January 28, 2022

Hillary Young, P.E. *submitted electronically*
Chief Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73162

Re: 2021 Annual Groundwater and Corrective Action Report
Evans and Associates Construction Co, Inc. / Big Fork Ranch Facility – Ponca City, OK

Dear Ms. Young:

Enclosed, please find a copy of the above referenced report.

A copy of this notification will be placed in the facility's operating record and on the facility's publicly accessible internet web site.

Please notify me at 405-701-8215 or at Chris.Schaefer@altamira-us.com if you have any questions.

Sincerely,

Altamira-US, LLC

Chris Schaefer, PE
Hydrogeologist

cc: Saeed Zahrai, P.E. / EMERA, Corp.

2021 Annual Groundwater and Corrective Action Report

EVANS AND ASSOCIATES CONSTRUCTION COMPANY, INC.
BIG FORK RANCH FACILITY
Ponca City, Oklahoma

January 28, 2022

Prepared for:

Evans and Associates Construction Co., Inc.
3320 North 14th Street
Ponca City, Oklahoma 74602

Prepared by:

Altamira-US, LLC
525 Central Park Drive, Suite 500
Oklahoma City, Oklahoma 73105
405.842.1066

ALTAMIRA
formerly known as Enviro Clean Cardinal

Professional Engineer Certification

I, as a registered Professional Engineer in the State of Oklahoma, verify the accuracy of the information in this report.

Christopher Scott Schaefer
Name of Professional Engineer

22313
Registration Number

Oklahoma
Issuing State

Altamira-US, LLC (CA# 7335)
Firm

Table of Contents

1.0 EXECUTIVE SUMMARY 1
2.0 GENERAL 4
3.0 MONITORING NETWORK 5
4.0 SAMPLING HISTORY 5
4.1 2017-2018 6
4.2 2019-2020 6
5.0 GROUNDWATER MONITORING / KEY ACTIONS COMPLETED (YEAR 2021) 7
5.1 MONITORING OF GWMP-13A TO ESTABLISH BACKGROUND 7
5.2 SUBMISSION OF 2020 ANNUAL GROUNDWATER AND CORRECTIVE ACTION REPORT 8
5.3 REEVALUATION OF MOLYBDENUM FROM YEAR 2020 MONITORING 8
5.4 FIRST 2021 SEMI-ANNUAL ASSESSMENT MONITORING (APRIL 2021) 8
5.5 REQUEST FOR EXTENSION TO CONDUCT ACTIONS TO ADDRESS SSLs 9
5.6 ASSESS VIABILITY OF GWMP-11A AS A BACKGROUND WELL AND DISCONTINUE MONITORING OF GWMP-13A 9
5.7 SECOND 2021 SEMI-ANNUAL ASSESSMENT MONITORING (OCTOBER 2021) .. 9
6.0 DEPTH TO GROUNDWATER AND GROUNDWATER FLOW CHARACTERISTICS 10
7.0 EVALUATION OF 2021 MONITORING DATA 10
7.1 FIRST 2021 SEMI-ANNUAL ASSESSMENT MONITORING (APRIL 2021) 10
7.2 SECOND 2021 SEMI-ANNUAL ASSESSMENT MONITORING (OCTOBER 2021) 12
8.0 PROBLEMS ENCOUNTERED 14
9.0 REVISIONS TO BACKGROUND FOR DETECTION MONITOIRNG PARAMETERS 16
10.0 BACKGROUND FOR ASSESSMENT MONITORING PARAMETERS 17
11.0 ACTIVITIES FOR UPCOMING YEAR (2021) 19

List of Figures

Figure 1. Location of Monitoring Wells
Figure 2. Potentiometric Surface Map (January 11, 2021)
Figure 3. Potentiometric Surface Map (April 26,2021)
Figure 4. Potentiometric Surface Map (October 18,2021)

List of Tables

Table 1 Sampling Summary
Table 2 Depth to Groundwater and Potentiometric Surface
Table 3 First 2021 Monitoring / Detection Monitoring Parameters / Comparison to Established Background
Table 4 First 2021 Monitoring / Assessment Monitoring Parameters / Comparison to Established GWPS
Table 5 Second 2021 Monitoring / Detection Monitoring Parameters / Comparison to Established Background
Table 6 Second 2021 Monitoring / Assessment Monitoring Parameters / Comparison to Established GWPS
Table 7 Detection Monitoring Parameters / Current Background and Proposed Updates to Background
Table 8 Assessment Monitoring Parameters / Current GWPS

List of Attachments

Attachment A	Laboratory Reports (Year 2021)
Attachment B	ODEQ Letter (March 9, 2021) – Response Letter to 2020 Annual Groundwater and Corrective Action Report
Attachment C	ODEQ Letter (June 8, 2021) and Reevaluation of Molybdenum Using Background as GWPS (May 4, 2021)
Attachment D	ODEQ Letter (August 24, 2021) and April 2021 Assessment Monitoring Notification (July 7, 2021)
Attachment E	ODEQ Letter (June 8, 2021) and Request for Extension Due to Proposed Rule Change (May 21, 2021)
Attachment F	ODEQ Letter (August 17, 2021) and Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to Discontinue Quarterly Sampling of GWMP-13A (July 9, 2021)
Attachment G	Sanitas™ Output (Evaluation of First 2021 Data)
Attachment H	Sanitas™ Output (Evaluation of Second 2021 Data)
Attachment I	Sanitas™ Output (Recalculating Background to Incorporate GWMP-11A Into Monitoring Network)

1.0 EXECUTIVE SUMMARY

This 2021 Annual Groundwater and Corrective Action Report (Report) is prepared on behalf of Evans and Associates Construction Co., Inc. (Evans) in relation to its Big Fork Ranch coal combustion residuals (CCR) facility in Ponca City, Oklahoma (Facility). This report is developed in accordance with the rules of the State of Oklahoma, Oklahoma Administrative Code Chapter 517, Disposal of Coal Combustion Residuals from Electric Utilities (OAC 252:517).

At the start of the 2021 monitoring period, the CCR Unit was operating under the assessment monitoring program pursuant to OAC 252:517-9-6. As of the end of the 2021 monitoring period, the CCR Unit continues to operate under the assessment monitoring program. The Assessment Monitoring Program was established for the facility and notification of Assessment Monitoring Program was provided on January 31, 2020.

The groundwater monitoring system is currently comprised of one upgradient (background) monitoring well (GWMP-6A) and five down-gradient (compliance) monitoring wells (GWMP-8A GWMP-9A, GWMP-10A, GWMP-11A, and GWMP-12A). Monitoring well GWMP-11A was incorporated into the monitoring program following resurvey of well elevations and reevaluation of groundwater flow direction (Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to Discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021) and subsequent approval by the ODEQ (ODEQ Letter; August 17, 2021).

As of this report, background for Detection Monitoring parameters (Appendix A of OAC 252:517) for GWMP-8A, GWMP-9A, GWMP-10A, and GWMP-12A are the upper prediction limits (UPLs) as calculated from the distribution of background data for each of the Detection Monitoring Parameters and are as established in the 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020); Table 4 (Recommended Revisions to Background for Detection Monitoring). Slight revisions to background for Detection Monitoring Parameters at these wells are proposed herein to incorporate GWMP-11A as an additional compliance well. Also proposed are background for Detection Monitoring parameters at GWMP-11A.

The Ground Water Protection Standards (GWPS) for each of the Assessment Monitoring Parameters (Appendix B of OAC 252:517) are as established in the 2018 Annual Groundwater and Corrective Action Report (Enviro Clean Cardinal, January 31, 2019). Because GWMP-11A is not being utilized as an upgradient well the addition of this well to the monitoring network does not require revisions to the previously established GWPS for Assessment Monitoring Parameters.

During the 2021 monitoring period a statistical significant increase (SSI) over established background was indicated for the Detection Monitoring Parameters boron (GWMP-9A, GWMP-10A, and GWMP-12A), calcium (GWMP-10A and GWMP-12A), chloride (GWMP-12A), fluoride (GWMP-10A and GWMP-12A), sulfate (GWMP-8A and GWMP-12A), and TDS (GWMP-12A) for at least one of the monitoring events. Background levels for Detection Monitoring parameters at GWMP-11A were not previously established since this well was originally proposed as a background well and was not incorporated as a compliance well until after the Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to Discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021) and subsequent approval by the ODEQ (ODEQ Letter; August 17, 2021).

During the 2021 monitoring period, no Assessment Monitoring Parameters were identified at statistically significant levels (SSLs) above the established GWPS. Molybdenum was identified as an apparent SSL at GWMP-9A and GWMP-12A when using background as the GWPS instead of the previously established GWPS for molybdenum (the EPA-promulgated alternative risk-based groundwater protection standard). As a result of regulatory changes to OAC 252:517 (effective on September 15, 2021) the ODEQ adopted the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum. As such the reported molybdenum concentrations are not SSLs and actions required under 252:517-9-6(g) and 252:517-9-7 are not necessary and an assessment of corrective measures, selection of remedy, and initiation of remedial activities were not required over the Year 2021 reporting period.

Activities conducted by Evans at the CCR unit over the 2021 calendar year are as listed below:

1) *Monitoring of GWMP-13A to Establish Background*: An attempt was made on January 11-12, 2021 to sample GWMP-13A to establish background for detection and assessment monitoring parameters. This well did not contain sufficient water for sample collection. It contained only 0.44 feet of water column, dried after removal of only approximately ¼ Liters, and did not significantly recharge over an approximate 24 hour period. Depth-to-water measurements were obtained from all Facility monitoring wells on January 11, 2021.

2) *Submission of the 2020 Annual Groundwater and Corrective Action Report:* A description of sample activities for the Year 2020 and comparison of Year 2020 groundwater sample data to statistically determined and approved UPLs (for Detection Monitoring parameters) and GWPS (for Assessment Monitoring parameters) were submitted to ODEQ in the 2020 Annual Groundwater and Corrective Action Report (Altamira; January 29, 2021). The ODEQ acknowledged receipt of this submittal via letter dated March 9, 2021. In its letter, the ODEQ requested that Evans "*evaluate whether an SSL exists for*

molybdenum using background as the GWPS and assess the viability of MW-11A as a background well."

3) *Reevaluation of Molybdenum from Year 2020 Monitoring Using Background as GWPS*: As per ODEQ's March 9, 2021 letter, molybdenum from Year 2020 sampling was reevaluated using background as GWPS. From this, an SSL can be deemed to exist for molybdenum at MW-9A and MW-12A when using background as the GWPS (even though concentrations are not at SSLs above the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum). Findings were submitted to ODEQ (Reevaluation of Molybdenum Using Background as GWPS (Altamira; May 4, 2021)). The ODEQ acknowledged receipt of this submittal via letter data June 8, 2021.

4) *First 2021 Semi-Annual Assessment Monitoring*: The first 2021 semi-annual Assessment Monitoring occurred April 22-23, 2021. From the first 2021 semi-annual monitoring, molybdenum was detected at GWMP-9A and GWMP-12A at concentrations that would be an SSL when using background as the GWPS instead of the previously established GWPS for molybdenum. No other Assessment Monitoring Parameters were detected at SSLs over the GWPS. Findings from the first 2021 semi-annual Assessment Monitoring and notification of Assessment Monitoring Parameters identified at SSLs were submitted to ODEQ (April 2021 Assessment Monitoring, Notification: Molybdenum concentrations above upgradient well background concentration (Altamira; July 7, 2021). The ODEQ acknowledged receipt of this submittal via letter data August 24, 2021. As per this letter, the reported molybdenum concentrations at GWMP-9A and GWMP-12A will not be considered SSLs after proposed regulatory changes to OAC 252:517 become effective (September 15, 2021).

5) *Request for Extension*: Because of the proposed regulatory changes to OAC 252:517, a request for an extension to determine the need for and/or conduct actions pursuant to OAC 252:517(g) and 252:517-9-7 to address the above mentioned SSLs for molybdenum was submitted to ODEQ (Request for Extension Due to Proposed Rule Changes (Altamira; May 21, 2021)). The request was approved by ODEQ via its letter dated June 8, 2021. On September 15, 2021, the proposed changes to OAC 252:517 became effective. Consequently, the reported molybdenum concentrations at GWMP-9A and GWMP-12A are not SSLs and do not require further actions under 252:517-9-6(g) and 252:517-9-7.

6) *Assess the Viability of GWMP-11A as a background well and discontinue monitoring of GWMP-13A*: Monitoring well locations, surface elevations, and top of casing elevations for all monitoring wells were surveyed on May 12, 2021 and groundwater flow was revaluated using the updated survey information. Findings were provided to ODEQ in the

report Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021). From this evaluation GWMP-11A appears to be down-gradient from portions of the CCR Unit. Evan's retracted its previous request to utilize GWMP-11A as an upgradient monitoring well and proposed to utilize GWMP-11 as a compliance monitoring well. It was also requested that monitoring of GWMP-13A be discontinued but gauged for water during semi-annual sampling events. The ODEQ approved the recommendations made in this report via letter dated August 17, 2021.

7) *Second 2021 Semi-Annual Assessment Monitoring*: The second 2021 semi-annual Assessment Monitoring occurred October 18-20, 2021. No Assessment Monitoring Parameters were detected at SSLs over the established GWPS. The established GWPS for molybdenum is revised to reflect regulatory changes and is the EPA-promulgated alternative risk-based groundwater protection standard (adopted by Oklahoma Rule, effective on September 15, 2021).

2.0 GENERAL

This 2021 Annual Groundwater and Corrective Action Report (Report) is prepared on behalf of Evans and Associates Construction Co., Inc. (Evans) in relation to its Big Fork Ranch coal combustion residuals (CCR) facility in Ponca City, Oklahoma (Facility). This report is developed in accordance with the rules of the State of Oklahoma, Oklahoma Administrative Code Chapter 517, Disposal of Coal Combustion Residuals from Electric Utilities (OAC 252:517). This Report documents the groundwater monitoring system for the Big Fork Ranch CCR Unit consistent with applicable sections of OAC 252:517 Subchapter 9, Groundwater Monitoring/Corrective Action. It is being submitted to the Oklahoma Department of Environmental Quality (ODEQ) to satisfy the requirement under OAC 252:517-9-1 that the owner or operator of a CCR unit prepare an Annual Groundwater Monitoring and Corrective Action Report.

This Report documents the status of the groundwater monitoring and corrective action program, it summarizes key actions completed over the previous year (2021), it describes problems encountered over the previous year and actions to resolve them, and it presents anticipated key activities for the upcoming year (2022). This Report will be placed in the operating record. The report will also be placed on the facilities publicly accessible CCR Website (https://www.evansandassociatesconstructioncompany.com).

3.0 MONITORING NETWORK

Evans is currently conducting Assessment Monitoring for the CCR Unit at its Big Fork Ranch facility. The Facility utilizes a certified groundwater monitoring system. The groundwater monitoring system is currently comprised of one upgradient (background) monitoring well (GWMP-6A) and five down-gradient (compliance) monitoring wells (GWMP-8A GWMP-9A, GWMP-10A, GWMP-11A, and GWMP-12A). Monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, and GWMP-10A were part of the Facilities original monitoring network. Monitoring well GWMP-12A was incorporated into the Facilities monitoring network in January 2020. Monitoring well GWMP-11A was incorporated into the monitoring program following resurvey of well elevations and reevaluation of groundwater flow direction (Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021)) and subsequent approval by the ODEQ (ODEQ Letter; August 17, 2021). These wells are currently being sampled on a semi-annual basis for Detection Monitoring Parameters (Appendix A of OAC 252:517) and Assessment Monitoring Parameters (Appendix B of OAC 252:517).

In addition to monitoring wells discussed above, GWMP-13A exists at the Site and is not part of the monitoring network. This well was initially installed for potential inclusion into the monitoring network. This monitoring well did not contain sufficient water for sample collection during any of the quarterly sampling events conducted in the year 2020 or during sampling events conducted in January and April 2021; and over the course of its history it has only once contained sufficient water for sampling. Also, this well does not appear to be down-gradient of the CCR Unit. It was also requested that monitoring of GWMP-13A be discontinued but gauged for water during semi-annual sampling events (Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021). The ODEQ approved of this recommendations via letter dated August 17, 2021.

Location of monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, GWMP-11A, GWMP-12A, and GWMP-13A are depicted on **Figure 1**.

4.0 SAMPLING HISTORY

Groundwater sampling of network monitoring wells has been ongoing at the facility since February 2017. All data collected to date is summarized on **Table 1**. Sampling history is as described below. Laboratory reports for Year 2021 sampling are included in **Attachment A**.

4.1 2017-2018

Groundwater sampling associated with the CCR Unit has been ongoing since February 2017. Sampling to establish background for Detection Monitoring parameters at GWMP-6A, GWMP-8A, GWMP-9A, and GWMP-10A was conducted between February 26, 2017 and September 2, 2018. Sampling to establish background for Assessment Monitoring parameters for these monitoring wells was conducted between January 6, 2018 and December 24, 2018 (except for fluoride which was not analyzed from December 24, 2018 samples but resampled on January 29 and 30, 2019). The groundwater sample data collected as part of initial background for GWMP-6A, GWMP-8A, GWMP-9A, and GWMP-10A were provided to the ODEQ in the 2018 Annual Groundwater and Corrective Action Report (Enviro Clean Cardinal, January 31, 2019). The 2018 Annual Groundwater and Corrective Action Report established upper prediction limits (UPLs) from the distribution of background data for each of the Detection Monitoring Parameters and established Ground Water Protection Standards (GWPS) for each of the Assessment Monitoring Parameters. The 2018 Annual Groundwater and Corrective Action Report is in Evan's operating record and on Evan's publicly accessible CCR Website.

4.2 2019-2020

The initial 2019 semi-annual Detection Monitoring event for monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, and GWMP-10A occurred on April 22, 2019. From the April 2019 sampling, potentially statistically significant increases (SSIs) over the established background were indicated for some Detection Monitoring Parameters. Verification sampling was conducted on June 18, 2019. Results confirmed the findings from the April 2019 sampling. On June 28, 2019, Evans determined there may be potential SSIs over the established background at GWMP-8A (for chloride), at GWMP-9A (for TDS, boron, chloride, fluoride, and sulfate), and at GWMP-10A (for TDS, boron, calcium, chloride, and sulfate). The ODEQ was notified of the potential SSIs on July 25, 2019. The ODEQ responded by letter (dated August 20, 2019), and required that Evans either submit as Assessment Monitoring Program or submit an Alternative Source Demonstration (ASD) for the SSIs by September 26, 2019.

An ASD was conducted by Evans to address the SSIs. As part of the ASD, select sampling of groundwater and ash was conducted in June and August 2019. The ASD also included an evaluation of boring logs, a comparison between total and dissolved analysis, an evaluation of regional geology/hydrogeology, an evaluation of geochemistry, and an evaluation of rainfall and water table fluctuation. Evidence was presented supporting that the apparent SSIs are attributable to the use of Inter-Well methods to establish background combined with natural variability between the upgradient monitoring well and the compliance wells. Evans proposed replacing the established background levels with revised background levels to account for spatial variability between the compliance wells and the up-gradient background wells. Findings were provided to ODEQ (Exceedances from Detection Monitoring and Alternative Source

Demonstration, Altamira-US, LLC., September 26, 2019). Via letter dated November 5, 2019, the ODEQ responded to the Exceedances to Detection Monitoring and Alternative Source Demonstration (Altamira-US, LLC., September 26, 2019). In this letter ODEQ generally agreed with findings of the ASD (that Apparent SSIs over background are attributable to natural variability between upgradient monitoring wells and the compliance wells); with exception of the boron exceedances. Based on this the background as previously established in the 2018 Annual Groundwater and Corrective Action Report (Enviro Clean Cardinal, January 31, 2019) was modified as per the recommendations of the Exceedances from Detection Monitoring and Alternative Source Demonstration (Altamira-US, LLC., September 26, 2019) ; except for boron.

Sampling to establish background for GWMP-12A was completed in October 2019 and this monitoring well was incorporated into the Facilities monitoring network. As such the background for Detection Monitoring Parameters as originally established in the 2018 Annual Groundwater and Corrective Action Report and modified as per the recommendations of the Exceedances from Detection Monitoring and Alternative Source Demonstration (Altamira-US, LLC., September 26, 2019) were again slightly revised to include GWMP-12A as a fourth compliance well in the monitoring network. The revised background for Detection Monitoring parameters were proposed in the 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020); Table 4 (Recommended Revisions to Background for Detection Monitoring). The revised background for Detection Monitoring parameters were approved by ODEQ via letter dated March 23, 2020.

In its November 5, 2019 letter, the ODEQ required that Evans provide an Assessment Monitoring Plan and thereafter initiate Assessment Monitoring in accordance with OAC 252:517-9-6. Evans submitted an Assessment Monitoring Plan to ODEQ on December 10, 2019 (Assessment Monitoring Plan, Altamira-US, LLC; December 10, 2019). The ODEQ approved of the Assessment Monitoring Plan via letter dated January 21, 2020. An Assessment Monitoring Program was established for the facility and notification of Assessment Monitoring Program was provided on January 31, 2020.

5.0 GROUNDWATER MONITORING / KEY ACTIONS COMPLETED (YEAR 2021)

5.1 MONITORING OF GWMP-13A TO ESTABLISH BACKGROUND

An attempt was made on January 11-12, 2021 to sample GWMP-13A to establish background for detection and assessment monitoring parameters. This well did not contain sufficient water for sample collection. It contained only 0.44 feet of water column, dried after removal of only approximately ¼ Liters, and did not significantly recharge over an approximate 24 hour period. Depth-to-water measurements were obtained from all Site monitoring wells on January 11, 2021.

5.2 SUBMISSION OF 2020 ANNUAL GROUNDWATER AND CORRECTIVE ACTION REPORT

A description of sample activities for the Year 2020 and comparison of Year 2020 groundwater sample data to statistically determined and approved Upper Prediction Limits (Detection Monitoring parameters) and GWPS (Assessment Monitoring parameters) were submitted to ODEQ in the 2020 Annual Groundwater and Corrective Action Report (Altamira; January 29, 2021). The ODEQ acknowledged receipt of this submittal via letter dated March 9, 2021. In its letter, the ODEQ requested that Evans "*evaluate whether an SSL exists for molybdenum using background as the GWPS and assess the viability of MW-11A as a background well*." A copy of the ODEQ March 9, 2021 letter is included in **Attachment B**.

5.3 REEVALUATION OF MOLYBDENUM FROM YEAR 2020 MONITORING

As per ODEQ's March 9, 2021 letter, molybdenum from Year 2020 sampling was reevaluated using background as GWPS. From this, an SSL can be deemed to exist for molybdenum at MW-9A and MW-12A when using background as the GWPS (even though concentrations are not at SSLs above the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum). Findings were submitted to ODEQ (Reevaluation of Molybdenum Using Background as GWPS (Altamira; May 4, 2021)). The ODEQ acknowledged receipt of this submittal via letter data June 8, 2021. A copy of the Reevaluation of Molybdenum Using Background as GWPS and a copy of the ODEQ June 8, 2021 letter are included in **Attachment C**.

5.4 FIRST 2021 SEMI-ANNUAL ASSESSMENT MONITORING (APRIL 2021)

The first 2021 semi-annual Assessment Monitoring occurred April 22-23, 2021. Monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, GWMP-11A, and GWMP-12A were sampled and analyzed for both Detection and Assessment Monitoring Parameters. Also, an attempt was made to sample monitoring well GWMP-13A to establish background for both Detection and Assessment Monitoring Parameters. Monitoring well GWMP-13A did not contain sufficient water for sample collection. Samples were submitted to ALS-Global. In addition to the above parameters, select wells were also sampled for dissolved molybdenum and/or had split samples submitted to another laboratory (Environmental Testing Inc.) for analysis of total and/or dissolved molybdenum. Samples for dissolved molybdenum and split samples were not used in the comparisons to GWPS as discussed herein Laboratory reports for the April 2021 sampling are included in **Attachment A**.

From the first 2021 semi-annual monitoring molybdenum was detected at GWMP-9A and GWMP-12A at concentrations that would be an SSL when using background as the GWPS instead of the previously established GWPS for molybdenum. No other Assessment Monitoring Parameters were detected at SSLs over the GWPS. Findings from the first 2021 semi-annual Assessment Monitoring and notification of Assessment Monitoring Parameters identified at SSLs were submitted to ODEQ (April 2021 Assessment Monitoring, Notification: Molybdenum

concentrations above upgradient well background concentration (Altamira; July 7, 2021). The ODEQ acknowledged receipt of this submittal via letter data August 24, 2021.

As per this letter, the reported molybdenum concentrations at GWMP-9A and GWMP-12A will not be considered SSLs after proposed regulatory changes to OAC 252:517 become effective (September 15, 2021). A copy of the notification letter and ODEQ's August 24, 2021 letter are included in **Attachment D**.

5.5 REQUEST FOR EXTENSION TO CONDUCT ACTIONS TO ADDRESS SSLs

Because of the proposed regulatory changes to OAC 252:517, a request for an extension to determine the need for and/or conduct actions pursuant to OAC 252:517(g) and 252:517-9-7 to address the above mentioned SSLs for molybdenum was submitted to ODEQ (Request for Extension Due to Proposed Rule Changes (Altamira; May 21, 2021)). The request was approved by ODEQ via its letter dated June 8, 2021. A copy of the Request for Extension Due to Proposed Rule Changes and of ODEQ's June 8, 2021 letter are included in **Attachment E**. On September 15, 2021, the proposed changes to OAC 252:517 became effective. Consequently, the reported molybdenum concentrations at GWMP-9A and GWMP-12A are not SSLs and do not require further actions under 252:517-9-6(g) and 252:517-9-7.

5.6 ASSESS VIABILITY OF GWMP-11A AS A BACKGROUND WELL AND DISCONTINUE MONITORING OF GWMP-13A

Monitoring well locations, surface elevations, and top of casing elevations for all monitoring wells were surveyed on May 12, 2021 and groundwater flow was revaluated using the updated survey information. Findings were provided to ODEQ in the report Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021). From this evaluation GWMP-11A appears to be down-gradient from portions of the CCR Unit. Evan's retracted its previous request to utilize GWMP-11A as an upgradient monitoring well and proposed to utilize GWMP-11 as a compliance monitoring well. It was also requested that monitoring of GWMP-13A be discontinued but gauged for water during semi-annual sampling events. The ODEQ approved the recommendations made in this report via letter dated August 17, 2021. A copy of the Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue Quarterly Sampling of GWMP-13A and ODEQ's August 17, 2021 letter are included in **Attachment F.**

5.7 SECOND 2021 SEMI-ANNUAL ASSESSMENT MONITORING (OCTOBER 2021)

The second 2021 semi-annual Assessment Monitoring occurred October 18-20, 2021. Monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, GWMP-11A, and GWMP-12A were sampled and analyzed for both Detection and Assessment Monitoring Parameters. Water

levels were gauged at monitoring well GWMP-13A, and this well was determined to not contain significant water. Samples were submitted to ALS-Global. In addition to the above parameters, select wells were also sampled for dissolved molybdenum and/or had split samples submitted to another laboratory (Environmental Testing Inc.) for analysis of total and/or dissolved molybdenum. Samples for dissolved molybdenum and split samples were not used in the comparisons to GWPS as discussed herein Laboratory reports for the April 2021 sampling are included in **Attachment A**.

From the second 2021 semi-annual monitoring, no Assessment Monitoring Parameters were detected at SSLs over the established GWPS. The established GWPS for molybdenum is revised to reflect regulatory changes and is the EPA-promulgated alternative risk-based groundwater protection standard (adopted by Oklahoma Rule, effective on September 15, 2021).

6.0 DEPTH TO GROUNDWATER AND GROUNDWATER FLOW CHARACTERISTICS

Depth to groundwater measurements were obtained from each of the wells on January 11, 2021 and prior to each of the semi-annual sampling events. Depth to groundwater measurements obtained to date are summarized in **Table 2**. A potentiometric surface map was constructed for January 2021 (**Figure 2**), for the April 2021 sampling event (**Figure 3**), and for the October 2021 sampling event (**Figure 4**). From these, the predominant direction of groundwater flow from the CCR Unit appears to be towards the north/northeast with a contingent of flow to the west/southwest. Groundwater monitoring well GWMP-6A appears to be hydraulically up-gradient (southeast) of the CCR Unit, monitoring wells GWMP9A, GWMP-10A, and GWMP-12A appear to be hydraulically down-gradient to the north and northeast of the CCR Unit, and groundwater monitoring well GWMP-8A and GWMP-11A appear to be down-gradient to the west of the CCR Unit. The groundwater flow rate from January 2021 is estimated to be 0.54 ft/year. The groundwater flow rate from April 2021 is estimated to be 0.50 ft/year. The groundwater flow rate from October 2021 is estimated to be 0.56 ft/year. Groundwater flow rate calculations for January 2021, April 2021, and October 2021 are included on **Figures 2, 3 and 4**, respectively.

7.0 EVALUATION OF 2021 MONITORING DATA

7.1 FIRST 2021 SEMI-ANNUAL ASSESSMENT MONITORING (APRIL 2021)

In April 2021, the groundwater monitoring system was sampled as part of the first 2021 semi-annual Assessment Monitoring sample event. Each of the wells for the CCR Unit were sampled for Detection and Assessment Monitoring Parameters. Data was evaluated using procedures outlined in the Groundwater Data Evaluation Method Certification (October 15, 2018). From this

evaluation, and as described below. Potential SSIs over established background were indicated for some Detection Monitoring parameters. Also, molybdenum was detected at GWMP-9A and GWMP-12A at concentrations that would be an SSL over the GWPS when using background as the GWPS instead of the previously established GWPS for molybdenum. Findings from the first 2021 semi-annual Assessment Monitoring and notification of Assessment Monitoring Parameters identified at SSLs were submitted to ODEQ (April 2021 Assessment Monitoring, Notification: Molybdenum concentrations above upgradient well background concentration (Altamira; July 7, 2021).

- Analytical results from the first 2021 semi-annual sampling for Detection Monitoring Parameters were compared to pertinent background levels as established in the 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020). **Table 3** compares results from the first 2021 semi-annual sampling of these parameters to the previously established and approved background levels. From this comparison, potential SSIs over background were indicated at GWMP-8A (for sulfate), at GWMP-9A (for boron), at GWMP-10A (for boron and calcium), and at GWMP-12A (for boron, calcium, chloride, fluoride, sulfate, and TDS). Background levels for Detection Monitoring Parameters at GWMP-11A were not previously established and the current background levels for Detection Monitoring parameters at the other monitoring wells are based on only 4 compliance monitoring wells and 1 background well. At the time of sampling GWMP-11A was proposed for inclusion into the monitoring network as a background well.

  Based on subsequent evaluation as previously described, GWMP-11A appears to be down-gradient from portions of the CCR Unit. Evan's retracted its request to utilize GWMP-11A as an upgradient monitoring well and in July 2021 proposed to utilize GWMP-11A as a compliance monitoring well (approved by ODEQ in August 2021). Background for Detection Monitoring parameters at GWMP-11A are proposed as described in Section 8.0 of this report. Also, revised background for Detection Monitoring parameters at the other wells (to incorporate addition of GWMP-11A as a fifth compliance well) are proposed as described in Section 9.0 of this report.

- Analytical results from the first 2021 semi-annual sampling for Assessment Monitoring parameters were compared to GWPS as established in the 2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019).

  The comparison was conducted in accordance with the procedure as outlined in the Groundwater Data Evaluation Method Certification (Saeed Zahrai; October 15, 2018). For each well/parameter combination a trend analysis was completed and a confidence interval was established. If trend analysis indicated a significant increasing trend the

confidence level would be established around the trend line. Otherwise, the confidence interval would be established over all of the collected data for each of the well/parameter combinations. From the first 2021 semi-annual sampling data the trend analysis did not indicate any significant increasing tends. Therefore, the confidence intervals were constructed over all of the collected data for each of the well/parameter combinations. Trend analyses and construction of confidence intervals were performed using Sanitas™. For each of the compliance wells, a parameter was determined to be at an SSL above a GWPS if the lower confidence limit exceeded the previously established GWPS. Output from the program for the first 2021 semi-annual sampling are included in **Attachment G** of this Report. Please note that the previously established GWPS do apply to GWMP-11A since this is incorporated into the program as a compliance well. A comparison of Assessment Monitoring parameters to GWPS was conducted for this well.

Table 4 compares results from the first 2021 semi-annual sampling of Assessment Monitoring parameters and calculated confidence intervals to the previously established GWPS. From the first 2021 semi-annual monitoring, molybdenum was detected at GWMP-9A and GWMP-12A at concentrations that would be an SSL when using background as the GWPS instead of the previously established GWPS. No other Assessment Monitoring Parameters were detected at SSLs over the GWPS. Findings from the first 2021 semi-annual Assessment Monitoring and notification of Assessment Monitoring Parameters identified at SSLs were submitted to ODEQ (April 2021 Assessment Monitoring, Notification: Molybdenum concentrations above upgradient well background concentration (Altamira; July 7, 2021). The ODEQ acknowledged receipt of this submittal via letter data August 24, 2021. As per this letter, the reported molybdenum concentrations at GWMP-9A and GWMP-12A will not be considered SSLs after proposed regulatory changes to OAC 252:517 become effective (September 15, 2021). It is noted that results from molybdenum analysis of split samples submitted to a separate laboratory were similar to those discussed above and results from dissolved analysis did not indicate significant contributions to molybdenum from possible sediment entrained in the samples.

7.2 SECOND 2021 SEMI-ANNUAL ASSESSMENT MONITORING (OCTOBER 2021)

In October 2021, the groundwater monitoring system was sampled as part of the second 2021 semi-annual Assessment Monitoring sample event. Each of the wells for the CCR Unit were sampled for Detection and Assessment Monitoring Parameters. Data was evaluated using procedures outlined in the Groundwater Data Evaluation Method Certification (October 15, 2018). From this evaluation, and as described below. Potential SSIs over established background were indicated for some Detection Monitoring parameters.

- Analytical results from the second 2021 semi-annual sampling for Detection Monitoring Parameters were compared to pertinent background levels as established in the 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020). **Table 5** compares results from the second 2021 semi-annual sampling of these parameters to the previously established and approved background levels. From this comparison, potential SSIs over background were indicated at GWMP-8A (for sulfate), at GWMP-9A (for boron), at GWMP-10A (for boron and fluoride), and at GWMP-12A (for boron, calcium, chloride, fluoride, sulfate, and TDS). Background levels for Detection Monitoring Parameters at GWMP-11A were not previously established and the current background levels for Detection Monitoring parameters at the other monitoring wells are based on only four compliance monitoring wells and one background well. Background for Detection Monitoring parameters at GWMP-11A are proposed as described in Section 8.0 of this report. Also, revised background for Detection Monitoring parameters at the other wells (to incorporate addition of GWMP-11A as a fifth compliance well) are proposed as described in Section 9.0 of this report.

- Analytical results from the second 2021 semi-annual sampling for Assessment Monitoring parameters were compared to GWPS as established in the 2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019). The comparison was conducted in accordance with the procedure as outlined in the Groundwater Data Evaluation Method Certification (Saeed Zahrai; October 15, 2018). For each well/parameter combination a trend analysis was completed and a confidence interval was established. If trend analysis indicated a significant increasing trend the confidence level would be established around the trend line. Otherwise, the confidence interval would be established over all of the collected data for each of the well/parameter combinations. From the first 2021 semi-annual sampling data the trend analysis did not indicate any significant increasing tends. Therefore, the confidence intervals were constructed over all of the collected data for each of the well/parameter combinations. Trend analyses and construction of confidence intervals were performed using Sanitas™. For each of the compliance wells, a parameter was determined to be at an SSL above a GWPS if the lower confidence limit exceeded the established GWPS. Output from the program for the second 2021 semi-annual sampling are included in **Attachment H** of this Report. The previously established GWPS do apply to GWMP-11A since this is incorporated into the program as a compliance well. A comparison of Assessment Monitoring parameters to GWPS was conducted for this well.

  Table 6 compares results from the second 2021 semi-annual sampling of Assessment Monitoring parameters and calculated confidence intervals to the GWPS. The previously established GWPS are as included in the 2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019). The previously established GWPS for molybdenum

is the EPA-promulgated alternative risk-based groundwater protection standard. As a result of regulatory changes to OAC 252:517 (effective on September 15, 2021) the ODEQ has also adopted the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum. From the second 2021 monitoring period, and incorporating the EPA promulgated alternative risk-based groundwater protection standard, molybdenum is not identified at a SSL above the GWPS. From the second 2021 semi-annual sampling, no other Assessment Monitoring Parameters were identified at statistically SSLs above the established GWPS. It is noted that results from molybdenum analysis of split samples submitted to a separate laboratory were similar to those discussed above and results from dissolved analysis did not indicate significant contributions to molybdenum from possible sediment entrained in the samples.

8.0 PROBLEMS ENCOUNTERED

Due to lab related issues, mercury from the second 2021 sampling event was analyzed outside of hold time. The laboratory indicated that the analysis being conducted outside of the hold time should not have a significant effect on the results as reported. To date mercury has only been detected a few times in the monitoring well samples, and at very low concentrations. Also, the only detections to date are more than an order of magnitude below the established GWPS for mercury. No other problems were encountered over the 2021 calendar year.

Issues that required resolution over the 2021 calendar year are as follows:

1) Monitoring well GWMP-13A was being sampled quarterly to establish background for possible incorporation into the monitoring network. Attempts to sample this well were conducted in January and April 2021. This monitoring well did not contain sufficient water for sample collection during any of the 2021 sampling events or during any of the quarterly sampling events conducted in the year 2020. Over the course of its history GWMP-13A has only once contained sufficient water for sampling. Also, from revised potentiometric surface maps provided in the Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue Quarterly Sampling of GWMP-13A (Altamira; July 9, 2021), GWMP-13A does not appear to be down-gradient of the CCR Unit. Based on these it was requested that monitoring of GWMP-13A be discontinued but gauged for water during semi-annual sampling events. The ODEQ approved the recommendations made in this report via letter dated August 17, 2021.

2) Detection monitoring parameters at GWMP-8A, GWMP-9A, GWMP-10A, and GWMP-12A were compared to the current established background for Detection Monitoring

parameters as established in the 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020).

Groundwater monitoring well GWMP-11A has been incorporated into the monitoring network. Monitoring well GWMP-11A was initially proposed for inclusion into the monitoring network as a background well. As such, background levels for Detection Monitoring Parameters at this well were not previously established. Based on subsequent evaluation, GWMP-11A appears to be down-gradient from portions of the CCR Unit.

Evan's retracted its request to utilize GWMP-11A as an upgradient monitoring well and in July 2021 proposed to utilize GWMP-11A as a compliance monitoring well (approved by ODEQ in August 2021). Background for Detection Monitoring parameters at GWMP-11A are proposed as described in Section 9.0 of this report.
The current established background for Detection Monitoring parameters at GWMP-8A, GWMP-9A, GWMP-10A, and GWMP-12A are based on only four compliance monitoring wells and one background well. Slight revisions to these established upper prediction levels are necessary to incorporate GWMP-11A as a fifth compliance well. Background levels for Detection Monitoring parameters to be used during future sampling (based on incorporating GWMP-11A as a fifth compliance well) are proposed in Section 8.0 of this report. Previously established GWPS for Assessment Monitoring parameters do apply to each of the monitoring wells and to GWMP-11A since GWMP-11A is incorporated into the program as a compliance well.

3) During the first 2021 semi-annual monitoring period molybdenum was identified as an apparent SSL at GWMP-9A and GWMP-12A when using background as the GWPS instead of the previously established GWPS (the EPA-promulgated alternative risk-based groundwater protection standard). As a result of regulatory changes to OAC 252:517 (effective on September 15, 2021) the ODEQ adopted the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum. As such the reported molybdenum concentrations are not SSLs and actions required under 252:517-9-6(g) and 252:517-9-7 are not necessary and an assessment of corrective measures, selection of remedy, and initiation of remedial activities were not required over the Year 2021 reporting period.

None of the network monitoring wells were decommissioned during the previous year. No new monitoring wells were installed to be part of the monitoring network.

9.0 REVISIONS TO BACKGROUND FOR DETECTION MONITOIRNG PARAMETERS

The 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020) established background levels (UPLs) from the distribution of background data for each of the Detection Monitoring parameters. These background levels were based on one upgradient monitoring well (GWMP-6A) and four compliance wells (GWMP-8A, GWMP-9A, GWMP-10A, and GWMP-12A). Monitoring well GWMP-11A has since been incorporated as a compliance well into the groundwater monitoring system.

As such, the upper prediction limits for each of the Detection Monitoring parameters require slight revisions to incorporate a fifth compliance well. Also, background for Detection Monitoring parameters needs to be established for GWMP-11A. The methodology to recalculated background levels for GWMP-8A, GWMP-9A, GWMP-10A, and GWMP-12A, and to establish background levels for GWMP-11A, is the same as employed in the 2019 Annual Groundwater and Corrective Action Report and is summarized below:

1. Background for Detection Monitoring parameters for GWMP-6A, GWMP-8A, GWMP-9A, and GWMP-10A continues to be based on twelve sampling events conducted between February 26, 2017 and September 2, 2018. Background for Detection Monitoring Parameters for GWMP-12A continues to be based on eight sampling events conducted between October 19, 2018 and October 29, 2019. Background for Detection Monitoring Parameters for GWMP-11A is based on eight sampling events conducted between October19, 2018 and July 22, 2020.

2. Tolerance limits were calculated for each of the Detection Monitoring parameters using the upgradient well data. Data summary sheets obtained from Sanitas™ for the Tolerance Limits are included in **Attachment I**. There are no changes in the tolerance limits from those previously calculated (2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019) and in the 2019 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2020)).

3. For each of the compliance wells a confidence interval was constructed over the background data set for each of Detection Monitoring parameters. The confidence intervals were then compared directly to tolerance limits which were calculated using the background data set from the upgradient well data. From this comparison the confidence intervals for boron, chloride, fluoride, sulfate, and/or TDS were found to exceed the tolerance limits from the pooled upgradient well data in at least one well; indicating that downgradient concentrations for boron, calcium, chloride, fluoride, sulfate, and TDS are elevated relative to upgradient concentrations and that it may be appropriate to

determine background using Inter-Well methods unless natural variation is evident. Data summary sheets obtained from Sanitas™ for the Tolerance Limits and confidence Intervals are included in **Attachment I**.

As per the ODEQ approved alternative source demonstration (Exceedances from Detection Monitoring and Alternative Source Demonstration, Altamira-US, LLC., September 26, 2019) background based on Intra-Well prediction limits was previously determined appropriate for chloride at GWMP-8A; for chloride, fluoride, sulfate, and TDS at GWMP-9A; and for chloride, sulfate, and TDS at GWMP-10A due to natural variability between these wells and the background well.

4. Background was recalculated for Detection Monitoring parameters at each of the compliance monitoring wells to incorporate the addition of a GWMP-11A as a fifth compliance well. The UPLs were recalculated using both Inter and Intra Well methodology. Data summary sheets obtained from Sanitas™ for the revised Inter and Intra-Well UPLs are included in **Attachment I**.

   Table 7 includes a comparison of previously established background to the proposed background for each of the Detection Monitoring parameter and includes proposed background for Detection Monitoring parameters at GWMP-11A. It is proposed that the recalculated UPLs via Inter-Well Methods be utilized as background for well/constituent combinations except for pH (at all well wells) and for those where background based on Intra-Well Methods was previously approved (Exceedances from Detection Monitoring and Alternative Source Demonstration, Altamira-US, LLC., September 26, 2019). It is proposed that the recalculated UPLs via Intra-Well Methods be utilized as background for pH and chloride at GWMP-8A; for pH, chloride, fluoride, sulfate, and TDS at GWMP-9A; for pH, chloride, sulfate, and TDS at GWMP-10A; for pH at GWMP-11A; and for pH at GWMP-12A.

   Intra-Well derived upper prediction limits for other well/constituent combinations may be evaluated in the future for potential use as background if determined appropriate due to natural variability between compliance wells and the background well.

10.0 BACKGROUND FOR ASSESSMENT MONITORING PARAMETERS

Data for Assessment Monitoring Parameters from Year 2021 sampling are compared to established GWPS as presented in the 2018 Annual Groundwater and Corrective Action Report

(Altamira; January 31, 2019). These GWPS were developed for each of the Assessment Monitoring Parameters and were selected to be the greater of the following:

1) Background concentration of parameter in the upgradient well, as determined from the inter-well upper tolerance limit (UTL) with 95% confidence and 95% coverage;

2) The Federal Drinking Water Standard (MCL); or

3) EPA promulgated alternative risk-based groundwater protection standards for the three constituents for which no MCL exists (0.006 mg/L for cobalt, 0.04 mg/L for lithium, and 0.100 mg/L for molybdenum). As a result of regulatory changes to OAC 252:517 (effective on September 15, 2021) the ODEQ has adopted the EPA-promulgated alternative risk-based groundwater protection standard for these constituents.

For antimony, arsenic, barium, cobalt, lead, lithium, and Radium-226 and Radium-228 (combined) the background concentrations as determined from the UTLs are greater than the MCLs and the background concentrations as determined from the UTLs are the GWPS.
These UTLs were calculated only using data from the background monitoring well (GWMP-6A) and do not require revisions to incorporate GWMP-11A into the monitoring network as a compliance well.

For beryllium, cadmium, chromium, fluoride, mercury, selenium, and thallium the MCLs are greater than background concentrations as determined form the UTLs and are the GWPS. For molybdenum the EPA promulgated alternative risk-based groundwater protection standard (as adopted by ODEQ) is greater than background concentration as determined from the UTL and is the established GWPS. The GWPS derived from the MCLs and the EPA promulgated alternative risk-based groundwater protection standards do not require revisions to incorporate GWMP-11A into the monitoring network.

The GWPS for Assessment Monitoring Parameters have not changed from those established in the 2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019). Incorporation of additional compliance wells (GWMP-11A or GWMP-12A) into the monitoring network and use of the ODEQ Protection Standard (where applicable based on regulatory changes effective on September 15, 2021) do not alter the GWPS as previously established. The GWPS are included on **Table 8**.

It is noted that for antimony, beryllium, cadmium, and thallium the background data obtained prior to September 2018 was reported as below detection limits that are in excess of the MCLs. As per ODEQ's letter dated March 11, 2019, Evans is ensuring that the current laboratory is using

appropriate methods such that detection limits are below each parameter's respective MCL. Except for antimony the current GWPS are conservative despite detection levels being over the MCL (since the MCL is higher than the calculated upper tolerance limits for these compounds). None of these parameters have been identified in sampling conducted subsequent to September 2018 at concentrations above the MCLs Once at least twelve data points with reporting levels below the MCLs are obtained from all of the wells, the existing non-detect data points above MCLs will be removed from background and the GWPS will be reevaluated. Until such time, Evans will compare findings from Assessment monitoring to the established GWPS.

11.0 ACTIVITIES FOR UPCOMING YEAR (2022)

During the 2021 monitoring period a SSI over established background was indicated for some of the Detection Monitoring Parameters. No Assessment Monitoring Parameters were detected at SSLs over the established GWPS. Evans anticipates continued semi-annual Assessment Monitoring of the monitoring system (GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, GWMP-11A, and GWMP-12A) over the upcoming year. Additionally, Evans will continue gauging groundwater levels at monitoring well GWMP-13A. Anticipated activities for the Year 2021 are as follows:

January 2022: Submit the 2021 Annual Groundwater Monitoring and Corrective Action Report to ODEQ and enter the report into the facility record.

April 2022: Conduct the first 2022 semi-annual groundwater Assessment Monitoring program sample event. Also conduct water level gauging at GWMP-13A.

October 2022: Conduct the second 2022 semi-annual groundwater Assessment Monitoring program sample event. Also conduct water level gauging at GWMP-13A.

December 2022: Prepare the 2022 Annual Groundwater Monitoring and Corrective Action Report to be provided to ODEQ no later than January 31, 2023.

Detections and concentrations from Assessment Monitoring will continue to be recorded in the facility operating record. If during any sampling event one or more Assessment Monitoring Parameters are detected at an SSL above the GWPSs, a notification of the exceedance(s) will be prepared, and actions will be conducted as per OAC 252:517-9-6(g). In such an occurrence, an assessment of corrective measures will be initiated, or a demonstration will be made that a source other than the CCR unit caused the contamination, or that increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

FIGURES

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH

Surveyed Monitoring Well Locations

Site Identification	State Plane Coordinates OK North Zone (NAD 83)		Top of PVC Elevation, feet above MSL	Top of Outer Casing Elevation, feet above MSL	Ground Elevation, feet above MSL	(NAD 83)	
	Northing (Y)	Easting (X)				Latitude	Longitude
GWMP #6A	574719.367	2258948.309	1060.29	1060.48	1058.87	36°34'29.02158" N	97°00'39.09423" W
GWMP #8A	574853.556	2258164.008	1062.97	1063.10	1061.39	36°34'30.42733" N	97°00'48.69240" W
GWMP #9A	575204.046	2259374.208	1034.37	1034.55	1032.72	36°34'33.77110" N	97°00'33.81242" W
GWMP #10A	575353.539	2259217.603	1022.44	1022.66	1020.98	36°34'35.26506" N	97°00'35.71362" W
GWMP #11A	574514.013	2258440.999	1072.17	1072.66	1070.27	36°34'27.04213" N	97°00'45.33904" W
GWMP #12A	575341.281	2258533.003	1046.71	1047.07	1045.00	36°34'35.21282" N	97°00'44.10797" W
GWMP #13A	575428.288	2258030.682	1053.29	1053.87	1051.52	36°34'36.12362" N	97°00'50.25531" W

Monitoring Well Location (Monitoring Network)

Monitoring Well Location (Gauge Water Levels)

1" approx. 300'

0 300

PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

FIGURE 1
LOCATION OF MONITOIRNG WELLS

Project No.
Drawn By CSS
Checked By CSS
Date 01/28/2020/18
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

Figure 1: Location of Monitoring Wells

(Base Map: Google Earth Image: Imagery Date 3/30/2019)

Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

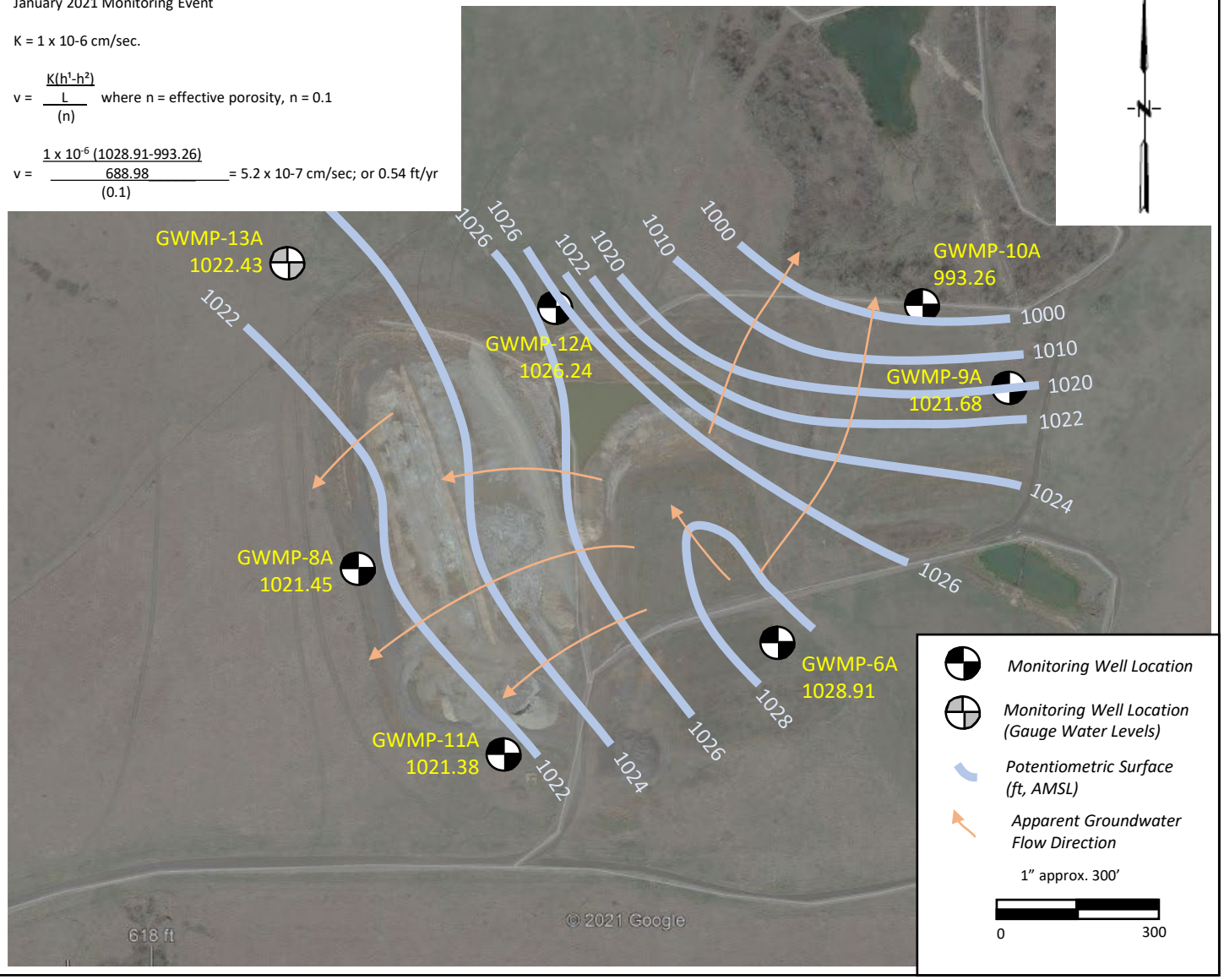
FACILITY NAME: BIG FORK RANCH

Calculation of Rate of Groundwater Movement
January 2021 Monitoring Event

K = 1 x 10-6 cm/sec.

$$v = \frac{\frac{K(h^1-h^2)}{L}}{(n)}$$ where n = effective porosity, n = 0.1

$$v = \frac{\frac{1 \times 10^{-6}\,(1028.91-993.26)}{688.98}}{(0.1)} = 5.2 \times 10\text{-}7 \text{ cm/sec; or } 0.54 \text{ ft/yr}$$



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

FIGURE 2
POTENTIOMETRIC SURFACE
(January 11, 2021)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

Figure 2: Potentiometric Surface (January 11, 2021)

(Base Map: Google Earth Image: Imagery Date 3/30/2019)

Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

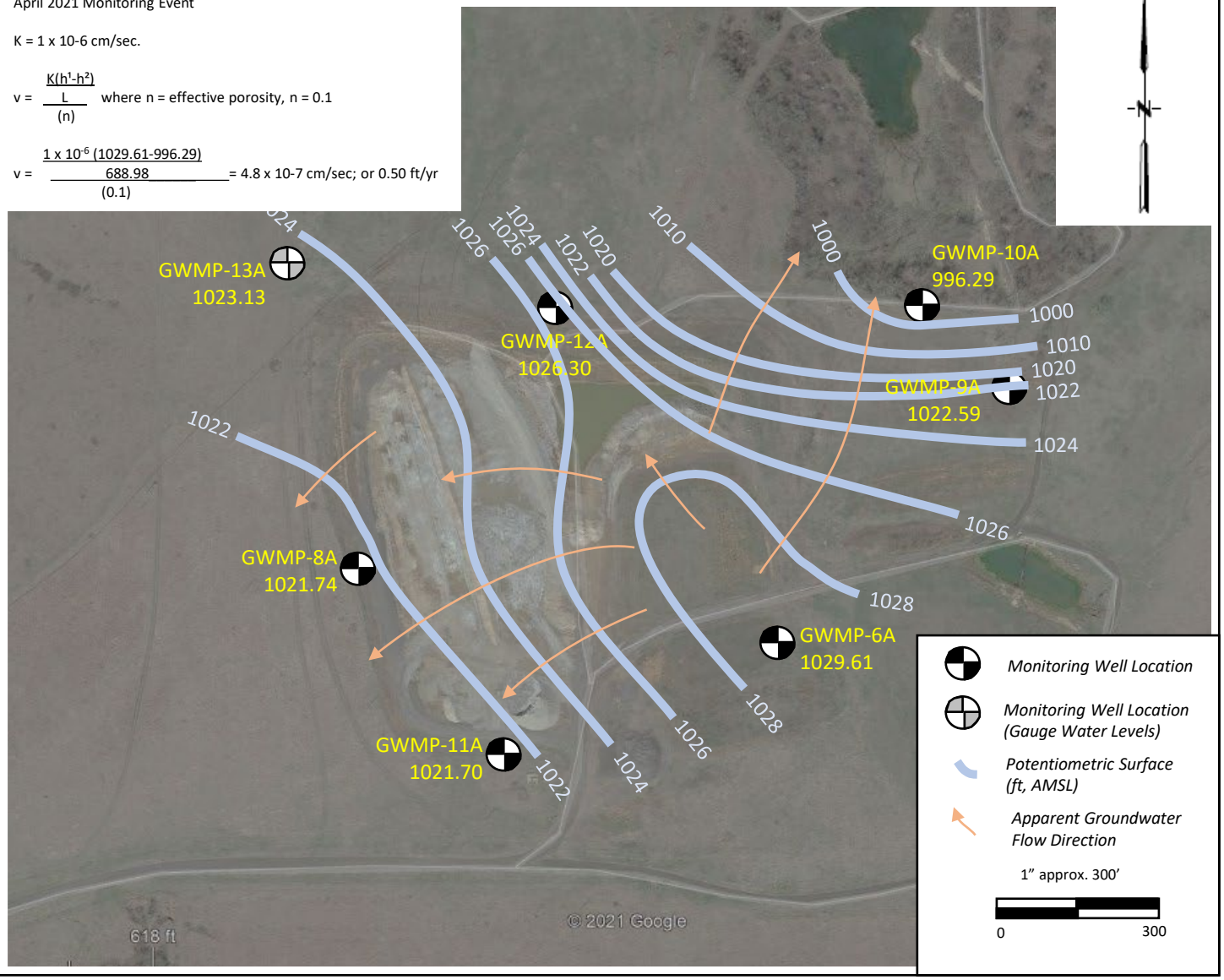
FACILITY NAME: BIG FORK RANCH

Calculation of Rate of Groundwater Movement
April 2021 Monitoring Event

K = 1 x 10-6 cm/sec.

$$v = \frac{K(h^1-h^2)}{(n)} \quad \text{where n = effective porosity, n = 0.1}$$

$$v = \frac{1 \times 10^{-6}\,(1029.61-996.29)}{(0.1)} = 4.8 \times 10\text{-}7 \text{ cm/sec; or } 0.50 \text{ ft/yr}$$



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

FIGURE 3
POTENTIOMETRIC SURFACE
(APRIL 26, 2021)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

Figure 3: Potentiometric Surface (April 26, 2021)

(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

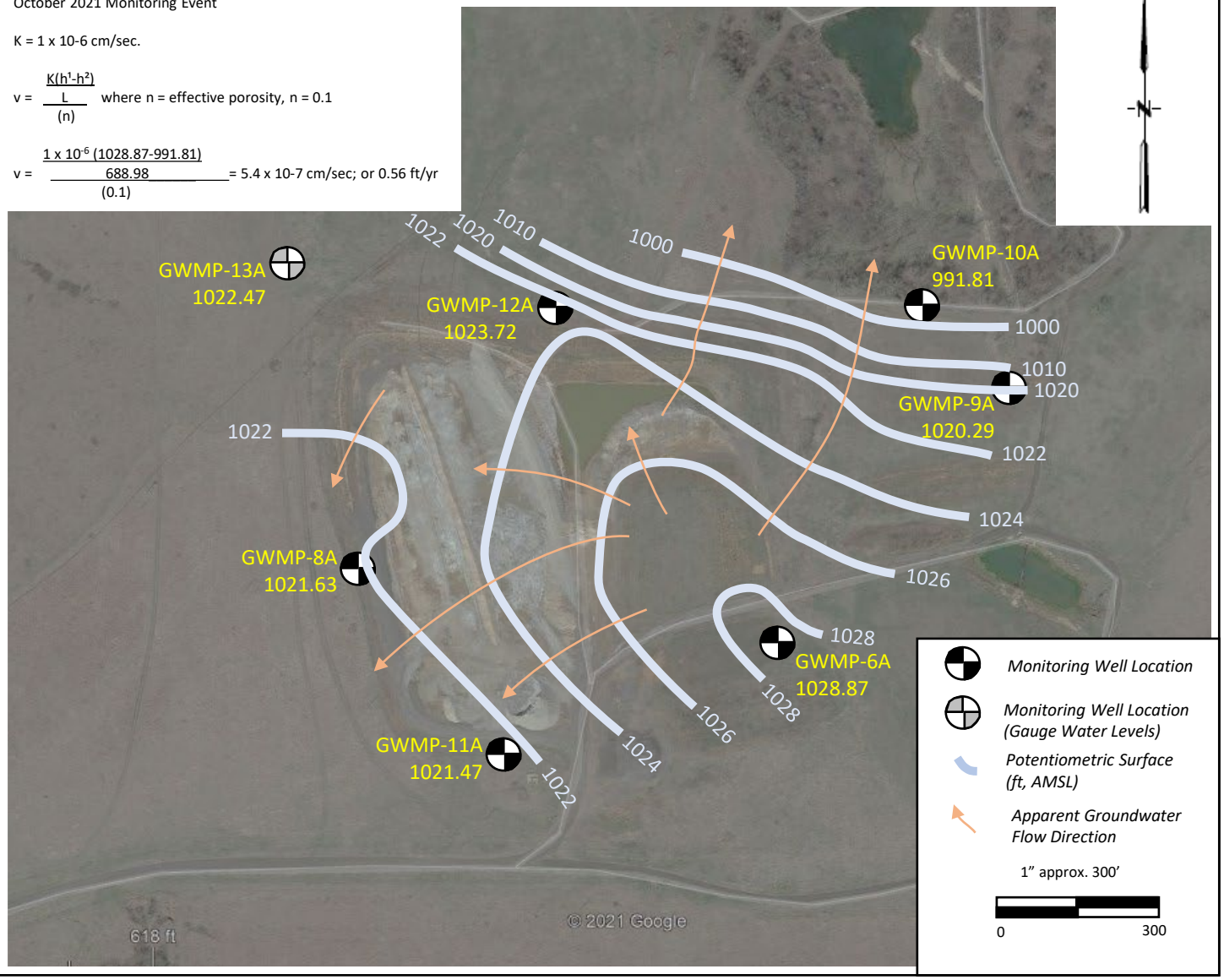
FACILITY NAME: BIG FORK RANCH

Calculation of Rate of Groundwater Movement
October 2021 Monitoring Event

K = 1 x 10-6 cm/sec.

$$v = \frac{\frac{K(h^1-h^2)}{L}}{(n)}$$ where n = effective porosity, n = 0.1

$$v = \frac{\frac{1 \times 10^{-6}\,(1028.87-991.81)}{688.98}}{(0.1)} = 5.4 \times 10\text{-}7 \text{ cm/sec; or } 0.56 \text{ ft/yr}$$



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

FIGURE 4
POTENTIOMETRIC SURFACE
(OCTOBER 18, 2021)

Project No.
Drawn By CSS
Checked By CSS
Date 12/13/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

Figure 4: Potentiometric Surface (October 18, 2021)

(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

TABLES

TABLE 1
SAMPLING SUMMARY
EVANS AND ASSOCIATES - BIG FORK RANCH

			DETECTION MONITORING PARAMETERS							ASSESSMENT MONITORING PARAMETERS																OTHER GENERAL WATER CHEMISTRY					
		Lab	pH Field (SU)	TDS (mg/L)	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Ra 226 and 228 (pCi/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
GWMP-6A	U																														
	2/26/2017	DT, Inc.	6.92	460	<0.100	81.0	3.00	0.48	40.45	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2017	ETI	7.34	372	0.0705	89.8	1.73	0.433	26.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.433	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/10/2017	ETI	6.34	330	0.0704	105	1.99	0.415	32.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.415	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2017	ETI	6.47	380	0.0654	97.3	1.53	0.394	26.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.394	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/11/2017	ETI	8.10	380	0.0766	99.4	1.29	0.412	26.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.412	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/6/2018	ETI	6.32	400	0.068	110	1.58	0.38	31.3	<0.01	<0.01	0.394	<0.01	<0.01	<0.01	<0.01	0.38	<0.01	<0.05	<0.0002	<0.01	<0.02	<0.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	3/3/2018	ETI	7.60	470	0.113	121	1.22	0.42	23.6	0.0104	0.0158	1.050	<0.01	<0.01	0.0657	0.0730	0.42	0.0456	0.0654	<0.0002	<0.01	<0.02	<0.02	5.6200	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/14/2018	ETI	7.92	432	0.121	127	1.14	0.510	21.6	<0.010	0.0139	1.100	<0.010	<0.01	0.0741	0.0867	0.510	0.0525	0.0687	<0.0002	<0.010	<0.020	<0.020	4.04	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2018	ETI	7.12	522	0.115	184	1.34	0.362	20.6	<0.010	0.0202	1.790	<0.010	<0.01	0.0685	0.0764	0.362	0.1790	0.0569	<0.0002	<0.010	<0.020	<0.020	2.151	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/23/2018	ETI	6.70	434	0.0678	116	1.54	0.420	21.6	<0.010	<0.010	0.562	<0.010	<0.01	0.0193	0.0205	0.420	0.0317	<0.0500	<0.0002	<0.010	<0.020	<0.020	2.94	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2018	ETI	7.20	454	0.0894	112	1.81	0.416	35.0	<0.010	<0.010	0.643	<0.010	<0.01	0.0244	0.0264	0.416	0.0242	<0.0500	<0.0002	<0.010	<0.020	<0.020	1.305	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/2/2018	ETI	6.60	410	0.076	108	1.96	0.38	25.7	<0.0010	0.00118	0.391	<0.001	<0.001	0.00131	<0.0100	0.38	0.00106	0.0080	<0.0002	<0.0100	0.00244	<0.002	0.939	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2018	Accurate	6.97	n/a	n/a	n/a	n/a	0.39	n/a	<0.005	<0.005	0.353	<0.001	<0.001	<0.010	<0.010	0.3900	<0.005	<0.04	<0.00005	<0.005	<0.005	<0.001	2.067	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/27/2018	Accurate	7.02	n/a	n/a	n/a	n/a	0.37	n/a	<0.005	<0.005	0.388	<0.001	<0.001	<0.010	<0.010	0.37	<0.005	<0.04	<0.00015	<0.005	<0.005	<0.001	<1.197	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/24/2018	Accurate	6.89	n/a	n/a	n/a	n/a	n/a	n/a	<0.005	<0.005	0.36	<0.001	<0.001	<0.010	<0.010	n/a	<0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	1.222	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/29/2019	Accurate	n/a	n/a	n/a	n/a	n/a	0.42	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.42	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/22/2019	Accurate	6.39	430	0.07	93.7	1.69	0.35	31	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/18/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	8/13/2019	Accurate	6.70	428	0.116	103	2.16	0.42	56.8	<0.005	<0.005	0.292	<0.001	<0.001	<0.010	<0.010	0.42	<0.005	<0.040	<0.00005	<0.005	0.01	<0.001	n/a	265.6	<5	2.16	15.8	1.05	24.5
	10/29/2019	Accurate	6.59	375	0.108	96.7	4.63	0.43	43.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/29/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/18/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2020	Accurate	6.34	397	0.12	121	2.96	0.43	43.4	<0.005	<0.005	0.526	0.0016	<0.001	<0.010	<0.010	0.43	<0.005	<0.040	<0.00005	<0.005	0.01	<0.001	2.411	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/23/2020	ALS	6.77	490	0.107	72.8	2.39	0.458	76.5	<0.0004	0.00125(J)	0.205	<0.0002	<0.0002	0.000977(J)	0.000235(J)	0.458	0.000869(J)	0.00865	<0.00003	<0.0006	0.00905	<0.0002	<0.77	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/22/2020	ALS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2020	ALS	7.48	356	0.0898	84.2	1.98	0.352	48.8	<0.0004	0.00198(J)	0.533	0.000305(J)	<0.0002	0.00411	0.00250(J)	0.352	0.00702	0.00863	<0.00003	<0.0006	0.00564	<0.0002	0.81	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/27/2021	ALS	7.25	488	0.149	96.1	4.98	0.467	65.5	<0.0004	0.00136(J)	0.212	<0.0002	<0.0002	0.00133(J)	0.000278(J)	0.467	<0.0006	0.00518	<0.00003	<0.0006*#	0.00796	<0.0002	<0.78	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2021	ALS	7.16	350	0.0959	79.3	1.25	0.48	43	<0.0004	0.00153(J)	0.334	<0.0002	<0.0002	0.00211(J)	0.00123(J)	0.48	0.00134(J)	0.0063	<0.00003(H)	<0.0006	0.00305	<0.0002	<0.93	n/a	n/a	n/a	n/a	n/a	n/a	n/a

* : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = <0.0006 mg/L
\# : Split sample submitted to ETI on 4/27/21 for analysis of total and dissolved molybdenum. Total Molybdenum = <0.00186 mg/L / Dissolved Molybdenum = <0.00186 mg/L
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
S.U. : Standard Units
< : Analyte not detected at the laboratory Reporting Limit
(J) : Result is less than the Reporting Limit but greater than the Method Detection Limit and the concentration is an approximate value
(H) : Analyzed outside of holding time
n/a : not applicable. Well not analyzed for specified parameter
Shaded area indicates sample data incorporated into current background

TABLE 1
SAMPLING SUMMARY
EVANS AND ASSOCIATES - BIG FORK RANCH
(2 of 6)

