing leachate production.

In the remediation of a selenium-impacted groundwater plume, several groundwater response technologies can be employed, each offering distinct advantages depending on the specific site conditions, groundwater quality, and regulatory requirements. Based on review of these technologies, this ACM evaluates the following groundwater technologies:

- Institutional Control is a deed notification that can be implemented to inform future owners of the presence of potentially hazardous substances at the Site, limit land use and/or limit use of groundwater.

- Monitored Natural Attenuation (MNA) is an approach that relies on natural processes to reduce the concentration of constituents in groundwater over time, with monitoring to ensure that these processes are effective.
- Groundwater Pump and Treat is a remediation technology where impacted groundwater is pumped to the surface, treated and then either reinjected or discharged.
- A Permeable Reactive Barrier (PRB) is an underground barrier made from reactive materials (such as iron, carbon, or other reactive media) that treats impacted groundwater as it flows through the barrier.
- In Situ Injection involves injecting reactive chemicals, biological agents, or other materials directly into the groundwater to remediate impacted groundwater at the source.
- Phytoremediation is a biological remediation technique that uses plants to remove, degrade, or immobilize dissolved constituents like selenium from groundwater.

This ACM proposes specific source control and groundwater response technologies as measures for prevention and remediation of releases of selenium: 1) Prevention is proposed through increased compaction of CCR material during the remaining active life of the landfill as a source control measure to reduce the generation and migration of CCR leachate, and 2) Remediation is proposed through periodic monitoring and implementation of a pilot study to confirm the efficacy of source control and MNA. If MNA is not sufficient or appropriate as a stand-alone remedy, Major Oak will evaluate implementation of another groundwater response technology, which could include laboratory bench-scale and / or field pilot scale study to support the selection of an effective long-term remedial strategy for constituent management.

A public meeting with interested and affected parties will be scheduled at least 30 days prior to selection of the remedy, as described in § 257.96(e). Progress toward remedy selection will be documented in a semiannual report in accordance with § 257.97(a). Site-specific evaluation methods, potentially laboratory bench-scale treatability study and/or field pilot-scale studies, may be warranted to characterize subsurface conditions and support the selection of an effective long-term remedial strategy for constituent management. As soon as feasible, Major Oak Power, LLC will select a remedy that, at a minimum, meets the standards listed in § 257.97(b). Upon selection of a final remedy, a final report will be prepared describing the selected remedy based on the requirements outlined in § 257.97(a), and registration amendment will be issued as required by 30 TAC §352.971(b).

1. INTRODUCTION

The Twin Oaks Power Station (Twin Oaks or Site) is located approximately one mile east of Hammond in the northwest section of Robertson County, Texas (Figure 1). Twin Oaks contains one regulated coal combustion residuals (CCR) unit that is subject to regulation under Title 40, Code of Federal Regulations (CFR), Part 257, Subpart D (40 CFR 257.50 *et seq.*), also known as the Federal CCR Rule, and Title 30, Texas Administrative Code (TAC), Chapter 352 (30 TAC § 352 *et seq.*), also known as the Texas CCR Rule (collectively referred to as the CCR Rules). This unit is known as the CCR Landfill.

This report was produced by Environmental Resources Management Southwest, Inc. (ERM) on behalf of Major Oak Power, LLC and provides an Assessment of Corrective Measures (ACM) for potential remedial options to address selenium impacts to groundwater at the Site. This ACM was initiated on 03 March 2025, and an extension request was approved by TCEQ extending the original due date of 1 June 2025 to 31 July 2025. The regulatory citations and reporting requirements under the CCR Rule are cross-referenced to the contents of this report in **Table 1**.

TABLE 1 REGULATORY REQUIREMENT CROSS-REFERENCE

Regulatory Citation	Requirement (paraphrased)	Where Addressed in this Report
40 CFR 257.96 (a)	ACM Initiated	Section 1*
40 CFR 257.96 (b)	Continued Groundwater Monitoring	Section 5*
40 CFR 257.96 (c)	Analysis of effectiveness of corrective measures	Section 4; Table 2*
40 CFR 257.96 (d)	ACM in Facility's Operating Record	Section 5*
40 CFR 257.96 (e)	Public Meeting	Section 5
40 CFR 257.96 (f)	Recordkeeping	Section 5*
40 CFR 257.97 (a)	Remedy selection	NA
40 CFR 257.97 (b)	Requirements of remedies	Table 2*
40 CFR 257.97 (c)	Evaluation Factors	Section 4; Table 2*
40 CFR 257.97 (d)	Implementation of Remedial Activities	NA
40 CFR 257.97 (e)	Recordkeeping	Section 5

Note: Texas CCR Rule regulatory requirements under 30 TAC § 352.961 and 352.971 adopt the Federal CCR regulatory requirements listed above.

* Task completed prior to or on July 31, 2025.

This assessment of corrective measures will be placed in the facility's operating record, provided to the TCEQ, and placed on the publicly available website as required by § 257.96(f).

1.1 PROGRAM STATUS

The CCR unit groundwater monitoring program began and finished calendar year 2024 under the assessment monitoring program as defined by 40 CFR § 257.95 and 30 TAC § 352.951. The transition from the detection monitoring program to the assessment monitoring program occurred on 27 April 2023, as further documented in the *2023 Annual Groundwater Monitoring and Corrective Action Report* (ERM, 2024).

Groundwater Protection Standards (GWPS) were previously established for all Appendix IV constituents in accordance with 40 CFR § 257.95(h) and 30 TAC § 352.951(b) and are provided in the *2023 Annual Groundwater Monitoring and Corrective Action Report* (ERM, 2024). A statistical analysis of the assessment monitoring data was completed on 3 December 2024. The analysis identified a statistically significant level (SSL) of selenium above the GWPS at monitoring well MW-14.

Notification of the SSL of selenium above the applicable GWPS, in accordance with (30 TAC § 352.951(d), was made to the Texas Commission on Environmental Quality (TCEQ) on 17 December 2024 and the notification was placed in the facility's operating record, in accordance with 40 CFR § 257.105(h)(8) and 30 TAC § 352.1301, on 2 January 2025.

As a result, Major Oak has performed this Assessment of Corrective Measures for selenium to prevent further releases, to remediate any releases and to restore affected area to original conditions in accordance with environmental regulations 40 CFR § 257.96 and 30 TAC § 352.961 and reviews the effectiveness of potential corrective measures in meeting the requirements and objectives described under 40 CFR § 257.97-98.

2. BACKGROUND

2.1 DESCRIPTION OF CCR UNIT

The Twin Oaks CCR Landfill, as defined by the Registration Boundary, is approximately 245 acres in size and is located approximately 0.5 miles northeast of the Twin Oaks Power Station (**Figure 1**). Approximately 130 acres are utilized for the landfilling of CCR material and are permitted by the Texas Commission on Environmental Quality as a Class 2 Landfill. The approved material to be disposed of in the CCR unit is boiler ash, bottom ash, fly ash, lime sludge, storm water, sandblasting material, and brine sludge associated with Site operations (Hydrex Environmental, 2022). On 12 January 2022, the Twin Oaks Power Station submitted a timely Registration Application for CCR Waste Management to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division.

2.2 GEOLOGY

The subsurface geology below the Twin Oaks CCR Landfill is subdivided into three units:

- Unit 1 – Upper confining unit located at a depth of 0 to 32 feet below ground surface (bgs) that consists of low permeability clays, silts, and clayey sands;
- Unit 2 – Uppermost groundwater-bearing unit located at a depth of 6 to 40 ft bgs that consists of silty to well graded sands with lenses of clays and silts; and
- Unit 3 – Lower confining unit located at varying depths at the bottom of the uppermost groundwater-bearing unit (Unit 2) and consists of clays and silts with minor sand content.

Cross sections that depict the geology at the CCR landfill in the vicinity of MW-14 are presented in **Figure 2**.

2.3 HYDROGEOLOGY

Groundwater at the Site has been observed within the uppermost groundwater-bearing unit (Unit 2). Depth to groundwater measurements were collected prior to each of the previous monitoring well sampling events. Based on historical monitoring, the principal direction of groundwater flow in the uppermost groundwater-bearing unit is from the northwest to the southeast.

Groundwater was classified as Class 2 in accordance with TCEQ guidance, based on an estimated yield exceeding 150 gallons per day for a 4-inch well but remaining below 144,000 gallons per day for a 12-inch well.

Previous estimates of groundwater velocity were calculated using estimated hydraulic conductivity values from slug test data in March 2016 (Hydrex Environmental, 2022). For both the March and September 2024 sampling events, horizontal hydraulic gradients were calculated along four flow paths across the CCR Landfill: MW-12 to MW-13, MW-11 to MW-14, MW-7 to MW-17, and MW-16 to MW-15. The velocity of groundwater for each flow path is estimated based on the measured horizontal hydraulic gradient, estimated hydraulic conductivity of 4.85×10^{-3} centimeters per second, and an estimated effective porosity value of 0.3 (Hydrex Environmental, 2022). Hydraulic gradients ranged from 0.0035 to 0.0039 feet/foot during the March sampling event, and from 0.0033 to 0.0042 feet/foot during the September sampling event. Estimated average groundwater velocities of 62 feet/year were calculated for the 2024 sampling events.

3. SITE CHARACTERIZATION

3.1 SUMMARY OF COMPLIANCE MONITORING

The CCR well network consists of four upgradient (MW-07, MW-11, MW-12, and MW-16) and four downgradient (MW-13, MW-14, MW-15, and MW-17) monitoring wells located along the perimeter of the CCR unit. The upgradient wells are placed to accurately represent the quality of background groundwater that has not been affected by potential leakage from the CCR unit, while the downgradient wells in the network are positioned at the downgradient boundary of waste to detect potential release of CCR constituents from the CCR unit into groundwater in the uppermost aquifer (i.e., Unit 2). There are an additional five monitoring wells (MW-18, MW-19, MW-20, MW-21, and MW-22) that provide supplemental information to the monitoring network (e.g., groundwater elevation and quality data). These wells are not included as part of the certified CCR well network and are not regularly sampled. The monitoring well locations are shown in **Figure 3**.

From 2016 to 2022 semiannual groundwater detection monitoring was performed in accordance with 40 CFR § 257.94 and 30 TAC § 352.941. Semiannual groundwater assessment monitoring started in the first half of 2023 and has continued into 2025 in accordance with 40 CFR § 257.95 and 30 TAC § 352.951. A statistical comparison of compliance data was conducted in December 2023 to determine if any Appendix IV constituents were present at statistically significant levels (SSL) above the groundwater protection standards (GWPS). The GWPS were established in 2022 for Appendix IV constituents in accordance with 40 CFR § 257.95(d) and 30 TAC § 352.951(b). The GWPS for selenium is 0.05 mg/L. The analysis identified a statistically significant level (SSL) of selenium above the GWPS at monitoring well MW-14. Concentrations of Selenium detected at MW-14 have ranged from 0.782 mg/L on 24 April 2023 to 0.886 mg/L on 11 September 2024.

For detailed historical data and analysis, refer to ERM's *2023 Annual Groundwater Monitoring and Corrective Action Report* (ERM 2024) and *2024 Annual Groundwater Monitoring and Corrective Action Report* (ERM 2025).

Monitoring well locations and concentrations are provided in **Appendix A**.

3.2 SELENIUM SCREENING LEVEL CHARACTERIZATION

In accordance with 40 CFR § 257.95(g)(1) and 30 TAC § 352.951(a), characterization of the nature and extent of the observed selenium exceedance above the GWPS at monitoring well MW-14 occurred on 13 through 15 January 2025 and 17 and 18 February 2025. Investigation activities included the collection of groundwater sampling data from temporary drive points, and the use of screening data to determine appropriate depths and locations of permanent monitoring wells for selenium delineation.

During the January 2025 direct push technology (DPT) mobilization, points HP1-1 through HP1-5 were advanced to approximately 45 feet below ground surface (bgs) to collect groundwater grab samples. Grab samples were obtained utilizing a Waterra pump system from the water table and at successive 10-foot depth intervals, with three samples taken per location. Prior to sample collection, one set of water quality parameter measurements—including temperature, dissolved oxygen, oxidation-reduction potential, pH, specific conductance, and turbidity—was recorded.

The groundwater samples were delivered to Eurofins Calscience (Eurofins) in Stafford, Texas and analyzed for dissolved selenium using EPA Method 6010D. As these samples were collected for investigative purposes rather than regulatory compliance, field filtration through 0.45-micron filters was performed to mitigate the effects of high turbidity observed during sampling. This approach aligns with industry standard practices for screening-level data collection.

Selenium was not detected at HP1-1, HP1-2, HP1-3, or HP1-5. However, selenium was detected at HP1-4, located east of monitoring well MW-14, at a concentration below the GWPS.

To further guide the selection of permanent monitoring well locations, a second DPT sampling mobilization was conducted in February 2025. Points HP2-1 through HP2-5 were advanced using the same methodology as described previously. Selenium concentrations across the five sampling points (HP2-1 through HP2-5) ranged from 0.000678 mg/L to 0.101 mg/L, with sample depths ranging from 16 to 37 feet. The highest concentration (0.101 mg/L) was detected at HP2-3 at 37 feet, while the lowest (0.000678 mg/L) was observed at HP2-5 at 26 feet. These detections were within the uppermost groundwater bearing unit (Unit 2).

Results from the second mobilization indicated that selenium in groundwater may extend eastward from MW-14 toward HP2-3, bounded to the north by results from HP2-1 and HP2-2, and bounded to the south by HP2-4 and HP2-5. Results from the first and second mobilizations were used to select permanent monitoring well locations as described in Section 3.3.

Sample locations and selenium results are provided in **Appendix B**. The laboratory analytical reports are provided in **Appendix C**.

3.3 DELINEATION OF NATURE AND EXTENT OF SELENIUM

To further the characterization of the nature and extent of selenium downgradient of MW-14, and in compliance with 40 CFR § 257.95(g)(1) and 30 TAC § 352.951(a), four permanent monitoring wells (MW-23 through MW-26) were installed between 8 and 9 April 2025, at depths ranging from 27 to 50 feet below ground surface (bgs). These well depths were based on groundwater sample data collected during the two screening-level sampling events conducted in January and February 2025, discussed in Section 3.2. Monitoring wells installed closer to the landfill were installed at shallower depths to evaluate potential release from the landfill and the monitoring wells further from the landfill were installed deeper to capture potential preferential pathways, based on the screening level results. Following installation, the wells were developed to remove fine soil materials (e.g., silts and clays) within the well casing and filter pack utilizing surge block and groundwater removal via submersible pump. Well construction logs were completed and are included in **Appendix D**.

On 8 and 9 April 2025, groundwater level measurements were collected from the monitoring wells. Depth-to-groundwater measurements were recorded to the nearest 0.01 foot using an electronic depth probe.

Groundwater sampling was completed on 8 through 9 April 2025 using low-flow methodology, in accordance with the site-specific groundwater sampling and analysis plan. Samples were collected from monitoring wells MW-07 and MW-11 through MW-17. Groundwater was purged from each well using a bladder pump equipped with new tubing. Water quality indicator parameters including temperature, pH, conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential were

monitored during well purging using a YSI Pro Plus instrument equipped with a flow cell and recorded on well sampling forms. Purging continued until the water quality indicator parameters reached stabilization. The volume of water purged, and field observations (if any) were recorded and will be included in the 2025 Annual Groundwater Monitoring Report.

Following stabilization of the water quality indicator parameters, groundwater samples were collected into clean, laboratory-supplied sample containers. Groundwater samples collected from the eight (8) compliance monitoring wells were delivered to Eurofins Calscience (Eurofins) in Stafford, Texas for laboratory analysis of the Appendix III and Appendix IV parameters and the four (4) new delineation monitoring wells were submitted for analysis of Total Selenium by EPA Method 6010; however, this discussion focuses solely on total selenium.

Groundwater sampling results from the monitoring wells indicate that selenium was not detected at concentrations above the laboratory reporting limits in wells MW-11, MW-12, MW-24, MW-25 and MW-26. It is noted that monitoring well MW-25 was installed near sample location HP2-3, which previously showed a selenium concentration of 0.101 mg/L. Given this proximity, it is presumed that the earlier detection was likely a high-biased result due to the grab sampling method rather than an actual indication of actual selenium concentration in the groundwater. Selenium was detected in wells MW-07, MW-13, MW-15, MW-16, MW-17 and MW-23 at concentrations ranging from 0.000830 mg/L to 0.00847 mg/L, all of which are below the established Groundwater Protection Standard (GWPS) of 0.05 mg/L. Selenium was detected in MW-14 above the GWPS, where a concentration of 0.815 mg/L was reported.

Monitoring locations and concentrations are provided in **Appendix A**. The laboratory analytical reports are provided in **Appendix C**.

The delineated selenium plume is small, approximately 500 ft by 500 ft, and extends to a depth of approximately 35 ft bgs. Monitoring well locations and the extent of the selenium plume are depicted in **Figure 3**; **Figure 4** depicts the potentiometric surface of the uppermost aquifer. The difference between the apparent eastward migration direction of the selenium plume shown in **Figure 3** and the inferred groundwater flow direction shown in **Figure 4** is likely due to heterogeneity and anisotropy within the uppermost aquifer.

3.4 SELENIUM FATE AND TRANSPORT

Selenium is classified as a metalloid, rather than a true metal, due to its intermediate chemical and physical properties between metals and nonmetals. It occurs in both organic and inorganic forms, such as selenide (Se(-II)), elemental selenium (Se(0)), selenite (Se(IV)), selenate (Se(VI)), and organic compounds like methylated forms and selenium containing proteins (EPA 2007). Se(VI) and Se(IV) are soluble in water, remain in solution, and are bioavailable, posing toxicity risks, particularly in aquatic environments. Elemental selenium has low solubility and reduced bioavailability but can still be transported in colloidal form (Chapman 2000).

Selenium transport in groundwater is influenced by factors like pH, redox conditions, biological activity, and sorption processes. The following is an overview of these processes (EPA 2007):

- **Biotic Reduction:** Microorganisms, particularly in anaerobic environments, reduce selenium to Se(0) or Se(-II) through enzymatic processes. Some bacteria use selenium as an electron acceptor, reducing it to less soluble forms that can form nanoparticles or granules inside the

cells. Others reduce selenium directly to Se(-II), which can lead to the formation of metal selenides, reducing selenium mobility.

- **Abiotic Reduction:** Reduced iron-bearing minerals (e.g., ferrous iron) can also facilitate selenium reduction without biological activity. These minerals donate electrons to selenium oxyanions, reducing them to insoluble forms like Se(0) or Se(-II), often resulting in the formation of metal selenides such as FeSe or MnSe, reducing selenium mobility.
- **Precipitation:** Selenium can precipitate with metal cations (e.g., calcium, magnesium, iron) to form metal selenates and selenites, especially under anoxic conditions. These precipitates immobilize selenium and reduce its mobility.
- **Adsorption:** Selenium can adsorb to various minerals, such as iron oxyhydroxides, iron sulfides, and clays. Under acidic conditions, stronger bonds form, further limiting selenium mobility.
- **Cessation of Microbial Processes:** Reduced microbial activity can halt the reduction of selenium, increasing its mobility.
- **Changes in Redox Conditions:** Shifts to more oxidizing conditions can oxidize reduced iron minerals, releasing selenium back into groundwater.
- **Oxidation of Se(0) or Se(-II):** Exposure to oxygen or oxidants can oxidize selenium to more soluble and mobile forms, such as selenate or selenite.
- **pH and Dissolution:** Higher pH can dissolve metal selenates and selenites, making selenium more mobile, and desorption from mineral surfaces can occur at high pH or in the presence of dissolved organic carbon or competing anions.
- **Reductive Dissolution:** Under anoxic conditions, the reduction and dissolution of iron hydroxides can release selenium back into groundwater, increasing its mobility.

Under oxic conditions, selenate (Se(VI)) is mainly adsorbed to aquifer sediments, which can slow its movement. In mildly reducing conditions, selenate remains largely unaffected (i.e., limited adsorption or precipitation) due to insufficient reduction. However, under highly reducing conditions, selenate and selenite (Se(IV)) are reduced to elemental selenium, which is less mobile, through biotic and abiotic processes. This reduction process plays a key role in selenium attenuation in the aquifer (Haygarth 1994).

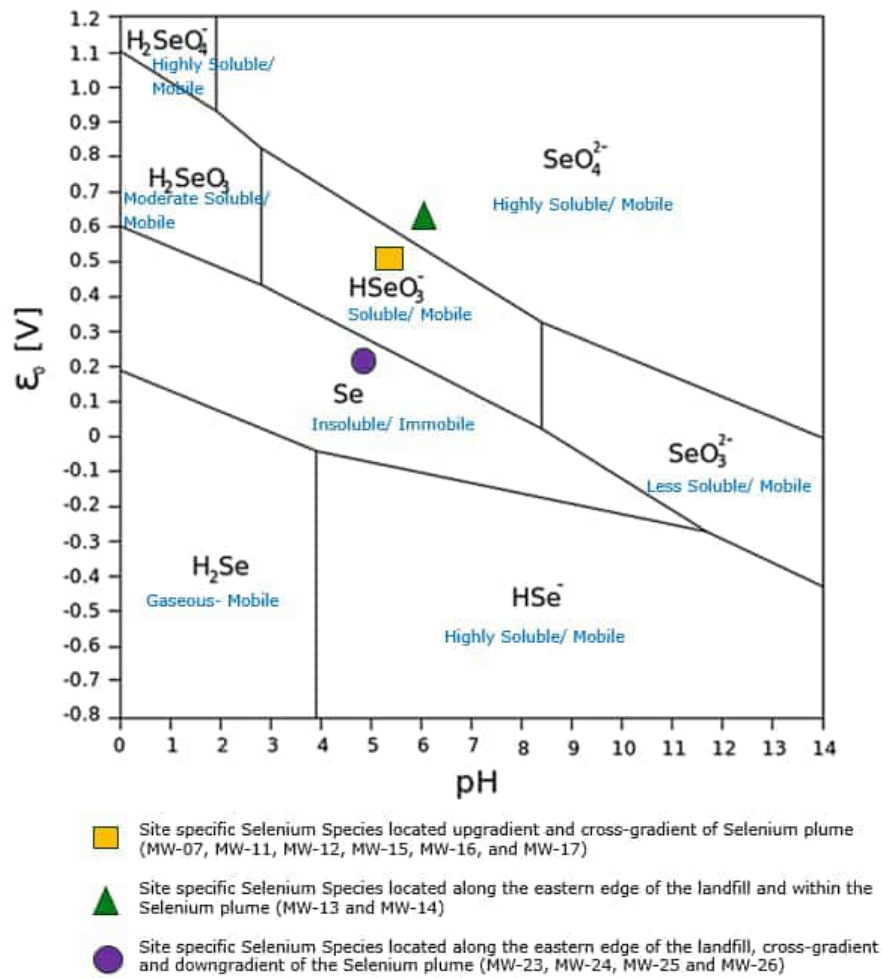
Selenium can precipitate in all oxidation states and interact with common cations, forming metal selenates and selenites. When reduced to elemental selenium, its mobility is limited, as it forms stable precipitates in the soil. Various microbial and abiotic processes, including sulfate-reducing bacteria and green rust, facilitate selenium reduction to less mobile forms like Se(0) and selenide (Se(-II)). In impacted sediments, selenium reduction processes lead to the formation of metal selenide precipitates like FeSe. Selenate, which behaves similarly to sulfate, is highly mobile, while selenite behaves more like phosphate, with higher adsorption. These processes help immobilize selenium in the environment, reducing its potential for further transport (EPA 2007).

In an Eh-pH diagram, "Eh" represents the oxidation-reduction potential of a solution. It's a measure of the electrochemical potential relative to the standard hydrogen electrode, which is typically expressed in volts. Essentially, Eh indicates the tendency of a solution to either gain (reduce) or lose (oxidize) electrons. Eh is a quantitative measure of the tendency of a solution to undergo oxidation or reduction reactions. A high Eh value indicates a strong tendency to oxidize

other substances, while a low Eh value suggests a strong tendency to reduce. In an Eh-pH diagram, the Eh value is plotted against the pH (activity of hydrogen ions) to show the stability fields of different chemical species or minerals. This helps visualize the conditions under which specific species are thermodynamically stable (Huang, Hsin-Hsiung, 2016).

Utilizing the September 2024 site-wide conditions (pH 4.83–6.09 and ORP 123.8–291.3 mV), the Eh-pH conditions were evaluated. Speciation analysis based on the calculated redox potential and pH indicates that the predominant selenium species at the site is hydrogen selenite (HSeO_3^-). The presence of this species suggests mildly reducing conditions, consistent with a redox environment where selenium mobility may be attenuated through limited redox transformation and potential precipitation, though selenate may remain in a stable, soluble form in some areas.

Based on field parameters collected during the April 2025 groundwater sampling event, redox conditions inferred from the Eh-pH diagram provide insight into selenium speciation and distribution across the site. As shown in the figures below, HSeO_3^- (hydrogen selenite) is the expected form of selenium in monitoring wells located upgradient (MW-07 and MW-16) and cross-gradient (MW-11, MW-12, MW-15, and MW-17) of the selenium detections at MW-14, indicating mildly reducing conditions in those areas. Although mildly reducing conditions in upgradient and cross-gradient wells would typically allow for some selenium mobility in the form of selenite (HSeO_3^-), measured selenium concentrations in these wells remain low. The absence of elevated selenium in areas where mobility could be supported by redox conditions suggests that the extent of selenium release is limited and supports the interpretation that selenium mobility is limited to the eastern edge of the landfill near MW-14. In contrast, SeO_4^{2-} (selenate), a more oxidized and mobile selenium species, is the expected form of selenium in wells MW-13 and MW-14 along the eastern edge of the landfill. Elemental selenium (Se^0), a more reduced and immobile species typically present under strongly reducing conditions, is inferred to be present at the downgradient landfill boundary wells MW-23 and MW-24, as well as in downgradient wells MW-25 and MW-26. The interpreted speciation and solubility of selenium inferred from the field Eh and pH values correlate well with the measured selenium concentrations in downgradient groundwater and demonstrate the important role of redox conditions in controlling selenium mobility in groundwater at the Twin Oaks landfill. Additionally, the reducing conditions observed in downgradient wells (e.g., MW-23 through MW-26) are expected to limit further migration of the selenium plume by promoting the formation of less mobile species such as elemental selenium (Se^0), thereby attenuating selenium concentrations beyond the landfill boundary. Further attenuation of selenium mobility is also expected due to landfill compaction and reduced infiltration, which together limit the leaching and transport of selenium into the surrounding groundwater.



https://www.researchgate.net/figure/Pourbaix-diagram-for-selenium-Wikipedia-2019_fig2_338131411))



- **Selenite (HSeO_3^-):** Soluble and mobile
- ▲ **Selenate (SeO_4^{2-}):** Highly soluble and mobile, especially in aerobic conditions.
- **Elemental Selenium (Se^0):** Relatively insoluble and immobile
- Extent of Selenium Plume

3.5 EXPOSURE PATHWAYS

Exposure pathways of selenium in groundwater primarily involve the movement of selenium through the hydrological system, potentially leading to exposure via various mechanisms. These pathways depend on the source of selenium, the geological and hydrological conditions, and the proximity of human populations, ecosystems, and water sources.