			DETECTION MONITORING PARAMETERS							ASSESSMENT MONITORING PARAMETERS																OTHER GENERAL WATER CHEMISTRY					
		Lab	pH Field (SU)	TDS (mg/L)	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Ra 226 and 228 (pCi/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
GWMP-8A	d																														
	2/26/2017	DT, Inc.	7.44	352	0.12	63	3.5	0.39	37.21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.39	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2017	ETI	8.05	422	0.13	84.8	4.55	0.359	30.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.359	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/10/2017	ETI	7.20	316	0.111	92.1	4.61	0.346	31.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.346	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2017	ETI	7.02	372	0.108	74.7	3.78	0.31	32.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.31	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/11/2017	ETI	9.20	354	0.109	38.9	3.57	0.322	31.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.322	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/6/2018	ETI	5.82	374	0.11	86.0	3.55	0.344	31.2	<0.01	<0.01	0.298	<0.01	<0.01	0.0111	<0.01	0.344	<0.01	<0.05	<0.0002	<0.01	<0.02	<0.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	3/3/2018	ETI	6.80	444	0.107	78.3	3.59	0.363	33.1	<0.01	<0.01	0.272	<0.01	<0.01	<0.01	<0.01	0.363	<0.01	<0.05	<0.0002	<0.01	<0.02	<0.02	0.9130	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/14/2018	ETI	8.21	430	0.108	84.1	3.52	0.396	30.2	<0.010	<0.010	0.290	<0.010	<0.01	<0.010	<0.010	0.396	<0.010	<0.050	<0.0002	<0.010	<0.020	<0.020	0.843	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2018	ETI	7.39	382	0.122	87.2	3.18	0.333	30.8	<0.010	<0.010	0.334	<0.010	<0.01	0.0167	0.0117	0.333	<0.010	<0.050	<0.0002	<0.010	<0.020	<0.020	3.16	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/23/2018	ETI	7.30	360	0.079	76.0	3.86	0.743	34.0	<0.010	<0.010	0.237	<0.010	<0.01	<0.010	<0.010	0.743	<0.010	<0.050	<0.0002	<0.010	<0.020	<0.020	0.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2018	ETI	6.60	362	0.138	134	3.78	0.415	32.2	<0.010	0.0133	0.73	<0.010	<0.01	0.0615	0.0524	0.415	0.0254	<0.050	<0.0002	<0.010	<0.020	<0.020	0.423	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/2/2018	ETI	7.00	386	0.0953	78.7	3.63	0.352	36.2	0.00108	0.00164	0.274	<0.001	0.00289	0.00783	<0.0100	0.352	0.0023	0.0044	<0.0002	<0.010	0.00509	0.00036	1.397	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2018	Accurate	7.05	n/a	n/a	n/a	n/a	0.38	n/a	<0.005	<0.005	0.265	<0.001	<0.001	<0.010	<0.010	0.38	<0.005	<0.040	<0.00005	<0.005	0.005	<0.001	<0.954	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/27/2018	Accurate	7.39	n/a	n/a	n/a	n/a	0.26	n/a	<0.005	<0.005	0.255	<0.001	<0.001	<0.010	<0.010	0.26	<0.005	<0.040	<0.0005	<0.005	0.006	<0.001	<1.145	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/24/2018	Accurate	6.88	n/a	n/a	n/a	n/a	n/a	n/a	<0.005	<0.005	0.265	<0.001	<0.001	<0.010	<0.010	n/a	<0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	<1.05	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/29/2019	Accurate	n/a	n/a	n/a	n/a	n/a	0.24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/22/2019	Accurate	6.61	406	0.075	76.5	3.58	0.23	28.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/18/2019	Accurate	6.69	364	0.087	77.5	3.15	0.3	31.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	270	<5	3.15	17.4	0.92	35.1
	8/13/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2019	Accurate	6.84	343	0.102	118	6.91	0.35	31.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/29/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/18/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2020	Accurate	6.61	414	0.097	73.1	5.57	0.36	46.6	<0.005	<0.005	0.298	<0.001	<0.001	<0.010	<0.010	0.36	<0.005	<0.040	<0.00015	<0.005	0.018	<0.001	4.373	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/23/2020	ALS	7.09	328	0.0771	59	5.15	0.122	33.9	<0.0004	0.000833(J)	0.211	<0.0002	<0.0002	0.00323(J)	<0.0002	0.122	<0.0006	0.0102	<0.0003	0.00145(J)	0.0139	<0.0002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/22/2020	ALs	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2020	ALS	7.76	398	0.0835	82.4	4.71	0.29	52.9	<0.0004	0.00276	0.357	0.000585(J)	<0.0002	0.0146	0.00589	0.29	0.0071	0.0153	<0.00003	0.000698(J)	0.0132	<0.0002	<0.77	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/27/2021	ALS	7.52	418	0.121	83	4.58	0.415	54.6	0.000975(J)	0.00288	0.348	0.000347(J)	<0.0002	0.0131	0.00401(J)	0.415	0.0044	0.0204(J)	<0.00003	0.00185(J)*	0.013	0.000252(J)	<1.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2021	ALS	7.64	438	0.0398	88.4	4.25	0.26	43	<0.0004	0.00104(J)	0.412	<0.0002	<0.0002	0.00118(J)	<0.0002	0.26	<0.0006	0.00903	<0.00003(H)	<0.0006	<0.0011	<0.0002	1.51	n/a	n/a	n/a	n/a	n/a	n/a	n/a

* : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = 0.00196(J) mg/L
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
S.U. : Standard Units
< : Analyte not detected at the laboratory Reporting Limit
(J) : Result is less than the Reporting Limit but greater than the Method Detection Limit and the concentration is an approximate value
(H) : Analyzed outside of holding time
n/a : not applicable. Well not analyzed for specified parameter
Shaded area indicates sample data incorporated into current background

TABLE 1
SAMPLING SUMMARY
EVANS AND ASSOCIATES - BIG FORK RANCH
(3 of 6)

			DETECTION MONITORING PARAMETERS							ASSESSMENT MONITORING PARAMETERS															OTHER GENERAL WATER CHEMISTRY					
		Lab	pH Field (SU)	TDS (mg/L)	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Ra 226 and 228 (pCi/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
GWMP-9A	d																													
	2/26/2017	DT, Inc.	7.75	496	1.2	35.0	7.5	0.76	93.18	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2017	ETI	7.92	530	1.21	35.3	18.8	0.747	111	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.747	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/10/2017	ETI	7.18	454	1.32	44.8	17.1	0.717	106	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.717	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2017	ETI	7.19	510	1.36	36.8	16.4	0.679	101	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.679	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/11/2017	ETI	7.40	516	1.36	73.7	17.7	0.703	96.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.703	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/6/2018	ETI	7.24	512	1.43	38.0	16.9	0.729	98.3	<0.01	<0.01	0.0574	<0.01	<0.01	<0.01	<0.01	0.729	<0.01	<0.05	<0.0002	0.0140	<0.02	<0.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	3/3/2018	ETI	7.30	526	1.43	35.4	17.0	0.784	106	<0.01	<0.01	0.059	<0.01	<0.01	<0.01	<0.01	0.784	<0.01	<0.05	<0.0002	0.0128	<0.02	<0.02	0.8328	n/a	n/a	n/a	n/a	n/a	n/a
	4/14/2018	ETI	6.11	524	1.36	36.4	17.4	0.822	101	<0.010	<0.010	0.0602	<0.010	<0.01	<0.010	<0.010	0.822	<0.010	<0.050	<0.0002	0.0124	<0.020	<0.020	0.13573	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2018	ETI	7.62	414	1.37	72.7	15.7	0.702	93.7	<0.010	<0.010	0.149	<0.010	<0.01	0.011	0.010	0.702	0.0114	<0.050	<0.0002	0.0105	<0.020	<0.020	1.005	n/a	n/a	n/a	n/a	n/a	n/a
	6/23/2018	ETI	7.10	520	1.29	37.1	21.2	0.834	104	<0.010	<0.010	0.0597	<0.010	<0.01	<0.010	<0.010	0.834	<0.010	<0.050	<0.0002	0.0117	<0.020	<0.020	0.658	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2018	ETI	7.30	546	1.48	63.6	18.0	0.850	99.8	<0.010	<0.010	0.161	<0.010	<0.01	<0.010	<0.010	0.85	<0.010	<0.050	<0.0002	<0.010	<0.020	<0.020	1.586	n/a	n/a	n/a	n/a	n/a	n/a
	9/2/2018	ETI	7.27	560	1.39	41.9	17.4	0.735	107	<0.001	0.00158	0.0712	<0.001	<0.001	0.00195	<0.010	0.735	0.00095	0.0136	<0.0002	0.0102	<0.002	<0.002	0.421	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/27/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/24/2018	Accurate	7.49	n/a	n/a	n/a	n/a	n/a	n/a	<0.005	<0.005	0.05	<0.001	<0.001	<0.010	<0.010	n/a	<0.005	<0.040	<0.00005	0.011	<0.005	<0.001	<2.288	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/30/2019	Accurate	n/a	n/a	n/a	n/a	n/a	0.66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/22/2019	Accurate	7.03	583	1.21	37.9	16.4	0.61	138	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.61	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/18/2019	Accurate	6.89	541	1.13	39.5	15.9	0.66	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	302.8	<5	15.9	21.2	1.51	142
	8/13/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2009	Accurate	7.06	550	1.45	46.1	18.8	0.73	92.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.73	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/29/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/18/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2020	Accurate	7.02	551	1.33	354	17.5	0.77	99.4	<0.005	0.013	0.321	0.0016	<0.001	<0.010	<0.010	0.77	0.01	<0.040	<0.00005	0.008	<0.005	<0.001	2.65	n/a	n/a	n/a	n/a	n/a	n/a
	4/23/2020	ALS	7.34	558	1.09	33.7	16.2	0.763	101	<0.0004	0.00174(J)	0.061	<0.0002	<0.0002	0.00126(J)	0.000419(J)	0.763	0.00135(J)	0.0275	<0.00003	0.00579	<0.0011	<0.0002	<0.74	n/a	n/a	n/a	n/a	n/a	n/a
	7/22/2020	ALS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2020	ALS	8.19	354	1.2	49.4	16.3	0.574	95.7	<0.0004	0.00248	0.121	0.000391(J)	<0.0002	0.00507	0.00217(J)	0.574	0.00263	0.0227	<0.00003	0.00448(J)	<0.0011	<0.0002	2.21	n/a	n/a	n/a	n/a	n/a	n/a
	4/27/2021	ALS	7.82	562	1.11	34.3	16.3	0.834	99.1	<0.0004	0.00185(J)	0.0711	<0.0002	<0.0002	0.00196(J)	0.000489(J)	0.834	0.000899(J)	0.0202	<0.00003	0.00556*#	<0.0011	<0.0002	<0.83	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2021	ALS	7.88	506	1.25	30.3	16.3	0.842	89	<0.0004	0.00225	0.0728	<0.0002	<0.0002	0.000462(J)	<0.0002	0.842	<0.0006	0.0195	<0.00003(H)	0.00516^	<0.0011	<0.0002	<0.91	n/a	n/a	n/a	n/a	n/a	n/a

* : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = 0.00786 mg/L
\# : Split sample submitted to ETI on 4/27/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.0063 mg/L / Dissolved Molybdenum = 0.0088 mg/L
^ : Split sample submitted to ETI on 10/19/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.005 mg/L / Dissolved Molybdenum = 0.0088 mg/L
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
S.U. : Standard Units
< : Analyte not detected at the laboratory Reporting Limit
(J) : Result is less than the Reporting Limit but greater than the Method Detection Limit and the concentration is an approximate value
(H) : Analyzed outside of holding time
n/a : not applicable. Well not analyzed for specified parameter
Shaded area indicates sample data incorporated into current background

TABLE 1
SAMPLING SUMMARY
EVANS AND ASSOCIATES - BIG FORK RANCH
(4 of 6)

			DETECTION MONITORING PARAMETERS							ASSESSMENT MONITORING PARAMETERS															OTHER GENERAL WATER CHEMISTRY					
		Lab	pH Field (SU)	TDS (mg/L)	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Ra 226 and 228 (pCi/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
GWMP-10A	d																													
	2/26/2017	DT, Inc.	7.19	1730	3.4	130	7.0	0.32	713.03	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2017	ETI	7.22	1740	3.13	124	29.6	0.533	677	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.533	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/10/2017	ETI	6.78	2080	4.4	166	26.5	<1	914	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2017	ETI	6.32	2140	4.52	167	27.3	0.5	1140	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/11/2017	ETI	7.20	1940	4.17	134	78.9	0.394	804	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.394	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/6/2018	ETI	7.24	1760	4.05	122	28.2	0.522	711	<0.01	<0.01	0.0588	<0.01	<0.01	<0.01	<0.01	0.522	<0.01	<0.05	<0.0002	<0.01	<0.02	<0.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	3/3/2018	ETI	7.90	1800	4.41	123	27.8	<1	814	<0.01	<0.01	0.109	<0.01	<0.01	<0.01	<0.01	<1	<0.01	<0.05	<0.0002	<0.01	<0.02	<0.02	1.4440	n/a	n/a	n/a	n/a	n/a	n/a
	4/14/2018	ETI	6.65	1790	4.43	115	26.3	<1	682	<0.010	<0.010	0.732	<0.010	<0.01	0.0125	0.0258	<1	0.0222	<0.050	<0.0002	<0.010	<0.020	<0.020	0.882	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2018	ETI	7.19	1810	4.55	121	24.3	<1	619	<0.010	<0.010	0.174	<0.010	<0.01	<0.010	0.0133	<1	0.0128	<0.050	<0.0002	<0.010	<0.020	<0.020	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/23/2018	ETI	7.40	874	4.74	166	22.0	0.826	261	<0.010	<0.010	0.148	<0.010	<0.01	<0.010	0.0110	0.826	<0.010	<0.050	<0.0002	<0.010	<0.020	<0.020	1.753	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/2/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/27/2018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/24/2018	Accurate	7.09	n/a	n/a	n/a	n/a	n/a	n/a	<0.005	<0.005	0.022	<0.001	<0.001	<0.010	<0.010	n/a	<0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	1.792	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/29/2019	Accurate	n/a	n/a	n/a	n/a	n/a	0.44	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.44	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/22/2019	Accurate	6.70	1678	1.4	178	30.6	0.37	663	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.37	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/18/2019	Accurate	6.77	1602	0.849	220	27.3	0.43	650	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	340.8	<5	27.3	63	1.97	237
	8/13/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2019	Accurate	6.63	1936	3.5	172	34.6	0.5	844	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/29/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/18/2019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2020	Accurate	6.51	2046	4.2	162	26.3	0.58	959	<0.005	0.011	0.045	<0.001	<0.001	<0.010	<0.010	0.58	0.011	<0.040	<0.00005	<0.005	<0.005	<0.001	3.13	n/a	n/a	n/a	n/a	n/a	n/a
	4/23/2020	ALS	6.79	1800	1.16	195	31.2	0.296	743	0.000655(J)	0.00957	0.0861	<0.0002	0.000230(J)	0.00169(J)	0.0209	0.296	0.00403	0.00552	<0.00003	0.00613	<0.0011	<0.0002	<0.94	n/a	n/a	n/a	n/a	n/a	n/a
	7/22/2020	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2020	ALS	7.48	4040	8.33	643	77.9	0.285J	2460	0.000632(J)	0.0505	1.07	0.00368	0.0009(J)	0.0287	0.0381	0.285(J)	0.0881	0.017	0.0000340(J)	0.0329	0.00314	0.000475(J)	1.05	n/a	n/a	n/a	n/a	n/a	n/a
	4/27/2021	ALS	6.96	1870	1.1	199	31.7	0.48	858	<0.0004	0.00211	0.0735	<0.0002	0.000272(J)	0.00124(J)	0.00325(J)	0.48	0.00334	0.00346(J)	<0.00003	0.00204(J)*#	<0.0011	<0.0002	<0.77	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2021	ALS	7.21	2190	3.93	150	29.3	0.64	1090	0.000723(J)	0.00734	0.0459	<0.0002	<0.0002	0.00104(J)	0.00449(J)	0.64	0.00172(J)	0.00311(J)	<0.00003(H)	0.0109^	<0.0011	<0.0002	0.91	n/a	n/a	n/a	n/a	n/a	n/a

* : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = 0.00395(J) mg/L
\# : Split sample submitted to ETI on 4/27/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.0038 mg/L / Dissolved Molybdenum = 0.0035 mg/L
^ : Split sample submitted to ETI on 10/20/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.0114 mg/L / Dissolved Molybdenum = 0.0125 mg/L
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
S.U. : Standard Units
< : Analyte not detected at the laboratory Reporting Limit
(J) : Result is less than the Reporting Limit but greater than the Method Detection Limit and the concentration is an approximate value
(H) : Analyzed outside of holding time
n/a : not applicable. Well not analyzed for specified parameter
Shaded area indicates sample data incorporated into current background

TABLE 1
SAMPLING SUMMARY
EVANS AND ASSOCIATES - BIG FORK RANCH
(5 of 6)

			DETECTION MONITORING PARAMETERS							ASSESSMENT MONITORING PARAMETERS															OTHER GENERAL WATER CHEMISTRY					
		Lab	pH Field (SU)	TDS (mg/L)	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Ra 226 and 228 (pCi/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
GWMP-11A	u																													
	2/26/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/10/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/11/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/6/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	3/3/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/14/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/23/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/2/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2018	Accurate	7.01	426	0.049	92.5	15.5	0.43	27.5	<0.005	<0.005	0.176	<0.001	<0.001	<0.010	<0.010	0.43	<0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	1.4140	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/27/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	12/24/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2019		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/29/2019		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/22/2019		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/18/2019	Accurate	6.72	686	0.275	150	4.09	0.36	203	<0.005	<0.005	0.338	<0.001	<0.001	<0.010	<0.010	0.360	0.0060	<0.040	<0.00005	<0.005	0.035	<0.001	4.34	n/a	n/a	n/a	n/a	n/a	n/a
	8/13/2019		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2019	Accurate	6.57	418	0.047	76.7	7.28	0.27	31.8	<0.005	0.016	0.765	<0.001	<0.001	<0.010	<0.010	0.27	0.008	<0.040	<0.00005	<0.005	<0.005	<0.001	<1.311	n/a	n/a	n/a	n/a	n/a	n/a
	11/29/2019	Accurate	6.49	410	0.044	245	4.86	0.28	31.6	<0.005	<0.005	0.515	<0.001	<0.001	<0.010	<0.010	0.28	<0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	17.67	n/a	n/a	n/a	n/a	n/a	n/a
	12/18/2019	Accurate	7.06	438	0.04	215	4.98	0.27	34.6	<0.005	<0.005	0.481	<0.001	<0.001	<0.010	<0.010	0.27	<0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	4.65	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2020	Accurate	6.86	434	0.07	264	4.56	0.29	34.1	<0.005	0.011	0.564	0.0011	<0.001	<0.010	<0.010	0.29	0.005	<0.040	<0.00005	<0.005	<0.005	<0.001	8.85	n/a	n/a	n/a	n/a	n/a	n/a
	4/23/2020	ALS	7.06	440	0.0422	129	4.84	0.219	35.7	<0.0004	0.00142(J)	0.371	<0.0002	<0.0002	0.00236J	0.000556(J)	0.219	0.00107(J)	0.0094	<0.00003	<0.0006	<0.0011	<0.0002	3.36	n/a	n/a	n/a	n/a	n/a	n/a
	7/22/2020	ALS	7.52	398	0.084	150	4.37	0.195	40.6	0.000484(J)	0.00303	0.448	0.000390(J)	<0.0002	0.00644	0.00218(J)	0.195	0.00444	0.0114	<0.00003	<0.0006	<0.0011	<0.0002	2.41	n/a	n/a	n/a	n/a	n/a	n/a
	(Duplicate)		n/a	396	0.0654	153	4.43	0.158	41.1	0.000494(J)	0.00278	0.466	0.000433(J)	<0.0002	0.00481	0.00238(J)	0.158	0.00491	0.0114	<0.00003	<0.0006	<0.0011	<0.0002	1.83	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2020	ALS	7.03	440	0.26	93.4	4.47	0.113	37.3	<0.0004	0.00136(J)	0.332	<0.0002	<0.0002	0.00190J	0.000225(J)	0.113	<0.0006	0.00917	<0.00003	<0.0006	<0.0011	<0.0002	2.87	n/a	n/a	n/a	n/a	n/a	n/a
	(Duplicate)		n/a	472	0.0635	759	4.73	0.128	37.5	<0.0004	0.00856	1.03	0.00212	0.000325(J)	0.0212	0.0114	0.128	0.0227	0.0168	<0.00003	<0.0006	0.00120(J)	<0.0002	5.99	n/a	n/a	n/a	n/a	n/a	n/a
	4/27/2021	ALS	7.12	464	0.0856	269	4.58	0.219	41.8	<0.0004	0.00184(J)	0.541	0.000502(J)	<0.0002	0.00306(J)	0.000970(J)	0.219	0.00106(J)	0.00877	<0.00003	<0.0006*#	<0.0011	<0.0002	3.12	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2021	ALS	7.13	430	0.0904	91.9	4.35	0.265	38.8	<0.0004	0.00117(J)	0.389	<0.0002	<0.0002	0.00121(J)	<0.0002	0.265	<0.0006	0.0092	<0.00003(H)	<0.0006^	<0.0011	<0.0002	<0.95	n/a	n/a	n/a	n/a	n/a	n/a

* : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = <0.0006 mg/L
# : Split sample submitted to ETI on 4/27/21 for analysis of total and dissolved molybdenum. Total Molybdenum = <0.00186 mg/L / Dissolved Molybdenum = <0.00186 mg/L
^ : Split sample submitted to ETI on 10/18/21 for analysis of total molybdenum. Total Molybdenum = <0.00186 mg/L
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
S.U. : Standard Units
< : Analyte not detected at the laboratory Reporting Limit
(J) : Result is less than the Reporting Limit but greater than the Method Detection Limit and the concentration is an approximate value
(H) : Analyzed outside of holding time
n/a : not applicable. Well not analyzed for specified parameter
Shaded area indicates sample data incorporated into current background

TABLE 1
SAMPLING SUMMARY
EVANS AND ASSOCIATES - BIG FORK RANCH
(6 of 6)

			DETECTION MONITORING PARAMETERS							ASSESSMENT MONITORING PARAMETERS															OTHER GENERAL WATER CHEMISTRY					
		Lab	pH Field (SU)	TDS (mg/L)	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	Ra 226 and 228 (pCi/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
GWMP-12A	d																													
	2/26/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/10/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/11/2017		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	1/6/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	3/3/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/14/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6/23/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	7/29/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/2/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2018	Accurate	7.15	3756	8.8	248	69.1	0.62	2220	<0.005	<0.005	0.041	<0.001	<0.001	<0.010	<0.010	0.62	<0.005	0.041	<0.00005	0.027	0.015	<0.001	1.3080	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2018		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	11/27/2018	Accurate	7.08	4752	11.6	251	61.3	0.78	2560	<0.005	<0.005	0.039	<0.001	<0.001	<0.010	<0.010	0.78	<0.005	<0.040	<0.00005	0.242	0.009	<0.001	<0.832	n/a	n/a	n/a	n/a	n/a	n/a
	12/24/2018	Accurate	6.98	4236	10.3	246	65	0.65	2480	<0.005	<0.005	0.023	<0.001	<0.001	<0.010	<0.010	0.65	<0.005	<0.040	<0.00005	0.117	0.012	<0.001	3.46	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2019	Accurate	7.01	2388	9.99	354	86.1	0.85	1170	<0.0005	0.009	0.076	<0.001	<0.001	<0.010	0.013	0.85	0.008	<0.040	0.000068	0.106	0.015	<0.001	<1.106	n/a	n/a	n/a	n/a	n/a	n/a
	1/29/2019		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/22/2019	Accurate	6.84	4356	9.3	296	70.8	0.58	2410	<0.005	<0.005	0.051	<0.001	<0.001	<0.010	<0.010	0.58	0.005	<0.040	<0.00005	0.057	<0.005	<0.001	2.141	n/a	n/a	n/a	n/a	n/a	n/a
	6/18/2019	Accurate	6.93	3088	8.09	252	105	0.67	1690	<0.005	<0.005	0.026	<0.001	<0.001	<0.010	<0.010	0.67	<0.005	<0.040	<0.00005	0.030	0.009	<0.001	5.588	n/a	n/a	n/a	n/a	n/a	n/a
	8/13/2019	Accurate	6.90	3338	7.72	265	136	0.66	1980	<0.005	0.007	0.045	0.002	<0.001	<0.010	<0.010	0.66	0.01	<0.040	<0.00005	0.054	0.007	<0.001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2019	Accurate	6.48	3932	8.67	235	91.2	0.74	2540	<0.005	0.01	0.046	0.002	<0.001	<0.010	<0.010	0.74	0.021	<0.040	<0.00005	0.093	0.013	<0.001	<2.885	n/a	n/a	n/a	n/a	n/a	n/a
	11/29/2019	Accurate	6.46	3280	8.78	263	165	0.73	2120	<0.005	<0.005	0.051	<0.001	<0.001	<0.010	<0.010	0.73	0.008	<0.040	<0.00005	0.057	0.011	<0.001	<6.223	n/a	n/a	n/a	n/a	n/a	n/a
	12/18/2019	Accurate	6.85	3728	8.17	281	81.3	0.67	2960	<0.005	<0.005	0.033	0.002	<0.001	<0.010	<0.010	0.67	0.012	<0.040	<0.00005	0.043	0.015	<0.001	<2.648	n/a	n/a	n/a	n/a	n/a	n/a
	1/22/2020	Accurate	6.40	3772	8.31	296	77.8	0.7	2310	<0.005	0.013	0.036	0.0014	<0.001	<0.010	<0.010	0.7	0.013	<0.040	<0.00005	0.048	0.018	<0.001	2.191	n/a	n/a	n/a	n/a	n/a	n/a
	4/23/2020	ALS	6.76	2690	8.57	147	153	0.56	1220	<0.0004	0.00135(J)	0.0241	<0.0002	<0.0002	<0.0004	0.00326(J)	0.56	<0.0006	0.00975	<0.00003	0.0306	0.00158J	<0.0002	1.2	n/a	n/a	n/a	n/a	n/a	n/a
	7/22/2020		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2020	ALS	7.24	3610	7.31	193	84.3	0.481(J)	2280	<0.0004	0.00798	0.067	0.000258(J)	<0.0002	0.00198(J)	0.00644	0.481(J)	0.00458	0.00301(J)	<0.00003	0.0411	<0.0011	<0.0002	0.86	n/a	n/a	n/a	n/a	n/a	n/a
	4/27/2021	ALS	6.98	2600	6	202	177	0.811	1230	<0.0004	0.00143(J)	0.0256	<0.0002	<0.0002	0.000590(J)	0.00387(J)	0.811	0.000997(J)	0.00528	<0.00003	0.0445*#	<0.0011	<0.0002	1.04	n/a	n/a	n/a	n/a	n/a	n/a
	(Duplicate)		n/a	3550	7.31	210	111	0.769	1890	<0.0004	0.00143(J)	0.0254	<0.0002	<0.0002	0.000513(J)	0.00384(J)	0.769	0.000859(J)	0.00468(J)	<0.00003	0.0607 + !	<0.0011	<0.0002	1.31	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2021	ALS	6.96	3820	9.17	254	86.7	0.85	2130	<0.0004	0.0141	0.127	0.000610(J)	0.000234(J)	0.00447	0.0104	0.85	0.0112	0.00444(J)	0.0000610(J)(H)	0.0605^	<0.0011	<0.0002	1.12	n/a	n/a	n/a	n/a	n/a	n/a
	(Duplicate)		n/a	4060	8.93	241	84.4	0.79	2210	<0.0004	0.0127	0.104	0.000517(J)	<0.0002	0.00377(J)	0.00945	0.79	0.0103	0.00415(J)	0.0000500(J)(H)	0.0572	<0.0011	<0.0002	1.01	n/a	n/a	n/a	n/a	n/a	n/a

* : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = 0.0576(J) mg/L
\# : Split sample submitted to ETI on 4/27/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.0697 mg/L / Dissolved Molybdenum = 0.056 mg/L
\+ : Dissolved Molybdenum analyzed on 4/27/21 . Dissolved molybdenum = 0.0639 mg/L
! : Split sample submitted to ETI on 4/27/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.0376 mg/L / Dissolved Molybdenum = 0.0525 mg/L
^ : Split sample submitted to ETI on 10/18/21 for analysis of total and dissolved molybdenum. Total Molybdenum = 0.0752 mg/L / Dissolved Molybdenum = 0.0754 mg/L
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
S.U. : Standard Units
< : Analyte not detected at the laboratory Reporting Limit
(J) : Result is less than the Reporting Limit but greater than the Method Detection Limit and the concentration is an approximate value
(H) : Analyzed outside of holding time
n/a : not applicable. Well not analyzed for specified parameter
Shaded area indicates sample data incorporated into current background

TABLE 2
DEPTH TO GROUNDWATER AND POTENTIOMETRIC SURFACE
EVANS AND ASSOCIATES - BIG FORK RANCH

	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)
Date	**GWMP-6A**			**GWMP-8A**			**GWMP-9A**			**GWMP-10A**			**GWMP-11A**			**GWMP-12A**			**GWMP-13A**		
2/26/2017	FORMER	31.7	1028.59	FORMER	41.7	1021.27	FORMER	12.9	1021.47	FORMER	28.6	993.84	FORMER			FORMER			FORMER		
7/29/2017	T.O.C.	31.2	1029.09	T.O.C.	41.2	1021.77	T.O.C.	12.6	1021.77	T.O.C.	29.8	992.64	T.O.C.			T.O.C.			T.O.C.		
9/10/2017	1055.42	31	1029.29	1057.97	42.4	1020.57	1028.96	12.2	1022.17	1017.59	30.5	991.94	1066.5			1044.2			1051.5		
10/14/2017		32.9	1027.39		40.6	1022.37		12.3	1022.07		29.4	993.04									
11/11/2017	UPDATED	31.6	1028.69	UPDATED	32.4	1030.57	UPDATED	11.5	1022.87	UPDATED	28.6	993.84	UPDATED			UPDATED			UPDATED		
1/6/2018	T.O.C.	33	1027.29	T.O.C.	41.3	1021.67	T.O.C.	11.4	1022.97	T.O.C.	29.1	993.34	T.O.C.	Well Not Installed		T.O.C.	Well Not Installed		T.O.C.	Well Not Installed	
3/3/2018	1060.29	34.5	1025.79	1062.97	41	1021.97	1034.37	12.7	1021.67	1022.44	28.8	993.64	1072.66			1046.71			1053.29		
4/14/2018		32.6	1027.69		40.5	1022.47		13.5	1020.87		29.4	993.04									
5/26/2018		34	1026.29		41	1021.97		14	1020.37		30	992.44									
6/23/2018		33.8	1026.49		41.4	1021.57		12.9	1021.47		30.2	992.24									
7/29/2018		34.6	1025.69		40.9	1022.07		13.3	1021.07		>33	<989.44									
9/2/2018		33.4	1026.89		40.4	1022.57		12.3	1022.07		>33	<989.44									
10/18/2018		33.3	1026.99		45.1	1017.87		12.65	1021.72		31.65	990.79		51.6	1021.06		30.1	1016.61		>32.1	<1021.19
11/27/2018		33	1027.29		43	1019.97		>23.5	<1010.87		>33	<989.44		>56.5	<1016.16		21.6	1025.11		>32.1	<1021.19
12/24/2018		NM	NM		NM	NM		NM	NM		NM	NM		>56.5	<1016.16		NM	NM		>32.1	<1021.19
1/22/2019		NM	NM		NM	NM		NM	NM		NM	NM		>56.5	<1016.16		24.5	1022.21		>32.1	<1021.19
1/29/2019		NM	NM		NM	NM		NM	NM		NM	NM		NM	NM		NM	NM		NM	NM
4/22/2019		32.9	1027.39		41.5	1021.47		12	1022.37		28.1	994.34		>56.5	<1016.16		21.9	1024.81		>32.1	<1021.19
6/18/2019		NM	NM		38	1024.97		8.6	1025.77		23.9	998.54		19.75	1052.91		5.25	1041.46		28.1	1025.19
8/13/2019		31.1	1029.19		40.9	1022.07		11.6	1022.77		29.9	992.54		31.1	1041.56		21.2	1025.51		30.2	1023.09
10/29/2019		31.4	1028.89		41.3	1021.67		11.8	1022.57		29.4	993.04		51	1021.66		21	1025.71		30.5	1022.79
11/29/2019		NM	NM		NM	NM		NM	NM		NM	NM		51.2	1021.46		21.8	1024.91		>32.1	<1021.19
12/16/2019		NM	NM		NM	NM		NM	NM		NM	NM		50.25	1022.41		21.3	1025.41		32	1021.29
1/20/2020		31.9	1028.39		41.5	1021.47		15.5	1018.87		29.4	993.04		51.3	1021.36		22.6	1024.11		30.9	1022.39
4/21/2020		31.04	1029.25		41.54	1021.43		12.02	1022.35		26.98	995.46		51.11	1021.55		21.27	1025.44		30.65	1022.64
7/22/2020		31.41	1028.88		41.41	1021.56		13.67	1020.7		30.55	991.89		51.32	1021.34		22.89	1023.82		30.87	1022.42
10/13/2020		31.66	1028.63		41.43	1021.54		14.05	1020.32		30.83	991.61		51.52	1021.14		23.04	1023.67		30.91	1022.38
1/11/2021		31.38	1028.91		41.52	1021.45		12.69	1021.68		29.18	993.26		51.28	1021.38		20.47	1026.24		30.86	1022.43
4/26/2021		30.68	1029.61		41.23	1021.74		11.78	1022.59		26.15	996.29		50.96	1021.7		20.41	1026.3		30.16	1023.13
10/18/2021		31.42	1028.87		41.34	1021.63		14.08	1020.29		30.63	991.81		51.19	1021.47		22.99	1023.72		30.82	1022.47

Former T.O.C. : Former surveyed elevation for top of casing (ft, MSL)
Updated T.O.C. : Updated top of casing (ft, MSL) based on May 12, 2021 Survey (Cowan Group Engineering).
Updated Potentiometric Surface : Updated Potentiometric Surface (ft, MSL) to reflect the May 12, 2021 Survey
Ft, TOC : Feet below top of casing
Ft, MSL : Feet above mean sea level
NM : Depth to water not measured on specified date

TABLE 3
FIRST 2021 MONITORING
DETECTION MONITORING PARAMETERS
COMPARISON TO ESTABLISHED BACKGROUND
EVANS AND ASSOCIATES - BIG FORK RANCH

	DETECTION MONITORING PARAMETERS (FROM OAC 252:517 APPENDIX A)													
	Boron		Calcium		Chloride		Fluoride		pH		Sulfate		TDS	
	April 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	April 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	April 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	April 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	April 2021 Assessment Monitoring (S.U.)	Current Established Background (S.U.)	April 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	April 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)
GWMP-6A (BG)	0.149	Not Applicable	96.1	Not Applicable	4.98	Not Applicable	0.467	Not Applicable	7.25	Not Applicable	65.5	Not Applicable	488	Not Applicable
GWMP-8A	0.121	0.1319	83	169.8	4.58	4.648	0.415	0.5106	7.52	5.418 - 9.254	54.6	40.93	418	535.7
GWMP-9A	1.11	0.1319	34.3	169.8	16.3	21.9	0.834	0.8734	7.82	6.827 - 8.276	99.1	113.1	562	592.8
GWMP-10A	1.1	0.1319	199	169.8	31.7	78.9	0.48	0.5106	6.96	6.079 - 8.139	858	1,235	1,870	2,351
GWMP-11A	0.0856	None Established	269	None Established	4.58	None Established	0.219	None Established	7.12	None Established	41.8	None Established	464	None Established
GWMP-12A	6	0.1319	202	169.8	177	2.782	0.811	0.5106	6.98	6.388 - 7.454	1,230	41	2,600	536

Sampling conducted in April 2021
mg/L : milligrams per liter
S.U. : Standard Units
(BG) : Background monitoring well

Not Applicable : Background values to establish SSIs are not applicable to background / upgradient monitoring wells
None Established: GWMP-11A was previously proposed as a background well. As such well specific background was not established for Detection Monitoring parameters at this well. Background for future sampling of GWMP-11A is proposed in this report.

The established background are upper prediction limits (UPLs) as presented in the 2019 Annual Groundwater and Corrective Action Report (Altamira, January 31, 2020); Table 4 (Recommended Revisions to Background for Detection Monitoring).

Based on reevaluation of groundwater flow, GWMP-11A is incorporated into the monitoring network as a fifth compliance well.
The current established background is based on four compliance wells. Slight revisions to the background on this Table are necessary to account for a fifth compliance well.
Proposed revisions to background levels for future sampling to account for a fifth compliance well, and for GWMP-11A , are presented in Table 7 of this report.

TABLE 4
FIRST 2021 MONITORING
ASSESSMENT MONITORING PARAMETERS
COMPARISON TO ESTABLISHED GWPS
EVANS AND ASSOCIATES - BIG FORK RANCH

ASSESSMENT MONITORING PARAMETERS (FROM OAC 252:517 APPENDIX B)

	Antimony			Arsenic			Barium			Beryllium			Cadmium			Chromium			Cobalt			Fluoride		
	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 2020 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)
GWMP-6A (BG)	<0.0004	Not Applicable		0.00136(J)	Not Applicable		0.212	Not Applicable		<0.0002	Not Applicable		<0.0002	Not Applicable		0.00133(J)	Not Applicable		0.000278(J)	Not Applicable		0.467	Not Applicable	
GWMP-8A	0.0009745(J)	0.000975 - 0.01		0.00288	0.003756 - 0.009303		0.348	0.255 - 0.348		0.000347(J)	0.000585 - 0.01		<0.0002	0.0002 - 0.01		0.0131	0.00786 - 0.0146		0.00401(J)	0.00589 -0.0117		0.415	0.3 - 0.38	
GWMP-9A	<0.0004	0.0004 - 0.01	0.0104 (UTL)	0.00185(J)	0.00174 - 0.013	0.02653 (UTL)	0.0711	0.0574 - 0.161	2.375 (UTL)	<0.0002	0.0002 - 0.01	0.004 (MCL)	<0.0002	0.0002 - 0.01	0.005 (MCL)	0.00196(J)	0.00195 - 0.011	0.1 (MCL)	0.000489(J)	0.000489 - 0.01	0.0867 (UTL)	0.834	0.6912 - 0.7751	4 (MCL)
GWMP-10A	<0.0004	0.000632 - 0.01		0.00211	0.005 - 0.011		0.0735	0.04229 - 0.3593		<0.0002	0.0002 - 0.01		0.000272(J)	0.000272 - 0.01		0.00124(J)	0.00169 - 0.0125		0.00325(J)	0.01 - 0.0258		0.48	0.37 -0.522	
GWMP-11A	<0.0004	0.0004 - 0.005		0.00184(J)	0.00142 - 0.011		0.541	0.3094-0.5968		0.000502(J)	0.0002 - 0.001		<0.0002	0.0002 - 0.001		0.00306(J)	0.00236 - 0.01		0.00097(J)	0.000556 - 0.01		0.219	0.1983 - 0.3628	
GWMP-12A	<0.0004	0.0004 - 0.005		0.00143(J)	0.0001948 - 0.00739		0.0256	0.03041 - 0.05298		<0.0002	0.000258 - 0.002		<0.0002	0.0002 - 0.001		0.00059(J)	0.00198 - 0.01		0.00387(J)	0.00644 - 0.013		0.811	0.5849 - 0.7407	

ASSESSMENT MONITORING PARAMETERS (FROM OAC 252:517 APPENDIX B)

	Lead			Lithium			Mercury			Molybdenum			Selenium			Thallium			Ra-226 + Ra-228 (combined)		
	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (pCi/L)	Established GWPS (pCi/L)
GWMP-6A (BG)	<0.0006	Not Applicable		0.00518	Not Applicable		<0.00003	Not Applicable		<0.0006	Not Applicable		0.00796	Not Applicable		<0.0002	Not Applicable		<0.78	Not Applicable	
GWMP-8A	0.00437	0.00437 - 0.01		0.0204(J)	0.0153 - 0.05		<0.00003	0.00005 - 0.0003		0.00185(J)	0.00185 - 0.01		0.013	0.0011 - 0.02		0.000252(J)	0.000252 - 0.02		<1.02	0.7 -3.16	
GWMP-9A	0.000899(J)	0.00095 - 0.01	0.0179 (UTL)	0.0202	0.0202 - 0.05	0.0964 (UTL)	<0.00003	0.00003 - 0.0002	0.002 (MCL)	0.00556	0.007283 - 0.01212	0.100 (EPA) 0.005 (UTL)	<0.0011	0.0011 - 0.02	0.05 (MCL)	<0.0002	0.0002 - 0.02	0.002 (MCL)	<0.83	0.7262 - 2.651	7.668 (UTL)
GWMP-10A	0.00334	0.00403 - 0.0222		0.00346(J)	0.00552 - 0.05		<0.00003	0.00003 - 0.0002		0.00204(J)	0.005 - 0.01		<0.0011	0.0011 - 0.02		<0.0002	0.0002 - 0.02		<0.77	0.77 - 3.13	
GWMP-11A	0.00106(J)	0.001955 - 0.006279*		0.00877	0.00917 - 0.04*		<0.00003	0.00003 - 0.00005*		<0.0006	0.0006 - 0.005*		<0.0011	0.005116 - 0.01348*		<0.0002	0.0002 - 0.001*		3.12	1.672 - 7.943*	
GWMP-12A	0.000997(J)	0.0009038 - 0.01072		0.00528	0.00975 - 0.041		<0.00003	0.00003 - 0.000068		0.0445	0.03743- 0.08907		<0.0011	0.000252 - 0.02		<0.0002	0.0002 - 0.001		1.04	0.86 - 5.588	

Sampling conducted in April 2021
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
(BG) : Background / upgradient monitoring well
Not Applicable : Comparison to GWPSs are not applicable to background / upgradient monitoring wells

The established GWPS are as presented in the 2018 Annual Groundwater and Corrective Action Report (ECC, January 31, 2019); Table 5 (Ground Water Protection Standards for Assessment Monitoring Parameters)
(UTL) : The GWPS is upper tolerance limit from pooled background data from upgradient / background well
(MCL) : The GWPS is Federal Drinking Water Standard / (Tap Water Standard for lead)
(EPA) : GWPS is EPA promulgated alternative risk-based GWPS

Incorporation of GWMP-11A into the monitoring network as a ompliance well does not affect the GWPSs as previously established.
Therefore, a direct comparison of data and UTLs from GWMP-11A to the established GWPS for Assessment Monitoring parameters is appropratie.

TABLE 5
SECOND 2021 MONITORING
DETECTION MONITORING PARAMETERS
COMPARISON TO ESTABLISHED BACKGROUND
EVANS AND ASSOCIATES - BIG FORK RANCH

	DETECTION MONITORING PARAMETERS (FROM OAC 252:517 APPENDIX A)													
	Boron		Calcium		Chloride		Fluoride		pH		Sulfate		TDS	
	October 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	October 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	October 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	October 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	October 2021 Assessment Monitoring (S.U.)	Current Established Background (S.U.)	October 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)	October 2021 Assessment Monitoring (mg/L)	Current Established Background (mg/L)
GWMP-6A (BG)	0.0959	Not Applicable	79.3	Not Applicable	1.25	Not Applicable	0.48	Not Applicable	7.16	Not Applicable	43	Not Applicable	350	Not Applicable
GWMP-8A	0.0398	0.1319	88.4	169.8	4.25	4.648	0.26	0.5106	7.64	5.418 - 9.254	43	40.93	438	535.7
GWMP-9A	1.25	0.1319	30.3	169.8	16.3	21.9	0.842	0.8734	7.88	6.827 - 8.276	89	113.1	506	592.8
GWMP-10A	3.93	0.1319	150	169.8	29.3	78.9	0.64	0.5106	7.21	6.079 - 8.139	1,090	1,235	2,190	2,351
GWMP-11A	0.0904	None Established	91.9	None Established	4.35	None Established	0.265	None Established	7.13	None Established	38.8	None Established	430	None Established
GWMP-12A	9.17	0.1319	254	169.8	86.7	2.782	0.85	0.5106	6.96	6.388 - 7.454	2,130	41	3,820	536

Sampling conducted in October 2021
mg/L : milligrams per liter
S.U. : Standard Units
(BG) : Background monitoring well

Not Applicable : Background values to establish SSIs are not applicable to background / upgradient monitoring wells
None Established: GWMP-11A was previously proposed as a background well. As such well specific background was not established for Detection Monitoring parameters at this well. Background for future sampling of GWMP-11A is proposed in this report.

The established background are upper prediction limits (UPLs) as presented in the 2019 Annual Groundwater and Corrective Action Report (Altamira, January 31, 2020); Table 4 (Recommended Revisions to Background for Detection Monitoring).

Based on reevaluation of groundwater flow, GWMP-11A is incorporated into the monitoring network as a fifth compliance well.
The current established background is based on four compliance wells. Slight revisions to the background on this Table are necessary to account for a fifth compliance well.
Proposed revisions to background levels for future sampling to account for a fifth compliance well, and for GWMP-11A , are presented in Table 7 of this report.

TABLE 6
SECOND 2021 MONITORING
ASSESSMENT MONITORING PARAMETERS
COMPARISON TO ESTABLISHED GWPS
EVANS AND ASSOCIATES - BIG FORK RANCH

ASSESSMENT MONITORING PARAMETERS (FROM OAC 252:517 APPENDIX B)

	Antimony			Arsenic			Barium			Beryllium			Cadmium			Chromium			Cobalt			Fluoride		
	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)
GWMP-6A (BG)	<0.0004	Not Applicable		0.00153(J)	Not Applicable		0.334	Not Applicable		<0.0002	Not Applicable		<0.0002	Not Applicable		0.00211(J)	Not Applicable		0.00123(J)	Not Applicable		0.48	Not Applicable	
GWMP-8A	<0.0004	0.0004 - 0.01		0.00104(J)	0.003432 - 0.008895		0.412	0.255 - 0.357		<0.0002	0.000347 - 0.01		<0.0002	0.0002 - 0.01		0.00118(J)	0.00783 - 0.0146		<0.0002	0.00401 -0.0117		0.26	0.29 - 0.38	
GWMP-9A	<0.0004	0.0004 - 0.01	0.0104 (UTL)	0.00225	0.00174 - 0.013	0.02653 (UTL)	0.0728	0.0574 - 0.161	2.375 (UTL)	<0.0002	0.0002 - 0.01	0.004 (MCL)	<0.0002	0.0002 - 0.01	0.005 (MCL)	0.000462(J)	0.00126 - 0.011	0.1 (MCL)	<0.0002	0.000419 - 0.01	0.0867 (UTL)	0.842	0.6965 - 0.7802	4 (MCL)
GWMP-10A	0.000723(J)	0.000632 - 0.01		0.00734	0.005 - 0.011		0.0459	0.04229 - 0.3002		<0.0002	0.0002 - 0.01		<0.0002	0.00023 - 0.01		0.00104(J)	0.00124 - 0.0125		0.00449(J)	0.00449 - 0.0258		0.64	0.4361 -0.7965	
GWMP-11A *	<0.0004	0.0004 - 0.005		0.00117(J)	0.00136 - 0.011		0.389	0.319-0.5756		<0.0002	0.0002 - 0.001		<0.0002	0.0002 - 0.001		0.00121(J)	0.0019 - 0.01		<0.0002	0.000225 - 0.01		0.265	0.2054 - 0.3531	
GWMP-12A	<0.0004	0.0004 - 0.005		0.0141	0.0004235 - 0.008255		0.127	0.03059 - 0.06033		0.00061(J)	0.000258 - 0.002		0.000234(J)	0.0002 - 0.001		0.00447	0.00198 - 0.01		0.0104	0.00644 - 0.0104		0.85	0.5961 - 0.7529	

ASSESSMENT MONITORING PARAMETERS (FROM OAC 252:517 APPENDIX B)

	Lead			Lithium			Mercury			Molybdenum			Selenium			Thallium			Ra-226 + Ra-228 (combined)		
	October 2021 Assessment Monitoring	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	October 2021 Assessment Monitoring (mg/L)	Confidence Interval (mg/L)	Established GWPS (mg/L)	April 2021 Assessment Monitoring (mg/L)	Confidence Interval (pCi/L)	Established GWPS (pCi/L)
GWMP-6A (BG)	0.00134(J)	Not Applicable		0.0063	Not Applicable		<0.00003	Not Applicable		<0.0006	Not Applicable		0.00305	Not Applicable		<0.0002	Not Applicable		<0.93	Not Applicable	
GWMP-8A	<0.0006	0.00232 - 0.01		0.00903	0.0102 - 0.05		<0.00003	0.00003 - 0.0003		<0.0006	0.00145 - 0.01		<0.0011	0.005 - 0.02		<0.0002	0.0002 - 0.02		1.51	0.7 -3.16	
GWMP-9A	<0.0006	0.000899 - 0.01	0.0179 (UTL)	0.0195	0.0195 - 0.05	0.0964 (UTL)	<0.00003	0.00003 - 0.0002	0.002 (MCL)	0.00516	0.006966 - 0.01174	0.100 (ODEQ)	<0.0011	0.0011 - 0.02	0.05 (MCL)	<0.0002	0.0002 - 0.02	0.002 (MCL)	<0.91	0.8724 - 2.788	7.668 (UTL)
GWMP-10A	0.00172(J)	0.00334 - 0.0222		0.00311(J)	0.0346 - 0.05		<0.00003	0.00003 - 0.0002		0.0109	0.005 - 0.0109		<0.0011	0.0011 - 0.02		<0.0002	0.0002 - 0.02		0.91	0.77 - 3.13	
GWMP-11A *	<0.0006	0.001688 - 0.005907		0.0092	0.00917 - 0.04		<0.00003	0.00003 - 0.00005		<0.0006	0.0006 - 0.005		<0.0011	0.0011 - 0.005		<0.0002	0.0002 - 0.001		<0.95	1.311 - 8.85	
GWMP-12A	0.0112	0.001801 - 0.01079		0.00444(J)	0.00528 - 0.041		0.000061(J)	0.00003 - 0.000061		0.0605	0.03884- 0.08638		<0.0011	0.004448 - 0.0129		<0.0002	0.0002 - 0.001		1.12	1.04 - 3.46	

Sampling conducted in October 2021
mg/L : milligrams per liter
pCi/L : PicoCuries per liter
(BG) : Background / upgradient monitoring well
Not Applicable : Comparison to GWPSs are not applicable to background / upgradient monitoring wells

The established GWPS are as presented in the 2018 Annual Groundwater and Corrective Action Report (ECC, January 31, 2019); Table 5 (Ground Water Protection Standards for Assessment Monitoring Parameters)
(UTL) : The GWPS is upper tolerance limit from pooled background data from upgradient / background well
(MCL) : The GWPS is Federal Drinking Water Standard / (Tap Water Standard for lead)
(ODEQ) : The GWPS is as per ODEQ regulatory changes to OAC 252:517 effective as of September 15, 2021

Incorporation of GWMP-11A into the monitoring network as a ompliance well does not affect the GWPSs as previously established.
Therefore, a direct comparison of data and UTLs from GWMP-11A to the established GWPS for Assessment Monitoring parameters is appropratie.

TABLE 7
DETECTION MONITORING PARAMETERS
CURRENT BACKGROUND AND PROPOSED UPDATES TO BACKGROUND
EVANS AND ASSOCIATES - BIG FORK RANCH FACILITY

PREVIOUS BACKGROUND LEVELS:

Monitoring Well	Constituent	[1]Original Background From Inter / Intra Well Prediction Levels	[2]Approve Updates to Background (Alternative Source Demonstration)	[3]Revised Inter/Intra Well Prediction Levels to Incorporate GWMP-12A
GWMP-8A	pH	5.521 - 9.151 (INTRA)	---	5.418 - 9.254 (INTRA)
	TDS	530 (INTER)	---	535.7 (INTER)
	Boron	0.1294 (INTER)	---	0.1319 (INTER)
	Calcium	127.4 (INTRA)	---	169.8 (INTER)
	Chloride	2.727 (INTER)	4.648 (INTRA/ASD)	---
	Fluoride	0.506 (INTER)	---	0.5106 (INTER)
	Sulfate	40.27 (INTER)	---	40.93 (INTER)
GWMP-9A	pH	6.341 - 8.222 (INTRA)	---	6.287 - 8.276 (INTRA)
	TDS	530 (INTER)	592.8 (INTRA/ASD)	---
	Boron	0.1294 (INTER)	---	0.1319 (INTER)
	Calcium	73.7 (INTRA)	---	169.8 (INTER)
	Chloride	2.727 (INTER)	21.9 (INTRA/ASD)	---
	Fluoride	0.506 (INTER)	0.8734 (INTRA/ASD)	---
	Sulfate	40.27 (INTER)	113.1 (INTRA/ASD)	---
GWMP-10A	pH	6.136 - 8.082 (INTA)	---	6.079 - 8.139 (INTRA)
	TDS	530 (INTER)	2,351 (INTRA/ASD)	---
	Boron	0.1294 (INTER)	---	0.1319 (INTER)
	Calcium	185.9 (INTRA)	---	169.8 (INTER)
	Chloride	2.727 (INTER)	78.9 (INTRA/ASD)	---
	Fluoride	0.506 (INTER)	---	0.5106 (INTER)
	Sulfate	40.27 (INTER)	1,235 (INTRA / ASD)	---
GWMP-11A	pH	---	---	---
	TDS	---	---	---
	Boron	---	---	---
	Calcium	---	---	---
	Chloride	---	---	---
	Fluoride	---	---	---
	Sulfate	---	---	---
GWMP-12A	pH	---	---	6.388 - 7.454 (INTRA)
	TDS	---	---	535.7 (INTER)
	Boron	---	---	0.1319 (INTER)
	Calcium	---	---	169.8 (INTER)
	Chloride	---	---	2.782 (INTER)
	Fluoride	---	---	0.5106 (INTER)
	Sulfate	---	---	40.93 (INTER)

YEAR 2021 BACKGROUIN LEVELS

Monitoring Well	Constituent	[4]Current Background Level for Year 2021 mg/L
GWMP-8A	pH	5.418 - 9.254
	TDS	535.7
	Boron	0.1319
	Calcium	169.8
	Chloride	4.648
	Fluoride	0.5106
	Sulfate	40.93
GWMP-9A	pH	6.287 - 8.276
	TDS	592.8
	Boron	0.1319
	Calcium	169.8
	Chloride	21.9
	Fluoride	0.8734
	Sulfate	113.1
GWMP-10A	pH	6.079 - 8.139
	TDS	2,351
	Boron	0.1319
	Calcium	169.8
	Chloride	78.9
	Fluoride	0.5106
	Sulfate	1,235
GWMP-11A	pH	---
	TDS	---
	Boron	---
	Calcium	---
	Chloride	---
	Fluoride	---
	Sulfate	---
GWMP-12A	pH	6.388 - 7.454
	TDS	535.7
	Boron	0.1319
	Calcium	169.8
	Chloride	2.782
	Fluoride	0.5106
	Sulfate	40.93

PROPOSED UPDATE TO BACKGROUND LEVELS TO INCORPORATE GWMP-11A AS COMPLIANCE WELL

Monitoring Well	Constituent	[5] Inter-Well Upper Prediction Limit mg/L	[5] Intra-Well Upper Prediction Limit mg/L	[5]Proposed Background Level for Year 2022 mg/L
GWMP-8A	pH	5.672 - 8.433	5.314 -9.331	5.314 -9.331 (INTRA)
	TDS	540.2	464.6	540.2 (INTER)
	Boron	0.1339	0.1471	0.1339 (INTER)
	Calcium	172	131.9	172 (INTER)
	Chloride	2.825	4.736	4.736 (INTRA)
	Fluoride	0.5142	0.743	0.5142 (INTER)
	Sulfate	41.45	37.69	40.93 (INTER)
GWMP-9A	pH	5.672 - 8.433	6.247 - 8.316	6.247 - 8.316 (INTRA)
	TDS	540.2	601.1	601.1 (INTRA)
	Boron	0.1339	1.546	0.1339 (INTER)
	Calcium	172	73.7	172 (INTER)
	Chloride	2.825	22.33	22.33 (INTRA)
	Fluoride	0.5142	0.8852	0.8852 (INTRA)
	Sulfate	41.45	114.3	114.3 (INTRA)
GWMP-10A	pH	5.672 - 8.433	6.031 - 8.187	6.031 - 8.187 (INTRA)
	TDS	540.2	2,403	2,403 (INTRA)
	Boron	0.1339	5.475	0.1339 (INTER)
	Calcium	172	191.7	172 (INTER)
	Chloride	2.825	78.9	78.9 (INTRL)
	Fluoride	0.5142	1.85	0.5142 (INTER)
	Sulfate	41.45	1,289	1,289 (INTRA)
GWMP-11A	pH	5.672 - 8.433	6.01 - 7.813	6.01 - 7.813 (INTRA)
	TDS	540.2	686	540.2 (INTER)
	Boron	0.1339	0.275	0.1339 (INTER)
	Calcium	172	354.8	172 (INTER)
	Chloride	2.825	15.5	2.825 (INTER)
	Fluoride	0.5142	0.495	0.5142 (INTER)
	Sulfate	41.45	203	41.45 (INTER)
GWMP-12A	pH	5.672 - 8.433	6.363 - 7.48	6.363 - 7.48 (INTRA)
	TDS	540.2	5,828	540.2 (INTER)
	Boron	0.1339	12.8	0.1339 (INTER)
	Calcium	172	375.5	172 (INTER)
	Chloride	2.825	154.7	2.825 (INTER)
	Fluoride	0.5142	0.9388	0.5142 (INTER)
	Sulfate	41.45	3,481	41.45 (INTER)

1 - Original background are UPLs as presented in 2018 Annual Groundwater and Corrective Action Report (Enviro Clean Cardinal, January 31, 2019). INTER indicates UPL based on Inter-Well method. INTRA indicates UPL based on Intra-Well method.

2 -Updates were made to background for constituents shown based on ODEQ approval of Alternative Source Demonstration (Altamira-US, September 26, 2019).

3 - Updates were made to background to incorporate GWMP-12A into the monitoring network (as presented in 2019 Annual Groundwater and Corrective Action Report (Altamira-US, January 31, 2020)). INTER indicates UPL based on Inter-Well method. INTRA indicates UPL based on Intra-Well method.

4 - Current established background used to evaluate Year 2021 monitoring data. Because GWMP-11A was originally proposed to be a background monitoring well, background for these compounds had not been established at this well for Year 2021 sampling.

5 - Updated Inter-Well and Intra-Well UPLs to incorporate GWMP-11A as a fifth compliance well

6 - Proposed background are the updated UPLs. INTER indicates UPL based on Inter-Well method. INTRA indicates UPL based on Intra-Well method. Intra-well UPLs are only used for pH and for well/constituent combinations where Intra-Well methods were approved based on the Alternative Source Demonstration.

The Intra-Well UPLs may be evaluated for potential use as background if determined appropriate due to variability between compliance wells and the background well.

TABLE 8
ASSESSMENT MONITORING PARAMETERS
CURRENT GWPS
EVANS AND ASSOCIATES - BIG FORK RANCH

Constituent	[1] Upper Tolerance Limit mg/L	[2] Federal Drinking Water Standard (MCL) mg/L	[3] EPA Alternative Health-Based Ground Water Protection Standards mg/L	[4] ODEQ Protection Standards mg/L	Groundwater Protection Standard (GWPS) mg/L
Antimony	0.0104	0.006	-----	-----	0.0104
Arsenic	0.02653	0.01	-----	-----	0.02653
Barium	2.375	2	-----	-----	2.375
Beryllium	0.001	0.004	-----	-----	0.004
Cadmium	0.001	0.005	-----	-----	0.005
Chromium	0.0741	0.1	-----	-----	0.1
Cobalt	0.0867	-----	0.006	0.006	0.0867
Fluoride	0.5308	4	-----	-----	4
Lead	0.179	0.015	-----	-----	0.179
Lithium	0.0964	-----	0.04	0.04	0.0964
Mercury	0.00005	0.002	-----	-----	0.002
Molybdenum	0.005	-----	0.1	0.1	0.1
Selenium	0.02	0.05	-----	-----	0.05
Thallium	0.001	0.002	-----	-----	0.002
Radium 226-228	7.668	5	-----	-----	7.668

1 - Upper Tolerance Limits presented in 2018 Annual Groundwater and Corrective Action Report (Enviro Clean Cardinal; January 31, 2019).

2 - Federal Drinking Water Standard (MCL)

3 - EPA alternative risk-based groundwater protection standards (ARGPS)

4 - ODEQ protection standards for cobalt, lithium, and molybdenum based on regulatory changes to OAC 252:517 (effective September 15, 2021)

5 - The GWPS is the highest of the 1) MCL (where established), 2) ODEQ Protection Standard (where established), and 3) the background level (upper Tolerance Limit).

---- : No level has been established

ATTACHMENTS

ATTACHMENT A

LABORATORY REPORTS (YEAR 2021)

FIRST 2021 GROUNDWATER SAMPLING EVENT
APRIL 2021

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 08, 2021

Heather Tiffany
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS21041578**

Laboratory Results for: **Evans & Associates, Big Fork Ranch**

Dear Heather Tiffany,

ALS Environmental received 12 sample(s) on Apr 29, 2021 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: COREY.GRANDITS

Ragen Giga
Project Manager

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21041578

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041578-01	GWMP-6A	Water		27-Apr-2021 13:45	29-Apr-2021 10:20	☐
HS21041578-02	GWMP-6A (Filed Filtered)	Water		27-Apr-2021 13:45	29-Apr-2021 10:20	☐
HS21041578-03	GWMP-9A	Water		27-Apr-2021 13:00	29-Apr-2021 10:20	☐
HS21041578-04	GWMP-9A (Filed Filtered)	Water		27-Apr-2021 13:00	29-Apr-2021 10:20	☐
HS21041578-05	GWMP-10A	Water		27-Apr-2021 12:25	29-Apr-2021 10:20	☐
HS21041578-06	GWMP-10A (Filed Filtered)	Water		27-Apr-2021 12:25	29-Apr-2021 10:20	☐
HS21041578-07	GWMP-11A	Water		27-Apr-2021 09:22	29-Apr-2021 10:20	☐
HS21041578-08	GWMP-11A (Filed Filtered)	Water		27-Apr-2021 09:22	29-Apr-2021 10:20	☐
HS21041578-09	GWMP-12A	Water		27-Apr-2021 11:30	29-Apr-2021 10:20	☐
HS21041578-10	GWMP-12A (Filed Filtered)	Water		27-Apr-2021 11:30	29-Apr-2021 10:20	☐
HS21041578-11	DUP-1	Water		27-Apr-2021 11:30	29-Apr-2021 10:20	☐
HS21041578-12	DUP-1 (Filed Filtered)	Water		27-Apr-2021 11:30	29-Apr-2021 10:20	☐

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21041578

CASE NARRATIVE

Work Order Comments

- Revision I - This report was to revised to report additional metals per client email.

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Fort Collins, CO. Final report attached.

Metals by Method SW6020A

Batch ID: 165595

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: 165645

- MS/MSD performed on an unrelated sample.

WetChemistry by Method E300

Batch ID: R383575

Sample ID: HS21050273-01MS

- MS and MSD are for an unrelated sample (Sulfate)

WetChemistry by Method M2540C

Batch ID: R382982

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM4500H+ B

Batch ID: R382759

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041578
Sample ID:	GWMP-6A	Lab ID:HS21041578-01
Collection Date:	27-Apr-2021 13:45	Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-May-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	13-May-2021 13:21
Arsenic	**0.00136**	J	**0.000400**	**0.00200**	**mg/L**	1	13-May-2021 13:21
Barium	**0.212**		**0.00190**	**0.00400**	**mg/L**	1	13-May-2021 13:21
Beryllium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:21
Boron	**0.149**		**0.0110**	**0.0200**	**mg/L**	1	13-May-2021 13:21
Cadmium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:21
Calcium	**96.1**		**0.0340**	**0.500**	**mg/L**	1	13-May-2021 13:21
Chromium	**0.00133**	J	**0.000400**	**0.00400**	**mg/L**	1	13-May-2021 13:21
Cobalt	**0.000278**	J	**0.000200**	**0.00500**	**mg/L**	1	13-May-2021 13:21
Lead	U		0.000600	0.00200	mg/L	1	13-May-2021 13:21
Molybdenum	U		0.000600	0.00500	mg/L	1	13-May-2021 13:21
Selenium	**0.00796**		**0.00110**	**0.00200**	**mg/L**	1	13-May-2021 13:21
Thallium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:21
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**4.98**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 02:51
Fluoride	**0.467**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 02:51
Sulfate	**65.5**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 02:51
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**488**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**7.27**	H	**0.100**	**0.100**	**pH Units**	1	30-Apr-2021 13:43
Temp Deg C @pH	**22.1**	H	**0**	**0**	**°C**	1	30-Apr-2021 13:43
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-6A (Filed Filtered)
Collection Date: 27-Apr-2021 13:45

WorkOrder:HS21041578
Lab ID:HS21041578-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 10-May-2021		Analyst: JHD
Molybdenum	U		0.000600	0.00500	mg/L	1	10-May-2021 21:48

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041578
Sample ID:	GWMP-9A	Lab ID:HS21041578-03
Collection Date:	27-Apr-2021 13:00	Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-May-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	13-May-2021 13:23
Arsenic	**0.00185**	J	**0.000400**	**0.00200**	**mg/L**	1	13-May-2021 13:23
Barium	**0.0711**		**0.00190**	**0.00400**	**mg/L**	1	13-May-2021 13:23
Beryllium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:23
Boron	**1.11**		**0.110**	**0.200**	**mg/L**	10	13-May-2021 16:05
Cadmium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:23
Calcium	**34.3**		**0.0340**	**0.500**	**mg/L**	1	13-May-2021 13:23
Chromium	**0.00196**	J	**0.000400**	**0.00400**	**mg/L**	1	13-May-2021 13:23
Cobalt	**0.000489**	J	**0.000200**	**0.00500**	**mg/L**	1	13-May-2021 13:23
Lead	**0.000899**	J	**0.000600**	**0.00200**	**mg/L**	1	13-May-2021 13:23
Molybdenum	**0.00556**		**0.000600**	**0.00500**	**mg/L**	1	13-May-2021 13:23
Selenium	U		0.00110	0.00200	mg/L	1	13-May-2021 13:23
Thallium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:23
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**16.3**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 03:29
Fluoride	**0.834**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 03:29
Sulfate	**99.1**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 03:29
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**562**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**7.78**	H	**0.100**	**0.100**	**pH Units**	1	30-Apr-2021 13:43
Temp Deg C @pH	**22.2**	H	**0**	**0**	**°C**	1	30-Apr-2021 13:43
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-9A (Filed Filtered)
Collection Date: 27-Apr-2021 13:00

WorkOrder:HS21041578
Lab ID:HS21041578-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 10-May-2021		Analyst: JHD
Molybdenum	**0.00786**		**0.000600**	**0.00500**	**mg/L**	1	10-May-2021 21:50

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041578
Sample ID:	GWMP-10A	Lab ID:HS21041578-05
Collection Date:	27-Apr-2021 12:25	Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-May-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	13-May-2021 13:25
Arsenic	**0.00211**		**0.000400**	**0.00200**	**mg/L**	1	13-May-2021 13:25
Barium	**0.0735**		**0.00190**	**0.00400**	**mg/L**	1	13-May-2021 13:25
Beryllium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:25
Boron	**1.10**		**0.110**	**0.200**	**mg/L**	10	13-May-2021 16:07
Cadmium	**0.000272**	J	**0.000200**	**0.00200**	**mg/L**	1	13-May-2021 13:25
Calcium	**199**		**0.340**	**5.00**	**mg/L**	10	13-May-2021 16:07
Chromium	**0.00124**	J	**0.000400**	**0.00400**	**mg/L**	1	13-May-2021 13:25
Cobalt	**0.00325**	J	**0.000200**	**0.00500**	**mg/L**	1	13-May-2021 13:25
Lead	**0.00334**		**0.000600**	**0.00200**	**mg/L**	1	13-May-2021 13:25
Molybdenum	**0.00204**	J	**0.000600**	**0.00500**	**mg/L**	1	13-May-2021 13:25
Selenium	U		0.00110	0.00200	mg/L	1	13-May-2021 13:25
Thallium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:25
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**31.7**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 03:42
Fluoride	**0.480**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 03:42
Sulfate	**858**		**4.00**	**10.0**	**mg/L**	20	13-May-2021 03:55
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**1,870**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**7.03**	H	**0.100**	**0.100**	**pH Units**	1	30-Apr-2021 13:43
Temp Deg C @pH	**22.1**	H	**0**	**0**	**°C**	1	30-Apr-2021 13:43
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-10A (Filed Filtered)
Collection Date: 27-Apr-2021 12:25

WorkOrder:HS21041578
Lab ID:HS21041578-06
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 10-May-2021		Analyst: JHD
Molybdenum	**0.00395**	J	**0.000600**	**0.00500**	**mg/L**	1	10-May-2021 21:52

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**	
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041578	
Sample ID:	GWMP-11A	Lab ID:HS21041578-07	
Collection Date:	27-Apr-2021 09:22	Matrix:Water	

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-May-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	13-May-2021 13:27
Arsenic	**0.00184**	J	**0.000400**	**0.00200**	**mg/L**	1	13-May-2021 13:27
Barium	**0.541**		**0.00190**	**0.00400**	**mg/L**	1	13-May-2021 13:27
Beryllium	**0.000502**	J	**0.000200**	**0.00200**	**mg/L**	1	13-May-2021 13:27
Boron	**0.0856**		**0.0110**	**0.0200**	**mg/L**	1	13-May-2021 13:27
Cadmium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:27
Calcium	**269**		**0.340**	**5.00**	**mg/L**	10	13-May-2021 16:09
Chromium	**0.00306**	J	**0.000400**	**0.00400**	**mg/L**	1	13-May-2021 13:27
Cobalt	**0.000970**	J	**0.000200**	**0.00500**	**mg/L**	1	13-May-2021 13:27
Lead	**0.00106**	J	**0.000600**	**0.00200**	**mg/L**	1	13-May-2021 13:27
Molybdenum	U		0.000600	0.00500	mg/L	1	13-May-2021 13:27
Selenium	U		0.00110	0.00200	mg/L	1	13-May-2021 13:27
Thallium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:27
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**4.58**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 04:08
Fluoride	**0.219**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 04:08
Sulfate	**41.8**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 04:08
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**464**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**7.43**	H	**0.100**	**0.100**	**pH Units**	1	30-Apr-2021 13:43
Temp Deg C @pH	**22.1**	H	**0**	**0**	**°C**	1	30-Apr-2021 13:43
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-11A (Filed Filtered)
Collection Date: 27-Apr-2021 09:22

WorkOrder:HS21041578
Lab ID:HS21041578-08
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 10-May-2021		Analyst: JHD
Molybdenum	U		0.000600	0.00500	mg/L	1	10-May-2021 21:58

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041578
Sample ID:	GWMP-12A	Lab ID:HS21041578-09
Collection Date:	27-Apr-2021 11:30	Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-May-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	13-May-2021 13:29
Arsenic	**0.00143**	J	**0.000400**	**0.00200**	**mg/L**	1	13-May-2021 13:29
Barium	**0.0256**		**0.00190**	**0.00400**	**mg/L**	1	13-May-2021 13:29
Beryllium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:29
Boron	**6.00**		**0.220**	**0.400**	**mg/L**	20	13-May-2021 16:11
Cadmium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:29
Calcium	**202**		**0.680**	**10.0**	**mg/L**	20	13-May-2021 16:11
Chromium	**0.000590**	J	**0.000400**	**0.00400**	**mg/L**	1	13-May-2021 13:29
Cobalt	**0.00387**	J	**0.000200**	**0.00500**	**mg/L**	1	13-May-2021 13:29
Lead	**0.000997**	J	**0.000600**	**0.00200**	**mg/L**	1	13-May-2021 13:29
Molybdenum	**0.0445**		**0.000600**	**0.00500**	**mg/L**	1	13-May-2021 13:29
Selenium	U		0.00110	0.00200	mg/L	1	13-May-2021 13:29
Thallium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:29
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**177**		**2.00**	**5.00**	**mg/L**	10	13-May-2021 05:12
Fluoride	**0.811**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 04:59
Sulfate	**1,230**		**20.0**	**50.0**	**mg/L**	100	13-May-2021 05:25
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**2,600**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**6.95**	H	**0.100**	**0.100**	**pH Units**	1	30-Apr-2021 13:43
Temp Deg C @pH	**22.0**	H	**0**	**0**	**°C**	1	30-Apr-2021 13:43
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-12A (Filed Filtered)
Collection Date: 27-Apr-2021 11:30

WorkOrder:HS21041578
Lab ID:HS21041578-10
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 10-May-2021		Analyst: JHD
Molybdenum	**0.0576**		**0.000600**	**0.00500**	**mg/L**	1	10-May-2021 22:00

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041578
Sample ID:	DUP-1	Lab ID:HS21041578-11
Collection Date:	27-Apr-2021 11:30	Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-May-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	13-May-2021 13:31
Arsenic	**0.00143**	J	**0.000400**	**0.00200**	**mg/L**	1	13-May-2021 13:31
Barium	**0.0254**		**0.00190**	**0.00400**	**mg/L**	1	13-May-2021 13:31
Beryllium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:31
Boron	**7.31**		**0.220**	**0.400**	**mg/L**	20	13-May-2021 16:13
Cadmium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:31
Calcium	**210**		**0.680**	**10.0**	**mg/L**	20	13-May-2021 16:13
Chromium	**0.000513**	J	**0.000400**	**0.00400**	**mg/L**	1	13-May-2021 13:31
Cobalt	**0.00384**	J	**0.000200**	**0.00500**	**mg/L**	1	13-May-2021 13:31
Lead	**0.000859**	J	**0.000600**	**0.00200**	**mg/L**	1	13-May-2021 13:31
Molybdenum	**0.0607**		**0.000600**	**0.00500**	**mg/L**	1	13-May-2021 13:31
Selenium	U		0.00110	0.00200	mg/L	1	13-May-2021 13:31
Thallium	U		0.000200	0.00200	mg/L	1	13-May-2021 13:31
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**111**		**2.00**	**5.00**	**mg/L**	10	13-May-2021 05:50
Fluoride	**0.769**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 05:38
Sulfate	**1,890**		**20.0**	**50.0**	**mg/L**	100	13-May-2021 06:03
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**3,550**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**7.07**	H	**0.100**	**0.100**	**pH Units**	1	30-Apr-2021 13:43
Temp Deg C @pH	**22.4**	H	**0**	**0**	**°C**	1	30-Apr-2021 13:43
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	27-May-2021 09:07

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: DUP-1 (Filed Filtered)
Collection Date: 27-Apr-2021 11:30

WorkOrder:HS21041578
Lab ID:HS21041578-12
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 10-May-2021		Analyst: JHD
Molybdenum	**0.0639**		**0.000600**	**0.00500**	**mg/L**	1	10-May-2021 22:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

Batch ID: 165595 **Start Date:** 10 May 2021 12:30 **End Date:** 10 May 2021 16:30
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041578-02		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS21041578-04		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS21041578-06		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS21041578-08		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS21041578-10		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS21041578-12		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Batch ID: 165645 **Start Date:** 11 May 2021 13:30 **End Date:** 11 May 2021 17:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041578-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041578-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041578-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041578-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041578-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041578-11		10 (mL)	10 (mL)	1	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 165595 (0)	**Test Name :** DISSOLVED METALS BY SW6020A				**Matrix:** Water	
HS21041578-02	GWMP-6A (Filed Filtered)	27 Apr 2021 13:45		10 May 2021 16:30	10 May 2021 21:48	1
HS21041578-04	GWMP-9A (Filed Filtered)	27 Apr 2021 13:00		10 May 2021 16:30	10 May 2021 21:50	1
HS21041578-06	GWMP-10A (Filed Filtered)	27 Apr 2021 12:25		10 May 2021 16:30	10 May 2021 21:52	1
HS21041578-08	GWMP-11A (Filed Filtered)	27 Apr 2021 09:22		10 May 2021 16:30	10 May 2021 21:58	1
HS21041578-10	GWMP-12A (Filed Filtered)	27 Apr 2021 11:30		10 May 2021 16:30	10 May 2021 22:00	1
HS21041578-12	DUP-1 (Filed Filtered)	27 Apr 2021 11:30		10 May 2021 16:30	10 May 2021 22:02	1
Batch ID: 165645 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS21041578-01	GWMP-6A	27 Apr 2021 13:45		11 May 2021 17:30	13 May 2021 13:21	1
HS21041578-03	GWMP-9A	27 Apr 2021 13:00		11 May 2021 17:30	13 May 2021 16:05	10
HS21041578-03	GWMP-9A	27 Apr 2021 13:00		11 May 2021 17:30	13 May 2021 13:23	1
HS21041578-05	GWMP-10A	27 Apr 2021 12:25		11 May 2021 17:30	13 May 2021 16:07	10
HS21041578-05	GWMP-10A	27 Apr 2021 12:25		11 May 2021 17:30	13 May 2021 13:25	1
HS21041578-07	GWMP-11A	27 Apr 2021 09:22		11 May 2021 17:30	13 May 2021 16:09	10
HS21041578-07	GWMP-11A	27 Apr 2021 09:22		11 May 2021 17:30	13 May 2021 13:27	1
HS21041578-09	GWMP-12A	27 Apr 2021 11:30		11 May 2021 17:30	13 May 2021 16:11	20
HS21041578-09	GWMP-12A	27 Apr 2021 11:30		11 May 2021 17:30	13 May 2021 13:29	1
HS21041578-11	DUP-1	27 Apr 2021 11:30		11 May 2021 17:30	13 May 2021 16:13	20
HS21041578-11	DUP-1	27 Apr 2021 11:30		11 May 2021 17:30	13 May 2021 13:31	1
Batch ID: R382759 (0)	**Test Name :** PH BY SM4500H+ B				**Matrix:** Water	
HS21041578-01	GWMP-6A	27 Apr 2021 13:45			30 Apr 2021 13:43	1
HS21041578-03	GWMP-9A	27 Apr 2021 13:00			30 Apr 2021 13:43	1
HS21041578-05	GWMP-10A	27 Apr 2021 12:25			30 Apr 2021 13:43	1
HS21041578-07	GWMP-11A	27 Apr 2021 09:22			30 Apr 2021 13:43	1
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			30 Apr 2021 13:43	1
HS21041578-11	DUP-1	27 Apr 2021 11:30			30 Apr 2021 13:43	1
Batch ID: R382982 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C				**Matrix:** Water	
HS21041578-01	GWMP-6A	27 Apr 2021 13:45			03 May 2021 17:20	1
HS21041578-03	GWMP-9A	27 Apr 2021 13:00			03 May 2021 17:20	1
HS21041578-05	GWMP-10A	27 Apr 2021 12:25			03 May 2021 17:20	1
HS21041578-07	GWMP-11A	27 Apr 2021 09:22			03 May 2021 17:20	1
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			03 May 2021 17:20	1
HS21041578-11	DUP-1	27 Apr 2021 11:30			03 May 2021 17:20	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R383575 (0)	**Test Name :** ANIONS BY E300.0				**Matrix:** Water	
HS21041578-01	GWMP-6A	27 Apr 2021 13:45			13 May 2021 02:51	1
HS21041578-03	GWMP-9A	27 Apr 2021 13:00			13 May 2021 03:29	1
HS21041578-05	GWMP-10A	27 Apr 2021 12:25			13 May 2021 03:55	20
HS21041578-05	GWMP-10A	27 Apr 2021 12:25			13 May 2021 03:42	1
HS21041578-07	GWMP-11A	27 Apr 2021 09:22			13 May 2021 04:08	1
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			13 May 2021 05:25	100
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			13 May 2021 05:12	10
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			13 May 2021 04:59	1
HS21041578-11	DUP-1	27 Apr 2021 11:30			13 May 2021 06:03	100
HS21041578-11	DUP-1	27 Apr 2021 11:30			13 May 2021 05:50	10
HS21041578-11	DUP-1	27 Apr 2021 11:30			13 May 2021 05:38	1
Batch ID: R384453 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RADIUM 228				**Matrix:** Water	
HS21041578-01	GWMP-6A	27 Apr 2021 13:45			27 May 2021 09:07	1
HS21041578-01	GWMP-6A	27 Apr 2021 13:45			27 May 2021 09:07	1
HS21041578-03	GWMP-9A	27 Apr 2021 13:00			27 May 2021 09:07	1
HS21041578-03	GWMP-9A	27 Apr 2021 13:00			27 May 2021 09:07	1
HS21041578-05	GWMP-10A	27 Apr 2021 12:25			27 May 2021 09:07	1
HS21041578-05	GWMP-10A	27 Apr 2021 12:25			27 May 2021 09:07	1
HS21041578-07	GWMP-11A	27 Apr 2021 09:22			27 May 2021 09:07	1
HS21041578-07	GWMP-11A	27 Apr 2021 09:22			27 May 2021 09:07	1
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			27 May 2021 09:07	1
HS21041578-09	GWMP-12A	27 Apr 2021 11:30			27 May 2021 09:07	1
HS21041578-11	DUP-1	27 Apr 2021 11:30			27 May 2021 09:07	1
HS21041578-11	DUP-1	27 Apr 2021 11:30			27 May 2021 09:07	1

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: 165595 (0) **Instrument:** ICPMS06 **Method:** DISSOLVED METALS BY SW6020A (DISSOLVED)

MBLK Sample ID: **MBLK-165595** Units: **mg/L** Analysis Date: **10-May-2021 21:16**
Client ID: Run ID: **ICPMS06_383306** SeqNo: **6084226** PrepDate: **10-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	U	0.00500								

LCS Sample ID: **LCS-165595** Units: **mg/L** Analysis Date: **10-May-2021 21:18**
Client ID: Run ID: **ICPMS06_383306** SeqNo: **6084227** PrepDate: **10-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.05169	0.00500	0.05	0	103	80 - 120				

MS Sample ID: **HS21041500-02MS** Units: **mg/L** Analysis Date: **10-May-2021 21:24**
Client ID: Run ID: **ICPMS06_383306** SeqNo: **6084230** PrepDate: **10-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.07798	0.00500	0.05	0.02164	113	75 - 125				

MSD Sample ID: **HS21041500-02MSD** Units: **mg/L** Analysis Date: **10-May-2021 21:26**
Client ID: Run ID: **ICPMS06_383306** SeqNo: **6084231** PrepDate: **10-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.07704	0.00500	0.05	0.02164	111	75 - 125	0.07798	1.21	20	

PDS Sample ID: **HS21041500-02PDS** Units: **mg/L** Analysis Date: **10-May-2021 21:28**
Client ID: Run ID: **ICPMS06_383306** SeqNo: **6084232** PrepDate: **10-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.1403	0.00500	0.1	0.02164	119	75 - 125				

SD Sample ID: **HS21041500-02SD** Units: **mg/L** Analysis Date: **10-May-2021 21:22**
Client ID: Run ID: **ICPMS06_383306** SeqNo: **6084229** PrepDate: **10-May-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Molybdenum	0.02106	0.0250					0.02164	0	10	J

The following samples were analyzed in this batch: HS21041578-02 HS21041578-04 HS21041578-06 HS21041578-08 HS21041578-10 HS21041578-12

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: 165645 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-165645** Units: **mg/L** Analysis Date: **13-May-2021 12:45**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090055** PrepDate: **11-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	U	0.00200							
Arsenic	U	0.00200							
Barium	U	0.00400							
Beryllium	U	0.00200							
Boron	U	0.0200							
Cadmium	U	0.00200							
Calcium	U	0.500							
Chromium	U	0.00400							
Cobalt	U	0.00500							
Lead	U	0.00200							
Molybdenum	U	0.00500							
Selenium	U	0.00200							
Thallium	U	0.00200							

LCS Sample ID: **LCS-165645** Units: **mg/L** Analysis Date: **13-May-2021 12:47**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090056** PrepDate: **11-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.0502	0.00200	0.05	0	100	80 - 120			
Arsenic	0.04739	0.00200	0.05	0	94.8	80 - 120			
Barium	0.05027	0.00400	0.05	0	101	80 - 120			
Beryllium	0.04602	0.00200	0.05	0	92.0	80 - 120			
Boron	0.4769	0.0200	0.5	0	95.4	80 - 120			
Cadmium	0.05078	0.00200	0.05	0	102	80 - 120			
Calcium	4.8	0.500	5	0	96.0	80 - 120			
Chromium	0.04898	0.00400	0.05	0	98.0	80 - 120			
Cobalt	0.04958	0.00500	0.05	0	99.2	80 - 120			
Lead	0.04871	0.00200	0.05	0	97.4	80 - 120			
Molybdenum	0.04874	0.00500	0.05	0	97.5	80 - 120			
Selenium	0.04808	0.00200	0.05	0	96.2	80 - 120			
Thallium	0.04691	0.00200	0.05	0	93.8	80 - 120			

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: 165645 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MS Sample ID: **HS21041593-01MS** Units: **mg/L** Analysis Date: **13-May-2021 12:53**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090059** PrepDate: **11-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04354	0.00200	0.05	0.000187	86.7	80 - 120				
Arsenic	0.04577	0.00200	0.05	0.001312	88.9	80 - 120				
Barium	0.1114	0.00400	0.05	0.07228	78.2	80 - 120				S
Beryllium	0.04529	0.00200	0.05	0.000069	90.4	80 - 120				
Boron	1.251	0.0200	0.5	0.8765	74.9	80 - 120				SE
Cadmium	0.04596	0.00200	0.05	-0.000001	91.9	80 - 120				
Calcium	271	0.500	5	304.2	-665	80 - 120				SEO
Chromium	0.04562	0.00400	0.05	0.000547	90.2	80 - 120				
Cobalt	0.05111	0.00500	0.05	0.006254	89.7	80 - 120				
Lead	0.04776	0.00200	0.05	0.00041	94.7	80 - 120				
Molybdenum	0.04664	0.00500	0.05	0.001441	90.4	80 - 120				
Selenium	0.04588	0.00200	0.05	-0.000348	92.4	80 - 120				
Thallium	0.04532	0.00200	0.05	0.000988	88.7	80 - 120				

MSD Sample ID: **HS21041593-01MSD** Units: **mg/L** Analysis Date: **13-May-2021 12:59**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090061** PrepDate: **11-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04455	0.00200	0.05	0.000187	88.7	80 - 120	0.04354	2.29	20	
Arsenic	0.04659	0.00200	0.05	0.001312	90.6	80 - 120	0.04577	1.78	20	
Barium	0.1064	0.00400	0.05	0.07228	68.3	80 - 120	0.1114	4.56	20	S
Beryllium	0.04509	0.00200	0.05	0.000069	90.0	80 - 120	0.04529	0.44	20	
Boron	1.18	0.0200	0.5	0.8765	60.8	80 - 120	1.251	5.83	20	SE
Cadmium	0.04618	0.00200	0.05	-0.000001	92.4	80 - 120	0.04596	0.471	20	
Calcium	247.1	0.500	5	304.2	-1140	80 - 120	271	9.22	20	SEO
Chromium	0.04514	0.00400	0.05	0.000547	89.2	80 - 120	0.04562	1.06	20	
Cobalt	0.0502	0.00500	0.05	0.006254	87.9	80 - 120	0.05111	1.8	20	
Lead	0.04767	0.00200	0.05	0.00041	94.5	80 - 120	0.04776	0.174	20	
Molybdenum	0.04883	0.00500	0.05	0.001441	94.8	80 - 120	0.04664	4.59	20	
Selenium	0.04776	0.00200	0.05	-0.000348	96.2	80 - 120	0.04588	4.02	20	
Thallium	0.04535	0.00200	0.05	0.000988	88.7	80 - 120	0.04532	0.0728	20	

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: 165645 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS21041593-01PDS** Units: **mg/L** Analysis Date: **13-May-2021 13:01**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090032** PrepDate: **11-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09123	0.00200	0.1	0.000187	91.0	75 - 125				
Arsenic	0.09398	0.00200	0.1	0.001312	92.7	75 - 125				
Barium	0.1575	0.00400	0.1	0.07228	85.3	75 - 125				
Beryllium	0.08765	0.00200	0.1	0.000069	87.6	75 - 125				
Cadmium	0.09014	0.00200	0.1	-0.000001	90.1	75 - 125				
Chromium	0.09149	0.00400	0.1	0.000547	90.9	75 - 125				
Cobalt	0.0998	0.00500	0.1	0.006254	93.5	75 - 125				
Lead	0.09395	0.00200	0.1	0.00041	93.5	75 - 125				
Molybdenum	0.09872	0.00500	0.1	0.001441	97.3	75 - 125				
Selenium	0.09597	0.00200	0.1	-0.000348	96.3	75 - 125				
Thallium	0.08932	0.00200	0.1	0.000988	88.3	75 - 125				

PDS Sample ID: **HS21041593-01PDS** Units: **mg/L** Analysis Date: **14-May-2021 10:57**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6092680** PrepDate: **11-May-2021** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	4.741	0.200	5	0.8718	77.4	75 - 125				

PDS Sample ID: **HS21041593-01PDS** Units: **mg/L** Analysis Date: **13-May-2021 16:44**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090571** PrepDate: **11-May-2021** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	413.1	5.00	100	321.3	91.9	75 - 125				

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: 165645 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS21041593-01SD** Units: **mg/L** Analysis Date: **13-May-2021 12:51**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090058** PrepDate: **11-May-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.0100					0.000187	0	10	
Arsenic	U	0.0100					0.001312	0	10	
Barium	0.07222	0.0200					0.07228	0.0747	10	
Beryllium	U	0.0100					0.000069	0	10	
Cadmium	U	0.0100					-0.000001	0	10	
Chromium	U	0.0200					0.000547	0	10	
Cobalt	0.006245	0.0250					0.006254	0	10	J
Lead	U	0.0100					0.00041	0	10	
Molybdenum	U	0.0250					0.001441	0	10	
Selenium	U	0.0100					-0.000348	0	10	
Thallium	U	0.0100					0.000988	0	10	

SD Sample ID: **HS21041593-01SD** Units: **mg/L** Analysis Date: **14-May-2021 10:45**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091880** PrepDate: **11-May-2021** DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	1.045	1.00					0.8718	0	10	

SD Sample ID: **HS21041593-01SD** Units: **mg/L** Analysis Date: **13-May-2021 16:42**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090570** PrepDate: **11-May-2021** DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	318.1	25.0					321.3	1	10	

The following samples were analyzed in this batch: HS21041578-01 HS21041578-03 HS21041578-05 HS21041578-07 HS21041578-09 HS21041578-11

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: **R382759 (0)** **Instrument:** **WetChem_HS** **Method:** **PH BY SM4500H+ B**

DUP Sample ID: **HS21041356-04DUP** Units: **pH Units** Analysis Date: **30-Apr-2021 13:43**
Client ID: Run ID: **WetChem_HS_382759** SeqNo: **6069650** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.79	0.100					6.74	0.739	10	
Temp Deg C @pH	22	0					22	0	10	

The following samples were analyzed in this batch: HS21041578-01 HS21041578-03 HS21041578-05 HS21041578-07 HS21041578-09 HS21041578-11

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: R382982 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK Sample ID: **WBLK-050321** Units: **mg/L** Analysis Date: **03-May-2021 17:20**
Client ID: Run ID: **Balance1_382982** SeqNo: **6075442** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **WLCS-050321** Units: **mg/L** Analysis Date: **03-May-2021 17:20**
Client ID: Run ID: **Balance1_382982** SeqNo: **6075443** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1098	10.0	1000	0	110	85 - 115				

DUP Sample ID: **HS21041671-01DUP** Units: **mg/L** Analysis Date: **03-May-2021 17:20**
Client ID: Run ID: **Balance1_382982** SeqNo: **6075441** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	52710	10.0					52790	0.152	5	

The following samples were analyzed in this batch: HS21041578-01 HS21041578-03 HS21041578-05 HS21041578-07 HS21041578-09 HS21041578-11

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: R383575 (0) **Instrument:** ICS2100 **Method:** ANIONS BY E300.0

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **13-May-2021 10:07**
Client ID: Run ID: **ICS2100_383575** SeqNo: **6090229** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **13-May-2021 10:20**
Client ID: Run ID: **ICS2100_383575** SeqNo: **6090230** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.75	0.500	20	0	104	90 - 110				
Fluoride	4.393	0.100	4	0	110	90 - 110				
Sulfate	20.16	0.500	20	0	101	90 - 110				

MS Sample ID: **HS21050273-01MS** Units: **mg/L** Analysis Date: **13-May-2021 07:46**
Client ID: Run ID: **ICS2100_383575** SeqNo: **6090270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	96.52	0.500	10	87.59	89.3	80 - 120				O
Fluoride	4.676	0.100	2	2.543	107	80 - 120				
Sulfate	418.7	0.500	10	0	4190	80 - 120				SE

MS Sample ID: **HS21041578-01MS** Units: **mg/L** Analysis Date: **13-May-2021 03:04**
Client ID: **GWMP-6A** Run ID: **ICS2100_383575** SeqNo: **6090201** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	14.92	0.500	10	4.977	99.5	80 - 120				
Fluoride	2.663	0.100	2	0.4667	110	80 - 120				
Sulfate	73.76	0.500	10	65.45	83.1	80 - 120				O

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041578

QC BATCH REPORT

Batch ID: **R383575 (0)** **Instrument:** **ICS2100** **Method:** **ANIONS BY E300.0**

MSD Sample ID: **HS21050273-01MSD** Units: **mg/L** Analysis Date: **13-May-2021 07:59**
Client ID: Run ID: **ICS2100_383575** SeqNo: **6090271** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	96.49	0.500	10	87.59	89.0	80 - 120	96.52	0.03	20	O
Fluoride	4.674	0.100	2	2.543	107	80 - 120	4.676	0.0513	20	
Sulfate	418.8	0.500	10	0	4190	80 - 120	418.7	0.026	20	SE

MSD Sample ID: **HS21041578-01MSD** Units: **mg/L** Analysis Date: **13-May-2021 03:16**
Client ID: **GWMP-6A** Run ID: **ICS2100_383575** SeqNo: **6090202** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	14.92	0.500	10	4.977	99.5	80 - 120	14.92	0	20	
Fluoride	2.668	0.100	2	0.4667	110	80 - 120	2.663	0.188	20	
Sulfate	73.88	0.500	10	65.45	84.2	80 - 120	73.76	0.154	20	O

The following samples were analyzed in this batch: HS21041578-01 HS21041578-03 HS21041578-05 HS21041578-07 HS21041578-09 HS21041578-11

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: **HS21041578**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

RIGHT SOLUTIONS | RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

RIGHT SOLUTIONS | RIGHT PARTNER

Sample Receipt Checklist

Work Order ID: HS21041578 **Date/Time Received:** **29-Apr-2021 10:20**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Si Ma**

Completed By: /S/ Jared R. Makan (eSignature) 29-Apr-2021 16:18 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 30-Apr-2021 09:28 (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

	Yes	No	Not Present
Shipping container/cooler in good condition?	☑	☐	☐
Custody seals intact on shipping container/cooler?	☑	☐	☐
Custody seals intact on sample bottles?	☐	☐	☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	☐	☐	☑
Chain of custody present?	☑	☐	1 Page(s)
Chain of custody signed when relinquished and received?	☑	☐	
Samplers name present on COC?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	

Temperature(s)/Thermometer(s):	0.4°C, 0.6°C UC/C	IR31
Cooler(s)/Kit(s):	45352, 45098	
Date/Time sample(s) sent to storage:	04/29/2021 16:20	

	Yes	No		
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted	☑
Water - pH acceptable upon receipt?	☑	☐	N/A	☐
pH adjusted?	☐	☑	N/A	☐

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2021/3000-APRIL 21AM

PROJECT NAME: E&A, BIG FORK RANCH

COC: _

CLIENT CONTACT: HEATHER TIFFANY

CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM, LABDATA

CLIENT PHONE: 405. 618.

LABORATORY / LAB PM: ALS/ RJ MODASHIA

CLIENT ADDRESS: 3700 W. ROBINSON ST. STE 200 NORMAN, OK 73072

TAT: STND.

LAB ADDRESS: 10450 STANCLIFF RD STE 210 HOUSTON, TX 77099

SPECIAL INSTRUCTIONS:
*METALS BY 6020A: As, Ba, Be, Pb, Mo, Sn
**REPORT RAD 226/228 COMBINED

SHIPMENT METHOD: FEDEX

TRACKING:

HS21041578

Altamira
Evans & Associates, Big Fork Ranch

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	pH (SM4500 H+B)	Cl, F, SO4 (300.0)	B (6020A)	Ca (6010B)	TDS (SM2540C)	METALS, TOTAL* 6020A	**RA-226 SMB TO FT. COLLINS	**RA-228 SMB TO FT. COLLINS	FIELD FILTERED METALS*				
1	GWMP-6A		1345	W	2,9	4	N	X	X	X	X	X	X	X	X					
2	GWMP-6A		1345		2	1	Y									X				
~~3~~	~~GWMP-8A~~				~~2,9~~	~~4~~	~~N~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					
~~4~~	~~GWMP-8A~~				~~2~~	~~1~~	~~Y~~									~~X~~				
5	GWMP-9A		1300		2,9	4	N	X	X	X	X	X	X	X	X					
6	GWMP-9A		1300		2	1	Y									X				X
7	GWMP-10A		1225		2,9	4	N	X	X	X	X	X	X	X	X					
8	GWMP-10A		1225		2	1	Y									X				X
9	GWMP-11A		922		2,9	4	N	X	X	X	X	X	X	X	X					
10	GWMP-11A		922		2	1	Y									X				X
11	GWMP-12A		1130		2,9	4	N	X	X	X	X	X	X	X	X					
12	GWMP-12A		1130		2	1	Y									X				X
13	DUP-1		1130		2,9	4	N	X	X	X	X	X	X	X	X					
14	DUP-1		1130	↓	2	1	Y									X				X
15																				

SAMPLER(S) NAME: Pasha Ulchystov — DATE: 4/28/21 — TIME: 1200

Total # of Containers:

SAMPLER(S) SIGNATURE: Pasha Ulchystov — DATE: 4/28/21 — TIME: 1200

RELINQUISHED BY: Pasha Ulchystov — DATE: 4/28/21 — TIME: 1200

RECEIVED BY: Paul Mann SM — DATE: 4-29-21 — TIME: 10:30

LOGGED BY: — DATE: — TIME:

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: [X] Norman [ ] Oklahoma City [ ] Tulsa [ ] Yukon [ ] Midland [ ] Other :

ALTAMIRA-US, LLC

45352 0.4C 1831

RIGHT SOLUTIONS | RIGHT PARTNER

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45352

CUSTODY SEAL
Date: 4/27/21 Time: 1200
Name:
Company: Posten Kitchen

Seal Broken By: SM
Date: 04/29/21

45352 APR 29 2021

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45352

CUSTODY SEAL
Date: 4/27/21 Time: 1200
Name:
Company: Posten Kitchen

Seal Broken By: SM
Date: 04/29/21

Must Deliver Next Business Day
Time and Tempature Sensitive!

1/2 45352

ORIGIN ID:SGRA (918) 794-7828
HEATHER TIFFANY
ALTAMIRA
2670 TRENTON ROAD

NORMAN, OK 73069
UNITED STATES US

SHIP DATE: 19APR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO **CLIENT SERVICES**
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: EVENS & ASSOCIATES-BO77841-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0842 6470

THU - 29 APR 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

#3815034 04/28 S6DJ3/F9A6/E44

RIGHT SOLUTIONS | RIGHT PARTNER

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45098

CUSTODY SEAL

Date: 4/27/21 Time: 1200
Name:
Company: Fedex Ground

Seal Broken By: SM
Date: 04/29/21

45098 APR 2 9 2021

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45098

CUSTODY SEAL

Date: 4/27/21 Time: 1200
Name:
Company: Fedex Ground

Seal Broken By: SM
Date: 04/29/21

917

Must Deliver Next Business D...
Time and Tempature Sensitive!

ALS

2/2 45098

ORIGIN ID:SGRA (918) 794-7828
HEATHER TIFFANY
ALTAMIRA
2670 TRENTON ROAD

NORMAN, OK 73069
UNITED STATES US

SHIP DATE: 19APR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: EVENS & ASSOCIATES-B077841-RJ
RMA:

FedEx Express

FedEx
TRK# 0221 9473 0842 6481

THU - 29 APR 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

*3815034 04/28 56DJ3/F9A6/FE4A

RIGHT SOLUTIONS | RIGHT PARTNER

Tuesday, May 25, 2021

RJ Modashia
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 2104669
Project Name:
Project Number: HS21041578

Dear Mr. Modashia:

Six water samples were received from ALS Environmental, on 4/30/2021. The samples were scheduled for the following analyses:

Radium-226
Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Julie Ellingson
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

RIGHT SOLUTIONS | RIGHT PARTNER

2104669

Radium-228:
The samples were analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac, which is the ingrown progeny of ^{228}Ra, according to the current revision of EPA 904.0.

All acceptance criteria were met.

Radium-226:
The samples were prepared and analyzed according to the current revision of EPA 903.1.

All acceptance criteria were met.

ADDRESS 225 Commerce Drive, Fort Collins Colorado 80524 USA | PHONE +1 970 490 1511 | FAX +1 970 490 1522

RIGHT SOLUTIONS | RIGHT PARTNER

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2104669
Client Name: ALS Environmental
Client Project Name:
Client Project Number: HS21041578
Client PO Number: 10-16001

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
GWMP-6A	2104669-1		WATER	27-Apr-21	13:45
GWMP-9A	2104669-2		WATER	27-Apr-21	13:00
GWMP-10A	2104669-3		WATER	27-Apr-21	12:25
GWMP-11A	2104669-4		WATER	27-Apr-21	9:22
GWMP-12A	2104669-5		WATER	27-Apr-21	11:30
DUP-1	2104669-6		WATER	27-Apr-21	11:30

RIGHT SOLUTIONS | RIGHT PARTNER

2104669

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Oklahoma** **COC ID:** **16001**

SUBCONTRACT TO:

ALS Environmental, Fort Collins
225 Commerce Drive
Fort Collins, CO 80524 **Phone:** +1 970 490 1511

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21041578
TSR:	Sonia West

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. **HS21041578-01**	**GWMP-6A**	**Water**	**27 Apr 2021 13:45**
Report as combined 226 & 228			13 May 2021
Report as combined 226 & 228			13 May 2021
2. **HS21041578-03**	**GWMP-9A**	**Water**	**27 Apr 2021 13:00**
Report as combined 226 & 228			13 May 2021
Report as combined 226 & 228			13 May 2021
3. **HS21041578-05**	**GWMP-10A**	**Water**	**27 Apr 2021 12:25**
Report as combined 226 & 228			13 May 2021
Report as combined 226 & 228			13 May 2021
4. **HS21041578-07**	**GWMP-11A**	**Water**	**27 Apr 2021 09:22**
Report as combined 226 & 228			13 May 2021
Report as combined 226 & 228			13 May 2021
5. **HS21041578-09**	**GWMP-12A**	**Water**	**27 Apr 2021 11:30**
Report as combined 226 & 228			13 May 2021
Report as combined 226 & 228			13 May 2021
6. **HS21041578-11**	**DUP-1**	**Water**	**27 Apr 2021 11:30**
Report as combined 226 & 228			13 May 2021
Report as combined 226 & 228			13 May 2021

RIGHT SOLUTIONS | RIGHT PARTNER

RIGHT SOLUTIONS | RIGHT PARTNER

Subcontract Chain of Custody

SAMPLING STATE: **Oklahoma** **COC ID:** **16001**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:	J. Marcotte	Date/Time:	4/29/21 18:00
Received By:	Kelley Beyers	Date/Time:	4/30/21 11:30
Cooler ID(s):		Temperature(s):	

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS_USA_TX Workorder No: 2104669

Project Manager: JME Initials: KMB Date: 4/30/2021

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable?		x	
	Tracking number: 9473 0843 0142			
2.	Are custody seals on **shipping** containers intact?		x	
3.	Are custody seals on **sample** containers intact?	x		
4.	Is there a COC (chain-of-custody) present?		x	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		x	
6.	Are short-hold samples present?			x
7.	Are all samples within holding times for the requested analyses?		x	
8.	Were all sample containers received intact? (not broken or leaking)		x	
9.	Is there sufficient sample for the requested analyses?		x	
10.	Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)		x	
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)		x	
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	x		
13.	Were the samples shipped on ice?			x
14.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #5	RAD ONLY		x

Cooler #:	1						
Temperature (°C):	AMB						
# of custody seals on cooler:	2						
External µR/hr reading:	12						
Background µR/hr reading:	11						

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES** (If no, see Form 008.)

*** Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: SJS

If applicable, was the client contacted? **NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: Julie Ellis 5/3/21

Form 201r30.xls
03/18/2021

*IR Gun #5, VWR SN 192272629

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Project: HS21041578
Sample ID: GWMP-6A
Legal Location:
Collection Date: 4/27/2021 13:45

Date: *25-May-21*
Work Order: 2104669
Lab ID: 2104669-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/4/2021**		PrepBy: **TRB**
Ra-226	ND (+/- 0.12)	U	0.17	pCi/l	NA	5/16/2021 12:04
Carr: BARIUM	*96.6*		*40-110*	*%REC*	DL = NA	5/16/2021 12:04
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/17/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.78	pCi/l	NA	5/21/2021 11:11
Ra-228	ND (+/- 0.43)	U	0.78	pCi/l	NA	5/21/2021 11:11
Carr: BARIUM	*96.7*		*40-110*	*%REC*	DL = NA	5/21/2021 11:11

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*25-May-21*
Project:	HS21041578	**Work Order:**	2104669
Sample ID:	GWMP-9A	**Lab ID:**	2104669-2
Legal Location:		**Matrix:**	WATER
Collection Date:	4/27/2021 13:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/4/2021**		PrepBy: **TRB**
Ra-226	ND (+/- 0.16)	U	0.24	pCi/l	NA	5/16/2021 12:04
Carr: BARIUM	*96.2*		*40-110*	*%REC*	DL = NA	5/16/2021 12:04
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/17/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.83	pCi/l	NA	5/21/2021 11:11
Ra-228	ND (+/- 0.41)	U	0.83	pCi/l	NA	5/21/2021 11:11
Carr: BARIUM	*92.7*		*40-110*	*%REC*	DL = NA	5/21/2021 11:11

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Project: HS21041578
Sample ID: GWMP-10A
Legal Location:
Collection Date: 4/27/2021 12:25

Date: *25-May-21*
Work Order: 2104669
Lab ID: 2104669-3
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/4/2021**		PrepBy: **TRB**
Ra-226	ND (+/- 0.13)	U	0.2	pCi/l	NA	5/16/2021 12:29
Carr: BARIUM	*85.6*		*40-110*	*%REC*	DL = NA	5/16/2021 12:29
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/17/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	ND (+/- 0)	U	0.77	pCi/l	NA	5/21/2021 11:11
Ra-228	ND (+/- 0.41)	U	0.77	pCi/l	NA	5/21/2021 11:11
Carr: BARIUM	*98.7*		*40-110*	*%REC*	DL = NA	5/21/2021 11:11

Client:	ALS Environmental	**Date:**	*25-May-21*
Project:	HS21041578	**Work Order:**	2104669
Sample ID:	GWMP-11A	**Lab ID:**	2104669-4
Legal Location:		**Matrix:**	WATER
Collection Date:	4/27/2021 09:22	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/4/2021**		PrepBy: **TRB**
Ra-226	**0.59 (+/- 0.29)**		**0.23**	**pCi/l**	NA	5/16/2021 12:29
Carr: BARIUM	*97.3*		*40-110*	*%REC*	DL = NA	5/16/2021 12:29
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/17/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	**3.12 (+/- 0)**		**0.95**	**pCi/l**	NA	5/21/2021 11:11
Ra-228	**2.53 (+/- 0.79)**		**0.95**	**pCi/l**	NA	5/21/2021 11:11
Carr: BARIUM	*92.3*		*40-110*	*%REC*	DL = NA	5/21/2021 11:11

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*25-May-21*
Project:	HS21041578	**Work Order:**	2104669
Sample ID:	GWMP-12A	**Lab ID:**	2104669-5
Legal Location:		**Matrix:**	WATER
Collection Date:	4/27/2021 11:30	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/4/2021**		PrepBy: **TRB**
Ra-226	ND (+/- 0.24)	U	0.36	pCi/l	NA	5/16/2021 12:29
Carr: BARIUM	*91*		*40-110*	*%REC*	DL = NA	5/16/2021 12:29
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/17/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	**1.04 (+/- 0)**		**0.76**	**pCi/l**	NA	5/21/2021 11:11
Ra-228	**1.04 (+/- 0.46)**	Y1	**0.76**	**pCi/l**	NA	5/21/2021 11:11
Carr: BARIUM	*102*	Y1	*40-110*	*%REC*	DL = NA	5/21/2021 11:11

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*25-May-21*
Project:	HS21041578	**Work Order:**	2104669
Sample ID:	DUP-1	**Lab ID:**	2104669-6
Legal Location:		**Matrix:**	WATER
Collection Date:	4/27/2021 11:30	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/4/2021**		PrepBy: **TRB**
Ra-226	**0.53 (+/- 0.29)**		**0.26**	**pCi/l**	NA	5/16/2021 12:29
Carr: BARIUM	*95.1*		*40-110*	*%REC*	DL = NA	5/16/2021 12:29
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/17/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	**1.31 (+/- 0)**		**0.75**	**pCi/l**	NA	5/21/2021 11:11
Ra-228	**0.78 (+/- 0.42)**		**0.75**	**pCi/l**	NA	5/21/2021 11:11
Carr: BARIUM	*99*		*40-110*	*%REC*	DL = NA	5/21/2021 11:11

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*25-May-21*
Project:	HS21041578	**Work Order:**	2104669
Sample ID:	DUP-1	**Lab ID:**	2104669-6
Legal Location:		**Matrix:**	WATER
Collection Date:	4/27/2021 11:30	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

RIGHT SOLUTIONS | RIGHT PARTNER

ALS -- Fort Collins

Client: ALS Environmental
Work Order: 2104669
Project: HS21041578

Date: *5/25/2021 4:15:0*

QC BATCH REPORT

Batch ID: **RE210504-4-3** Instrument ID: **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS Sample ID: **RE210504-4** Units: **pCi/l** Analysis Date: **5/16/2021 12:50**

Client ID: Run ID: **RE210504-4A** Prep Date: **5/4/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	45 (+/- 11)	0	46.79		95.6	67-120					P,Y1
Carr: BARIUM	15810		15640		101	40-110					Y1

LCSD Sample ID: **RE210504-4** Units: **pCi/l** Analysis Date: **5/16/2021 12:50**

Client ID: Run ID: **RE210504-4A** Prep Date: **5/4/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	47 (+/- 12)	0	46.79		99.9	67-120		45	0.13	2.13	P
Carr: BARIUM	15540		15650		99.3	40-110		15810			

MB Sample ID: **RE210504-4** Units: **pCi/l** Analysis Date: **5/16/2021 12:04**

Client ID: Run ID: **RE210504-4A** Prep Date: **5/4/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	ND	0.112									U
Carr: BARIUM	15400		15640		98.4	40-110					

The following samples were analyzed in this batch:

2104669-1	2104669-2	2104669-3
2104669-4	2104669-5	2104669-6

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Work Order: 2104669
Project: HS21041578

QC BATCH REPORT

Batch ID: **RA210517-1-3** Instrument ID: **GASPROP** Method: **Radium-228 Analysis by GFPC**

LCS Sample ID: **RA210517-1** Units: **ug** Analysis Date: **5/21/2021 11:22**
Client ID: Run ID: **RA210517-1A** Prep Date: **5/17/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Carr: BARIUM	33100		34220		96.7	40-110					
Ra-228	22.9 (+/- 5.4)	0.7	21.93		105	70-130					P

LCSD Sample ID: **RA210517-1** Units: **ug** Analysis Date: **5/21/2021 11:22**
Client ID: Run ID: **RA210517-1A** Prep Date: **5/17/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Carr: BARIUM	33480		34220		97.8	40-110		33100			
Ra-228	22.6 (+/- 5.3)	0.8	21.93		103	70-130		22.9	0.04	2.13	P

MB Sample ID: **RA210517-1** Units: **ug** Analysis Date: **5/21/2021 11:22**
Client ID: Run ID: **RA210517-1A** Prep Date: **5/17/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Carr: BARIUM	32910		34220		96.2	40-110					
Ra-228	ND	0.85									U

The following samples were analyzed in this batch:

2104669-1	2104669-2	2104669-3
2104669-4	2104669-5	2104669-6

RIGHT SOLUTIONS | RIGHT PARTNER

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 07, 2021

Heather Tiffany
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS21041627**

Laboratory Results for: **Evans & Associates, Big Fork Ranch**

Dear Heather Tiffany,

ALS Environmental received 2 sample(s) on Apr 30, 2021 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: COREY.GRANDITS

Ragen Giga
Project Manager

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21041627

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041627-01	GWMP-8A	Water		27-Apr-2021 10:25	30-Apr-2021 10:10	☐
HS21041627-02	GWMP-8A (Filtered)	Water		27-Apr-2021 10:25	30-Apr-2021 10:10	☐

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21041627

CASE NARRATIVE

Work Order Comments

- Revision I - This report was to revised to report additional metals per client email.

Work Order Comments

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

  The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

- The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Fort Collins, CO. Final report attached.

Metals by Method SW6020A

Batch ID: 165648

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: 165770

Sample ID: HS21050382-08SD

- SD is for an unrelated sample (Boron)

WetChemistry by Method E300

Batch ID: R383641

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2540C

Batch ID: R382982

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM4500H+ B

Batch ID: R382838

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**
Project:	Evans & Associates, Big Fork Ranch	WorkOrder:HS21041627
Sample ID:	GWMP-8A	Lab ID:HS21041627-01
Collection Date:	27-Apr-2021 10:25	Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 13-May-2021		Analyst: JHD
Antimony	**0.000975**	J	**0.000400**	**0.00200**	**mg/L**	1	14-May-2021 11:21
Arsenic	**0.00288**		**0.000400**	**0.00200**	**mg/L**	1	14-May-2021 11:21
Barium	**0.348**		**0.00190**	**0.00400**	**mg/L**	1	14-May-2021 11:21
Beryllium	**0.000347**	J	**0.000200**	**0.00200**	**mg/L**	1	14-May-2021 11:21
Boron	**0.121**		**0.0110**	**0.0200**	**mg/L**	1	14-May-2021 11:21
Cadmium	U		0.000200	0.00200	mg/L	1	14-May-2021 11:21
Calcium	**83.0**		**0.0340**	**0.500**	**mg/L**	1	14-May-2021 11:21
Chromium	**0.0131**		**0.000400**	**0.00400**	**mg/L**	1	14-May-2021 11:21
Cobalt	**0.00401**	J	**0.000200**	**0.00500**	**mg/L**	1	14-May-2021 11:21
Lead	**0.00437**		**0.000600**	**0.00200**	**mg/L**	1	14-May-2021 11:21
Molybdenum	**0.00185**	J	**0.000600**	**0.00500**	**mg/L**	1	14-May-2021 11:21
Selenium	**0.0130**		**0.00110**	**0.00200**	**mg/L**	1	14-May-2021 11:21
Thallium	**0.000252**	J	**0.000200**	**0.00200**	**mg/L**	1	14-May-2021 11:21
ANIONS BY E300.0		**Method:E300**					Analyst: YP
Chloride	**4.58**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 22:19
Fluoride	**0.415**		**0.0500**	**0.100**	**mg/L**	1	13-May-2021 22:19
Sulfate	**54.6**		**0.200**	**0.500**	**mg/L**	1	13-May-2021 22:19
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**418**		**5.00**	**10.0**	**mg/L**	1	03-May-2021 17:20
PH BY SM4500H+ B		**Method:SM4500H+ B**					Analyst: JAC
pH	**7.24**	H	**0.100**	**0.100**	**pH Units**	1	03-May-2021 12:32
Temp Deg C @pH	**23.0**	H	**0**	**0**	**°C**	1	03-May-2021 12:32
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUB
Subcontract Analysis	See Attached		0		NA	1	31-May-2021 10:54
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUB
Subcontract Analysis	See Attached		0		NA	1	31-May-2021 10:54

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-8A (Filtered)
Collection Date: 27-Apr-2021 10:25

WorkOrder:HS21041627
Lab ID:HS21041627-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
DISSOLVED METALS BY SW6020A	**Method:SW6020A (dissolved)**				Prep:SW3010A / 12-May-2021		Analyst: JHD
Molybdenum	**0.00196**	J	**0.000600**	**0.00500**	**mg/L**	1	13-May-2021 15:17

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

Batch ID: 165561 **Start Date:** 08 May 2021 11:00 **End Date:** 08 May 2021 11:30
Method: SAMPLE FILTRATION - 0.45 MICRON FILTER **Prep Code:** FILTRATION

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041627-02		100 (mL)	100 (mL)	1	250 mL plastic, Neat

Batch ID: 165648 **Start Date:** 12 May 2021 10:30 **End Date:** 12 May 2021 14:30
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041627-02		10 (mL)	10 (mL)	1	250 mL plastic, Neat

Batch ID: 165770 **Start Date:** 13 May 2021 13:30 **End Date:** 13 May 2021 17:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041627-01		10 (mL)	10 (mL)	1	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 165648 (0)	**Test Name :** DISSOLVED METALS BY SW6020A				**Matrix:** Water	
HS21041627-02	GWMP-8A (Filtered)	27 Apr 2021 10:25		12 May 2021 14:30	13 May 2021 15:17	1
Batch ID: 165770 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS21041627-01	GWMP-8A	27 Apr 2021 10:25		13 May 2021 17:30	14 May 2021 11:21	1
Batch ID: R382838 (0)	**Test Name :** PH BY SM4500H+ B				**Matrix:** Water	
HS21041627-01	GWMP-8A	27 Apr 2021 10:25			03 May 2021 12:32	1
Batch ID: R382982 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C				**Matrix:** Water	
HS21041627-01	GWMP-8A	27 Apr 2021 10:25			03 May 2021 17:20	1
Batch ID: R383641 (0)	**Test Name :** ANIONS BY E300.0				**Matrix:** Water	
HS21041627-01	GWMP-8A	27 Apr 2021 10:25			13 May 2021 22:19	1
Batch ID: R384662 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RADIUM 226				**Matrix:** Water	
HS21041627-01	GWMP-8A	27 Apr 2021 10:25			31 May 2021 10:54	1
HS21041627-01	GWMP-8A	27 Apr 2021 10:25			31 May 2021 10:54	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: 165648 (0) **Instrument:** ICPMS06 **Method:** DISSOLVED METALS BY SW6020A (DISSOLVED)

MBLK Sample ID: **MBLKF2-165648** Units: **mg/L** Analysis Date: **13-May-2021 14:53**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090519** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.000683	0.00500								J

MBLK Sample ID: **MBLKF1-165648** Units: **mg/L** Analysis Date: **13-May-2021 14:51**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090518** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	U	0.00500								

MBLK Sample ID: **MBLK-165648** Units: **mg/L** Analysis Date: **13-May-2021 14:49**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090517** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	U	0.00500								

LCS Sample ID: **LCS-165648** Units: **mg/L** Analysis Date: **13-May-2021 14:55**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090520** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.04753	0.00500	0.05	0	95.1	80 - 120				

MS Sample ID: **HS21041583-01MS** Units: **mg/L** Analysis Date: **13-May-2021 15:05**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090525** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.0443	0.00500	0.05	0.00065	87.3	75 - 125				

MSD Sample ID: **HS21041583-01MSD** Units: **mg/L** Analysis Date: **13-May-2021 15:07**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090526** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.04804	0.00500	0.05	0.00065	94.8	75 - 125	0.0443	8.09	20	

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: **165648 (0)** **Instrument:** **ICPMS06** **Method:** **DISSOLVED METALS BY SW6020A (DISSOLVED)**

PDS Sample ID: **HS21041583-01PDS** Units: **mg/L** Analysis Date: **13-May-2021 15:09**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090527** PrepDate: **12-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Molybdenum	0.1054	0.00500	0.1	0.00065	105	75 - 125				

SD Sample ID: **HS21041583-01SD** Units: **mg/L** Analysis Date: **13-May-2021 15:04**
Client ID: Run ID: **ICPMS06_383557** SeqNo: **6090524** PrepDate: **12-May-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Molybdenum	U	0.0250					0.00065	0	10	

The following samples were analyzed in this batch: HS21041627-02

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: 165770 (0) **Instrument:** ICPMS06 **Method:** ICP-MS METALS BY SW6020A

MBLK Sample ID: **MBLK-165770** Units: **mg/L** Analysis Date: **14-May-2021 11:07**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091886** PrepDate: **13-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	U	0.00200							
Arsenic	U	0.00200							
Barium	U	0.00400							
Beryllium	U	0.00200							
Boron	U	0.0200							
Cadmium	U	0.00200							
Calcium	U	0.500							
Chromium	U	0.00400							
Cobalt	U	0.00500							
Lead	U	0.00200							
Molybdenum	U	0.00500							
Selenium	U	0.00200							
Thallium	U	0.00200							

LCS Sample ID: **LCS-165770** Units: **mg/L** Analysis Date: **14-May-2021 11:09**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091887** PrepDate: **13-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.05206	0.00200	0.05	0	104	80 - 120			
Arsenic	0.05026	0.00200	0.05	0	101	80 - 120			
Barium	0.05226	0.00400	0.05	0	105	80 - 120			
Beryllium	0.05011	0.00200	0.05	0	100	80 - 120			
Boron	0.5195	0.0200	0.5	0	104	80 - 120			
Cadmium	0.05351	0.00200	0.05	0	107	80 - 120			
Calcium	5.174	0.500	5	0	103	80 - 120			
Chromium	0.05117	0.00400	0.05	0	102	80 - 120			
Cobalt	0.05183	0.00500	0.05	0	104	80 - 120			
Lead	0.05171	0.00200	0.05	0	103	80 - 120			
Molybdenum	0.05143	0.00500	0.05	0	103	80 - 120			
Selenium	0.05342	0.00200	0.05	0	107	80 - 120			
Thallium	0.04973	0.00200	0.05	0	99.5	80 - 120			

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: 165770 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MS Sample ID: **HS21050382-08MS** Units: **mg/L** Analysis Date: **14-May-2021 11:15**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091911** PrepDate: **13-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05045	0.00200	0.05	0.000278	100	80 - 120				
Arsenic	0.05087	0.00200	0.05	0.001275	99.2	80 - 120				
Barium	0.08634	0.00400	0.05	0.03616	100	80 - 120				
Beryllium	0.04763	0.00200	0.05	0.000015	95.2	80 - 120				
Boron	0.8316	0.0200	0.5	0.3793	90.5	80 - 120				
Cadmium	0.04903	0.00200	0.05	0.000012	98.0	80 - 120				
Calcium	188.5	0.500	5	182.6	117	80 - 120				EO
Chromium	0.0493	0.00400	0.05	0.000077	98.4	80 - 120				
Cobalt	0.04952	0.00500	0.05	0.000607	97.8	80 - 120				
Lead	0.0494	0.00200	0.05	0.000089	98.6	80 - 120				
Molybdenum	0.05637	0.00500	0.05	0.005651	101	80 - 120				
Selenium	0.05079	0.00200	0.05	0.000099	101	80 - 120				
Thallium	0.04656	0.00200	0.05	0.000956	91.2	80 - 120				

MSD Sample ID: **HS21050382-08MSD** Units: **mg/L** Analysis Date: **14-May-2021 11:17**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091912** PrepDate: **13-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04661	0.00200	0.05	0.000278	92.7	80 - 120	0.05045	7.91	20	
Arsenic	0.04746	0.00200	0.05	0.001275	92.4	80 - 120	0.05087	6.94	20	
Barium	0.08418	0.00400	0.05	0.03616	96.0	80 - 120	0.08634	2.53	20	
Beryllium	0.04534	0.00200	0.05	0.000015	90.7	80 - 120	0.04763	4.92	20	
Boron	0.8027	0.0200	0.5	0.3793	84.7	80 - 120	0.8316	3.53	20	
Cadmium	0.0477	0.00200	0.05	0.000012	95.4	80 - 120	0.04903	2.76	20	
Calcium	187.8	0.500	5	182.6	105	80 - 120	188.5	0.332	20	EO
Chromium	0.0462	0.00400	0.05	0.000077	92.2	80 - 120	0.0493	6.5	20	
Cobalt	0.04754	0.00500	0.05	0.000607	93.9	80 - 120	0.04952	4.08	20	
Lead	0.04794	0.00200	0.05	0.000089	95.7	80 - 120	0.0494	3	20	
Molybdenum	0.053	0.00500	0.05	0.005651	94.7	80 - 120	0.05637	6.17	20	
Selenium	0.04661	0.00200	0.05	0.000099	93.0	80 - 120	0.05079	8.58	20	
Thallium	0.04722	0.00200	0.05	0.000956	92.5	80 - 120	0.04656	1.41	20	

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: 165770 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS21050382-08PDS** Units: **mg/L** Analysis Date: **14-May-2021 11:19**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091913** PrepDate: **13-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.1151	0.00200	0.1	0.000278	115	75 - 125				
Arsenic	0.1164	0.00200	0.1	0.001275	115	75 - 125				
Barium	0.1522	0.00400	0.1	0.03616	116	75 - 125				
Beryllium	0.1041	0.00200	0.1	0.000015	104	75 - 125				
Boron	0.5734	0.0200	0.25	0.3793	77.6	75 - 125				
Cadmium	0.1137	0.00200	0.1	0.000012	114	75 - 125				
Chromium	0.1162	0.00400	0.1	0.000077	116	75 - 125				
Cobalt	0.117	0.00500	0.1	0.000607	116	75 - 125				
Lead	0.1171	0.00200	0.1	0.000089	117	75 - 125				
Molybdenum	0.1236	0.00500	0.1	0.005651	118	75 - 125				
Selenium	0.1165	0.00200	0.1	0.000099	116	75 - 125				
Thallium	0.1184	0.00200	0.1	0.000956	117	75 - 125				

SD Sample ID: **HS21050382-08SD** Units: **mg/L** Analysis Date: **14-May-2021 11:13**
Client ID: Run ID: **ICPMS06_383639** SeqNo: **6091910** PrepDate: **13-May-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.0100					0.000278	0	10	
Arsenic	U	0.0100					0.001275	0	10	
Barium	0.03686	0.0200					0.03616	1.93	10	
Beryllium	U	0.0100					0.000015	0	10	
Boron	0.4311	0.100					0.3793	13.7	10	R
Cadmium	U	0.0100					0.000012	0	10	
Calcium	185.5	2.50					182.6	1.6	10	
Chromium	U	0.0200					0.000077	0	10	
Cobalt	U	0.0250					0.000607	0	10	
Lead	U	0.0100					0.000089	0	10	
Molybdenum	0.005788	0.0250					0.005651	0	10	J
Selenium	U	0.0100					0.000099	0	10	
Thallium	U	0.0100					0.000956	0	10	

The following samples were analyzed in this batch: HS21041627-01

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: **R382838 (0)** **Instrument:** **WetChem_HS** **Method:** **PH BY SM4500H+ B**

DUP Sample ID: **HS21041303-01DUP** Units: **pH Units** Analysis Date: **03-May-2021 12:32**
Client ID: Run ID: **WetChem_HS_382838** SeqNo: **6071973** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.55	0.100					7.5	0.664	10	
Temp Deg C @pH	22.3	0					22.1	0.901	10	

The following samples were analyzed in this batch: HS21041627-01

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: R382982 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C

MBLK Sample ID: **WBLK-050321** Units: **mg/L** Analysis Date: **03-May-2021 17:20**
Client ID: Run ID: **Balance1_382982** SeqNo: **6075442** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **WLCS-050321** Units: **mg/L** Analysis Date: **03-May-2021 17:20**
Client ID: Run ID: **Balance1_382982** SeqNo: **6075443** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1098	10.0	1000	0	110	85 - 115				

DUP Sample ID: **HS21041671-01DUP** Units: **mg/L** Analysis Date: **03-May-2021 17:20**
Client ID: Run ID: **Balance1_382982** SeqNo: **6075441** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	52710	10.0					52790	0.152	5	

The following samples were analyzed in this batch: HS21041627-01

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21041627

QC BATCH REPORT

Batch ID: R383641 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **13-May-2021 13:43**
Client ID: Run ID: **ICS-Integrion_383641** SeqNo: **6091998** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **13-May-2021 13:51**
Client ID: Run ID: **ICS-Integrion_383641** SeqNo: **6091999** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.52	0.500	20	0	97.6	90 - 110				
Fluoride	4.147	0.100	4	0	104	90 - 110				
Sulfate	19.64	0.500	20	0	98.2	90 - 110				

MS Sample ID: **HS21050384-01MS** Units: **mg/L** Analysis Date: **13-May-2021 22:49**
Client ID: Run ID: **ICS-Integrion_383641** SeqNo: **6092008** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	355.4	5.00	100	260	95.4	80 - 120				
Fluoride	24.27	1.00	20	2.138	111	80 - 120				
Sulfate	320.9	5.00	100	222.7	98.2	80 - 120				

MSD Sample ID: **HS21050384-01MSD** Units: **mg/L** Analysis Date: **13-May-2021 22:57**
Client ID: Run ID: **ICS-Integrion_383641** SeqNo: **6092009** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	348	5.00	100	260	88.0	80 - 120	355.4	2.1	20	
Fluoride	23.93	1.00	20	2.138	109	80 - 120	24.27	1.43	20	
Sulfate	311.4	5.00	100	222.7	88.8	80 - 120	320.9	2.98	20	

The following samples were analyzed in this batch: HS21041627-01

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: **HS21041627**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

RIGHT SOLUTIONS | RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21041627

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21041627-01	GWMP-8A	Login	4/30/2021 12:53:52 PM	JRM	MET065
HS21041627-01	GWMP-8A	Login	4/30/2021 12:53:52 PM	JRM	Sub
HS21041627-01	GWMP-8A	Login	4/30/2021 12:53:52 PM	JRM	Sub
HS21041627-01	GWMP-8A	Login	4/30/2021 12:53:52 PM	JRM	WET125
HS21041627-02	GWMP-8A (Filtered)	Login	4/30/2021 12:53:52 PM	JRM	MET080

Sample Receipt Checklist

Work Order ID: HS21041627 **Date/Time Received:** **30-Apr-2021 10:10**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Pablo Marinez**

Completed By: /S/ Jared R. Makan (eSignature) 30-Apr-2021 13:08 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 30-Apr-2021 16:14 (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

	Yes	No	Not Present
Shipping container/cooler in good condition?	☑	☐	☐
Custody seals intact on shipping container/cooler?	☑	☐	☐
Custody seals intact on sample bottles?	☐	☐	☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	☐	☐	☑
Chain of custody present?	☑	☐	1 Page(s)
Chain of custody signed when relinquished and received?	☑	☐	
Samplers name present on COC?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	

Temperature(s)/Thermometer(s):	0.6°C UC/C	IR31
Cooler(s)/Kit(s):	42640	
Date/Time sample(s) sent to storage:	04/30/2021 13:10	

	Yes	No	
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	☑	☐	N/A ☐
pH adjusted?	☐	☑	N/A ☐

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2020

PROJECT NAME: E&A Big Fork Ranch CCR Ally

COC: 1 of 1

CLIENT CONTACT: Heather Tiffany / Chris Schaefer

CLIENT EMAIL: Heather.tiffany@altamira-us.com
LabData@altamira-us.com

CLIENT PHONE: 405 618 2021

LABORATORY / LAB PM: ALS / RJ Modashia

CLIENT ADDRESS: 3700 West Robinson St. Suite 200 Norman OK 73072

TAT: Standard

LAB ADDRESS: 10450 Stancliff Rd. Suite 210 Houston TX 77099

SPECIAL INSTRUCTIONS:

SHIPMENT METHOD: Fed Ex

TRACKING: ~~9413~~ 9473 0842 6460

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	pH (SM4500 H+B)	Cl, F, SO4 (300.W)	Bo (6020A)	Ca (6010B)	TDS (SM2540C)	As, Ba, Be, Pb, Mo, Se (EPA 6020A)	Sub-RA 226 (Radium 226 - Sub to ALS)	Sub-Ra 228 (Radium 228 - Sub to ALS)		Needs to be filtered in the lab			HOLD
1	GWMP-8A	4/27/21	1025	W	2,9	4	N	X	X	X	X	X	X	X	X					
2	GWMP-8A	4/27/21	1025		9	1	N										X			X
3	Temp Blank																			
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

HS21041627
Altamira
Evans & Associates, Big Fork Ranch

SAMPLER(S) NAME: Pasha Khystov

DATE: 4/28/21
TIME: 1800

Total # of Containers:

SAMPLER(S) SIGNATURE: Pasha Khystov

DATE: 4/28/2021
TIME: 2000

RELINQUISHED BY: Pasha Khystov
DATE: 4/28/2021
TIME: 1800

RECEIVED BY: Relinquished
DATE: 4/28/21
TIME: 1800

DATE: 4/28/21
TIME: 2045

LOGGED BY: Paul M

DATE: 4-30-21
TIME: 10:10

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other :

ALTAMIRA-US, LLC

4264C 0.6C IR31 CFO

RIGHT SOLUTIONS | RIGHT PARTNER

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

42640

CUSTODY SEAL

Date: 4/29/21 Time: 2050
Name:
Company:

Seal Broken By: SM
Date: 04/30/21

42640 APR 3 0 2021

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

42640

CUSTODY SEAL

Date: 4/29/21 Time: 2050
Name:
Company:

Seal Broken By: SM
Date: 04/30/21

Part # 156489-434 REV2 EXP 02/22

Must Deliver Next Business Day
Time and Tempature Sensitive!

ALS

42640

ORIGIN ID:SGRA (918) 794-7828
HEATHER TIFFANY
ALTAMIRA
2670 TRENTON ROAD

NORMAN, OK 73069
UNITED STATES US

SHIP DATE: 19APR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: EVENS & ASSOCIATES – B077841 – RJ

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0842 6460

FRI – 30 APR 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

Part # 156287-495 REV12 EXP 07/20

RIGHT SOLUTIONS | RIGHT PARTNER

Friday, May 28, 2021

RJ Modashia
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 2105038
Project Name:
Project Number: HS21041627

Dear Mr. Modashia:

One water sample was received from ALS Environmental, on 5/4/2021. The sample was scheduled for the following analyses:

Radium-226
Radium-228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Julie Ellingson
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

2105038

Radium-228:
The sample was analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac, which is the ingrown progeny of ^{228}Ra, according to the current revision of EPA 904.0.

All acceptance criteria were met.

Radium-226:
The samples were prepared and analyzed according to the current revision EPA 903.1.

All acceptance criteria were met.

ADDRESS 225 Commerce Drive, Fort Collins Colorado 80524 USA | PHONE +1 970 490 1511 | FAX +1 970 490 1522

RIGHT SOLUTIONS | RIGHT PARTNER

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2105038
Client Name: ALS Environmental
Client Project Name:
Client Project Number: HS21041627
Client PO Number: 10-16004

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
GWMP-8A	2105038-1		WATER	27-Apr-21	10:25

2105038

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Oklahoma** **COC ID:** **16004**

SUBCONTRACT TO:

ALS Environmental, Fort Collins
225 Commerce Drive
Fort Collins, CO 80524 **Phone:** +1 970 490 1511

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS21041627
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID / ANALYSIS REQUESTED	MATRIX	COLLECT DATE / DUE DATE
1.	**HS21041627-01**	**GWMP-8A**	**Water**	**27 Apr 2021 10:25**
		Report as combined 226 & 228		14 May 2021
		Report as combined 226 & 228		14 May 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: _____ Date/Time: 5/3/2021 18:00

Received By _____ Date/Time: 5/4/21 10:00

Cooler ID(s): _____ Temperature(s): _____

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS Houston Workorder No: 2105038

Project Manager: JME Initials: JME Date: 05/04/21

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable?		X	
	Tracking number: 9472 0843 0874			
2.	Are custody seals on **shipping** containers intact?		X	
3.	Are custody seals on **sample** containers intact?	X		
4.	Is there a COC (chain-of-custody) present?		X	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6.	Are short-hold samples present?			X
7.	Are all samples within holding times for the requested analyses?		X	
8.	Were all sample containers received intact? (not broken or leaking)		X	
9.	Is there sufficient sample for the requested analyses?		X	
10.	Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)		X	
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)		X	
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13.	Were the samples shipped on ice?		X	
14.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #5	RAD ONLY	X	

Cooler #:	1						
Temperature (°C):	3.5						
# of custody seals on cooler:	1						
External µR/hr reading:	11						
Background µR/hr reading:	11						

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES** (If no, see Form 008.)

*** Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

Bottle -2 has more sediment than bottle -1

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: JE

If applicable, was the client contacted? **NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: Julie Ellzy 5/5/21

Form 201r30.xls
03/18/2021

*IR Gun #5, VWR SN 192272629

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Project: HS21041627
Sample ID: GWMP-8A
Legal Location:
Collection Date: 4/27/2021 10:25

Date: *28-May-21*
Work Order: 2105038
Lab ID: 2105038-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/7/2021**		PrepBy: **TRB**
Ra-226	**0.25 (+/- 0.2)**		**0.23**	**pCi/l**	NA	5/19/2021 11:20
Carr: BARIUM	*93.3*		*40-110*	*%REC*	DL = NA	5/19/2021 11:20
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **5/24/2021**		PrepBy: **MIG**
COMBINED RADIUM (226+228)	ND (+/- 0)	U	1.02	pCi/l	NA	5/27/2021 09:30
Ra-228	ND (+/- 0.46)	U,M	1.02	pCi/l	NA	5/27/2021 09:30
Carr: BARIUM	*89.9*		*40-110*	*%REC*	DL = NA	5/27/2021 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*28-May-21*
Project:	HS21041627	**Work Order:**	2105038
Sample ID:	GWMP-8A	**Lab ID:**	2105038-1
Legal Location:		**Matrix:**	WATER
Collection Date:	4/27/2021 10:25	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

RIGHT SOLUTIONS | RIGHT PARTNER

ALS -- Fort Collins

Client: ALS Environmental
Work Order: 2105038
Project: HS21041627

Date: *5/28/2021 1:17:2*

QC BATCH REPORT

Batch ID: **RE210507-7-3** Instrument ID: **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS Sample ID: **RE210507-7** Units: **pCi/l** Analysis Date: **5/19/2021 12:20**

Client ID: Run ID: **RE210507-7A** Prep Date: **5/7/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	48 (+/- 12)	0	46.79		102	67-120					P
Carr: BARIUM	15640		16280		96.1	40-110					

LCSD Sample ID: **RE210507-7** Units: **pCi/l** Analysis Date: **5/19/2021 12:20**

Client ID: Run ID: **RE210507-7A** Prep Date: **5/7/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	41 (+/- 10)	1	46.79		87	67-120		48	0.45	2.13	P,Y1
Carr: BARIUM	16360		16280		100	40-110		15640			Y1

MB Sample ID: **RE210507-7** Units: **pCi/l** Analysis Date: **5/19/2021 11:40**

Client ID: Run ID: **RE210507-7A** Prep Date: **5/7/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Ra-226	ND	0.21									U
Carr: BARIUM	15660		16280		96.2	40-110					

The following samples were analyzed in this batch: 2105038-1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Work Order: 2105038
Project: HS21041627

QC BATCH REPORT

Batch ID: **RA210524-1-3** Instrument ID: **GASPROP** Method: **Radium-228 Analysis by GFPC**

LCS Sample ID: **RA210524-1** Units: **ug** Analysis Date: **5/27/2021 09:30**
Client ID: Run ID: **RA210524-1A** Prep Date: **5/24/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Carr: BARIUM	30720		35050		87.6	40-110					
Ra-228	26.9 (+/- 6.3)	0.9	21.89		123	70-130					P

LCSD Sample ID: **RA210524-1** Units: **ug** Analysis Date: **5/27/2021 09:30**
Client ID: Run ID: **RA210524-1A** Prep Date: **5/24/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Carr: BARIUM	31510		35050		89.9	40-110		30720			
Ra-228	22.6 (+/- 5.3)	0.9	21.89		103	70-130		26.9	0.53	2.13	P

MB Sample ID: **RA210524-1** Units: **ug** Analysis Date: **5/27/2021 09:30**
Client ID: Run ID: **RA210524-1A** Prep Date: **5/24/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
Carr: BARIUM	31900		35080		90.9	40-110					
Ra-228	ND	0.92									U

The following samples were analyzed in this batch: 2105038-1

RIGHT SOLUTIONS | RIGHT PARTNER

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 04, 2021

Heather Tiffany
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS21060176**

Laboratory Results for: **Evans & Associates, Big Fork Ranch**

Dear Heather Tiffany,

ALS Environmental received 7 sample(s) on Jun 03, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

Ragen Giga
Project Manager

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21060176

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21060176-01	GWMP-6A	Water	HS21041578-01	27-Apr-2021 13:45	03-Jun-2021 13:00	☐
HS21060176-02	GWMP-9A	Water	HS21041578-03	27-Apr-2021 13:00	03-Jun-2021 13:00	☐
HS21060176-03	GWMP-10A	Water	HS21041578-05	27-Apr-2021 12:25	03-Jun-2021 13:00	☐
HS21060176-04	GWMP-11A	Water	HS21041578-07	27-Apr-2021 09:22	03-Jun-2021 13:00	☐
HS21060176-05	GWMP-12A	Water	HS21041578-09	27-Apr-2021 11:30	03-Jun-2021 13:00	☐
HS21060176-06	DUP-1	Water	HS21041578-11	27-Apr-2021 11:30	03-Jun-2021 13:00	☐
HS21060176-07	GWMP-8A	Water	HS21041627-01	27-Apr-2021 10:25	03-Jun-2021 13:00	☐

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21060176

CASE NARRATIVE

Work Order Comments

- This report contains additional analysese. The laboratory analyzed your samples for Mercury by method SW7471A.. The samples were originally reported as ALS Workorder Numbers HS21041578-01,03,05,07,09,11 and HS21041627-01. The samples were analyzed outside of analytical holding time. Results should be considered etimated.