One of the primary exposure pathways for selenium in groundwater is the potential impact to water supply wells. Selenium in groundwater can travel via the direction of groundwater flow, potentially reaching drinking water sources if they are located hydraulically downgradient or within

the migration pathway. If selenium concentrations in groundwater are elevated and subsequently extracted for drinking water, it can lead to human exposure. This is particularly relevant in areas where groundwater is used as a primary source for drinking and irrigation water.

As shown in Figure 5, there are no identified wells within a one-mile (5,280-foot) radius of the landfill and selenium plume. The figure depicts domestic, industrial, and "unknown" wells located within a two-mile radius. Based on a groundwater velocity of approximately 62 feet per year, and without consideration of natural attenuation, it is estimated that it would take approximately 85 years for the selenium plume to migrate to these wells under current hydrogeologic conditions. This estimate assumes steady-state flow and uniform aquifer properties along the flow path. Due to the relatively slow groundwater velocity and significant distance to the nearest downgradient water supply well, there is no realistic potential for selenium to enter the water supply for human consumption.

Although certain forms of selenium can exhibit volatile properties under specific conditions, there are no existing structures on the landfill, particularly within the area of the selenium plume, that would present a potential for vapor intrusion. As a result, vapor migration into buildings is not considered a concern at this site, and the vapor intrusion pathway is not considered a complete exposure pathway under current site conditions. Groundwater containing selenium can discharge to surface water through seeps, springs, or discharge points to nearby rivers, lakes, or wetlands. This pathway is especially relevant if selenium is present in high concentrations and is mobile in the groundwater. If the site is near surface water bodies, selenium could contribute to surface water impact, posing risks to aquatic life. The exposure of aquatic organisms to selenium through groundwater discharge can lead to bioaccumulation in fish and other species, potentially impacting the food web and, ultimately, human health if impacted fish are consumed.

Bee Branch is located east of the landfill between monitoring wells MW-25 and MW-26. Bee Branch is characterized as an intermittent stream, typically containing water only after rainfall events, which limits its capacity to act as a habitat for ecological receptors such as fish or waterfowl. However, it also receives flow from the Cooling Tower Blowdown Discharge, which contributes between 0.720 million gallons per day (MGD) to 3 million MGD when the Twin Oaks units are online. In addition, groundwater data from monitoring wells MW-25 and MW-26 demonstrate that the selenium plume does not extend to or under Bee Branch. Based on these considerations, it is unlikely that there is a complete exposure pathway for ecological receptors.

4. CORRECTIVE MEASURES ALTERNATIVES

4.1 SOURCE CONTROL TECHNOLOGIES

Source control technologies in landfills are designed to minimize or prevent the generation of leachate from CCR materials.

4.1.1 NO ACTION

The No Action alternative is provided to serve as a baseline against which the performance of other alternatives is evaluated. Under this alternative, no future remediation, monitoring, O&M, or engineering/institutional controls would be implemented

4.1.2 ENHANCED COMPACTION

Compaction of landfill material reduces the overall porosity (the amount of empty space between particles) and permeability (the ability of fluids to flow through the material). A reduced permeability means that rainwater has less chance of infiltrating the landfill material, reducing the potential for leachate formation containing CCR constituents.

Current landfill procedures involve placing ash in lifts and compacting it with wheeled equipment. Enhanced compaction aims to improve moisture control and material density by establishing a minimum rolling pattern for each lift using a smooth drum roller or similar compaction equipment. Lift thicknesses are controlled and limited so that target density is achieved during rolling. Compacted material will be spot-checked and monitored using the nuclear field density method (ASTM D2922) or other accepted methods to verify the effectiveness of the rolling pattern. Changes in material properties may necessitate future adjustments to placement methods or rolling patterns.

4.1.3 CAPPING

The CCR Rule, under Title 40 CFR Part 257 regulates the disposal of coal combustion residuals in the U.S. The TCEQ issued similar regulations under Title 30 TAC Chapter 352, which created a state CCR management program that aligned with the federal standards. The CCR Rule contemplates closure of CCR landfills by leaving the residuals in place with a final cover system to minimize infiltration and erosion. The cap helps prevent the infiltration of water into the waste mass, which reduces the leachate formation process. The final cover must meet specific design requirements outlined in the CCR Rule (40 CFR 257.102).

The final cover system for the Twin Oaks CCR Landfill must comply with 40 CFR 257.102(d)(3)(i) and 30 TAC 257.102(d)(3). By placing a cap, these areas will be stabilized, reducing potential environmental impacts such as erosion or leachate formation.

4.2 GROUNDWATER RESPONSE TECHNOLOGIES

Groundwater response technologies are designed to limit the migration of dissolved constituents in groundwater downgradient of the source area or otherwise monitor and manage the migration of dissolved constituents.

4.2.1 NO ACTION

The No Action alternative is provided to serve as a baseline against which the performance of other alternatives is evaluated. Under this alternative, no future remediation, monitoring, O&M, or engineering/institutional controls would be implemented.

4.2.2 INSTITUTIONAL CONTROL

A deed notification can be implemented to inform future owners of the presence of potentially hazardous substances at the Site, limit land use and/or limit use of groundwater. Long-term gauging and sampling of the monitoring well network is needed to assess plume stability and constituent concentration trends over time. Monitoring is required until the concentrations of all constituents throughout the CCR unit and any affected areas do not exceed Groundwater Protection Standards (GWPS). There is a Deed Recordation of Disposal of Industrial Solid Waste for the Twin Oaks Facility by Major Oak Power, LLC. It covers a 245.87-acre tract in the Thomas N. Mudd Survey, Abstract No. 229, Robertson County, Texas. The tract is part of a 2,766.947-acre parcel (Part 1) conveyed to Major Oak Power, LLC, as recorded in Volume 1248, Page 475 of the Official Public Records of Robertson County.

In accordance with Texas regulations, a minimum 30-year Post-Closure Care period is required, during which groundwater monitoring, maintenance, and corrective actions (if needed) must be conducted to ensure continued protection of human health and the environment.

4.2.3 MONITORED NATURAL ATTENUATION

Monitored Natural Attenuation (MNA), as defined by the U.S. EPA, is a site cleanup approach that relies on natural processes to reduce concentrations in soil or groundwater over time. In the case of selenium, MNA encompasses key chemical and biological processes such as redox transformations that convert more mobile and toxic selenium species (like selenate, SeO_4^{2-}) into less mobile and less bioavailable forms (such as selenite, HSeO_3^- , and elemental selenium, Se^0). Additionally, processes like sorption to soil minerals and microbial-mediated reduction play a critical role in limiting selenium mobility and toxicity. MNA is used when these natural processes can achieve remediation goals within a reasonable timeframe compared to more active methods. The effectiveness of natural attenuation varies depending on the constituent types and concentrations and the characteristics of the soil and groundwater (ITRC 2010).

Attenuation mechanisms for metals are reactions that cause partitioning from being dissolved in the mobile pore water to being bound on or within immobile solids in the aquifer. In other words, attenuation is achieved by transferring from a mobile to an immobile form. However, constituents or their decay products remain in place, and changes in site geochemistry could potentially remobilize previously stabilized constituents. MNA is generally suitable for sites with low potential for constituent migration (ITRC 2010).

The capacity to continuously remove selenium from groundwater is influenced by how groundwater chemistry evolves over time and whether relevant microbial processes remain active. If selenium attenuation is driven by adsorption or abiotic precipitation, changes in pH or increases in competing anions (such as sulfate) could reverse adsorption reactions or dissolve precipitates like metal selenates or selenites. Similarly, more oxidizing conditions could destabilize reduced mineral phases (like sulfides) that originally sequestered selenium. If microbial reduction governs

selenium attenuation, changes in nutrient availability or competing electron acceptors could hinder continued selenium removal (EPA 2007).

Selenium detections at MW-14 have exhibited increasing concentration trends over the past two years; however, given its positive role in prevention, enhanced compaction was initiated in June 2025 prior to remedy selection to reduce selenium release from the landfill. The naturally occurring reducing conditions of the aquifer downgradient of the landfill are expected to limit further plume migration by promoting the transformation of selenium into less mobile species, thereby enhancing containment. Monitored natural attenuation (MNA) represents a technically appropriate and cost-effective management strategy for the downgradient portions of the plume, contingent upon site-specific performance monitoring and demonstration of plume stability.

4.2.4 GROUNDWATER PUMP AND TREAT

A pump and treat remediation system is a method commonly used to clean up impacted groundwater by pumping out the impacted water and then treating it to remove pollutants. The key components of a pump and treat system are extraction wells, pumps, treatment system, and discharge points. For selenium, there are various options for treatment, which could be used alone or together to meet discharge requirements.

Iron (Reduction): ZVI (zero valent iron) facilitates selenium removal through adsorption and redox reactions, reducing selenate to selenite and ultimately to elemental selenium, particularly under anoxic conditions (EPA 2014). The treatment process typically involves two pH-adjustment stages in a pump-and-treat system: raising the pH (to ~8–9) with sodium hydroxide to precipitate iron as iron hydroxides, followed by lowering the pH (to <5) to promote selenium reduction and precipitation. The efficiency of selenium removal is influenced by pH, redox conditions, and selenium speciation, with NaOH playing a critical role in optimizing these conditions (EPRI 2009).

Reverse Osmosis: Reverse osmosis (RO) is a pressure-driven membrane process that separates water from dissolved ions and constituents, producing clean water while concentrating impurities into a brine that requires appropriate disposal. The membrane's performance and longevity, typically 2 to 5 years, depend on its resistance to chemical and microbial degradation, as well as effective pre-treatment to prevent fouling from hardness and suspended solids. Proper system design, maintenance, and influent conditioning are critical to ensuring sustained RO efficiency and membrane integrity (EPA 2014).

Ion Exchange: Ion exchange is a water treatment process in which undesirable ions in solution are swapped with more favorable ions on a solid resin, commonly used to remove or target specific constituents. The process involves four main steps—service, backwash, regeneration, and rinse—with regeneration restoring the resin's capacity and producing a concentrated waste stream that may need further treatment. Significant volumes of service and backwash water are generated and may require on-site handling and disposal (EPA 2014).

Fluidized Bed Reactor- Biological Reduction: A fluidized bed reactor (FBR) is an active treatment system that uses upward-flowing impacted water to fluidize granular media, creating optimal conditions for microbial colonization and biofilm formation. Designed for aerobic or anaerobic environments, FBRs are effective in treating constituents such as selenium, nitrate, chromium, and perchlorate by promoting microbial reduction processes, including the transformation of

selenate and selenite to elemental selenium. During startup, the system is seeded with bacteria and supplied with electron donors and nutrients to support microbial activity, particularly under anoxic conditions favored by sulfate-reducing bacteria (EPA 2014).

Ferrihydrite Adsorption (Co-Precipitation/ Adsorption): Ferrihydrite adsorption, recognized by the USEPA as the Best Demonstrated Available Technology (BDAT) for selenium treatment, involves dosing ferric salts into water to precipitate ferric hydroxide and ferrihydrite, which co-precipitate selenium onto their surfaces (Onyinye Okonji et al 2021.). Optimal removal occurs at a pH of 4.0 to 6.0, where ferrihydrite formation and selenium adsorption are most efficient, achieving 85–95% removal (Twidwell et al. 2000). After precipitation, iron solids and associated constituents are separated via sedimentation or filtration, and the resulting sludge requires appropriate off-site disposal (EPA 2014).

Ceramic Microfiltration: Ceramic microfiltration is a pressure-driven membrane technology used to remove heavy metals by filtering out metal-laden suspended solids through durable ceramic membranes that can be periodically cleaned to maintain performance. Prior to filtration, the influent undergoes pre-treatment to oxidize iron, reduce CO_2 , and remove suspended solids, followed by pH adjustment of the filtered water before discharge. The separated solids are concentrated and sent to a sludge tank for settling, then dewatered using a sludge press for proper disposal (EPA 2014).

Adsorption: Selenium adsorption involves the attachment of selenium species to surfaces of materials such as soils, sediments, or specialized adsorbents, with effectiveness influenced by factors like pH, initial concentration, ionic strength, and temperature. Inorganic selenium removal is particularly pH-dependent, with lower pH levels generally enhancing adsorption efficiency. Beyond maximum adsorption capacity, a comprehensive evaluation must consider kinetics, solid-liquid separation, adsorbent regeneration, and environmental impacts of disposal (Onyinye Okonji et al. 2021).

- Metal-Based Adsorbents: iron-based (Fe_3O_4), hematite (Fe_2O_3), maghemite ($\gamma\text{-Fe}_2\text{O}_3$), lepidocrocite (FeOOH), ferrihydrite ($\text{Fe}(\text{OH})_3$), goethite ($\alpha\text{-FeOOH}$), aluminum oxides (Al_2O_3), titanium dioxide (TiO_2) and manganese oxides (Mn_3O_4).
- Non-Metal Adsorbents: Activated carbon (AC), granular activated carbon (GAC) integrated with iron (Fe-GAC), clay, silica gel, and bio-sorbents (e.g., peanut shell, rice husk).

Solidification-Chemisorption: Chemisorption involves the use of a chemically modified, silica-based inorganic polymer that forms additional active sites through cross-linking, enhancing its ability to bind selenium oxyanions like selenate. The process takes place in a continuously stirred tank, where the sorbent is dosed into impacted water and allowed to react for 1–3 hours before the mixture is sent to a settling tank for solid-liquid separation. Selenium-laden solids can then be removed via settling or filtration, and the treated water is either discharged or subjected to further treatment, with the resulting solids suitable for safe disposal in landfills (Moore 2011).

4.2.5 PERMEABLE REACTIVE BARRIER

A permeable reactive barrier (PRB) is an in-situ remediation technology that involves creating a barrier made of reactive materials through which impacted groundwater flows. This method is used to treat constituents, including selenium, by passing the water through a reactive medium

that facilitates chemical, physical, or biological processes to remove or transform the constituents. The barrier may use materials that facilitate the reduction of selenate to elemental selenium or insoluble forms, which are less mobile and less toxic (ITRC 2011). PRBs are ideal for treating large, continuous plumes where groundwater flow is predictable and steady to provide long-term, passive treatment. Two commonly used reactants are iron and apatite.

Iron: Zero-Valent Iron (ZVI) acts as a strong electron donor, reducing selenium from its oxidized forms (selenate and selenite) to elemental selenium, which is less mobile in the environment. This reduction is facilitated by ZVI's electron donation, and selenium may also adsorb onto the ZVI surface, particularly on iron oxide/hydroxide coatings that develop over time. However, the formation of precipitates like iron oxides and carbonates can help with electron transfer, though excessive buildup of passivating layers may reduce ZVI's reactivity (ITRC 2011).

Apatite: Apatite, a calcium phosphate mineral, reduces selenium mobility in groundwater by forming insoluble selenium compounds through adsorption and co-precipitation, particularly with selenium species like selenite. It also reacts with dissolved selenium to form minerals such as calcium selenite or calcium selenate, which immobilize selenium and prevent its spread. Additionally, apatite can reduce selenium from its oxidized forms to elemental selenium by releasing electrons in reducing environments, with its calcium content playing a key role in selenium sequestration (Moore et al.).

4.2.6 IN-SITU INJECTION TREATMENT

In situ injection methods for selenium remediation are an increasingly popular approach for treating selenium-impacted groundwater. These methods involve injecting reactive substances directly into the impacted aquifer to chemically or biologically transform selenium into less toxic, less mobile forms. These treatments can be designed to target various forms of selenium, including selenate (Se(VI)), selenite (Se(IV)), and organic selenium compounds.

Direct Push Injections are more flexible and cost-effective for treating localized hotspots, allowing for more targeted delivery of reagent but usually providing more temporary solutions and requiring follow-up actions.

Zero-Valent Iron (ZVI) Injection: Zero-Valent Iron (ZVI) acts as a strong electron donor, reducing selenium from its oxidized forms (Se(VI) and Se(IV)) to elemental selenium (Se(0)) through electron donation. Nanoscale ZVI (nZVI), with its significantly larger surface area, enhances reactivity and accelerates the reduction of selenium species, allowing for faster reactions and better access to constituents in low-permeability environments. nZVI can reduce Se(IV) to Se(II) and Se(0) or adsorb selenium onto ferrihydrite generated during the redox reaction, achieving up to 90% selenium removal within 4–8 hours under oxic conditions (Onyinye Okonji et al.2021).

Bioaugmentation/ Biostimulation: Biological systems, including bacteria, algae, fungi, and plants, can reduce selenium to elemental selenium under both anaerobic and aerobic conditions, with organic carbon compounds stimulating microbial activity in aquifers. Organic carbon serves as an electron donor, creating a reducing environment that facilitates the conversion of selenate to selenite and ultimately to elemental selenium, which then precipitates from groundwater (Sinharoy et al.2022). This reduction process can be enhanced by bioaugmentation or biostimulation, although competing anions like nitrate may inhibit selenium reduction, and

microorganisms can slow the re-oxidation of elemental selenium back to soluble forms (Ullah 2023).

4.2.7 PHYTOREMEDIATION

Phytoremediation is a plant-based remediation strategy that leverages physiological and biochemical processes in plants to remove, degrade, or stabilize environmental constituents in soil and water. This includes mechanisms such as phytoextraction, phytotransformation, and phytovolatilization, whereby plants absorb pollutants through their roots, enzymatically transform them into less toxic compounds, or release them into the atmosphere as volatile substances. Plants such as willows and poplars can take up selenium from impacted sites by absorbing selenate or selenite, then either storing it in their tissues or converting it into non-toxic gases like dimethyl selenide. Seasonal changes can affect phytoremediation efficiency, as plant growth and microbial activity are typically higher during warmer months. Traditional phytoremediation, however, is often limited by factors such as deep groundwater, soil compaction, or high toxin levels (Ullah 2023).

The TreeWell system, developed by Dr. Edward Gatliff, addresses these limitations by engineering a planting unit that enables trees to extract impacted groundwater from depths over 50 feet. This system uses the natural pumping ability of tree roots to draw water upward, linking the groundwater directly to the plant's root zone for treatment. Unlike mechanical pump-and-treat methods, TreeWell operates passively and sustainably, relying on solar-powered tree growth. Selecting the right tree species—especially those with deep root systems like willows and poplars—is critical for success. These trees enable effective selenium uptake and hydraulic control, with TreeWell systems typically reaching full operational effectiveness by their third growing season (Goldmund 2019).

4.3 EVALUATION OF CORRECTIVE MEASURES

The identified corrective measures options were evaluated based on requirements under CCR Rule Sections 257.96(c)(1) through 257.96(c)(3). The evaluation criteria consisted of the following:

- Performance;
- Reliability;
- Ease of Implementation;
- Potential Impacts of Appropriate Potential Remedies:
 - Safety impacts;
 - Cross-media impacts; and
 - Control of exposure to residual impacts.
- Time Required to Begin and Complete the Remedy; and
- Institutional requirements, such as state or local permit requirements or other environmental or public requirements.

Table 2 discusses each remedial option and their evaluation criteria.

5. CONCLUSIONS AND PROJECTED KEY ACTIVITIES

The process of selecting a remedy (or combination of remedies) will begin following submittal of this ACM Report.

With respect to source control technologies, during the remainder of the active life of the plant, Major Oak will implement enhanced compaction of CCR materials as they are placed in the landfill. The objective is to reduce the permeability of the CCR, thereby limiting further infiltration of precipitation and the generation of leachate. Major Oak will also evaluate final landfill capping options to achieve final closure at the end of the active life of the plant.

With respect to groundwater response technologies, periodic monitoring and a field pilot-scale studies may be warranted to characterize subsurface conditions and support the selection of an effective long-term remedial strategy for constituent management. A pilot test is particularly important when confirming a groundwater remediation strategy for selenium, due to its complex geochemistry and variable mobility under different redox conditions. For MNA, a pilot study can be conducted to demonstrate that natural processes are effectively reducing contaminant concentrations and that the plume is stable or shrinking. These studies reduce uncertainty, improve design reliability, and ensure regulatory compliance in addressing selenium-impacted groundwater.

This ACM proposes specific source control and groundwater response technologies as measures for prevention and remediation of releases of selenium: 1) Prevention is proposed through increased compaction of CCR material during the remaining active life of the landfill as a source control measure to reduce the generation and migration of CCR leachate, and 2) Remediation is proposed through periodic monitoring and implementation of a pilot study to confirm the efficacy of source control and MNA. The pilot study could include additional sampling of groundwater from wells in the certified well network and at the new downgradient wells for both water quality and geochemical parameters. The pilot test duration would need to be sufficient to evaluate potential seasonal changes (i.e., 1 to 2 years). If additional testing shows MNA is not adequate as a stand-alone remedy, other groundwater remedies will be evaluated, potentially supported by laboratory bench-scale and / or field pilot scale study to support the selection of an effective long-term remedial strategy for constituent management.

Progress toward remedy selection will be documented in a semiannual report in accordance with § 257.97(a). Groundwater monitoring will continue in accordance with the assessment monitoring program as specified in § 257.96(b). This assessment of corrective measures will be placed in the facility's operating record, provided to the TCEQ, and placed on the publicly available website as required by § 257.96(f) and § 257.96(f). A public meeting with interested and affected parties will be scheduled at least 30 days prior to selection of the remedy, as described in § 257.96(e). Upon selection of a final remedy, a final report will be prepared describing the selected remedy based on the requirements outlined in § 257.97(a) and a registration amendment will be issued as required by 30 TAC § 352.971(b).

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TABLES

Table 2
Evaluation Matrix for Potential Corrective Measures
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Source Control Technologies				
No Action	Protection of human health and environment : This alternative is not considered protective of human health and the environment because no actions would be conducted to provide protection.	Short term effectiveness: This remedy is not effective in removal of contaminated material.	Time required to start remedy: No remedy would be implemented under this option.	Safety: Identical to current.
	Attain groundwater protection standard : This alternative is not expected to satisfy groundwater protection standards.	Short term risk: None, as no remedy implementation would occur.	Time required to complete remedy: No remedy would be implemented under this option.	Cross media impacts: Identical to current media impacts.
	Control the source of releases: Provides no control of source release.	Long term effectiveness: This remedy is not effective in removal of contaminated material.	Permit requirements: No remedy would be implemented under this option.	Potential for exposure to residual contamination: Identical to current exposure risks.
	Remove contaminated material: Provides no removal of contaminated material.	Long term reliability: This approach would not modify existing conditions, and so would not be reliable.	Other institutional requirements: No remedy would be implemented under this option.	Control of exposure to residual contamination: Identical to current control of contamination.
	Magnitude of reduction of risks: None, as no remedy implementation would occur.	Long-term management: None, as no remedy implementation would occur.	Comply with waste management requirements: No remedy-related waste would be generated.	Degree to which community concerns are addressed by a potential remedy: The "No Action" option would not address community concerns related to contaminated groundwater.
	Magnitude of residual risks: None, as no remedy implementation would occur.	Potential for need to replace remedy: No remedy would be implemented, so no replacement would be necessary.	Difficulty associated with constructing the technology: No remedy would be implemented under this option.	
	Time until full protection: No remedy would be implemented under this option.		Availability of necessary equipment and specialists: No remedy would be implemented under this option.	
Enhanced Compaction	Use of treatment technologies: No remedy would be implemented under this option.		Available capacity and location of needed treatment, storage, and disposal services: No remedy would be implemented under this option.	
	Protection of human health and environment: This alternative would prevent impacts to groundwater by reducing leachate formation; however, this would not mitigate current plume. Current plume would be mitigated by other alternative.	Short term effectiveness: significant in terms of stabilizing the waste mass, and reducing leachate generation.	Time required to start remedy: Enhanced compaction can begin immediately.	Safety: Identical to current.
	Attain groundwater protection standard: Compacting a landfill alone is not enough to fully attain groundwater protection standards; however, it plays a critical role in reducing infiltration and the risks associated with impacts to groundwater.	Short term risk: the management of leachate, the potential for surface instability, and the need for proper monitoring systems.	Time required to complete remedy: Not a final remedy for completion but is a critical engineering control during landfill operation and closure.	Cross media impacts: Identical to current media impacts. Formation of leachate would be controlled.
	Control the source of releases: Enhanced compaction would control the source of release by reducing formation of leachate.	Long term effectiveness: significant in terms of stabilizing the waste mass, and reducing leachate generation.	Permit requirements: None.	Potential for exposure to residual contamination: Identical to current exposure risks.
	Remove contaminated material: Current contaminated material would not be removed.	Long term reliability: depends on maintaining compaction to minimize leachate generation from precipitation percolating through the CCR material.	Other institutional requirements: CCR Registration Update.	Control of exposure to residual contamination: Identical to current control of contamination.
	Magnitude of reduction of risks: significantly reduces the risks associated with the impacts to groundwater, air pollution, and other environmental hazards.	Long-term management: Monitoring of landfill integrity. Settlement can cause cracks or gaps in landfill.	Comply with waste management requirements: The waste is being managed in compliance with a state permit.	Degree to which community concerns are addressed by a potential remedy: We anticipate the community would react positively to measures aimed to reduce the generation of leachate.
	Magnitude of residual risks: Enhanced compaction significantly reduces the permeability of the waste, but it cannot entirely prevent leachate formation.	Potential for need to replace remedy: No technology is implemented so no replacement would be necessary.	Difficulty associated with constructing the technology: utilize appropriate equipment for compacting.	
	Time until full protection: Enhanced compaction significantly reduces the immediate risks, but long-term environmental protection relies on continued monitoring, maintenance, and appropriate management of leachate, and cover systems.		Availability of necessary equipment and specialists: Equipment is readily available.	
	Use of treatment technologies: Machinery used to compact waste. Continued use of machinery for all new material brought to landfill.		Available capacity and location of needed treatment, storage, and disposal services: No additional capacity associated with this method.	