Metals by Method SW7470A

Batch ID: 166530

Sample ID: DUP-1 (HS21060176-06)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: GWMP-10A (HS21060176-03)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: GWMP-11A (HS21060176-04)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: GWMP-12A (HS21060176-05)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: GWMP-6A (HS21060176-01)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: GWMP-8A (HS21060176-07)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: GWMP-9A (HS21060176-02)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-6A
Collection Date: 27-Apr-2021 13:45

WorkOrder:HS21060176
Lab ID:HS21060176-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 12:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-9A
Collection Date: 27-Apr-2021 13:00

WorkOrder:HS21060176
Lab ID:HS21060176-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 13:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-10A
Collection Date: 27-Apr-2021 12:25

WorkOrder:HS21060176
Lab ID:HS21060176-03
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 13:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-11A
Collection Date: 27-Apr-2021 09:22

WorkOrder:HS21060176
Lab ID:HS21060176-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 13:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-12A
Collection Date: 27-Apr-2021 11:30

WorkOrder:HS21060176
Lab ID:HS21060176-05
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 13:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: DUP-1
Collection Date: 27-Apr-2021 11:30

WorkOrder:HS21060176
Lab ID:HS21060176-06
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 13:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-8A
Collection Date: 27-Apr-2021 10:25

WorkOrder:HS21060176
Lab ID:HS21060176-07
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 04-Jun-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	04-Jun-2021 13:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21060176

Batch ID: 166530 **Start Date:** 04 Jun 2021 08:00 **End Date:** 04 Jun 2021 11:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21060176-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060176-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060176-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060176-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060176-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060176-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060176-07		10 (mL)	10 (mL)	1	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21060176

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 166530 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS21060176-01	GWMP-6A	27 Apr 2021 13:45		04 Jun 2021 11:00	04 Jun 2021 12:59	1
HS21060176-02	GWMP-9A	27 Apr 2021 13:00		04 Jun 2021 11:00	04 Jun 2021 13:00	1
HS21060176-03	GWMP-10A	27 Apr 2021 12:25		04 Jun 2021 11:00	04 Jun 2021 13:02	1
HS21060176-04	GWMP-11A	27 Apr 2021 09:22		04 Jun 2021 11:00	04 Jun 2021 13:04	1
HS21060176-05	GWMP-12A	27 Apr 2021 11:30		04 Jun 2021 11:00	04 Jun 2021 13:05	1
HS21060176-06	DUP-1	27 Apr 2021 11:30		04 Jun 2021 11:00	04 Jun 2021 13:07	1
HS21060176-07	GWMP-8A	27 Apr 2021 10:25		04 Jun 2021 11:00	04 Jun 2021 13:09	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21060176

QC BATCH REPORT

Batch ID: 166530 (0) **Instrument: HG03** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-166530** Units: **mg/L** Analysis Date: **04-Jun-2021 12:06**
Client ID: Run ID: **HG03_384953** SeqNo: **6122807** PrepDate: **04-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.000200								

LCS Sample ID: **LCS-166530** Units: **mg/L** Analysis Date: **04-Jun-2021 12:13**
Client ID: Run ID: **HG03_384953** SeqNo: **6122808** PrepDate: **04-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00472	0.000200	0.005	0	94.4	80 - 120				

MS Sample ID: **HS21051503-01MS** Units: **mg/L** Analysis Date: **04-Jun-2021 12:18**
Client ID: Run ID: **HG03_384953** SeqNo: **6122810** PrepDate: **04-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00399	0.000200	0.005	-0.000017	80.1	75 - 125				

MSD Sample ID: **HS21051503-01MSD** Units: **mg/L** Analysis Date: **04-Jun-2021 12:19**
Client ID: Run ID: **HG03_384953** SeqNo: **6122811** PrepDate: **04-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00451	0.000200	0.005	-0.000017	90.5	75 - 125	0.00399	12.2	20	

The following samples were analyzed in this batch: HS21060176-01 HS21060176-02 HS21060176-03 HS21060176-04 HS21060176-05 HS21060176-06 HS21060176-07

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: **HS21060176**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

RIGHT SOLUTIONS | RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21060176

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21060176-01	GWMP-6A	Login	6/3/2021 3:50:03 PM	PMG	MET065
HS21060176-01	GWMP-6A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-01	GWMP-6A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-01	GWMP-6A	Login	6/3/2021 3:50:03 PM	PMG	WET125
HS21060176-02	GWMP-9A	Login	6/3/2021 3:50:03 PM	PMG	MET065
HS21060176-02	GWMP-9A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-02	GWMP-9A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-02	GWMP-9A	Login	6/3/2021 3:50:03 PM	PMG	WET125
HS21060176-03	GWMP-10A	Login	6/3/2021 3:50:03 PM	PMG	MET065
HS21060176-03	GWMP-10A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-03	GWMP-10A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-03	GWMP-10A	Login	6/3/2021 3:50:03 PM	PMG	WET125
HS21060176-04	GWMP-11A	Login	6/3/2021 3:50:03 PM	PMG	MET065
HS21060176-04	GWMP-11A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-04	GWMP-11A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-04	GWMP-11A	Login	6/3/2021 3:50:03 PM	PMG	WET125
HS21060176-05	GWMP-12A	Login	6/3/2021 3:50:03 PM	PMG	MET065
HS21060176-05	GWMP-12A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-05	GWMP-12A	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-05	GWMP-12A	Login	6/3/2021 3:50:03 PM	PMG	WET125
HS21060176-06	DUP-1	Login	6/3/2021 3:50:03 PM	PMG	MET065
HS21060176-06	DUP-1	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-06	DUP-1	Login	6/3/2021 3:50:03 PM	PMG	Sub
HS21060176-06	DUP-1	Login	6/3/2021 3:50:03 PM	PMG	WET125

RIGHT SOLUTIONS | RIGHT PARTNER

Sample Receipt Checklist

Work Order ID: HS21060176 **Date/Time Received:** **03-Jun-2021 13:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Si Ma**

Completed By: /S/ Jared R. Makan (eSignature) 29-Apr-2021 16:18 (Date/Time) **Reviewed by:** /S/ Corey Grandits (eSignature) 04-Jun-2021 15:18 (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

	Yes	No	
Shipping container/cooler in good condition?	☑	☐	Not Present ☐
Custody seals intact on shipping container/cooler?	☑	☐	Not Present ☐
Custody seals intact on sample bottles?	☐	☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	☐	☐	Not Present ☑
Chain of custody present?	☑	☐	1 Page(s)
Chain of custody signed when relinquished and received?	☑	☐	
Samplers name present on COC?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	

Temperature(s)/Thermometer(s):	0.4°C, 0.6°C UC/C	IR31
Cooler(s)/Kit(s):	45352, 45098	
Date/Time sample(s) sent to storage:	04/29/2021 16:20	

	Yes	No	
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	☑	☐	N/A ☐
pH adjusted?	☐	☑	N/A ☐

pH adjusted by:

Login Notes: SRC for re-log

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2021/3000-APRIL 21AM

PROJECT NAME: E&A, BIG FORK RANCH

COC:

CLIENT CONTACT: HEATHER TIFFANY

CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM LABDATA

CLIENT PHONE: 405. 618.

LABORATORY / LAB PM: ALG/ RJ MODASHIA

CLIENT ADDRESS: 3700 W. ROBINSON ST. STE 200 NORMAN, OK 73072

TAT: STND.

LAB ADDRESS: 10450 STANCLIFF RD STE 210 HOUSTON, TX 77099

SPECIAL INSTRUCTIONS:
* METALS BY 6020A: As, Ba, Be, Pb, Mo, Sn
** REPORT RAD 226/228 COMBINED

SHIPMENT METHOD: FEDEX

TRACKING:

HS21060176

Altamira
Evans & Associates, Big Fork Ranch

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	pH (SM4500 H+B)	Cl, F, SO4 (300.0)	B (6020A)	Ca (6010B)	TDS (SM2540C)	METALS, TOTAL* 6020A	**RA-226 SUB TO FT. COLLINS	**RA-228 SUB TO FT. COLLINS	FIELD FILTERED METALS*				
1	GWMP-6A		1345	W	2,9	4	N	X	X	X	X	X	X	X	X					
2	GWMP-6A		1345		2	1	Y									X				
~~3~~	~~GWMP-8A~~				~~2,9~~	~~4~~	~~N~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					
~~4~~	~~GWMP-8A~~				~~2~~	~~1~~	~~Y~~									~~X~~				
5	GWMP-9A		1300		2,9	4	N	X	X	X	X	X	X	X	X					
6	GWMP-9A		1300		2	1	Y									X				X
7	GWMP-10A		1225		2,9	4	N	X	X	X	X	X	X	X	X					
8	GWMP-10A		1225		2	1	Y									X				X
9	GWMP-11A		922		2,9	4	N	X	X	X	X	X	X	X	X					
10	GWMP-11A		922		2	1	Y									X				X
11	GWMP-12A		1130		2,9	4	N	X	X	X	X	X	X	X	X					
12	GWMP-12A		1130		2	1	Y									X				X
13	DUP-1		1130		2,9	4	N	X	X	X	X	X	X	X	X					
14	DUP-1		1130		2	1	Y									X				X
15																				

SAMPLER(S) NAME: Pashe Ulleystor
DATE: 4/28/21
TIME: 1200
Total # of Containers:
SAMPLER(S) SIGNATURE: Pashe Ulleystor
DATE: 4/28/21
TIME: 1200

RELINQUISHED BY: Pashe Ulleystor
DATE: 4/28/21
TIME: 1200
RECEIVED BY: Paul Mann SM
DATE: 4.29.21
TIME: 10:20
LOGGED BY:
DATE:
TIME:
COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: [X] Norman [ ] Oklahoma City [ ] Tulsa [ ] Yukon [ ] Midland [ ] Other :

ALTAMIRA-US, LLC

45352 0.4C 1831

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2020

PROJECT NAME: E+A Big Fork Ranch CCR Ash

COC: 1 of 1

CLIENT CONTACT: Heather Tiffany / Chris Schaefer

CLIENT EMAIL: Heather.tiffany@altamira-us.com LabData@altamira-us.com

CLIENT PHONE: 405 618 2021

LABORATORY / LAB PM: ALS / RJ Modashia

CLIENT ADDRESS: 3700 West Robinson St. Suite 200 Norman OK 73072

TAT: Standard

LAB ADDRESS: 10450 Stancliff Rd. Suite 210 Houston TX 77099

SPECIAL INSTRUCTIONS:

SHIPMENT METHOD: Fed Ex

TRACKING: 9473 0842 6460

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	pH (SM4500 H+B)	Cl, F, SO4 (300.W)	Bo (6020A)	Ca (6010B)	TDS (SM2540C)	As, Ba, Be, Pb, Mo, Se (EPA 6020A)	Sub-RA 226 (Radium 226 - Sub to ALS)	Sub-Ra 228 (Radium 228 - Sub to ALS)		Needs to be filtered (in the lab)			HOLD
1	GWMP-8A	4/27/21	1025	W	2,9	4	N	X	X	X	X	X	X	X	X					
2	GWMP-8A	4/27/21	1025		9	1	N										X			X
3	Temp Blank																			
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

HS21060176
Altamira
Evans & Associates, Big Fork Ranch

SAMPLER(S) NAME: Pasha Klykstra

DATE: 4/28/21
TIME: 1800

Total # of Containers:

SAMPLER(S) SIGNATURE:

DATE: 4/28/2021
TIME: 2000

RELINQUISHED BY: Pasha Klykstra
DATE: 4/29/2021
TIME: 1600

RECEIVED BY: Brad Nichols
DATE: 4/29/21
TIME: 1600

RELINQUISHED BY: Pasha Klykstra
DATE: 4/29/21
TIME: 2045

RECEIVED BY: Paul M
DATE: 4-30-21
TIME: 10:10

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-4 Degrees C 8-9035 9-Other:

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other:

ALTAMIRA-US, LLC

4264C 0.6C IR31 CFO

RIGHT SOLUTIONS | RIGHT PARTNER

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 14, 2021

Heather Tiffany
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS21060500**

Laboratory Results for: **Evans & Associates, Big Fork Ranch**

Dear Heather Tiffany,

ALS Environmental received 7 sample(s) on Jun 09, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

Ragen Giga
Project Manager

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21060500

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21060500-01	GWMP-6A	Water		27-Apr-2021 13:45	09-Jun-2021 15:00	☐
HS21060500-02	GWMP-9A	Water		27-Apr-2021 13:00	09-Jun-2021 15:00	☐
HS21060500-03	GWMP-10A	Water		27-Apr-2021 12:25	09-Jun-2021 15:00	☐
HS21060500-04	GWMP-11A	Water		27-Apr-2021 09:22	09-Jun-2021 15:00	☐
HS21060500-05	GWMP-12A	Water		27-Apr-2021 11:30	09-Jun-2021 15:00	☐
HS21060500-06	DUP-1	Water		27-Apr-2021 11:30	09-Jun-2021 15:00	☐
HS21060500-07	GWMP-8A	Water		27-Apr-2021 10:25	09-Jun-2021 15:00	☐

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21060500

CASE NARRATIVE

Work Order Comments

- This report contains additional analyses. The laboratory analyzed your samples for Lithium by method SW6020. The sample was originally reported as ALS Workorder Number HS21060176 01 thorough 07

Metals by Method SW6020A

Batch ID: 166803

Sample ID:)

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-6A
Collection Date: 27-Apr-2021 13:45

WorkOrder:HS21060500
Lab ID:HS21060500-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.00518**		**0.00100**	**0.00500**	**mg/L**	1	14-Jun-2021 11:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-9A
Collection Date: 27-Apr-2021 13:00

WorkOrder:HS21060500
Lab ID:HS21060500-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.0202**		**0.00100**	**0.00500**	**mg/L**	1	14-Jun-2021 11:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-10A
Collection Date: 27-Apr-2021 12:25

WorkOrder:HS21060500
Lab ID:HS21060500-03
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.00346**	J	**0.00100**	**0.00500**	**mg/L**	1	14-Jun-2021 12:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-11A
Collection Date: 27-Apr-2021 09:22

WorkOrder:HS21060500
Lab ID:HS21060500-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.00877**		**0.00100**	**0.00500**	**mg/L**	1	14-Jun-2021 12:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-12A
Collection Date: 27-Apr-2021 11:30

WorkOrder:HS21060500
Lab ID:HS21060500-05
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.00528**		**0.00100**	**0.00500**	**mg/L**	1	14-Jun-2021 12:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: DUP-1
Collection Date: 27-Apr-2021 11:30

WorkOrder:HS21060500
Lab ID:HS21060500-06
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.00468**	J	**0.00100**	**0.00500**	**mg/L**	1	14-Jun-2021 12:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Sample ID: GWMP-8A
Collection Date: 27-Apr-2021 10:25

WorkOrder:HS21060500
Lab ID:HS21060500-07
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 11-Jun-2021		Analyst: JHD
Lithium	**0.0204**	J	**0.0100**	**0.0500**	**mg/L**	1	14-Jun-2021 12:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21060500

Batch ID: 166803 **Start Date:** 11 Jun 2021 13:00 **End Date:** 11 Jun 2021 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21060500-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060500-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060500-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060500-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060500-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060500-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21060500-07		1 (mL)	10 (mL)	10	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21060500

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 166803 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS21060500-01	GWMP-6A	27 Apr 2021 13:45		11 Jun 2021 17:00	14 Jun 2021 11:49	1
HS21060500-02	GWMP-9A	27 Apr 2021 13:00		11 Jun 2021 17:00	14 Jun 2021 11:59	1
HS21060500-03	GWMP-10A	27 Apr 2021 12:25		11 Jun 2021 17:00	14 Jun 2021 12:07	1
HS21060500-04	GWMP-11A	27 Apr 2021 09:22		11 Jun 2021 17:00	14 Jun 2021 12:09	1
HS21060500-05	GWMP-12A	27 Apr 2021 11:30		11 Jun 2021 17:00	14 Jun 2021 12:11	1
HS21060500-06	DUP-1	27 Apr 2021 11:30		11 Jun 2021 17:00	14 Jun 2021 12:13	1
HS21060500-07	GWMP-8A	27 Apr 2021 10:25		11 Jun 2021 17:00	14 Jun 2021 12:15	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: HS21060500

QC BATCH REPORT

Batch ID: 166803 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-166803** Units: **mg/L** Analysis Date: **11-Jun-2021 20:56**
Client ID: Run ID: **ICPMS06_385404** SeqNo: **6134579** PrepDate: **11-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lithium	U	0.00500								

LCS Sample ID: **LCS-166803** Units: **mg/L** Analysis Date: **11-Jun-2021 20:58**
Client ID: Run ID: **ICPMS06_385404** SeqNo: **6134580** PrepDate: **11-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lithium	0.09397	0.00500	0.1	0	94.0	80 - 120				

MS Sample ID: **HS21060500-01MS** Units: **mg/L** Analysis Date: **14-Jun-2021 11:53**
Client ID: **GWMP-6A** Run ID: **ICPMS06_385495** SeqNo: **6135040** PrepDate: **11-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lithium	0.09639	0.00500	0.1	0.005178	91.2	80 - 120				

MSD Sample ID: **HS21060500-01MSD** Units: **mg/L** Analysis Date: **14-Jun-2021 11:55**
Client ID: **GWMP-6A** Run ID: **ICPMS06_385495** SeqNo: **6135041** PrepDate: **11-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lithium	0.0989	0.00500	0.1	0.005178	93.7	80 - 120	0.09639	2.57	20	

PDS Sample ID: **HS21060500-01PDS** Units: **mg/L** Analysis Date: **14-Jun-2021 11:57**
Client ID: **GWMP-6A** Run ID: **ICPMS06_385495** SeqNo: **6135042** PrepDate: **11-Jun-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lithium	0.07633	0.00500	0.1	0.005178	71.2	70 - 125				

SD Sample ID: **HS21060500-01SD** Units: **mg/L** Analysis Date: **14-Jun-2021 11:51**
Client ID: **GWMP-6A** Run ID: **ICPMS06_385495** SeqNo: **6135039** PrepDate: **11-Jun-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Lithium	0.005576	0.0250					0.005178	0	10	J

The following samples were analyzed in this batch: HS21060500-01 HS21060500-02 HS21060500-03 HS21060500-04 HS21060500-05 HS21060500-06 HS21060500-07

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
WorkOrder: **HS21060500**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

RIGHT SOLUTIONS | RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022
Utah	TX026932021-10	31-Jul-2021

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: Evans & Associates, Big Fork Ranch
Work Order: HS21060500

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21060500-01	GWMP-6A	Login	6/9/2021 5:52:25 PM	JRM	MET016
HS21060500-02	GWMP-9A	Login	6/9/2021 5:52:25 PM	JRM	MET016
HS21060500-03	GWMP-10A	Login	6/9/2021 5:52:25 PM	JRM	MET016
HS21060500-04	GWMP-11A	Login	6/9/2021 5:52:25 PM	JRM	MET016
HS21060500-05	GWMP-12A	Login	6/9/2021 5:52:25 PM	JRM	MET016
HS21060500-06	DUP-1	Login	6/9/2021 5:52:25 PM	JRM	MET016
HS21060500-07	GWMP-8A	Login	6/9/2021 5:52:25 PM	JRM	MET016

RIGHT SOLUTIONS | RIGHT PARTNER

Sample Receipt Checklist

Work Order ID: HS21060500 **Date/Time Received:** **09-Jun-2021 15:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Si Ma**

Completed By: /S/ Jared R. Makan (eSignature) 29-Apr-2021 16:18 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 10-Jun-2021 19:17 (Date/Time)

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

	Yes	No	Not Present
Shipping container/cooler in good condition?	☑	☐	☐
Custody seals intact on shipping container/cooler?	☑	☐	☐
Custody seals intact on sample bottles?	☐	☐	☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	☐	☐	☑
Chain of custody present?	☑	☐	1 Page(s)
Chain of custody signed when relinquished and received?	☑	☐	
Samplers name present on COC?	☐	☑	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	

Temperature(s)/Thermometer(s):	0.4°C, 0.6°C UC/C	IR31
Cooler(s)/Kit(s):	45352, 45098	
Date/Time sample(s) sent to storage:	04/29/2021 16:20	

	Yes	No	
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	☑	☐	N/A ☐
pH adjusted?	☐	☑	N/A ☐

pH adjusted by:

Login Notes: SRC for re-log

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2021/3000-APRIL 21AM

PROJECT NAME: E&A, BIG FORK RANCH

COC:

CLIENT CONTACT: HEATHER TIFFANY

CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM LABDATA

CLIENT PHONE: 405. 618.

LABORATORY / LAB PM: ALS/ RJ MODASHIA

CLIENT ADDRESS: 3700 W. ROBINSON ST. STE 200 NORMAN, OK 73072

TAT: STND.

LAB ADDRESS: 10450 STANCLIFF RD STE 210 HOUSTON, TX 77099

SPECIAL INSTRUCTIONS: *METALS BY 6020A: As, Ba, Be, Pb, Mo, Sn **REPORT RAD 226/228 COMBINED

SHIPMENT METHOD: FEDEX

TRACKING:

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	pH (SM4500 H+B)	Cl, F, SO4 (300.0)	B (6020A)	Ca (6010B)	TDS (SM2540C)	METALS, TOTAL* 6020A	**RA-226 SUB TO FT. COLLINS	**RA-228 SUB TO FT. COLLINS	FIELD FILTERED METALS*			
1	GWMP-6A		1345	W	2,9	4	N	X	X	X	X	X	X	X	X				
2	GWMP-6A		1345		2	1	Y									X			
~~3~~	~~GWMP-8A~~				~~2,9~~	~~4~~	~~N~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				
~~4~~	~~GWMP-8A~~				~~2~~	~~1~~	~~Y~~									~~X~~			
5	GWMP-9A		1300		2,9	4	N	X	X	X	X	X	X	X	X				
6	GWMP-9A		1300		2	1	Y									X			X
7	GWMP-10A		1225		2,9	4	N	X	X	X	X	X	X	X	X				
8	GWMP-10A		1225		2	1	Y									X			X
9	GWMP-11A		922		2,9	4	N	X	X	X	X	X	X	X	X				
10	GWMP-11A		922		2	1	Y									X			X
11	GWMP-12A		1130		2,9	4	N	X	X	X	X	X	X	X	X				
12	GWMP-12A		1130		2	1	Y									X			X
13	DUP-1		1130		2,9	4	N	X	X	X	X	X	X	X	X				
14	DUP-1		1130		2	1	Y									X			X
15																			

SAMPLER(S) NAME: Pashe Ulleyster DATE: 4/28/21 TIME: 1200

Total # of Containers:

SAMPLER(S) SIGNATURE: Pashe Ulleyster DATE: 4/28/21 TIME: 1200

RELINQUISHED BY: Pashe Ulleyster DATE: 4/28/21 TIME: 1200

RECEIVED BY: Paul Mann SM DATE: 4-28-21 TIME: 16:20

LOGGED BY: DATE: TIME:

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-4 Degrees C 8-9035 9-Other:

POINT OF ORIGIN: ☒ Norman ☐ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other:

ALTAMIRA-US, LLC

45352 0.4C 1831

HS21060500

Altamira
Evans & Associates, Big Fork Ranch

RIGHT SOLUTIONS | RIGHT PARTNER

Revised
Laboratory Analytical Report

ENVIRONMENTAL TESTING, INC.
4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

11 June 2021

Ms. Heather Tiffany

Altamira
3700 W. Robinson, Suite 500
Norman, OK 73072

WO: E1D0519
RE: E&A, Big Fork Ranch

Enclosed are the results of analyses for samples received by the laboratory on 04/28/21 12:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Keith Hopcus For Russell Britten

President

Revised (P)

E1D0519

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

GWMP-6A

E1D0519-01 (Aqueous) - Sampled: 04/27/21 13:45

Environmental Testing, Inc.

Metals by EPA 6000/7000 Series Methods

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Molybdenum (Dissolved)	<0.00186	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:05	EPA 6010D 2018	
Molybdenum	<0.00186	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:09	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project:	E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number:	EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager:	Ms. Heather Tiffany	06/11/21 13:57

GWMP-9A

E1D0519-02 (Aqueous) - Sampled: 04/27/21 13:00

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	**0.00880**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:14	EPA 6010D 2018	
Molybdenum	**0.00630**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:18	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

Revised

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

GWMP-10A

E1D0519-03 (Aqueous) - Sampled: 04/27/21 12:25

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	**0.00350**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:31	EPA 6010D 2018	
Molybdenum	**0.00380**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:35	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

Revised

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

GWMP-11A

E1D0519-04 (Aqueous) - Sampled: 04/27/21 09:22

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	<0.00186	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:40	EPA 6010D 2018	
Molybdenum	<0.00186	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:44	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

Revised

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project:	E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number:	EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager:	Ms. Heather Tiffany	06/11/21 13:57

GWMP-12A

E1D0519-05 (Aqueous) - Sampled: 04/27/21 11:30

Environmental Testing, Inc.

Metals by EPA 6000/7000 Series Methods

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Molybdenum (Dissolved)	**0.0560**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:48	EPA 6010D 2018	
Molybdenum	**0.0697**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:53	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

Revised

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

Dup-1

E1D0519-06 (Aqueous) - Sampled: 04/27/21 11:30

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	**0.0525**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 12:57	EPA 6010D 2018	
Molybdenum	**0.0376**	0.00186	0.0100	mg/L	1	EJE0037	LSB	05/05/21 13:01	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJE0037	LSB	05/03/21 16:30	EPA 3005A 1992	

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods

Environmental Testing, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch EJE0037 - EPA 3005										
Blank (EJE0037-BLK1)				Prepared: 05/03/21 Analyzed: 05/05/21						
Molybdenum	<0.0100	0.0100	mg/L							
Molybdenum (Dissolved)	<0.0100	0.0100	mg/L							
Metals Digestion	Completed		N/A							
Metals Digestion (Dissolved)	Completed		N/A							
LCS (EJE0037-BS1)				Prepared: 05/03/21 Analyzed: 05/05/21						
Molybdenum (Dissolved)	0.511	0.0100	mg/L	0.5000		102	80-120			
Molybdenum	0.511	0.0100	mg/L	0.5000		102	80-120			
Metals Digestion (Dissolved)	Completed		N/A							
Metals Digestion	Completed		N/A							
Duplicate (EJE0037-DUP1)		**Source: E1D0524-04**		Prepared: 05/03/21 Analyzed: 05/05/21						
Molybdenum (Dissolved)	0.00280	0.0100	mg/L		0.00260			7	20	
Molybdenum	0.00280	0.0100	mg/L		0.00260			7	20	
Metals Digestion (Dissolved)	Completed		N/A							
Metals Digestion	Completed		N/A							
Matrix Spike (EJE0037-MS1)		**Source: E1D0524-04**		Prepared: 05/03/21 Analyzed: 05/05/21						
Molybdenum (Dissolved)	0.511	0.0100	mg/L	0.5000	0.00260	102	75-125			
Molybdenum	0.511	0.0100	mg/L	0.5000	0.00260	102	75-125			
Metals Digestion	Completed		N/A							
Metals Digestion (Dissolved)	Completed		N/A							
Matrix Spike Dup (EJE0037-MSD1)		**Source: E1D0524-04**		Prepared: 05/03/21 Analyzed: 05/05/21						
Molybdenum (Dissolved)	0.503	0.0100	mg/L	0.5000	0.00260	100	75-125	2	20	
Molybdenum	0.503	0.0100	mg/L	0.5000	0.00260	100	75-125	2	20	
Metals Digestion (Dissolved)	Completed		N/A							
Metals Digestion	Completed		N/A							

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

Certifications

Code	Description	Number	Expires
NELAP/OK	NELAP Accredited (ODEQ)	2020-069	08/31/2021
TCEQ	Texas Accedited (TCEQ)	T104704498-21-11	03/31/2022

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1D0519

Revised

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-APRIL 21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	06/11/21 13:57

Qualifiers and Definitions

COM	Completed
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
x	Non-Certified analyte
SDL	The MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method.
SRL	The MRL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method.
NA	Not Applicable

Environmental Testing, Inc.

Keith Hopcus For Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

ENVIRONMENTAL TESTING, INC.

Sample Receipt Form: E1D0519

Environmental Testing, Inc.

E1D0519

Printed: 4/28/2021 3:29:32PM

E-1-D-0519

Client: Altamira
Project: E&A, Big Fork Ranch

Project Manager: Ms. Heather Tiffany
Project Number: EMEEOK2021/3000-APRIL 21AM

Report To:
Altamira
Ms. Heather Tiffany
3700 W. Robinson, Suite 500
Norman, OK 73072
Phone: (405) 701-5058
Fax: (405) 843-4687

Invoice To:
Altamira
Ms. Heather Tiffany
3700 W. Robinson, Suite 500
Norman, OK 73072
Phone: (405) 701-5058
Fax: (405) 843-4687

Date Due: 05/05/21 17:00 (5 day TAT)
Received By: Stephanie Saul
Date Received: 04/28/21 12:00
Logged In By: Andra Hoot
Date Logged In: 04/28/21 15:26

Samples Received at:		2.8°C			
Custody seals	No	Received on ice	Yes	Sufficient sample	Yes
Containers intact	Yes	Sample or temp blank frozen	No		
COC/Labels agree	Yes	Headspace in VOA vials	No		
Preservation confirmed	Yes	Correct containers	Yes		

Notes:

Preservation Confirmation

Container ID	Container Type	pH	Date/Time		Lot #
E1D0519-01 A	Poly HNO3 - 250mL	<2	4.28.21	15:30	245675
E1D0519-01 B	Poly HNO3 - 250mL				
E1D0519-02 A	Poly HNO3 - 250mL				
E1D0519-02 B	Poly HNO3 - 250mL				
E1D0519-03 A	Poly HNO3 - 250mL				
E1D0519-03 B	Poly HNO3 - 250mL				
E1D0519-04 A	Poly HNO3 - 250mL				
E1D0519-04 B	Poly HNO3 - 250mL				
E1D0519-05 A	Poly HNO3 - 250mL				
E1D0519-05 B	Poly HNO3 - 250mL				
E1D0519-06 A	Poly HNO3 - 250mL				
E1D0519-06 B	Poly HNO3 - 250mL	✓	✓	✓	✓

Steph Saul
Preservation Confirmed By

4.28.21
Date

Reviewed By

Date

wko_EOC_wpres_rev8.0.rpt

CHAIN OF CUSTODY RECORD

WID0519

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2021/3000-APRIL 21AM

PROJECT NAME: E&A, BIG FORK RANCH

COC: 1 of 1

CLIENT CONTACT: HEATHER TIFFANY

CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRAUS.COM LAB DATA

CLIENT PHONE: 405 618.2021

LABORATORY / LAB PM: ETI | RUSSELL BRITTON

CLIENT ADDRESS: 3700 W. ROBINSON ST. STE 200 NORMAN, OK 73072

TAT: STD

LAB ADDRESS: 4619 N. SANTAFE AVE. OKC, OK 73118

SPECIAL INSTRUCTIONS:

SHIPMENT METHOD: HAND DELIVER

TRACKING: —

PARAMETERS

	NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	Mo, TOTAL (6020A)	Mo, DISS (6020A)	6010D per H.T. 4/28/21	HOLD
1	1	GWMP-6A	4/27/21	1345	W	2	1	N	X			
	2	GWMP-6A	4/27/21	1345			1	Y		X		
	~~3~~	~~GWMP-8A~~	~~4/27/21~~	~~1025~~			~~1~~	~~N~~	~~X~~			
	~~4~~	~~GWMP-8A~~	~~4/27/21~~	~~1025~~			~~1~~	~~Y~~		~~X~~		
2	5	GWMP-9A	4/27/21	1300			1	N	X			
	6	GWMP-9A	4/27/21	1300			1	Y		X		
3	7	GWMP-10A	4/27/21	1225			1	N	X			
	8	GWMP-10A	4/27/21	1225			1	Y		X		
4	9	GWMP-11A	4/27/21	922			1	N	X			
	10	GWMP-11A	4/27/21	922			1	Y		X		
5	11	GWMP-12A	4/27/21	1130			1	N	X			
	12	GWMP-12A	4/27/21	1130			1	Y		X		
6	13	DUP-1	4/27/21	1130			1	N	X			
	14	DUP-1	4/27/21	1130			1	Y		X		
	15											

SAMPLER(S) NAME: Pasha Klykov

DATE: 4/28/21 TIME: 1200

Total # of Containers:

SAMPLER(S) SIGNATURE:

DATE: 4/28/21 TIME: 1200

RELINQUISHED BY: Pasha Klykov DATE: 4/28/21 TIME: 1200

RECEIVED BY: Olga Saul DATE: 4.28.21 TIME: 1200

LOGGED BY: DATE: TIME:

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: X Norman ☐ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other :

ALTAMIRA-US, LLC

1.5+1.3 = 2.8 T1000043 on ICE

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP-6A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMSBOH 2021	Sampling Personnel: Pasha Mikhaylov
Temperature: 82 (F)	Other Weather Conditions: Cloudy / 19 mph

FIELD SCREENING EQUIPMENT / CALIBRATION Field Book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 30.68 (ft)

Depth to Well Bottom (TD): 36.99 (ft)

Date and time Measured: 4/26/21

Measured From: ☐ Top of Protective Casing ☑ Top of Inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 1 (Gals) 4

Three well volumes = 3 (Gals) .12

Five well Volumes = 5 (Gals) 20

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1620 Time Purging Ends: 1634

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	2000	1625	18.0	7.24	619	260.3	174	6.51
2	4000	1628	17.2	7.17	599	272.3	++++	6.05
3	8000	1631	16.9	7.17	581	279	++++	6.00
4	12000	1634	16.9	7.09	578	289.7	++++	5.97
5								
6								
7								

Total Volume Purged: 12000 (mL) Cumulative Time Purged: 14 (min) Pumping Rate: 857 (mL/min)

Number of Well Volumes Purged: 3 Was Well Purged Dry: No Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: 1345 Water Level: 30.88'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments
		++++	18.6	7.25	608	326.2	7.01	

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP 8A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other

Project: EMEE OU 2021 Sampling Personnel: Pashe Walyster

Temperature: _____ (F) Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION Field Book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 41.23 (ft)

Depth to Well Bottom (TD): 47.02 (ft)

Date and time Measured: 4/26/21

Measured From: ☐ Top of Protective Casing ☑ Top of Inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.94 (Gals)

Three well volumes = 2.8 (Gals) 1.3

Five well Volumes = 4.7 (Gals) 1.9

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____ 1 bailer ≈ 1000 ml

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1255 Time Purging Ends: 1316

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	4000	1301	18.7	7.36	608	247.3	900	5.04
2	6000	1306	18.6	7.37	599	250.4	++++	5.15
3	6800	1311	18.0	7.43	584	252.8	++++	5.71
4	7000	1316	18.1	7.52	585	264.2	++++	6.46
5								
6			Well Dry					
7								

Total Volume Purged: 7000 (mL) Cumulative Time Purged: 21 (min) Pumping Rate: 333 (mL/min)

Number of Well Volumes Purged: 1.75 Was Well Purged Dry: yes Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: 1025 Water Level: 45.75'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP-9A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other

Project: EMEEOK 2021 Sampling Personnel: Pasha Malyshev

Temperature: 82°F (F) Other Weather Conditions: Cloudy / S 17 mph

FIELD SCREENING EQUIPMENT / CALIBRATION Field Book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 11.78 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 22.59 (ft) ☑ Top of Inner Casing

Date and time Measured: 4/26/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 1.76 (Gals)

7 Three well volumes = 5.3 (Gals)

21 35.2 Five well Volumes = 8.8 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1555 Time Purging Ends: 1610

4000 mL

~~4~~	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	~~[illegible]~~	1558	16.8	7.85	762	244.3	119	7.30
2	7000mL	1601	16.3	7.76	756	255.5	478	6.89
3	11000mL	1605	16.7	7.76	747	261.6	++++	6.38
4	13500mL	1610	16.7	7.82	749	268.6	++++	6.17
5								
6								
7				Went Dry				

16.51

Total Volume Purged: 13500 (mL) Cumulative Time Purged: 15 (min) Pumping Rate: 900 (mL/min)

Number of Well Volumes Purged: ≈2 Was Well Purged Dry: yes Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: 1300 Water Level: 19.61'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments
		++++	17.6	7.82	750	323.9	6.67	

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP-10A
E + A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOU2021	Sampling Personnel: Pashe Illyystow
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION Field Book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 26.15 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 31.95 (ft) ☑ Top of Inner Casing

Date and time Measured: 4/26/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.9 (Gals)

10.8 Three well volumes = 2.7 (Gals)

18 Five well Volumes = 4.5 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1455 Time Purging Ends: 1522

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	1000	1501	17.7	6.97	2012	151.8	20.6	1.41
2	2000	1504	17.4	6.98	2008	143.7	39.0	1.08
3	4000	1507	17.3	6.94	1992	142.1	74.8	1.24
4	7500	1512	17.5	7.04	2025	134.5	198	2.03
5	10500	1517	17.4	7.06	2029	113.3	++++	2.73
6	10800	1522	17.5	7.07	2033	91.8	++++	2.74
7				Well Dry.				

Total Volume Purged: 10800 (mL) Cumulative Time Purged: 27 (min) Pumping Rate: 400 (mL/min)

Number of Well Volumes Purged: 3 Was Well Purged Dry: yes Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

26.64

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: 1225 Water Level: 28.90

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments
	Clear	71.1	17.2	6.96	2234	335.1	2.40	

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP-11A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other

Project: EMEEOR 2021 Sampling Personnel: Pasha Kolyastov

Temperature: 75 (F) Other Weather Conditions: Cloudy / S 18mph

FIELD SCREENING EQUIPMENT / CALIBRATION Field book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 50.96 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 54.26 (ft) ☑ Top of Inner Casing

Date and time Measured: 4/26/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.54 (Gals)

Three well volumes = 1.6 (Gals) 6.5

Five well Volumes = 2.7 (Gals) 10.8

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____ 1 bailer ≈ 1000mL

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1140 Time Purging Ends: 1218

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	800	1143	18.6	7.10	675	148.2	++++	5.00
2	1600	1151	18.0	7.13	658	231.0	++++	5.04
3	2850	1157	17.9	7.20	655	246.2	++++	6.15
4	3700	1205	17.8	7.13	652	235.5	++++	5.60
5	4350	1211	17.8	7.14	653	221.7	++++	5.61
6	4700	1218	17.9	7.12	659	216.7	++++	5.81
7				Went Dry				

Total Volume Purged: 4700 (mL) Cumulative Time Purged: 38 (min) Pumping Rate: 123 (mL/min)

Number of Well Volumes Purged: 2.35 Was Well Purged Dry: yes Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: 922 Water Level: 50.96

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments
		++++	17.6	7.12	652	138.1	6.88	

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP - 12A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOK 2021	Sampling Personnel: Pasha Khafastov
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION Field Book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 20.41 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 36.14 (ft) ☑ Top of Inner Casing

Date and time Measured: 4/26/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)$=(TD-DTW)(0.163) = 1.75 (Gals)

Three well volumes = 5.25 (Gals) 21

Five well Volumes = 8.75 (Gals) 35

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)$=(TD-DTW)(0.653) = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1405 Time Purging Ends: 1432

	Cumulative Volume (~~mL~~)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	1 WV	1415	18.0	6.95	3387	271.0	++++	1.96
2	2 WV	1420	17.7	6.93	3114	256.6	++++	1.77
3	3 WV	1425	17.5	6.92	2995	231.1	++++	1.23
4	3WV 1Gal	1428	17.4	6.91	2936	204.0	++++	1.74
5	3WV 2Gal	1432	17.6	7.01	3880	156.9	++++	1.79
6								
7								

Total Volume Purged: 27444 (mL) Cumulative Time Purged: 27 (min) Pumping Rate: 1016 (mL/min)

Number of Well Volumes Purged: 24 Was Well Purged Dry: no Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: 1130 Water Level: 20.52'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments
		516	17.4	6.98	3396	248.0	2.12	

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

Took DUP 1 on this well

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP-13A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOU 2021	Sampling Personnel: Pashe Mulyator
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION Field Book

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 30.16 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 31.5 (ft) ☑ Top of Inner Casing

Date and time Measured: 4/26/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.99 (Gals)

2.4 Three well volumes = 0.6 (Gals)

3.6 Five well Volumes = 0.9 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 4/26/21 Time Purging Begins: 1329 Time Purging Ends: 1349

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L)
Start	200	1332	18.2	7.29	943	259.7	64.8	4.02
2	200	1335	18.3	7.29	934	254.7	+++	4.51
3	200	1339	18.0	7.27	921	258.3	++++	5.01
4	300	1342	17.9	7.35	909	261.0	++++	5.26
5								
6		Went Dry.						
7								

Total Volume Purged: 900 (mL) Cumulative Time Purged: 20 (min) Pumping Rate: 45 (mL/min)

Number of Well Volumes Purged: ≥1 Was Well Purged Dry: yes Tubing Volume: _____ (ft^3)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☑ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 4/27/21 Time Sampled: _____ Water Level: 30.92'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L)	Comments

How is purged Water managed: disposed on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 4/27/21

SECOND 2021 GROUNDWATER SAMPLING EVENT
OCTOBER 2021

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 13, 2022

Heather Tiffany
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS21101173**

Laboratory Results for: **E&A, Big Fork Ranch**

Dear Heather Tiffany,

ALS Environmental received 14 sample(s) on Oct 21, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

Ragen Giga
Project Manager

Client: Altamira
Project: E&A, Big Fork Ranch
Work Order: HS21101173

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21101173-01	GWMP-6A	Water		19-Oct-2021 10:40	21-Oct-2021 11:40	☐
HS21101173-02	GWMP-6A (Field Filtered)	Water		19-Oct-2021 10:40	21-Oct-2021 11:40	☑
HS21101173-03	GWMP-8A	Water		20-Oct-2021 11:45	21-Oct-2021 11:40	☐
HS21101173-04	GWMP-8A (Field Filtered)	Water		20-Oct-2021 11:45	21-Oct-2021 11:40	☑
HS21101173-05	GWMP-9A	Water		19-Oct-2021 10:15	21-Oct-2021 11:40	☐
HS21101173-06	GWMP-9A (Field Filtered)	Water		19-Oct-2021 10:15	21-Oct-2021 11:40	☑
HS21101173-07	GWMP-10A	Water		20-Oct-2021 09:40	21-Oct-2021 11:40	☐
HS21101173-08	GWMP-10A (Field Filtered)	Water		20-Oct-2021 09:40	21-Oct-2021 11:40	☑
HS21101173-09	GWMP-11A	Water		18-Oct-2021 18:15	21-Oct-2021 11:40	☐
HS21101173-10	GWMP-11A (Field Filtered)	Water		18-Oct-2021 18:15	21-Oct-2021 11:40	☑
HS21101173-11	GWMP-12A	Water		18-Oct-2021 16:00	21-Oct-2021 11:40	☐
HS21101173-12	GWMP-12A (Field Filtered)	Water		18-Oct-2021 16:00	21-Oct-2021 11:40	☑
HS21101173-13	DUP-1	Water		18-Oct-2021 16:00	21-Oct-2021 11:40	☐
HS21101173-14	DUP-1 (Field Filtered)	Water		18-Oct-2021 16:00	21-Oct-2021 11:40	☑

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
Work Order: HS21101173

CASE NARRATIVE

Work Order Comments

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

  The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

- The analyses for Radium-226 and Radium-228 were subcontracted to ALS Environmental in Fort Collins, CO. Final report attached.

Metals by Method SW7470A

Batch ID: 172658

Sample ID: DUP-1 (HS21101173-13)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Sample ID: GWMP-10A (HS21101173-07)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Sample ID: GWMP-11A (HS21101173-09)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Sample ID: GWMP-12A (HS21101173-11)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Sample ID: GWMP-6A (HS21101173-01)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Sample ID: GWMP-8A (HS21101173-03)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Sample ID: GWMP-9A (HS21101173-05)

- Sample was analyzed outside of the holding time due to laboratory error. Sample results should be considered estimated.

Metals by Method SW6020A

Batch ID: 172287

Sample ID: HS21101582-03MS

- MS and MSD are for an unrelated sample

Sample ID: HS21101582-03SD

- SD is for an unrelated sample

WetChemistry by Method SM4500H+ B

Batch ID: R395447

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
Work Order: HS21101173

CASE NARRATIVE

WetChemistry by Method E300

Batch ID: R395325

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2540C

Batch ID: R394117,R394297

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**	
Project:	E&A, Big Fork Ranch	WorkOrder:HS21101173	
Sample ID:	GWMP-6A	Lab ID:HS21101173-01	
Collection Date:	19-Oct-2021 10:40	Matrix:Water	

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	10-Nov-2021 17:53
Arsenic	**0.00153**	J	**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 17:53
Barium	**0.334**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 17:53
Beryllium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:53
Boron	**0.0959**		**0.0110**	**0.0200**	**mg/L**	1	10-Nov-2021 17:53
Cadmium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:53
Calcium	**79.3**		**0.0340**	**0.500**	**mg/L**	1	10-Nov-2021 17:53
Chromium	**0.00211**	J	**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 17:53
Cobalt	**0.00123**	J	**0.000200**	**0.00500**	**mg/L**	1	10-Nov-2021 17:53
Lead	**0.00134**	J	**0.000600**	**0.00200**	**mg/L**	1	10-Nov-2021 17:53
Lithium	**0.00630**		**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 17:53
Molybdenum	U		0.000600	0.00500	mg/L	1	10-Nov-2021 17:53
Selenium	**0.00305**		**0.00110**	**0.00200**	**mg/L**	1	10-Nov-2021 17:53
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:53
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	18-Nov-2021 10:30
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**1.25**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 18:30
Fluoride	**0.480**		**0.0500**	**0.100**	**mg/L**	1	09-Nov-2021 18:30
Sulfate	**43.0**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 18:30
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**350**		**5.00**	**10.0**	**mg/L**	1	26-Oct-2021 16:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.45**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**22.0**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**	
Project:	E&A, Big Fork Ranch	WorkOrder:HS21101173	
Sample ID:	GWMP-8A	Lab ID:HS21101173-03	
Collection Date:	20-Oct-2021 11:45	Matrix:Water	

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	10-Nov-2021 17:55
Arsenic	**0.00104**	J	**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 17:55
Barium	**0.412**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 17:55
Beryllium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:55
Boron	**0.0398**		**0.0110**	**0.0200**	**mg/L**	1	10-Nov-2021 17:55
Cadmium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:55
Calcium	**88.4**		**0.0340**	**0.500**	**mg/L**	1	10-Nov-2021 17:55
Chromium	**0.00118**	J	**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 17:55
Cobalt	U		0.000200	0.00500	mg/L	1	10-Nov-2021 17:55
Lead	U		0.000600	0.00200	mg/L	1	10-Nov-2021 17:55
Lithium	**0.00903**		**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 17:55
Molybdenum	U		0.000600	0.00500	mg/L	1	10-Nov-2021 17:55
Selenium	U		0.00110	0.00200	mg/L	1	10-Nov-2021 17:55
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:55
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	18-Nov-2021 10:37
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**4.25**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 19:00
Fluoride	**0.260**		**0.0500**	**0.100**	**mg/L**	1	09-Nov-2021 19:00
Sulfate	**43.0**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 19:00
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**438**		**5.00**	**10.0**	**mg/L**	1	26-Oct-2021 16:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.42**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**22.0**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**	
Project:	E&A, Big Fork Ranch	WorkOrder:HS21101173	
Sample ID:	GWMP-9A	Lab ID:HS21101173-05	
Collection Date:	19-Oct-2021 10:15	Matrix:Water	

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	10-Nov-2021 17:57
Arsenic	**0.00225**		**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 17:57
Barium	**0.0728**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 17:57
Beryllium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:57
Boron	**1.25**		**0.0550**	**0.100**	**mg/L**	5	11-Nov-2021 12:59
Cadmium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:57
Calcium	**30.3**		**0.0340**	**0.500**	**mg/L**	1	10-Nov-2021 17:57
Chromium	**0.000462**	J	**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 17:57
Cobalt	U		0.000200	0.00500	mg/L	1	10-Nov-2021 17:57
Lead	U		0.000600	0.00200	mg/L	1	10-Nov-2021 17:57
Lithium	**0.0195**		**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 17:57
Molybdenum	**0.00516**		**0.000600**	**0.00500**	**mg/L**	1	10-Nov-2021 17:57
Selenium	U		0.00110	0.00200	mg/L	1	10-Nov-2021 17:57
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:57
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	18-Nov-2021 10:39
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**16.3**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 19:14
Fluoride	**0.842**		**0.0500**	**0.100**	**mg/L**	1	09-Nov-2021 19:14
Sulfate	**89.0**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 19:14
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**506**		**5.00**	**10.0**	**mg/L**	1	26-Oct-2021 16:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.93**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**22.2**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
Sample ID: GWMP-10A
Collection Date: 20-Oct-2021 09:40

ANALYTICAL REPORT
WorkOrder:HS21101173
Lab ID:HS21101173-07
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	**0.000723**	J	**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 17:59
Arsenic	**0.00734**		**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 17:59
Barium	**0.0459**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 17:59
Beryllium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:59
Boron	**3.93**		**0.110**	**0.200**	**mg/L**	10	11-Nov-2021 13:01
Cadmium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:59
Calcium	**150**		**0.0340**	**0.500**	**mg/L**	1	10-Nov-2021 17:59
Chromium	**0.00104**	J	**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 17:59
Cobalt	**0.00449**	J	**0.000200**	**0.00500**	**mg/L**	1	10-Nov-2021 17:59
Lead	**0.00172**	J	**0.000600**	**0.00200**	**mg/L**	1	10-Nov-2021 17:59
Lithium	**0.00311**	J	**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 17:59
Molybdenum	**0.0109**		**0.000600**	**0.00500**	**mg/L**	1	10-Nov-2021 17:59
Selenium	U		0.00110	0.00200	mg/L	1	10-Nov-2021 17:59
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 17:59
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	18-Nov-2021 10:41
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**29.3**		**1.00**	**2.50**	**mg/L**	5	09-Nov-2021 19:44
Fluoride	**0.640**		**0.250**	**0.500**	**mg/L**	5	09-Nov-2021 19:44
Sulfate	**1,090**		**10.0**	**25.0**	**mg/L**	50	09-Nov-2021 19:51
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**2,190**		**5.00**	**10.0**	**mg/L**	1	26-Oct-2021 16:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.55**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**22.1**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	Altamira	**ANALYTICAL REPORT**	
Project:	E&A, Big Fork Ranch	WorkOrder:HS21101173	
Sample ID:	GWMP-11A	Lab ID:HS21101173-09	
Collection Date:	18-Oct-2021 18:15	Matrix:Water	

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	10-Nov-2021 18:01
Arsenic	**0.00117**	J	**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 18:01
Barium	**0.389**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 18:01
Beryllium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 18:01
Boron	**0.0904**		**0.0110**	**0.0200**	**mg/L**	1	10-Nov-2021 18:01
Cadmium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 18:01
Calcium	**91.9**		**0.0340**	**0.500**	**mg/L**	1	10-Nov-2021 18:01
Chromium	**0.00121**	J	**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 18:01
Cobalt	U		0.000200	0.00500	mg/L	1	10-Nov-2021 18:01
Lead	U		0.000600	0.00200	mg/L	1	10-Nov-2021 18:01
Lithium	**0.00920**		**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 18:01
Molybdenum	U		0.000600	0.00500	mg/L	1	10-Nov-2021 18:01
Selenium	U		0.00110	0.00200	mg/L	1	10-Nov-2021 18:01
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 18:01
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	U	H	0.0000300	0.000200	mg/L	1	18-Nov-2021 10:42
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**4.35**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 19:59
Fluoride	**0.265**		**0.0500**	**0.100**	**mg/L**	1	09-Nov-2021 19:59
Sulfate	**38.8**		**0.200**	**0.500**	**mg/L**	1	09-Nov-2021 19:59
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: SH
Total Dissolved Solids (Residue, Filterable)	**430**		**5.00**	**10.0**	**mg/L**	1	22-Oct-2021 18:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.40**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**21.9**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ANALYTICAL REPORT

Client: Altamira
Project: E&A, Big Fork Ranch
Sample ID: GWMP-12A
Collection Date: 18-Oct-2021 16:00

WorkOrder:HS21101173
Lab ID:HS21101173-11
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	10-Nov-2021 18:03
Arsenic	**0.0141**		**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 18:03
Barium	**0.127**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 18:03
Beryllium	**0.000610**	J	**0.000200**	**0.00200**	**mg/L**	1	10-Nov-2021 18:03
Boron	**9.17**		**0.220**	**0.400**	**mg/L**	20	11-Nov-2021 13:03
Cadmium	**0.000234**	J	**0.000200**	**0.00200**	**mg/L**	1	10-Nov-2021 18:03
Calcium	**254**		**0.680**	**10.0**	**mg/L**	20	11-Nov-2021 13:03
Chromium	**0.00447**		**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 18:03
Cobalt	**0.0104**		**0.000200**	**0.00500**	**mg/L**	1	10-Nov-2021 18:03
Lead	**0.0112**		**0.000600**	**0.00200**	**mg/L**	1	10-Nov-2021 18:03
Lithium	**0.00444**	J	**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 18:03
Molybdenum	**0.0605**		**0.000600**	**0.00500**	**mg/L**	1	10-Nov-2021 18:03
Selenium	U		0.00110	0.00200	mg/L	1	10-Nov-2021 18:03
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 18:03
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	**0.0000610**	JH	**0.0000300**	**0.000200**	**mg/L**	1	18-Nov-2021 10:44
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**86.7**		**1.00**	**2.50**	**mg/L**	5	09-Nov-2021 20:13
Fluoride	**0.850**		**0.250**	**0.500**	**mg/L**	5	09-Nov-2021 20:13
Sulfate	**2,130**		**10.0**	**25.0**	**mg/L**	50	09-Nov-2021 20:21
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: SH
Total Dissolved Solids (Residue, Filterable)	**3,820**		**5.00**	**10.0**	**mg/L**	1	22-Oct-2021 18:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.57**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**22.0**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
Sample ID: DUP-1
Collection Date: 18-Oct-2021 16:00

ANALYTICAL REPORT
WorkOrder:HS21101173
Lab ID:HS21101173-13
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 09-Nov-2021		Analyst: JHD
Antimony	U		0.000400	0.00200	mg/L	1	10-Nov-2021 18:05
Arsenic	**0.0127**		**0.000400**	**0.00200**	**mg/L**	1	10-Nov-2021 18:05
Barium	**0.104**		**0.00190**	**0.00400**	**mg/L**	1	10-Nov-2021 18:05
Beryllium	**0.000517**	J	**0.000200**	**0.00200**	**mg/L**	1	10-Nov-2021 18:05
Boron	**8.93**		**0.220**	**0.400**	**mg/L**	20	11-Nov-2021 13:04
Cadmium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 18:05
Calcium	**241**		**0.680**	**10.0**	**mg/L**	20	11-Nov-2021 13:04
Chromium	**0.00377**	J	**0.000400**	**0.00400**	**mg/L**	1	10-Nov-2021 18:05
Cobalt	**0.00945**		**0.000200**	**0.00500**	**mg/L**	1	10-Nov-2021 18:05
Lead	**0.0103**		**0.000600**	**0.00200**	**mg/L**	1	10-Nov-2021 18:05
Lithium	**0.00415**	J	**0.00100**	**0.00500**	**mg/L**	1	10-Nov-2021 18:05
Molybdenum	**0.0572**		**0.000600**	**0.00500**	**mg/L**	1	10-Nov-2021 18:05
Selenium	U		0.00110	0.00200	mg/L	1	10-Nov-2021 18:05
Thallium	U		0.000200	0.00200	mg/L	1	10-Nov-2021 18:05
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 18-Nov-2021		Analyst: MSC
Mercury	**0.0000500**	JH	**0.0000300**	**0.000200**	**mg/L**	1	18-Nov-2021 10:46
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: YP
Chloride	**84.4**		**1.00**	**2.50**	**mg/L**	5	09-Nov-2021 20:28
Fluoride	**0.790**		**0.250**	**0.500**	**mg/L**	5	09-Nov-2021 20:28
Sulfate	**2,210**		**10.0**	**25.0**	**mg/L**	50	09-Nov-2021 20:35
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: SH
Total Dissolved Solids (Residue, Filterable)	**4,060**		**5.00**	**10.0**	**mg/L**	1	22-Oct-2021 18:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: SH
pH	**7.50**	H	**0.100**	**0.100**	**pH Units**	1	11-Nov-2021 03:00
Temp Deg C @pH	**22.1**	H	**0**	**0**	**°C**	1	11-Nov-2021 03:00
SUBCONTRACT ANALYSIS - RADIUM 226		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55
SUBCONTRACT ANALYSIS - RADIUM 228		**Method:NA**					Analyst: SUBFC
Subcontract Analysis	See Attached		0		NA	1	12-Jan-2022 11:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Weight / Prep Log

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

Batch ID: 172287 **Start Date:** 09 Nov 2021 13:00 **End Date:** 09 Nov 2021 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21101173-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-13		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 172658 **Start Date:** 18 Nov 2021 07:30 **End Date:** 18 Nov 2021 10:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21101173-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21101173-13		10 (mL)	10 (mL)	1	120 plastic HNO3

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 172287 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS21101173-01	GWMP-6A	19 Oct 2021 10:40		09 Nov 2021 17:00	10 Nov 2021 17:53	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45		09 Nov 2021 17:00	10 Nov 2021 17:55	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15		09 Nov 2021 17:00	11 Nov 2021 12:59	5
HS21101173-05	GWMP-9A	19 Oct 2021 10:15		09 Nov 2021 17:00	10 Nov 2021 17:57	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40		09 Nov 2021 17:00	11 Nov 2021 13:01	10
HS21101173-07	GWMP-10A	20 Oct 2021 09:40		09 Nov 2021 17:00	10 Nov 2021 17:59	1
HS21101173-09	GWMP-11A	18 Oct 2021 18:15		09 Nov 2021 17:00	10 Nov 2021 18:01	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00		09 Nov 2021 17:00	11 Nov 2021 13:03	20
HS21101173-11	GWMP-12A	18 Oct 2021 16:00		09 Nov 2021 17:00	10 Nov 2021 18:03	1
HS21101173-13	DUP-1	18 Oct 2021 16:00		09 Nov 2021 17:00	11 Nov 2021 13:04	20
HS21101173-13	DUP-1	18 Oct 2021 16:00		09 Nov 2021 17:00	10 Nov 2021 18:05	1
Batch ID: 172658 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS21101173-01	GWMP-6A	19 Oct 2021 10:40		18 Nov 2021 07:30	18 Nov 2021 10:30	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45		18 Nov 2021 07:30	18 Nov 2021 10:37	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15		18 Nov 2021 07:30	18 Nov 2021 10:39	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40		18 Nov 2021 07:30	18 Nov 2021 10:41	1
HS21101173-09	GWMP-11A	18 Oct 2021 18:15		18 Nov 2021 07:30	18 Nov 2021 10:42	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00		18 Nov 2021 07:30	18 Nov 2021 10:44	1
HS21101173-13	DUP-1	18 Oct 2021 16:00		18 Nov 2021 07:30	18 Nov 2021 10:46	1
Batch ID: R394117 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS21101173-09	GWMP-11A	18 Oct 2021 18:15			22 Oct 2021 18:00	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00			22 Oct 2021 18:00	1
HS21101173-13	DUP-1	18 Oct 2021 16:00			22 Oct 2021 18:00	1
Batch ID: R394297 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS21101173-01	GWMP-6A	19 Oct 2021 10:40			26 Oct 2021 16:00	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45			26 Oct 2021 16:00	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15			26 Oct 2021 16:00	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40			26 Oct 2021 16:00	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R395325 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS21101173-01	GWMP-6A	19 Oct 2021 10:40			09 Nov 2021 18:30	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45			09 Nov 2021 19:00	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15			09 Nov 2021 19:14	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40			09 Nov 2021 19:51	50
HS21101173-07	GWMP-10A	20 Oct 2021 09:40			09 Nov 2021 19:44	5
HS21101173-09	GWMP-11A	18 Oct 2021 18:15			09 Nov 2021 19:59	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00			09 Nov 2021 20:21	50
HS21101173-11	GWMP-12A	18 Oct 2021 16:00			09 Nov 2021 20:13	5
HS21101173-13	DUP-1	18 Oct 2021 16:00			09 Nov 2021 20:35	50
HS21101173-13	DUP-1	18 Oct 2021 16:00			09 Nov 2021 20:28	5
Batch ID: R395447 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS21101173-01	GWMP-6A	19 Oct 2021 10:40			11 Nov 2021 03:00	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45			11 Nov 2021 03:00	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15			11 Nov 2021 03:00	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40			11 Nov 2021 03:00	1
HS21101173-09	GWMP-11A	18 Oct 2021 18:15			11 Nov 2021 03:00	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00			11 Nov 2021 03:00	1
HS21101173-13	DUP-1	18 Oct 2021 16:00			11 Nov 2021 03:00	1
Batch ID: R400232 (0)	**Test Name :** SUBCONTRACT ANALYSIS - RADIUM 228				**Matrix:** Water	
HS21101173-01	GWMP-6A	19 Oct 2021 10:40			12 Jan 2022 11:55	1
HS21101173-01	GWMP-6A	19 Oct 2021 10:40			12 Jan 2022 11:55	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45			12 Jan 2022 11:55	1
HS21101173-03	GWMP-8A	20 Oct 2021 11:45			12 Jan 2022 11:55	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15			12 Jan 2022 11:55	1
HS21101173-05	GWMP-9A	19 Oct 2021 10:15			12 Jan 2022 11:55	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40			12 Jan 2022 11:55	1
HS21101173-07	GWMP-10A	20 Oct 2021 09:40			12 Jan 2022 11:55	1
HS21101173-09	GWMP-11A	18 Oct 2021 18:15			12 Jan 2022 11:55	1
HS21101173-09	GWMP-11A	18 Oct 2021 18:15			12 Jan 2022 11:55	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00			12 Jan 2022 11:55	1
HS21101173-11	GWMP-12A	18 Oct 2021 16:00			12 Jan 2022 11:55	1
HS21101173-13	DUP-1	18 Oct 2021 16:00			12 Jan 2022 11:55	1
HS21101173-13	DUP-1	18 Oct 2021 16:00			12 Jan 2022 11:55	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: 172287 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-172287** Units: **mg/L** Analysis Date: **10-Nov-2021 14:22**
Client ID: Run ID: **ICPMS06_395351** SeqNo: **6364438** PrepDate: **09-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.00200								
Arsenic	U	0.00200								
Barium	U	0.00400								
Beryllium	U	0.00200								
Boron	U	0.0200								
Cadmium	U	0.00200								
Calcium	U	0.500								
Chromium	0.000535	0.00400								J
Cobalt	U	0.00500								
Lead	U	0.00200								
Lithium	U	0.00500								
Molybdenum	U	0.00500								
Selenium	U	0.00200								
Thallium	U	0.00200								

LCS Sample ID: **LCS-172287** Units: **mg/L** Analysis Date: **10-Nov-2021 14:24**
Client ID: Run ID: **ICPMS06_395351** SeqNo: **6364439** PrepDate: **09-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05139	0.00200	0.05	0	103	80 - 120				
Arsenic	0.05048	0.00200	0.05	0	101	80 - 120				
Barium	0.05109	0.00400	0.05	0	102	80 - 120				
Beryllium	0.04981	0.00200	0.05	0	99.6	80 - 120				
Boron	0.4654	0.0200	0.5	0	93.1	80 - 120				
Cadmium	0.05165	0.00200	0.05	0	103	80 - 120				
Calcium	4.632	0.500	5	0	92.6	80 - 120				
Chromium	0.04929	0.00400	0.05	0	98.6	80 - 120				
Cobalt	0.05042	0.00500	0.05	0	101	80 - 120				
Lead	0.04938	0.00200	0.05	0	98.8	80 - 120				
Lithium	0.09314	0.00500	0.1	0	93.1	80 - 120				
Molybdenum	0.04756	0.00500	0.05	0	95.1	80 - 120				
Selenium	0.05162	0.00200	0.05	0	103	80 - 120				
Thallium	0.05183	0.00200	0.05	0	104	80 - 120				

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: 172287 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MS Sample ID: **HS21101582-03MS** Units: **mg/L** Analysis Date: **10-Nov-2021 14:52**
Client ID: Run ID: **ICPMS06_395351** SeqNo: **6364445** PrepDate: **09-Nov-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05009	0.0100	0.05	0	100	80 - 120				
Arsenic	0.05427	0.0100	0.05	0	109	80 - 120				
Barium	0.5755	0.0200	0.05	0.4993	152	80 - 120				SO
Beryllium	0.05429	0.0100	0.05	0	109	80 - 120				
Boron	3.441	0.100	0.5	2.787	131	80 - 120				SO
Cadmium	0.05474	0.0100	0.05	0	109	80 - 120				
Calcium	140.6	2.50	5	131.5	182	80 - 120				SO
Chromium	0.05278	0.0200	0.05	0	106	80 - 120				
Cobalt	0.05201	0.0250	0.05	0	104	80 - 120				
Lead	0.05216	0.0100	0.05	0	104	80 - 120				
Lithium	0.1757	0.0250	0.1	0.06943	106	80 - 120				
Molybdenum	0.05582	0.0250	0.05	0	112	80 - 120				
Selenium	0.05237	0.0100	0.05	0	105	80 - 120				
Thallium	0.0536	0.0100	0.05	0	107	80 - 120				

MSD Sample ID: **HS21101582-03MSD** Units: **mg/L** Analysis Date: **10-Nov-2021 14:56**
Client ID: Run ID: **ICPMS06_395351** SeqNo: **6364447** PrepDate: **09-Nov-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04804	0.0100	0.05	0	96.1	80 - 120	0.05009	4.18	20	
Arsenic	0.05158	0.0100	0.05	0	103	80 - 120	0.05427	5.09	20	
Barium	0.5462	0.0200	0.05	0.4993	93.9	80 - 120	0.5755	5.22	20	O
Beryllium	0.05225	0.0100	0.05	0	104	80 - 120	0.05429	3.83	20	
Boron	3.226	0.100	0.5	2.787	87.9	80 - 120	3.441	6.43	20	O
Cadmium	0.05059	0.0100	0.05	0	101	80 - 120	0.05474	7.88	20	
Calcium	137.7	2.50	5	131.5	124	80 - 120	140.6	2.08	20	SO
Chromium	0.05104	0.0200	0.05	0	102	80 - 120	0.05278	3.34	20	
Cobalt	0.05046	0.0250	0.05	0	101	80 - 120	0.05201	3.04	20	
Lead	0.05059	0.0100	0.05	0	101	80 - 120	0.05216	3.06	20	
Lithium	0.1674	0.0250	0.1	0.06943	98.0	80 - 120	0.1757	4.83	20	
Molybdenum	0.05317	0.0250	0.05	0	106	80 - 120	0.05582	4.86	20	
Selenium	0.04839	0.0100	0.05	0	96.8	80 - 120	0.05237	7.9	20	
Thallium	0.05171	0.0100	0.05	0	103	80 - 120	0.0536	3.59	20	

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: 172287 (0) **Instrument:** ICPMS06 **Method:** ICP-MS METALS BY SW6020A

PDS Sample ID: **HS21101582-03PDS** Units: **mg/L** Analysis Date: **10-Nov-2021 14:58**
Client ID: Run ID: **ICPMS06_395351** SeqNo: **6364448** PrepDate: **09-Nov-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.471	0.0100	0.5	0	94.2	75 - 125				
Arsenic	0.4904	0.0100	0.5	0	98.1	75 - 125				
Barium	0.9509	0.0200	0.5	0.4993	90.3	75 - 125				
Beryllium	0.4909	0.0100	0.5	0	98.2	75 - 125				
Boron	3.754	0.100	1.25	2.787	77.4	75 - 125				
Cadmium	0.486	0.0100	0.5	0	97.2	75 - 125				
Calcium	170.1	2.50	50	131.5	77.2	75 - 125				
Chromium	0.4778	0.0200	0.5	0	95.6	75 - 125				
Cobalt	0.4873	0.0250	0.5	0	97.5	75 - 125				
Lead	0.4872	0.0100	0.5	0	97.4	75 - 125				
Lithium	0.5262	0.0250	0.5	0.06943	91.3	70 - 125				
Molybdenum	0.5	0.0250	0.5	0	100	75 - 125				
Selenium	0.4864	0.0100	0.5	0	97.3	75 - 125				
Thallium	0.5132	0.0100	0.5	0	103	75 - 125				

SD Sample ID: **HS21101582-03SD** Units: **mg/L** Analysis Date: **10-Nov-2021 14:50**
Client ID: Run ID: **ICPMS06_395351** SeqNo: **6364444** PrepDate: **09-Nov-2021** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.0500					0.000076	0	10	
Arsenic	U	0.0500					0.001727	0	10	
Barium	0.5069	0.100					0.4993	1.53	10	
Beryllium	U	0.0500					-0.000032	0	10	
Boron	3.079	0.500					2.787	10.5	10	R
Cadmium	U	0.0500					0.00007	0	10	
Calcium	128.9	12.5					131.5	2.01	10	
Chromium	U	0.100					0.001639	0	10	
Cobalt	U	0.125					0.000767	0	10	
Lead	U	0.0500					-0.000044	0	10	
Lithium	0.07392	0.125					0.06943	0	10	J
Molybdenum	U	0.125					0.001012	0	10	
Selenium	U	0.0500					-0.000023	0	10	
Thallium	U	0.0500					-0.00002	0	10	

The following samples were analyzed in this batch: HS21101173-01 HS21101173-03 HS21101173-05 HS21101173-07 HS21101173-09 HS21101173-11 HS21101173-13

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: 172658 (0) **Instrument: HG03** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-172658** Units: **mg/L** Analysis Date: **18-Nov-2021 10:22**
Client ID: Run ID: **HG03_395916** SeqNo: **6379292** PrepDate: **18-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.000200								

LCS Sample ID: **LCS-172658** Units: **mg/L** Analysis Date: **18-Nov-2021 10:24**
Client ID: Run ID: **HG03_395916** SeqNo: **6379293** PrepDate: **18-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00479	0.000200	0.005	0	95.8	80 - 120				

MS Sample ID: **HS21110830-17MS** Units: **mg/L** Analysis Date: **18-Nov-2021 10:27**
Client ID: Run ID: **HG03_395916** SeqNo: **6379295** PrepDate: **18-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0041	0.000200	0.005	0.000001	82.0	75 - 125				

MSD Sample ID: **HS21110830-17MSD** Units: **mg/L** Analysis Date: **18-Nov-2021 10:29**
Client ID: Run ID: **HG03_395916** SeqNo: **6379296** PrepDate: **18-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0043	0.000200	0.005	0.000001	86.0	75 - 125	0.0041	4.76	20	

The following samples were analyzed in this batch:

HS21101173-01	HS21101173-03	HS21101173-05	HS21101173-07
HS21101173-09	HS21101173-11	HS21101173-13	

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: R394117 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-102221** Units: **mg/L** Analysis Date: **22-Oct-2021 18:00**
Client ID: Run ID: **Balance1_394117** SeqNo: **6336171** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **WLCS-102221** Units: **mg/L** Analysis Date: **22-Oct-2021 18:00**
Client ID: Run ID: **Balance1_394117** SeqNo: **6336172** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	958	10.0	1000	0	95.8	85 - 115				

DUP Sample ID: **HS21101173-09DUP** Units: **mg/L** Analysis Date: **22-Oct-2021 18:00**
Client ID: **GWMP-11A** Run ID: **Balance1_394117** SeqNo: **6336168** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	428	10.0					430	0.466	5	

DUP Sample ID: **HS21100982-02DUP** Units: **mg/L** Analysis Date: **22-Oct-2021 18:00**
Client ID: Run ID: **Balance1_394117** SeqNo: **6336164** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1024	10.0					1006	1.77	5	

The following samples were analyzed in this batch: HS21101173-09 HS21101173-11 HS21101173-13

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: R394297 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-102621** Units: **mg/L** Analysis Date: **26-Oct-2021 16:00**
Client ID: Run ID: **Balance1_394297** SeqNo: **6340681** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **WLCS-102621** Units: **mg/L** Analysis Date: **26-Oct-2021 16:00**
Client ID: Run ID: **Balance1_394297** SeqNo: **6340682** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	980	10.0	1000	0	98.0	85 - 115				

DUP Sample ID: **HS21101164-01DUP** Units: **mg/L** Analysis Date: **26-Oct-2021 16:00**
Client ID: Run ID: **Balance1_394297** SeqNo: **6340672** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	740	10.0					752	1.61	5	

DUP Sample ID: **HS21101112-01DUP** Units: **mg/L** Analysis Date: **26-Oct-2021 16:00**
Client ID: Run ID: **Balance1_394297** SeqNo: **6340668** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	2686	10.0					2652	1.27	5	

The following samples were analyzed in this batch: HS21101173-01 HS21101173-03 HS21101173-05 HS21101173-07

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: R395325 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0, REV 2.1, 1993

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **09-Nov-2021 16:40**
Client ID: Run ID: **ICS-Integrion_395325** SeqNo: **6363539** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **09-Nov-2021 16:47**
Client ID: Run ID: **ICS-Integrion_395325** SeqNo: **6363540** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.55	0.500	20	0	97.7	90 - 110				
Fluoride	4.257	0.100	4	0	106	90 - 110				
Sulfate	19.71	0.500	20	0	98.5	90 - 110				

MS Sample ID: **HS21101723-09MS** Units: **mg/L** Analysis Date: **10-Nov-2021 03:07**
Client ID: Run ID: **ICS-Integrion_395325** SeqNo: **6363576** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2401	50.0	1000	1367	103	80 - 120				
Fluoride	233.2	10.0	200	6.19	113	80 - 120				
Sulfate	1593	50.0	1000	522.7	107	80 - 120				

MS Sample ID: **HS21101173-01MS** Units: **mg/L** Analysis Date: **09-Nov-2021 18:38**
Client ID: **GWMP-6A** Run ID: **ICS-Integrion_395325** SeqNo: **6363544** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	11.36	0.500	10	1.249	101	80 - 120				
Fluoride	2.696	0.100	2	0.4796	111	80 - 120				
Sulfate	52.66	0.500	10	43.01	96.4	80 - 120				O

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: **R395325 (0)** **Instrument:** **ICS-Integrion** **Method:** **ANIONS BY E300.0, REV 2.1, 1993**

MSD Sample ID: **HS21101723-09MSD** Units: **mg/L** Analysis Date: **10-Nov-2021 03:14**
Client ID: Run ID: **ICS-Integrion_395325** SeqNo: **6363577** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2396	50.0	1000	1367	103	80 - 120	2401	0.175	20	
Fluoride	233.2	10.0	200	6.19	114	80 - 120	233.2	0.00429	20	
Sulfate	1593	50.0	1000	522.7	107	80 - 120	1593	0.0433	20	

MSD Sample ID: **HS21101173-01MSD** Units: **mg/L** Analysis Date: **09-Nov-2021 18:45**
Client ID: **GWMP-6A** Run ID: **ICS-Integrion_395325** SeqNo: **6363545** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	11.35	0.500	10	1.249	101	80 - 120	11.36	0.088	20	
Fluoride	2.69	0.100	2	0.4796	111	80 - 120	2.696	0.219	20	
Sulfate	52.42	0.500	10	43.01	94.0	80 - 120	52.66	0.457	20	O

The following samples were analyzed in this batch: HS21101173-01 HS21101173-03 HS21101173-05 HS21101173-07 HS21101173-09 HS21101173-11 HS21101173-13

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: HS21101173

QC BATCH REPORT

Batch ID: **R395447 (0)** **Instrument:** **WetChem_HS** **Method:** **PH BY SM4500H+ B-2011**

DUP Sample ID: **HS21101173-01DUP** Units: **pH Units** Analysis Date: **11-Nov-2021 03:00**
Client ID: **GWMP-6A** Run ID: **WetChem_HS_395447** SeqNo: **6366857** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.42	0.100					7.45	0.403	10	
Temp Deg C @pH	22.1	0					22	0.454	10	

The following samples were analyzed in this batch: HS21101173-01 HS21101173-03 HS21101173-05 HS21101173-07 HS21101173-09 HS21101173-11 HS21101173-13

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Altamira
Project: E&A, Big Fork Ranch
WorkOrder: **HS21101173**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

RIGHT SOLUTIONS | RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Texas	T104704231-21-28	30-Apr-2022

RIGHT SOLUTIONS | RIGHT PARTNER

Sample Receipt Checklist

Work Order ID: HS21101173 **Date/Time Received:** **21-Oct-2021 11:40**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Pablo Marinez**

Completed By: /S/ Pablo Marinez (eSignature) 21-Oct-2021 15:59 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 22-Oct-2021 11:34 (Date/Time)

Matrices: **WATER** Carrier name: **FedEx Priority Overnight**

	Yes	No	
Shipping container/cooler in good condition?	☑	☐	Not Present ☐
Custody seals intact on shipping container/cooler?	☑	☐	Not Present ☐
Custody seals intact on sample bottles?	☐	☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	☐	☐	Not Present ☑
Chain of custody present?	☑	☐	1 Page(s)
Chain of custody signed when relinquished and received?	☑	☐	COC IDs:CLIENT
Samplers name present on COC?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	

Temperature(s)/Thermometer(s):	1.0°C, 0.9°C UC/C	IR 31
Cooler(s)/Kit(s):	47251, 46506	
Date/Time sample(s) sent to storage:	10/21/21 15:50	

	Yes	No	
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	☑	☐	N/A ☐
pH adjusted?	☐	☑	N/A ☐

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER:	EMEEOK2021/3000-OCT21AM
PROJECT NAME:	E&A BIG FORK RANCH
COC:	1 of 1
CLIENT CONTACT:	HEATHER TIFFANY
CLIENT EMAIL:	HEATHER.TIFFANY@ALTAMIRA-US.COM LABDATA
CLIENT PHONE:	405.618.2021
LABORATORY / LAB PM:	ALS/ RAGEN GIGA
CLIENT ADDRESS:	525 CENTRAL PARK DR #525 OKC, OK 73105
TAT:	STND
LAB ADDRESS:	10450 STANCLIFF RD #210 HOUSTON, TX 77099
SPECIAL INSTRUCTIONS:	*METALS BY 6020A: Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Sn. & Th **REPORT RAD COMBINED**
SHIPMENT METHOD:	FEDEX
TRACKING:	HS21101173 Altamira E&A Big Fork Ranch

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRESERVATIVES	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	pH (SM4500 H+B)	Cl, F, SO4 (300.0)	B (6020A)	Ca (6010B)	TDS (SM2540C)	METALS, TOTAL*	Hg (7470A)	** RA-226 SUB TO FT. COLLINS	** RA-228 SUB TO FT. COLLINS	FIELD FILTERED METALS*			HOLD
1	GWMP-6A	10/19/21	1040	W	2,9	4	N	X	X	X	X	X	X	X	X	X				
2	GWMP-6A	10/19/21	1040		2	1	Y										X			X
3	GWMP-8A	10/20/21	1145		2,9	4	N	X	X	X	X	X	X	X	X	X				
4	GWMP-8A	10/20/21	1145		2	1	Y										X			X
5	GWMP-9A	10/19/21	1015		2,9	4	N	X	X	X	X	X	X	X	X	X				
6	GWMP-9A	10/19/21	1015		2	1	Y										X			X
7	GWMP-10A	10/20/21	940		2,9	4	N	X	X	X	X	X	X	X	X	X				
8	GWMP-10A	10/20/21	940		2	1	Y										X			X
9	GWMP-11A	10/18/21	1815		2,9	4	N	X	X	X	X	X	X	X	X	X				
10	GWMP-11A	10/18/21	1815		2	1	Y										X			X
11	GWMP-12A	10/18/21	1600		2,9	4	N	X	X	X	X	X	X	X	X	X				
12	GWMP-12A	10/18/21	1600		2	1	Y										X			X
13	DUP-1	10/18/21	1600		2,9	4	N	X	X	X	X	X	X	X	X	X				
14	DUP-1	10/18/21	1600		2	1	Y										X			X
15	Temp Blank					2														

Total # of Containers:

SAMPLER(S) NAME: Pasha Ulyshchev	DATE: 10/20/21 TIME:	SAMPLER(S) SIGNATURE:	DATE: 10/20/21 TIME:
RELINQUISHED BY: Pasha Ulyshchev	DATE: 10/20/21 TIME:	RECEIVED BY: Pasha Ulyshchev	DATE: 10/21/21 TIME: 11:40
LOGGED BY:	DATE: TIME:	COOLER TEMP:	

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other :

ALTAMIRA-US, LLC

46506 0.9C LR31 CFO

RIGHT SOLUTIONS | RIGHT PARTNER

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 10/20/21 Time: 1400
Name:
Company:
Seal Broken By:
Date: 10/21/21

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 10/20/21 Time: 1400
Name:
Company:

FedEx
TRK# 0221 5300 5222 9708
THU – 21 OCT 10:30A
PRIORITY OVERNIGHT
77099

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 10/20/21 Time: 1400
Name:
Company:
Seal Broken By:
Date: 10/21/21

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 10/20/21 Time: 1400
Name:
Company:
10/21/21

HOUSTON COMPANY – [illegible] 76579 – RJ
(281) 530 – 5656
REF: US [illegible]
RMA: [illegible]

FedEx
Express

FedEx
TRK# 0221 9473 0841 0632
THU – 21 OCT 10:30A
PRIORITY OVERNIGHT

RIGHT SOLUTIONS | RIGHT PARTNER

Wednesday, January 12, 2022

Ragen Giga
ALS Environmental
10450 Stancliff Rd, Suite 210
Houston, TX 77099

Re: ALS Workorder: 2112134
Project Name:
Project Number: HS21101173

Dear Mr. Giga:

Seven water samples were received from ALS Environmental, on 10/25/2021. The samples were scheduled for the following analysis:

Radium-226/228

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Janice Winn-Shilling
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
Arizona	AZ0828
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
Oklahoma	1301
PJLA (DoD ELAP/ISO 170250)	95377
PJLA (DOE-AP/ISO 17025)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280
Virginia	460305

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

2112134

This is a re-log of work order 2110557.

Radium-228:
The samples were analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac, which is the ingrown progeny of ^{228}Ra, according to the current revision of EPA 904.0.

All acceptance criteria were met.

Radium-226:
The samples were prepared and analyzed according to the current revision of EPA 903.1, with procedure modifications outlined in QASS #452769.

All acceptance criteria were met.

ADDRESS 225 Commerce Drive, Fort Collins Colorado 80524 USA | PHONE +1 970 490 1511 | FAX +1 970 490 1522

RIGHT SOLUTIONS | RIGHT PARTNER

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2112134
Client Name: ALS Environmental
Client Project Name:
Client Project Number: HS21101173
Client PO Number: Hs21101173

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
GWMP-6A	2112134-1		WATER	19-Oct-21	10:40
GWMP-8A	2112134-2		WATER	20-Oct-21	11:45
GWMP-9A	2112134-3		WATER	19-Oct-21	10:15
GWMP-10A	2112134-4		WATER	20-Oct-21	9:40
GWMP-11A	2112134-5		WATER	18-Oct-21	18:15
GWMP-12A	2112134-6		WATER	18-Oct-21	16:00
DUP-1	2112134-7		WATER	18-Oct-21	16:00

RIGHT SOLUTIONS | RIGHT PARTNER

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

2110557

Subcontract Chain of Custody

SAMPLING STATE: **Oklahoma**

COC ID: **17144**

2 1 1 0 5 5 7 - C

SUBCONTRACT TO:

ALS Environmental, Fort Collins
225 Commerce Drive
Fort Collins, CO 80524

Phone: +1 970 490 1511

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Ragen Giga
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RagenP.Giga@ALSGlobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS21101173
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21101173-01**	**GWMP-6A**	**Water**	**19 Oct 2021 10:40**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021
2.	**HS21101173-03**	**GWMP-8A**	**Water**	**20 Oct 2021 11:45**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021
3.	**HS21101173-05**	**GWMP-9A**	**Water**	**19 Oct 2021 10:15**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021
4.	**HS21101173-07**	**GWMP-10A**	**Water**	**20 Oct 2021 09:40**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021
5.	**HS21101173-09**	**GWMP-11A**	**Water**	**18 Oct 2021 18:15**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021
6.	**HS21101173-11**	**GWMP-12A**	**Water**	**18 Oct 2021 16:00**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021

RIGHT SOLUTIONS | RIGHT PARTNER

2110557

Subcontract Chain of Custody

SAMPLING STATE: **Oklahoma** **COC ID: 17144**

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
7.	**HS21101173-13**	**DUP-1**	**Water**	**18 Oct 2021 16:00**
	Report as combined 226 & 228			11 Nov 2021
	Report as combined 226 & 228			11 Nov 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: J. MIAKOW Date/Time: 10/21/21 18:00

Received By: Amy Kuphata Date/Time: 10/25/21 1212

Cooler ID(s): Temperature(s):

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS TX Workorder No: 2110557

Project Manager: JWS Initials: AXK Date: 10/25/2021

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable?		X	
	Tracking number:			
2.	Are custody seals on **shipping** containers intact?		X	
3.	Are custody seals on **sample** containers intact?	X		
4.	Is there a COC (chain-of-custody) present?		X	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6.	Are short-hold samples present?			X
7.	Are all samples within holding times for the requested analyses?		X	
8.	Were all sample containers received intact? (not broken or leaking)		X	
9.	Is there sufficient sample for the requested analyses?		X	
10.	Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)		X	
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)		X	
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13.	Were the samples shipped on ice?			X
14.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #5	RAD ONLY		X

Cooler #:	1						
Temperature (°C):	AMB						
# of custody seals on cooler:	2						
External µR/hr reading:	10						
Background µR/hr reading:	10						

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES** (If no, see Form 008.)

*** Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: AK

If applicable, was the client contacted? **YES / NO / NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: _____ 10/27/21

Form 201r29.xls
(10/15/2019)

*IR Gun #3, VWR SN 170647571
*IR Gun #5, VWR SN 192272629

RIGHT SOLUTIONS | RIGHT PARTNER

Part # 159469-4394 MTW EXP 07/22

ALS

ORIGIN ID:SGRA (281) 530-5656
SAMPLE RECEIVING
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 21OCT21
ACTWGT: 16.50 LB
CAD: 0221247/CAFE3507
DIMS: 26x14x14 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
ALS FORT COLLINS
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511
REF: HS21101173 RG

10-2
Amb

FedEx Express

TRK# 0201 5300 5223 8724

FRI - 22 OCT 4:30P
STANDARD OVERNIGHT

U1 FTCA

80524
CO-US DEN

2110557

2110557-A

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	GWMP-6A	**Lab ID:**	2112134-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/19/2021 10:40	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	0.07 (+/- 0.17)	U	0.33	pCi/l	NA	1/12/2022 10:51
Carr: BARIUM	*95.7*		*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	0 (+/- 0)	U	0.93	pCi/l	NA	1/12/2022 09:30
Ra-228	0.68 (+/- 0.47)	U	0.93	pCi/l	NA	1/7/2022 09:30
Carr: BARIUM	*91.9*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	GWMP-8A	**Lab ID:**	2112134-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/20/2021 11:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	**0.34 (+/- 0.26)**		**0.29**	**pCi/l**	NA	1/12/2022 10:51
Carr: BARIUM	*98.6*		*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	**1.51 (+/- 0)**		**0.95**	**pCi/l**	NA	1/12/2022 09:30
Ra-228	**1.17 (+/- 0.55)**		**0.95**	**pCi/l**	NA	1/7/2022 09:30
Carr: BARIUM	*88.1*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	GWMP-9A	**Lab ID:**	2112134-3
Legal Location:		**Matrix:**	WATER
Collection Date:	10/19/2021 10:15	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	0.06 (+/- 0.15)	U	0.29	pCi/l	NA	1/12/2022 10:51
Carr: BARIUM	*98.9*		*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	0 (+/- 0)	U	0.91	pCi/l	NA	1/12/2022 09:30
Ra-228	0.88 (+/- 0.49)	U	0.91	pCi/l	NA	1/7/2022 09:30
Carr: BARIUM	*92.8*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	GWMP-10A	**Lab ID:**	2112134-4
Legal Location:		**Matrix:**	WATER
Collection Date:	10/20/2021 09:40	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	0.03 (+/- 0.21)	Y1,U	0.41	pCi/l	NA	1/12/2022 10:51
Carr: BARIUM	*101*	Y1	*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	**0.91 (+/- 0)**		**0.91**	**pCi/l**	NA	1/12/2022 09:30
Ra-228	**0.91 (+/- 0.5)**		**0.91**	**pCi/l**	NA	1/7/2022 09:30
Carr: BARIUM	*90.4*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	GWMP-11A	**Lab ID:**	2112134-5
Legal Location:		**Matrix:**	WATER
Collection Date:	10/18/2021 18:15	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	0 (+/- 0.26)	Y1,U	0.51	pCi/l	NA	1/12/2022 10:51
Carr: BARIUM	*102*	Y1	*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	0 (+/- 0)	U	0.95	pCi/l	NA	1/12/2022 09:30
Ra-228	0.88 (+/- 0.51)	U	0.95	pCi/l	NA	1/7/2022 09:30
Carr: BARIUM	*92.9*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	GWMP-12A	**Lab ID:**	2112134-6
Legal Location:		**Matrix:**	WATER
Collection Date:	10/18/2021 16:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	0 (+/- 0.16)	U	0.36	pCi/l	NA	1/12/2022 10:51
Carr: BARIUM	*96*		*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	**1.12 (+/- 0)**		**0.88**	**pCi/l**	NA	1/12/2022 09:30
Ra-228	**1.12 (+/- 0.52)**		**0.88**	**pCi/l**	NA	1/7/2022 09:30
Carr: BARIUM	*91*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	DUP-1	**Lab ID:**	2112134-7
Legal Location:		**Matrix:**	WATER
Collection Date:	10/18/2021 16:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **1/10/2022**		PrepBy: **HLR**
Ra-226	0.18 (+/- 0.25)	U	0.41	pCi/l	NA	1/12/2022 10:51
Carr: BARIUM	*96.9*		*40-110*	*%REC*	DL = NA	1/12/2022 10:51
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **12/30/2021**		PrepBy: **MMS**
COMBINED RADIUM (226+228)	**1.01 (+/- 0)**		**0.91**	**pCi/l**	NA	1/12/2022 09:30
Ra-228	**1.01 (+/- 0.51)**		**0.91**	**pCi/l**	NA	1/7/2022 09:30
Carr: BARIUM	*89*		*40-110*	*%REC*	DL = NA	1/7/2022 09:30

RIGHT SOLUTIONS | RIGHT PARTNER

Client:	ALS Environmental	**Date:**	*12-Jan-22*
Project:	HS21101173	**Work Order:**	2112134
Sample ID:	DUP-1	**Lab ID:**	2112134-7
Legal Location:		**Matrix:**	WATER
Collection Date:	10/18/2021 16:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

RIGHT SOLUTIONS | RIGHT PARTNER

ALS -- Fort Collins

Client: ALS Environmental
Work Order: 2112134
Project: HS21101173

Date: *1/12/2022 12:30*

QC BATCH REPORT

Batch ID: **RE220110-1-1** Instrument ID **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS Sample ID: **RE220110-1** Units: **pCi/l** Analysis Date: **1/12/2022 11:45**
Client ID: Run ID: **RE220110-1A** Prep Date: **1/10/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	49 (+/- 12)	0	46.42		105	67-120					P
Carr: BARIUM	33420		36450		91.7	40-110					

LCSD Sample ID: **RE220110-1** Units: **pCi/l** Analysis Date: **1/12/2022 11:45**
Client ID: Run ID: **RE220110-1A** Prep Date: **1/10/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	47 (+/- 12)	0	46.42		100	67-120		49	0.1	2.1	P
Carr: BARIUM	33120		36460		90.9	40-110		33420			

MB Sample ID: **RE220110-1** Units: **pCi/l** Analysis Date: **1/12/2022 11:45**
Client ID: Run ID: **RE220110-1A** Prep Date: **1/10/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	-0.16 (+/- 0.2)	0.49									U
Carr: BARIUM	34680		36460		95.1	40-110					

The following samples were analyzed in this batch:

2112134-1	2112134-2	2112134-3
2112134-4	2112134-5	2112134-6
2112134-7		

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental
Work Order: 2112134
Project: HS21101173

QC BATCH REPORT

Batch ID: **RA211230-1-1** Instrument ID **GASPROP** Method: **Radium-228 Analysis by GFPC**

LCS Sample ID: **RA211230-1** Units: **ug** Analysis Date: **1/7/2022 09:13**
Client ID: Run ID: **RA211230-1A** Prep Date: **12/30/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	29600		32600		90.8	40-110					
Ra-228	20.4 (+/- 4.8)	0.8	22.61		90.3	70-130					P

LCSD Sample ID: **RA211230-1** Units: **ug** Analysis Date: **1/7/2022 09:13**
Client ID: Run ID: **RA211230-1A** Prep Date: **12/30/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	30100		32600		92.3	40-110		29600			
Ra-228	21.5 (+/- 5)	0.8	22.61		94.9	70-130		20.4	0.1	2.1	P

MB Sample ID: **RA211230-1** Units: **ug** Analysis Date: **1/7/2022 09:13**
Client ID: Run ID: **RA211230-1A** Prep Date: **12/30/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Carr: BARIUM	30350		32600		93.1	40-110					
Ra-228	0.47 (+/- 0.42)	0.86									U

The following samples were analyzed in this batch:

2112134-1	2112134-2	2112134-3
2112134-4	2112134-5	2112134-6
2112134-7		

RIGHT SOLUTIONS | RIGHT PARTNER

Generic 228/226 Ra

ALS

QUALITY ASSURANCE SUMMARY SHEET

ALS W.O. # / BATCH _____

TEST _____

METHOD _____

SOP/REV (PREP) _____

SOP/REV (ANAL) _____

Briefly document any QA or other problems or deviations associated with the analysis of samples. Problems could result from: log-in, color, odor, dilution, consistency, scheduling, equipment, or instrumentation, or may include documentation of minor deviations necessary due to unique DQO's or sample characteristics.

JKB 1/27/16

In order to establish an accurate chemical yield for samples prepped sequentially for Ra-226 by Radon Emanation from the Ra-228 protocol, the following procedure was followed:

1. After Ra-228 was plancheted, the 40mL of sample dissolved in EDTA and NaOH was diluted in a 200ml cup to approximately 150mL with DI water.
2. One mL of lead carrier, transfer pipette of phenolphthalein, and 10mL of 18N H_2SO_4 were added to the cup on a stirring hotplate.
3. 6N H_2SO_4 was added from a squeeze bottle until a pink color was achieved.
4. Additional 6N H_2SO_4 was added slowly until the pH dropped enough that the phenolphthalein lost color.
5. The pH was checked to ensure that the sample solution was slightly acidic.
6. After stirring for five minutes, the stir bar was removed, and the sample was allowed to settle for two hours.
7. The supernatant was decanted, and the precipitate was transferred with .1N H_2SO_4 to a 50mL centrifuge tube.
8. The precipitate was spun down, and the supernatant discarded.
9. The resultant precipitate pellet was dissolved in 25mL of EDTA.
10. A new final ICP aliquot of .1mL was taken and diluted to 10mL.
11. The barium recovery specific to Ra-226 by Radon Emanation was calculated from this new final ICP.

JKB 1/27/16

JKB 1/27/16

JKB 1/27/16

TECHNICIAN/ANALYST _____ DATE 1/27/16

DEPARTMENT MANAGER _____ DATE 1/27/16

FORM 302r6.doc (4/22/04)

452769

RIGHT SOLUTIONS | RIGHT PARTNER

Revised
Laboratory Analytical Report

ENVIRONMENTAL TESTING, INC.
4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

02 November 2021

Ms. Heather Tiffany

Altamira
3700 W. Robinson, Suite 500
Norman, OK 73072

WO: E1J0309
RE: E&A, Big Fork Ranch

Enclosed are the results of analyses for samples received by the laboratory on 10/20/21 14:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Russell Britten
President

Revised (P)

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

GWMP-6A

E1J0309-01 (Aqueous) - Sampled: 10/19/21 10:40

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum	<0.00186	0.00186	0.0100	mg/L	1	EJJ0536	LSB	10/25/21 14:14	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJJ0536	LSB	10/22/21 16:10	EPA 3005A 1992	

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0309

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

GWMP-9A

E1J0309-02 (Aqueous) - Sampled: 10/19/21 10:15

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	**0.00880**	0.00186	0.0100	mg/L	1	EJJ0685	LSB	10/29/21 12:39	EPA 6010D 2018	
Molybdenum	**0.00500**	0.00186	0.0100	mg/L	1	EJJ0536	LSB	10/25/21 14:21	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJJ0536	LSB	10/22/21 16:10	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJJ0685	LSB	10/28/21 17:00	EPA 3005A 1992	

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0309

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

GWMP-10A

E1J0309-03 (Aqueous) - Sampled: 10/20/21 09:40

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	**0.0125**	0.00186	0.0100	mg/L	1	EJJ0685	LSB	10/29/21 12:45	EPA 6010D 2018	
Molybdenum	**0.0114**	0.00186	0.0100	mg/L	1	EJJ0536	LSB	10/25/21 14:27	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJJ0536	LSB	10/22/21 16:10	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJJ0685	LSB	10/28/21 17:00	EPA 3005A 1992	

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0309

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

GWMP-11A

E1J0309-04 (Aqueous) - Sampled: 10/18/21 18:15

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum	<0.00186	0.00186	0.0100	mg/L	1	EJJ0536	LSB	10/25/21 14:34	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJJ0536	LSB	10/22/21 16:10	EPA 3005A 1992	

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0309

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

GWMP-12A

E1J0309-05 (Aqueous) - Sampled: 10/18/21 16:00

Analyte	Result	SDL	SRL	Units	Dilution	Batch	Analyst	Analyzed	Method	Qualifiers
Environmental Testing, Inc.										
Metals by EPA 6000/7000 Series Methods										
Molybdenum (Dissolved)	**0.0754**	0.00186	0.0100	mg/L	1	EJJ0685	LSB	10/29/21 12:52	EPA 6010D 2018	
Molybdenum	**0.0752**	0.00186	0.0100	mg/L	1	EJJ0536	LSB	10/25/21 14:41	EPA 6010D 2018	
Metals Digestion	Completed			N/A		EJJ0536	LSB	10/22/21 16:10	EPA 3005A 1992	
Metals Digestion (Dissolved)	Completed			N/A		EJJ0685	LSB	10/28/21 17:00	EPA 3005A 1992	

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0309

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods

Environmental Testing, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch EJJ0536 - EPA 3005										
Blank (EJJ0536-BLK1)				Prepared: 10/22/21 Analyzed: 10/25/21						
Molybdenum	<0.0100	0.0100	mg/L							
Metals Digestion	Completed		N/A							
LCS (EJJ0536-BS1)				Prepared: 10/22/21 Analyzed: 10/25/21						
Molybdenum	0.509	0.0100	mg/L	0.5000		102	80-120			
Metals Digestion	Completed		N/A							
Duplicate (EJJ0536-DUP1)		**Source: E1J0310-01**		Prepared: 10/22/21 Analyzed: 10/25/21						
Molybdenum	0.00200	0.0100	mg/L		ND				20	
Metals Digestion	Completed		N/A							
Matrix Spike (EJJ0536-MS1)		**Source: E1J0310-01**		Prepared: 10/22/21 Analyzed: 10/25/21						
Molybdenum	0.510	0.0100	mg/L	0.5000	ND	102	75-125			
Metals Digestion	Completed		N/A							
Matrix Spike Dup (EJJ0536-MSD1)		**Source: E1J0310-01**		Prepared: 10/22/21 Analyzed: 10/25/21						
Molybdenum	0.511	0.0100	mg/L	0.5000	ND	102	75-125	0.3	20	
Metals Digestion	Completed		N/A							
Batch EJJ0685 - EPA 3005										
Blank (EJJ0685-BLK1)				Prepared: 10/28/21 Analyzed: 10/29/21						
Molybdenum (Dissolved)	<0.0100	0.0100	mg/L							
Metals Digestion (Dissolved)	Completed		N/A							
LCS (EJJ0685-BS1)				Prepared: 10/28/21 Analyzed: 10/29/21						
Molybdenum (Dissolved)	0.514	0.0100	mg/L	0.5000		103	80-120			
Metals Digestion (Dissolved)	Completed		N/A							

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0309

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods
Environmental Testing, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch EJJ0685 - EPA 3005										
Duplicate (EJJ0685-DUP1)		**Source: E1J0409-01**		Prepared: 10/28/21 Analyzed: 10/29/21						
Molybdenum (Dissolved)	0.00810	0.0100	mg/L		0.00760			6	20	
Metals Digestion (Dissolved)	Completed		N/A							
Matrix Spike (EJJ0685-MS1)		**Source: E1J0409-01**		Prepared: 10/28/21 Analyzed: 10/29/21						
Molybdenum (Dissolved)	0.521	0.0100	mg/L	0.5000	0.00760	103	75-125			
Metals Digestion (Dissolved)	Completed		N/A							
Matrix Spike Dup (EJJ0685-MSD1)		**Source: E1J0409-01**		Prepared: 10/28/21 Analyzed: 10/29/21						
Molybdenum (Dissolved)	0.526	0.0100	mg/L	0.5000	0.00760	104	75-125	1	20	
Metals Digestion (Dissolved)	Completed		N/A							

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E1J0409

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

Certifications

Code	Description	Number	Expires
NELAP/OK	NELAP Accredited (ODEQ)	2021-151	08/31/2022
TCEQ	Texas Accedited (TCEQ)	T104704498-21-11	03/31/2022

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

ENVIRONMENTAL TESTING, INC.

4619 N. Santa Fe
Oklahoma City, OK 73118
405.488.2400 Phone
405.488.2404 Fax
www.etilab.com

Altamira	Project: E&A, Big Fork Ranch	
3700 W. Robinson, Suite 500	Project Number: EMEEOK2021/3000-OCT21AM	**Reported:**
Norman OK, 73072	Project Manager: Ms. Heather Tiffany	11/02/21 12:29

Qualifiers and Definitions

COM	Completed
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
x	Non-Certified analyte
SDL	The MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method.
SRL	The MRL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method.
NA	Not Applicable

Environmental Testing, Inc.

Russell Britten, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.

E130309

ENVIRONMENTAL TESTING, INC.

Sample Receipt Form: E1J0309

Environmental Testing, Inc.

E1J0309

Printed: 10/20/2021 2:13:08PM

E-1-J-0309

Client:	**Altamira**	**Project Manager:**	**Ms. Heather Tiffany**
Project:	**E&A, Big Fork Ranch**	**Project Number:**	**EMEEOK2021/3000-OCT21AM**

Report To:
Altamira
Ms. Heather Tiffany
3700 W. Robinson, Suite 500
Norman, OK 73072
Phone: (405) 701-5058
Fax: (405) 843-4687

Invoice To:
Altamira
Ms. Heather Tiffany
3700 W. Robinson, Suite 500
Norman, OK 73072
Phone: (405) 701-5058
Fax: (405) 843-4687

Date Due:	10/27/21 17:00 (5 day TAT)		
Received By:	Stephanie Saul	Date Received:	10/20/21 14:00
Logged In By:	Andra Hoot	Date Logged In:	10/20/21 14:06

Samples Received at:		4.5°C			
Custody seals	No	Received on ice	Yes	Sufficient sample	Yes
Containers intact	Yes	Sample or temp blank frozen	No		
COC/Labels agree	Yes	Headspace in VOA vials	No		
Preservation confirmed	Yes	Correct containers	Yes		

Notes:

Preservation Confirmation

Container ID	Container Type	pH	Date/Time		Lot #
E1J0309-01 B	Poly HNO3 - 125mL	<2	10.20.21	14:04	N/A
E1J0309-02 B	Poly HNO3 - 125mL				
E1J0309-03 B	Poly HNO3 - 125mL				
E1J0309-04 B	Poly HNO3 - 125mL				
E1J0309-05 B	Poly HNO3 - 125mL				

Steph Saul
Preservation Confirmed By

10.20.21
Date

Reviewed By

10/26/21
Date

wko_EOC_wpres_rev9.0.rpt

CHAIN OF CUSTODY RECORD

41J0309

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: EMEEOK2021/3000-OCT21AM

PROJECT NAME: E&A, BIG FORK RANCH

COC: 1 of 1

CLIENT CONTACT: HEATHER TIFFANY

CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM LABDATA

CLIENT PHONE: 405.618.2021

LABORATORY / LAB PM: ETI/ RUSSEL BRITTON

CLIENT ADDRESS: 525 CENTRAL PARK DR #500 OKC, OK 73105

TAT: STND

LAB ADDRESS: 4619 N. SANTA FE AVE OKC, OK 73118

SPECIAL INSTRUCTIONS:

SHIPMENT METHOD: HAND DELIVER

TRACKING:

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	Mo, Total (6020)	Mo, Diss (6020)									Per H.T. 10/20/21	HOLD
1	GWMP-6A	10/19/21	1040	W	2	1	N	X											
2	GWMP-6A	10/19/21	1040		9	1	N		X									CX	X
3	~~GWMP-8A~~				2	1	N	X											
4	~~GWMP-8A~~				9	1	N		X										X
5	GWMP-9A	10/19/21	1015		2	1	N	X											
6	GWMP-9A	10/19/21	1015		9	1	N		X									RUN	X
7	GWMP-10A	10/20/21	940		2	1	N	X											
8	GWMP-10A	10/20/21	940		9	1	N		X									RUN	X
9	GWMP-11A	10/18/21	1815		2	1	N	X											
10	GWMP-11A	10/18/21	1815		9	1	N		X									CX	X
11	GWMP-12A	10/18/21	1600		2	1	N	X											
12	GWMP-12A	10/18/21	1600		9	1	N		X									RUN	X
13	~~DUP-1~~				2	1	N	X											
14	~~DUP-1~~				9	1	N		X										X
15																			

10/20/21 NA

SAMPLER(S) NAME: Pasha Klebystov

DATE: 10/20/21 TIME: 1400

Total # of Containers:

SAMPLER(S) SIGNATURE:

DATE: 10/20/21 TIME: 1400

RELINQUISHED BY: Pasha Klebystov DATE: 10/20/21 TIME: 1400

RECEIVED BY: Stan Saul DATE: 10.20.21 TIME: 14:00

LOGGED BY: DATE: TIME:

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other : 10/20/21 NA

ALTAMIRA-US, LLC

3.4+1.1 = 4.45 on ice

E.T0000098

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP - 6A
E & H Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOK2021	Sampling Personnel: Pashe Mkystol
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Note's

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 31.42 (ft)

Depth to Well Bottom (TD): 36.99 (ft)

Date and time Measured: 10/18/21

Measured From: ☐ Top of Protective Casing ☑ Top of Inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 Inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.91 (Gals)

Three well volumes = 2.75 (Gals)

Five well Volumes = 4.54 (Gals)

If Diameter of well is 4 Inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1141 Time Purging Ends: 1156

	Cumulative Volume (~~mL~~)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	1WV	1146	16.6	7.09	528	161.5	++++	5.70
2	2WV	1151	16.4	7.13	496.3	201.5	++++	6.02
3	2.25WV	1156	16.5	7.15	496.5	232.8	++++	6.01
4								
5								
6								
7								

Total Volume Purged: 2.025 (~~mL~~) Gal Cumulative Time Purged: 15 (min) Pumping Rate: 0.135 (~~mL~~/min) Gal

Number of Well Volumes Purged: 2.25 Was Well Purged Dry: yes Tubing Volume: _____ (ft)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 10/19/21 Time Sampled: 1040 Water Level: 32.57'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments
		268	16.7	7.16	506	51.6	6.40	

How is purged Water managed: Disposed off on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 10/19/21

Filtered NTU: 4.35

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMD-8A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOM 2021	Sampling Personnel: Pashe Mulyston
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Notes

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 41.34 (ft)

Depth to Well Bottom (TD): 47.02 (ft)

Date and time Measured: 10/18/21

Measured From: ☐ Top of Protective Casing ☑ Top of Inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)$=(TD-DTW)(0.163) = 0.93 (Gals)

Three well volumes = 2.75 (Gals)

Five well Volumes = 4.63 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)$=(TD-DTW)(0.653) = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1312 Time Purging Ends: 1336

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	1WV	1317	18.2	7.41	558	277.1	++++	6.71
2	1.25WV	1322	17.8	7.52	550	271.6	++++	6.90
3	1.5WV	1327	17.3	7.52	548	275.8	++++	7.08
4	1.75WV	1332	17.3	7.64	545	283.6	++++	7.31
5								
6								
7								

Total Volume Purged: 1.8 ~~(mL)~~ WV Cumulative Time Purged: 24 (min) Pumping Rate: 0.07 ~~(mL~~/min)

Number of Well Volumes Purged: 1.8 Was Well Purged Dry: yes Tubing Volume: _____ (ft) Gal

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 10/20/21 Time Sampled: 1145 Water Level: Empty

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments

not enough water for measurements

How is purged Water managed: Disposed off on site.

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 10/20/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP - 9A
E + A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOM 2021	Sampling Personnel: Pasha Wahystoni
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Notes

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (In) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 14.08 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 29.59 (ft) ☑ Top of Inner Casing

Date and time Measured: 10/18/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)$=(TD-DTW)(0.163) = 1.4 (Gals)

Three well volumes = 4.2 (Gals)

Five well Volumes = 6.9 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)$=(TD-DTW)(0.653) = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1657 Time Purging Ends: 1715

	Cumulative Volume (~~mL~~)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	1WV	1701	18.4	7.79	727	54.8	434	7.26
2	2WV	1706	17.7	7.79	723	73.0	++++	3.09
3	3.2 Gal	1710	17.7	7.85	723	79.8	++++	4.56
4	3.5 Gal	1715	17.6	7.96	718	93.9	++++	6.88
5								
6								
7								

Total Volume Purged: 3.5 (~~mL~~ Gal) Cumulative Time Purged: 18 (min) Pumping Rate: 0.194 (~~mL~~ Gal/min)

Number of Well Volumes Purged: _____ Was Well Purged Dry: yes Tubing Volume: _____ (ft)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 10/19/21 Time Sampled: 1015 Water Level: 20.38'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments
		859	18.6	7.88	743	39.6	6.38	

Filtered NTU: 1.28

How is purged Water managed: Disposed off on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 10/19/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMW-10A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEGOU 2021	Sampling Personnel: Pashe Umystor
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Note's

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 30.63 (ft)

Depth to Well Bottom (TD): 31.95 (ft)

Date and time Measured: 10/18/21

Measured From: ☐ Top of Protective Casing ☑ Top of inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.22 (Gals)

Three well volumes = 0.65 (Gals)

Five well Volumes = 1.1 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1638 Time Purging Ends: 1646

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	1WV	1639	17.2	7.07	2400	-35.6	30.4	2.30
2	2WV	1644	17.2	7.13	1573	-106.7	++++	3.52
3								
4								
5								
6								
7								

Total Volume Purged: 0.44 (~~mL~~ Gal) Cumulative Time Purged: 8 (min) Pumping Rate: 0.055 (~~mL~~ Gal/min)

Number of Well Volumes Purged: 2WV Was Well Purged Dry: yes Tubing Volume: _____ (ft³)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 10/20/21 Time Sampled: 940 Water Level: 31.59'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments
		474	17.0	7.21	2556	-38.3	3.47	

Filtered NTU. 1.24

How is purged Water managed: Disposed off on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 10/20/21

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP - 1A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEEOK 2021	Sampling Personnel: Pedro Kelyeton
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Notes

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 51.19 (ft) Measured From: ☐ Top of Protective Casing

Depth to Well Bottom (TD): 54.26 (ft) ☑ Top of Inner Casing

Date and time Measured: 10/18/21 ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.5 (Gals)

Three well volumes = 1.5 (Gals)

Five well Volumes = 2.5 (Gals)

~~If Diameter of well is 4 inches~~

~~Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)~~

~~Three well volumes = _____ (Gals)~~

~~Five well Volumes = _____ (Gals)~~

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1206 Time Purging Ends: 1220

	Cumulative Volume (~~mL~~ Gal)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	1WV	1211	17.3	7.08	609	307.3	++++	9.75
2	1.25WV	1216	17.0	7.13	618	302.7	++++	5.43
3	1.5WV	1220	17.2	7.17	~~[illegible]~~ 612	299.2	++++	5.56
4								
5								
6								
7								

Total Volume Purged: 0.75 (~~mL~~ Gal) Cumulative Time Purged: 14 (min) Pumping Rate: 0.054 (~~mL~~ Gal/min)

Number of Well Volumes Purged: _____ Was Well Purged Dry: yes Tubing Volume: _____ (ft)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 10/18/21 Time Sampled: 1815 Water Level: 51.26'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments
		++++	17.2	7.13	620	313.7	6.10	

How is purged Water managed: Disposed off on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 10/18/21

Filtered NTU: 1.56

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP 12A
E&A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other
Project: EMEE02021	Sampling Personnel: Pashe Wahyston
Temperature: _____ (F)	Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Notes

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 22.99 (ft)

Depth to Well Bottom (TD): 31.15 (ft)

Date and time Measured: 10/18/21

Measured From: ☐ Top of Protective Casing ☑ Top of Inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 1.33 (Gals)

Three well volumes = 4.00 (Gals)

Five well Volumes = 6.65 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1430 Time Purging Ends: 1447

	Cumulative Volume (Gal)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	1WV	1435	18.0	7.07	4014	39.9	470	2.60
2	3WV	1441	17.2	7.01	3897	-55.4	526	1.33
3	5WV	1447	17.3	6.99	3923	-93.3	497	1.07
4								
5								
6								
7								

Total Volume Purged: 6.65 (~~mL~~ Gal) Cumulative Time Purged: 17 (min) Pumping Rate: 0.39 (~~mL~~ Gal/min)

Number of Well Volumes Purged: 5WV Was Well Purged Dry: No Tubing Volume: _____ (ft³)

Filtered NTU: 2.23

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASURMENTS

Date Sampled: 10/18/21 Time Sampled: 1600 Water Level: 22.98'

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments
		62.2	18.0	6.96	4177	-151.7	2.85	

How is purged Water managed: Disposed off on site

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: 10/18/21

DUP 1

ALTAMIRA-US - GROUNDWATER SAMPLING FIELD DATA SHEET

FACILITY	Well Name / Number: GWMP-13A
E+A Big Fork Ranch	☐ Background ☐ Down Gradient/Compliance ☐ Detection ☐ Assessment ☑ Semi-Annual ☐ Other

Project: EMEEOK 2021 Sampling Personnel: Pashe Kuhyetov

Temperature: _____ (F) Other Weather Conditions: _____

FIELD SCREENING EQUIPMENT / CALIBRATION ✓ Field Notes

pH Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Conductivity Meter Model: _____ Meter S/N: _____ Date/Time calibrated: _____

Other Meters Used: _____ Meter S/N: _____ Date/Time calibrated: _____

WELL CONDITION

Well diameter (D) 2 (in) Casing Material: ☑ PVC ☐ Other: _____

Is Well Properly Labeled? ☑ Yes ☐ No Is protective casing in good condition? ☑ Yes ☐ No

Is concrete pad in good condition? ☑ Yes ☐ No Is well locked and lock in good condition? ☑ Yes ☐ No

Is inner casing capped and vented? ☑ Yes ☐ No If answered no to any questions, explain: _____

DEPTH TO WATER MEASUREMENTS

Depth to Static Water (DTW): 30.82 (ft)

Depth to Well Bottom (TD): 31.3 (ft)

Date and time Measured: 10/18/21

Measured From: ☐ Top of Protective Casing ☑ Top of Inner Casing ☐ Other

DETERMINATION OF WELL VOLUMES

If Diameter of well is 2 Inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.163)$ = 0.08 (300mL) (Gals)

Three well volumes = 0.23 (Gals)

Five well Volumes = 0.4 (Gals)

If Diameter of well is 4 inches

Well volume = $(D/24)^2(23.5)=(TD-DTW)(0.653)$ = _____ (Gals)

Three well volumes = _____ (Gals)

Five well Volumes = _____ (Gals)

PURGING EQUIPMENT

Well is purged using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

PURGE DATA AND FIELD MEASUREMENTS (extra space on back of sheet)

Date Purged: 10/18/21 Time Purging Begins: 1414 Time Purging Ends: 1421

	Cumulative Volume (mL)	Time	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)	DO (mg/L & %)
Start	300	1416	18.9	7.30	894	261.5	495	10.35
2								
3								
4								
5								
6								
7								

Total Volume Purged: 300 mL Cumulative Time Purged: 7 (min) Pumping Rate: 43 mL/min

Number of Well Volumes Purged: 1WV Was Well Purged Dry: yes Tubing Volume: _____ (ft)

SAMPLING EQUIPMENT

Well sampled using: ☐ Bladder Pump ☐ Submersible Pump ☑ Bailer ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

Pump/Bailer: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Tubing/Rope: ☑ Teflon® ☐ Stainless Steel ☐ PVC ☐ Other _____

Equipment is: ☑ Dedicated: ☐ Prepared off-site ☐ Deconned in Field ☐ Disposable

SAMPLING DATA AND FIELD MEASUREMENTS

Date Sampled: _____ Time Sampled: _____ Water Level: _____

Color	Clarity	Turbity (NTU)	Temp (C)	pH	Conductivity (µmhos/cm)	ORP (mV)	DO (mg/L & %)	Comments

How is purged Water managed: Disposed off on site.

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocol

Signature: _____ Date: _____

ATTACHMENT B

ODEQ LETTER
(MARCH 9, 2021)
RESPONSE LETTER TO 2020 ANNUAL GROUNDWATER AND CORRECTIVE ACTION REPORT

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

March 9, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: 2020 Annual Groundwater Monitoring and Corrective Action Report, Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Solid Waste Permit # 3552014, Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) received the 2020 Annual Groundwater Monitoring and Corrective Action Report (Report) dated January 29, 2021. The Report was submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The Report documents groundwater monitoring activities conducted throughout 2020 at the Big Fork Ranch CCR Landfill in accordance with Oklahoma Administrative Code (OAC) 252:517-9-1(e).

The Report includes all groundwater data collected under OAC 252:517 and documents the status of the groundwater monitoring and corrective action program for the CCR units, summarizes key actions completed, and projects key activities for 2021. Assessment monitoring samples were collected in January, April, and October during 2020. The Report notes that no significant problems were encountered and therefore no actions were required to resolve them.

The groundwater monitoring network at Big Fork Ranch consists of existing site monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, and new monitoring wells GWMP-11A, GWMP-12A, and GWMP-13A. GWMP-6A is designated as an upgradient well. Groundwater flow appears to be to the north/ northeast with a contingent of flow to the west/ southwest. The groundwater flow rate is estimated to be 0.58 ft/year during the April 2020 monitoring event and 0.64 ft/ year at the October 2020 monitoring event towards the northeast.

New monitor wells GWMP-11A, GWMP-12A, and GWMP-13A were installed at the facility on September 26, 2018 for potential inclusion to the monitoring network. Sampling to establish background has been completed at GWMP-11A and GWMP-12A. Monitor well GMW-12A has already been approved for inclusion into the monitoring network. Monitoring well GWMP-13A did not recover sufficient water for sampling at any event in 2020; and has been sampled only once since its installation. If this well continues to be dry during sampling, Evans may discuss with DEQ potential alternative sampling means.

Evans transitioned from detection to assessment monitoring after statistically significant increases of TDS, boron, chloride, fluoride, and sulfate initially occurred in various monitoring wells during the April 2019 and subsequent monitoring events. Evans submitted an Alternate Source Demonstration and eventual Assessment Monitoring Plan due to the exceedances. The Assessment Monitoring Plan, dated December 10, 2019, was approved by DEQ on January 21, 2020. Assessment monitoring was implemented in 2020 and will continue throughout 2021 in accordance with OAC 252:517-9-6 and the Assessment Monitoring Plan.

Three assessment monitoring events occurred in 2020 for Appendix A and B parameters. Statistical analysis was conducted on all data sets with inter- and intra-well analyses conducted for Appendix A parameters to detect for statistically significant increases (SSIs) over background. Appendix B parameters concentrations were compared to the groundwater protection standards (GWPS). A trend analysis was conducted for each

well/ constituent combination and a confidence interval established for all 2020 Appendix B constituents. A statistically significant level (SSL) above a GWPS is determined if the lower confidence limit for an Appendix B constituent exceeds the established GWPS. There were no SSLs detected for the 2020 assessment monitoring program. However, during the October monitoring event, arsenic at GWMP-10A was detected at a concentration slightly exceeding the GWPS. Since the lower confidence limit did not exceed the established GWPS; no SSL above the GWPS is indicated.

It is noted that the EPA promulgated alternative risk-based contaminant level for molybdenum was used as the GWPS. Please note that DEQ's regulations at OAC 252:517 have not incorporated the revised EPA alternative risk-based groundwater standards for Appendix B constituents that do not have maximum contaminant levels (MCLs). Accordingly, please ensure that assessment monitoring analyses are utilizing the established MCL or background level as appropriate in accordance with OAC 252:517-9-6(h) and assess if any SSLs would be triggered as a result.

Evans proposes to add MW-11A to the groundwater monitoring network as a background well that is not an upgradient well. This is allowed according to OAC 252:517-9-2(a)(1) provided the groundwater there is representative of background water quality not affected by leakage from the CCR unit. The highest groundwater elevation appears to be near the southeast corner of landfill Cell 8 and the MW-11A is positioned on the south side of the landfill, where there is a component of groundwater flow to the southwest. This seems contrary to the expected flow direction to the northeast and Table 2 shows great variability in depth to water measurements at GWMP-11A, leading DEQ to question the validity of the groundwater elevations at MW-11A. Therefore, prior to inclusion of the water quality data into the background pool along with MW-6A, DEQ requests Evans verifies the groundwater flow with re-surveying of the top of casing (TOC) elevations and ground surface elevations; and provides more information to support the inclusion of MW-11A water quality data into the background pool. Also, if the groundwater flow distribution if validated, more wells may be needed in the future due to complex groundwater.

The Report meets the requirements of OAC 252:517-9-1(e) with the exception of using the EPA risk-based groundwater standard for molybdenum as a GWPS. In an addendum, please reevaluate whether an SSL exists for molybdenum using background as the GWPS and assess the viability of MW-11A as a background well. It is noted that the Report has been placed on Big Fork's publicly accessible website. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Enviro Clean Cardinal
Saeed Zahrai, P.E., Emera Corporation

ATTACHMENT C

ODEQ LETTER DATED
(JUNE 8 2021)
REGARDING: REEVALUATION OF MOLYBDENUM USING BACKGROIUND AS GWPS

AND

REEVALUATION OF MOLYBDENUM USING BACKGROIUND AS GWPS
(MAY 4, 2021)

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

June 8, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: Reevaluation of Molybdenum Using Background as GWPS, Request for Extension Due to Proposed Rule Changes, Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Solid Waste Permit # 3552014, Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) is in receipt of the Reevaluation of Molybdenum Using Background as GWPS, dated May 4, 2021, and the Request for Extension Due to Proposed Rule Changes dated May 21, 2021. The reports were submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The reports were submitted in response to the DEQ letter dated March 9, 2021 requesting Evans to reevaluate whether a statistically significant level (SSL) exists for molybdenum using background as the groundwater protection standard (GWPS).

In the letter dated May 4, 2021, Evans reevaluated the 2020 assessment monitoring data for molybdenum by comparing confidence limits at the well to the background concentrations in the upgradient well. For both the April 2020 and October 2020 monitoring events, the upper and lower confidence limits for molybdenum at MW-9A and MW-12A exceed the upgradient well background concentration, indicating an SSL.

Discussions from the phone call conducted between DEQ and Evans on May 11, 2021 included proposed rule changes under legislative review which would adopt the EPA- promulgated alternative risk-based groundwater protection standard for molybdenum. If the proposed rule changes become effective, the reported molybdenum concentrations will not be SSLs and actions required under 252:517-9-6(g) and 252:515-9-7 will no longer be necessary. In response to the call, Evans submitted a request for extension on remediation actions until the outcome of the proposed rule changes are known.

The extension request is approved. The May 4, 2021 letter satisfies DEQ's request for an addendum to the 2020 Annual Groundwater Monitoring and Corrective Action Report. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Altamira
Saeed Zahrai, P.E., Emera Corporation

May 4, 2021

Hillary Young, P.E.
Chief Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73162

Re: Reevaluation of Molybdenum Using Background as GWPS
Evans and Associates Construction Co, Inc.
Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Ponca City, Noble County, OK
Solid Waste Permit #352014

Dear Ms. Young:

Findings from the 2020 Annual Groundwater Monitoring and Corrective Action Report (Altamira; January 29, 2021) for the above-referenced facility do not indicate Assessment Monitoring Parameters at statistically significant levels (SSLs) above Groundwater Protection Standards (GWPS) as established in the 2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019). The considered and established GWPSs used in the evaluation were 1) background concentrations in the up-gradient well (for antimony, arsenic, barium, cobalt, lead, lithium, and combined radium-226/radium-228), 2) Federal Drinking Water standards (for beryllium, cadmium, chromium, fluoride, mercury, selenium, and thallium), and 3) the EPA-promulgated alternative risk-based groundwater protection standard (for molybdenum). *See* 83 Fed. Reg. 36435 (July 30, 2018).

In its letter dated March 9, 2021 (**Attachment 1**), the Oklahoma Department of Environmental Quality (DEQ) noted that "*…DEQ's regulations at OAC 252:517 have not incorporated the revised EPA alternative risk-based groundwater standards for Appendix B constituents that do not have maximum contaminant levels...*" The EPA alternative risk-based groundwater standard (and current federal GWPS) for molybdenum is 0.100 mg/L (or 100 µg/L). In its letter, the DEQ requested that Evans and Associates Construction Company, Inc. (Evans) "*reevaluate whether an SSL exists for molybdenum using background as the GWPS*." The background concentration for molybdenum in the upgradient well is 0.005 mg/L (2018 Annual Groundwater and Corrective Action Report).

As requested by DEQ, Evans has reevaluated Year 2020 Assessment Monitoring data for molybdenum by comparing confidence limits at the well to background concentrations in the upgradient well as determined from the inter-well upper tolerance limit with 95% confidence and 95% coverage. This comparison for April 2020 Assessment Monitoring data is included in **Attachment 2**. This comparison for October 2020 Assessment Monitoring data is included in **Attachment 3**.

For both 2020 Assessment Monitoring events, the upper and lower confidence limits for molybdenum at MW-9A and MW-12A exceed the upgradient well background concentration. Using this approach, an SSL can be deemed to exist for molybdenum at MW-9A and MW-12A when using background as the GWPS. However, molybdenum concentrations from year 2020 Assessment Monitoring are not at SSLs above the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum.

Evans requests a meeting with DEQ to discuss an addendum to the 2020 Annual Groundwater Monitoring and Corrective Action Report and to discuss further actions to comply with the ODEQ March 9, 2021 letter.

Please notify me at 405-701-8215 or at Chris.Schaefer@altamira-us.com if you have any questions.

Sincerely,

Altamira-US, LLC

Chris Schaefer, PE
Hydrogeologist

cc: Saeed Zahrai, P.E. / EMERA, Corp.

ATTACHMENT 1

DEQ LETTER (MARCH 9, 2021)

26

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

March 9, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: 2020 Annual Groundwater Monitoring and Corrective Action Report, Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Solid Waste Permit # 3552014, Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) received the 2020 Annual Groundwater Monitoring and Corrective Action Report (Report) dated January 29, 2021. The Report was submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The Report documents groundwater monitoring activities conducted throughout 2020 at the Big Fork Ranch CCR Landfill in accordance with Oklahoma Administrative Code (OAC) 252:517-9-1(e).

The Report includes all groundwater data collected under OAC 252:517 and documents the status of the groundwater monitoring and corrective action program for the CCR units, summarizes key actions completed, and projects key activities for 2021. Assessment monitoring samples were collected in January, April, and October during 2020. The Report notes that no significant problems were encountered and therefore no actions were required to resolve them.

The groundwater monitoring network at Big Fork Ranch consists of existing site monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, and new monitoring wells GWMP-11A, GWMP-12A, and GWMP-13A. GWMP-6A is designated as an upgradient well. Groundwater flow appears to be to the north/ northeast with a contingent of flow to the west/ southwest. The groundwater flow rate is estimated to be 0.58 ft/year during the April 2020 monitoring event and 0.64 ft/ year at the October 2020 monitoring event towards the northeast.

New monitor wells GWMP-11A, GWMP-12A, and GWMP-13A were installed at the facility on September 26, 2018 for potential inclusion to the monitoring network. Sampling to establish background has been completed at GWMP-11A and GWMP-12A. Monitor well GMW-12A has already been approved for inclusion into the monitoring network. Monitoring well GWMP-13A did not recover sufficient water for sampling at any event in 2020; and has been sampled only once since its installation. If this well continues to be dry during sampling, Evans may discuss with DEQ potential alternative sampling means.

Evans transitioned from detection to assessment monitoring after statistically significant increases of TDS, boron, chloride, fluoride, and sulfate initially occurred in various monitoring wells during the April 2019 and subsequent monitoring events. Evans submitted an Alternate Source Demonstration and eventual Assessment Monitoring Plan due to the exceedances. The Assessment Monitoring Plan, dated December 10, 2019, was approved by DEQ on January 21, 2020. Assessment monitoring was implemented in 2020 and will continue throughout 2021 in accordance with OAC 252:517-9-6 and the Assessment Monitoring Plan.

Three assessment monitoring events occurred in 2020 for Appendix A and B parameters. Statistical analysis was conducted on all data sets with inter- and intra-well analyses conducted for Appendix A parameters to detect for statistically significant increases (SSIs) over background. Appendix B parameters concentrations were compared to the groundwater protection standards (GWPS). A trend analysis was conducted for each

well/ constituent combination and a confidence interval established for all 2020 Appendix B constituents. A statistically significant level (SSL) above a GWPS is determined if the lower confidence limit for an Appendix B constituent exceeds the established GWPS. There were no SSLs detected for the 2020 assessment monitoring program. However, during the October monitoring event, arsenic at GWMP-10A was detected at a concentration slightly exceeding the GWPS. Since the lower confidence limit did not exceed the established GWPS; no SSL above the GWPS is indicated.

It is noted that the EPA promulgated alternative risk-based contaminant level for molybdenum was used as the GWPS. Please note that DEQ's regulations at OAC 252:517 have not incorporated the revised EPA alternative risk-based groundwater standards for Appendix B constituents that do not have maximum contaminant levels (MCLs). Accordingly, please ensure that assessment monitoring analyses are utilizing the established MCL or background level as appropriate in accordance with OAC 252:517-9-6(h) and assess if any SSLs would be triggered as a result.

Evans proposes to add MW-11A to the groundwater monitoring network as a background well that is not an upgradient well. This is allowed according to OAC 252:517-9-2(a)(1) provided the groundwater there is representative of background water quality not affected by leakage from the CCR unit. The highest groundwater elevation appears to be near the southeast corner of landfill Cell 8 and the MW-11A is positioned on the south side of the landfill, where there is a component of groundwater flow to the southwest. This seems contrary to the expected flow direction to the northeast and Table 2 shows great variability in depth to water measurements at GWMP-11A, leading DEQ to question the validity of the groundwater elevations at MW-11A. Therefore, prior to inclusion of the water quality data into the background pool along with MW-6A, DEQ requests Evans verifies the groundwater flow with re-surveying of the top of casing (TOC) elevations and ground surface elevations; and provides more information to support the inclusion of MW-11A water quality data into the background pool. Also, if the groundwater flow distribution if validated, more wells may be needed in the future due to complex groundwater.

The Report meets the requirements of OAC 252:517-9-1(e) with the exception of using the EPA risk-based groundwater standard for molybdenum as a GWPS. In an addendum, please reevaluate whether an SSL exists for molybdenum using background as the GWPS and assess the viability of MW-11A as a background well. It is noted that the Report has been placed on Big Fork's publicly accessible website. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Enviro Clean Cardinal
Saeed Zahrai, P.E., Emera Corporation

ATTACHMENT 2

COMPARISON OF CONFIDENCE INTERVAL TO BACKGROUND GWPS (APRIL 2020)

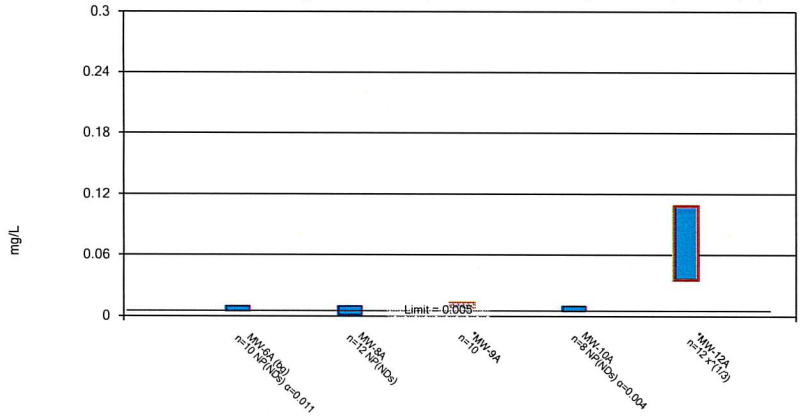
Confidence Interval

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 201013 EVANS AND ASSOCIATES AM Printed 4/6/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Molybdenum (mg/L)	**MW-9A**	**0.01277**	**0.008506**	**0.005**	**Yes**	**10**	**10**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-10A	0.01	0.005	0.005	No	8	87.5	No	0.004	NP (NDs)
Molybdenum (mg/L)	**MW-12A**	**0.1074**	**0.03548**	**0.005**	**Yes**	**12**	**0**	**x^(1/3)**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-6A (bg)	0.01	0.005	0.005	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-8A	0.01	0.00145	0.005	No	12	91.67	No	0.01	NP (NDs)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on



Constituent: Molybdenum Analysis Run 4/6/2021 10:51 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 201013 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 4/6/2021 10:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 201013 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A	MW-12A
1/6/2018	<0.01	<0.01	0.014	<0.01	
3/3/2018	<0.01	<0.01	0.0128	<0.01	
4/14/2018	<0.01	<0.01	0.0124	<0.01	
5/26/2018	<0.01	<0.01	0.0105	<0.01	
6/23/2018	<0.01	<0.01	0.0117	<0.01	
7/29/2018	<0.01	<0.01	<0.01		
9/2/2018	<0.01	<0.01	0.0102		
10/19/2018		<0.005			0.027
10/24/2018	<0.005				
11/27/2018	<0.005	<0.005			0.242
12/24/2018	<0.005	<0.005	0.011	<0.005	0.117
1/22/2019					0.106
4/22/2019					0.057
6/18/2019					0.03
8/13/2019					0.054
10/29/2019					0.093
11/29/2019					0.057
12/18/2019					0.043
1/22/2020		<0.005	0.008	<0.005	0.048
4/23/2020		0.00145 (J)	0.00579	0.00613	0.0306
Mean	0.0085	0.007621	0.01064	0.008266	0.07538
Std. Dev.	0.002415	0.003092	0.00239	0.002418	0.06036
Upper Lim.	0.01	0.01	0.01277	0.01	0.1074
Lower Lim.	0.005	0.00145	0.008506	0.005	0.03548

ATTACHMENT 3

COMPARISON OF CONFIDENCE INTERVAL TO BACKGROUND GWPS (OCTOBER 2020)

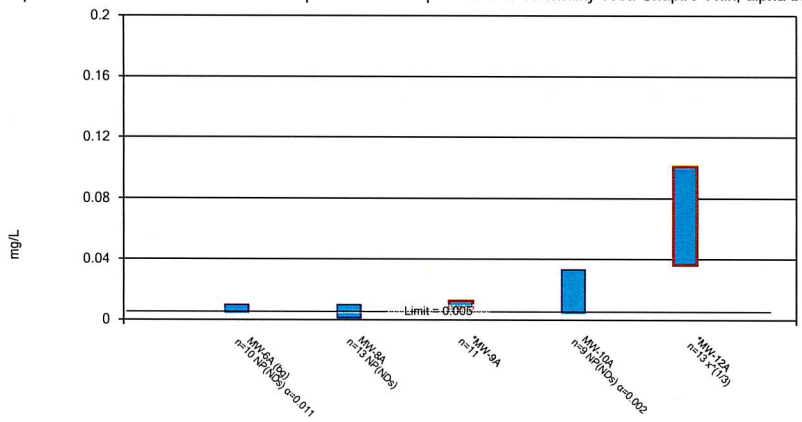
Confidence Interval

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 201013 EVANS AND ASSOCIATES AM Printed 4/6/2021, 10:18 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Molybdenum (mg/L)	**MW-9A**	**0.01252**	**0.007637**	**0.005**	**Yes**	**11**	**9.091**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-8A	0.01	0.00145	0.005	No	13	84.62	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-6A (bg)	0.01	0.005	0.005	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	**MW-12A**	**0.1007**	**0.03593**	**0.005**	**Yes**	**13**	**0**	**x^(1/3)**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-10A	0.0329	0.005	0.005	No	9	77.78	No	0.002	NP (NDs)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on



Constituent: Molybdenum Analysis Run 4/6/2021 10:03 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 201013 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 4/6/2021 10:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 201013 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A	MW-12A
1/6/2018	<0.01	<0.01	0.014	<0.01	
3/3/2018	<0.01	<0.01	0.0128	<0.01	
4/14/2018	<0.01	<0.01	0.0124	<0.01	
5/26/2018	<0.01	<0.01	0.0105	<0.01	
6/23/2018	<0.01	<0.01	0.0117	<0.01	
7/29/2018	<0.01	<0.01	<0.01		
9/2/2018	<0.01	<0.01	0.0102		
10/19/2018		<0.005			0.027
10/24/2018	<0.005				
11/27/2018	<0.005	<0.005			0.242
12/24/2018	<0.005	<0.005	0.011	<0.005	0.117
1/22/2019					0.106
4/22/2019					0.057
6/18/2019					0.03
8/13/2019					0.054
10/29/2019					0.093
11/29/2019					0.057
12/18/2019					0.043
1/22/2020		<0.005	0.008	<0.005	0.048
4/23/2020		0.00145 (J)	0.00579	0.00613	0.0306
10/13/2020					0.0411
10/14/2020		0.000698 (J)	0.00448 (J)	0.0329	
Mean	0.0085	0.007088	0.01008	0.011	0.07275
Std. Dev.	0.002415	0.003529	0.002931	0.008517	0.05857
Upper Lim.	0.01	0.01	0.01252	0.0329	0.1007
Lower Lim.	0.005	0.00145	0.007637	0.005	0.03593

ATTACHMENT D

ODEQ LETTER
(AUGUST 24, 2021)
REGARDING: APRIL 2021 ASSESSMENT MONITORNG NOTIFICATION

AND

APRIL 2021 ASSESSMENT MONITORNG NOTIFICATION
(JULY 7, 2021)

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

August 24, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: April 2021 Assessment Monitoring
Big Fork Ranch Coal Combustion Residuals (CCR) Landfill
Solid Waste Permit # 3552014
Noble County, Oklahoma

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) is in receipt of the above referenced report, dated July 7, 2021. The report was submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). Samples were collected on April 27, 2021 at GWMP-6A, GWMP-9A, GWMP-10A, GWMP-11A, and GWMP-12A and tested for constituents identified in Appendix B of OAC 252:517.

The upper and lower confidence limits for molybdenum at GMWP-9A and GWMP-12A, exceeded the upgradient well background concentration of 0.005 mg/L; indicating a statistically significant level (SSL) above the groundwater protection standard (GWPS) exists for molybdenum when using background as the GWPS. The purpose of the submittal is to fulfill Oklahoma Administrative Code (OAC) 252:517-9-6(g), which requires a notification be submitted to DEQ when an Appendix B constituent is detected at an SSL above its GWPS.

The EPA promulgated risk-based concentration of 0.100 mg/L will be the groundwater protection standard for molybdenum once changes to OAC 252:517 become effective on September 15, 2021. Consequently, the reported concentrations at GMWP-9A (0.00556 mg/L) and GMWP-12A (0.0445 mg/L) will not be considered SSLs after this date. Additionally, the required actions to address an SSL in OAC 252:517-9-6(g), including submission of a plan and schedule for analyzing the environmental release and for developing appropriate corrective action, will not be required. Please ensure the notification is placed in the facility's operating record.

The report is accepted as submitted and assessment monitoring shall continue. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Altamira
Saeed Zahrai, P.E., Emera Corporation

July 7, 2021

Hillary Young, P.E.
Chief Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73162

Re: April 2021 Assessment Monitoring
Notification: Molybdenum concentrations above upgradient well background concentration
Evans and Associates Construction Co, Inc. / Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Ponca City, Noble County, OK / Solid Waste Permit #352014

Dear Ms. Young:

Evans and Associates Construction Co., Inc. has been conducting Assessment Monitoring associated with a CCR Unit at its Big Fork Ranch Facility. The laboratory report for April 2021 Assessment Monitoring is enclosed (**Attachment A**). Findings from April 2021 Assessment Monitoring do not indicate Assessment Monitoring Parameters at statistically significant levels (SSLs) above Groundwater Protection Standards (GWPS) as established in the 2018 Annual Groundwater and Corrective Action Report (Altamira; January 31, 2019).

At MW-9A and MW-12A, the upper and lower confidence limits for molybdenum do exceed the upgradient well background concentration (0.005 mg/L) and an SSL can be deemed to exist for molybdenum at these wells when using background instead of the EPA-promulgated alternative risk-based groundwater protection standard as the GWPS. Therefore, this submittal is prepared to address OAC 252:517-9-6(g), which requires the owner/operator to prepare a notification identifying OAC 252:517 Appendix B constituents detected at SSLs above the GWPS.

Changes have been proposed by DEQ to *Oklahoma Administrative Code (OAC) Chapter 517. Disposal of Coal Combustion Residual from Electric Utilities* and are under legislative review which would adopt the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum. If these proposed changes become effective and the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum is adopted then the reported molybdenum concentrations to date will not be at SSLs. Please notify me at 405-701-8215 or at Chris.Schaefer@altamira-us.com if you have any questions.

Sincerely,
Altamira-US, LLC

Chris Schaefer, PE
Hydrogeologist

cc: Saeed Zahrai, P.E. / EMERA, Corp.

ATTACHMENT E

ODEQ LETTER
(JUNE 8, 2021)
REGARDIMG: REQUEST FOR EXTENSION DUE TO PROPOSED RULE CHANGE

AND

REQUEST FOR EXTENSION DUE TO PROPOSED RULE CHANGE
(MAY 21, 2021)

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

June 8, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: Reevaluation of Molybdenum Using Background as GWPS, Request for Extension Due to Proposed Rule Changes, Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Solid Waste Permit # 3552014, Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) is in receipt of the Reevaluation of Molybdenum Using Background as GWPS, dated May 4, 2021, and the Request for Extension Due to Proposed Rule Changes dated May 21, 2021. The reports were submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The reports were submitted in response to the DEQ letter dated March 9, 2021 requesting Evans to reevaluate whether a statistically significant level (SSL) exists for molybdenum using background as the groundwater protection standard (GWPS).

In the letter dated May 4, 2021, Evans reevaluated the 2020 assessment monitoring data for molybdenum by comparing confidence limits at the well to the background concentrations in the upgradient well. For both the April 2020 and October 2020 monitoring events, the upper and lower confidence limits for molybdenum at MW-9A and MW-12A exceed the upgradient well background concentration, indicating an SSL.

Discussions from the phone call conducted between DEQ and Evans on May 11, 2021 included proposed rule changes under legislative review which would adopt the EPA- promulgated alternative risk-based groundwater protection standard for molybdenum. If the proposed rule changes become effective, the reported molybdenum concentrations will not be SSLs and actions required under 252:517-9-6(g) and 252:515-9-7 will no longer be necessary. In response to the call, Evans submitted a request for extension on remediation actions until the outcome of the proposed rule changes are known.

The extension request is approved. The May 4, 2021 letter satisfies DEQ's request for an addendum to the 2020 Annual Groundwater Monitoring and Corrective Action Report. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Altamira
Saeed Zahrai, P.E., Emera Corporation

May 21, 2021

Hillary Young, P.E.
Chief Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73162

Re: Request for Extension Due to Proposed Rule Changes
Evans and Associates Construction Co, Inc.
Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Ponca City, Noble County, OK
Solid Waste Permit #352014

Dear Ms. Young:

In its letter dated March 9, 2021, the Oklahoma Department of Environmental Quality (DEQ) requested that Evans and Associates Construction Company, Inc. (Evans) "*reevaluate whether an SSL exists for molybdenum using background as the GWPS*." Evans responded by letter (Reevaluation of Molybdenum Using Background as GWPS, Altamira) on May 4, 2021. Evans reevaluated Year 2020 Assessment Monitoring data for molybdenum by comparing confidence limits at the compliance wells to background concentrations in the upgradient well. From this comparison, the upper and lower confidence limits for molybdenum at MW-9A and MW-12A exceed the upgradient well background concentration; but are *not* at statistically significant levels (SSLs) above the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum.

From discussion with DEQ on May 11, 2021, changes have been proposed by DEQ to *Oklahoma Administrative Code (OAC) Chapter 517. Disposal of Coal Combustion Residual from Electric Utilities* and are under legislative review which would adopt the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum. If these proposed changes become effective and the EPA-promulgated alternative risk-based groundwater protection standard for molybdenum is adopted then the reported molybdenum concentrations to date will not be at SSLs and the actions contained under OAC 252:517-9-6(g) and 252:517-9-7 to address SSLs will not be necessary.

Based on above and as per discussion with ODEQ, Evans requests an extension to determine the need for and/or to conduct actions to address SSLs as contained in OAC 252:517-9-6(g) and 252:517-9-7 until the outcome of the proposed rule changes becomes evident and/or until the proposed changes to the rule become effective.

Furthermore, Evans requests that its May 4, 2021 submittal to DEQ satisfy the request for an addendum to the 2020 Annual Groundwater Monitoring and Corrective Action Report as requested by DEQ in its March 9, 2021 letter.

Please contact me at 405-701-8215 or at Chris.Schaefer@altamira-us.com if you have any questions.

Sincerely,

Altamira-US, LLC

Chris Schaefer, PE
Hydrogeologist

cc: Saeed Zahrai, P.E. / EMERA, Corp.
Lee Evans / Avans & Associates Construction Co., Inc.