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Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Capping	Protection of human health and environment: This alternative would isolate/prevent exposure to CCR material in the subsurface.	Short term effectiveness: Not expected to be effective for at least several year after implementation. This remedy mitigates on-going source of CCR constituents to groundwater, enhancing achievement of GWPS.	Time required to start remedy: Final capping cannot be fully implemented until plant operations have ceased, and the timeline for plant closure is currently undetermined.	Safety: Identical to current.
	Attain groundwater protection standard: Mitigates on-going source of CCR constituents to groundwater, enhancing achievement of GWPS.	Short term risk: Potential for impacts to air and site workers. This is anticipated to include standard remedial construction practices and monitoring during construction. Air quality impacts may result from dust and particulate matter generated during earth-moving and capping activities, which will be controlled through dust suppression and monitoring to protect worker health and nearby receptors.	Time required to complete remedy: capping a landfill typically takes 2 to 4 years, with larger or more complex landfills potentially requiring more time to complete.	Cross media impacts: Identical to current media impacts.
	Control the source of releases: Minimizes potential for migration of CCR constituents to groundwater by controlling infiltration of precipitation through CCR material.	Long term effectiveness: Established approach for restricting future mobility of leachate generated from the CCR.	Permit requirements: State permit will be required.	Potential for exposure to residual contamination: This alternative would isolate/prevent exposure to the subsurface contamination.
	Remove contaminated material: Provides no removal of contaminated material.	Long term reliability: The design of the closure cap will focus on long-term durability and effectiveness.	Other institutional requirements: CCR Registration Update.	Control of exposure to residual contamination: The CCR material remains in the landfill, with the cap serving to mitigate the ongoing release of CCR constituents to groundwater.
	Magnitude of reduction of risks: Significant due to cutting off source of leachate.	Long-term management: The capped landfill would follow standard long-term operation, maintenance and monitoring of integrity of the cap.	Comply with waste management requirements: Construction waste generated during development of cap.	Degree to which community concerns are addressed by a potential remedy: We anticipate the community would react positively to measures aimed to reduce and eventually eliminate the generation of leachate.
	Magnitude of residual risks: Minimal, as direct contact and exposure via groundwater are addressed.	Potential for need to replace remedy: Over time, physical degradation can occur due to erosion, settling, cracking, or biological activity. To address these risks, a minimum 30-year post-closure care period is required to monitor, maintain, and repair the remedy as needed to ensure its long-term effectiveness and protect human health and the environment.	Difficulty associated with constructing the technology: The construction crew will implement the cap, accounting for potential challenges such as weather-related delays and the necessary drying time for CCR material prior to grading.	
	Time until full protection: Timeframe can be determined once implemented.		Availability of necessary equipment and specialists: Capping is a common treatment and equipment and specialists are readily available.	
	Use of treatment technologies: A cap will be installed along the surface of the landfill.		Available capacity and location of needed treatment, storage, and disposal services: Once cap has been implemented, no additional space is required.	

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Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Groundwater Response Technologies				
No Action	Protection of human health and environment : This alternative is not considered protective of human health and the environment because no actions would be conducted to provide protection.	Short term effectiveness: This remedy is not effective in removal of contaminated material.	Time required to start remedy: No remedy would be implemented under this option.	Safety: Identical to current
	Attain groundwater protection standard : This alternative is not expected to satisfy groundwater protection standards.	Short term risk: None, as no remedy implementation would occur.	Time required to complete remedy: No remedy would be implemented under this option.	Cross media impacts: Identical to current media impacts.
	Control the source of releases: Provides no control of source release	Long term effectiveness: This remedy is not effective in removal of contaminated material.	Permit requirements: No remedy would be implemented under this option.	Potential for exposure to residual contamination: Identical to current exposure risks
	Remove contaminated material: Provides no removal of contaminated material.	Long term reliability: This approach would not modify existing conditions, and so would not be reliable.	Other institutional requirements: No remedy would be implemented under this option.	Control of exposure to residual contamination: Identical to current control of contamination.
	Magnitude of reduction of risks: None, as no remedy implementation would occur. If used in conjunction with capping and/or compaction, a low reduction of risk would occur due to dilution and dispersion of the plume.	Long-term management: None, as no remedy implementation would occur.	Comply with waste management requirements: No remedy-related waste would be generated.	Degree to which community concerns are addressed by a potential remedy: The "No Action" option would not address community concerns related to contaminated groundwater.
	Magnitude of residual risks: None, as no remedy implementation would occur.	Potential for need to replace remedy: No remedy would be implemented, so no replacement would be necessary.	Difficulty associated with constructing the technology: No remedy would be implemented under this option.	
	Time until full protection: No remedy would be implemented under this option.		Availability of necessary equipment and specialists: No remedy would be implemented under this option.	
	Use of treatment technologies: No remedy would be implemented under this option.		Available capacity and location of needed treatment, storage, and disposal services: No remedy would be implemented under this option.	
Institutional Control	Protection of human health and environment: This alternative would not impact the groundwater quality, however, would limit the ability for people to use groundwater as a source therefore protecting from human exposure. This technology is generally used in conjunction with other response technologies and would enhance the protection of human health and environment.	Short term effectiveness: This remedy would prohibit exposures once implemented. Implementation can take 6 to 12 months.	Time required to start remedy: Typical time frame to complete the implementation of institutional control is 6 to 12 months.	Safety: Identical to current
	Attain groundwater protection standard: This alternative is not expected to satisfy groundwater protection standards.	Short term risk: Prior to implementing the institutional control, exposure risks may still occur.	Time required to complete remedy: Typical time frame to complete the implementation of institutional control is 6 to 12 months.	Cross media impacts: Identical to current media impacts.
	Control the source of releases: This alternative would not impact the groundwater quality.	Long term effectiveness: In conjunction with other remedies, the institutional control could be effective in the long term.	Permit requirements: Registration much be obtained through 30 TAC Chapter 352, financial assurance and public notice and participation is required.	Potential for exposure to residual contamination: Institutional controls are administrative procedures designed to eliminate exposure to residual contamination.
	Remove contaminated material: This alternative would not impact the groundwater quality.	Long term reliability: In conjunction with other remedies, the institutional control could be reliable in the long term.	Other institutional requirements: Controls must be established under applicable local, state, or federal law (e.g., deed restrictions, zoning ordinances, easements).	Control of exposure to residual contamination: Institutional controls are administrative procedures designed to eliminate exposure to residual contamination.
	Magnitude of reduction of risks: Institutional Controls prohibit exposures which eliminates risk to human receptors.	Long-term management: None, as no remedy implementation would occur. However, the implementation of a institutional control could require long term groundwater monitoring to demonstrate adequate management.	Comply with waste management requirements: Institutional controls are not anticipated to generate waste except de minimus quantities of IDW, which can be managed to comply with applicable regulations.	Degree to which community concerns are addressed by a potential remedy: We anticipate the community would react positively to measures aimed to reduce or eliminate exposure pathways
	Magnitude of residual risks: No residual risks are expected under an institutional control	Potential for need to replace remedy: The institutional control would not need to be replaced, however, it may need to be reviewed, updated, or reinforced over time.	Difficulty associated with constructing the technology: Institutional controls are administrative and do not require construction.	
	Time until full protection: Typical time frame to complete the implementation of institutional control is 6 to 12 months.		Availability of necessary equipment and specialists: Administrative controls are administrative and do not require equipment: specialists are readily available.	
	Use of treatment technologies: No remedy to groundwater quality will occur.		Available capacity and location of needed treatment, storage, and disposal services: Institutional controls do not require treatment, storage, or disposal services.	

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Robertson County, Texas

Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Monitored Natural Attenuation	Protection of human health and environment: Given sufficient time, this remedy can reduce concentrations of groundwater constituents to meet GWPS, such that they do not pose an unacceptable risk to human health or the environment. To provide effectiveness, source area control (capping and/or compaction) should be used in conjunction with this option to limit the continued source of the plume.	Short term effectiveness: Timeframe for completion depends on several factors: timing of source control, rates of natural attenuation, and groundwater velocities. At this site, the timeframe would likely exceed 10 years. Fate and transport modeling could provide a more rigorous time to complete estimate.	Time required to start remedy: Remedy is naturally occurring.	Safety: Identical to current, over time concentrations of contaminants will decrease and decrease safety risks.
	Attain groundwater protection standard: Natural processes tend to be reliable in reducing contaminant concentrations over time. Attenuation is achieved by the contaminant transferring from a mobile to an immobile form, therefore this would be used in conjunction with capping and/or compaction, to limit contaminant migration.	Short term risk: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.	Time required to complete remedy: Timeframe for completion depends on several factors: timing of source control, rates of natural attenuation, and groundwater velocities. At this site, the timeframe would likely exceed 10 years. Fate and transport modeling could provide a more rigorous time to complete estimate.	Cross media impacts: No risk of causing cross-media impacts, all groundwater remains in the subsurface.
	Control the source of releases: This remedy would not control the release source.	Long term effectiveness: Natural processes tend to be reliable in reducing contaminant concentrations over time.	Permit requirements: None, this remedy relies on natural processes.	Potential for exposure to residual contamination: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.
	Remove contaminated material: MNA would rely primarily on immobilization, adsorption and/or precipitation of the CCR constituents released to the environment rather than removal. MNA is expected to function effectively downgradient of an implemented groundwater treatment system.	Long term reliability: Natural processes tend to be reliable in reducing contaminant concentrations over time.	Other institutional requirements: None, this remedy relies on natural processes.	Control of exposure to residual contamination: Given sufficient time, this remedy can reduce concentrations of groundwater constituents to meet GWPS, such that they do not pose an unacceptable risk to human health or the environment.
	Magnitude of reduction of risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.	Long-term management : Longterm monitoring is required to track the effects of mass removal and/or concentration declines.	Comply with waste management requirements: There is minimal waste generation associated with this remedy, and those wastes can be readily managed in accordance with RCRA requirements.	Degree to which community concerns are addressed by a potential remedy: Natural processes tend to be reliable in reducing contaminant concentrations over time.
	Magnitude of residual risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.	Potential for need to replace remedy: None, this remedy relies on natural processes.	Difficulty associated with constructing the technology: None, this remedy relies on natural processes.	
	Time until full protection: Timeframe for completion depends on several factors: timing of source control, rates of natural attenuation, and groundwater velocities. At this site, the timeframe would likely exceed 10 years. Fate and transport modeling could provide a more rigorous time to complete estimate.		Availability of necessary equipment and specialists: No equipment and specialist are necessary, remedy relies on natural processes.	
	Use of treatment technologies: No technologies are utilized with this remedy.		Available capacity and location of needed treatment, storage, and disposal services: Not necessary under this treatment, remedy relies on natural processes.	

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Robertson County, Texas

Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Groundwater Pump and Treat	Protection of human health and environment: If pumping system achieves hydraulic containment, then concentrations of groundwater constituent's downgradient of the pumping system will decline over time to below GWPS due to natural attenuation, reducing or eliminating risks to human health and the environment.	Short term effectiveness: Improvements of groundwater quality or hydraulic control will be observed within the radius of influence of the pumping system.	Time required to start remedy: 2-3 years for groundwater modeling, pumping tests, design, installation of pumping wells, and water piping and treatment systems.	Safety: Low risks, associated with installation of extraction and monitoring wells, and limited increase in vehicular traffic for well installation, sampling, and closure.
	Attain groundwater protection standard: Improvements in groundwater quality are expected in the hydraulic capture zone, as wells as downgradient of the capture zone if coupled with Monitored Natural Attenuation for the distal portions of the selenium plume.	Short term risk: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with supplemental technologies.	Time required to complete remedy: Could vary from years to decades depending on area being treated, groundwater flow velocity, and other site-specific factors.	Cross media impacts: Impacts are low since most of subsurface material will be pumped through treatment piping and system.
	Control the source of releases: Pump and Treat will be implemented downgradient of the source and will help mitigate plume migration.	Long term effectiveness: Improvements of groundwater quality or hydraulic control will be observed within the radius of influence of the pumping system.	Permit requirements: Possible state permits for water discharge.	Potential for exposure to residual contamination: If pumping system achieves hydraulic containment, then concentrations of constituents downgradient of the pumping system will decline over time to below GWPS due to natural attenuation, reducing or eliminating risks to human health or the environment.
	Remove contaminated material: Contaminated from the capture zone would be pumped through the treatment system, which would remove constituents of concern.	Long term reliability: Generally high in the areas downgradient of the pumping system, assuming that the hydraulic control component is adequate to maintain a high degree of groundwater capture.	Other institutional requirements: State approvals, CCR Registration update.	Control of exposure to residual contamination: Generally high in the areas downgradient of the pumping system, assuming that the hydraulic control component is adequate to maintain a high degree of groundwater capture.
	Magnitude of reduction of risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with additional response technologies.	Long-term management : Redevelopment and replacement of pumping wells, O&M of water treatment system, routine groundwater monitoring upgradient and downgradient of the pumping system; routine monitoring of water discharge, periodic testing and redevelopment of injection wells, area all components of long term management.	Comply with waste management requirements: Waste associated with treatment system, periodic changeout will be required when filtration system has reached capacity.	Degree to which community concerns are addressed by a potential remedy: Community likely will favor the approach because selenium concentrations will decrease over time.
	Magnitude of residual risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.	Potential for need to replace remedy: Extraction wells may have to be periodically replaced, if redevelopment programs are not effective.	Difficulty associated with constructing the technology: Drilling and well installation, piping installation, water treatment system construction.	
	Time until full protection: Could vary from years to decades depending on area being treated, groundwater flow velocity, and other site-specific factors.		Availability of necessary equipment and specialists: Pump and treat is an effective treatment and equipment and specialists are readily available.	
	Use of treatment technologies: This remedy will require extraction wells, piping installation and treatment system for water.		Available capacity and location of needed treatment, storage, and disposal services: Water filtration system will need to be located in the vicinity of the extraction wells. Location of discharge will also need to be located near treatment system.	

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Robertson County, Texas

Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Permeable Reactive Barrier	Protection of human health and environment: If the PRB is properly installed and the reactant performs as planned, then concentrations of constituents downgradient of the PRB will decline over time to below GWPS due to natural attenuation, reducing or eliminating risks to human health or the environment.	Short term effectiveness: PRBs would rely primarily on immobilization of the CCR constituents released to the environment rather than removal.	Time required to start remedy: 1 to 4 years for groundwater modeling, pumping tests, design, installation of PRB, installation of monitoring wells.	Safety: worker safety concerns during PRB installation, slight increase in vehicular traffic for well installation, sampling, and closure.
	Attain groundwater protection standard: If reagent is selected appropriately, improvements of groundwater quality will be observed downgradient of the PRB, eventually achieving the GWPS.	Short term risk: worker safety concerns during PRB installation, slight increase in vehicular traffic for well installation, sampling, and closure.	Time required to complete remedy: Could vary from years to decades depending on area being treated, groundwater flow velocity, and other site-specific factors.	Cross media impacts: The risk of cross-media impacts is low as long as there are no changes in groundwater chemistry that could remobilize metals from the PRB media and surrounding portion of the water-bearing zone.
	Control the source of releases: PRB will be implemented downgradient of the source and will mitigate plume migration.	Long term effectiveness: If the PRB is properly installed and the reactant performs as planned, then concentrations of groundwater constituent's downgradient of the PRB will decline over time to below GWPS due to natural attenuation.	Permit requirements: State permit will be required for subsurface reagent emplacement.	Potential for exposure to residual contamination: Generally high in the areas downgradient of the PRB as long as the reactant performs as planned.
	Remove contaminated material: Reactant interactions with groundwater constituents is a treatment technology.	Long term reliability: Generally high, as long as there are no changes in groundwater chemistry that could remobilize metals from the PRB media or surrounding portion of the water-bearing zone.	Other institutional requirements: State approvals, CCR Registration update.	Control of exposure to residual contamination: If the PRB is properly installed and the reactant performs as planned, then concentrations of groundwater constituent's downgradient of the PRB will decline over time to below GWPS due to natural attenuation, reducing or eliminating risks to human health or the environment.
	Magnitude of reduction of risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with additional response technologies.	Long-term management: Routine groundwater monitoring upgradient and downgradient of the PRB would be required. Possible flushing and redevelopment of the PRB if evidence of plugging is observed.	Comply with waste management requirements: There is some potential for chemical waste generation associated with this remedy (e.g., unused or off-spec reactant), as well as significant waste generation associated with construction activities, and those wastes can be readily managed in accordance with RCRA requirements.	Degree to which community concerns are addressed by a potential remedy: Community likely will favor the approach because selenium concentrations will decrease over time.
	Magnitude of residual risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.	Potential for need to replace remedy: Reactive media may need to be replaced/ reactivated over time.	Difficulty associated with constructing the technology: may require extensive surface disturbance for excavation and construction of PRB. The installation is subject to depth limitations.	
	Time until full protection: Could vary from years to decades depending on area being treated, groundwater flow velocity, and other site-specific factors.		Availability of necessary equipment and specialists: Requires specialty expertise and resources that are generally available, but for which delays may occur depending on competition from other installations.	
	Use of treatment technologies: may require extensive surface disturbance for excavation and construction of PRB.		Available capacity and location of needed treatment, storage, and disposal services: Limited to subsurface treatment; no storage or disposal services are needed for routine operation.	

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Robertson County, Texas

Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
In Situ Injection	Protection of human health and environment: If successful, this technique can immobilize metals in the groundwater, and thereby reduce or eliminate risks associated with those constituents.	Short term effectiveness: Medium; Injections would rely primarily on immobilization of the CCR constituents released to the environment rather than removal. This may take several years for the requisite mass/ concentration decline to occur.	Time required to start remedy: 1-2 years for treatability studies and/or pilot testing, reactant selection, field-scale design, installation of monitoring and injection wells.	Safety: worker safety concerns during reagent injections, slight increase in vehicular traffic for well installation, sampling, and closure.
	Attain groundwater protection standard: There is a high probability of achieving GWPS if delivery of the reactant proved successful. Otherwise, there is a low to moderate probability.	Short term risk: Low risks, associated with operation of injection and monitoring well installation equipment, and limited increase in vehicular traffic for reactant injection, well installation, and sampling.	Time required to complete remedy: At least several years. Time to completion is dependent on a number of site-specific conditions, including hydrogeological variability, groundwater velocities, configuration of injection well system, and selected reactant.	Cross media impacts: The risk of causing cross-media impacts is low, since only a small volume of subsurface material would be moved to the surface.
	Control the source of releases: Injection can permanently immobilize the metals but will not prevent further release from CCR.	Long term effectiveness: High; Injections would rely primarily on immobilization of the CCR constituents released to the environment rather than removal. This may take several years for the requisite mass/ concentration decline to occur. This technique can permanently immobilize metals.	Permit requirements: State permit will be required for subsurface injection.	Potential for exposure to residual contamination: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with additional response technologies.
	Remove contaminated material: this technique would rely primarily on immobilization of the CCR constituents released to the environment rather than removal.	Long term reliability: Moderate; primary challenge is delivery of the reactant. Some remobilization of metals is possible.	Other institutional requirements: State approvals, CCR Registration update.	Control of exposure to residual contamination: If successful, this technique can permanently immobilize metals and thereby reducing or eliminating risks associated with those constituents.
	Magnitude of reduction of risks: this technique can permanently immobilize metals and thereby reduce or eliminate risks associated with those constituents.	Long-term management : Moderate O&M and monitoring requirements. Periodic reinjection of reactant. Regular groundwater monitoring for treatment performance evaluation.	Comply with waste management requirements: There is some potential for chemical waste generation associated with this remedy (e.g., unused or off-spec reagents), and those wastes can be readily managed in accordance with RCRA requirements.	Degree to which community concerns are addressed by a potential remedy: Community likely will favor the approach because selenium concentrations will decrease over time.
	Magnitude of residual risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with additional response technologies.	Potential for need to replace remedy: Periodic reinjection of reagent may be needed dependent on rebounding.	Difficulty associated with constructing the technology: There are moderate difficulties due to challenges in injecting into silty sands and achieving adequate three dimensional delivery throughout Unit II.	
	Time until full protection: At least several years. Time to completion is dependent on a number of site-specific conditions, including hydrogeological variability, groundwater velocities, configuration of injection points, and selected reactant.		Availability of necessary equipment and specialists: Requires specialty expertise and resources that are generally available, but for which delays may occur depending on competition from other installations.	
	Use of treatment technologies: Will require licensed subcontractor to inject reagent and install additional monitoring wells.		Available capacity and location of needed treatment, storage, and disposal services: Limited to subsurface treatment.	

Table 2
Evaluation Matrix for Potential Corrective Measures
Twin Oaks Power Station
Coal Combustion Residuals (CCR) Landfill
Robertson County, Texas

Potential Remedy	Performance	Reliability	Ease of Implementation	Impacts
Phytoremediation	Protection of human health and environment: There is uncertainty associated with plant growth, seasonal variability, and water uptake rates.	Short term effectiveness: Minimal effectiveness is expected during the early years of plant growth.	Time required to start remedy: 3-5 years to plant and establish tree population.	Safety: exposure of workers to fertilizers or amendments for plant growth. Leaves may fall and reintroduce constituents to the subsurface if not removed on time.
	Attain groundwater protection standard: Significant uncertainty associated with plant growth and water uptake rates make achievement of GWPS uncertain.	Short term risk: Medium risks, associated with operation of planting trees, and limited increase in vehicular traffic.	Time required to complete remedy: Varies from years to decades depending on size of the groundwater plume; trees would need to be maintained until plume size is reduced.	Cross media impacts: The risk of causing cross-media impacts is low, since only a small volume of subsurface material would be moved to the surface.
	Control the source of releases: The phytoremediation system would act as a natural pumping system, withdrawing CCR constituents from the subsurface with groundwater. This remedy will not prevent further release from the source.	Long term effectiveness: Effectiveness of technology seen in long term with minimal effectiveness during the early years of plant growth.	Permit requirements: None, this remedy relies on natural processes.	Potential for exposure to residual contamination: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with more active approaches.
	Remove contaminated material: The phytoremediation system would act as a natural pumping system, withdrawing CCR constituents from the subsurface with groundwater.	Long term reliability: Effectiveness of technology seen in long term but the impact of seasonal changes would need to be evaluated.	Other institutional requirements: CCR Registration Update.	Control of exposure to residual contamination: The phytoremediation system would act as a natural pumping system, withdrawing CCR constituents from the subsurface with groundwater.
	Magnitude of reduction of risks: The remedy would continue until groundwater constituents are below GWPS.	Long-term management: Frequent monitoring and periodic maintenance of trees to ensure successful growth of the trees, particularly during the initial planting phase.	Comply with waste management requirements: There is some waste generation associated with tree planting, and those wastes can be readily managed in accordance with RCRA requirements.	Degree to which community concerns are addressed by a potential remedy: Community likely will favor the approach because selenium concentrations will decrease over time.
	Magnitude of residual risks: The remedy would continue until groundwater constituents are below GWPS. If the requisite mass/concentration decline does not occur, this remedy could be supplemented with additional response technologies.	Potential for need to replace remedy: Replacement of unsuccessful trees during the operating life of the treatment system.	Difficulty associated with constructing the technology: requires substantial effort (deep rooting technology, irrigation pumping) in establishing tree population. Can require large land area for planting for larger systems.	
	Time until full protection: Varies from years to decades depending on size of the groundwater plume; trees would need to be maintained until plume size is reduced.		Availability of necessary equipment and specialists: Requires specialty expertise and resources that are generally available, but for which delays may occur depending on competition from other installations.	
	Use of treatment technologies: Planting of trees.		Available capacity and location of needed treatment, storage, and disposal services: Limited to subsurface treatment.	