ATTACHMENT 1

DEQ LETTER (MARCH 9, 2021)

26

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

March 9, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: 2020 Annual Groundwater Monitoring and Corrective Action Report, Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Solid Waste Permit # 3552014, Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) received the 2020 Annual Groundwater Monitoring and Corrective Action Report (Report) dated January 29, 2021. The Report was submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The Report documents groundwater monitoring activities conducted throughout 2020 at the Big Fork Ranch CCR Landfill in accordance with Oklahoma Administrative Code (OAC) 252:517-9-1(e).

The Report includes all groundwater data collected under OAC 252:517 and documents the status of the groundwater monitoring and corrective action program for the CCR units, summarizes key actions completed, and projects key activities for 2021. Assessment monitoring samples were collected in January, April, and October during 2020. The Report notes that no significant problems were encountered and therefore no actions were required to resolve them.

The groundwater monitoring network at Big Fork Ranch consists of existing site monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, and new monitoring wells GWMP-11A, GWMP-12A, and GWMP-13A. GWMP-6A is designated as an upgradient well. Groundwater flow appears to be to the north/ northeast with a contingent of flow to the west/ southwest. The groundwater flow rate is estimated to be 0.58 ft/year during the April 2020 monitoring event and 0.64 ft/ year at the October 2020 monitoring event towards the northeast.

New monitor wells GWMP-11A, GWMP-12A, and GWMP-13A were installed at the facility on September 26, 2018 for potential inclusion to the monitoring network. Sampling to establish background has been completed at GWMP-11A and GWMP-12A. Monitor well GMW-12A has already been approved for inclusion into the monitoring network. Monitoring well GWMP-13A did not recover sufficient water for sampling at any event in 2020; and has been sampled only once since its installation. If this well continues to be dry during sampling, Evans may discuss with DEQ potential alternative sampling means.

Evans transitioned from detection to assessment monitoring after statistically significant increases of TDS, boron, chloride, fluoride, and sulfate initially occurred in various monitoring wells during the April 2019 and subsequent monitoring events. Evans submitted an Alternate Source Demonstration and eventual Assessment Monitoring Plan due to the exceedances. The Assessment Monitoring Plan, dated December 10, 2019, was approved by DEQ on January 21, 2020. Assessment monitoring was implemented in 2020 and will continue throughout 2021 in accordance with OAC 252:517-9-6 and the Assessment Monitoring Plan.

Three assessment monitoring events occurred in 2020 for Appendix A and B parameters. Statistical analysis was conducted on all data sets with inter- and intra-well analyses conducted for Appendix A parameters to detect for statistically significant increases (SSIs) over background. Appendix B parameters concentrations were compared to the groundwater protection standards (GWPS). A trend analysis was conducted for each

well/ constituent combination and a confidence interval established for all 2020 Appendix B constituents. A statistically significant level (SSL) above a GWPS is determined if the lower confidence limit for an Appendix B constituent exceeds the established GWPS. There were no SSLs detected for the 2020 assessment monitoring program. However, during the October monitoring event, arsenic at GWMP-10A was detected at a concentration slightly exceeding the GWPS. Since the lower confidence limit did not exceed the established GWPS; no SSL above the GWPS is indicated.

It is noted that the EPA promulgated alternative risk-based contaminant level for molybdenum was used as the GWPS. Please note that DEQ's regulations at OAC 252:517 have not incorporated the revised EPA alternative risk-based groundwater standards for Appendix B constituents that do not have maximum contaminant levels (MCLs). Accordingly, please ensure that assessment monitoring analyses are utilizing the established MCL or background level as appropriate in accordance with OAC 252:517-9-6(h) and assess if any SSLs would be triggered as a result.

Evans proposes to add MW-11A to the groundwater monitoring network as a background well that is not an upgradient well. This is allowed according to OAC 252:517-9-2(a)(1) provided the groundwater there is representative of background water quality not affected by leakage from the CCR unit. The highest groundwater elevation appears to be near the southeast corner of landfill Cell 8 and the MW-11A is positioned on the south side of the landfill, where there is a component of groundwater flow to the southwest. This seems contrary to the expected flow direction to the northeast and Table 2 shows great variability in depth to water measurements at GWMP-11A, leading DEQ to question the validity of the groundwater elevations at MW-11A. Therefore, prior to inclusion of the water quality data into the background pool along with MW-6A, DEQ requests Evans verifies the groundwater flow with re-surveying of the top of casing (TOC) elevations and ground surface elevations; and provides more information to support the inclusion of MW-11A water quality data into the background pool. Also, if the groundwater flow distribution if validated, more wells may be needed in the future due to complex groundwater.

The Report meets the requirements of OAC 252:517-9-1(e) with the exception of using the EPA risk-based groundwater standard for molybdenum as a GWPS. In an addendum, please reevaluate whether an SSL exists for molybdenum using background as the GWPS and assess the viability of MW-11A as a background well. It is noted that the Report has been placed on Big Fork's publicly accessible website. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Enviro Clean Cardinal
Saeed Zahrai, P.E., Emera Corporation

ATTACHMENT F

ODEQ LETTER
(AUGUST 17, 2021)
REGARDING: RESURVEY OF MONITORING WELLS, REEVLAUATION OF GROUNDWATER FLOW DIRECTION, AND REQUEST TO DISCONTINUE QUARTERLY SAMPLING OF GWMP-13A

AND

RESURVEY OF MONITORING WELLS, REEVLAUATION OF GROUNDWATER FLOW DIRECTION, AND REQUEST TO DISCONTINUE QUARTERLY SAMPLING OF GWMP-13A
(JULY 9, 2021)

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

August 17, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to Discontinue Quarterly Sampling of MW-13A; Big Fork Ranch Coal Combustion Residuals (CCR) Landfill; Solid Waste Permit # 3552014; Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) is in receipt of the above referenced report, dated July 9, 2021. The report was submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The report was submitted in response to the DEQ letter dated March 9, 2021 requesting Evans to verify groundwater flow and provide more information to support the inclusion of MW-11A water quality data into the background pool.

In a letter dated August 5, 2021, Evans submitted its reevaluation of the location, top of casing (TOC elevations), and surface elevations for each of the monitoring wells that were surveyed on May 12, 2021. TOC elevations and ground surface elevations reported on the May 12, 2021 survey are different than those of the previous survey. Groundwater flow was reevaluated using the information collected from the May 12, 2021 survey. Revised Potentiometric Surface Maps are included in the submittal. Groundwater appears to flow from the central portion of the site to the north/northeast, and to the west/ southwest, consistent with previous reports. Evans proposes to utilize GWMP-11A as a compliance monitoring well instead of an upgradient well.

GWMP-13A continues to be dry at sampling events and has only contained sufficient water for sampling once over the course of its history. Based on the revised potentiometric surface map, GWMP-13A does not appear to be downgradient of the facility. Evans proposes to discontinue monitoring of GMWP-13A and continue to gauge for water during semi-annual sampling events.

DEQ approves the recommendations made by the report. If you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Altamira
Saeed Zahrai, P.E., Emera Corporation

July 09, 2021

Hillary Young, P.E.
Chief Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73162

Re: Resurvey of Monitoring Wells, Reevaluation of Groundwater Flow Direction, and Request to discontinue quarterly sampling of GWMP-13A
Evans and Associates Construction Co, Inc.
Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Ponca City, Noble County, OK
Solid Waste Permit #352014

Dear Ms. Young:

In its letter dated March 9, 2021, the Oklahoma Department of Environmental Quality (DEQ) requested that Evans and Associates Construction Company, Inc. (Evans) "*verify groundwater flow with re-surveying of the top of casing (TOC) elevations and ground surface elevations; and provide more information to support the inclusion of MW-11A water quality data into the background pool*." A copy of this letter is included in **Attachment A.** The location, TOC elevations, and surface elevations for each of the monitoring wells were resurveyed on May 12, 2021 (Cowan Group Engineering). Findings from the May 12, 2021 survey are included in **Attachment B**.

Top of casing and ground surface elevations from the May 12, 2021 survey are different than those of the prior survey. Evans reevaluated groundwater flow utilizing the updated survey. Revised potentiometric Surface Maps for each of the year 2020 and 2021 sampling events (January 2020, April 2020, July 2020, October 2020, January 2021 and April 2021) are included in **Attachment C**.

From the revised potentiometric surface maps, groundwater appears to flow away from the central portion of the Site to the north/northeast and to the west/southwest. This is consistent with previous interpretations. As such, GWMP-11A appears to be at a down-gradient location from portions of the CCR Unit. Based on this, Evans retracts its request to utilize GWMP-11A as an upgradient monitoring well. Instead, Evans proposes to utilize GWMP-11A as a compliance monitoring well; pending additional data that would suggest otherwise.

Also, from discussion with DEQ on May 11, 2021, GMWP-13A continues to not contain sufficient water for sample collection. This monitoring well did not contain sufficient water for sample collection during any of the quarterly sampling events conducted in the year 2020 or the January and April 2021 sampling events; and over the course of its history has only once contained sufficient water for sampling.

From the revised potentiometric surface maps based on the May 2021 survey, this well does not appear to be down-gradient of the CCR unit. Evans requests that monitoring of GWMP-13A be discontinued, but that this well continue to be gauged for water during semi-annual sampling events.

Please contact me at 405-701-8215 or at Chris.Schaefer@altamira-us.com if you have any questions.

Sincerely,

Altamira-US, LLC

Chris Schaefer, PE
Hydrogeologist

cc: Saeed Zahrai, P.E. / EMERA, Corp.
Lee Evans / Avans & Associates Construction Co., Inc.

ATTACHMENT A

DEQ LETTER (MARCH 9, 2021)

26

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

March 9, 2021

Mr. Lee Evans
Evans & Associates Construction Company, Inc.
P.O. Box 30
Ponca City, OK 74602

Re: 2020 Annual Groundwater Monitoring and Corrective Action Report, Big Fork Ranch Coal Combustion Residuals (CCR) Landfill, Solid Waste Permit # 3552014, Noble County, Oklahoma.

Dear Mr. Evans:

The Oklahoma Department of Environmental Quality (DEQ) received the 2020 Annual Groundwater Monitoring and Corrective Action Report (Report) dated January 29, 2021. The Report was submitted by Altamira on behalf of Evans and Associates Construction Company, Inc. (Evans). The Report documents groundwater monitoring activities conducted throughout 2020 at the Big Fork Ranch CCR Landfill in accordance with Oklahoma Administrative Code (OAC) 252:517-9-1(e).

The Report includes all groundwater data collected under OAC 252:517 and documents the status of the groundwater monitoring and corrective action program for the CCR units, summarizes key actions completed, and projects key activities for 2021. Assessment monitoring samples were collected in January, April, and October during 2020. The Report notes that no significant problems were encountered and therefore no actions were required to resolve them.

The groundwater monitoring network at Big Fork Ranch consists of existing site monitoring wells GWMP-6A, GWMP-8A, GWMP-9A, GWMP-10A, and new monitoring wells GWMP-11A, GWMP-12A, and GWMP-13A. GWMP-6A is designated as an upgradient well. Groundwater flow appears to be to the north/ northeast with a contingent of flow to the west/ southwest. The groundwater flow rate is estimated to be 0.58 ft/year during the April 2020 monitoring event and 0.64 ft/ year at the October 2020 monitoring event towards the northeast.

New monitor wells GWMP-11A, GWMP-12A, and GWMP-13A were installed at the facility on September 26, 2018 for potential inclusion to the monitoring network. Sampling to establish background has been completed at GWMP-11A and GWMP-12A. Monitor well GMW-12A has already been approved for inclusion into the monitoring network. Monitoring well GWMP-13A did not recover sufficient water for sampling at any event in 2020; and has been sampled only once since its installation. If this well continues to be dry during sampling, Evans may discuss with DEQ potential alternative sampling means.

Evans transitioned from detection to assessment monitoring after statistically significant increases of TDS, boron, chloride, fluoride, and sulfate initially occurred in various monitoring wells during the April 2019 and subsequent monitoring events. Evans submitted an Alternate Source Demonstration and eventual Assessment Monitoring Plan due to the exceedances. The Assessment Monitoring Plan, dated December 10, 2019, was approved by DEQ on January 21, 2020. Assessment monitoring was implemented in 2020 and will continue throughout 2021 in accordance with OAC 252:517-9-6 and the Assessment Monitoring Plan.

Three assessment monitoring events occurred in 2020 for Appendix A and B parameters. Statistical analysis was conducted on all data sets with inter- and intra-well analyses conducted for Appendix A parameters to detect for statistically significant increases (SSIs) over background. Appendix B parameters concentrations were compared to the groundwater protection standards (GWPS). A trend analysis was conducted for each

well/ constituent combination and a confidence interval established for all 2020 Appendix B constituents. A statistically significant level (SSL) above a GWPS is determined if the lower confidence limit for an Appendix B constituent exceeds the established GWPS. There were no SSLs detected for the 2020 assessment monitoring program. However, during the October monitoring event, arsenic at GWMP-10A was detected at a concentration slightly exceeding the GWPS. Since the lower confidence limit did not exceed the established GWPS; no SSL above the GWPS is indicated.

It is noted that the EPA promulgated alternative risk-based contaminant level for molybdenum was used as the GWPS. Please note that DEQ's regulations at OAC 252:517 have not incorporated the revised EPA alternative risk-based groundwater standards for Appendix B constituents that do not have maximum contaminant levels (MCLs). Accordingly, please ensure that assessment monitoring analyses are utilizing the established MCL or background level as appropriate in accordance with OAC 252:517-9-6(h) and assess if any SSLs would be triggered as a result.

Evans proposes to add MW-11A to the groundwater monitoring network as a background well that is not an upgradient well. This is allowed according to OAC 252:517-9-2(a)(1) provided the groundwater there is representative of background water quality not affected by leakage from the CCR unit. The highest groundwater elevation appears to be near the southeast corner of landfill Cell 8 and the MW-11A is positioned on the south side of the landfill, where there is a component of groundwater flow to the southwest. This seems contrary to the expected flow direction to the northeast and Table 2 shows great variability in depth to water measurements at GWMP-11A, leading DEQ to question the validity of the groundwater elevations at MW-11A. Therefore, prior to inclusion of the water quality data into the background pool along with MW-6A, DEQ requests Evans verifies the groundwater flow with re-surveying of the top of casing (TOC) elevations and ground surface elevations; and provides more information to support the inclusion of MW-11A water quality data into the background pool. Also, if the groundwater flow distribution if validated, more wells may be needed in the future due to complex groundwater.

The Report meets the requirements of OAC 252:517-9-1(e) with the exception of using the EPA risk-based groundwater standard for molybdenum as a GWPS. In an addendum, please reevaluate whether an SSL exists for molybdenum using background as the GWPS and assess the viability of MW-11A as a background well. It is noted that the Report has been placed on Big Fork's publicly accessible website. Should you have any questions, please contact Kaylee Shiplet at (405) 702-5196 or Kaylee.shiplet@deq.ok.gov.

Sincerely,

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/ks

cc: Chris Schaefer, Hydrogeologist, Enviro Clean Cardinal
Saeed Zahrai, P.E., Emera Corporation

ATTACHMENT B

UPDATED SURVEY

(MAY 12, 2021 SURVEY – COWAN GROUP ENGINEERING)

Surveyed Monitoring Well Locations

Site Identification	State Plane Coordinates OK North Zone (NAD 83)		Top of PVC Elevation, feet above MSL	Top of Outer Casing Elevation, feet above MSL	Ground Elevation, feet above MSL	(NAD 83)	
	Northing (Y)	Easting (X)				Latitude	Longitude
GWMP #6A	574719.367	2258948.309	1060.29	1060.48	1058.87	36°34'29.02158" N	97°00'39.09423" W
GWMP #8A	574853.556	2258164.008	1062.97	1063.10	1061.39	36°34'30.42733" N	97°00'48.69240" W
GWMP #9A	575204.046	2259374.208	1034.37	1034.55	1032.72	36°34'33.77110" N	97°00'33.81242" W
GWMP #10A	575353.539	2259217.603	1022.44	1022.66	1020.98	36°34'35.26506" N	97°00'35.71362" W
GWMP #11A	574514.013	2258440.999	1072.17	1072.66	1070.27	36°34'27.04213" N	97°00'45.33904" W
GWMP #12A	575341.281	2258533.003	1046.71	1047.07	1045.00	36°34'35.21282" N	97°00'44.10797" W
GWMP #13A	575428.288	2258030.682	1053.29	1053.87	1051.52	36°34'36.12362" N	97°00'50.25531" W

Notes:

1. MSL - Mean Sea Level (NAVD 88)
2. State Plane Coordinates on Oklahoma North Zone (NAD 83) based on Leica Smartnet GPS Network.

EMERA Corporation
Site: Big Fork Ranch
CGE Project No. : 18-680
Date Surveyed : May 12, 2021

COWAN GROUP ENGINEERING

ATTACHMENT C

UPDATED GROUNDWATER ELEVATIONS AND POTENTIOMETRIC SURFACE MAPS

(BASED ON MAY 12, 2021 SURVEY – COWAN GROUP ENGINEERING)

DEPTH TO GROUNDWATER AND POTENTIOMETRIC SURFACE
EVANS AND ASSOCIATES - BIG FORK RANCH

	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)	Well	Depth to Water (Ft, TOC)	Updated Potentiometric Surface (Feet, MSL)
Date	**GWMP-6A**			**GWMP-8A**			**GWMP-9A**			**GWMP-10A**			**GWMP-11A**			**GWMP-12A**			**GWMP-13A**		
2/26/2017	FORMER	31.7	1028.59	FORMER	41.7	1021.27	FORMER	12.9	1021.47	FORMER	28.6	993.84	FORMER			FORMER			FORMER		
7/29/2017	T.O.C.	31.2	1029.09	T.O.C.	41.2	1021.77	T.O.C.	12.6	1021.77	T.O.C.	29.8	992.64	T.O.C.			T.O.C.			T.O.C.		
9/10/2017	1055.42	31	1029.29	1057.97	42.4	1020.57	1028.96	12.2	1022.17	1017.59	30.5	991.94	1066.5			1044.2			1051.5		
10/14/2017		32.9	1027.39		40.6	1022.37		12.3	1022.07		29.4	993.04									
11/11/2017	UPDATED	31.6	1028.69	UPDATED	32.4	1030.57	UPDATED	11.5	1022.87	UPDATED	28.6	993.84	UPDATED			UPDATED			UPDATED		
1/6/2018	T.O.C.	33	1027.29	T.O.C.	41.3	1021.67	T.O.C.	11.4	1022.97	T.O.C.	29.1	993.34	T.O.C.	Well Not Installed		T.O.C.	Well Not Installed		T.O.C.	Well Not Installed	
3/3/2018	1060.29	34.5	1025.79	1062.97	41	1021.97	1034.37	12.7	1021.67	1022.44	28.8	993.64	1072.66			1046.71			1053.29		
4/14/2018		32.6	1027.69		40.5	1022.47		13.5	1020.87		29.4	993.04									
5/26/2018		34	1026.29		41	1021.97		14	1020.37		30	992.44									
6/23/2018		33.8	1026.49		41.4	1021.57		12.9	1021.47		30.2	992.24									
7/29/2018		34.6	1025.69		40.9	1022.07		13.3	1021.07		>33	<989.44									
9/2/2018		33.4	1026.89		40.4	1022.57		12.3	1022.07		>33	<989.44									
10/18/2018		33.3	1026.99		45.1	1017.87		12.65	1021.72		31.65	990.79		51.6	1021.06		30.1	1016.61		>32.1	<1021.19
11/27/2018		33	1027.29		43	1019.97		>23.5	<1010.87		>33	<989.44		>56.5	<1016.16		21.6	1025.11		>32.1	<1021.19
12/24/2018		NM	NM		NM	NM		NM	NM		NM	NM		>56.5	<1016.16		NM	NM		>32.1	<1021.19
1/22/2019		NM	NM		NM	NM		NM	NM		NM	NM		>56.5	<1016.16		24.5	1022.21		>32.1	<1021.19
1/29/2019		NM	NM		NM	NM		NM	NM		NM	NM		NM	NM		NM	NM		NM	NM
4/22/2019		32.9	1027.39		41.5	1021.47		12	1022.37		28.1	994.34		>56.5	<1016.16		21.9	1024.81		>32.1	<1021.19
6/18/2019		NM	NM		38	1024.97		8.6	1025.77		23.9	998.54		19.75	1052.91		5.25	1041.46		28.1	1025.19
8/13/2019		31.1	1029.19		40.9	1022.07		11.6	1022.77		29.9	992.54		31.1	1041.56		21.2	1025.51		30.2	1023.09
10/29/2019		31.4	1028.89		41.3	1021.67		11.8	1022.57		29.4	993.04		51	1021.66		21	1025.71		30.5	1022.79
11/29/2019		NM	NM		NM	NM		NM	NM		NM	NM		51.2	1021.46		21.8	1024.91		>32.1	<1021.19
12/16/2019		NM	NM		NM	NM		NM	NM		NM	NM		50.25	1022.41		21.3	1025.41		32	1021.29
1/20/2020		31.9	1028.39		41.5	1021.47		15.5	1018.87		29.4	993.04		51.3	1021.36		22.6	1024.11		30.9	1022.39
4/21/2020		31.04	1029.25		41.54	1021.43		12.02	1022.35		26.98	995.46		51.11	1021.55		21.27	1025.44		30.65	1022.64
7/22/2020		31.41	1028.88		41.41	1021.56		13.67	1020.7		30.55	991.89		51.32	1021.34		22.89	1023.82		30.87	1022.42
10/13/2020		31.66	1028.63		41.43	1021.54		14.05	1020.32		30.83	991.61		51.52	1021.14		23.04	1023.67		30.91	1022.38
1/11/2021		31.38	1028.91		41.52	1021.45		12.69	1021.68		29.18	993.26		51.28	1021.38		20.47	1026.24		30.86	1022.43
4/26/2021		30.68	1029.61		41.23	1021.74		11.78	1022.59		26.15	996.29		50.96	1021.7		20.41	1026.3		30.16	1023.13

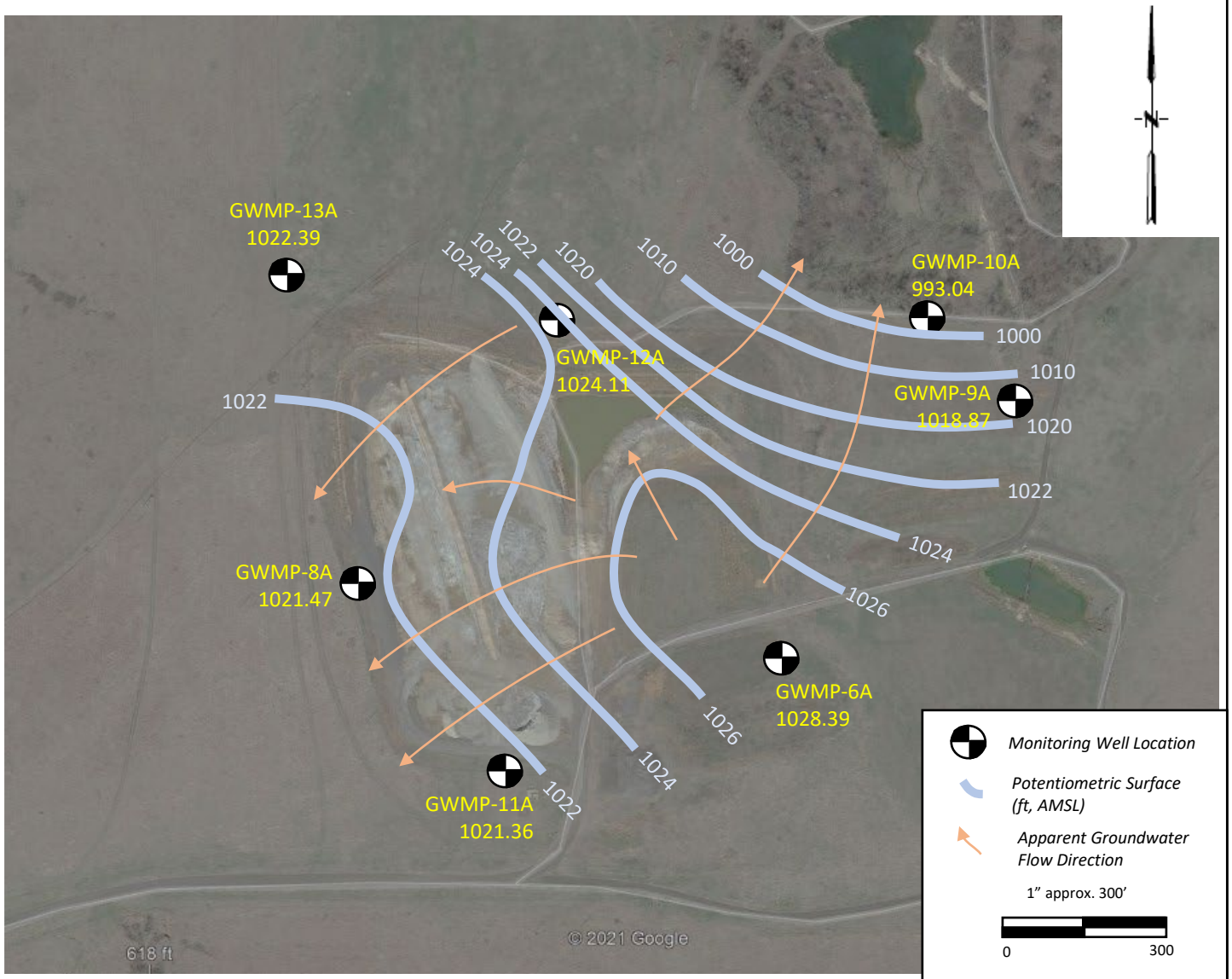
Former T.O.C. : Former surveyed elevation for top of casing (ft, MSL)
Updated T.O.C. : Updated top of casing (ft, MSL) based on May 12, 2021 Survey (Cowan Group Engineering).
Updated Potentiometric Surface : Updated Potentiometric Surface (ft, MSL) to reflect the May 12, 2021 Survey
Ft, TOC : Feet below top of casing
Ft, MSL : Feet above mean sea level
NM : Depth to water not measured on specified date

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

POTENTIOMETRIC SURFACE
(January 20, 2020)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
formerly known as Enviro Clean Cardinal

525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

3700 W. Robinson, Suite 200
Norman, OK 73072
Phone 405.701.5058 Fax 405.701.5208

http://www.EnviroCleanPS.com

Potentiometric Surface (January 20, 2020)

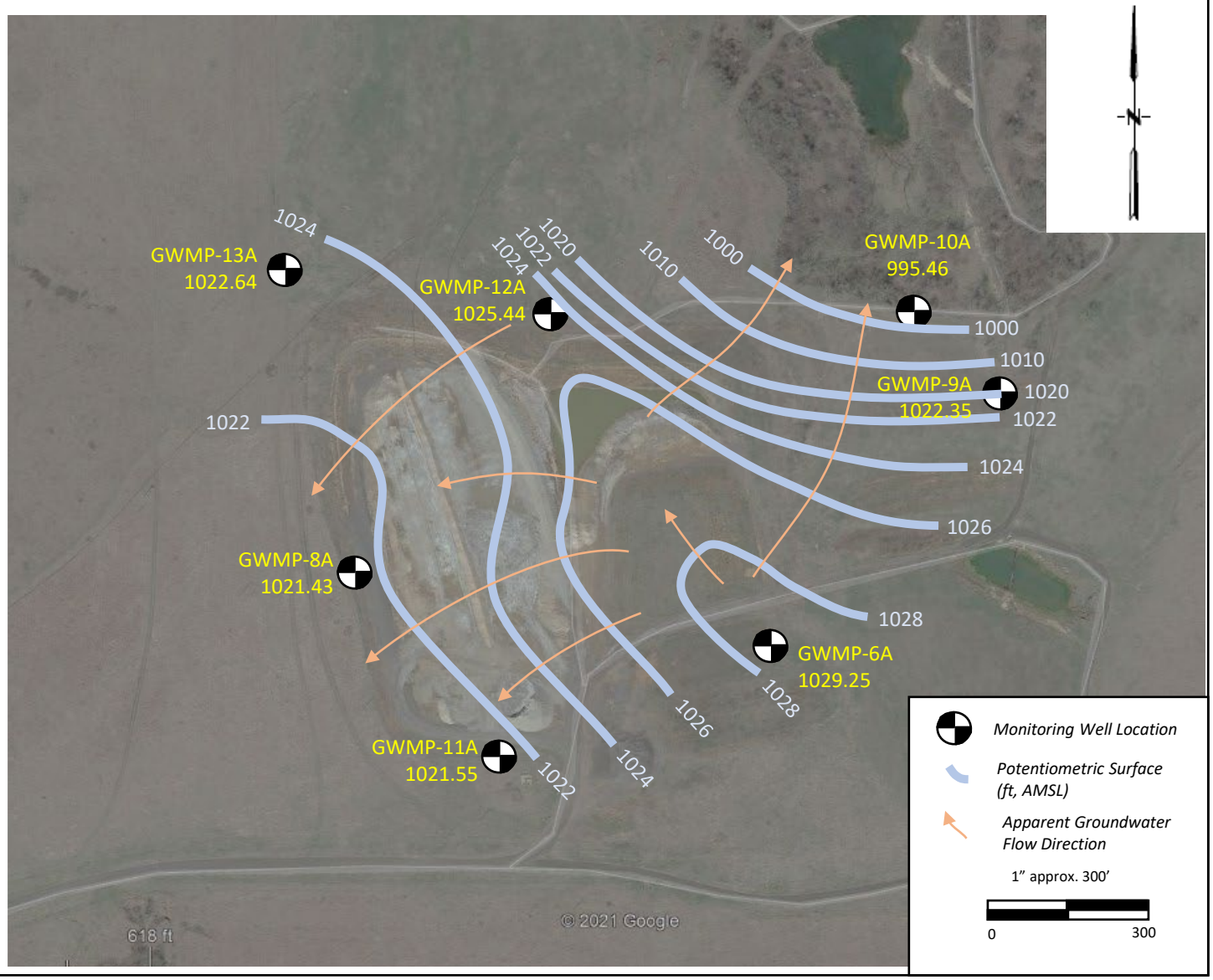
(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

POTENTIOMETRIC SURFACE
(April 21, 2020)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
formerly known as Enviro Clean Cardinal

525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

3700 W. Robinson, Suite 200
Norman, OK 73072
Phone 405.701.5058 Fax 405.701.5208

http://www.EnviroCleanPS.com

Potentiometric Surface (April 21, 2020)

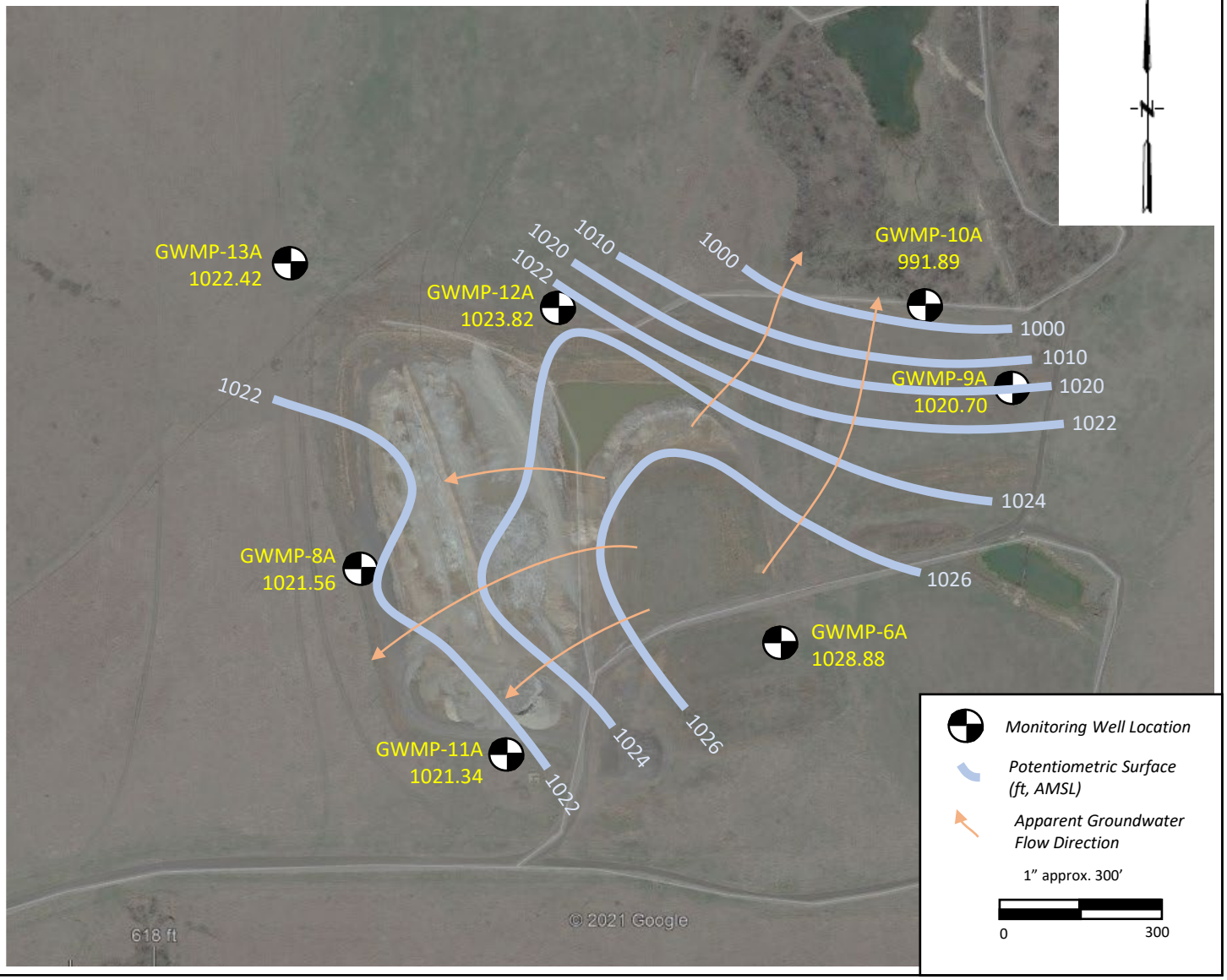
(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

POTENTIOMETRIC SURFACE
(July 22, 2020)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
formerly known as Enviro Clean Cardinal

525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

3700 W. Robinson, Suite 200
Norman, OK 73072
Phone 405.701.5058 Fax 405.701.5208

http://www.EnviroCleanPS.com

Potentiometric Surface (July 22, 2020)

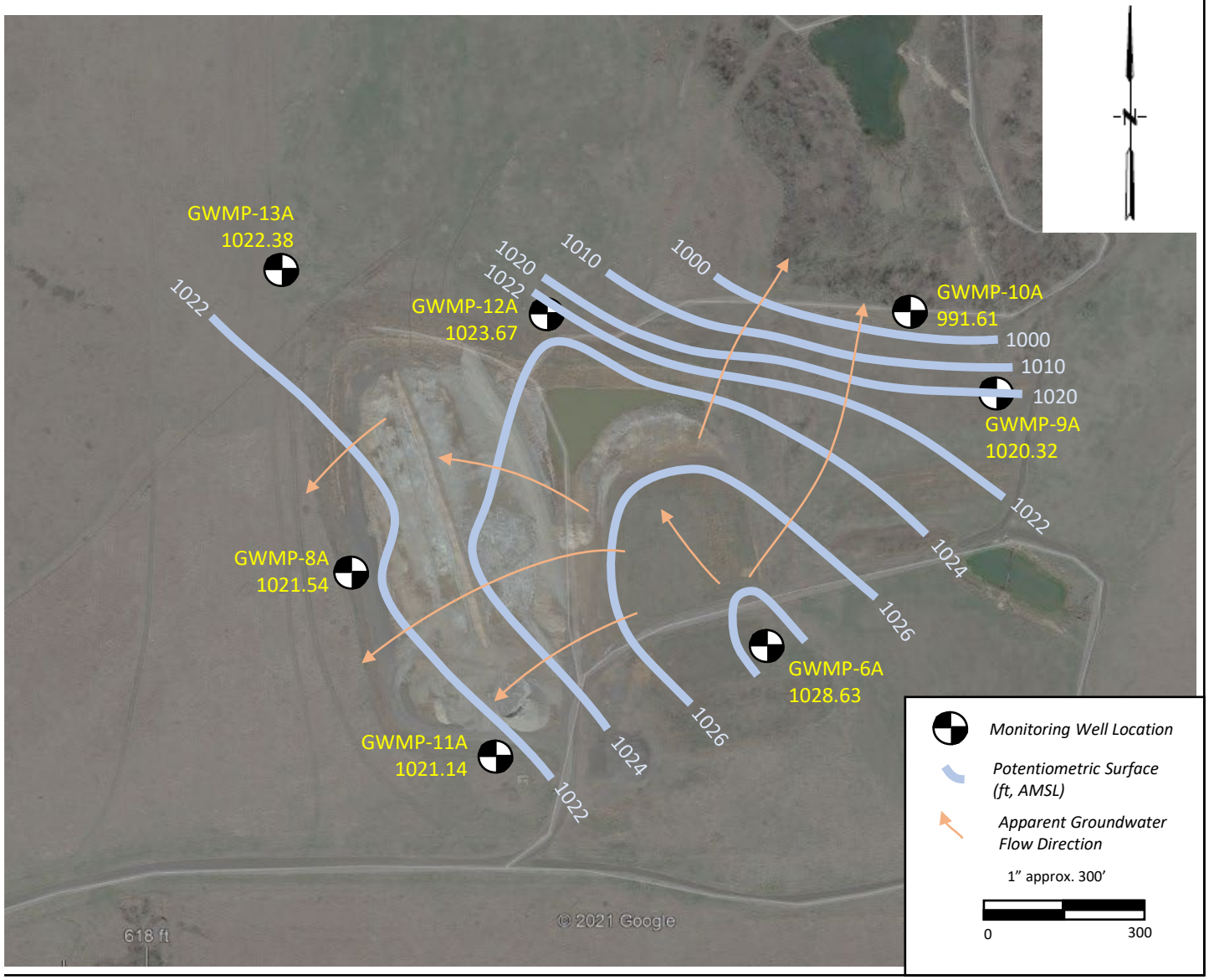
(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

POTENTIOMETRIC SURFACE
(October 13, 2020)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
formerly known as Enviro Clean Cardinal

525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

3700 W. Robinson, Suite 200
Norman, OK 73072
Phone 405.701.5058 Fax 405.701.5208

http://www.EnviroCleanPS.com

Potentiometric Surface (October 13, 2020)

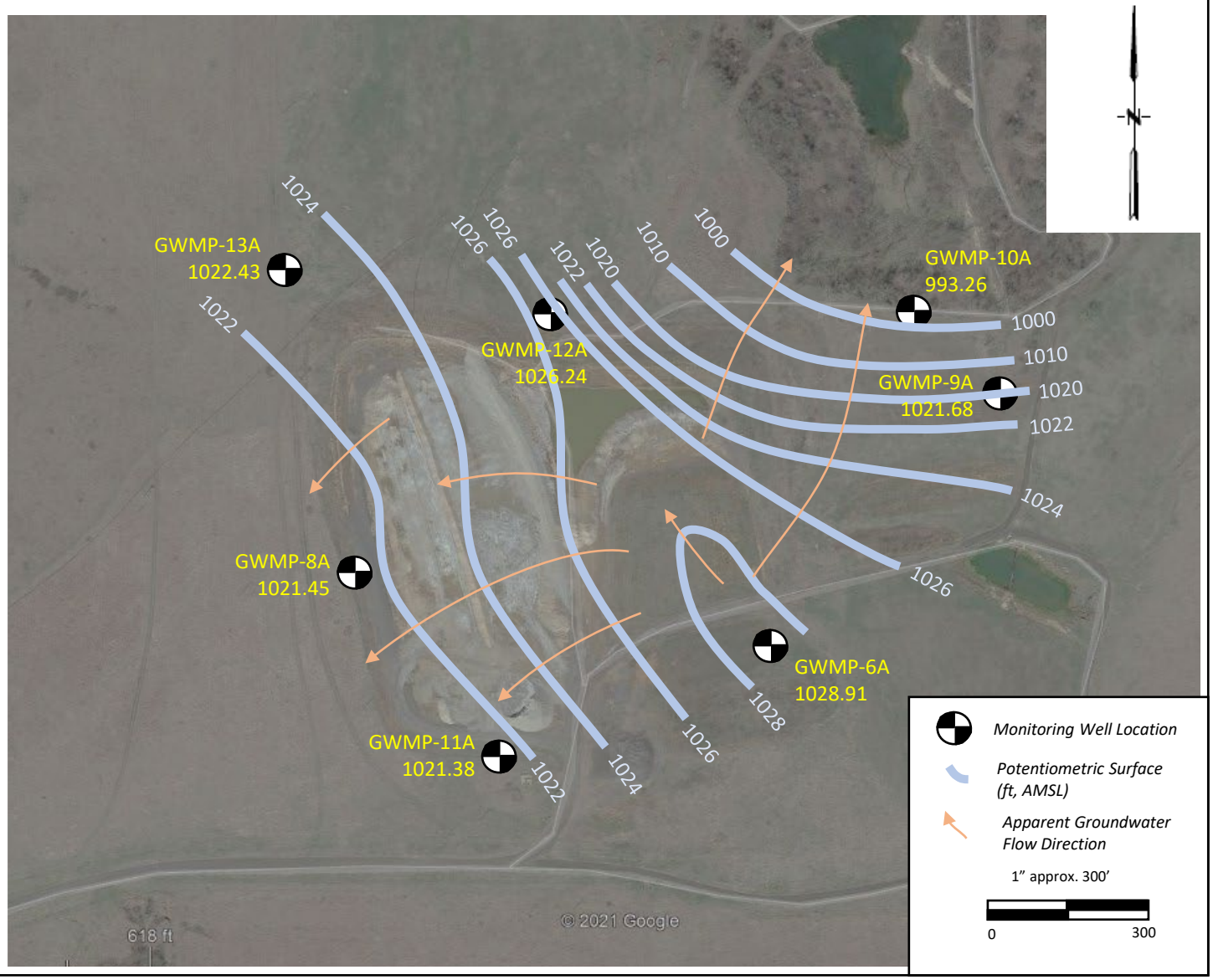
(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

POTENTIOMETRIC SURFACE
(January 11, 2021)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
formerly known as Enviro Clean Cardinal

525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

3700 W. Robinson, Suite 200
Norman, OK 73072
Phone 405.701.5058 Fax 405.701.5208

http://www.EnviroCleanPS.com

Potentiometric Surface (January 11, 2021)

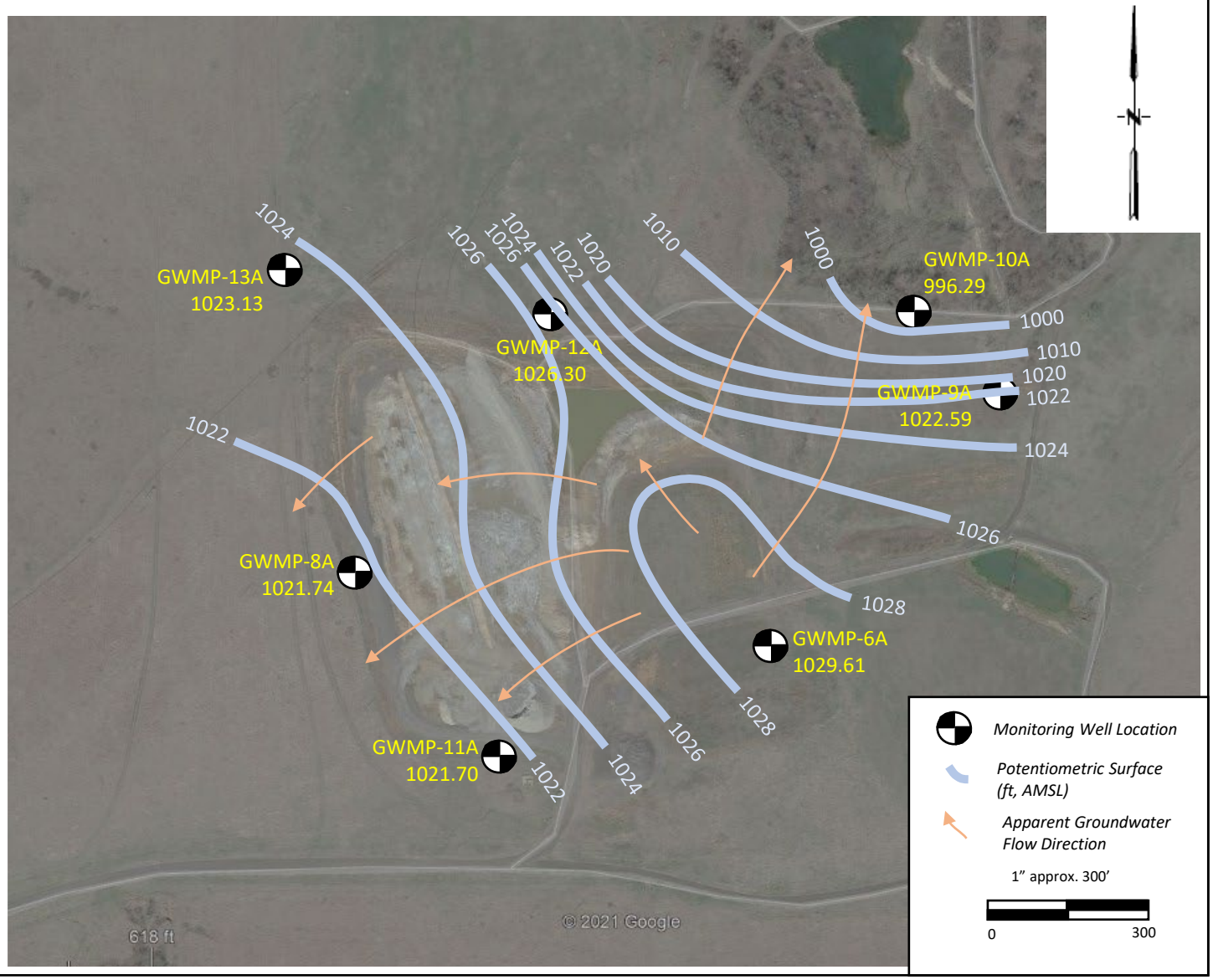
(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

PREPARED FOR:

EVANS & ASSOCIATES CONSTRUCTION CO., INC.

3320 NORTH 14TH STREET, PONCA CITY, OKLAHOMA 74602

FACILITY NAME: BIG FORK RANCH



PROJECT

EVANS & ASSOCIATES
BIG FORK RANCH FACILITY

LOCATION

PONCA CITY, OK

PREPARED FOR

EVANS & ASSOCIATES

DRAWING TITLE

POTENTIOMETRIC SURFACE
(APRIL 26, 2021)

Project No.
Drawn By CSS
Checked By CSS
Date 06/15/2021
Scale AS SHOWN
Issued For.
Drawing No.

ALTAMIRA
formerly known as Enviro Clean Cardinal

525 Central Park Drive, Suite 500
Oklahoma City, OK 73105
Phone 405.842.1066 Fax 405.843.4687

3700 W. Robinson, Suite 200
Norman, OK 73072
Phone 405.701.5058 Fax 405.701.5208

http://www.EnviroCleanPS.com

Potentiometric Surface (April 26, 2021)

(Base Map: Google Earth Image: Imagery Date 3/30/2019)
Well locations from May 12, 2021 Survey (Cowan Group Engineering)

ATTACHMENT G

SANITAS™ OUTPUT

(EVALUATION OF FIRST 2021 DATA)

TREND ANALYSIS

Sen's / Mann-Kendall

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:17 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	**MW-6A (bg)**	**-0.003273**	**-70**	**-41**	**Yes**	**15**	**93.33**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-8A**	**-0.003087**	**-57**	**-37**	**Yes**	**14**	**85.71**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-9A**	**-0.003159**	**-43**	**-30**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-10A**	**-0.003157**	**-34**	**-23**	**Yes**	**10**	**80**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-11A**	**-0.002313**	**-25**	**-23**	**Yes**	**10**	**90**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	MW-12A	0	-29	-37	No	14	100	n/a	n/a	0.05	NP
Arsenic (mg/L)	**MW-6A (bg)**	**-0.004127**	**-62**	**-41**	**Yes**	**15**	**53.33**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	**MW-8A**	**-0.002645**	**-47**	**-37**	**Yes**	**14**	**64.29**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	MW-9A	-0.002456	-23	-30	No	12	58.33	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-10A	0	-5	-23	No	10	60	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-11A	-0.00224	-21	-23	No	10	40	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-12A	0	0	37	No	14	50	n/a	n/a	0.05	NP
Barium (mg/L)	**MW-6A (bg)**	**-0.1302**	**-53**	**-41**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Barium (mg/L)	MW-8A	0	-1	-37	No	14	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-9A	0.006629	20	30	No	12	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-10A	-0.006752	-1	-23	No	10	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-11A	0.03885	3	23	No	10	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-12A	-0.003967	-8	-37	No	14	0	n/a	n/a	0.05	NP
Beryllium (mg/L)	**MW-6A (bg)**	**-0.003225**	**-67**	**-41**	**Yes**	**15**	**86.67**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	**MW-8A**	**-0.003177**	**-62**	**-37**	**Yes**	**14**	**85.71**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	**MW-9A**	**-0.003398**	**-43**	**-30**	**Yes**	**12**	**83.33**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	**MW-10A**	**-0.002733**	**-27**	**-23**	**Yes**	**10**	**90**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	MW-11A	-0.0003329	-16	-23	No	10	70	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-12A	0	-12	-37	No	14	64.29	n/a	n/a	0.05	NP
Cadmium (mg/L)	**MW-6A (bg)**	**-0.003174**	**-72**	**-41**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-8A**	**-0.003535**	**-67**	**-37**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-9A**	**-0.003289**	**-45**	**-30**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-10A**	**-0.003202**	**-30**	**-23**	**Yes**	**10**	**70**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-11A**	**-0.0004022**	**-24**	**-23**	**Yes**	**10**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	MW-12A	0	-33	-37	No	14	100	n/a	n/a	0.05	NP
Chromium (mg/L)	**MW-6A (bg)**	**-0.008082**	**-56**	**-41**	**Yes**	**15**	**40**	**n/a**	**n/a**	**0.05**	**NP**
Chromium (mg/L)	MW-8A	0	-6	-37	No	14	50	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-9A	-0.00175	-27	-30	No	12	58.33	n/a	n/a	0.05	NP
Chromium (mg/L)	MW-10A	0	-10	-23	No	10	60	n/a	n/a	0.05	NP
Chromium (mg/L)	**MW-11A**	**-0.003731**	**-24**	**-23**	**Yes**	**10**	**60**	**n/a**	**n/a**	**0.05**	**NP**
Chromium (mg/L)	MW-12A	0	-32	-37	No	14	85.71	n/a	n/a	0.05	NP
Cobalt (mg/L)	**MW-6A (bg)**	**-0.007784**	**-64**	**-41**	**Yes**	**15**	**46.67**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	MW-8A	0	-35	-37	No	14	71.43	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-9A	-6.7e-11	-26	-30	No	12	66.67	n/a	n/a	0.05	NP
Cobalt (mg/L)	MW-10A	0	1	23	No	10	40	n/a	n/a	0.05	NP

Sen's / Mann-Kendall

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:17 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt (mg/L)	**MW-11A**	**-0.004854**	**-24**	**-23**	**Yes**	**10**	**60**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	MW-12A	0	-36	-37	No	14	71.43	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-6A (bg)	0	-1	-71	No	22	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-8A	-0.02028	-40	-71	No	22	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-9A	-0.003093	-4	-62	No	20	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-10A	-0.01215	-30	-53	No	18	22.22	n/a	n/a	0.05	NP
Fluoride (mg/L)	**MW-11A**	**-0.1395**	**-39**	**-27**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	MW-12A	0.01283	2	41	No	15	0	n/a	n/a	0.05	NP
Lead (mg/L)	**MW-6A (bg)**	**-0.01067**	**-55**	**-41**	**Yes**	**15**	**46.67**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	**MW-8A**	**-0.001853**	**-41**	**-37**	**Yes**	**14**	**71.43**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	**MW-9A**	**-0.00285**	**-33**	**-30**	**Yes**	**12**	**50**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	MW-10A	-0.001084	-10	-23	No	10	40	n/a	n/a	0.05	NP
Lead (mg/L)	**MW-11A**	**-0.002226**	**-29**	**-23**	**Yes**	**10**	**40**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	MW-12A	0	0	37	No	14	35.71	n/a	n/a	0.05	NP
Lithium (mg/L)	**MW-6A (bg)**	**-0.01769**	**-70**	**-41**	**Yes**	**15**	**53.33**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-8A**	**-0.0104**	**-50**	**-37**	**Yes**	**14**	**71.43**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-9A**	**-0.009509**	**-40**	**-30**	**Yes**	**12**	**66.67**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-10A**	**-0.01272**	**-32**	**-23**	**Yes**	**10**	**70**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-11A**	**-0.0155**	**-28**	**-23**	**Yes**	**10**	**60**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-12A**	**0**	**-44**	**-37**	**Yes**	**14**	**71.43**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	**MW-6A (bg)**	**-0.0000641**	**-73**	**-41**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	MW-8A	-0.00001006	-28	-37	No	14	100	n/a	n/a	0.05	NP
Mercury (mg/L)	**MW-9A**	**-0.00005705**	**-41**	**-30**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	**MW-10A**	**-0.00005815**	**-31**	**-23**	**Yes**	**10**	**90**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	**MW-11A**	**-0.00001006**	**-24**	**-23**	**Yes**	**10**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	MW-12A	0	-37	-37	No	14	92.86	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**MW-6A (bg)**	**-0.003216**	**-71**	**-41**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**MW-8A**	**-0.002788**	**-60**	**-37**	**Yes**	**14**	**78.57**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**MW-9A**	**-0.002764**	**-54**	**-30**	**Yes**	**12**	**8.333**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	MW-10A	-0.001686	-14	-23	No	10	70	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**MW-11A**	**-0.002212**	**-24**	**-23**	**Yes**	**10**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	MW-12A	-0.02718	-32	-37	No	14	0	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	**MW-6A (bg)**	**-0.9194**	**-50**	**-34**	**Yes**	**13**	**23.08**	**n/a**	**n/a**	**0.05**	**NP**
Ra 226 and 228 (pCi/L)	MW-8A	0.06166	8	30	No	12	41.67	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-9A	0.2981	15	27	No	11	27.27	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-10A	-0.1593	-4	-17	No	8	25	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-11A	-0.1003	-1	-23	No	10	10	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-12A	-0.1504	-8	-34	No	13	38.46	n/a	n/a	0.05	NP
Selenium (mg/L)	MW-6A (bg)	-0.004119	-38	-41	No	15	60	n/a	n/a	0.05	NP
Selenium (mg/L)	**MW-8A**	**-0.002117**	**-39**	**-37**	**Yes**	**14**	**50**	**n/a**	**n/a**	**0.05**	**NP**

Sen's / Mann-Kendall

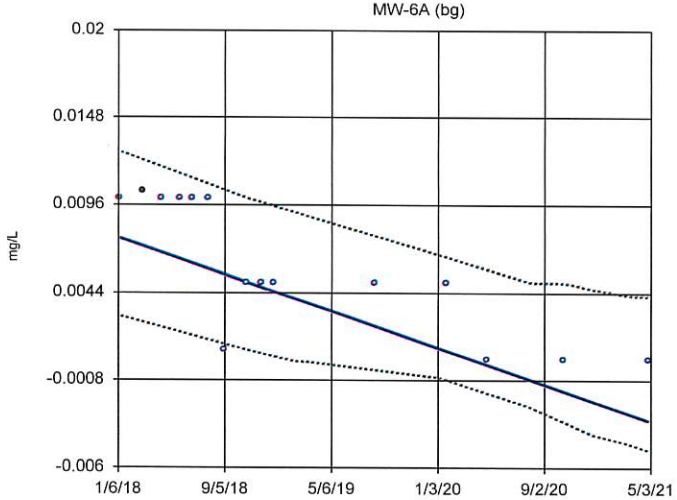
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:17 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Selenium (mg/L)	**MW-9A**	**-0.006552**	**-43**	**-30**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	**MW-10A**	**-0.00622**	**-31**	**-23**	**Yes**	**10**	**90**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	**MW-11A**	**-0.002764**	**-27**	**-23**	**Yes**	**10**	**90**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	MW-12A	-0.003401	-24	-37	No	14	21.43	n/a	n/a	0.05	NP
Thallium (mg/L)	**MW-6A (bg)**	**-0.006517**	**-77**	**-41**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-8A**	**-0.0065**	**-57**	**-37**	**Yes**	**14**	**85.71**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-9A**	**-0.006645**	**-47**	**-30**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-10A**	**-0.006517**	**-31**	**-23**	**Yes**	**10**	**90**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-11A**	**-0.0004022**	**-24**	**-23**	**Yes**	**10**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	MW-12A	0	-33	-37	No	14	100	n/a	n/a	0.05	NP

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.003273 units per year.

Mann-Kendall statistic = -70
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

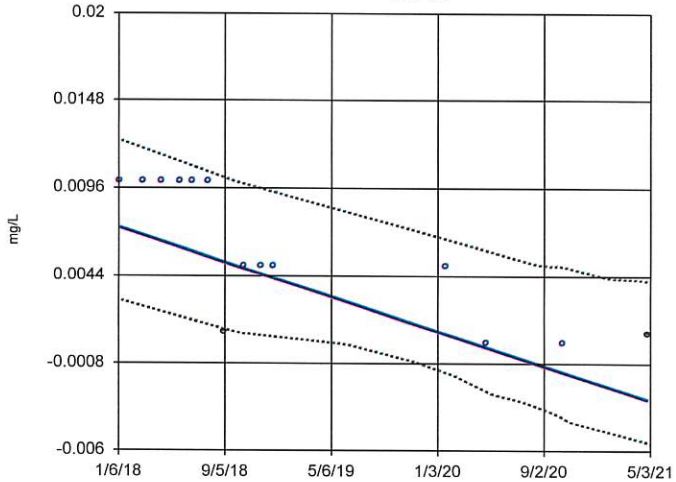
Constituent: Antimony Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.003087 units per year.

Mann-Kendall statistic = -57
critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

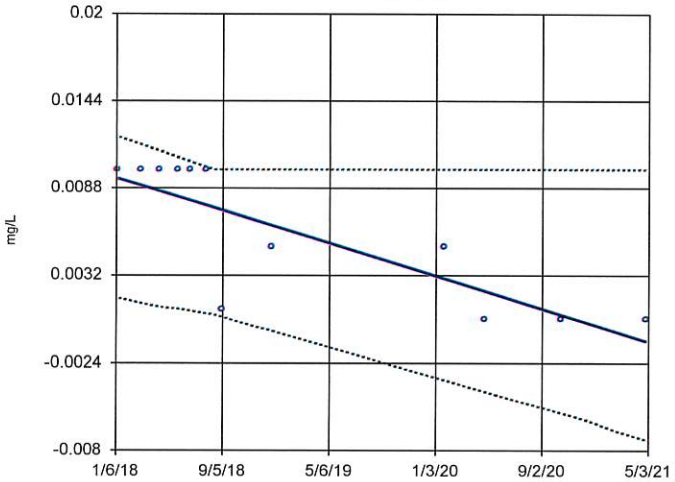
Constituent: Antimony Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.003159 units per year.

Mann-Kendall statistic = -43
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

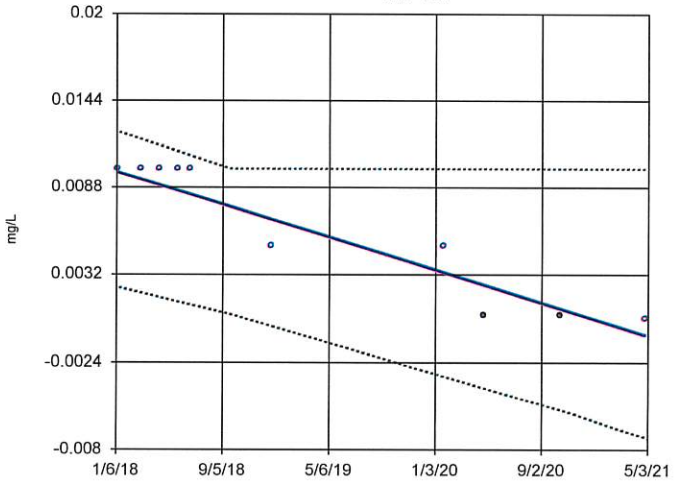
Constituent: Antimony Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.003157 units per year.

Mann-Kendall statistic = -34
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Antimony Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Antimony Analysis Run 1/19/2022 9:16 AM

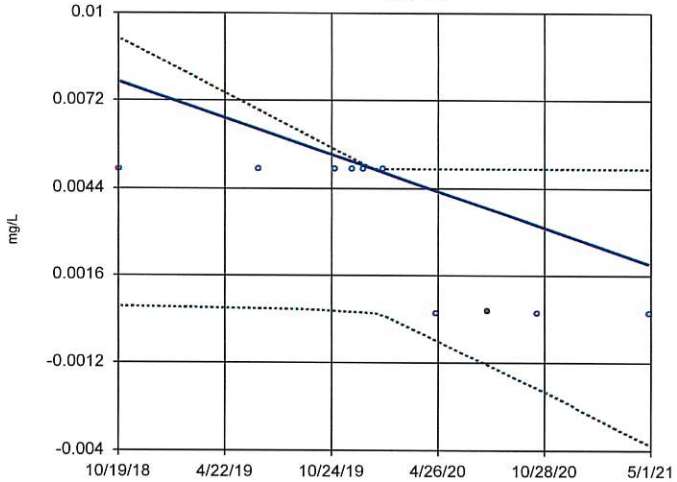
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	0.0104	<0.01	<0.01	<0.01
4/14/2018	<0.01	<0.01	<0.01	<0.01
5/26/2018	<0.01	<0.01	<0.01	<0.01
6/23/2018	<0.01	<0.01	<0.01	<0.01
7/29/2018	<0.01	<0.01	<0.01	
9/2/2018	<0.001	0.00108	<0.001	
10/19/2018		<0.005		
10/24/2018	<0.005			
11/27/2018	<0.005	<0.005		
12/24/2018	<0.005	<0.005	<0.005	<0.005
8/13/2019	<0.005			
1/22/2020	<0.005	<0.005	<0.005	<0.005
4/23/2020	<0.0004	<0.0004	<0.0004	0.000655 (J)
10/14/2020	<0.0004	<0.0004	<0.0004	0.000632 (J)
4/27/2021	<0.0004	0.000975 (J)	<0.0004	<0.0004

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.002313 units per year.

Mann-Kendall statistic = -25 critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

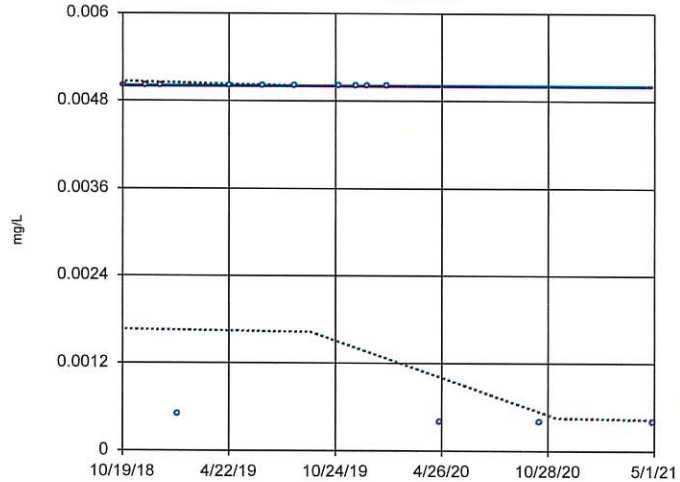
Constituent: Antimony Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -29 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

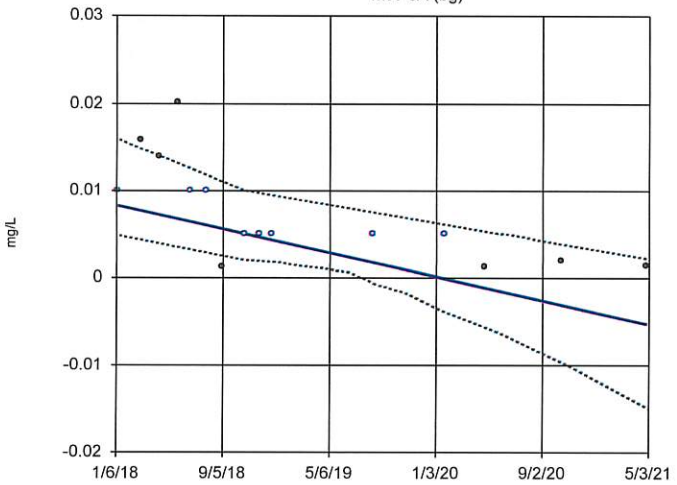
Constituent: Antimony Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.004127 units per year.

Mann-Kendall statistic = -62 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

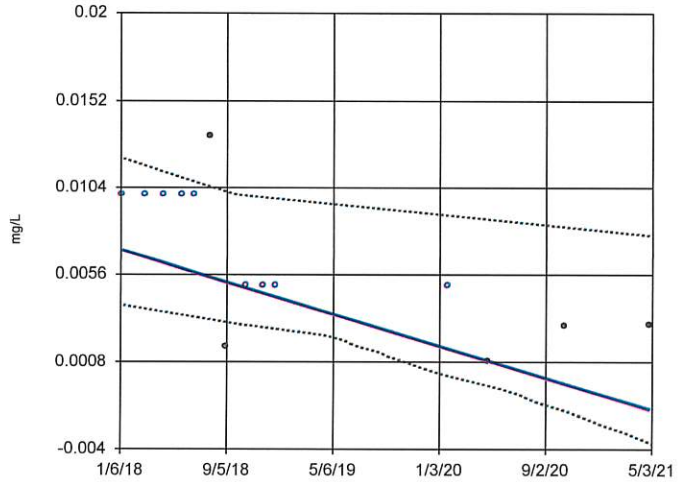
Constituent: Arsenic Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.002645 units per year.

Mann-Kendall statistic = -47 critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Antimony, Arsenic Analysis Run 1/19/2022 9:16 AM

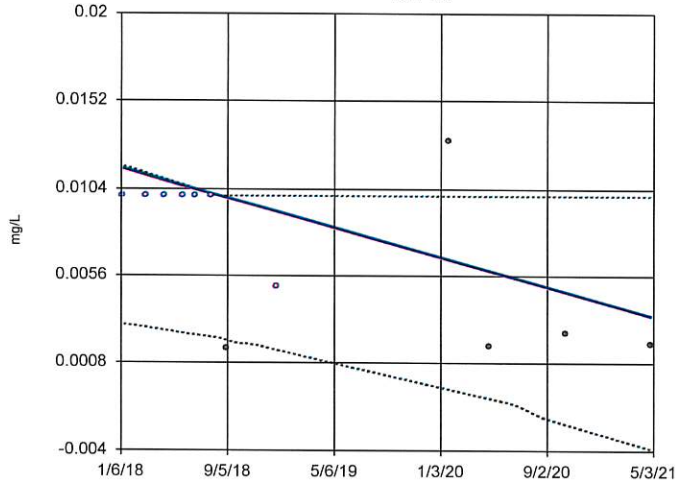
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	<0.01
3/3/2018			0.0158	<0.01
4/14/2018			0.0139	<0.01
5/26/2018			0.0202	<0.01
6/23/2018			<0.01	<0.01
7/29/2018			<0.01	0.0133
9/2/2018			0.00118	0.00164
10/19/2018	<0.005	<0.005		<0.005
10/24/2018			<0.005	
11/27/2018		<0.005	<0.005	<0.005
12/24/2018		<0.005	<0.005	<0.005
1/22/2019		<0.0005		
4/22/2019		<0.005		
6/18/2019	<0.005	<0.005		
8/13/2019		<0.005	<0.005	
10/29/2019	<0.005	<0.005		
11/29/2019	<0.005	<0.005		
12/18/2019	<0.005	<0.005		
1/22/2020	<0.005	<0.005	<0.005	<0.005
4/23/2020	<0.0004	<0.0004	0.00125 (J)	0.000833 (J)
7/22/2020	0.000484 (J)			
10/13/2020		<0.0004		
10/14/2020	<0.0004		0.00198 (J)	0.00276
4/27/2021	<0.0004	<0.0004	0.00136 (J)	0.00288

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.002456 units per year.

Mann-Kendall statistic = -23 critical = -30

Trend not significant at 95% confidence level (α = 0.025 per tail).

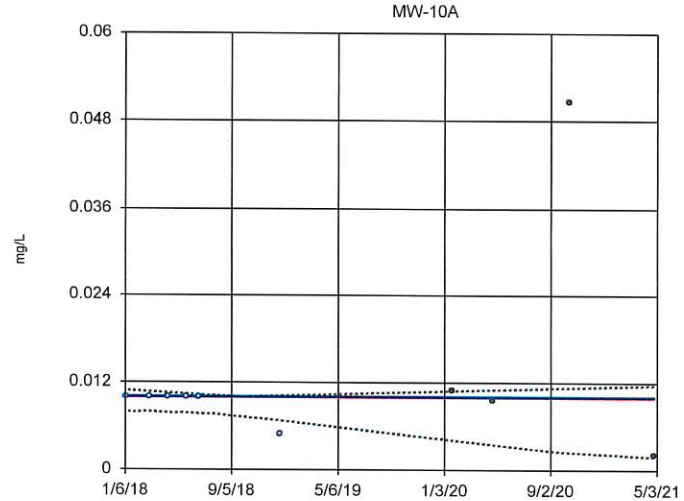
Constituent: Arsenic Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = -5 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

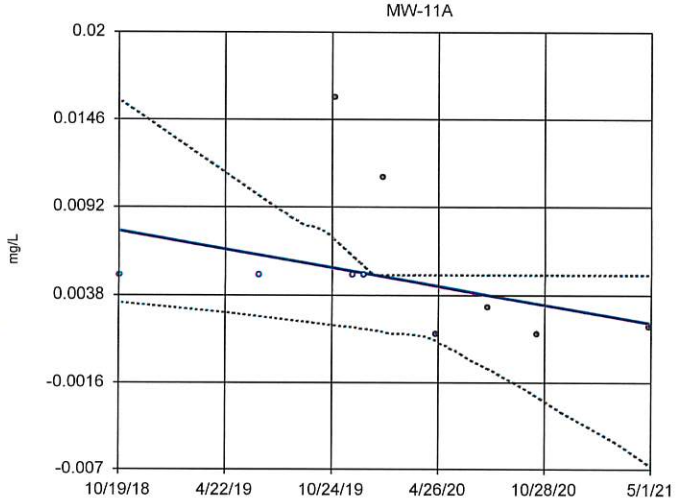
Constituent: Arsenic Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.00224 units per year.