FIGURES



Legend

- Registration Boundary
- CCR Landfill
- Stormwater Detention Ponds
- ★ Twin Oaks Power Station CCR Landfill

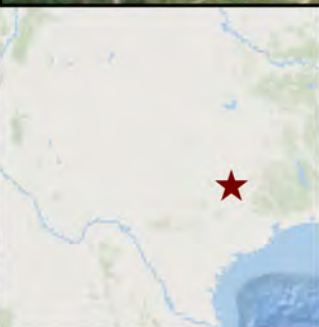
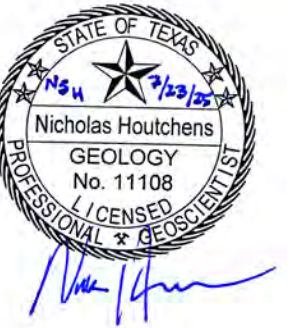


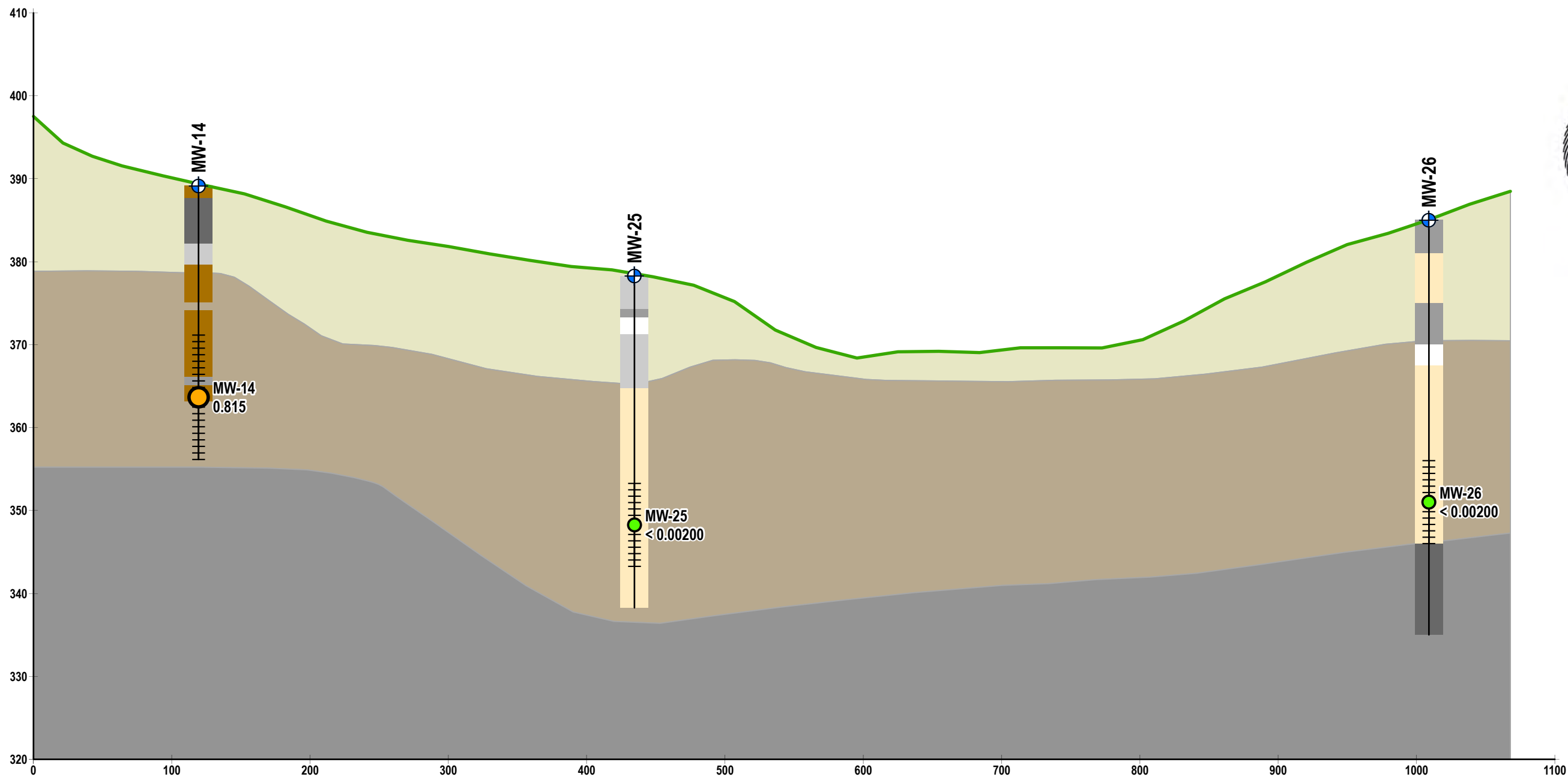
Figure 1
Site Map
 CCR Landfill
 Twin Oaks Power Station
 13065 Plant Road, Bremond, Texas

Southwest
A

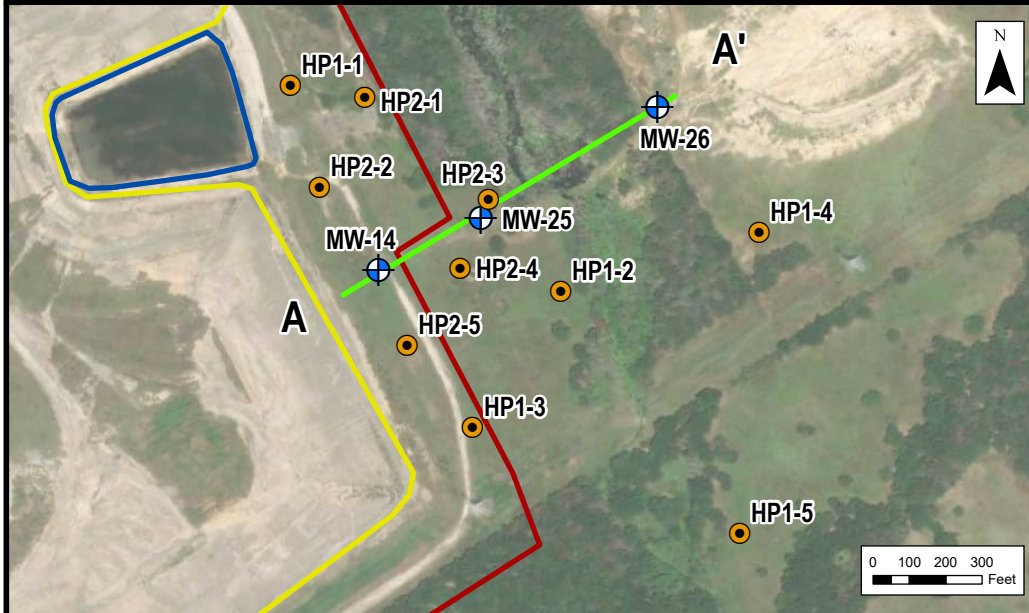
Northeast
A'



Elevation (ft amsl)



Distance Along Transect (ft)



Legend

- Monitoring Well
- Soil Boring
- Well Screen
- Borehole
- Surface Profile Line
- Transect Line
- CCR Landfill
- Registration Boundary
- Stormwater Detention Ponds

Lithology

- Sand
- Silty Sand
- Sandy Clay
- Clayey Sand
- Clay
- No Recovery

Selenium (mg/L)

- Below Reporting Limit (<0.002 mg/L)
- Below Groundwater Protection Standard (≤ 0.05 mg/L)
- Above Groundwater Protection Standard (> 0.05 mg/L)

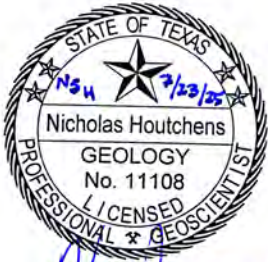
NOTES:
1. Vertical Exaggeration 6x
2. Elevation Data: USGS

Interpreted Geology

- Unit 1 – Upper confining unit located at a depth of 0 to 32 feet below ground surface (bgs) that consists of low permeability clays, silts, and clayey sands.
- Unit 2 – Uppermost groundwater-bearing unit located at a depth of 6 to 40 ft bgs that consists of silty to well graded sands with lenses of clays and silts.
- Unit 3 – Lower confining unit located at varying depths at the bottom of the uppermost groundwater-bearing unit (Unit 2) and consists of clays and silts with minor sand content.

**Figure 2:
Cross-Section
CRR Landfill
Twin Oaks Power Station
13065 Plant Road
Bremond, Texas**





0 250 500 1,000
Feet

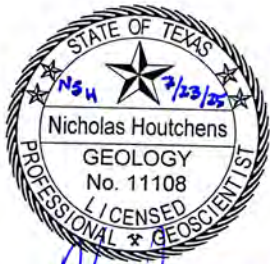
1:10,200
1 INCH = 850 FEET

Legend

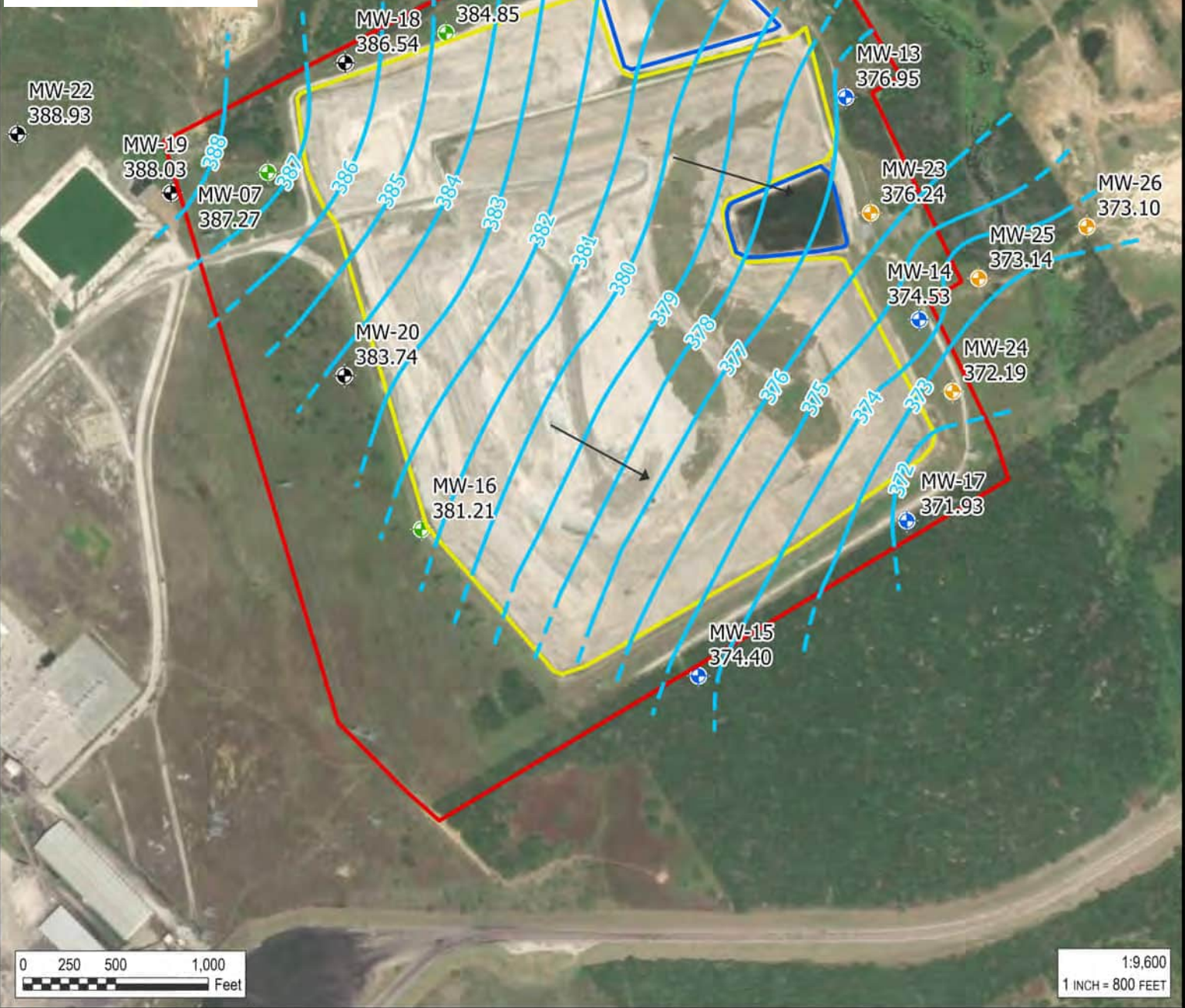
- Registration Boundary
- CCR Landfill
- Stormwater Detention Ponds
- ◆ Upgradient Wells
- ◆ Downgradient Wells

- ◆ Observation Wells (Not included in Monitoring Well Network)
- ◆ Selenium Plume Observation Well (Not included in Monitoring Well Network)
- Approximate Extent of Selenium Plume; Dashed Where Inferred (GWPS at MW-14 = 0.05 mg/L)

Figure 3
Selenium Isoconcentration Map
CCR Landfill
Twin Oaks Power Station
13065 Plant Road, Bremond, Texas



Nicholas Houtchens



Legend

- ▭ Stormwater Detention Ponds
- ▭ CCR Landfill
- ▭ Registration Boundary
- Upgradient Wells
- Downgradient Wells
- Observation Wells (Not included in Monitoring Well Network)
- Selenium Plume Observation Well (Not included in Monitoring Well Network)
- Potentiometric Surface Contour (Feet, Mean Sea Level)
- - - Inferred Potentiometric Surface Contour
- Ground Water Flow Direction

Figure 4
Spring 2025 Potentiometric Surface Map
 CCR Landfill
 Twin Oaks Power Station
 13065 Plant Road, Bremond, Texas





APPENDIX A GROUNDWATER SELENIUM DATA

Spring GW Sampling Results - Selenium

Legend

 Registration Boundary

 CCR Landfill

 Stormwater Detention Ponds

 Upgradient Wells

 Downgradient Wells

 Observation Wells (Not included in Monitoring Well Network)

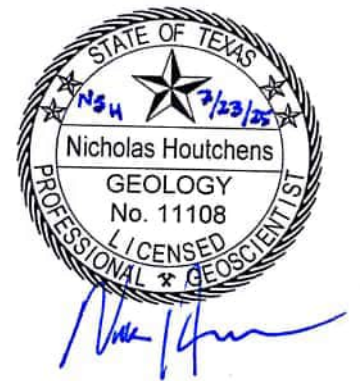
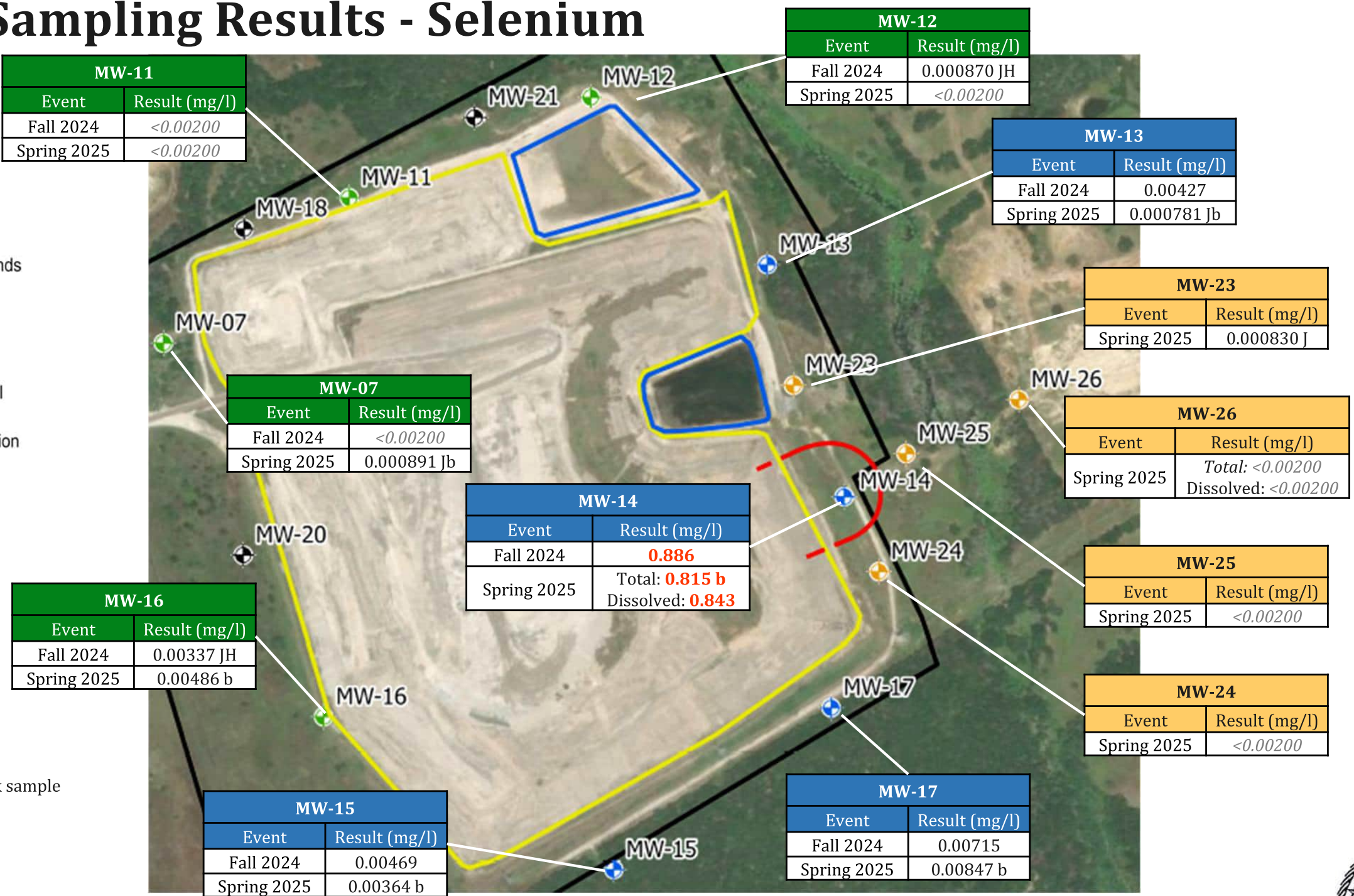
 Selenium Plume Observation Well (Not included in Monitoring Well Network)

 Approximate Extent of Selenium Plume; Dashed Where Inferred (GWPS at MW-14 = 0.05 mg/L)

Notes
<0.00200 – Not Detected
0.886 – Value above GWPS

J – Estimated Value
JH – Estimated Value (High Bias)
b – Selenium detected in the blank sample

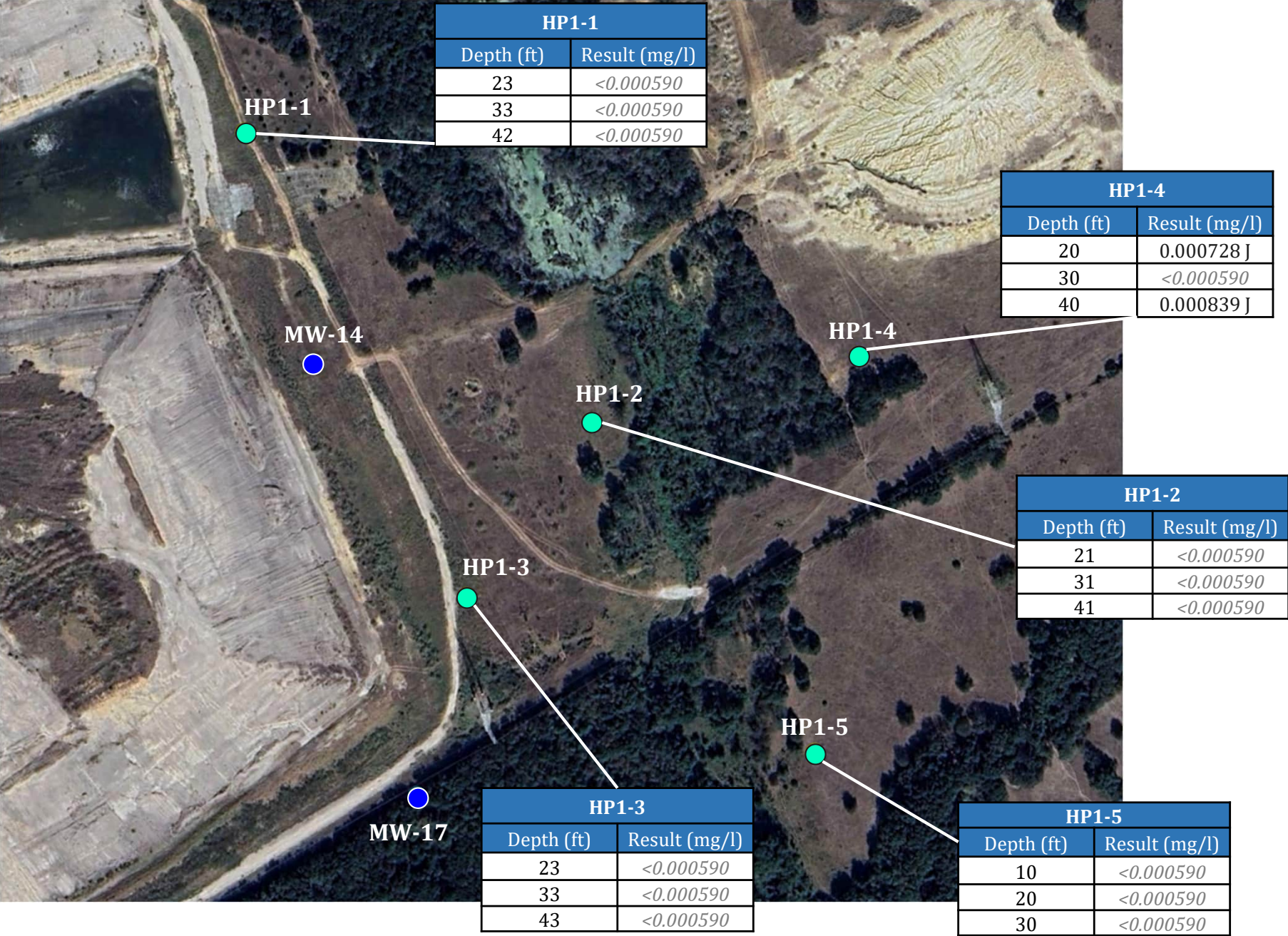
GWPS for MW-14 = 0.05 mg/l





APPENDIX B DPT SELENIUM DATA

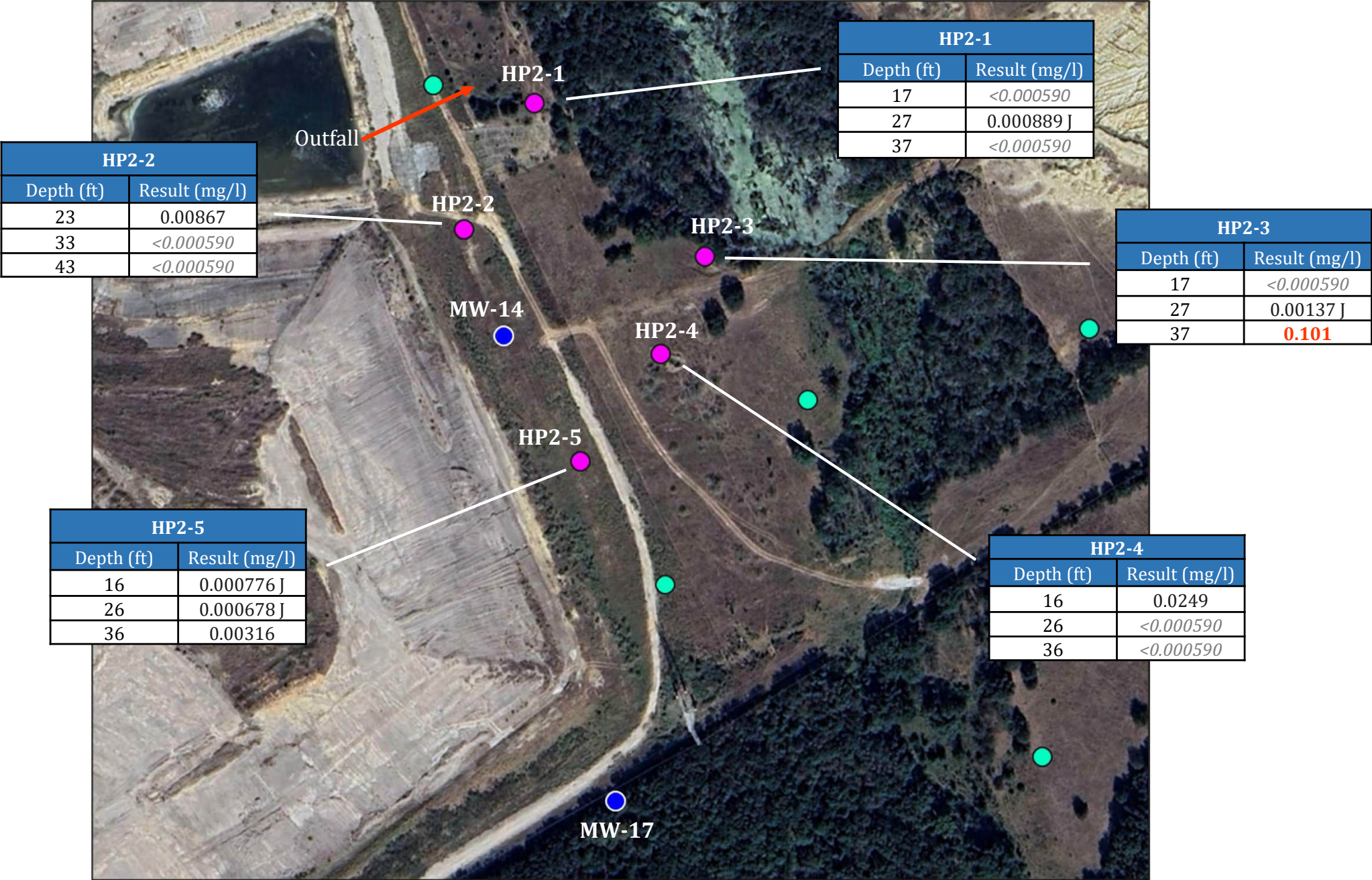
Selenium Results from Hydropunch Mobilization #1



Notes
<0.000590 – Not Detected
0.000728 J – Estimated Value

GWPS for MW-14 = 0.05 mg/l

Selenium Results from Hydropunch Mobilization #2



Notes
<0.000590 – Not Detected
0.000728 J – Estimated Value
0.101 – Value above GWPS

GWPS for MW-14 = 0.05 mg/l



APPENDIX C ANALYTICAL DATA

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 1/21/2025 3:31:06 PM

JOB DESCRIPTION

Twin Oaks Power Plant
0763962

JOB NUMBER

870-33198-1

Eurofins Dallas

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
1/21/2025 3:31:06 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

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

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 870-33198-1

Job ID: 870-33198-1

Eurofins Dallas

Job Narrative 870-33198-1

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

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

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

Receipt

The samples were received on 1/16/2025 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C.