Mann-Kendall statistic = -21 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

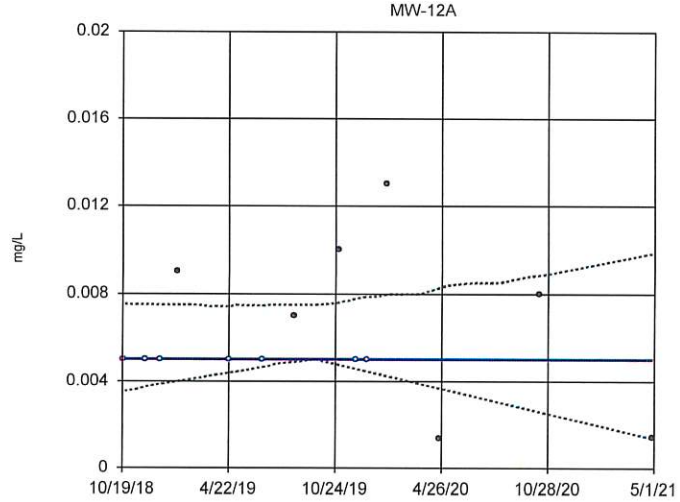
Constituent: Arsenic Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 37

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Arsenic Analysis Run 1/19/2022 9:16 AM

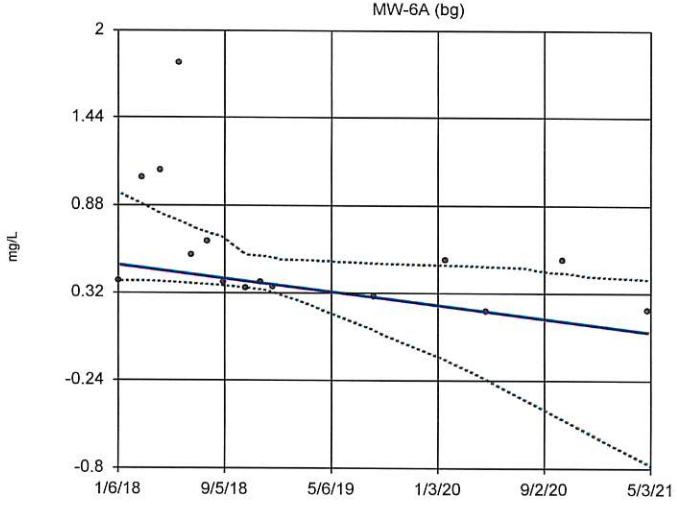
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01		
3/3/2018	<0.01	<0.01		
4/14/2018	<0.01	<0.01		
5/26/2018	<0.01	<0.01		
6/23/2018	<0.01	<0.01		
7/29/2018	<0.01			
9/2/2018	0.00158			
10/19/2018			<0.005	<0.005
11/27/2018				<0.005
12/24/2018	<0.005	<0.005		<0.005
1/22/2019				0.009
4/22/2019				<0.005
6/18/2019			<0.005	<0.005
8/13/2019				0.007
10/29/2019			0.016	0.01
11/29/2019			<0.005	<0.005
12/18/2019			<0.005	<0.005
1/22/2020	0.013	0.011	0.011	0.013
4/23/2020	0.00174 (J)	0.00957	0.00142 (J)	0.00135 (J)
7/22/2020			0.00303	
10/13/2020				0.00798
10/14/2020	0.00248	0.0505	0.00136 (J)	
4/27/2021	0.00185 (J)	0.00211	0.00184 (J)	0.00143 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.1302 units per year.

Mann-Kendall statistic = -53 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

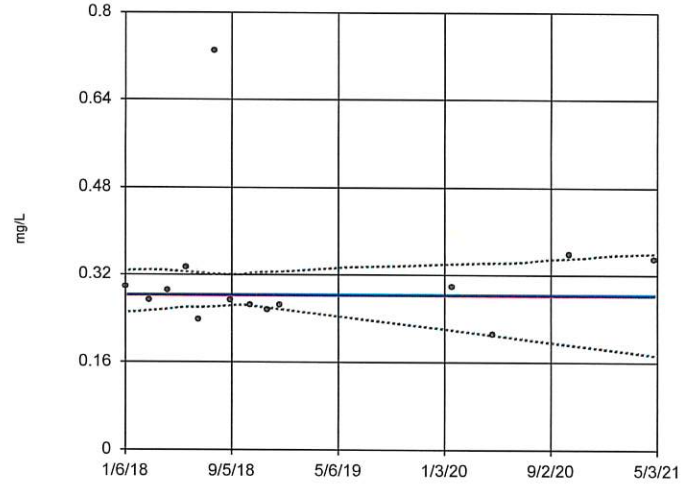
Constituent: Barium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -1 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

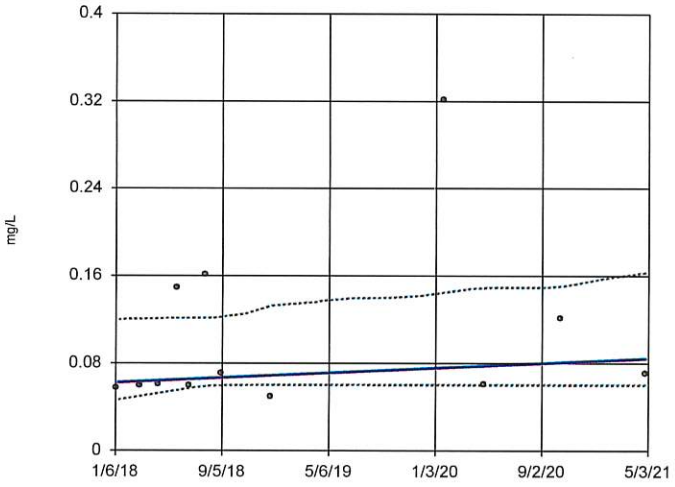
Constituent: Barium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = 0.006629 units per year.

Mann-Kendall statistic = 20 critical = 30

Trend not significant at 95% confidence level (α = 0.025 per tail).

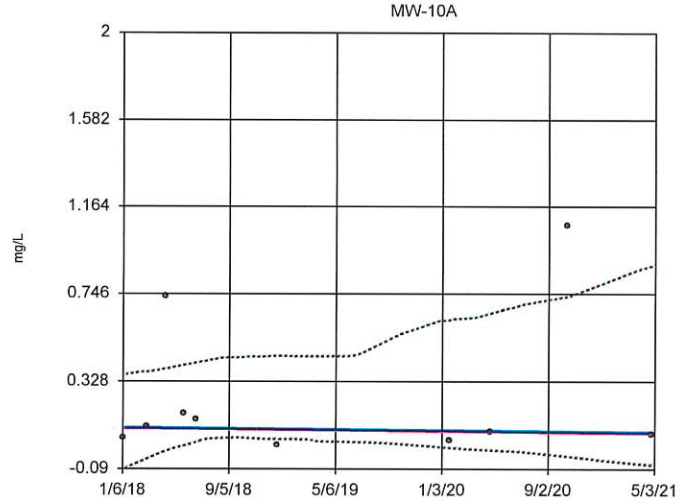
Constituent: Barium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.006752 units per year.

Mann-Kendall statistic = -1 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Barium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Barium Analysis Run 1/19/2022 9:16 AM

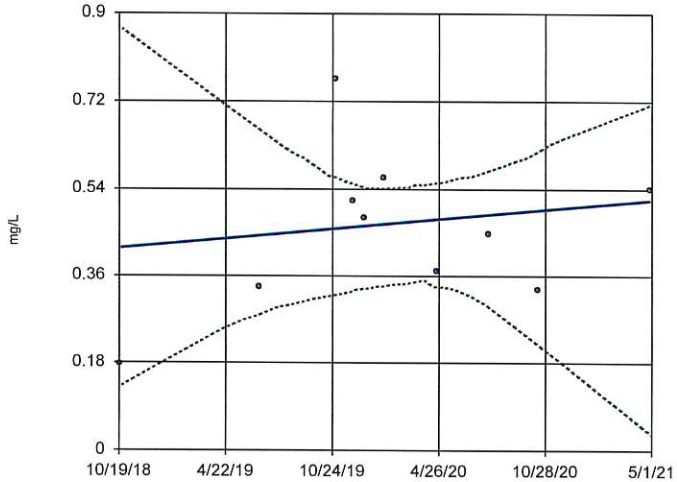
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	0.394	0.298	0.0574	0.0588
3/3/2018	1.05	0.272	0.0591	0.109
4/14/2018	1.1	0.29	0.0602	0.732
5/26/2018	1.79	0.334	0.149	0.174
6/23/2018	0.562	0.237	0.0597	0.148
7/29/2018	0.643	0.73	0.161	
9/2/2018	0.391	0.274	0.0712	
10/19/2018		0.265		
10/24/2018	0.353			
11/27/2018	0.388	0.255		
12/24/2018	0.36	0.265	0.05	0.022
8/13/2019	0.292			
1/22/2020	0.526	0.298	0.321	0.045
4/23/2020	0.205	0.211	0.061	0.0861
10/14/2020	0.533	0.357	0.121	1.07
4/27/2021	0.212	0.348	0.0711	0.0735

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = 0.03885 units per year.

Mann-Kendall statistic = 3 critical = 23

Trend not significant at 95% confidence level (α = 0.025 per tail).

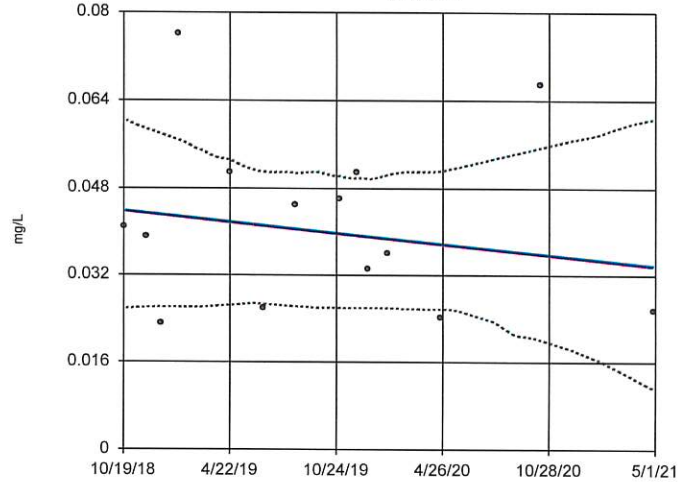
Constituent: Barium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = -0.003967 units per year.

Mann-Kendall statistic = -8 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

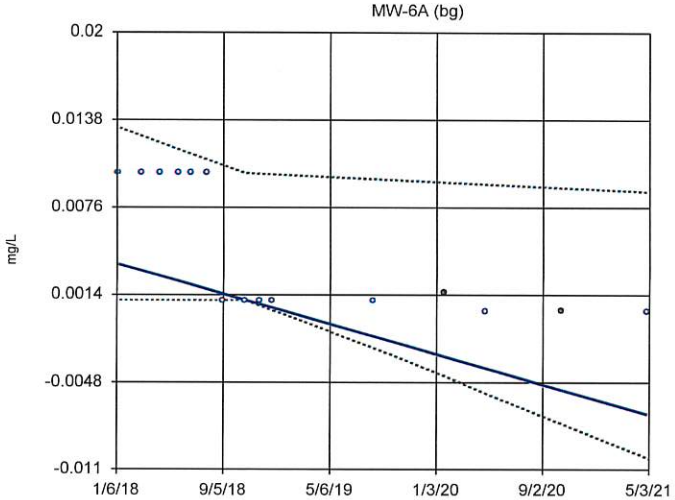
Constituent: Barium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.003225 units per year.

Mann-Kendall statistic = -67 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

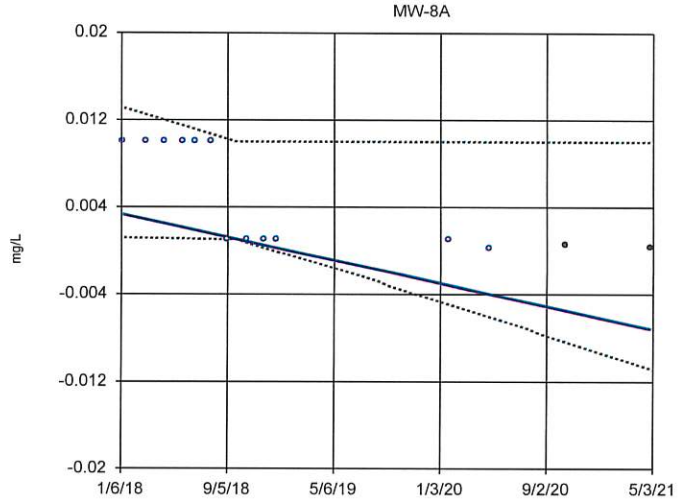
Constituent: Beryllium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.003177 units per year.

Mann-Kendall statistic = -62 critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Beryllium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Barium, Beryllium Analysis Run 1/19/2022 9:16 AM

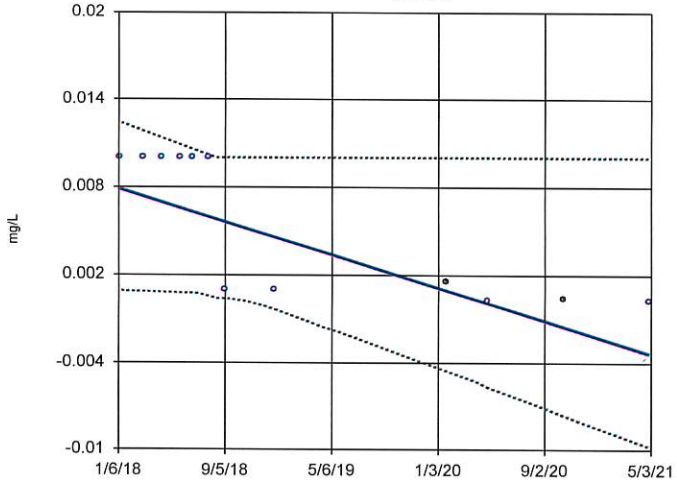
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	<0.01
3/3/2018			<0.01	<0.01
4/14/2018			<0.01	<0.01
5/26/2018			<0.01	<0.01
6/23/2018			<0.01	<0.01
7/29/2018			<0.01	<0.01
9/2/2018			<0.001	<0.001
10/19/2018	0.176	0.041		<0.001
10/24/2018			<0.001	
11/27/2018		0.039	<0.001	<0.001
12/24/2018		0.023	<0.001	<0.001
1/22/2019		0.076		
4/22/2019		0.051		
6/18/2019	0.338	0.026		
8/13/2019		0.045	<0.001	
10/29/2019	0.765	0.046		
11/29/2019	0.515	0.051		
12/18/2019	0.481	0.033		
1/22/2020	0.564	0.036	0.0016	<0.001
4/23/2020	0.371	0.0241	<0.0002	<0.0002
7/22/2020	0.448			
10/13/2020		0.067		
10/14/2020	0.332		0.000305 (J)	0.000585 (J)
4/27/2021	0.541	0.0256	<0.0002	0.000347 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.003398 units per year.

Mann-Kendall statistic = -43 critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

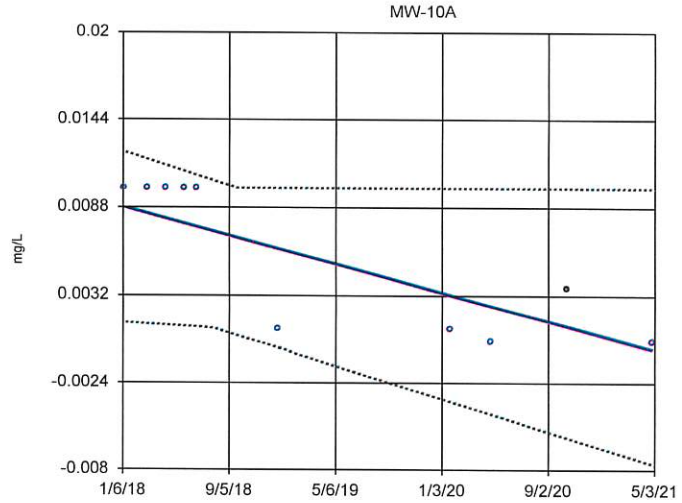
Constituent: Beryllium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.002733 units per year.

Mann-Kendall statistic = -27 critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

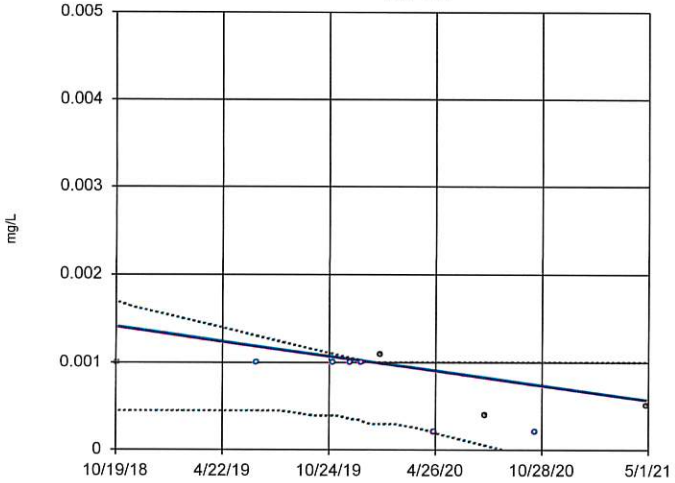
Constituent: Beryllium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.0003329 units per year.

Mann-Kendall statistic = -16 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

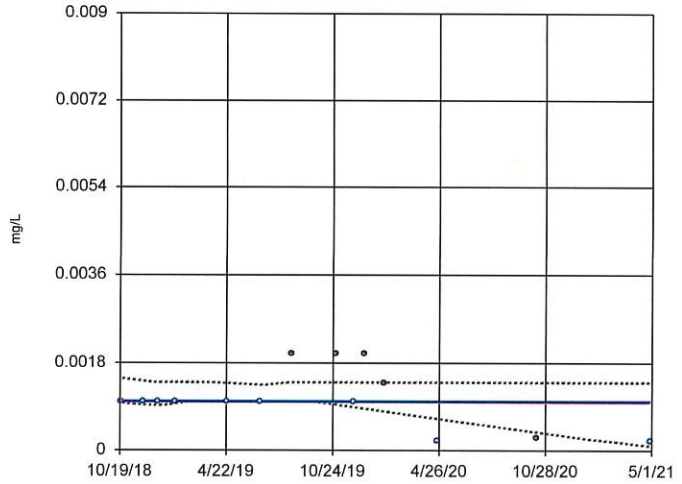
Constituent: Beryllium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -12 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Beryllium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Beryllium Analysis Run 1/19/2022 9:16 AM

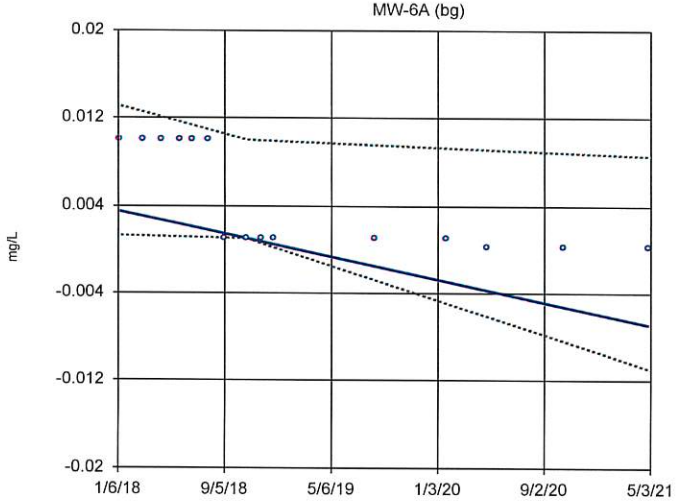
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01		
3/3/2018	<0.01	<0.01		
4/14/2018	<0.01	<0.01		
5/26/2018	<0.01	<0.01		
6/23/2018	<0.01	<0.01		
7/29/2018	<0.01			
9/2/2018	<0.001			
10/19/2018			<0.001	<0.001
11/27/2018				<0.001
12/24/2018	<0.001	<0.001		<0.001
1/22/2019				<0.001
4/22/2019				<0.001
6/18/2019			<0.001	<0.001
8/13/2019				0.002
10/29/2019			<0.001	0.002
11/29/2019			<0.001	<0.001
12/18/2019			<0.001	0.002
1/22/2020	0.0016	<0.001	0.0011	0.0014
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002
7/22/2020			0.00039 (J)	
10/13/2020				0.000258 (J)
10/14/2020	0.000391 (J)	0.00368	<0.0002	
4/27/2021	<0.0002	<0.0002	0.000502 (J)	<0.0002

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.003174 units per year.

Mann-Kendall statistic = -72
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

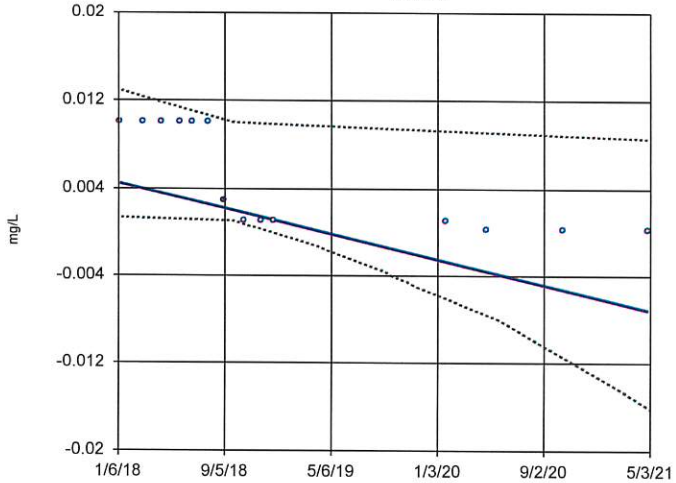
Constituent: Cadmium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.003535 units per year.

Mann-Kendall statistic = -67
critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

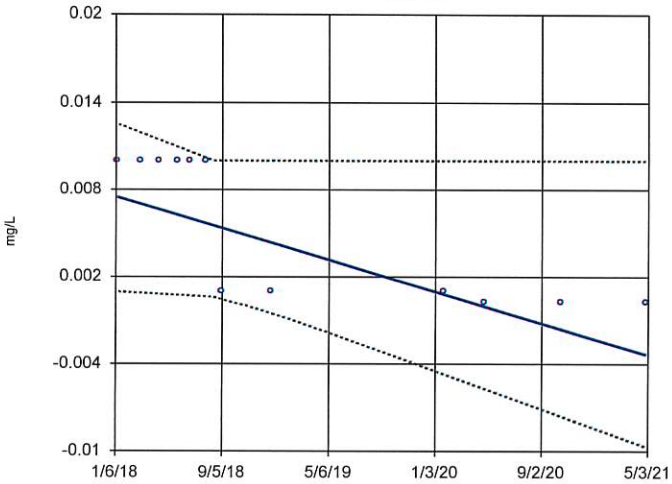
Constituent: Cadmium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.003289 units per year.

Mann-Kendall statistic = -45
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

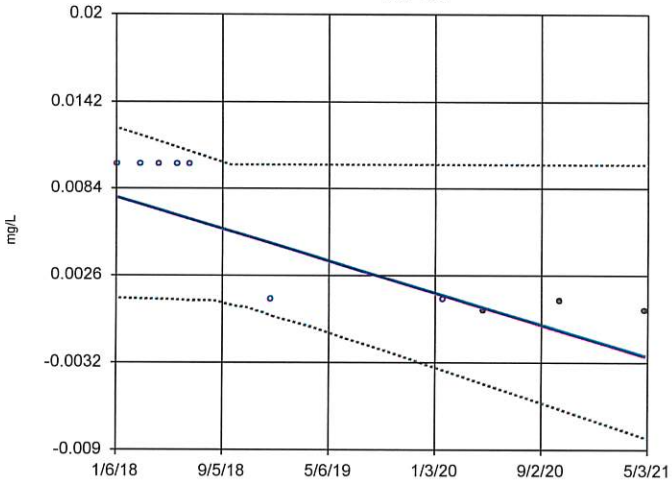
Constituent: Cadmium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.003202 units per year.

Mann-Kendall statistic = -30
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium Analysis Run 1/19/2022 9:13 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

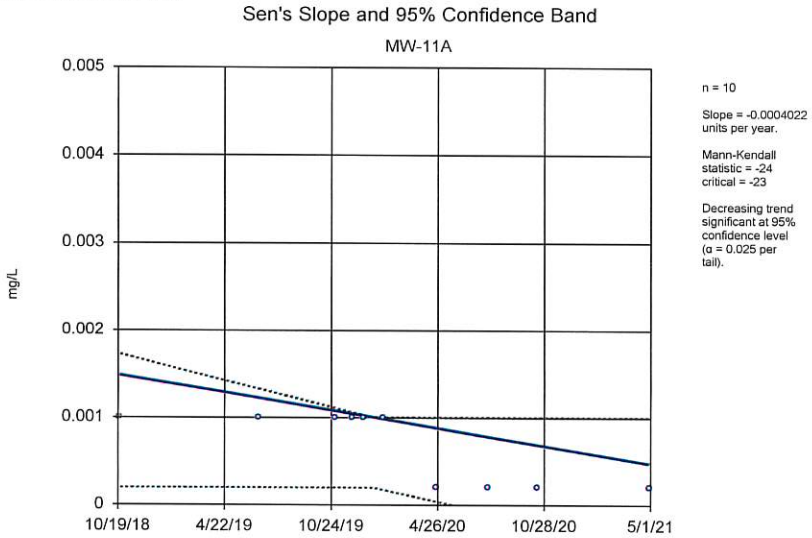
Sen's Slope Estimator

Constituent: Cadmium Analysis Run 1/19/2022 9:16 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

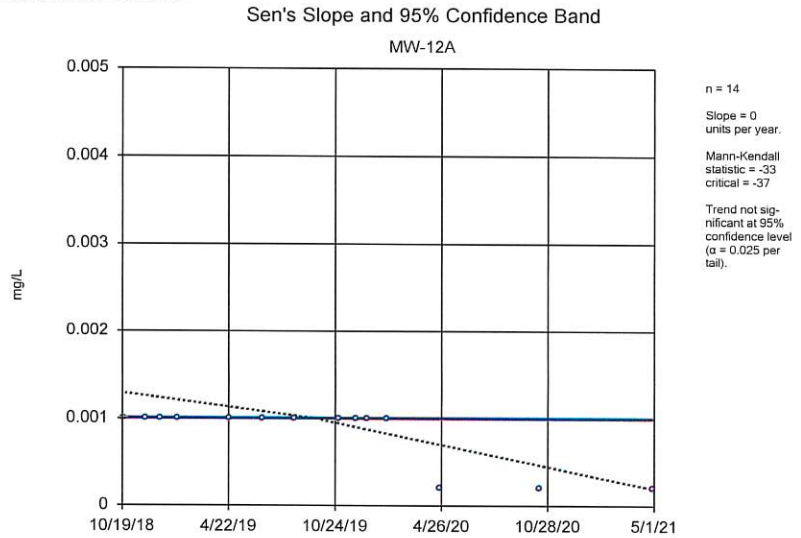
	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	<0.01	<0.01	<0.01	<0.01
4/14/2018	<0.01	<0.01	<0.01	<0.01
5/26/2018	<0.01	<0.01	<0.01	<0.01
6/23/2018	<0.01	<0.01	<0.01	<0.01
7/29/2018	<0.01	<0.01	<0.01	
9/2/2018	<0.001	0.00289	<0.001	
10/19/2018		<0.001		
10/24/2018	<0.001			
11/27/2018	<0.001	<0.001		
12/24/2018	<0.001	<0.001	<0.001	<0.001
8/13/2019	<0.001			
1/22/2020	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	<0.0002	0.00023 (J)
10/14/2020	<0.0002	<0.0002	<0.0002	0.0009 (J)
4/27/2021	<0.0002	<0.0002	<0.0002	0.000272 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



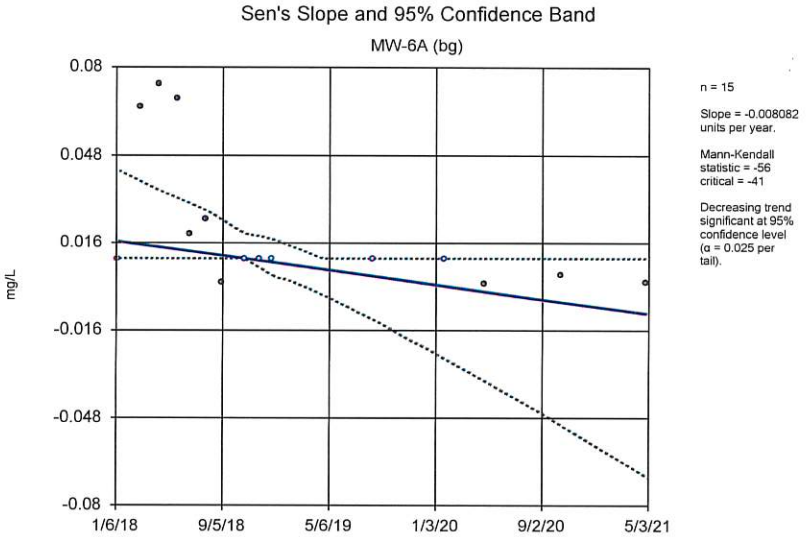
Constituent: Cadmium Analysis Run 1/19/2022 9:13 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



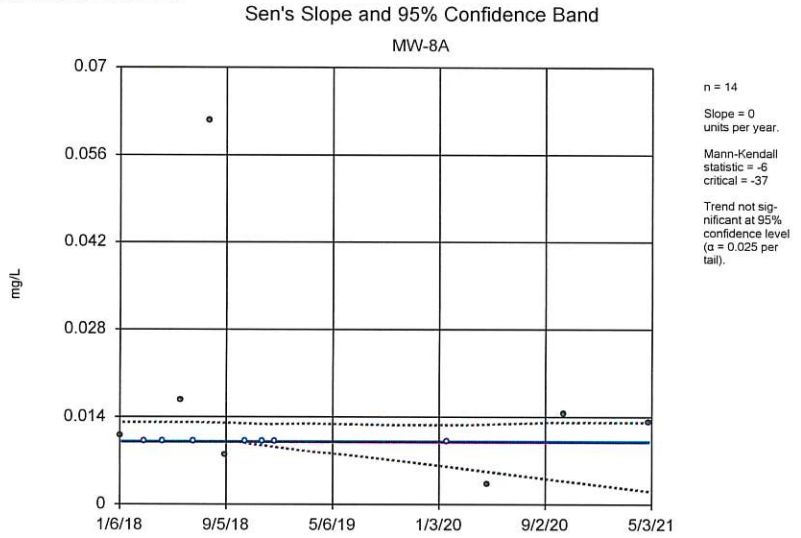
Constituent: Cadmium Analysis Run 1/19/2022 9:13 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Chromium Analysis Run 1/19/2022 9:13 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Chromium Analysis Run 1/19/2022 9:13 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Cadmium, Chromium Analysis Run 1/19/2022 9:16 AM

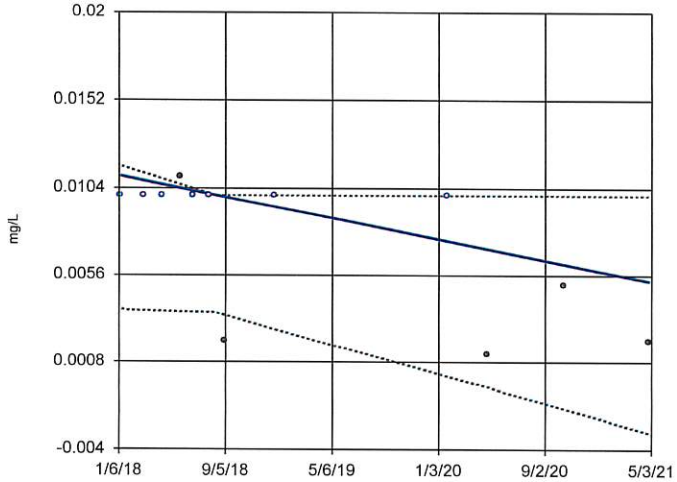
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	0.0111
3/3/2018			0.0657	<0.01
4/14/2018			0.0741	<0.01
5/26/2018			0.0685	0.0167
6/23/2018			0.0193	<0.01
7/29/2018			0.0244	0.0615
9/2/2018			0.00131	0.00783
10/19/2018	<0.001	<0.001		<0.01
10/24/2018			<0.01	
11/27/2018		<0.001	<0.01	<0.01
12/24/2018		<0.001	<0.01	<0.01
1/22/2019		<0.001		
4/22/2019		<0.001		
6/18/2019	<0.001	<0.001		
8/13/2019		<0.001	<0.01	
10/29/2019	<0.001	<0.001		
11/29/2019	<0.001	<0.001		
12/18/2019	<0.001	<0.001		
1/22/2020	<0.001	<0.001	<0.01	<0.01
4/23/2020	<0.0002	<0.0002	0.000977 (J)	0.00323 (J)
7/22/2020	<0.0002			
10/13/2020		<0.0002		
10/14/2020	<0.0002		0.00411	0.0146
4/27/2021	<0.0002	<0.0002	0.00133 (J)	0.0131

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.00175 units per year.

Mann-Kendall statistic = -27 critical = -30

Trend not significant at 95% confidence level (α = 0.025 per tail).

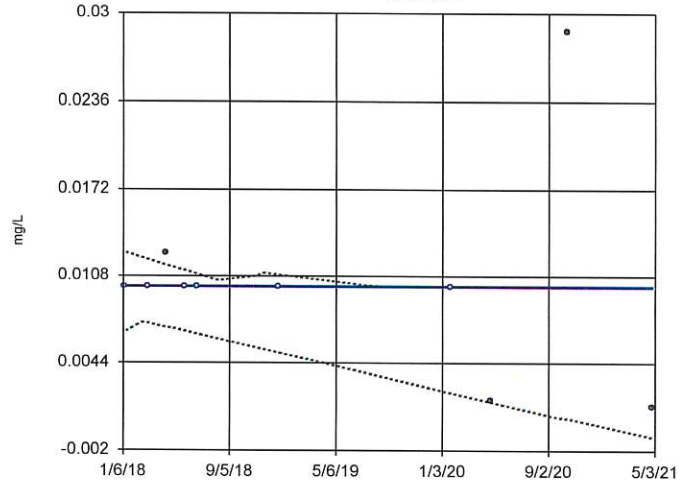
Constituent: Chromium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = -10 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

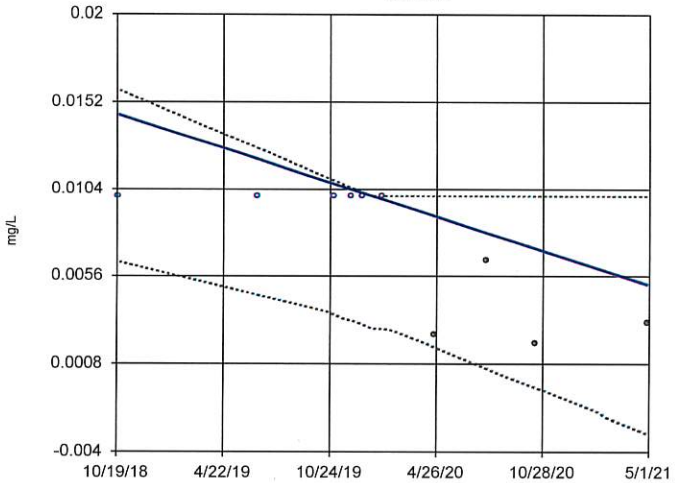
Constituent: Chromium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.003731 units per year.

Mann-Kendall statistic = -24 critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

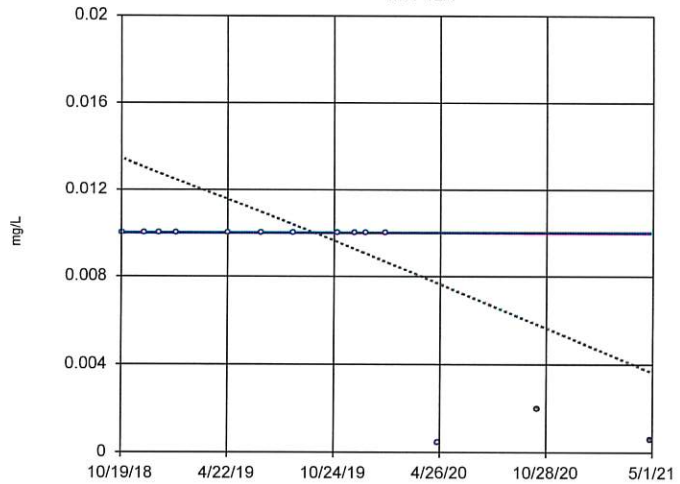
Constituent: Chromium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -32 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Chromium Analysis Run 1/19/2022 9:16 AM

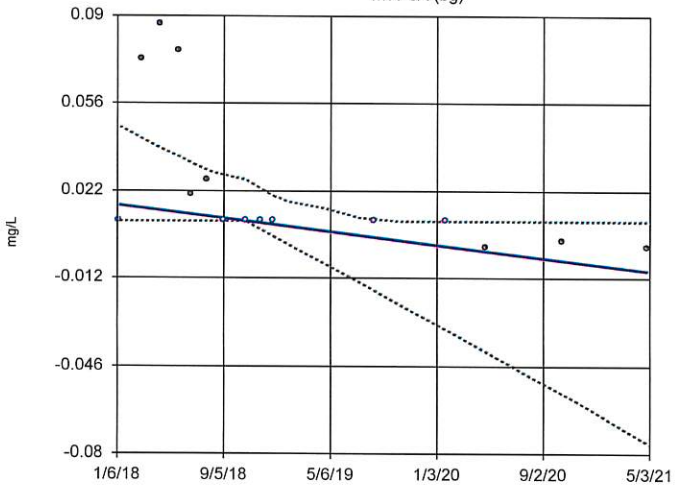
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01		
3/3/2018	<0.01	<0.01		
4/14/2018	<0.01	0.0125		
5/26/2018	0.011	<0.01		
6/23/2018	<0.01	<0.01		
7/29/2018	<0.01			
9/2/2018	0.00195			
10/19/2018			<0.01	<0.01
11/27/2018				<0.01
12/24/2018	<0.01	<0.01		<0.01
1/22/2019				<0.01
4/22/2019				<0.01
6/18/2019			<0.01	<0.01
8/13/2019				<0.01
10/29/2019			<0.01	<0.01
11/29/2019			<0.01	<0.01
12/18/2019			<0.01	<0.01
1/22/2020	<0.01	<0.01	<0.01	<0.01
4/23/2020	0.00126 (J)	0.00169 (J)	0.00236 (J)	<0.0004
7/22/2020			0.00644	
10/13/2020				0.00198 (J)
10/14/2020	0.00507	0.0287	0.0019 (J)	
4/27/2021	0.00196 (J)	0.00124 (J)	0.00306 (J)	0.00059 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.007784 units per year.

Mann-Kendall statistic = -64 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

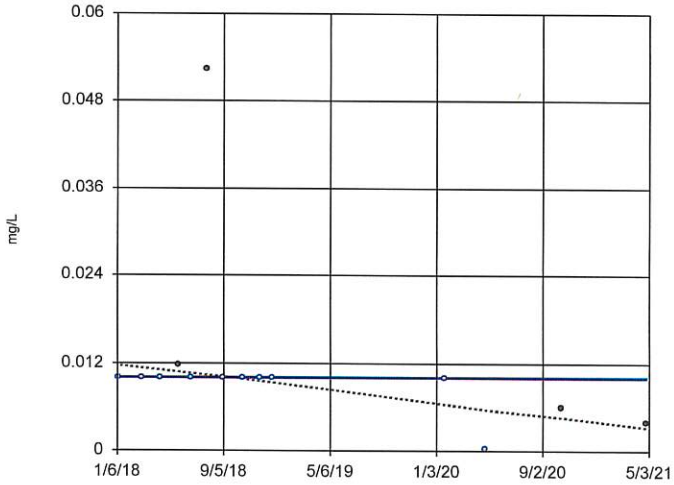
Constituent: Cobalt Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -35 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

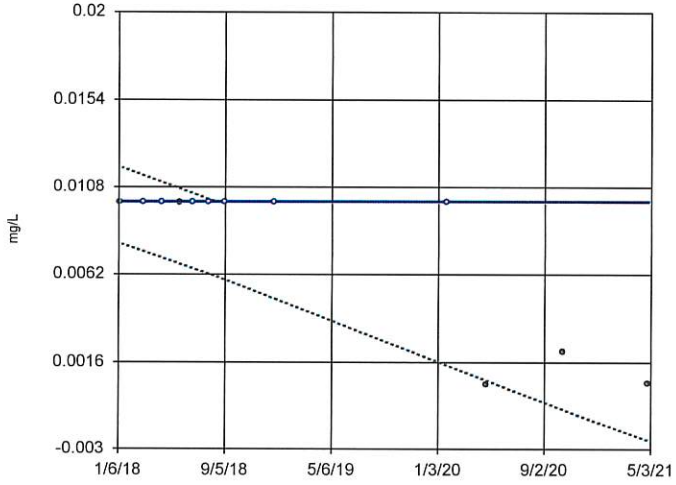
Constituent: Cobalt Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -6.7e-11 units per year.

Mann-Kendall statistic = -26 critical = -30

Trend not significant at 95% confidence level (α = 0.025 per tail).

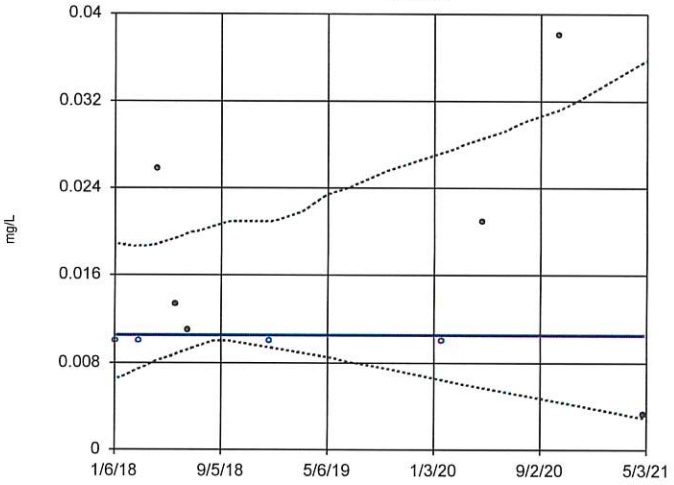
Constituent: Cobalt Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = 1 critical = 23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Cobalt Analysis Run 1/19/2022 9:16 AM

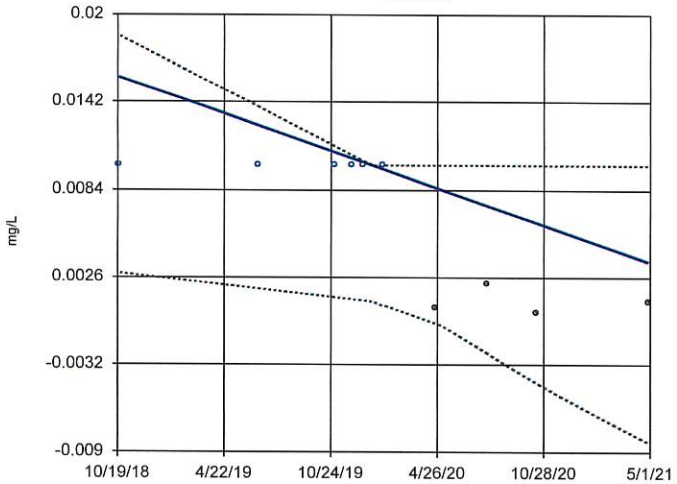
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	0.073	<0.01	<0.01	<0.01
4/14/2018	0.0867	<0.01	<0.01	0.0258
5/26/2018	0.0764	0.0117	0.01	0.0133
6/23/2018	0.0205	<0.01	<0.01	0.011
7/29/2018	0.0264	0.0524	<0.01	
9/2/2018	<0.01	<0.01	<0.01	
10/19/2018		<0.01		
10/24/2018	<0.01			
11/27/2018	<0.01	<0.01		
12/24/2018	<0.01	<0.01	<0.01	<0.01
8/13/2019	<0.01			
1/22/2020	<0.01	<0.01	<0.01	<0.01
4/23/2020	0.000235 (J)	<0.0002	0.000419 (J)	0.0209
10/14/2020	0.0025 (J)	0.00589	0.00217 (J)	0.0381
4/27/2021	0.000278 (J)	0.00401 (J)	0.000489 (J)	0.00325 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.004854 units per year.

Mann-Kendall statistic = -24
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

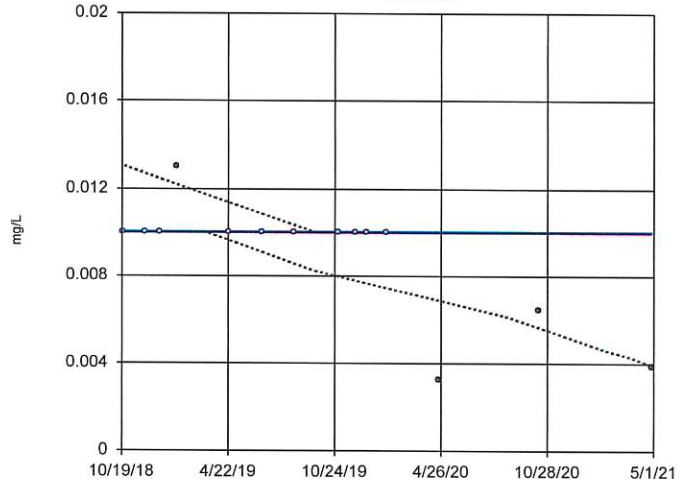
Constituent: Cobalt Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -36
critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

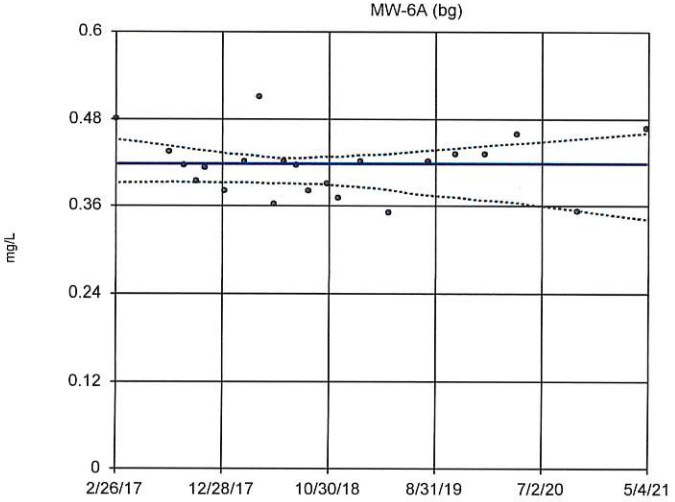
Constituent: Cobalt Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 22

Slope = 0 units per year.

Mann-Kendall statistic = -1
critical = -71

Trend not significant at 95% confidence level (α = 0.025 per tail).

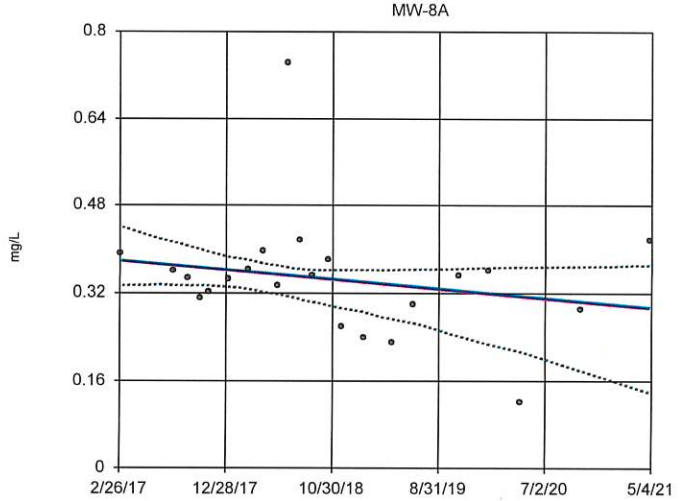
Constituent: Fluoride Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-8A



n = 22

Slope = -0.02028 units per year.

Mann-Kendall statistic = -40
critical = -71

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Cobalt, Fluoride Analysis Run 1/19/2022 9:16 AM

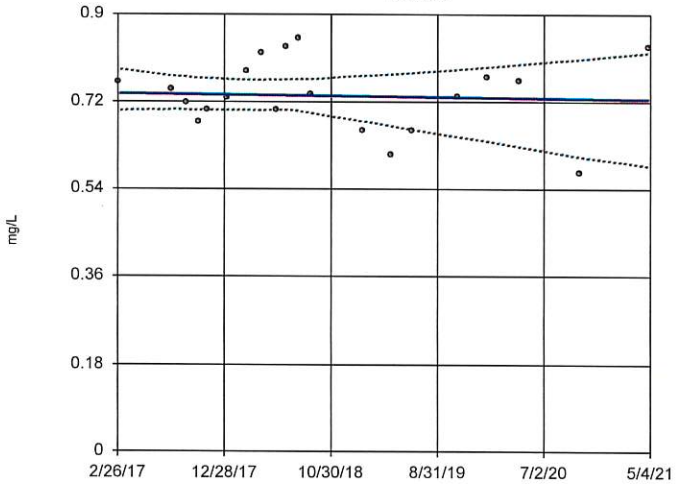
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
2/26/2017			0.48	0.39
7/29/2017			0.433	0.359
9/10/2017			0.415	0.346
10/14/2017			0.394	0.31
11/11/2017			0.412	0.322
1/6/2018			0.38	0.344
3/3/2018			0.42	0.363
4/14/2018			0.51	0.396
5/26/2018			0.362	0.333
6/23/2018			0.42	0.743
7/29/2018			0.416	0.415
9/2/2018			0.38	0.352
10/19/2018	<0.01	<0.01		0.38
10/24/2018			0.39	
11/27/2018		<0.01	0.37	0.26
12/24/2018		<0.01		
1/22/2019		0.013		
1/29/2019			0.42	0.24
4/22/2019		<0.01	0.35	0.23
6/18/2019	<0.01	<0.01		0.3
8/13/2019		<0.01	0.42	
10/29/2019	<0.01	<0.01	0.43	0.35
11/29/2019	<0.01	<0.01		
12/18/2019	<0.01	<0.01		
1/22/2020	<0.01	<0.01	0.43	0.36
4/23/2020	0.000556 (J)	0.00326 (J)	0.458	0.122
7/22/2020	0.00218 (J)			
10/13/2020		0.00644		
10/14/2020	0.000225 (J)		0.352	0.29
4/27/2021	0.00097 (J)	0.00387 (J)	0.467	0.415

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-9A



n = 20

Slope = -0.003093 units per year.

Mann-Kendall statistic = -4 critical = -62

Trend not significant at 95% confidence level (α = 0.025 per tail).

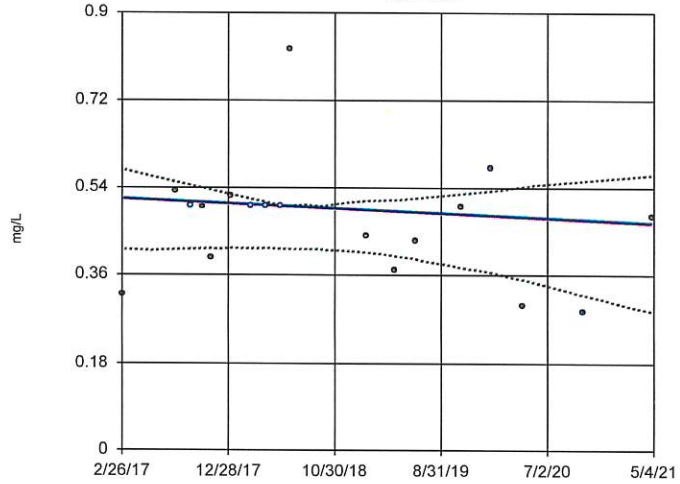
Constituent: Fluoride Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 18

Slope = -0.01215 units per year.

Mann-Kendall statistic = -30 critical = -53

Trend not significant at 95% confidence level (α = 0.025 per tail).

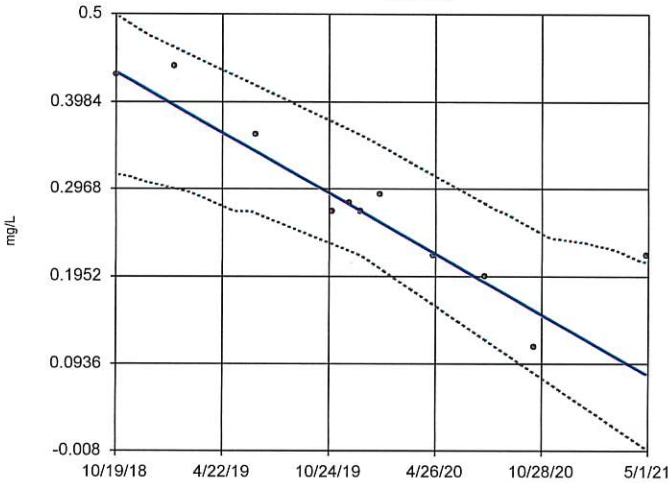
Constituent: Fluoride Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.1395 units per year.

Mann-Kendall statistic = -39 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

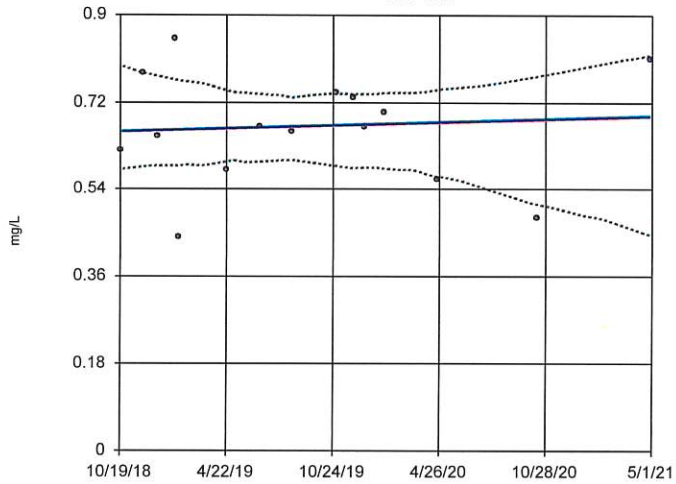
Constituent: Fluoride Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = 0.01283 units per year.

Mann-Kendall statistic = 2 critical = 41

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Fluoride Analysis Run 1/19/2022 9:16 AM

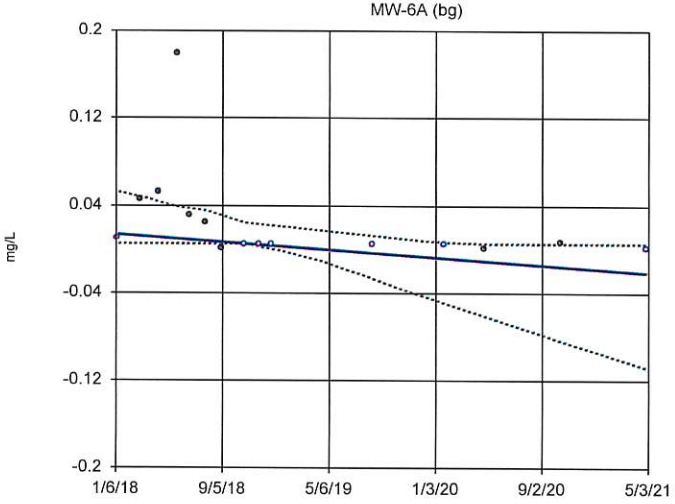
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
2/26/2017	0.76	0.32		
7/29/2017	0.747	0.533		
9/10/2017	0.717	<1		
10/14/2017	0.679	0.5		
11/11/2017	0.703	0.394		
1/6/2018	0.729	0.522		
3/3/2018	0.784	<1		
4/14/2018	0.822	<1		
5/26/2018	0.702	<1		
6/23/2018	0.834	0.826		
7/29/2018	0.85			
9/2/2018	0.735			
10/19/2018			0.43	0.62
11/27/2018				0.78
12/24/2018				0.65
1/22/2019				0.85
1/29/2019			0.44	0.44
1/30/2019	0.66	0.44		
4/22/2019	0.61	0.37		0.58
6/18/2019	0.66	0.43	0.36	0.67
8/13/2019				0.66
10/29/2019	0.73	0.5	0.27	0.74
11/29/2019			0.28	0.73
12/18/2019			0.27	0.67
1/22/2020	0.77	0.58	0.29	0.7
4/23/2020	0.763	0.296	0.219	0.56
7/22/2020			0.195	
10/13/2020				0.481 (J)
10/14/2020	0.574	0.285 (J)	0.113	
4/27/2021	0.834	0.48	0.219	0.811

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.01067 units per year.

Mann-Kendall statistic = -55 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

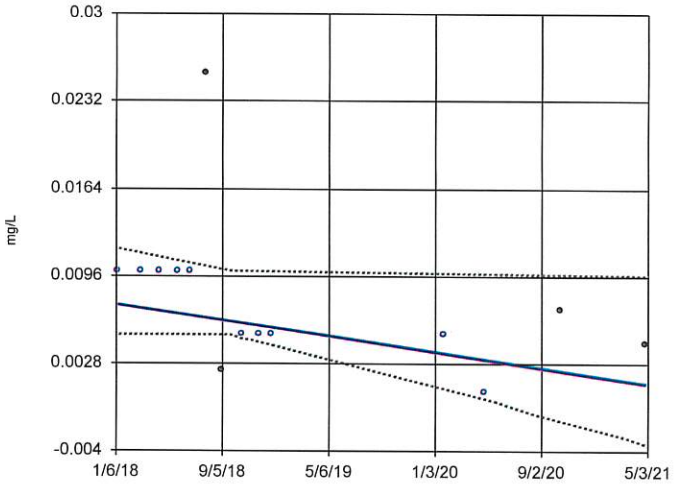
Constituent: Lead Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.001853 units per year.

Mann-Kendall statistic = -41 critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

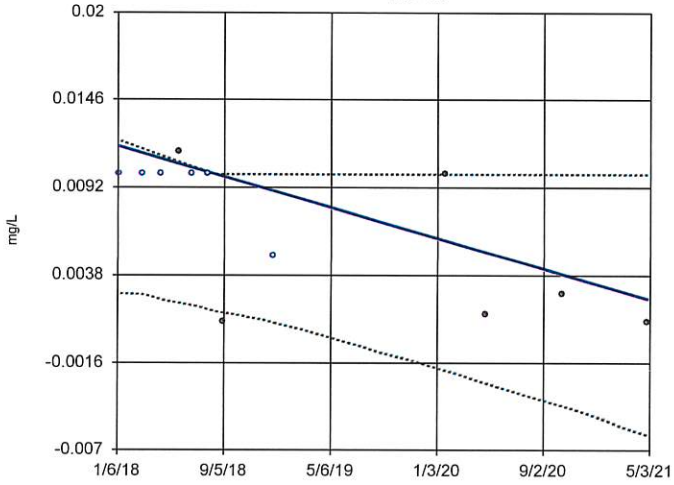
Constituent: Lead Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.00285 units per year.

Mann-Kendall statistic = -33 critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

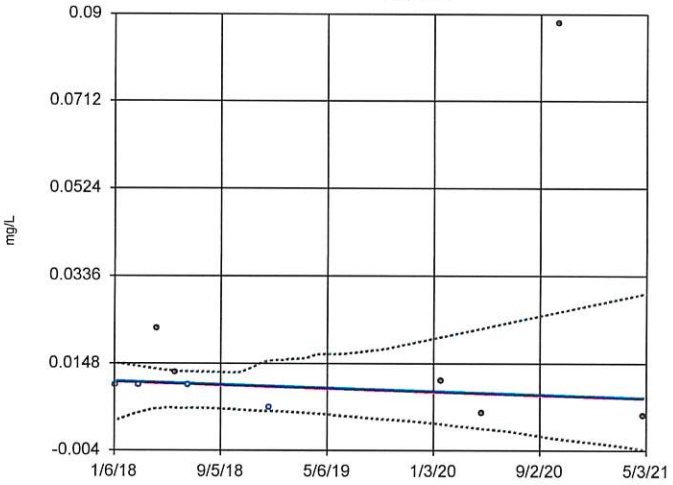
Constituent: Lead Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.001084 units per year.

Mann-Kendall statistic = -10 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lead Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Lead Analysis Run 1/19/2022 9:16 AM

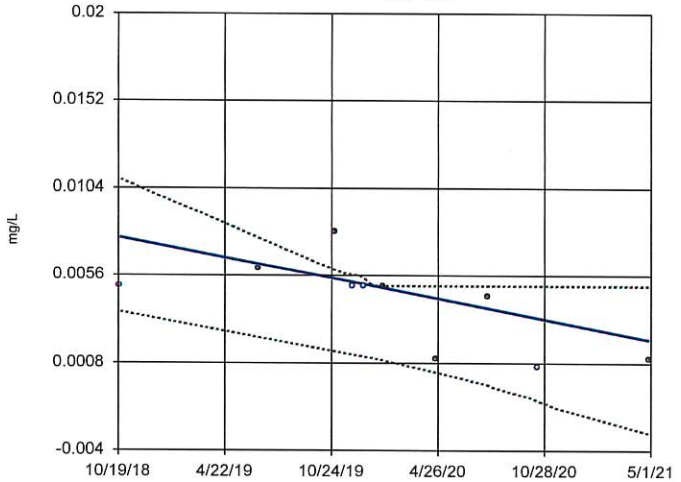
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	0.0456	<0.01	<0.01	<0.01
4/14/2018	0.0525	<0.01	<0.01	0.0222
5/26/2018	0.179	<0.01	0.0114	0.0128
6/23/2018	0.0317	<0.01	<0.01	<0.01
7/29/2018	0.0242	0.0254	<0.01	
9/2/2018	0.00106	0.00232	0.00095	
10/19/2018		<0.005		
10/24/2018	<0.005			
11/27/2018	<0.005	<0.005		
12/24/2018	<0.005	<0.005	<0.005	<0.005
8/13/2019	<0.005			
1/22/2020	<0.005	<0.005	0.01	0.011
4/23/2020	0.000869 (J)	<0.0006	0.00135 (J)	0.00403
10/14/2020	0.00702	0.00706	0.00263	0.0881
4/27/2021	<0.0006	0.00437	0.000899 (J)	0.00334

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.002226 units per year.

Mann-Kendall statistic = -29
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

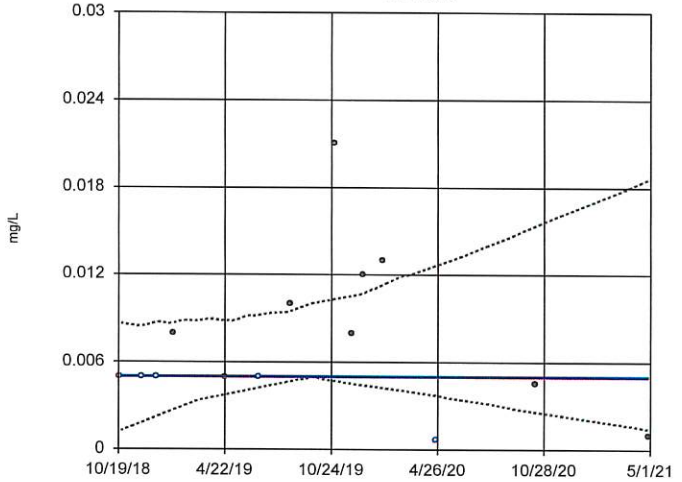
Constituent: Lead Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 37

Trend not significant at 95% confidence level (α = 0.025 per tail).

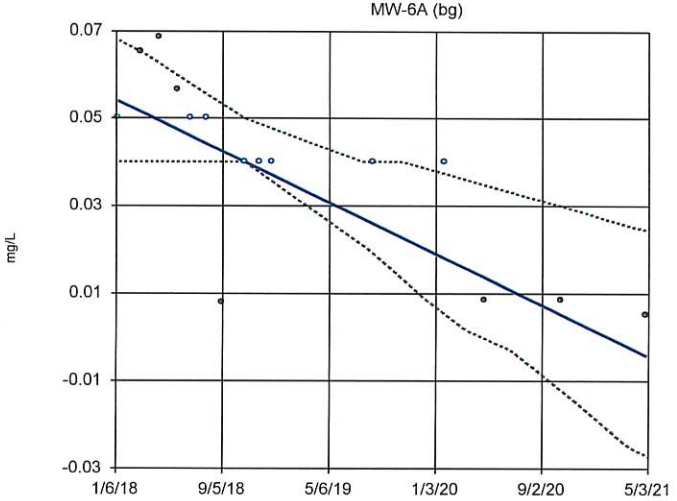
Constituent: Lead Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.01769 units per year.

Mann-Kendall statistic = -70
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

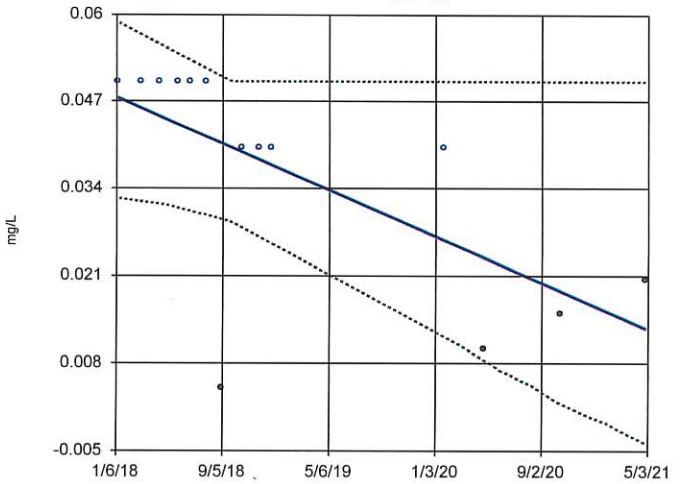
Constituent: Lithium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.0104 units per year.

Mann-Kendall statistic = -50
critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Lead, Lithium Analysis Run 1/19/2022 9:16 AM

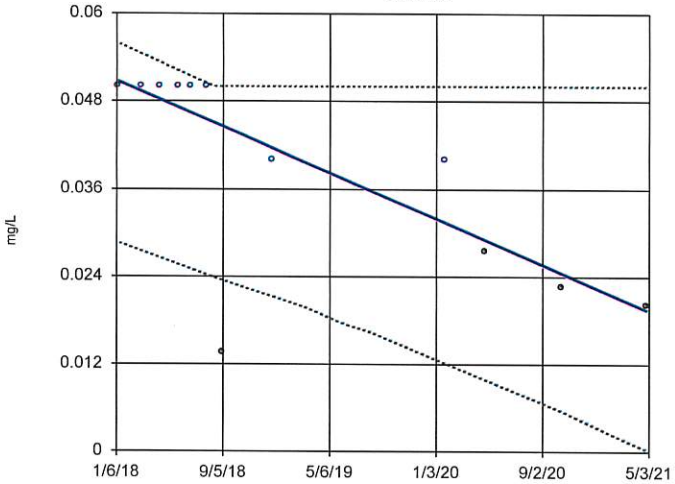
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.05	<0.05
3/3/2018			0.0654	<0.05
4/14/2018			0.0687	<0.05
5/26/2018			0.0569	<0.05
6/23/2018			<0.05	<0.05
7/29/2018			<0.05	<0.05
9/2/2018			0.008	0.0044
10/19/2018	<0.005	<0.005		<0.04
10/24/2018			<0.04	
11/27/2018		<0.005	<0.04	<0.04
12/24/2018		<0.005	<0.04	<0.04
1/22/2019		0.008		
4/22/2019		0.005		
6/18/2019	0.006	<0.005		
8/13/2019		0.01	<0.04	
10/29/2019	0.008	0.021		
11/29/2019	<0.005	0.008		
12/18/2019	<0.005	0.012		
1/22/2020	0.005	0.013	<0.04	<0.04
4/23/2020	0.00107 (J)	<0.0006	0.00865	0.0102
7/22/2020	0.00444			
10/13/2020		0.00458		
10/14/2020	<0.0006		0.00863	0.0153
4/27/2021	0.00106 (J)	0.000997 (J)	0.00518	0.0204 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.009509 units per year.

Mann-Kendall statistic = -40
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

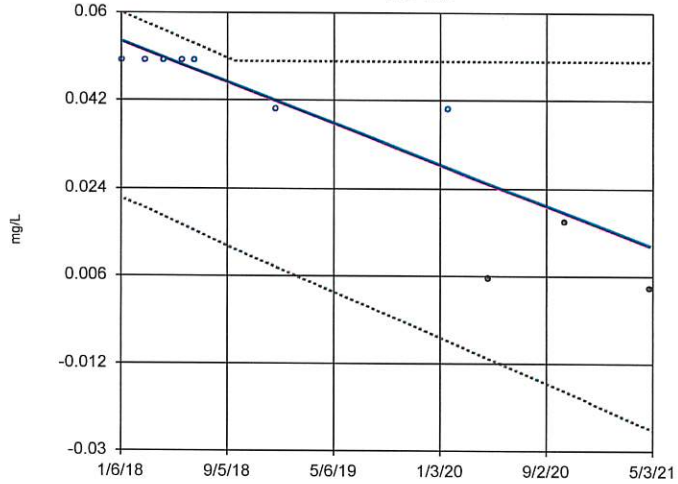
Constituent: Lithium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.01272 units per year.

Mann-Kendall statistic = -32
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

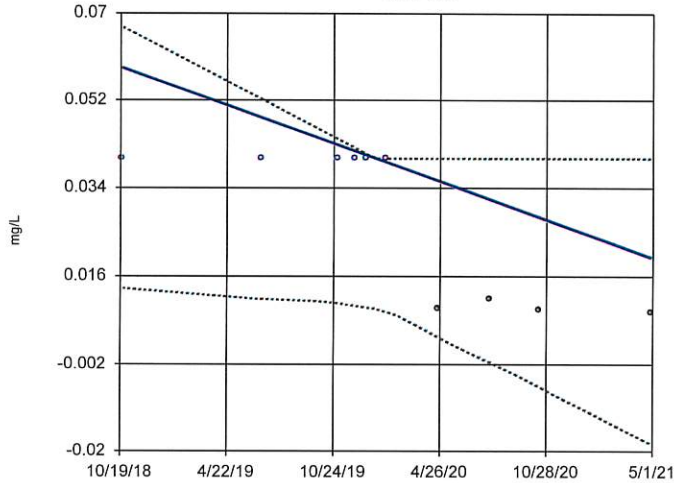
Constituent: Lithium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.0155 units per year.

Mann-Kendall statistic = -28
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

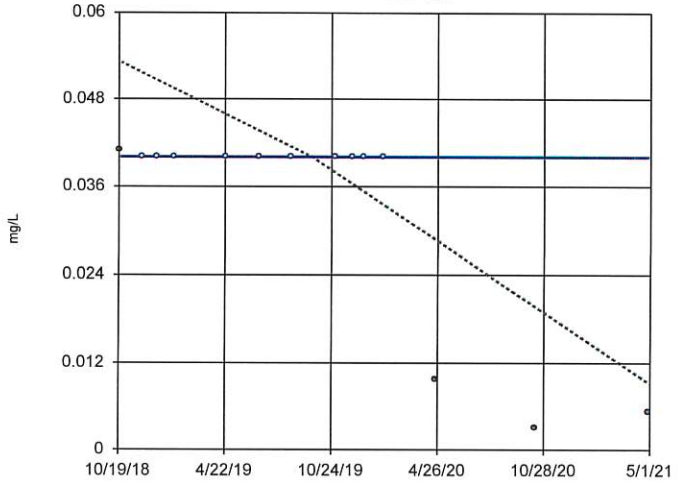
Constituent: Lithium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -44
critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Lithium Analysis Run 1/19/2022 9:16 AM

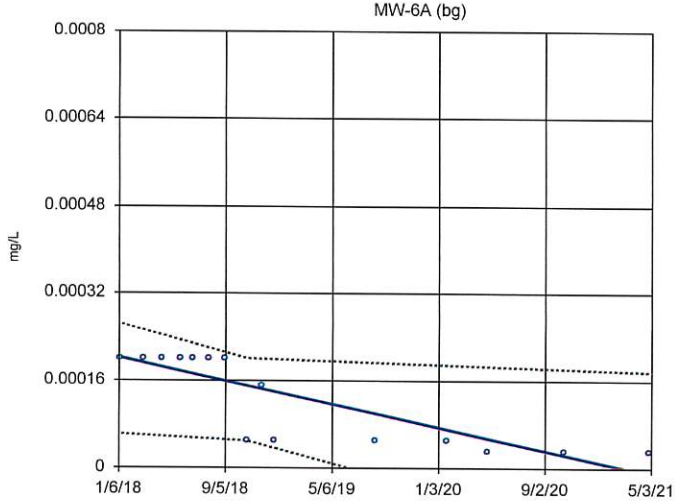
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.05	<0.05		
3/3/2018	<0.05	<0.05		
4/14/2018	<0.05	<0.05		
5/26/2018	<0.05	<0.05		
6/23/2018	<0.05	<0.05		
7/29/2018	<0.05			
9/2/2018	0.0136			
10/19/2018			<0.04	0.041
11/27/2018				<0.04
12/24/2018	<0.04	<0.04		<0.04
1/22/2019				<0.04
4/22/2019				<0.04
6/18/2019			<0.04	<0.04
8/13/2019				<0.04
10/29/2019			<0.04	<0.04
11/29/2019			<0.04	<0.04
12/18/2019			<0.04	<0.04
1/22/2020	<0.04	<0.04	<0.04	<0.04
4/23/2020	0.0275	0.00552	0.0094	0.00975
7/22/2020			0.0114	
10/13/2020				0.00301 (J)
10/14/2020	0.0227	0.017	0.00917	
4/27/2021	0.0202	0.00346 (J)	0.00877	0.00528

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.0000641 units per year.