Metals

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

Eurofins Dallas

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Client Sample ID: HP1-1-23-20250114-01

Lab Sample ID: 870-33198-1

Date Collected: 01/14/25 08:55

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 14:46	1

Client Sample ID: HP1-1-42-20250114-01

Lab Sample ID: 870-33198-2

Date Collected: 01/14/25 10:25

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 15:09	1

Client Sample ID: HP1-1-33-20250114-01

Lab Sample ID: 870-33198-3

Date Collected: 01/14/25 10:35

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 15:11	1

Client Sample ID: HP1-3-23-20250114-01

Lab Sample ID: 870-33198-4

Date Collected: 01/14/25 13:10

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 15:13	1

Client Sample ID: HP1-3-43-20250114-01

Lab Sample ID: 870-33198-5

Date Collected: 01/14/25 14:30

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 15:15	1

Client Sample ID: HP1-3-33-20250114-01

Lab Sample ID: 870-33198-6

Date Collected: 01/14/25 14:45

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 15:17	1

Client Sample ID: HP1-2-21-20250114-01

Lab Sample ID: 870-33198-7

Date Collected: 01/14/25 16:30

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L	-	01/20/25 08:30	01/20/25 15:19	1

Eurofins Dallas

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Client Sample ID: HP1-2-41-20250115-01

Lab Sample ID: 870-33198-8

Date Collected: 01/15/25 09:00

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:21	1

Client Sample ID: DUP-01-20250115-01

Lab Sample ID: 870-33198-9

Date Collected: 01/15/25 06:00

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:29	1

Client Sample ID: HP1-2-31-20250115-01

Lab Sample ID: 870-33198-10

Date Collected: 01/15/25 09:20

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:31	1

Client Sample ID: HP1-4-40-20250115-01

Lab Sample ID: 870-33198-11

Date Collected: 01/15/25 11:00

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000839	J	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:33	1

Client Sample ID: HP1-4-30-20250115-01

Lab Sample ID: 870-33198-12

Date Collected: 01/15/25 11:20

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:35	1

Client Sample ID: HP1-4-20-20250115-01

Lab Sample ID: 870-33198-13

Date Collected: 01/15/25 11:45

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000728	J	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:38	1

Client Sample ID: HP1-5-30-20250115-01

Lab Sample ID: 870-33198-14

Date Collected: 01/15/25 13:45

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:40	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Client Sample ID: HP1-5-20-20250115-01

Lab Sample ID: 870-33198-15

Date Collected: 01/15/25 14:00

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:42	1

Client Sample ID: HP1-5-10-20250115-01

Lab Sample ID: 870-33198-16

Date Collected: 01/15/25 14:20

Matrix: Water

Date Received: 01/16/25 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 15:44	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-211693/1-A
Matrix: Water
Analysis Batch: 211824

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 211693

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		01/20/25 08:30	01/20/25 14:40	1

Lab Sample ID: LCS 860-211693/2-A
Matrix: Water
Analysis Batch: 211824

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 211693

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.09937		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-211693/3-A
Matrix: Water
Analysis Batch: 211824

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 211693

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.1015		mg/L		101	80 - 120	2	20

Lab Sample ID: 870-33198-1 MS
Matrix: Water
Analysis Batch: 211824

Client Sample ID: HP1-1-23-20250114-01
Prep Type: Dissolved
Prep Batch: 211693

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.000590	U	0.100	0.09737		mg/L		97	75 - 125

Lab Sample ID: 870-33198-1 MSD
Matrix: Water
Analysis Batch: 211824

Client Sample ID: HP1-1-23-20250114-01
Prep Type: Dissolved
Prep Batch: 211693

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	<0.000590	U	0.100	0.09712		mg/L		97	75 - 125	0	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Metals

Prep Batch: 211693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
870-33198-1	HP1-1-23-20250114-01	Dissolved	Water	3010A	
870-33198-2	HP1-1-42-20250114-01	Dissolved	Water	3010A	
870-33198-3	HP1-1-33-20250114-01	Dissolved	Water	3010A	
870-33198-4	HP1-3-23-20250114-01	Dissolved	Water	3010A	
870-33198-5	HP1-3-43-20250114-01	Dissolved	Water	3010A	
870-33198-6	HP1-3-33-20250114-01	Dissolved	Water	3010A	
870-33198-7	HP1-2-21-20250114-01	Dissolved	Water	3010A	
870-33198-8	HP1-2-41-20250115-01	Dissolved	Water	3010A	
870-33198-9	DUP-01-20250115-01	Dissolved	Water	3010A	
870-33198-10	HP1-2-31-20250115-01	Dissolved	Water	3010A	
870-33198-11	HP1-4-40-20250115-01	Dissolved	Water	3010A	
870-33198-12	HP1-4-30-20250115-01	Dissolved	Water	3010A	
870-33198-13	HP1-4-20-20250115-01	Dissolved	Water	3010A	
870-33198-14	HP1-5-30-20250115-01	Dissolved	Water	3010A	
870-33198-15	HP1-5-20-20250115-01	Dissolved	Water	3010A	
870-33198-16	HP1-5-10-20250115-01	Dissolved	Water	3010A	
MB 860-211693/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-211693/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-211693/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
870-33198-1 MS	HP1-1-23-20250114-01	Dissolved	Water	3010A	
870-33198-1 MSD	HP1-1-23-20250114-01	Dissolved	Water	3010A	

Analysis Batch: 211824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
870-33198-1	HP1-1-23-20250114-01	Dissolved	Water	6020B	211693
870-33198-2	HP1-1-42-20250114-01	Dissolved	Water	6020B	211693
870-33198-3	HP1-1-33-20250114-01	Dissolved	Water	6020B	211693
870-33198-4	HP1-3-23-20250114-01	Dissolved	Water	6020B	211693
870-33198-5	HP1-3-43-20250114-01	Dissolved	Water	6020B	211693
870-33198-6	HP1-3-33-20250114-01	Dissolved	Water	6020B	211693
870-33198-7	HP1-2-21-20250114-01	Dissolved	Water	6020B	211693
870-33198-8	HP1-2-41-20250115-01	Dissolved	Water	6020B	211693
870-33198-9	DUP-01-20250115-01	Dissolved	Water	6020B	211693
870-33198-10	HP1-2-31-20250115-01	Dissolved	Water	6020B	211693
870-33198-11	HP1-4-40-20250115-01	Dissolved	Water	6020B	211693
870-33198-12	HP1-4-30-20250115-01	Dissolved	Water	6020B	211693
870-33198-13	HP1-4-20-20250115-01	Dissolved	Water	6020B	211693
870-33198-14	HP1-5-30-20250115-01	Dissolved	Water	6020B	211693
870-33198-15	HP1-5-20-20250115-01	Dissolved	Water	6020B	211693
870-33198-16	HP1-5-10-20250115-01	Dissolved	Water	6020B	211693
MB 860-211693/1-A	Method Blank	Total/NA	Water	6020B	211693
LCS 860-211693/2-A	Lab Control Sample	Total/NA	Water	6020B	211693
LCSD 860-211693/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	211693
870-33198-1 MS	HP1-1-23-20250114-01	Dissolved	Water	6020B	211693
870-33198-1 MSD	HP1-1-23-20250114-01	Dissolved	Water	6020B	211693

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Client Sample ID: HP1-1-23-20250114-01

Lab Sample ID: 870-33198-1

Date Collected: 01/14/25 08:55

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 14:46	DP	EET HOU

Client Sample ID: HP1-1-42-20250114-01

Lab Sample ID: 870-33198-2

Date Collected: 01/14/25 10:25

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:09	DP	EET HOU

Client Sample ID: HP1-1-33-20250114-01

Lab Sample ID: 870-33198-3

Date Collected: 01/14/25 10:35

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:11	DP	EET HOU

Client Sample ID: HP1-3-23-20250114-01

Lab Sample ID: 870-33198-4

Date Collected: 01/14/25 13:10

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:13	DP	EET HOU

Client Sample ID: HP1-3-43-20250114-01

Lab Sample ID: 870-33198-5

Date Collected: 01/14/25 14:30

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:15	DP	EET HOU

Client Sample ID: HP1-3-33-20250114-01

Lab Sample ID: 870-33198-6

Date Collected: 01/14/25 14:45

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:17	DP	EET HOU

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Client Sample ID: HP1-2-21-20250114-01

Lab Sample ID: 870-33198-7

Date Collected: 01/14/25 16:30

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:19	DP	EET HOU

Client Sample ID: HP1-2-41-20250115-01

Lab Sample ID: 870-33198-8

Date Collected: 01/15/25 09:00

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:21	DP	EET HOU

Client Sample ID: DUP-01-20250115-01

Lab Sample ID: 870-33198-9

Date Collected: 01/15/25 06:00

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:29	DP	EET HOU

Client Sample ID: HP1-2-31-20250115-01

Lab Sample ID: 870-33198-10

Date Collected: 01/15/25 09:20

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:31	DP	EET HOU

Client Sample ID: HP1-4-40-20250115-01

Lab Sample ID: 870-33198-11

Date Collected: 01/15/25 11:00

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:33	DP	EET HOU

Client Sample ID: HP1-4-30-20250115-01

Lab Sample ID: 870-33198-12

Date Collected: 01/15/25 11:20

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:35	DP	EET HOU

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Client Sample ID: HP1-4-20-20250115-01

Lab Sample ID: 870-33198-13

Date Collected: 01/15/25 11:45

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:38	DP	EET HOU

Client Sample ID: HP1-5-30-20250115-01

Lab Sample ID: 870-33198-14

Date Collected: 01/15/25 13:45

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:40	DP	EET HOU

Client Sample ID: HP1-5-20-20250115-01

Lab Sample ID: 870-33198-15

Date Collected: 01/15/25 14:00

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:42	DP	EET HOU

Client Sample ID: HP1-5-10-20250115-01

Lab Sample ID: 870-33198-16

Date Collected: 01/15/25 14:20

Matrix: Water

Date Received: 01/16/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	211693	01/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			211824	01/20/25 15:44	DP	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-25

1
2
3
4
5
6
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11
12
13
14

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
870-33198-1	HP1-1-23-20250114-01	Water	01/14/25 08:55	01/16/25 09:50
870-33198-2	HP1-1-42-20250114-01	Water	01/14/25 10:25	01/16/25 09:50
870-33198-3	HP1-1-33-20250114-01	Water	01/14/25 10:35	01/16/25 09:50
870-33198-4	HP1-3-23-20250114-01	Water	01/14/25 13:10	01/16/25 09:50
870-33198-5	HP1-3-43-20250114-01	Water	01/14/25 14:30	01/16/25 09:50
870-33198-6	HP1-3-33-20250114-01	Water	01/14/25 14:45	01/16/25 09:50
870-33198-7	HP1-2-21-20250114-01	Water	01/14/25 16:30	01/16/25 09:50
870-33198-8	HP1-2-41-20250115-01	Water	01/15/25 09:00	01/16/25 09:50
870-33198-9	DUP-01-20250115-01	Water	01/15/25 06:00	01/16/25 09:50
870-33198-10	HP1-2-31-20250115-01	Water	01/15/25 09:20	01/16/25 09:50
870-33198-11	HP1-4-40-20250115-01	Water	01/15/25 11:00	01/16/25 09:50
870-33198-12	HP1-4-30-20250115-01	Water	01/15/25 11:20	01/16/25 09:50
870-33198-13	HP1-4-20-20250115-01	Water	01/15/25 11:45	01/16/25 09:50
870-33198-14	HP1-5-30-20250115-01	Water	01/15/25 13:45	01/16/25 09:50
870-33198-15	HP1-5-20-20250115-01	Water	01/15/25 14:00	01/16/25 09:50
870-33198-16	HP1-5-10-20250115-01	Water	01/15/25 14:20	01/16/25 09:50

urofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Client Information

Client Contact:
Nick Houchens

Company:
ERM-Southwest Inc.

Address:
111 Congress Ave. Suite 500
Austin
TX, 78701

Phone:
512-374-2215(Tel) 512-810-2901(Fax)

Email:
nick.houchens@erm.com

Project Name:
Twin Oaks Power Plant

Site:
Twin Oaks Power Plant

Sampler:
Kara Naegeli + Hector Saenz

Phone:
512-810-2901

Due Date Requested:
TAT Requested (days):
5 day TAT (RUSH)

Compliance Project: ☐ Yes ☒ No

PO #:
0763962

WO #:
0763962

Project #:
86005616

SSOW#:

Lab PM:
Anita

E-Mail:
Anita.Pate@eurofins.com

Carrier Tracking No(s):

State of Origin:
TX

Job #:

Page: 1 of 2

Preservation Codes:
D - HNO3

Analysis Requested

Field Filtered Sample (Yes or No)
☒ Yes ☐ No

6020B - Dissolved Se

Total Number of containers

Special Instructions/Note:

Field Filtered w/ 0.45 um

No Custody
Seals
Provided

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

Return To Client ☒ Dispose By Lab ☐ Archive For Months

Special Instructions/QC Requirements:

TRRP Checklist

Lab PM: Anita

E-Mail: Anita.Pate@eurofins.com

Carrier Tracking No(s):

State of Origin: TX

Job #:

Page: 1 of 2

Preservation Codes: D - HNO3

Analysis Requested

Field Filtered Sample (Yes or No) ☒ Yes ☐ No

6020B - Dissolved Se

Total Number of containers

Special Instructions/Note:

Field Filtered w/ 0.45 um

No Custody
Seals
Provided

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

Return To Client ☒ Dispose By Lab ☐ Archive For Months

Special Instructions/QC Requirements:

TRRP Checklist

COC No: 860-35383-12007.1

Page: 1 of 2

Job #:

Preservation Codes: D - HNO3

Analysis Requested

Field Filtered Sample (Yes or No) ☒ Yes ☐ No

6020B - Dissolved Se

Total Number of containers

Special Instructions/Note:

Field Filtered w/ 0.45 um

No Custody
Seals
Provided

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

Return To Client ☒ Dispose By Lab ☐ Archive For Months

Special Instructions/QC Requirements:

TRRP Checklist

TRRP Checklist

TRRP Checklist

TRRP Checklist

COC No: 860-35383-12007.1

Page: 1 of 2

Job #:

Preservation Codes: D - HNO3

Analysis Requested

Field Filtered Sample (Yes or No) ☒ Yes ☐ No

6020B - Dissolved Se

Total Number of containers

Special Instructions/Note:

Field Filtered w/ 0.45 um

No Custody
Seals
Provided

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

Return To Client ☒ Dispose By Lab ☐ Archive For Months

Special Instructions/QC Requirements:

TRRP Checklist

TRRP Checklist

TRRP Checklist

TRRP Checklist

Environment Testing

Phone (281) 240-4200

Environment Testing

1/21/2025

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 870-33198-1

SDG Number: 0763962

Login Number: 33198

List Number: 1

Creator: Phillips, Weston

List Source: Eurofins Dallas

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

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 870-33198-1

SDG Number: 0763962

Login Number: 33198

List Number: 2

Creator: Baker, Jeremiah

List Source: Eurofins Houston

List Creation: 01/18/25 11:02 AM

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 870-33198-1
SDG: 0763962

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Dissolved			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A364					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0014	J	mg/L	0.0020	0.00059	12/13/2024	860-205346

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 870-33198-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	01/21/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Dallas			LRC Date: 01/21/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 870-33198-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Dallas	LRC Date: 01/21/2025
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 870-33198-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Dallas		LRC Date: 01/21/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 870-33198-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 2/20/2025 5:31:16 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-94092-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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2/20/2025 5:31:16 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Dissolved			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A364					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0014	J	mg/L	0.0020	0.00059	12/13/2024	860-205346

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-94092-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	02/20/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 02/20/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-94092-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 02/20/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-94092-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 02/20/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-94092-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-94092-1

Job ID: 860-94092-1

Eurofins Houston

Job Narrative 860-94092-1

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

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

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

Receipt

The samples were received on 2/19/2025 12:09 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C.

Metals

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-01-17-20250217-01

Lab Sample ID: 860-94092-1

No Detections.

Client Sample ID: HP2-01-27-20250217-01

Lab Sample ID: 860-94092-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.000889	J	0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-01-37-20250217-01

Lab Sample ID: 860-94092-3

No Detections.

Client Sample ID: HP2-03-17-20250217-01

Lab Sample ID: 860-94092-4

No Detections.

Client Sample ID: HP2-03-27-20250217-01

Lab Sample ID: 860-94092-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.00137	J	0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-03-37-20250217-01

Lab Sample ID: 860-94092-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.101		0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-04-16-20250218-01

Lab Sample ID: 860-94092-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.0249		0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-04-26-20250218-01

Lab Sample ID: 860-94092-8

No Detections.

Client Sample ID: HP2-04-36-20250218-01

Lab Sample ID: 860-94092-9

No Detections.

Client Sample ID: HP2-05-16-20250218-01

Lab Sample ID: 860-94092-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.000776	J	0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-05-26-20250218-01

Lab Sample ID: 860-94092-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.000678	J	0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-05-36-20250218-01

Lab Sample ID: 860-94092-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.00316		0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: HP2-02-23-20250218-01

Lab Sample ID: 860-94092-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.00876		0.00200	0.000590	mg/L	1		6020B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-02-33-20250218-01

Lab Sample ID: 860-94092-14

☐ No Detections.

Client Sample ID: HP2-02-43-20250218-01

Lab Sample ID: 860-94092-15

☐ No Detections.

Client Sample ID: DUP-02-20250218-01

Lab Sample ID: 860-94092-16

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-01-17-20250217-01

Lab Sample ID: 860-94092-1

Date Collected: 02/17/25 14:55

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:40	1

Client Sample ID: HP2-01-27-20250217-01

Lab Sample ID: 860-94092-2

Date Collected: 02/17/25 14:30

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000889	J	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:42	1

Client Sample ID: HP2-01-37-20250217-01

Lab Sample ID: 860-94092-3

Date Collected: 02/17/25 14:05

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:44	1

Client Sample ID: HP2-03-17-20250217-01

Lab Sample ID: 860-94092-4

Date Collected: 02/17/25 17:05

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:46	1

Client Sample ID: HP2-03-27-20250217-01

Lab Sample ID: 860-94092-5

Date Collected: 02/17/25 16:48

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00137	J	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:48	1

Client Sample ID: HP2-03-37-20250217-01

Lab Sample ID: 860-94092-6

Date Collected: 02/17/25 16:30

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.101		0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:51	1

Client Sample ID: HP2-04-16-20250218-01

Lab Sample ID: 860-94092-7

Date Collected: 02/18/25 10:15

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.0249		0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:57	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-04-26-20250218-01

Lab Sample ID: 860-94092-8

Date Collected: 02/18/25 09:55

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:59	1

Client Sample ID: HP2-04-36-20250218-01

Lab Sample ID: 860-94092-9

Date Collected: 02/18/25 09:30

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:01	1

Client Sample ID: HP2-05-16-20250218-01

Lab Sample ID: 860-94092-10

Date Collected: 02/18/25 12:35

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000776	J	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:03	1

Client Sample ID: HP2-05-26-20250218-01

Lab Sample ID: 860-94092-11

Date Collected: 02/18/25 12:20

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000678	J	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:05	1

Client Sample ID: HP2-05-36-20250218-01

Lab Sample ID: 860-94092-12

Date Collected: 02/18/25 12:05

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00316		0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:07	1

Client Sample ID: HP2-02-23-20250218-01

Lab Sample ID: 860-94092-13

Date Collected: 02/18/25 14:55

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00876		0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:09	1

Client Sample ID: HP2-02-33-20250218-01

Lab Sample ID: 860-94092-14

Date Collected: 02/18/25 14:35

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:11	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-02-43-20250218-01

Lab Sample ID: 860-94092-15

Date Collected: 02/18/25 14:10

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:13	1

Client Sample ID: DUP-02-20250218-01

Lab Sample ID: 860-94092-16

Date Collected: 02/18/25 08:00

Matrix: Water

Date Received: 02/19/25 12:09

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 16:15	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-217579/1-B
Matrix: Water
Analysis Batch: 217988

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 217831

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		02/20/25 08:30	02/20/25 15:12	1

Lab Sample ID: LCS 860-217579/2-B
Matrix: Water
Analysis Batch: 217988

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 217831

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.09419		mg/L		94	80 - 120

Lab Sample ID: LCSD 860-217579/3-B
Matrix: Water
Analysis Batch: 217988

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 217831

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.09440		mg/L		94	80 - 120	0	20

Lab Sample ID: 870-34068-A-1-C MS
Matrix: Water
Analysis Batch: 217988

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 217831

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.000590	U	0.100	0.08822		mg/L		88	75 - 125

Lab Sample ID: 870-34068-A-1-D MSD
Matrix: Water
Analysis Batch: 217988

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 217831

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	<0.000590	U	0.100	0.09608		mg/L		96	75 - 125	9	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Metals

Filtration Batch: 217579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-217579/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 860-217579/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 860-217579/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
870-34068-A-1-C MS	Matrix Spike	Dissolved	Water	Filtration	
870-34068-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 217831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-94092-1	HP2-01-17-20250217-01	Dissolved	Water	3010A	
860-94092-2	HP2-01-27-20250217-01	Dissolved	Water	3010A	
860-94092-3	HP2-01-37-20250217-01	Dissolved	Water	3010A	
860-94092-4	HP2-03-17-20250217-01	Dissolved	Water	3010A	
860-94092-5	HP2-03-27-20250217-01	Dissolved	Water	3010A	
860-94092-6	HP2-03-37-20250217-01	Dissolved	Water	3010A	
860-94092-7	HP2-04-16-20250218-01	Dissolved	Water	3010A	
860-94092-8	HP2-04-26-20250218-01	Dissolved	Water	3010A	
860-94092-9	HP2-04-36-20250218-01	Dissolved	Water	3010A	
860-94092-10	HP2-05-16-20250218-01	Dissolved	Water	3010A	
860-94092-11	HP2-05-26-20250218-01	Dissolved	Water	3010A	
860-94092-12	HP2-05-36-20250218-01	Dissolved	Water	3010A	
860-94092-13	HP2-02-23-20250218-01	Dissolved	Water	3010A	
860-94092-14	HP2-02-33-20250218-01	Dissolved	Water	3010A	
860-94092-15	HP2-02-43-20250218-01	Dissolved	Water	3010A	
860-94092-16	DUP-02-20250218-01	Dissolved	Water	3010A	
MB 860-217579/1-B	Method Blank	Dissolved	Water	3010A	217579
LCS 860-217579/2-B	Lab Control Sample	Dissolved	Water	3010A	217579
LCSD 860-217579/3-B	Lab Control Sample Dup	Dissolved	Water	3010A	217579
870-34068-A-1-C MS	Matrix Spike	Dissolved	Water	3010A	217579
870-34068-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	217579

Analysis Batch: 217988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-94092-1	HP2-01-17-20250217-01	Dissolved	Water	6020B	217831
860-94092-2	HP2-01-27-20250217-01	Dissolved	Water	6020B	217831
860-94092-3	HP2-01-37-20250217-01	Dissolved	Water	6020B	217831
860-94092-4	HP2-03-17-20250217-01	Dissolved	Water	6020B	217831
860-94092-5	HP2-03-27-20250217-01	Dissolved	Water	6020B	217831
860-94092-6	HP2-03-37-20250217-01	Dissolved	Water	6020B	217831
860-94092-7	HP2-04-16-20250218-01	Dissolved	Water	6020B	217831
860-94092-8	HP2-04-26-20250218-01	Dissolved	Water	6020B	217831
860-94092-9	HP2-04-36-20250218-01	Dissolved	Water	6020B	217831
860-94092-10	HP2-05-16-20250218-01	Dissolved	Water	6020B	217831
860-94092-11	HP2-05-26-20250218-01	Dissolved	Water	6020B	217831
860-94092-12	HP2-05-36-20250218-01	Dissolved	Water	6020B	217831
860-94092-13	HP2-02-23-20250218-01	Dissolved	Water	6020B	217831
860-94092-14	HP2-02-33-20250218-01	Dissolved	Water	6020B	217831
860-94092-15	HP2-02-43-20250218-01	Dissolved	Water	6020B	217831
860-94092-16	DUP-02-20250218-01	Dissolved	Water	6020B	217831
MB 860-217579/1-B	Method Blank	Dissolved	Water	6020B	217831
LCS 860-217579/2-B	Lab Control Sample	Dissolved	Water	6020B	217831
LCSD 860-217579/3-B	Lab Control Sample Dup	Dissolved	Water	6020B	217831

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Metals (Continued)

Analysis Batch: 217988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
870-34068-A-1-C MS	Matrix Spike	Dissolved	Water	6020B	217831
870-34068-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	217831

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

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-01-17-20250217-01

Lab Sample ID: 860-94092-1

Date Collected: 02/17/25 14:55

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:40	DP	EET HOU

Client Sample ID: HP2-01-27-20250217-01

Lab Sample ID: 860-94092-2

Date Collected: 02/17/25 14:30

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:42	DP	EET HOU

Client Sample ID: HP2-01-37-20250217-01

Lab Sample ID: 860-94092-3

Date Collected: 02/17/25 14:05

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:44	DP	EET HOU

Client Sample ID: HP2-03-17-20250217-01

Lab Sample ID: 860-94092-4

Date Collected: 02/17/25 17:05

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:46	DP	EET HOU

Client Sample ID: HP2-03-27-20250217-01

Lab Sample ID: 860-94092-5

Date Collected: 02/17/25 16:48

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:48	DP	EET HOU

Client Sample ID: HP2-03-37-20250217-01

Lab Sample ID: 860-94092-6

Date Collected: 02/17/25 16:30

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:51	DP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-04-16-20250218-01

Lab Sample ID: 860-94092-7

Date Collected: 02/18/25 10:15

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:57	DP	EET HOU

Client Sample ID: HP2-04-26-20250218-01

Lab Sample ID: 860-94092-8

Date Collected: 02/18/25 09:55

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 15:59	DP	EET HOU

Client Sample ID: HP2-04-36-20250218-01

Lab Sample ID: 860-94092-9

Date Collected: 02/18/25 09:30

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:01	DP	EET HOU

Client Sample ID: HP2-05-16-20250218-01

Lab Sample ID: 860-94092-10

Date Collected: 02/18/25 12:35

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:03	DP	EET HOU

Client Sample ID: HP2-05-26-20250218-01

Lab Sample ID: 860-94092-11

Date Collected: 02/18/25 12:20

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:05	DP	EET HOU

Client Sample ID: HP2-05-36-20250218-01

Lab Sample ID: 860-94092-12

Date Collected: 02/18/25 12:05

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:07	DP	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Client Sample ID: HP2-02-23-20250218-01

Lab Sample ID: 860-94092-13

Date Collected: 02/18/25 14:55

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:09	DP	EET HOU

Client Sample ID: HP2-02-33-20250218-01

Lab Sample ID: 860-94092-14

Date Collected: 02/18/25 14:35

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:11	DP	EET HOU

Client Sample ID: HP2-02-43-20250218-01

Lab Sample ID: 860-94092-15

Date Collected: 02/18/25 14:10

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:13	DP	EET HOU

Client Sample ID: DUP-02-20250218-01

Lab Sample ID: 860-94092-16

Date Collected: 02/18/25 08:00

Matrix: Water

Date Received: 02/19/25 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	217831	02/20/25 08:30	MD	EET HOU
Dissolved	Analysis	6020B		1			217988	02/20/25 16:15	DP	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26

- 1
- 2
- 3
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Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-94092-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-94092-1	HP2-01-17-20250217-01	Water	02/17/25 14:55	02/19/25 12:09
860-94092-2	HP2-01-27-20250217-01	Water	02/17/25 14:30	02/19/25 12:09
860-94092-3	HP2-01-37-20250217-01	Water	02/17/25 14:05	02/19/25 12:09
860-94092-4	HP2-03-17-20250217-01	Water	02/17/25 17:05	02/19/25 12:09
860-94092-5	HP2-03-27-20250217-01	Water	02/17/25 16:48	02/19/25 12:09
860-94092-6	HP2-03-37-20250217-01	Water	02/17/25 16:30	02/19/25 12:09
860-94092-7	HP2-04-16-20250218-01	Water	02/18/25 10:15	02/19/25 12:09
860-94092-8	HP2-04-26-20250218-01	Water	02/18/25 09:55	02/19/25 12:09
860-94092-9	HP2-04-36-20250218-01	Water	02/18/25 09:30	02/19/25 12:09
860-94092-10	HP2-05-16-20250218-01	Water	02/18/25 12:35	02/19/25 12:09
860-94092-11	HP2-05-26-20250218-01	Water	02/18/25 12:20	02/19/25 12:09
860-94092-12	HP2-05-36-20250218-01	Water	02/18/25 12:05	02/19/25 12:09
860-94092-13	HP2-02-23-20250218-01	Water	02/18/25 14:55	02/19/25 12:09
860-94092-14	HP2-02-33-20250218-01	Water	02/18/25 14:35	02/19/25 12:09
860-94092-15	HP2-02-43-20250218-01	Water	02/18/25 14:10	02/19/25 12:09
860-94092-16	DUP-02-20250218-01	Water	02/18/25 08:00	02/19/25 12:09

Eurofins Houston

4145 Greenbriar Dr
Stafford, TX 77417
Phone (281) 240-4200

Chain of Custody Record

Client Information		Sampler	Lab Pkt:	Carrier Tracking No(s):	COC No:
Client Contact: Harrison Richardson		Phone: 325-374-2906	E-Mail: Patel, Anita	State of Origin: TX	860-35383-12007 1
Client: Nick Houchens		PMSSID:	Antia: Patel@et.eurofins.com	Page: 1 of 2	
Company: ERM-Southwest Inc.		Due Date Requested:	Analysis Requested		
Address: 111 Congress Ave, Suite 500		TAT Requested (days):	Preservation Codes: D HNO3		
City: Austin		Compliance Project: A Yes A No	Other		
State, Zip: TX 78701		PO #: 0763962			
Phone: 512-374-2215(Tel) 512-810-2901(Fax)		WO #: 0763962			
Email: nick.houchens@erm.com		Project #: 86005616			
Project Name: Twin Oaks Power Plant		SSOM#: 86005616			
Site: Twin Oaks Power Plant		SSOM#: 86005616			
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=overhead)
HP2-01-17-20250217-01		2-17-25	1455	G	Water
HP2-01-27-20250217-01			1430		Water
HP2-01-37-20250217-01			1405		Water
HP2-03-17-20250217-01			1705		Water
HP2-03-27-20250217-01			1648		Water
HP2-03-37-20250217-01			1630		Water
HP2-04-16-20250218-01		2-18-25	1615		Water
HP2-04-26-20250218-01			955		Water
HP2-04-36-20250218-01			730		Water
HP2-05-16-20250218-01			1235		Water
HP2-05-26-20250218-01			1220		Water
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		☐ Return To Client ☒ Disposal By Lab ☐ Archive For Months			
Deliverable Requested: I II III IV Other (specify) TRRP checking		Special Instructions/QC Requirements: TRRP 13			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment	
Relinquished by: Harrison Richardson		Date/Time: 2/18/25 1705	Company: ERM	Received by: Mawon	Date/Time: 2-19-25 1209
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:
Custody Seals Intact: A Yes A No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	

120

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-94092-1

Login Number: 94092

List Source: Eurofins Houston

List Number: 1

Creator: Jimenez, Nicanor

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/14/2025 1:09:47 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97958-1

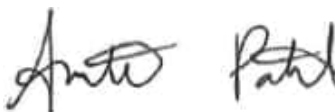
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Dissolved			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A311					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97958-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/14/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/14/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97958-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 04/14/2025
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-97958-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/14/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97958-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97958-1

Job ID: 860-97958-1

Eurofins Houston

Job Narrative 860-97958-1

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

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

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

Receipt

The samples were received on 4/9/2025 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.9°C.

Metals

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97958-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.843		0.00200	0.000590	mg/L	1		6020B	Dissolved

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97958-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97958-1

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.843		0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 02:51	1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97958-2

Date Collected: 04/09/25 13:45

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 02:53	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-228449/1-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 01:44	1

Lab Sample ID: LCS 860-228449/2-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.1007		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-228449/3-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.09799		mg/L		98	80 - 120	3	20

Lab Sample ID: 860-97908-A-3-B MS

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.00330		0.100	0.1026		mg/L		99	75 - 125

Lab Sample ID: 860-97908-A-3-C MSD

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00330		0.100	0.08653		mg/L		83	75 - 125	17	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Metals

Prep Batch: 228449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97958-1	MW-14-20250409-01	Dissolved	Water	3010A	
860-97958-2	MW-26-20250409-01	Dissolved	Water	3010A	
MB 860-228449/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228449/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228449/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-97908-A-3-B MS	Matrix Spike	Total/NA	Water	3010A	
860-97908-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 228939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97958-1	MW-14-20250409-01	Dissolved	Water	6020B	228449
860-97958-2	MW-26-20250409-01	Dissolved	Water	6020B	228449
MB 860-228449/1-A	Method Blank	Total/NA	Water	6020B	228449
LCS 860-228449/2-A	Lab Control Sample	Total/NA	Water	6020B	228449
LCSD 860-228449/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228449
860-97908-A-3-B MS	Matrix Spike	Total/NA	Water	6020B	228449
860-97908-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	228449

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97958-1

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	228449	04/11/25 09:00	MD	EET HOU
Dissolved	Analysis	6020B		1			228939	04/12/25 02:51	DP	EET HOU

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97958-2

Date Collected: 04/09/25 13:45

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	228449	04/11/25 09:00	MD	EET HOU
Dissolved	Analysis	6020B		1			228939	04/12/25 02:53	DP	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26

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

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97958-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97958-1	MW-14-20250409-01	Water	04/09/25 11:15	04/09/25 19:35
860-97958-2	MW-26-20250409-01	Water	04/09/25 13:45	04/09/25 19:35

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

4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record

Chain of Custody Record

eurofins | Environment® Testing



Client Information

Client Contact
Quintin Neil

Company:
ERM-Northeast

Address:
295 Madison Avenue Suite 8A

City:
New York

State, Zip:
NY 10017

Phone:
512-374-2215 (Tel) 512-810-2901 (Fax)

Email:
quintin.neil@erm.com

Project Name:
Twin Oaks Power Plant

Site:
Twin Oaks Power Plant

Sampler
Kara Neugeb / Kristen Sullivan

Phone:
512-709 2473

Lab Pk:
E-Mail: Kara.Neugeb@eurofins.com

Due Date Requested:
TAT Requested (days):

Compliance Project: ☒ Yes ☐ No

Purchase Order Requested
PO #:

WFO #:
0689854

Project #:
86005616

SSOW#:

860-97958 Chain of Custody

Page: 1 of 1

Job #:

Preservation Codes:

A HCL
B NaOH
C Zn Acetate
D Nitric Acid
E NaHSO4
F MeOH
G Acetic Acid
H Ascorbic Acid
I Ice
J DI Water
K EDTA
L EDA
M Hexane
N None
O AsNaO2
P Na2OAS
Q Na2SO3
R Na2SO3
S H2SO4
T TSP Dodecylhydrate
U Acetone
V MCAA
W pH 4.5
Y Thima
Z other (specify)

Special Instructions/Note:

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

Appendix III - Metals - Boron, Calcium

Appendix III - chloride, fluoride, sulfate by 300

Appendix III - pH and TDS 25400

Appendix IV Metals - 6020 (Sb, As, Bi, Br, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg

6000 and 9040 - Radium-226 and 228 (GFPC)

6020B - Total Se

6020B - Dissolved Se

Total Number of containers

Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

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Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

Field Filtered 0 45467

Temp: 3.0 IR ID-HOU-368

CIF-0.1

Corrected Temp: 2.9

Temp: 3.0 IR ID-HOU-368

CIF-0.1

Corrected Temp: 2.9

Temp: 3.0 IR ID-HOU-368

CIF-0.1

Corrected Temp: 2.9

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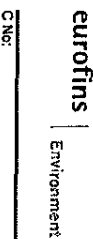
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Chain of Custody Record

Ver. 01/16/2019

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97958-1

Login Number: 97958

List Source: Eurofins Houston

List Number: 1

Creator: Torres, Sandra

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/22/2025 10:31:51 AM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97961-1

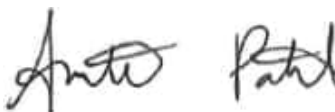
Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
4/22/2025 10:31:51 AM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Total/NA			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A311					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97961-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/22/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/22/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97961-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 04/22/2025
Project Name: Twin Oaks Power Plant	Laboratory Job Number: 860-97961-1
Reviewer Name: Anita Patel	

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/22/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97961-1	
Reviewer Name: Anita Patel			
ER#¹	Description		
1	Method 6020B: The method blank for preparation batch 860-228534 and analytical batch 860-228666 contained Selenium above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore re-analysis of samples was not performed.		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97961-1

Job ID: 860-97961-1

Eurofins Houston

Job Narrative 860-97961-1

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

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

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

Receipt

The samples were received on 4/9/2025 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.9°C.

Metals

Method 6020B: The method blank for preparation batch 860-228534 and analytical batch 860-228666 contained Selenium above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore re-analysis of samples was not performed.

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97961-1

☐ No Detections.

Client Sample ID: MW-25-20250409-01

Lab Sample ID: 860-97961-2

☐ No Detections.

Client Sample ID: MW-24-20250409-01

Lab Sample ID: 860-97961-3

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Houston

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97961-1

Date Collected: 04/09/25 13:45

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 21:34	1

Client Sample ID: MW-25-20250409-01

Lab Sample ID: 860-97961-2

Date Collected: 04/09/25 15:20

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 21:37	1

Client Sample ID: MW-24-20250409-01

Lab Sample ID: 860-97961-3

Date Collected: 04/09/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 21:39	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-228534/1-A

Matrix: Water

Analysis Batch: 228666

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.0005941	J	0.00200	0.000590	mg/L		04/11/25 13:30	04/11/25 20:42	1

Lab Sample ID: LCS 860-228534/2-A

Matrix: Water

Analysis Batch: 228666

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.09925		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-228534/3-A

Matrix: Water

Analysis Batch: 228666

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228534

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.09427		mg/L		94	80 - 120	5	20

Lab Sample ID: 860-98045-K-4-A MS

Matrix: Water

Analysis Batch: 228666

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 228534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.000590	U	0.100	0.08725		mg/L		87	75 - 125

Lab Sample ID: 860-98045-L-4-A MSD

Matrix: Water

Analysis Batch: 228666

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 228534

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	<0.000590	U	0.100	0.08927		mg/L		89	75 - 125	2	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Metals

Prep Batch: 228534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97961-1	MW-26-20250409-01	Total/NA	Water	3010A	
860-97961-2	MW-25-20250409-01	Total/NA	Water	3010A	
860-97961-3	MW-24-20250409-01	Total/NA	Water	3010A	
MB 860-228534/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228534/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228534/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-98045-K-4-A MS	Matrix Spike	Total/NA	Water	3010A	
860-98045-L-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 228666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97961-1	MW-26-20250409-01	Total/NA	Water	6020B	228534
860-97961-2	MW-25-20250409-01	Total/NA	Water	6020B	228534
860-97961-3	MW-24-20250409-01	Total/NA	Water	6020B	228534
MB 860-228534/1-A	Method Blank	Total/NA	Water	6020B	228534
LCS 860-228534/2-A	Lab Control Sample	Total/NA	Water	6020B	228534
LCSD 860-228534/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228534
860-98045-K-4-A MS	Matrix Spike	Total/NA	Water	6020B	228534
860-98045-L-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	228534

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Client Sample ID: MW-26-20250409-01

Lab Sample ID: 860-97961-1

Date Collected: 04/09/25 13:45

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228534	04/11/25 13:30	MD	EET HOU
Total/NA	Analysis	6020B		1			228666	04/11/25 21:34	SHZ	EET HOU

Client Sample ID: MW-25-20250409-01

Lab Sample ID: 860-97961-2

Date Collected: 04/09/25 15:20

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228534	04/11/25 13:30	MD	EET HOU
Total/NA	Analysis	6020B		1			228666	04/11/25 21:37	SHZ	EET HOU

Client Sample ID: MW-24-20250409-01

Lab Sample ID: 860-97961-3

Date Collected: 04/09/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228534	04/11/25 13:30	MD	EET HOU
Total/NA	Analysis	6020B		1			228666	04/11/25 21:39	SHZ	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26

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Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97961-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97961-1	MW-26-20250409-01	Water	04/09/25 13:45	04/09/25 19:35
860-97961-2	MW-25-20250409-01	Water	04/09/25 15:20	04/09/25 19:35
860-97961-3	MW-24-20250409-01	Water	04/09/25 16:15	04/09/25 19:35

Eurofins Houston

4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



eurofins | Environment Testing
IC No: 10-35383-12007 1
ge: Page 1 of 1
Job #:

860-67961 Chain of Custody

Client Information

Client Contact: Kara Wiegell/Hector Saez
Phone: 512-701-2473
Company: ERM-Southwest Inc.

Due Date Requested:
TAT Requested (days):
Compliance Project: ☒ Yes ☐ No
PO #: 07811510
WOC #: 0763962
Project #: 86005616
SSOV#:

Analysis Requested

Preservation Codes:
D HNO3

Address: 111 Congress Ave. Suite 500
City: Austin
State, Zip: TX, 78701
Phone: 512-374-2215(Tel) 512-810-2901(Fax)
Email: nick.houtchens@erm.com
Project Name: Twin Oaks Power Plant
Site: Twin Oaks Power Plant

Sample Identification

MW-26-20250409-01
MW-25-20250407-01
MW-24-20250409-01

Sample Date: 4/9/25
Sample Time: 1345
Sample Type: G
Matrix: (W=water, S=solid, O=oil, L=liquid, A=air)
Preservation Code:

Field Filtered Sample (Yes or No)
Perform MS/MSD (Yes or No)
6020B Total Se
6020B Dissolved Se

Total Number of containers

Special Instructions/Note:

Temp: IR ID:HOU-368
C/F: 0.1 30
Corrected Temp: 2.9

Possible Hazard Identification

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Dispose By Lab ☐ Archive For Months

Empty Kit Relinquished by

Date:

Time:

Method of Shipment:

Relinquished by: Yvonne Nozelle 4/9/25

Date Time: 4/9/25 1645

Company:

Received by: Dan Paura

Date Time: 4/9/25 1645

Company:

Relinquished by: Sean Bourne 4/9/25

Date Time: 4/9/25 1935

Company:

Received by:

Date Time: 4/9/25 1935

Company:

Custody Seals Intact: ☒ Yes ☐ No

Custody Seal No.

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97961-1

Login Number: 97961

List Number: 1

Creator: Torres, Sandra

List Source: Eurofins Houston

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/16/2025 3:07:08 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97962-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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4/16/2025 3:07:08 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Analyte was not detected at or above the SDL.

Glossary

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

Eurofins Houston

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography

Matrix: Water
Prep Method: N/A
Instrument: A263

Prep Type: Total/NA

Detector: IC/0

Column: AS-18

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Chloride	0.500	0.367	J	mg/L	0.500	0.250	03/26/2025	860-224967
Sulfate	0.500	0.361	J	mg/L	0.500	0.200	03/26/2025	860-224967
Fluoride	0.500	0.396	J	mg/L	0.500	0.100	03/26/2025	860-224967

Matrix: Water
Prep Method: N/A
Instrument: a401

Prep Type: Total/NA

Detector: IC/0

Column: AS-18

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Chloride	0.500	0.486	J	mg/L	0.500	0.250	03/31/2025	860-225866
Sulfate	0.500	0.561		mg/L	0.500	0.200	03/31/2025	860-225866
Fluoride	0.500	0.210	J	mg/L	0.500	0.100	03/31/2025	860-225866

Method: 6020B - Metals (ICP/MS)

Matrix: Water
Prep Method: 3010A-Preparation, Total Metals
Instrument: A311

Prep Type: Total/NA

Detector: MSD/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.00140	0.0014	J	mg/L	0.0020	0.00075	03/26/2025	860-225009
Boron	0.00700	0.0075	J	mg/L	0.010	0.0040	03/26/2025	860-225009
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009
Thallium	0.00140	0.0014	J	mg/L	0.0020	0.00042	03/26/2025	860-225009
Arsenic	0.00280	0.0029	J	mg/L	0.0040	0.00069	03/26/2025	860-225009
Calcium	0.0700	0.074	J	mg/L	0.10	0.030	03/26/2025	860-225009
Barium	0.00280	0.0028	J	mg/L	0.0040	0.0013	03/26/2025	860-225009
Beryllium	0.00140	0.0014	J	mg/L	0.0020	0.00027	03/26/2025	860-225009
Cadmium	0.00140	0.0014	J	mg/L	0.0020	0.00024	03/26/2025	860-225009
Chromium	0.00280	0.0029	J	mg/L	0.0040	0.00056	03/26/2025	860-225009
Cobalt	0.00140	0.0014	J	mg/L	0.0020	0.00036	03/26/2025	860-225009
Lead	0.00140	0.0013	J	mg/L	0.0020	0.00037	03/26/2025	860-225009
Molybdenum	0.00140	0.0015	J	mg/L	0.0020	0.00026	03/26/2025	860-225009

Method: 7470A - Mercury (CVAA)

Matrix: Water
Prep Method: 7470A-Preparation, Mercury
Instrument: A336

Prep Type: Total/NA

Detector: AA/0

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Mercury	0.000130	0.00018	J	mg/L	0.00020	0.000071	01/13/2025	860-210513

Eurofins Houston

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97962-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/16/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/16/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97962-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓			1
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			2
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/16/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97962-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/16/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97962-1	
Reviewer Name: Anita Patel			
ER#¹	Description		
1	Method 6020B: The method blank for preparation batch 860-228784 and analytical batch 860-229259 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.		
2	Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-228468 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97962-1

Job ID: 860-97962-1

Eurofins Houston

Job Narrative 860-97962-1

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

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

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

Receipt

The samples were received on 4/9/2025 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.6°C, 2.9°C and 3.8°C.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-228468 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Metals

Method 6020B: The method blank for preparation batch 860-228784 and analytical batch 860-229259 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

General Chemistry

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	242		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	989		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.204	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.154		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.300		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	296		1.00	0.301	mg/L	10		6020B	Total/NA
Barium	0.0197		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000568	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00125	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000891	J b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	1960		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.3	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	101		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	349		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0438		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.157		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	98.3		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.0206		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000425	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00131	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	752		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78.5		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	62.4		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0362		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	24.8		0.100	0.0301	mg/L	1		6020B	Total/NA
Barium	0.122		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00390		0.00200	0.000355	mg/L	1		6020B	Total/NA
Total Dissolved Solids	403		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	109		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	127		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.109	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0261	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.145		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	40.1		0.100	0.0301	mg/L	1		6020B	Total/NA
Barium	0.0503		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cobalt	0.00121	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.000781	J b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Mercury	0.000166	J	0.000200	0.0000706	mg/L	1		7470A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-13-20250408-01 (Continued)

Lab Sample ID: 860-97962-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	491		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.2	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	606		5.00	2.50	mg/L	10		300.0	Total/NA
Sulfate	350		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0933		0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0306		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	164		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.102		0.00400	0.00134	mg/L	1		6020B	Total/NA
Beryllium	0.000331	J	0.00200	0.000271	mg/L	1		6020B	Total/NA
Cadmium	0.00175	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00156	J	0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.00847	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2040		20.0	20.0	mg/L	1		SM 2540C	Total/NA
pH	6.0	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	129		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	53.3		0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0514		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	30.7		0.100	0.0301	mg/L	1		6020B	Total/NA
Barium	0.125		0.00400	0.00134	mg/L	1		6020B	Total/NA
Selenium	0.00364	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	551		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	157		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	110		0.500	0.200	mg/L	1		300.0	Total/NA
Lithium	0.0197	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0395		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	54.9		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.0463		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000380	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000758	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Selenium	0.00486	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	683		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	472		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	1440		5.00	2.00	mg/L	10		300.0	Total/NA
Fluoride	0.183	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.193		0.0400	0.0174	mg/L	1		6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-14-20250409-01 (Continued)

Lab Sample ID: 860-97962-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.19		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	304		1.00	0.301	mg/L	10		6020B	Total/NA
Barium	0.0215		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000789	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Cobalt	0.00288		0.00200	0.000355	mg/L	1		6020B	Total/NA
Selenium	0.815	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	2940		40.0	40.0	mg/L	1		SM 2540C	Total/NA
pH	6.5	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	162		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	113		0.500	0.200	mg/L	1		300.0	Total/NA
Fluoride	0.116	J	0.500	0.100	mg/L	1		300.0	Total/NA
Lithium	0.0220	J	0.0400	0.0174	mg/L	1		6010D	Total/NA
Boron	0.0800		0.0100	0.00401	mg/L	1		6020B	Total/NA
Calcium	55.9		0.500	0.150	mg/L	5		6020B	Total/NA
Barium	0.0441		0.00400	0.00134	mg/L	1		6020B	Total/NA
Cadmium	0.000393	J	0.00200	0.000240	mg/L	1		6020B	Total/NA
Chromium	0.000675	J	0.00400	0.000560	mg/L	1		6020B	Total/NA
Selenium	0.00484	b	0.00200	0.000590	mg/L	1		6020B	Total/NA
Total Dissolved Solids	677		10.0	10.0	mg/L	1		SM 2540C	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.952		0.500	0.250	mg/L	1		300.0	Total/NA
Sulfate	0.372	J	0.500	0.200	mg/L	1		300.0	Total/NA
Boron	0.0194		0.0100	0.00401	mg/L	1		6020B	Total/NA
pH	6.6	HF			SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.963		0.500	0.250	mg/L	1		300.0	Total/NA
Boron	0.0147		0.0100	0.00401	mg/L	1		6020B	Total/NA
pH	7.1	HF			SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Date Collected: 04/08/25 10:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	242		0.500	0.250	mg/L			04/14/25 18:18	1
Sulfate	989		5.00	2.00	mg/L			04/14/25 18:28	10
Fluoride	0.204	J	0.500	0.100	mg/L			04/14/25 18:18	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.154		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 15:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:36	1
Boron	0.300		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:36	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:36	1
Calcium	296		1.00	0.301	mg/L		04/13/25 11:30	04/14/25 20:38	10
Barium	0.0197		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:36	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:36	1
Cadmium	0.000568	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:36	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:36	1
Cobalt	0.00125	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:36	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:36	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:36	1
Selenium	0.000891	J b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:36	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:36	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1960		20.0	20.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.3	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	101		0.500	0.250	mg/L			04/11/25 21:13	1
Sulfate	349		0.500	0.200	mg/L			04/11/25 21:13	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 21:13	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0438		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:41	1
Boron	0.157		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:41	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:41	1
Calcium	98.3		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 20:44	5
Barium	0.0206		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:41	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:41	1
Cadmium	0.000425	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:41	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:41	1
Cobalt	0.00131	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:41	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:41	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:41	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:41	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:41	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	752		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.5	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.5		0.500	0.250	mg/L			04/14/25 17:28	1
Sulfate	62.4		0.500	0.200	mg/L			04/14/25 17:28	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 17:28	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:46	1
Boron	0.0362		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:46	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:46	1
Calcium	24.8		0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 20:46	1
Barium	0.122		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:46	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:46	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:46	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:46	1
Cobalt	0.00390		0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:46	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:46	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:46	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:46	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:46	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	403		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.2	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Date Collected: 04/08/25 14:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	109		0.500	0.250	mg/L			04/11/25 21:20	1
Sulfate	127		0.500	0.200	mg/L			04/11/25 21:20	1
Fluoride	0.109	J	0.500	0.100	mg/L			04/11/25 21:20	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0261	J	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:48	1
Boron	0.145		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:48	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:48	1
Calcium	40.1		0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 20:48	1
Barium	0.0503		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:48	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:48	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:48	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:48	1
Cobalt	0.00121	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:48	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:48	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:48	1
Selenium	0.000781	J b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:48	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000166	J	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	491		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.2	HF			SU			04/11/25 12:56	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Date Collected: 04/08/25 15:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	606		5.00	2.50	mg/L			04/14/25 19:08	10
Sulfate	350		0.500	0.200	mg/L			04/14/25 18:58	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 18:58	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0933		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:51	1
Boron	0.0306		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:51	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:51	1
Calcium	164		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 20:53	5
Barium	0.102		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:51	1
Beryllium	0.000331	J	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:51	1
Cadmium	0.00175	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:51	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:51	1
Cobalt	0.00156	J	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:51	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:51	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:51	1
Selenium	0.00847	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:51	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2040		20.0	20.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.0	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	129		0.500	0.250	mg/L			04/14/25 17:58	1
Sulfate	53.3		0.500	0.200	mg/L			04/14/25 17:58	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 17:58	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:56	1
Boron	0.0514		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:56	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:56	1
Calcium	30.7		0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 20:56	1
Barium	0.125		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:56	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:56	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:56	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:56	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:56	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:56	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:56	1
Selenium	0.00364	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:56	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:56	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	551		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.5	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	157		0.500	0.250	mg/L			04/14/25 18:08	1
Sulfate	110		0.500	0.200	mg/L			04/14/25 18:08	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 18:08	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0197	J	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 20:58	1
Boron	0.0395		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 20:58	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 20:58	1
Calcium	54.9		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 21:05	5
Barium	0.0463		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 20:58	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 20:58	1
Cadmium	0.000380	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 20:58	1
Chromium	0.000758	J	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 20:58	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 20:58	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 20:58	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 20:58	1
Selenium	0.00486	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 20:58	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 20:58	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	683		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.6	HF			SU			04/11/25 12:56	1

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	472		0.500	0.250	mg/L			04/14/25 19:18	1
Sulfate	1440		5.00	2.00	mg/L			04/14/25 19:28	10
Fluoride	0.183	J	0.500	0.100	mg/L			04/14/25 19:18	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.193		0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:08	1
Boron	4.19		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:08	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:08	1
Calcium	304		1.00	0.301	mg/L		04/13/25 11:30	04/14/25 21:10	10
Barium	0.0215		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:08	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:08	1
Cadmium	0.000789	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:08	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:08	1
Cobalt	0.00288		0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:08	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:08	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:08	1
Selenium	0.815	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:08	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2940		40.0	40.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.5	HF			SU			04/11/25 12:56	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	162		0.500	0.250	mg/L			04/11/25 19:33	1
Sulfate	113		0.500	0.200	mg/L			04/11/25 19:33	1
Fluoride	0.116	J	0.500	0.100	mg/L			04/11/25 19:33	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0220	J	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:13	1
Boron	0.0800		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:13	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:13	1
Calcium	55.9		0.500	0.150	mg/L		04/13/25 11:30	04/14/25 21:15	5
Barium	0.0441		0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:13	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:13	1
Cadmium	0.000393	J	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:13	1
Chromium	0.000675	J	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:13	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:13	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:13	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:13	1
Selenium	0.00484	b	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:13	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	677		10.0	10.0	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.6	HF			SU			04/11/25 12:56	1

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.952		0.500	0.250	mg/L			04/11/25 19:41	1
Sulfate	0.372	J	0.500	0.200	mg/L			04/11/25 19:41	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 19:41	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:18	1
Boron	0.0194		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:18	1

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Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:18	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 21:18	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:18	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:18	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:18	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:18	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:18	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:18	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:18	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:18	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:18	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	6.6	HF			SU			04/11/25 12:56	1

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.963		0.500	0.250	mg/L			04/11/25 19:48	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/11/25 19:48	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 19:48	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 16:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 21:20	1
Boron	0.0147		0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 21:20	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 21:20	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 21:20	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 21:20	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 21:20	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 21:20	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 21:20	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 21:20	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 21:20	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 21:20	1
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 21:20	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 21:20	1

Eurofins Houston

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<5.00	U	5.00	5.00	mg/L			04/14/25 08:37	1
pH (SM 4500 H+ B)	7.1	HF			SU			04/11/25 12:56	1

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-228468/3

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/11/25 10:36	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/11/25 10:36	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 10:36	1

Lab Sample ID: MB 860-228468/49

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/11/25 17:15	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/11/25 17:15	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/11/25 17:15	1

Lab Sample ID: LCS 860-228468/52

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.02		mg/L		100	90 - 110
Sulfate	10.0	10.03		mg/L		100	90 - 110
Fluoride	10.0	10.32		mg/L		103	90 - 110

Lab Sample ID: LCSD 860-228468/53

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.953		mg/L		100	90 - 110	1	20
Sulfate	10.0	10.18		mg/L		102	90 - 110	1	20
Fluoride	10.0	10.37		mg/L		104	90 - 110	0	20

Lab Sample ID: LLCS 860-228468/7

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.6736		mg/L		135	50 - 150
Sulfate	0.500	0.7215		mg/L		144	50 - 150
Fluoride	0.500	0.4821	J	mg/L		96	50 - 150

Lab Sample ID: 870-35255-G-1 MS

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	9.45		10.0	20.99	N1	mg/L		115	90 - 110
Sulfate	18.8		10.0	29.54		mg/L		107	90 - 110
Fluoride	0.157	J	10.0	11.02		mg/L		109	90 - 110

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 870-35255-G-1 MSD

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	9.45		10.0	20.79	N1	mg/L		113	90 - 110	1	15
Sulfate	18.8		10.0	28.96		mg/L		101	90 - 110	2	15
Fluoride	0.157	J	10.0	10.93		mg/L		108	90 - 110	1	15

Lab Sample ID: 870-35305-A-2 MS

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.7		10.0	20.91		mg/L		102	90 - 110		
Sulfate	90.4		10.0	99.85	4	mg/L		95	90 - 110		
Fluoride	0.171	J	10.0	11.16		mg/L		110	90 - 110		

Lab Sample ID: 870-35305-A-2 MSD

Matrix: Water

Analysis Batch: 228468

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.7		10.0	20.96		mg/L		103	90 - 110	0	15
Sulfate	90.4		10.0	99.99	4	mg/L		96	90 - 110	0	15
Fluoride	0.171	J	10.0	11.19		mg/L		110	90 - 110	0	15

Lab Sample ID: MB 860-228985/3

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.250	U	0.500	0.250	mg/L			04/14/25 12:05	1
Sulfate	<0.200	U	0.500	0.200	mg/L			04/14/25 12:05	1
Fluoride	<0.100	U	0.500	0.100	mg/L			04/14/25 12:05	1

Lab Sample ID: LCS 860-228985/4

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.0	9.300		mg/L		93	90 - 110		
Sulfate	10.0	10.30		mg/L		103	90 - 110		
Fluoride	10.0	9.628		mg/L		96	90 - 110		

Lab Sample ID: LCSD 860-228985/5

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.275		mg/L		93	90 - 110	0	20
Sulfate	10.0	10.23		mg/L		102	90 - 110	1	20
Fluoride	10.0	9.617		mg/L		96	90 - 110	0	20

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LLCS 860-228985/7

Matrix: Water

Analysis Batch: 228985

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4125	J	mg/L		82	50 - 150
Sulfate	0.500	0.3713	J	mg/L		74	50 - 150
Fluoride	0.500	0.3946	J	mg/L		79	50 - 150

Lab Sample ID: 860-97962-3 MS

Matrix: Water

Analysis Batch: 228985

Client Sample ID: MW-12-20250408-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	78.5		10.0	87.76	4	mg/L		93	90 - 110
Sulfate	62.4		10.0	72.66	4	mg/L		103	90 - 110
Fluoride	<0.100	U	10.0	8.911	N1	mg/L		89	90 - 110

Lab Sample ID: 860-97962-3 MSD

Matrix: Water

Analysis Batch: 228985

Client Sample ID: MW-12-20250408-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	78.5		10.0	87.87	4	mg/L		94	90 - 110	0	15
Sulfate	62.4		10.0	72.71	4	mg/L		104	90 - 110	0	15
Fluoride	<0.100	U	10.0	9.042		mg/L		90	90 - 110	1	15

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-228453/1-A

Matrix: Water

Analysis Batch: 228879

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228453

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0174	U	0.0400	0.0174	mg/L		04/11/25 09:00	04/11/25 15:41	1

Lab Sample ID: LCS 860-228453/2-A

Matrix: Water

Analysis Batch: 228879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.010		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-228453/3-A

Matrix: Water

Analysis Batch: 228879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.010		mg/L		101	80 - 120	0	20

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 860-97962-1 MS

Matrix: Water

Analysis Batch: 228879

Client Sample ID: MW-07-20250408-01

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.154		1.00	1.260		mg/L		111	75 - 125

Lab Sample ID: 860-97962-1 MSD

Matrix: Water

Analysis Batch: 228879

Client Sample ID: MW-07-20250408-01

Prep Type: Total/NA

Prep Batch: 228453

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.154		1.00	1.200		mg/L		105	75 - 125	5	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: LB 860-228512/1-D

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228784

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00375	U	0.0100	0.00375	mg/L		04/13/25 11:30	04/14/25 19:43	1
Boron	<0.0200	U	0.0500	0.0200	mg/L		04/13/25 11:30	04/14/25 19:43	1
Arsenic	<0.00345	U	0.0200	0.00345	mg/L		04/13/25 11:30	04/14/25 19:43	1
Calcium	<0.150	U	0.500	0.150	mg/L		04/13/25 11:30	04/14/25 19:43	1
Barium	<0.00671	U	0.0200	0.00671	mg/L		04/13/25 11:30	04/14/25 19:43	1
Beryllium	<0.00136	U	0.0100	0.00136	mg/L		04/13/25 11:30	04/14/25 19:43	1
Cadmium	<0.00120	U	0.0100	0.00120	mg/L		04/13/25 11:30	04/14/25 19:43	1
Chromium	<0.00280	U	0.0200	0.00280	mg/L		04/13/25 11:30	04/14/25 19:43	1
Cobalt	<0.00178	U	0.0100	0.00178	mg/L		04/13/25 11:30	04/14/25 19:43	1
Lead	<0.00184	U	0.0100	0.00184	mg/L		04/13/25 11:30	04/14/25 19:43	1
Molybdenum	<0.00128	U	0.0100	0.00128	mg/L		04/13/25 11:30	04/14/25 19:43	1
Selenium	<0.00295	U	0.0100	0.00295	mg/L		04/13/25 11:30	04/14/25 19:43	1
Thallium	<0.00208	U	0.0100	0.00208	mg/L		04/13/25 11:30	04/14/25 19:43	1

Lab Sample ID: MB 860-228784/1-A

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228784

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.000750	U	0.00200	0.000750	mg/L		04/13/25 11:30	04/14/25 19:36	1
Boron	<0.00401	U	0.0100	0.00401	mg/L		04/13/25 11:30	04/14/25 19:36	1
Arsenic	<0.000690	U	0.00400	0.000690	mg/L		04/13/25 11:30	04/14/25 19:36	1
Calcium	<0.0301	U	0.100	0.0301	mg/L		04/13/25 11:30	04/14/25 19:36	1
Barium	<0.00134	U	0.00400	0.00134	mg/L		04/13/25 11:30	04/14/25 19:36	1
Beryllium	<0.000271	U	0.00200	0.000271	mg/L		04/13/25 11:30	04/14/25 19:36	1
Cadmium	<0.000240	U	0.00200	0.000240	mg/L		04/13/25 11:30	04/14/25 19:36	1
Chromium	<0.000560	U	0.00400	0.000560	mg/L		04/13/25 11:30	04/14/25 19:36	1
Cobalt	<0.000355	U	0.00200	0.000355	mg/L		04/13/25 11:30	04/14/25 19:36	1
Lead	<0.000367	U	0.00200	0.000367	mg/L		04/13/25 11:30	04/14/25 19:36	1
Molybdenum	<0.000255	U	0.00200	0.000255	mg/L		04/13/25 11:30	04/14/25 19:36	1
Selenium	0.0007027	J	0.00200	0.000590	mg/L		04/13/25 11:30	04/14/25 19:36	1
Thallium	<0.000415	U	0.00200	0.000415	mg/L		04/13/25 11:30	04/14/25 19:36	1

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

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

Lab Sample ID: LCS 860-228784/2-A

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228784

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.09565		mg/L		96	80 - 120
Boron	0.100	0.09504		mg/L		95	80 - 120
Arsenic	0.100	0.09716		mg/L		97	80 - 120
Calcium	2.50	2.587		mg/L		103	80 - 120
Barium	0.100	0.09716		mg/L		97	80 - 120
Beryllium	0.100	0.09485		mg/L		95	80 - 120
Cadmium	0.100	0.09684		mg/L		97	80 - 120
Chromium	0.100	0.09837		mg/L		98	80 - 120
Cobalt	0.100	0.09831		mg/L		98	80 - 120
Lead	0.100	0.09689		mg/L		97	80 - 120
Molybdenum	0.100	0.09665		mg/L		97	80 - 120
Selenium	0.100	0.09346		mg/L		93	80 - 120
Thallium	0.100	0.09892		mg/L		99	80 - 120

Lab Sample ID: LCSD 860-228784/3-A

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228784

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.09701		mg/L		97	80 - 120	1	20
Boron	0.100	0.09537		mg/L		95	80 - 120	0	20
Arsenic	0.100	0.09825		mg/L		98	80 - 120	1	20
Calcium	2.50	2.612		mg/L		104	80 - 120	1	20
Barium	0.100	0.09528		mg/L		95	80 - 120	2	20
Beryllium	0.100	0.09461		mg/L		95	80 - 120	0	20
Cadmium	0.100	0.09707		mg/L		97	80 - 120	0	20
Chromium	0.100	0.09878		mg/L		99	80 - 120	0	20
Cobalt	0.100	0.09736		mg/L		97	80 - 120	1	20
Lead	0.100	0.09709		mg/L		97	80 - 120	0	20
Molybdenum	0.100	0.09747		mg/L		97	80 - 120	1	20
Selenium	0.100	0.09727		mg/L		97	80 - 120	4	20
Thallium	0.100	0.09623		mg/L		96	80 - 120	3	20

Lab Sample ID: 870-35335-B-1-E MS

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 228784

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.00375	U	0.100	0.1008		mg/L		101	75 - 125
Boron	0.0625		0.100	0.1532		mg/L		91	75 - 125
Arsenic	0.00932	J	0.100	0.1137		mg/L		104	75 - 125
Calcium	24.1		2.50	26.36	4	mg/L		90	75 - 125
Barium	0.187		0.100	0.2815		mg/L		95	75 - 125
Beryllium	<0.00136	U	0.100	0.1008		mg/L		101	75 - 125
Cadmium	<0.00120	U	0.100	0.1011		mg/L		101	75 - 125
Chromium	<0.00280	U	0.100	0.1065		mg/L		106	75 - 125
Cobalt	<0.00178	U	0.100	0.1062		mg/L		106	75 - 125
Lead	0.00240	J	0.100	0.1053		mg/L		103	75 - 125
Molybdenum	<0.00128	U	0.100	0.1035		mg/L		104	75 - 125

Eurofins Houston

QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

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

Lab Sample ID: 870-35335-B-1-E MS

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 228784

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.00295	U	0.100	0.09593		mg/L		96	75 - 125
Thallium	<0.00208	U	0.100	0.09686		mg/L		97	75 - 125

Lab Sample ID: 870-35335-B-1-F MSD

Matrix: Water

Analysis Batch: 229259

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 228784

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.00375	U	0.100	0.1018		mg/L		102	75 - 125	1	20
Boron	0.0625		0.100	0.1534		mg/L		91	75 - 125	0	20
Arsenic	0.00932	J	0.100	0.1130		mg/L		104	75 - 125	1	20
Calcium	24.1		2.50	26.62	4	mg/L		100	75 - 125	1	20
Barium	0.187		0.100	0.2983		mg/L		112	75 - 125	6	20
Beryllium	<0.00136	U	0.100	0.09889		mg/L		99	75 - 125	2	20
Cadmium	<0.00120	U	0.100	0.1013		mg/L		101	75 - 125	0	20
Chromium	<0.00280	U	0.100	0.1060		mg/L		106	75 - 125	0	20
Cobalt	<0.00178	U	0.100	0.1084		mg/L		108	75 - 125	2	20
Lead	0.00240	J	0.100	0.1079		mg/L		106	75 - 125	2	20
Molybdenum	<0.00128	U	0.100	0.1061		mg/L		106	75 - 125	2	20
Selenium	<0.00295	U	0.100	0.09316		mg/L		93	75 - 125	3	20
Thallium	<0.00208	U	0.100	0.09936		mg/L		99	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LB 860-227833/1-F

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228375

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:47	04/11/25 11:19	1

Lab Sample ID: MB 860-228375/1-A

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0000706	U	0.000200	0.0000706	mg/L		04/11/25 05:46	04/11/25 11:15	1

Lab Sample ID: LCS 860-228375/2-A

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00200	0.001844		mg/L		92	80 - 120

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 860-228375/3-A

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228375

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00200	0.001942		mg/L		97	80 - 120	5	20

Lab Sample ID: 860-97788-A-1-I MS

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 228375

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.001887		mg/L		94	75 - 125		

Lab Sample ID: 860-97788-A-1-J MSD

Matrix: Water

Analysis Batch: 228532

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 228375

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.0000706	U	0.00200	0.002057		mg/L		103	75 - 125	9	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-228850/1

Matrix: Water

Analysis Batch: 228850

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00	5.00	mg/L			04/14/25 08:31	1

Lab Sample ID: LCS 860-228850/2

Matrix: Water

Analysis Batch: 228850

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	956.0		mg/L		96	80 - 120		

Lab Sample ID: 880-56604-D-4 DU

Matrix: Water

Analysis Batch: 228850

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	127000		120800		mg/L		5	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 860-97962-1 DU

Matrix: Water

Analysis Batch: 228551

Client Sample ID: MW-07-20250408-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.3	HF	6.3		SU		0.2	20

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

HPLC/IC

Analysis Batch: 228468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-2	MW-11-20250408-01	Total/NA	Water	300.0	
860-97962-4	MW-13-20250408-01	Total/NA	Water	300.0	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	300.0	
860-97962-10	FB-01-20250409-01	Total/NA	Water	300.0	
860-97962-11	EB-01-20250409-01	Total/NA	Water	300.0	
MB 860-228468/3	Method Blank	Total/NA	Water	300.0	
MB 860-228468/49	Method Blank	Total/NA	Water	300.0	
LCS 860-228468/52	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-228468/53	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-228468/7	Lab Control Sample	Total/NA	Water	300.0	
870-35255-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-35255-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
870-35305-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
870-35305-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 228985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	300.0	
860-97962-1	MW-07-20250408-01	Total/NA	Water	300.0	
860-97962-3	MW-12-20250408-01	Total/NA	Water	300.0	
860-97962-5	MW-17-20250408-01	Total/NA	Water	300.0	
860-97962-5	MW-17-20250408-01	Total/NA	Water	300.0	
860-97962-6	MW-15-20250408-01	Total/NA	Water	300.0	
860-97962-7	MW-16-20250409-01	Total/NA	Water	300.0	
860-97962-8	MW-14-20250409-01	Total/NA	Water	300.0	
860-97962-8	MW-14-20250409-01	Total/NA	Water	300.0	
MB 860-228985/3	Method Blank	Total/NA	Water	300.0	
LCS 860-228985/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-228985/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-228985/7	Lab Control Sample	Total/NA	Water	300.0	
860-97962-3 MS	MW-12-20250408-01	Total/NA	Water	300.0	
860-97962-3 MSD	MW-12-20250408-01	Total/NA	Water	300.0	

Metals

Leach Batch: 227833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-227833/1-F	Method Blank	Total/NA	Water	1311	
860-97788-A-1-I MS	Matrix Spike	TCLP	Water	1311	
860-97788-A-1-J MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Prep Batch: 228375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	7470A	
860-97962-2	MW-11-20250408-01	Total/NA	Water	7470A	
860-97962-3	MW-12-20250408-01	Total/NA	Water	7470A	
860-97962-4	MW-13-20250408-01	Total/NA	Water	7470A	
860-97962-5	MW-17-20250408-01	Total/NA	Water	7470A	
860-97962-6	MW-15-20250408-01	Total/NA	Water	7470A	
860-97962-7	MW-16-20250409-01	Total/NA	Water	7470A	
860-97962-8	MW-14-20250409-01	Total/NA	Water	7470A	

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Metals (Continued)

Prep Batch: 228375 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-9	DUP-01-20250409-01	Total/NA	Water	7470A	227833
860-97962-10	FB-01-20250409-01	Total/NA	Water	7470A	
860-97962-11	EB-01-20250409-01	Total/NA	Water	7470A	
LB 860-227833/1-F	Method Blank	Total/NA	Water	7470A	
MB 860-228375/1-A	Method Blank	Total/NA	Water	7470A	
LCS 860-228375/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 860-228375/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
860-97788-A-1-I MS	Matrix Spike	TCLP	Water	7470A	227833
860-97788-A-1-J MSD	Matrix Spike Duplicate	TCLP	Water	7470A	227833

Prep Batch: 228453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	3010A	228453
860-97962-2	MW-11-20250408-01	Total/NA	Water	3010A	
860-97962-3	MW-12-20250408-01	Total/NA	Water	3010A	
860-97962-4	MW-13-20250408-01	Total/NA	Water	3010A	
860-97962-5	MW-17-20250408-01	Total/NA	Water	3010A	
860-97962-6	MW-15-20250408-01	Total/NA	Water	3010A	
860-97962-7	MW-16-20250409-01	Total/NA	Water	3010A	
860-97962-8	MW-14-20250409-01	Total/NA	Water	3010A	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	3010A	
860-97962-10	FB-01-20250409-01	Total/NA	Water	3010A	
860-97962-11	EB-01-20250409-01	Total/NA	Water	3010A	
MB 860-228453/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228453/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228453/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-97962-1 MS	MW-07-20250408-01	Total/NA	Water	3010A	
860-97962-1 MSD	MW-07-20250408-01	Total/NA	Water	3010A	

Leach Batch: 228512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 860-228512/1-D	Method Blank	Total/NA	Water	1311	228512
870-35335-B-1-E MS	Matrix Spike	TCLP	Water	1311	
870-35335-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 228532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	7470A	228375
860-97962-2	MW-11-20250408-01	Total/NA	Water	7470A	228375
860-97962-3	MW-12-20250408-01	Total/NA	Water	7470A	228375
860-97962-4	MW-13-20250408-01	Total/NA	Water	7470A	228375
860-97962-5	MW-17-20250408-01	Total/NA	Water	7470A	228375
860-97962-6	MW-15-20250408-01	Total/NA	Water	7470A	228375
860-97962-7	MW-16-20250409-01	Total/NA	Water	7470A	228375
860-97962-8	MW-14-20250409-01	Total/NA	Water	7470A	228375
860-97962-9	DUP-01-20250409-01	Total/NA	Water	7470A	228375
860-97962-10	FB-01-20250409-01	Total/NA	Water	7470A	228375
860-97962-11	EB-01-20250409-01	Total/NA	Water	7470A	228375
LB 860-227833/1-F	Method Blank	Total/NA	Water	7470A	228375
MB 860-228375/1-A	Method Blank	Total/NA	Water	7470A	228375
LCS 860-228375/2-A	Lab Control Sample	Total/NA	Water	7470A	228375

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Metals (Continued)

Analysis Batch: 228532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 860-228375/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	228375
860-97788-A-1-I MS	Matrix Spike	TCLP	Water	7470A	228375
860-97788-A-1-J MSD	Matrix Spike Duplicate	TCLP	Water	7470A	228375

Prep Batch: 228784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	3010A	
860-97962-2	MW-11-20250408-01	Total/NA	Water	3010A	
860-97962-3	MW-12-20250408-01	Total/NA	Water	3010A	
860-97962-4	MW-13-20250408-01	Total/NA	Water	3010A	
860-97962-5	MW-17-20250408-01	Total/NA	Water	3010A	
860-97962-6	MW-15-20250408-01	Total/NA	Water	3010A	
860-97962-7	MW-16-20250409-01	Total/NA	Water	3010A	
860-97962-8	MW-14-20250409-01	Total/NA	Water	3010A	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	3010A	
860-97962-10	FB-01-20250409-01	Total/NA	Water	3010A	
860-97962-11	EB-01-20250409-01	Total/NA	Water	3010A	
LB 860-228512/1-D	Method Blank	Total/NA	Water	3010A	228512
MB 860-228784/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228784/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228784/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
870-35335-B-1-E MS	Matrix Spike	TCLP	Water	3010A	228512
870-35335-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	3010A	228512

Analysis Batch: 228879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	6010D	228453
860-97962-2	MW-11-20250408-01	Total/NA	Water	6010D	228453
860-97962-3	MW-12-20250408-01	Total/NA	Water	6010D	228453
860-97962-4	MW-13-20250408-01	Total/NA	Water	6010D	228453
860-97962-5	MW-17-20250408-01	Total/NA	Water	6010D	228453
860-97962-6	MW-15-20250408-01	Total/NA	Water	6010D	228453
860-97962-7	MW-16-20250409-01	Total/NA	Water	6010D	228453
860-97962-8	MW-14-20250409-01	Total/NA	Water	6010D	228453
860-97962-9	DUP-01-20250409-01	Total/NA	Water	6010D	228453
860-97962-10	FB-01-20250409-01	Total/NA	Water	6010D	228453
860-97962-11	EB-01-20250409-01	Total/NA	Water	6010D	228453
MB 860-228453/1-A	Method Blank	Total/NA	Water	6010D	228453
LCS 860-228453/2-A	Lab Control Sample	Total/NA	Water	6010D	228453
LCSD 860-228453/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	228453
860-97962-1 MS	MW-07-20250408-01	Total/NA	Water	6010D	228453
860-97962-1 MSD	MW-07-20250408-01	Total/NA	Water	6010D	228453

Analysis Batch: 229259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	6020B	228784
860-97962-1	MW-07-20250408-01	Total/NA	Water	6020B	228784
860-97962-2	MW-11-20250408-01	Total/NA	Water	6020B	228784
860-97962-2	MW-11-20250408-01	Total/NA	Water	6020B	228784
860-97962-3	MW-12-20250408-01	Total/NA	Water	6020B	228784
860-97962-4	MW-13-20250408-01	Total/NA	Water	6020B	228784

Eurofins Houston

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Metals (Continued)

Analysis Batch: 229259 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-5	MW-17-20250408-01	Total/NA	Water	6020B	228784
860-97962-5	MW-17-20250408-01	Total/NA	Water	6020B	228784
860-97962-6	MW-15-20250408-01	Total/NA	Water	6020B	228784
860-97962-7	MW-16-20250409-01	Total/NA	Water	6020B	228784
860-97962-7	MW-16-20250409-01	Total/NA	Water	6020B	228784
860-97962-8	MW-14-20250409-01	Total/NA	Water	6020B	228784
860-97962-8	MW-14-20250409-01	Total/NA	Water	6020B	228784
860-97962-9	DUP-01-20250409-01	Total/NA	Water	6020B	228784
860-97962-9	DUP-01-20250409-01	Total/NA	Water	6020B	228784
860-97962-10	FB-01-20250409-01	Total/NA	Water	6020B	228784
860-97962-11	EB-01-20250409-01	Total/NA	Water	6020B	228784
LB 860-228512/1-D	Method Blank	Total/NA	Water	6020B	228784
MB 860-228784/1-A	Method Blank	Total/NA	Water	6020B	228784
LCS 860-228784/2-A	Lab Control Sample	Total/NA	Water	6020B	228784
LCSD 860-228784/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228784
870-35335-B-1-E MS	Matrix Spike	TCLP	Water	6020B	228784
870-35335-B-1-F MSD	Matrix Spike Duplicate	TCLP	Water	6020B	228784

General Chemistry

Analysis Batch: 228551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-2	MW-11-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-3	MW-12-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-4	MW-13-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-5	MW-17-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-6	MW-15-20250408-01	Total/NA	Water	SM 4500 H+ B	
860-97962-7	MW-16-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-8	MW-14-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-10	FB-01-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-11	EB-01-20250409-01	Total/NA	Water	SM 4500 H+ B	
860-97962-1 DU	MW-07-20250408-01	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 228850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97962-1	MW-07-20250408-01	Total/NA	Water	SM 2540C	
860-97962-2	MW-11-20250408-01	Total/NA	Water	SM 2540C	
860-97962-3	MW-12-20250408-01	Total/NA	Water	SM 2540C	
860-97962-4	MW-13-20250408-01	Total/NA	Water	SM 2540C	
860-97962-5	MW-17-20250408-01	Total/NA	Water	SM 2540C	
860-97962-6	MW-15-20250408-01	Total/NA	Water	SM 2540C	
860-97962-7	MW-16-20250409-01	Total/NA	Water	SM 2540C	
860-97962-8	MW-14-20250409-01	Total/NA	Water	SM 2540C	
860-97962-9	DUP-01-20250409-01	Total/NA	Water	SM 2540C	
860-97962-10	FB-01-20250409-01	Total/NA	Water	SM 2540C	
860-97962-11	EB-01-20250409-01	Total/NA	Water	SM 2540C	
MB 860-228850/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-228850/2	Lab Control Sample	Total/NA	Water	SM 2540C	
880-56604-D-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-07-20250408-01

Lab Sample ID: 860-97962-1

Date Collected: 04/08/25 10:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 18:18	HN	EET HOU
Total/NA	Analysis	300.0		10			228985	04/14/25 18:28	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 15:48	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:36	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		10			229259	04/14/25 20:38	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:39	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-11-20250408-01

Lab Sample ID: 860-97962-2

Date Collected: 04/08/25 11:20

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 21:13	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:02	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:41	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 20:44	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:40	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-12-20250408-01

Lab Sample ID: 860-97962-3

Date Collected: 04/08/25 12:55

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 17:28	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:04	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:46	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:41	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-13-20250408-01

Lab Sample ID: 860-97962-4

Date Collected: 04/08/25 14:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 21:20	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:06	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:48	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:43	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-17-20250408-01

Lab Sample ID: 860-97962-5

Date Collected: 04/08/25 15:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 18:58	HN	EET HOU
Total/NA	Analysis	300.0		10			228985	04/14/25 19:08	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:07	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:51	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 20:53	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:47	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-15-20250408-01

Lab Sample ID: 860-97962-6

Date Collected: 04/08/25 16:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 17:58	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:09	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:56	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:48	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Eurofins Houston

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: MW-16-20250409-01

Lab Sample ID: 860-97962-7

Date Collected: 04/09/25 09:45

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 18:08	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:11	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 20:58	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 21:05	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:50	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: MW-14-20250409-01

Lab Sample ID: 860-97962-8

Date Collected: 04/09/25 11:15

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228985	04/14/25 19:18	HN	EET HOU
Total/NA	Analysis	300.0		10			228985	04/14/25 19:28	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:12	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:08	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		10			229259	04/14/25 21:10	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:51	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 19:33	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:14	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:13	DP	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		5			229259	04/14/25 21:15	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:52	JDM	EET HOU

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Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Client Sample ID: DUP-01-20250409-01

Lab Sample ID: 860-97962-9

Date Collected: 04/09/25 08:00

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: FB-01-20250409-01

Lab Sample ID: 860-97962-10

Date Collected: 04/09/25 10:40

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 19:41	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:23	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:18	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:54	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Client Sample ID: EB-01-20250409-01

Lab Sample ID: 860-97962-11

Date Collected: 04/09/25 10:50

Matrix: Water

Date Received: 04/09/25 19:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			228468	04/11/25 19:48	HN	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228453	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6010D		1			228879	04/11/25 16:24	JDM	EET HOU
Total/NA	Prep	3010A			50 mL	50 mL	228784	04/13/25 11:30	MD	EET HOU
Total/NA	Analysis	6020B		1			229259	04/14/25 21:20	DP	EET HOU
Total/NA	Prep	7470A			50 mL	50 mL	228375	04/11/25 05:47	AGR	EET HOU
Total/NA	Analysis	7470A		1			228532	04/11/25 11:55	JDM	EET HOU
Total/NA	Analysis	SM 2540C		1	200 mL	200 mL	228850	04/14/25 08:37	TR	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			228551	04/11/25 12:56	CT	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
6020B	3010A	Water	Calcium

Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7470A	Mercury (CVAA)	SW846	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
7470A	Preparation, Mercury	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97962-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97962-1	MW-07-20250408-01	Water	04/08/25 10:15	04/09/25 19:35
860-97962-2	MW-11-20250408-01	Water	04/08/25 11:20	04/09/25 19:35
860-97962-3	MW-12-20250408-01	Water	04/08/25 12:55	04/09/25 19:35
860-97962-4	MW-13-20250408-01	Water	04/08/25 14:15	04/09/25 19:35
860-97962-5	MW-17-20250408-01	Water	04/08/25 15:15	04/09/25 19:35
860-97962-6	MW-15-20250408-01	Water	04/08/25 16:15	04/09/25 19:35
860-97962-7	MW-16-20250409-01	Water	04/09/25 09:45	04/09/25 19:35
860-97962-8	MW-14-20250409-01	Water	04/09/25 11:15	04/09/25 19:35
860-97962-9	DUP-01-20250409-01	Water	04/09/25 08:00	04/09/25 19:35
860-97962-10	FB-01-20250409-01	Water	04/09/25 10:40	04/09/25 19:35
860-97962-11	EB-01-20250409-01	Water	04/09/25 10:50	04/09/25 19:35

Neurofins

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4145 Greenbrier Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record



860-97962 Chain of Custody

Client Information

Client Contact:
Quinn Nel

Company:
ERM-Northeast

Address:
295 Madison Avenue Suite 8A

City:
New York

State, Zip:
NY 10017

Phone:
512-374-2215(Tel) 512-810-2901(Fax)

Email:
quinn.nel@erm.com

Project Name:
Twin Oaks Power Plant

Site:
Twin Oaks Power Plant

Sampler: Kara Naegele & Hector Saenz
Phone: 512-709-2473
Lab PM: Anita Patel

Due Date Requested:
TAT Requested (days):

Compliance Project: ☐ Yes ☒ No

Purchase Order Requested

PO #:

WO #:

Project #:

SSOW#:

Analysis Requested

Page 1 of 1
Texas

COC No: 860-27569-7497.1
Page: 1 of 1

Job #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Other, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Appendix III Metals Boron, Calcium	Appendix III chloride, fluoride, sulfate by 300	Appendix III pH and TDS 2540C	Appendix IV Metals 6020 (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Ti), 6010 Li, 7470 Hg	903.0 and 904.0- Radium 226 and 228(GFPC)	Preservation Codes:
MW-07-20250408-01	4/8/25	1015	G	Water	☒	☒	☒	☒	☒	☒	☒	A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amphot H Ascorbic Acid I Ice J DI Water K EDTA L EDA M Heptane N None O AsNaO2 P Na2CO3S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)
MW-11-20250408-01		1120		Water	☒	☒	☒	☒	☒	☒	☒	
MW-12-20250408-01		1255		Water	☒	☒	☒	☒	☒	☒	☒	
MW-13-20250408-01		1415		Water	☒	☒	☒	☒	☒	☒	☒	
MW-17-20250408-01		1515		Water	☒	☒	☒	☒	☒	☒	☒	
MW-15-20250408-01	4/9/25	1615		Water	☒	☒	☒	☒	☒	☒	☒	
MW-16-20250409-01		0945		Water	☒	☒	☒	☒	☒	☒	☒	
MW-14-20250409-01		1115		Water	☒	☒	☒	☒	☒	☒	☒	
DUP-01-20250409-01		0800		Water	☒	☒	☒	☒	☒	☒	☒	
FB-01-20250409-01		1040		Water	☒	☒	☒	☒	☒	☒	☒	
FB-01-20250409-01		1050		Water	☒	☒	☒	☒	☒	☒	☒	

Special Instructions/Note:

Temp: 30.2.9
C/F: 0.1
Corrected Temp: 3.9
Temp: 39
C/F: 0.1
Corrected Temp: 3.8
Temp: 2.7
C/F: 0.1
Corrected Temp: 2.6

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III IV Other (specify) TRPS B

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: Kara Naegele Date: 4/9/25 Time: 1645 Company: Texas

Relinquished by: Terry Pearce Date: 4/9/25 Time: 1935 Company: Texas

Relinquished by: Date: Time: Company:

Custody Seals Intact: ☒ Yes ☐ No Custody Seal No. Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97962-1

Login Number: 97962

List Source: Eurofins Houston

List Number: 1

Creator: Torres, Sandra

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9, 3.8, 2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Houston

ANALYTICAL REPORT

PREPARED FOR

Attn: Nick Houtchens
ERM-Southwest Inc.
111 Congress Ave.
Suite 500
Austin, Texas 78701

Generated 4/14/2025 1:10:26 PM

JOB DESCRIPTION

Twin Oaks Power Plant

JOB NUMBER

860-97986-1

Eurofins Houston

Job Notes

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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4/14/2025 1:10:26 PM

Authorized for release by
Anita Patel, Project Manager
Anita.Patel@et.eurofinsus.com
(832)776-2275

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Definitions/Glossary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

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

Detection Check Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Method: 6020B - Metals (ICP/MS)

Matrix: Water					Prep Type: Total/NA			
Prep Method: 3010A-Preparation, Total Metals								
Instrument: A311					Detector: MSD/0			
Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Selenium	0.00140	0.0013	J	mg/L	0.0020	0.00059	03/26/2025	860-225009

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Job No. 860-97986-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☒ R1- Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 - Other problems or anomalies.
- ☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by ☐ TCEQ or ☐ _____ on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Anita Patel		Project Manager	04/14/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/14/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97986-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			✓		
		If required for the project, are TICs reported?			✓		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston			LRC Date: 04/14/2025				
Project Name: Twin Oaks Power Plant			Laboratory Job Number: 860-97986-1				
Reviewer Name: Anita Patel							
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	✓				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston		LRC Date: 04/14/2025	
Project Name: Twin Oaks Power Plant		Laboratory Job Number: 860-97986-1	
Reviewer Name: Anita Patel			
ER# ¹	Description		
	No Exceptions		
1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			

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Case Narrative

Client: ERM-Southwest Inc.
Project: Twin Oaks Power Plant

Job ID: 860-97986-1

Job ID: 860-97986-1

Eurofins Houston

Job Narrative 860-97986-1

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

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

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

Receipt

The sample was received on 4/10/2025 12:03 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C.

Metals

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

Eurofins Houston

Detection Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Client Sample ID: MW-23-20250409-01 Lab Sample ID: 860-97986-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.000830	J	0.00200	0.000590	mg/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Client Sample ID: MW-23-20250409-01
Date Collected: 04/09/25 17:55
Date Received: 04/10/25 12:03

Lab Sample ID: 860-97986-1
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.000830	J	0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 02:55	1

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QC Sample Results

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-228449/1-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 228449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.000590	U	0.00200	0.000590	mg/L		04/11/25 09:00	04/12/25 01:44	1

Lab Sample ID: LCS 860-228449/2-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.1007		mg/L		101	80 - 120

Lab Sample ID: LCSD 860-228449/3-A

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.09799		mg/L		98	80 - 120	3	20

Lab Sample ID: 860-97908-A-3-B MS

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.00330		0.100	0.1026		mg/L		99	75 - 125

Lab Sample ID: 860-97908-A-3-C MSD

Matrix: Water

Analysis Batch: 228939

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 228449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00330		0.100	0.08653		mg/L		83	75 - 125	17	20

QC Association Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Metals

Prep Batch: 228449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97986-1	MW-23-20250409-01	Total/NA	Water	3010A	
MB 860-228449/1-A	Method Blank	Total/NA	Water	3010A	
LCS 860-228449/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 860-228449/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
860-97908-A-3-B MS	Matrix Spike	Total/NA	Water	3010A	
860-97908-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 228939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-97986-1	MW-23-20250409-01	Total/NA	Water	6020B	228449
MB 860-228449/1-A	Method Blank	Total/NA	Water	6020B	228449
LCS 860-228449/2-A	Lab Control Sample	Total/NA	Water	6020B	228449
LCSD 860-228449/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	228449
860-97908-A-3-B MS	Matrix Spike	Total/NA	Water	6020B	228449
860-97908-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020B	228449

Lab Chronicle

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Client Sample ID: MW-23-20250409-01
Date Collected: 04/09/25 17:55
Date Received: 04/10/25 12:03

Lab Sample ID: 860-97986-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	228449	04/11/25 09:00	MD	EET HOU
Total/NA	Analysis	6020B		1			228939	04/12/25 02:55	DP	EET HOU

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

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Accreditation/Certification Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	07-01-26

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Method Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ERM-Southwest Inc.
Project/Site: Twin Oaks Power Plant

Job ID: 860-97986-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-97986-1	MW-23-20250409-01	Water	04/09/25 17:55	04/10/25 12:03

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Chain of Custody Record

Client Information		Sampler: <u>Kara Nagel, Hector Saenz</u>		Lab PIN: <u>Patel, Anita</u>		Camer Tracking No(s):		COC No: <u>860-27569-7497 1</u>	
Client Contact: <u>Quintin Nel</u>		Phone: <u>912-709-2473</u>		E-Mail: <u>Anita.Patel@eurofins.com</u>		State of Origin: <u>TX</u>		Page: <u>1</u> of <u>1</u>	
Company: <u>ERM-Northeast</u>		PWSID: <u>12-709-2473</u>		Due Date Requested: <u>TAT</u>		Analysis Requested:		Job #:	
Address: <u>295 Madison Avenue Suite 8A</u>		City: <u>New York</u>		TAT Requested (days): <u>Standard TAT</u>		Compliance Project: <u>Δ Yes Δ No</u>		Preservation Codes:	
State, Zip: <u>NY 10017</u>		Phone: <u>512-374-2215(Tel) 512-810-2901(Fax)</u>		Purchase Order Requested		PO #: <u>0689854</u>		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:	
Email: <u>quintin.nel@erm.com</u>		Project Name: <u>Twin Oaks Power Plant</u>		Project #: <u>86005616</u>		SSOW#: <u>6020 - Total 182</u>		M Hexane N None O AgNO3 P Na2O4S Q Na2SO3 R Na2SO4 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)	
Site: <u>Twin Oaks Power Plant</u>		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type: <u>G</u>		Total Number of Containers: <u>1</u>	
Sample Identification: <u>MW-23-20250409-01</u>		Matrix: <u>Water</u>		Preservation Code: <u>G</u>		Field Filtered Sample (Yes or No): <u>X</u>		Special Instructions/Note: <u>Temp. 19 IR ID: HOU-368</u> <u>C/F -0.1</u> <u>Corrected Temp: 1.8</u>	
		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type: <u>G</u>		Special Instructions/Note: <u>Temp. 19 IR ID: HOU-368</u> <u>C/F -0.1</u> <u>Corrected Temp: 1.8</u>	
860-97986 Chain of Custody		Sample Date: <u>4/9/25</u>		Sample Time: <u>17:55</u>		Sample Type: <u>G</u>		Special Instructions/Note: <u>Temp. 19 IR ID: HOU-368</u> <u>C/F -0.1</u> <u>Corrected Temp: 1.8</u>	
Possible Hazard Identification		☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested: <u>I II III IV Other (specify) TRPS 13</u>		Return To Client ☐ Disposal By Lab ☐ Archive For <u>Months</u>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by: <u>Hector Saenz</u>		Date: <u>4/10/25</u>		Company: <u>Company</u>		Special Instructions/QC Requirements:		Method of Shipment:	
Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 0915</u>		Company: <u>Company</u>		Received by: <u>Sandra Jagan</u>		Date/Time: <u>4/10/25 12:05</u>	
Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 0915</u>		Company: <u>Company</u>		Received by: <u>Sandra Jagan</u>		Date/Time: <u>4/10/25 12:05</u>	
Relinquished by: <u>Hector Saenz</u>		Date/Time: <u>4/10 0915</u>		Company: <u>Company</u>		Received by: <u>Sandra Jagan</u>		Date/Time: <u>4/10/25 12:05</u>	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No. <u>860-97986</u>		Cooler Temperature(s) °C and Other Remarks:		Company: <u>Company</u>		Ver: 01/16/2019	

Login Sample Receipt Checklist

Client: ERM-Southwest Inc.

Job Number: 860-97986-1

Login Number: 97986

List Number: 1

Creator: Rubio, Yuri

List Source: Eurofins Houston

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



APPENDIX D BORING LOGS



Boring/Well No.: MW-23

Project: Twin Oaks Power Plant Project No.: 0763962

Location: Bremond, Texas Coordinates: 31.0975673, -96.6816148

Surface Elev.: 387.53' Boring T.D.: 28' Boring Dia.: 8.25"

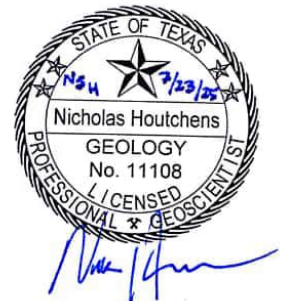
Date Started: 3/10/2025 Date Completed: 3/10/2025 Well Dia./Materials: 2" Schedule 40 PVC

Drilling Company: Envirotech Drilling Services Driller: Fernando Salvador

Drilling Method: Hollow-Stem Auger Grouting Method: Portland Cement

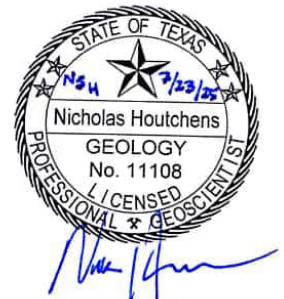
Logged by: K. Naegeli Soil Sample Method: N/A

DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0					0-1.5': SANDY CLAY: medium brown/reddish gray, dry, medium plasticity, sand content medium to large grained, well sorted, root material present 1': Increasing sand content 1.5': Decreasing sand content
5			5.0/5.0	0-5	3.5-5': SAND: light to medium brown, dry, fine grained, moderately well sorted
					5-8': NO RECOVERY
			2.0/5.0	5-10	8-9': SANDY CLAY: medium brown/orange, dry, medium plasticity, sand content fine grained, well sorted, root material and mica crystals present 9-10': SAND: medium brown/red, dry, fine grained, moderately well sorted, gray banded clay present
10			5.0/5.0	10-15	10-15': CLAYEY SAND: medium brown, orange/red (laminated color bands), low plasticity, sand content fine to very fine grained, well sorted, mica crystals present
15					15-17': NO RECOVERY
			3.0/5.0	15-20	17-20': SILTY SAND: light gray, wet, very fine grained, mica crystals present 17.5': Color change to medium brown to orange, with some darker orange laminated bands
20			5.0/5.0	20-25	20': Saturated
25			3.0/3.0	25-28	
30					



Boring/Well No.: MW-24Project: Twin Oaks Power Plant Project No.: 0763962Location: Bremond, Texas Coordinates: 31.0953054, -96.6804042Surface Elev.: 388.05' Boring T.D.: 27' Boring Dia.: 8.25"Date Started: 3/11/2025 Date Completed: 3/11/2025 Well Dia./Materials: 2" Schedule 40 PVCDrilling Company: Envirotech Drilling Services Driller: Fernando SalvadorDrilling Method: Hollow-Stem Auger Grouting Method: Portland CementLogged by: K. Naegeli Soil Sample Method: N/A

DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0					
			5.0/5.0	0-5	0-4': SAND: medium brown, moist, medium to fine grained, moderately well sorted, root material present 2.5': Color change to reddish brown to dark brown, decreasing grain size with depth 4-5': SANDY CLAY: dark brown with orange mottling, dry, medium plasticity, sand content medium to fine grained 5-9': NO RECOVERY
5			1.0/5.0	5-10	
			2.0/5.0	10-15	9-20': CLAYEY SAND: medium to light gray with some orange mottling, dry, medium plasticity, sand content very fine grained 13': Increasing clay content
10			5.0/5.0	15-20	
15			5.0/5.0	20-25	20-22.5': SAND: medium brown, wet to saturated, fine to very fine grained, well sorted 22.5-24': CLAY: light gray, moist, medium to high plasticity, minor amounts of fine/very fine grained sand 24-27': CLAYEY SAND: medium brown, saturated, medium plasticity, sand content very fine grained 25': Saturated, some gray clay lenses
20			3.0/2.0	25-27	
25					
30					





Boring/Well No.: MW-25

Project: Twin Oaks Power Plant Project No.: 0763962

Location: Bremond, Texas Coordinates: -96.680016, 31.096738

Surface Elev.: 381.47 Boring T.D.: 40' Boring Dia.: 8.25"

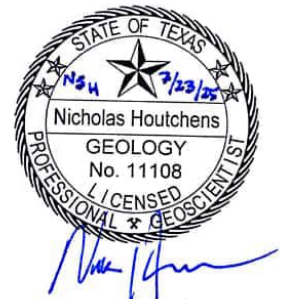
Date Started: 3/11/2025 Date Completed: 3/12/2025 Well Dia./Materials: 2" Schedule 40 PVC

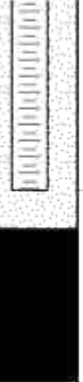
Drilling Company: Envirotech Driller: Fernando Salvador

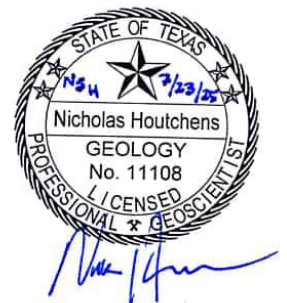
Drilling Method: Hollow Stem Auger Grouting Method: Portland Cement

Logged by: K. Naegeli Soil Sample Method: N/A

DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0					0-4': SANDY CLAY: medium to dark brown with orange mottling, dry, medium plasticity, sand content medium to fine grained, root material present
5			5.0/5.0	0-5	4-5': CLAYEY SAND: reddish brown, dry, fine to very fine grained, moderately well sorted, interbedded gray sand
					5-7': NO RECOVERY
			3.0/5.0	5-10	7-13.5': SANDY CLAY: dark to reddish brown, dry, medium to low plasticity, sand content medium to fine grained sand, interbedded gray sandy clay
10			1.5/5.0	10-15	13.5-40': SAND: Interbedded medium gray to reddish brown, saturated, very fine grained, well sorted
15					15': Sand content medium to fine grained
			3.0/5.0	15-20	
20			3.0/5.0	20-25	
25			3.0/5.0	25-30	
30					



DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
(Cont. from page 1)					
30			4.0/5.0	30-35	34': Dark brown sandy silt lense, some plant material 34.5': Color change to light to medium gray
35			5.0/5.0	35-40	37.5': Lignite seam interbedded in sand 39.5': Light gray clay lense, dry, low plasticity
40					
45					
50					
55					
60					
65					





Boring/Well No.: MW-26

Project: Twin Oaks Power Plant Project No.: 0763962

Location: Bremond, Texas Coordinates: 31.0973936, -96.6784173

Surface Elev.: 384.62' Boring T.D.: 50' Boring Dia.: 8.25"

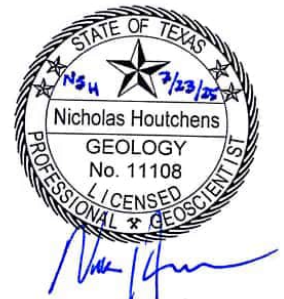
Date Started: 3/12/2025 Date Completed: 3/12/2025 Well Dia./Materials: 2" Schedule 40 PVC

Drilling Company: Envirotech Drilling Services Driller: Fernando Salvador

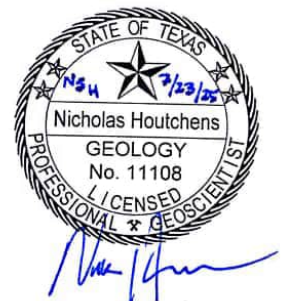
Drilling Method: Hollow-Stem Auger Grouting Method: Portland Cement

Logged by: K. Naegeli Soil Sample Method: N/A

DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
0					0-4': CLAYEY SAND: medium brown/ reddish brown, dry, sand content very fine grained, moderately well sorted
5			5.0/5.0	0-5	4-10': SAND: red brown to tan, dry, very fine grained, moderately sorted
10			1.0/5.0	5-10	9': Interbedded light gray, very fine grained sand
15			5.0/5.0	10-15	10-15': CLAYEY SAND: light to medium gray with orange mottling, moist to dry, very fine grained, well sorted
20			2.5/5.0	15-20	15-17.5': NO RECOVERY
25			5.0/5.0	20-25	17.5-25': SAND: interbedded medium brown and light gray with some orange and black mottling, moist, very fine grained
30			5.0/5.0	25-30	17.5': Small light gray clay lense, dry, low plasticity 20': Color change to light gray, no mottling. 23.5': Transitional color change from light gray to tan 25-39': SAND: orangish brown, saturated, fine grained, well sorted



DEPTH (FEET)	LITHOLOGY (GRAPHIC LOG)	WELL CONSTRUCTION	SAMPLE RECOVERY (FEET/FEET)	DESCRIPTION INTERVAL (FEET)	SOIL DESCRIPTION
30					(Cont. from page 1)
30			3.0/5.0	30-35	30': Color change to medium brown
35			3.0/5.0	35-40	38': Small dark gray clay lense, very low plasticity 39-40': CLAY: very dark gray, dry, high plasticity (fat), small tan sand lenses
40			5.0/5.0	40-45	40': Slight sand content
45			5.0/5.0	45-50	
50					
55					
60					
65					





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