Mann-Kendall statistic = -73
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

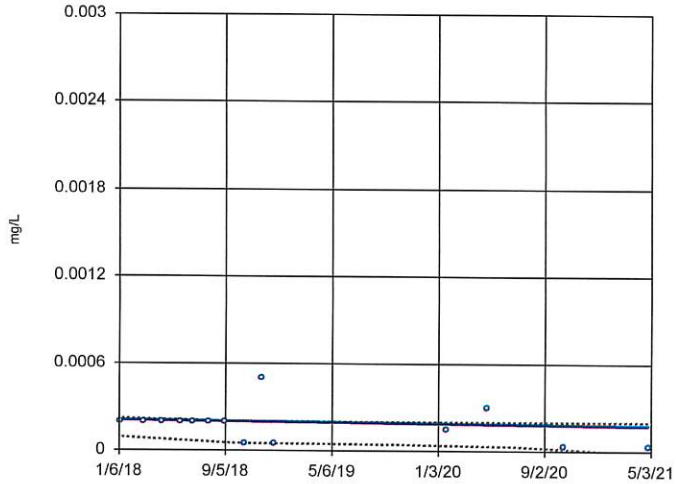
Constituent: Mercury Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.00001006 units per year.

Mann-Kendall statistic = -28
critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

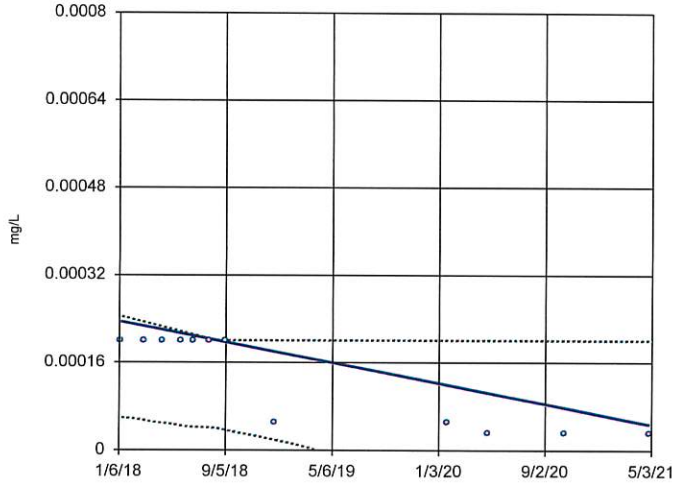
Constituent: Mercury Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.00005705 units per year.

Mann-Kendall statistic = -41
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

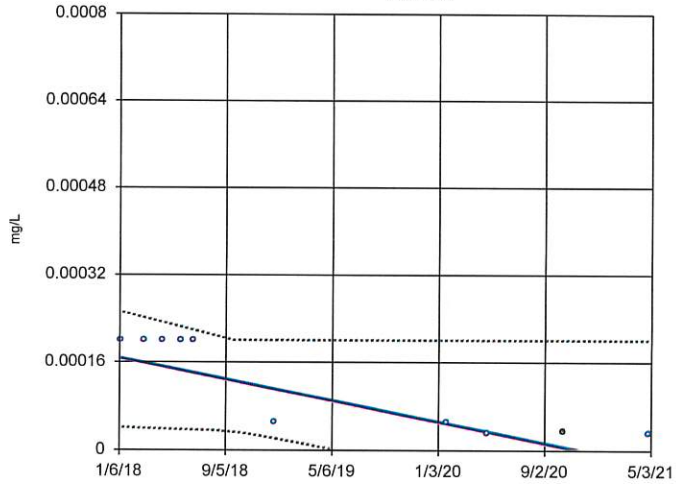
Constituent: Mercury Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.00005815 units per year.

Mann-Kendall statistic = -31
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Mercury Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Mercury Analysis Run 1/19/2022 9:16 AM

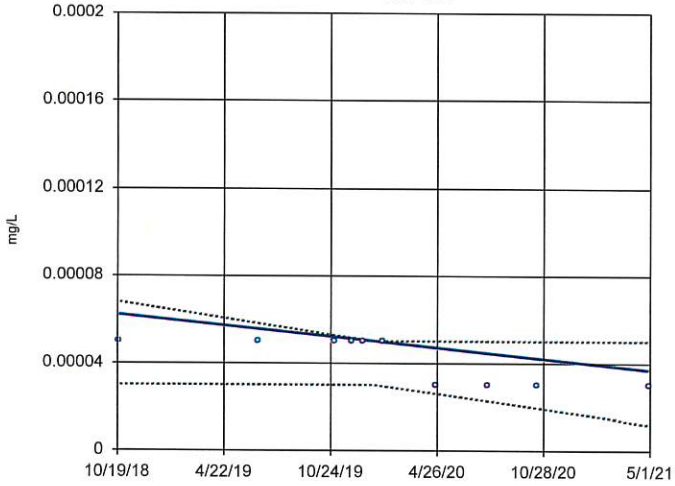
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.0002	<0.0002	<0.0002	<0.0002
3/3/2018	<0.0002	<0.0002	<0.0002	<0.0002
4/14/2018	<0.0002	<0.0002	<0.0002	<0.0002
5/26/2018	<0.0002	<0.0002	<0.0002	<0.0002
6/23/2018	<0.0002	<0.0002	<0.0002	<0.0002
7/29/2018	<0.0002	<0.0002	<0.0002	
9/2/2018	<0.0002	<0.0002	<0.0002	
10/19/2018		<5E-05		
10/24/2018	<5E-05			
11/27/2018	<0.00015	<0.0005		
12/24/2018	<5E-05	<5E-05	<5E-05	<5E-05
8/13/2019	<5E-05			
1/22/2020	<5E-05	<0.00015	<5E-05	<5E-05
4/23/2020	<3E-05	<0.0003	<3E-05	<3E-05
10/14/2020	<3E-05	<3E-05	<3E-05	3.4E-05 (J)
4/27/2021	<3E-05	<3E-05	<3E-05	<3E-05

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.00001006 units per year.

Mann-Kendall statistic = -24 critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

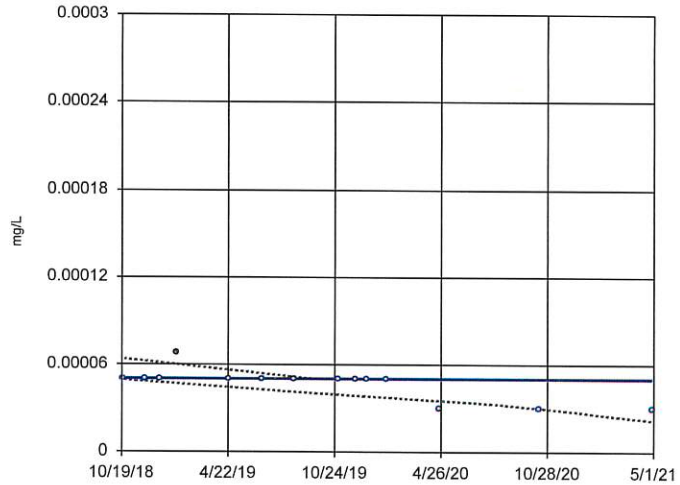
Constituent: Mercury Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -37 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

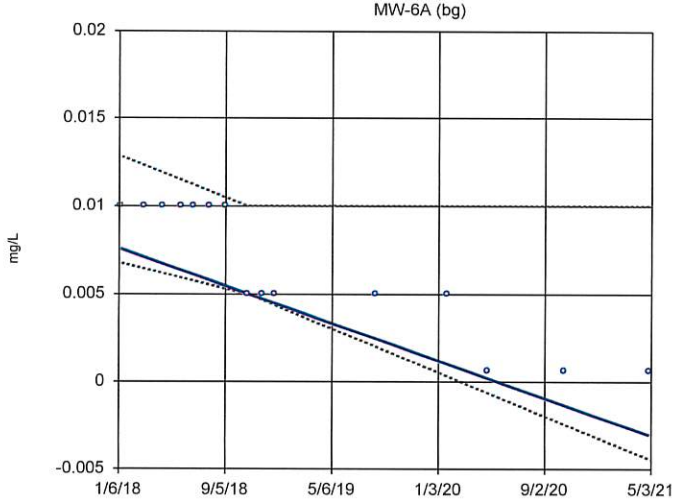
Constituent: Mercury Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.003216 units per year.

Mann-Kendall statistic = -71 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

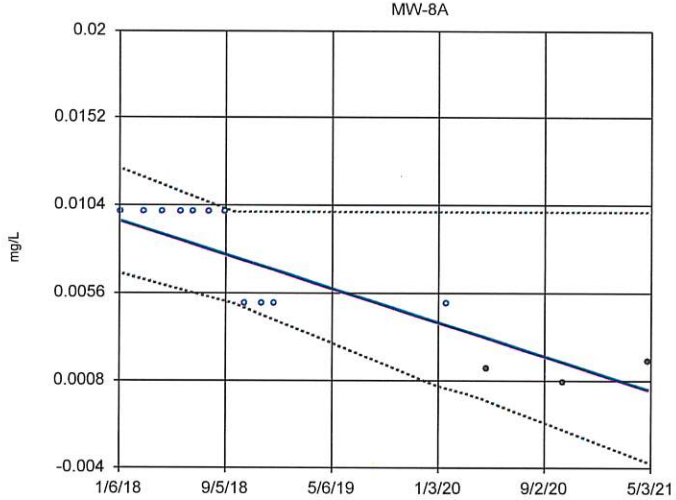
Constituent: Molybdenum Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.002788 units per year.

Mann-Kendall statistic = -60 critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Mercury, Molybdenum Analysis Run 1/19/2022 9:16 AM

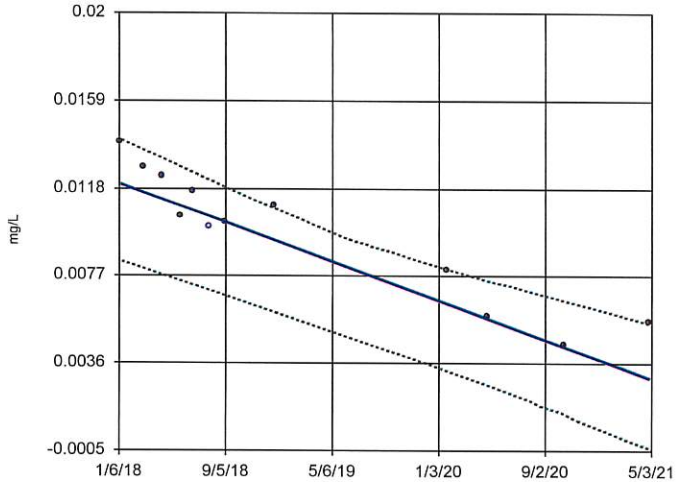
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	<0.01
3/3/2018			<0.01	<0.01
4/14/2018			<0.01	<0.01
5/26/2018			<0.01	<0.01
6/23/2018			<0.01	<0.01
7/29/2018			<0.01	<0.01
9/2/2018			<0.01	<0.01
10/19/2018	<5E-05	<5E-05		<0.005
10/24/2018			<0.005	
11/27/2018		<5E-05	<0.005	<0.005
12/24/2018		<5E-05	<0.005	<0.005
1/22/2019		6.8E-05		
4/22/2019		<5E-05		
6/18/2019	<5E-05	<5E-05		
8/13/2019		<5E-05	<0.005	
10/29/2019	<5E-05	<5E-05		
11/29/2019	<5E-05	<5E-05		
12/18/2019	<5E-05	<5E-05		
1/22/2020	<5E-05	<5E-05	<0.005	<0.005
4/23/2020	<3E-05	<3E-05	<0.0006	0.00145 (J)
7/22/2020	<3E-05			
10/13/2020		<3E-05		
10/14/2020	<3E-05		<0.0006	0.000698 (J)
4/27/2021	<3E-05	<3E-05	<0.0006	0.00185 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.002764 units per year.

Mann-Kendall statistic = -54
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

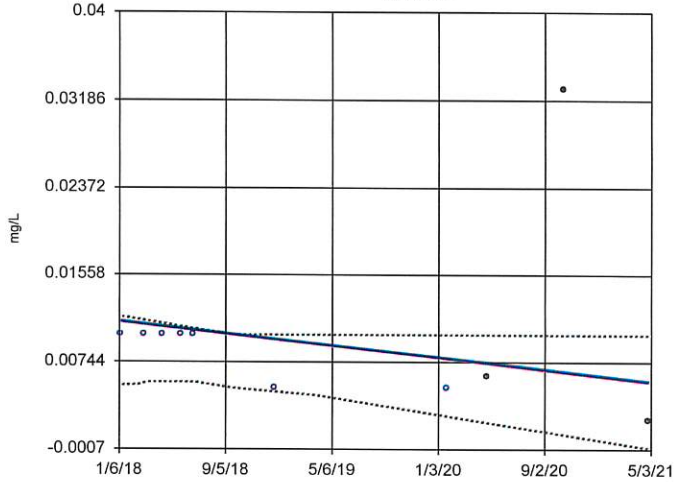
Constituent: Molybdenum Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.001686 units per year.

Mann-Kendall statistic = -14
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

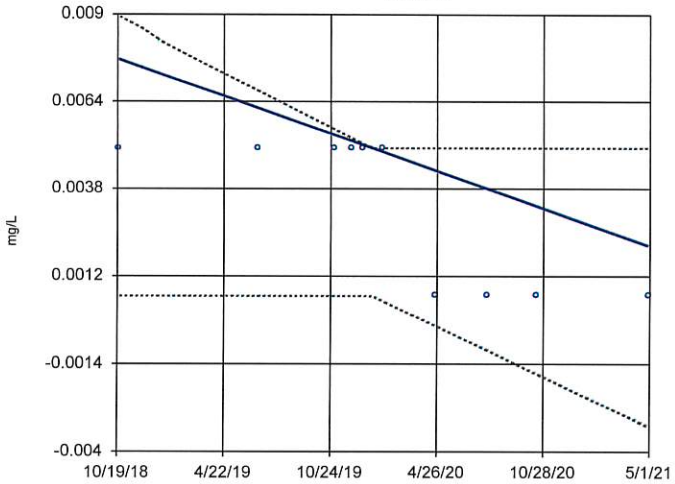
Constituent: Molybdenum Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.002212 units per year.

Mann-Kendall statistic = -24
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

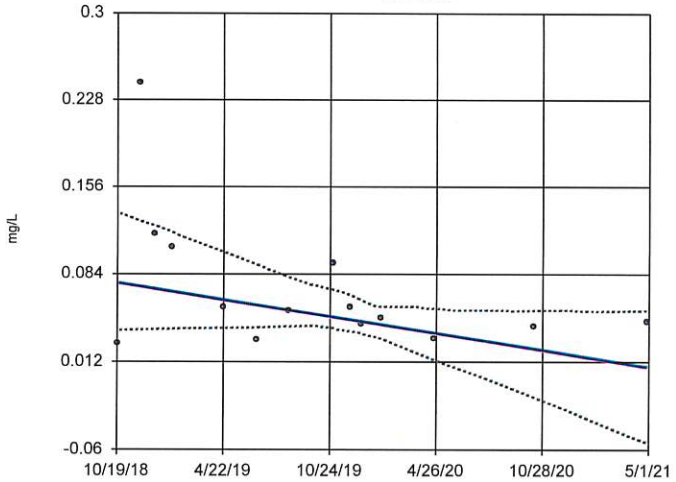
Constituent: Molybdenum Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = -0.02718 units per year.

Mann-Kendall statistic = -32
critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Molybdenum Analysis Run 1/19/2022 9:17 AM

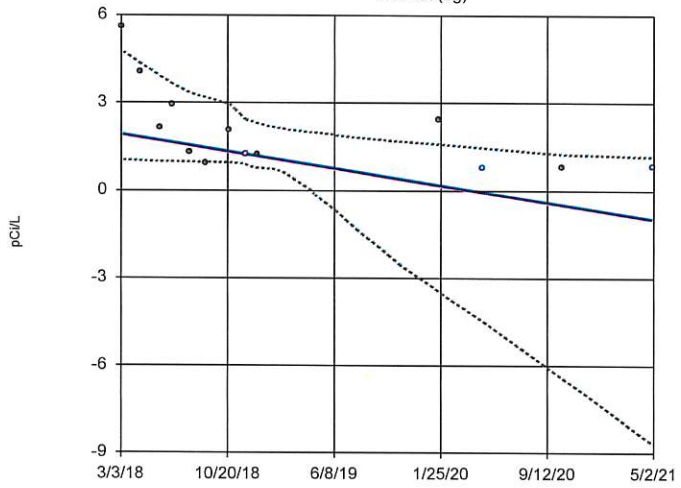
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	0.014	<0.01		
3/3/2018	0.0128	<0.01		
4/14/2018	0.0124	<0.01		
5/26/2018	0.0105	<0.01		
6/23/2018	0.0117	<0.01		
7/29/2018	<0.01			
9/2/2018	0.0102			
10/19/2018			<0.005	0.027
11/27/2018				0.242
12/24/2018	0.011	<0.005		0.117
1/22/2019				0.106
4/22/2019				0.057
6/18/2019			<0.005	0.03
8/13/2019				0.054
10/29/2019			<0.005	0.093
11/29/2019			<0.005	0.057
12/18/2019			<0.005	0.043
1/22/2020	0.008	<0.005	<0.005	0.048
4/23/2020	0.00579	0.00613	<0.0006	0.0306
7/22/2020			<0.0006	
10/13/2020				0.0411
10/14/2020	0.00448 (J)	0.0329	<0.0006	
4/27/2021	0.00556	0.00204 (J)	<0.0006	0.0445

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 13

Slope = -0.9194 units per year.

Mann-Kendall statistic = -50 critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

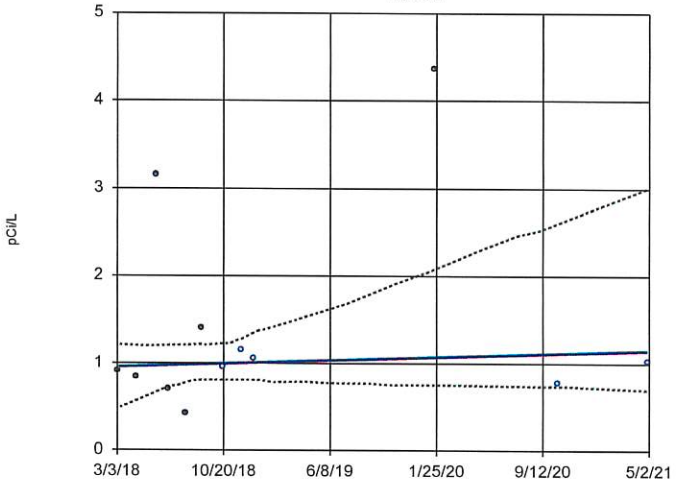
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 12

Slope = 0.06166 units per year.

Mann-Kendall statistic = 8 critical = 30

Trend not significant at 95% confidence level (α = 0.025 per tail).

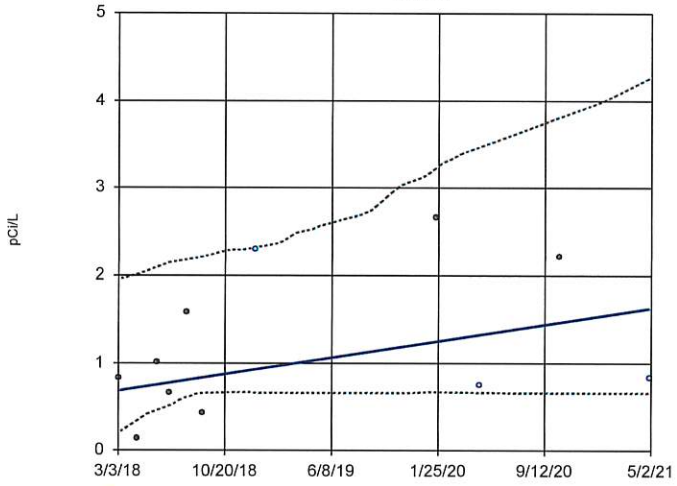
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 11

Slope = 0.2981 units per year.

Mann-Kendall statistic = 15 critical = 27

Trend not significant at 95% confidence level (α = 0.025 per tail).

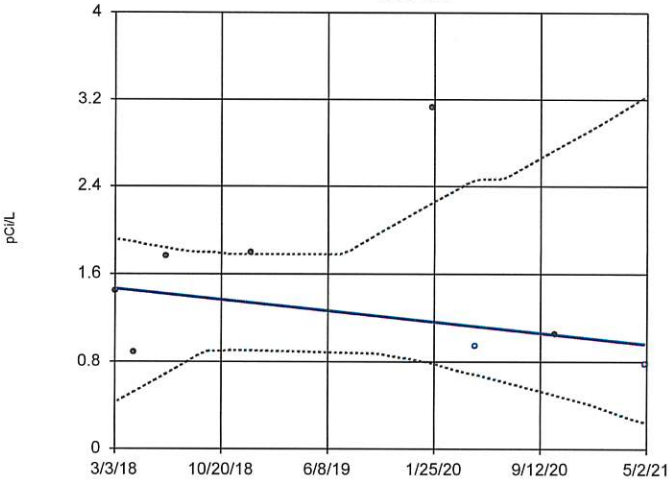
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 8

Slope = -0.1593 units per year.

Mann-Kendall statistic = -4 critical = -17

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:17 AM

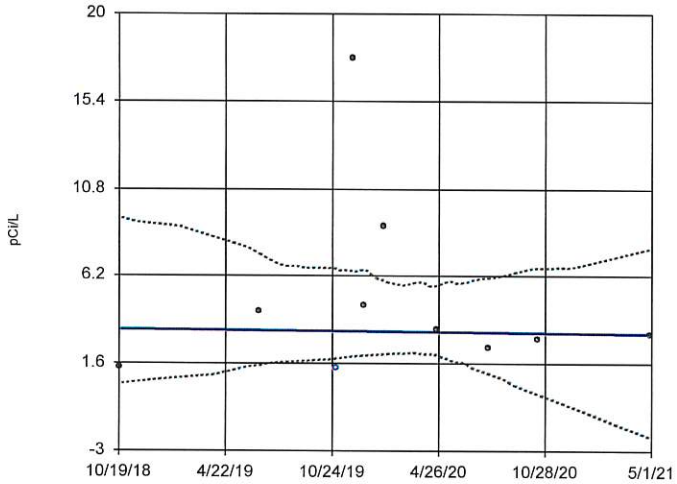
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
3/3/2018	5.62	0.913	0.8328	1.444
4/14/2018	4.04	0.843	0.13573	0.882
5/26/2018	2.151	3.16	1.005	
6/23/2018	2.94	0.7	0.658	1.753
7/29/2018	1.305	0.423	1.586	
9/2/2018	0.939	1.397	0.421	
10/19/2018		<0.954		
10/24/2018	2.067			
11/27/2018	<1.197	<1.145		
12/24/2018	1.222	<1.05	<2.288	1.792
1/22/2020	2.411	4.373	2.65	3.13
4/23/2020	<0.77		<0.74	<0.94
10/14/2020	0.81	<0.77	2.21	1.05
4/27/2021	<0.78	<1.02	<0.83	<0.77

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.1003 units per year.

Mann-Kendall statistic = -1 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

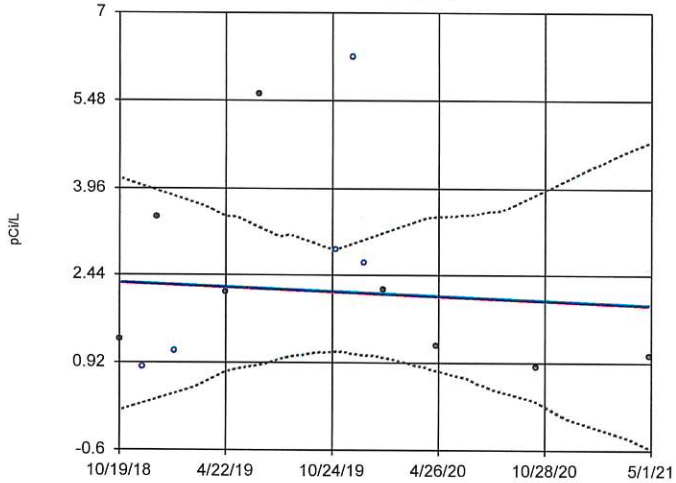
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 13

Slope = -0.1504 units per year.

Mann-Kendall statistic = -8 critical = -34

Trend not significant at 95% confidence level (α = 0.025 per tail).

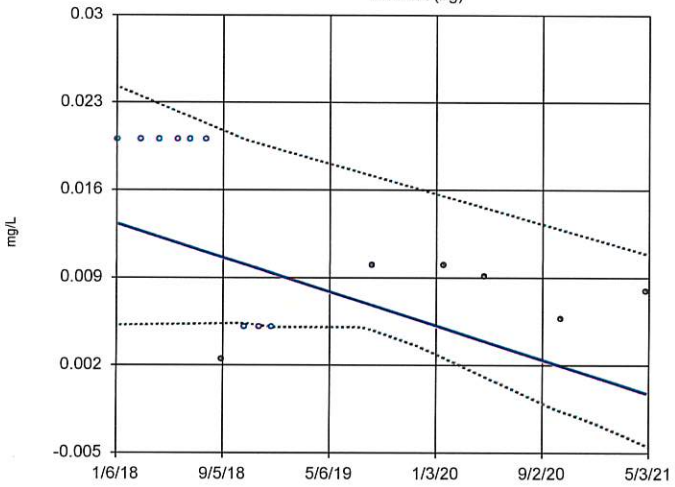
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.004119 units per year.

Mann-Kendall statistic = -38 critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

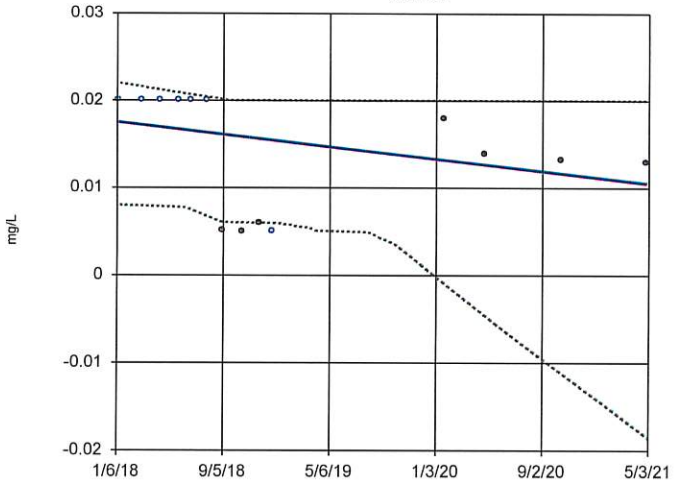
Constituent: Selenium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.002117 units per year.

Mann-Kendall statistic = -39 critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Ra 226 and 228, Selenium Analysis Run 1/19/2022 9:17 AM

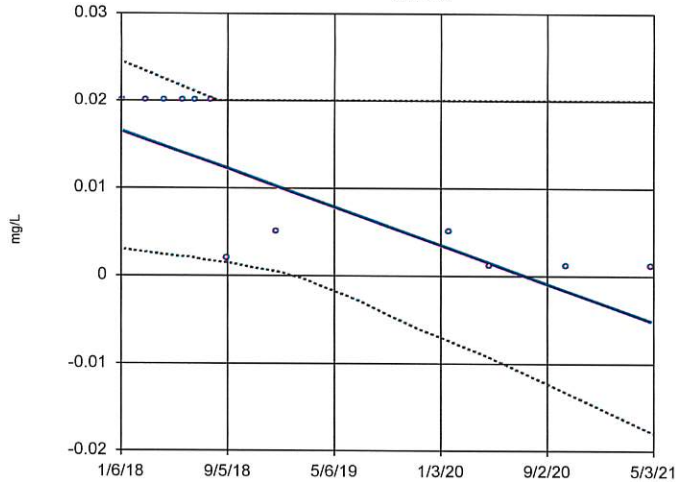
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.02	<0.02
3/3/2018			<0.02	<0.02
4/14/2018			<0.02	<0.02
5/26/2018			<0.02	<0.02
6/23/2018			<0.02	<0.02
7/29/2018			<0.02	<0.02
9/2/2018			0.00244	0.00509
10/19/2018	1.414	1.308		0.005
10/24/2018			<0.005	
11/27/2018		<0.832	<0.005	0.006
12/24/2018		3.46	<0.005	<0.005
1/22/2019		<1.106		
4/22/2019		2.141		
6/18/2019	4.34	5.588		
8/13/2019			0.01	
10/29/2019	<1.311	<2.885		
11/29/2019	17.67	<6.223		
12/18/2019	4.65	<2.648		
1/22/2020	8.85	2.191	0.01	0.018
4/23/2020	3.36	1.2	0.00905	0.0139
7/22/2020	2.41			
10/13/2020		0.86		
10/14/2020	2.87		0.00564	0.0132
4/27/2021	3.12	1.04	0.00796	0.013

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.006552 units per year.

Mann-Kendall statistic = -43 critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

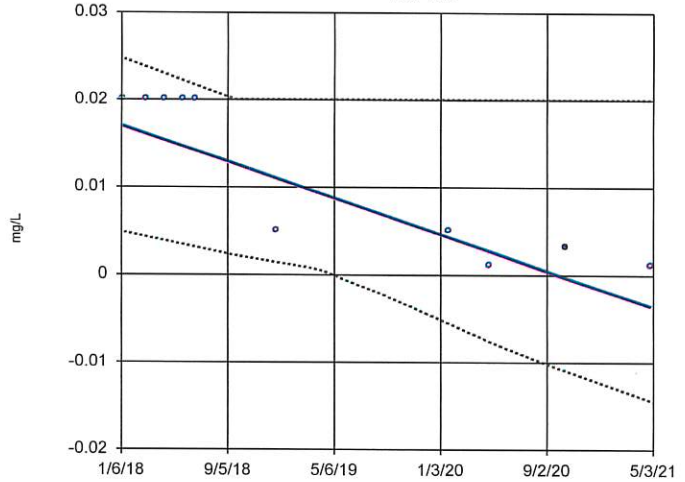
Constituent: Selenium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.00622 units per year.

Mann-Kendall statistic = -31 critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

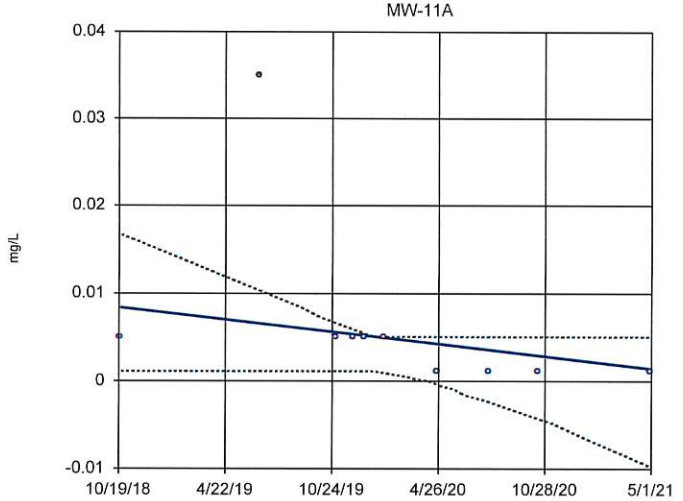
Constituent: Selenium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.002764 units per year.

Mann-Kendall statistic = -27 critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

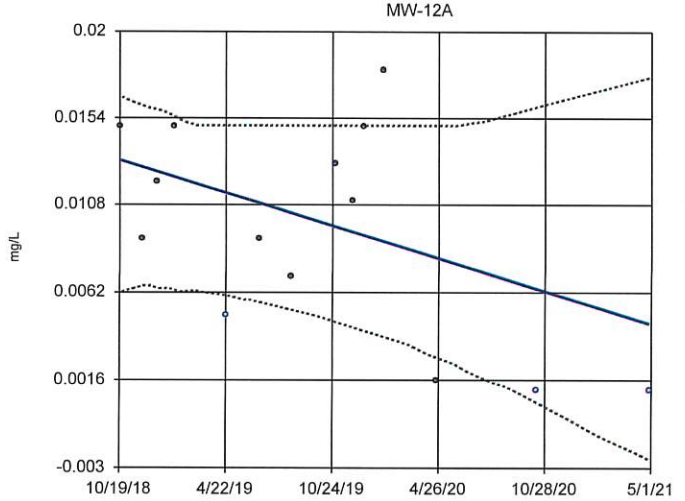
Constituent: Selenium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = -0.003401 units per year.

Mann-Kendall statistic = -24 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Selenium Analysis Run 1/19/2022 9:17 AM

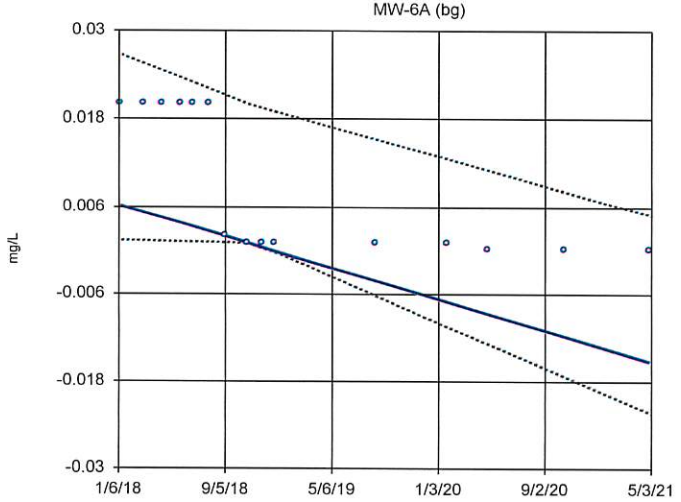
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.02	<0.02		
3/3/2018	<0.02	<0.02		
4/14/2018	<0.02	<0.02		
5/26/2018	<0.02	<0.02		
6/23/2018	<0.02	<0.02		
7/29/2018	<0.02			
9/2/2018	<0.002			
10/19/2018			<0.005	0.015
11/27/2018				0.009
12/24/2018	<0.005	<0.005		0.012
1/22/2019				0.015
4/22/2019				<0.005
6/18/2019			0.035	0.009
8/13/2019				0.007
10/29/2019			<0.005	0.013
11/29/2019			<0.005	0.011
12/18/2019			<0.005	0.015
1/22/2020	<0.005	<0.005	<0.005	0.018
4/23/2020	<0.0011	<0.0011	<0.0011	0.00158 (J)
7/22/2020			<0.0011	
10/13/2020				<0.0011
10/14/2020	<0.0011	0.00314	<0.0011	
4/27/2021	<0.0011	<0.0011	<0.0011	<0.0011

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 15

Slope = -0.006517 units per year.

Mann-Kendall statistic = -77
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

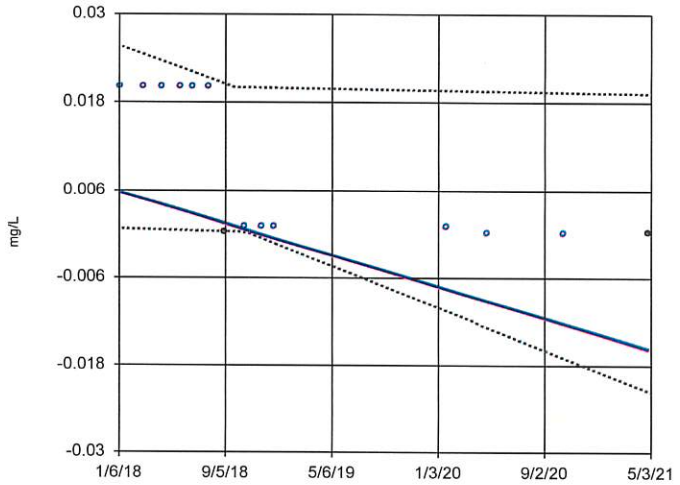
Constituent: Thallium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 14

Slope = -0.0065 units per year.

Mann-Kendall statistic = -57
critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

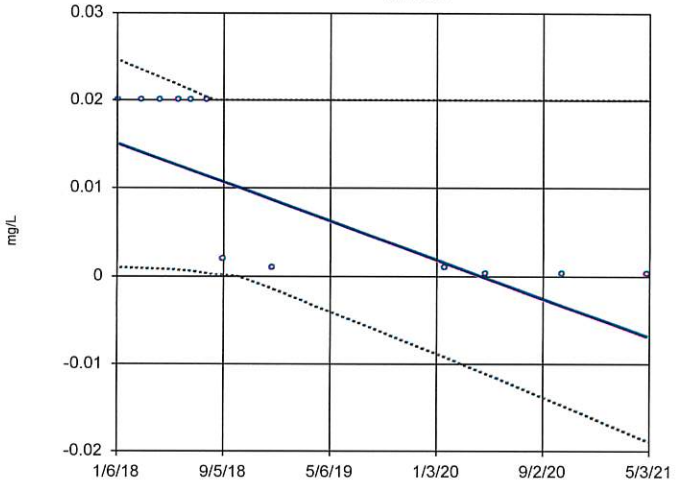
Constituent: Thallium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = -0.006645 units per year.

Mann-Kendall statistic = -47
critical = -30

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

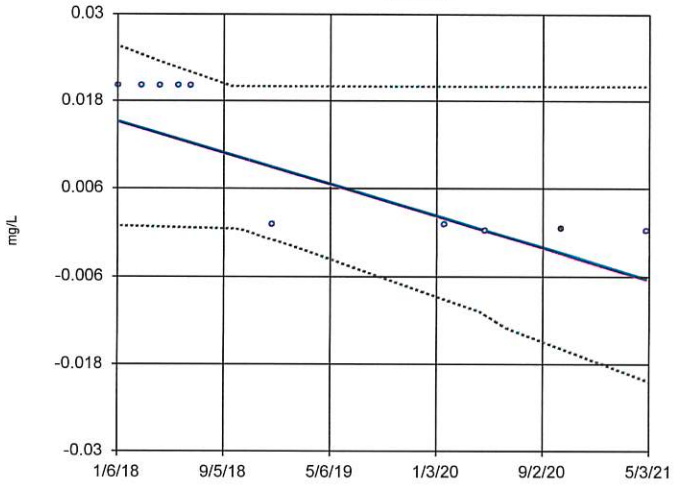
Constituent: Thallium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 10

Slope = -0.006517 units per year.

Mann-Kendall statistic = -31
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Thallium Analysis Run 1/19/2022 9:17 AM

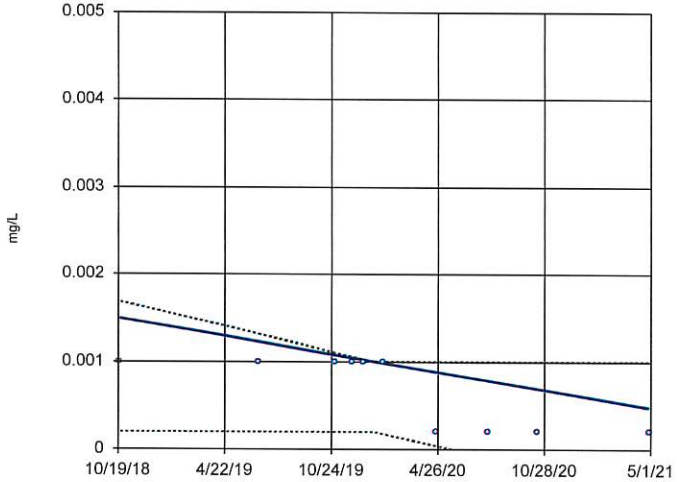
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.02	<0.02	<0.02	<0.02
3/3/2018	<0.02	<0.02	<0.02	<0.02
4/14/2018	<0.02	<0.02	<0.02	<0.02
5/26/2018	<0.02	<0.02	<0.02	<0.02
6/23/2018	<0.02	<0.02	<0.02	<0.02
7/29/2018	<0.02	<0.02	<0.02	
9/2/2018	<0.002	0.00036	<0.002	
10/19/2018		<0.001		
10/24/2018	<0.001			
11/27/2018	<0.001	<0.001		
12/24/2018	<0.001	<0.001	<0.001	<0.001
8/13/2019	<0.001			
1/22/2020	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002
10/14/2020	<0.0002	<0.0002	<0.0002	0.000475 (J)
4/27/2021	<0.0002	0.000252 (J)	<0.0002	<0.0002

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 10

Slope = -0.0004022 units per year.

Mann-Kendall statistic = -24
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

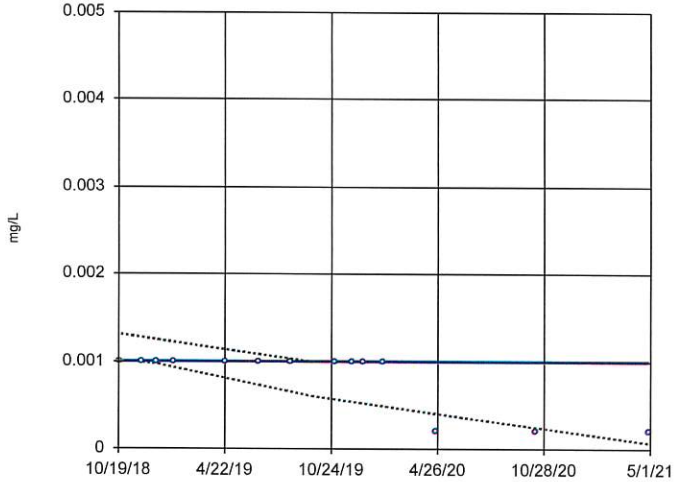
Constituent: Thallium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -33
critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 1/19/2022 9:14 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Thallium Analysis Run 1/19/2022 9:17 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A
10/19/2018	<0.001	<0.001
11/27/2018		<0.001
12/24/2018		<0.001
1/22/2019		<0.001
4/22/2019		<0.001
6/18/2019	<0.001	<0.001
8/13/2019		<0.001
10/29/2019	<0.001	<0.001
11/29/2019	<0.001	<0.001
12/18/2019	<0.001	<0.001
1/22/2020	<0.001	<0.001
4/23/2020	<0.0002	<0.0002
7/22/2020	<0.0002	
10/13/2020		<0.0002
10/14/2020	<0.0002	
4/27/2021	<0.0002	<0.0002

COMPARISON OF CONFIDENCE INTERVALS TO GWPS

Confidence Interval

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:56 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-8A	0.01	0.000975	0.0104	No	14	85.71	No	0.01	NP (NDs)
Antimony (mg/L)	MW-9A	0.01	0.0004	0.0104	No	12	100	No	0.01	NP (NDs)
Antimony (mg/L)	MW-10A	0.01	0.000632	0.0104	No	10	80	No	0.011	NP (NDs)
Antimony (mg/L)	MW-11A	0.005	0.0004	0.0104	No	10	90	No	0.011	NP (NDs)
Antimony (mg/L)	MW-12A	0.005	0.0004	0.0104	No	14	100	No	0.01	NP (NDs)
Arsenic (mg/L)	MW-8A	0.009303	0.003756	0.02653	No	14	64.29	No	0.01	Param.
Arsenic (mg/L)	MW-9A	0.013	0.00174	0.02653	No	12	58.33	No	0.01	NP (normality)
Arsenic (mg/L)	MW-10A	0.011	0.005	0.02653	No	10	60	No	0.011	NP (normality)
Arsenic (mg/L)	MW-11A	0.011	0.00142	0.02653	No	10	40	No	0.011	NP (Cohens/xfrm)
Arsenic (mg/L)	MW-12A	0.00739	0.0001948	0.02653	No	14	50	No	0.01	Param.
Barium (mg/L)	MW-8A	0.348	0.255	2.375	No	14	0	No	0.01	NP (normality)
Barium (mg/L)	MW-9A	0.161	0.0574	2.375	No	12	0	No	0.01	NP (normality)
Barium (mg/L)	MW-10A	0.3593	0.04229	2.375	No	10	0	ln(x)	0.01	Param.
Barium (mg/L)	MW-11A	0.5968	0.3094	2.375	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-12A	0.05298	0.03041	2.375	No	14	0	No	0.01	Param.
Beryllium (mg/L)	MW-8A	0.01	0.000585	0.004	No	14	85.71	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-9A	0.01	0.0002	0.004	No	12	83.33	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-10A	0.01	0.0002	0.004	No	10	90	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-11A	0.001	0.0002	0.004	No	10	70	No	0.011	NP (normality)
Beryllium (mg/L)	MW-12A	0.002	0.000258	0.004	No	14	64.29	No	0.01	NP (normality)
Cadmium (mg/L)	MW-8A	0.01	0.0002	0.005	No	14	92.86	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-9A	0.01	0.0002	0.005	No	12	100	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-10A	0.01	0.000272	0.005	No	10	70	No	0.011	NP (normality)
Cadmium (mg/L)	MW-11A	0.001	0.0002	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-12A	0.001	0.0002	0.005	No	14	100	No	0.01	NP (NDs)
Chromium (mg/L)	MW-8A	0.0146	0.00783	0.1	No	14	50	No	0.01	NP (normality)
Chromium (mg/L)	MW-9A	0.011	0.00195	0.1	No	12	58.33	No	0.01	NP (normality)
Chromium (mg/L)	MW-10A	0.0125	0.00169	0.1	No	10	60	No	0.011	NP (normality)
Chromium (mg/L)	MW-11A	0.01	0.00236	0.1	No	10	60	No	0.011	NP (normality)
Chromium (mg/L)	MW-12A	0.01	0.00198	0.1	No	14	85.71	No	0.01	NP (NDs)
Cobalt (mg/L)	MW-8A	0.0117	0.00589	0.0867	No	14	71.43	No	0.01	NP (normality)
Cobalt (mg/L)	MW-9A	0.01	0.000489	0.0867	No	12	66.67	No	0.01	NP (normality)
Cobalt (mg/L)	MW-10A	0.0258	0.01	0.0867	No	10	40	No	0.011	NP (Cohens/xfrm)
Cobalt (mg/L)	MW-11A	0.01	0.000556	0.0867	No	10	60	No	0.011	NP (normality)
Cobalt (mg/L)	MW-12A	0.013	0.00644	0.0867	No	14	71.43	No	0.01	NP (normality)
Fluoride (mg/L)	MW-8A	0.38	0.3	4	No	22	0	No	0.01	NP (normality)
Fluoride (mg/L)	MW-9A	0.7751	0.6912	4	No	20	0	No	0.01	Param.
Fluoride (mg/L)	MW-10A	0.522	0.37	4	No	18	22.22	No	0.01	NP (Cohens/xfrm)
Fluoride (mg/L)	MW-11A	0.3628	0.1983	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MW-12A	0.7407	0.5849	4	No	15	0	No	0.01	Param.
Lead (mg/L)	MW-8A	0.01	0.00437	0.0179	No	14	71.43	No	0.01	NP (Cohens/xfrm)
Lead (mg/L)	MW-9A	0.01	0.00095	0.0179	No	12	50	No	0.01	NP (normality)
Lead (mg/L)	MW-10A	0.0222	0.00403	0.0179	No	10	40	No	0.011	NP (Cohens/xfrm)
Lead (mg/L)	MW-11A	0.006279	0.001955	0.0179	No	10	40	No	0.01	Param.
Lead (mg/L)	MW-12A	0.01072	0.0009038	0.0179	No	14	35.71	No	0.01	Param.
Lithium (mg/L)	MW-8A	0.05	0.0153	0.0964	No	14	71.43	No	0.01	NP (normality)
Lithium (mg/L)	MW-9A	0.05	0.0202	0.0964	No	12	66.67	No	0.01	NP (normality)
Lithium (mg/L)	MW-10A	0.05	0.00552	0.0964	No	10	70	No	0.011	NP (normality)
Lithium (mg/L)	MW-11A	0.04	0.00917	0.0964	No	10	60	No	0.011	NP (normality)
Lithium (mg/L)	MW-12A	0.041	0.00975	0.0964	No	14	71.43	No	0.01	NP (normality)

Confidence Interval

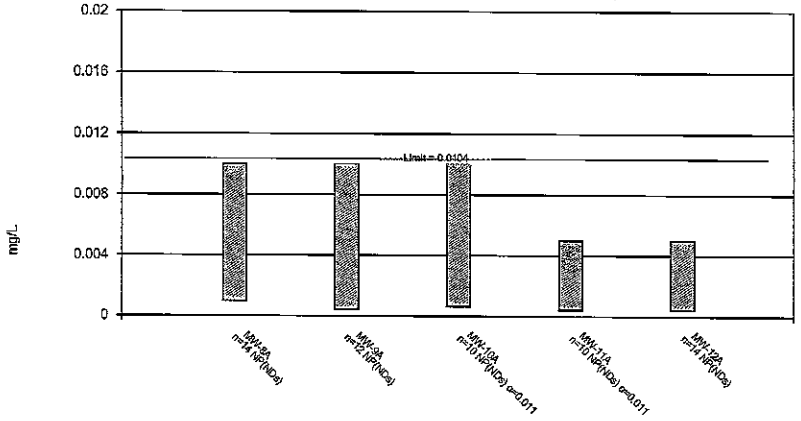
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:56 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Mercury (mg/L)	MW-8A	0.0003	0.00005	0.002	No	14	100	No	0.01	NP (NDs)
Mercury (mg/L)	MW-9A	0.0002	0.00003	0.002	No	12	100	No	0.01	NP (NDs)
Mercury (mg/L)	MW-10A	0.0002	0.00003	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MW-11A	0.00005	0.00003	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MW-12A	0.000068	0.00003	0.002	No	14	92.86	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-8A	0.01	0.00185	0.1	No	14	78.57	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-9A	0.01212	0.007283	0.1	No	12	8.333	No	0.01	Param.
Molybdenum (mg/L)	MW-10A	0.01	0.005	0.1	No	10	70	No	0.011	NP (Cohens/xfrm)
Molybdenum (mg/L)	MW-11A	0.005	0.0006	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-12A	0.08907	0.03743	0.1	No	14	0	ln(x)	0.01	Param.
Ra 226 and 228 (pCi/L)	MW-8A	3.16	0.7	7.668	No	12	41.67	No	0.01	NP (Cohens/xfrm)
Ra 226 and 228 (pCi/L)	MW-9A	2.651	0.7262	7.668	No	11	27.27	No	0.01	Param.
Ra 226 and 228 (pCi/L)	MW-10A	3.13	0.77	7.668	No	8	25	No	0.004	NP (Cohens/xfrm)
Ra 226 and 228 (pCi/L)	MW-11A	7.943	1.672	7.668	No	10	10	x^(1/3)	0.01	Param.
Ra 226 and 228 (pCi/L)	MW-12A	5.588	0.86	7.668	No	13	38.46	No	0.01	NP (Cohens/xfrm)
Selenium (mg/L)	MW-8A	0.02	0.00509	0.05	No	14	50	No	0.01	NP (normality)
Selenium (mg/L)	MW-9A	0.02	0.0011	0.05	No	12	100	No	0.01	NP (NDs)
Selenium (mg/L)	MW-10A	0.02	0.0011	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MW-11A	0.005	0.0011	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MW-12A	0.01348	0.005116	0.05	No	14	21.43	No	0.01	Param.
Thallium (mg/L)	MW-8A	0.02	0.000252	0.002	No	14	85.71	No	0.01	NP (NDs)
Thallium (mg/L)	MW-9A	0.02	0.0002	0.002	No	12	100	No	0.01	NP (NDs)
Thallium (mg/L)	MW-10A	0.02	0.0002	0.002	No	10	90	No	0.011	NP (NDs)
Thallium (mg/L)	MW-11A	0.001	0.0002	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MW-12A	0.001	0.0002	0.002	No	14	100	No	0.01	NP (NDs)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



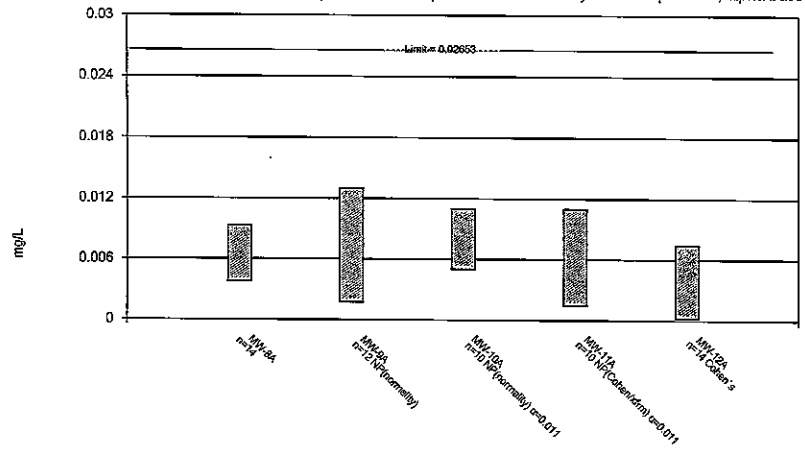
Constituent: Antimony Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



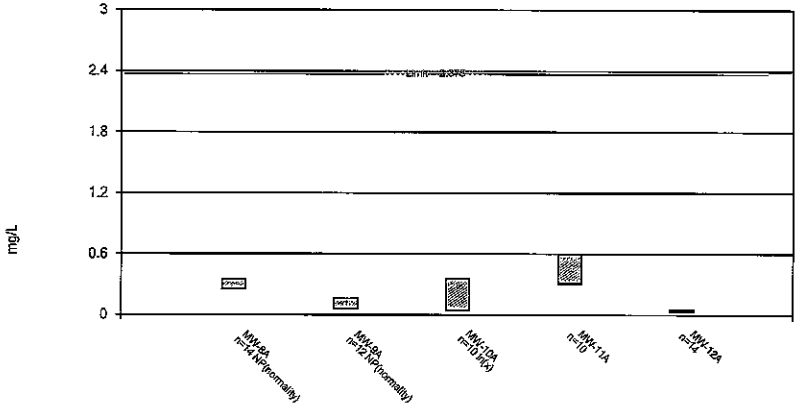
Constituent: Arsenic Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



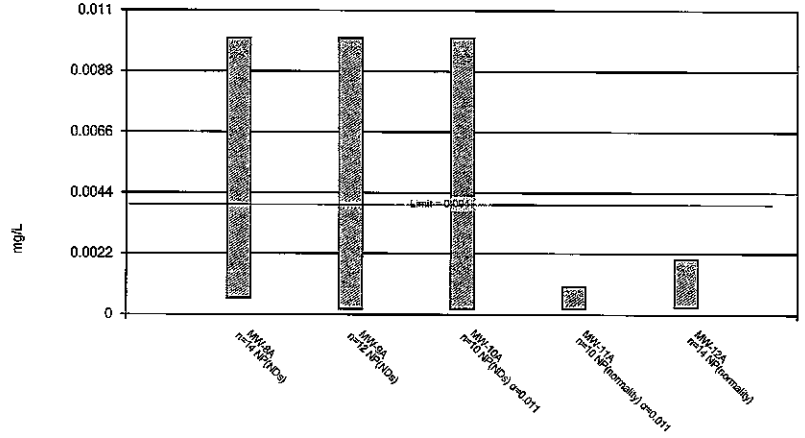
Constituent: Barium Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Beryllium Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	0.00108	<0.001			
10/19/2018	<0.005			<0.005	<0.005
11/27/2018	<0.005				<0.005
12/24/2018	<0.005	<0.005	<0.005		<0.005
1/22/2019					<0.0005
4/22/2019					<0.005
6/18/2019				<0.005	<0.005
8/13/2019					<0.005
10/29/2019				<0.005	<0.005
11/29/2019				<0.005	<0.005
12/18/2019				<0.005	<0.005
1/22/2020	<0.005	<0.005	<0.005	<0.005	<0.005
4/23/2020	<0.0004	<0.0004	0.000655 (J)	<0.0004	<0.0004
7/22/2020				0.000484 (J)	
10/13/2020					<0.0004
10/14/2020	<0.0004	<0.0004	0.000632 (J)	<0.0004	
4/27/2021	0.000975 (J)	<0.0004	<0.0004	<0.0004	<0.0004
Mean	0.005918	0.006017	0.006169	0.003168	0.003693
Std. Dev.	0.004039	0.004442	0.004352	0.002365	0.002145
Upper Lim.	0.01	0.01	0.01	0.005	0.005
Lower Lim.	0.000975	0.0004	0.000632	0.0004	0.0004

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	0.0133	<0.01			
9/2/2018	0.00164	0.00158			
10/19/2018	<0.005			<0.005	<0.005
11/27/2018	<0.005				<0.005
12/24/2018	<0.005	<0.005	<0.005		<0.005
1/22/2019					0.009
4/22/2019					<0.005
6/18/2019				<0.005	<0.005
8/13/2019					0.007
10/29/2019				0.016	0.01
11/29/2019				<0.005	<0.005
12/18/2019				<0.005	<0.005
1/22/2020	<0.005	0.013	0.011	0.011	0.013
4/23/2020	0.000833 (J)	0.00174 (J)	0.00957	0.00142 (J)	0.00135 (J)
7/22/2020				0.00303	
10/13/2020					0.00798
10/14/2020	0.00276	0.00248	0.0505	0.00136 (J)	
4/27/2021	0.00288	0.00185 (J)	0.00211	0.00184 (J)	0.00143 (J)
Mean	0.006529	0.007137	0.01282	0.005465	0.006054
Std. Dev.	0.003915	0.00424	0.01354	0.004652	0.003143
Upper Lim.	0.009303	0.013	0.011	0.011	0.00739
Lower Lim.	0.003756	0.00174	0.005	0.00142	0.0001948

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	0.298	0.0574	0.0588		
3/3/2018	0.272	0.0591	0.109		
4/14/2018	0.29	0.0602	0.732		
5/26/2018	0.334	0.149	0.174		
6/23/2018	0.237	0.0597	0.148		
7/29/2018	0.73	0.161			
9/2/2018	0.274	0.0712			
10/19/2018	0.265			0.176	0.041
11/27/2018	0.255				0.039
12/24/2018	0.265	0.05	0.022		0.023
1/22/2019					0.076
4/22/2019					0.051
6/18/2019				0.338	0.026
8/13/2019					0.045
10/29/2019				0.765	0.046
11/29/2019				0.515	0.051
12/18/2019				0.481	0.033
1/22/2020	0.298	0.321	0.045	0.564	0.036
4/23/2020	0.211	0.061	0.0861	0.371	0.0241
7/22/2020				0.448	
10/13/2020					0.067
10/14/2020	0.357	0.121	1.07	0.332	
4/27/2021	0.348	0.0711	0.0735	0.541	0.0256
Mean	0.3167	0.1035	0.2518	0.4531	0.04169
Std. Dev.	0.1258	0.07842	0.3542	0.161	0.01593
Upper Lim.	0.348	0.161	0.3593	0.5968	0.05298
Lower Lim.	0.255	0.0574	0.04229	0.3094	0.03041

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 1/19/2022 9:56 AM

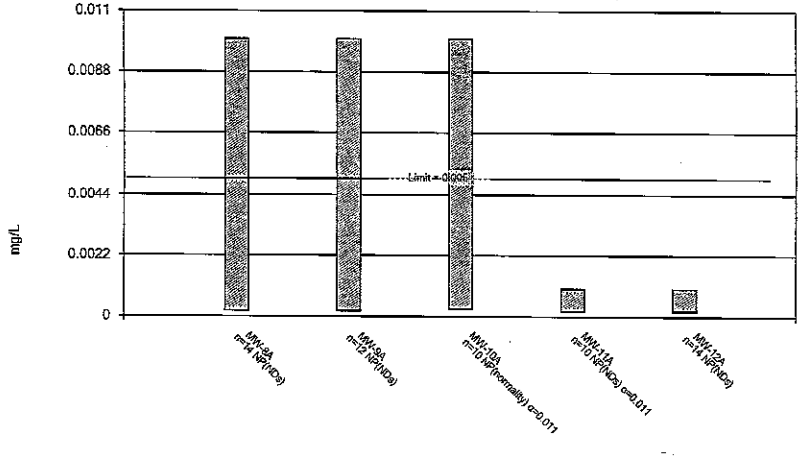
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	<0.001	<0.001			
10/19/2018	<0.001			<0.001	<0.001
11/27/2018	<0.001				<0.001
12/24/2018	<0.001	<0.001	<0.001		<0.001
1/22/2019					<0.001
4/22/2019					<0.001
6/18/2019				<0.001	<0.001
8/13/2019					0.002
10/29/2019				<0.001	0.002
11/29/2019				<0.001	<0.001
12/18/2019				<0.001	0.002
1/22/2020	<0.001	0.0016	<0.001	0.0011	0.0014
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
7/22/2020				0.00039 (J)	
10/13/2020					0.000258 (J)
10/14/2020	0.000585 (J)	0.000391 (J)	0.00368	<0.0002	
4/27/2021	0.000347 (J)	<0.0002	<0.0002	0.000502 (J)	<0.0002
Mean	0.004724	0.005366	0.005608	0.0007392	0.001076
Std. Dev.	0.004748	0.004855	0.004727	0.0003697	0.0006146
Upper Lim.	0.01	0.01	0.01	0.001	0.002
Lower Lim.	0.000585	0.0002	0.0002	0.0002	0.000258

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



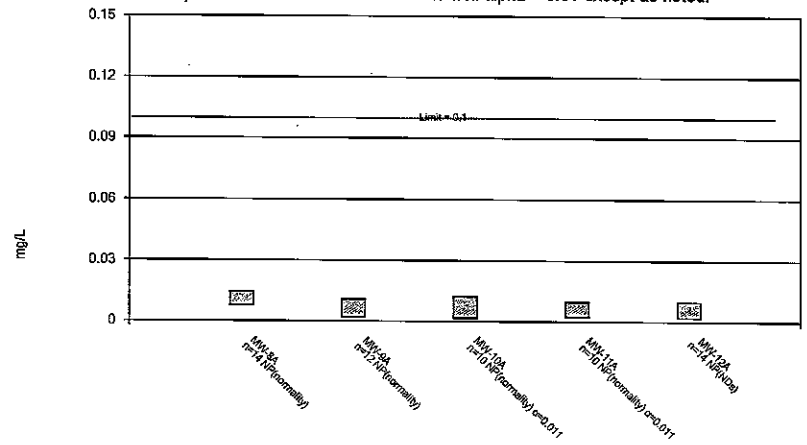
Constituent: Cadmium Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



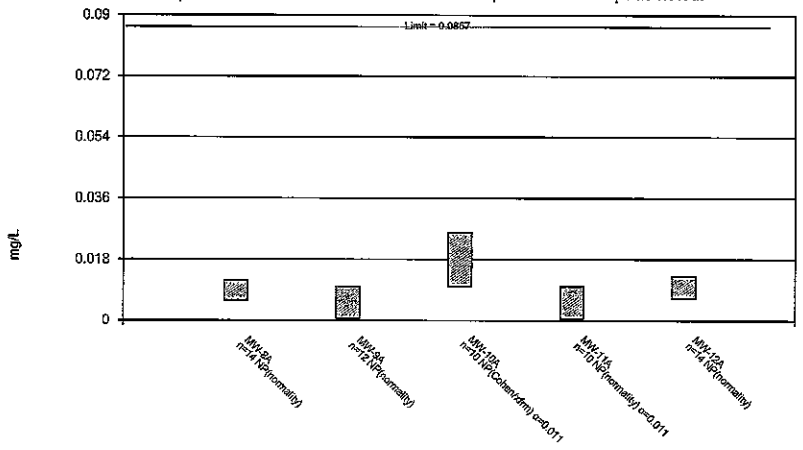
Constituent: Chromium Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



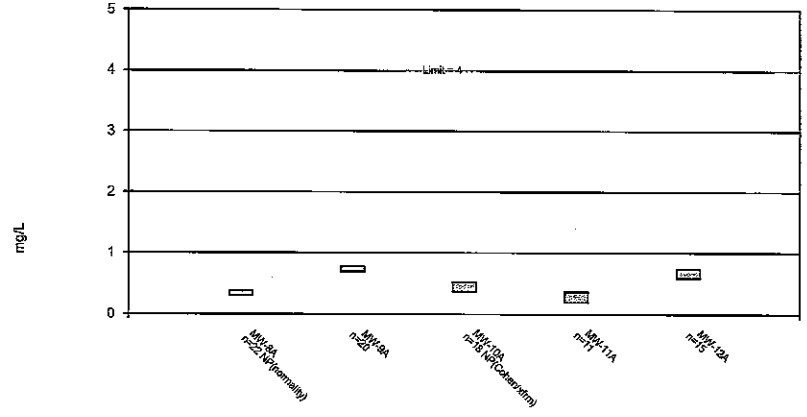
Constituent: Cobalt Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	0.00289	<0.001			
10/19/2018	<0.001			<0.001	<0.001
11/27/2018	<0.001				<0.001
12/24/2018	<0.001	<0.001	<0.001		<0.001
1/22/2019					<0.001
4/22/2019					<0.001
6/18/2019				<0.001	<0.001
8/13/2019					<0.001
10/29/2019				<0.001	<0.001
11/29/2019				<0.001	<0.001
12/18/2019				<0.001	<0.001
1/22/2020	<0.001	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	0.00023 (J)	<0.0002	<0.0002
7/22/2020				<0.0002	
10/13/2020					<0.0002
10/14/2020	<0.0002	<0.0002	0.0009 (J)	<0.0002	
4/27/2021	<0.0002	<0.0002	0.000272 (J)	<0.0002	<0.0002
Mean	0.004821	0.0053	0.00534	0.00068	0.0008286
Std. Dev.	0.0047	0.004918	0.004919	0.0004131	0.0003407
Upper Lim.	0.01	0.01	0.01	0.001	0.001
Lower Lim.	0.0002	0.0002	0.000272	0.0002	0.0002

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	0.0111	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	0.0125		
5/26/2018	0.0167	0.011	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	0.0615	<0.01			
9/2/2018	0.00783	0.00195			
10/19/2018	<0.01			<0.01	<0.01
11/27/2018	<0.01				<0.01
12/24/2018	<0.01	<0.01	<0.01		<0.01
1/22/2019					<0.01
4/22/2019					<0.01
6/18/2019				<0.01	<0.01
8/13/2019					<0.01
10/29/2019				<0.01	<0.01
11/29/2019				<0.01	<0.01
12/18/2019				<0.01	<0.01
1/22/2020	<0.01	<0.01	<0.01	<0.01	<0.01
4/23/2020	0.00323 (J)	0.00126 (J)	0.00169 (J)	0.00236 (J)	<0.0004
7/22/2020				0.00644	
10/13/2020					0.00198 (J)
10/14/2020	0.0146	0.00507	0.0287	0.0019 (J)	
4/27/2021	0.0131	0.00196 (J)	0.00124 (J)	0.00306 (J)	0.00059 (J)
Mean	0.01415	0.007603	0.01041	0.007376	0.008069
Std. Dev.	0.01397	0.00384	0.007454	0.00359	0.003851
Upper Lim.	0.0146	0.011	0.0125	0.01	0.01
Lower Lim.	0.00783	0.00195	0.00169	0.00236	0.00198

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	0.0258		
5/26/2018	0.0117	0.01	0.0133		
6/23/2018	<0.01	<0.01	0.011		
7/29/2018	0.0524	<0.01			
9/2/2018	<0.01	<0.01			
10/19/2018	<0.01			<0.01	<0.01
11/27/2018	<0.01				<0.01
12/24/2018	<0.01	<0.01	<0.01		<0.01
1/22/2019					0.013
4/22/2019					<0.01
6/18/2019				<0.01	<0.01
8/13/2019					<0.01
10/29/2019				<0.01	<0.01
11/29/2019				<0.01	<0.01
12/18/2019				<0.01	<0.01
1/22/2020	<0.01	<0.01	<0.01	<0.01	<0.01
4/23/2020	<0.0002	0.000419 (J)	0.0209	0.000556 (J)	0.00326 (J)
7/22/2020				0.00218 (J)	
10/13/2020					0.00644
10/14/2020	0.00589	0.00217 (J)	0.0381	0.000225 (J)	
4/27/2021	0.00401 (J)	0.000489 (J)	0.00325 (J)	0.00097 (J)	0.00387 (J)
Mean	0.01173	0.007756	0.01523	0.006393	0.009041
Std. Dev.	0.01211	0.004081	0.01023	0.004683	0.002657
Upper Lim.	0.0117	0.01	0.0258	0.01	0.013
Lower Lim.	0.00589	0.000489	0.01	0.000556	0.00644

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 1/19/2022 9:56 AM

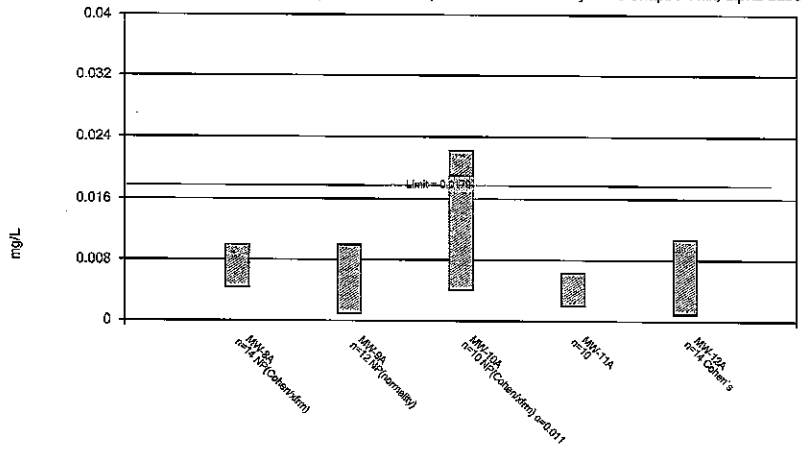
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
2/26/2017	0.39	0.76	0.32		
7/29/2017	0.359	0.747	0.533		
9/10/2017	0.346	0.717	<1		
10/14/2017	0.31	0.679	0.5		
11/11/2017	0.322	0.703	0.394		
1/6/2018	0.344	0.729	0.522		
3/3/2018	0.363	0.784	<1		
4/14/2018	0.396	0.822	<1		
5/26/2018	0.333	0.702	<1		
6/23/2018	0.743	0.834	0.826		
7/29/2018	0.415	0.85			
9/2/2018	0.352	0.735			
10/19/2018	0.38			0.43	0.62
11/27/2018	0.26				0.78
12/24/2018					0.65
1/22/2019					0.85
1/29/2019	0.24			0.44	0.44
1/30/2019		0.66	0.44		
4/22/2019	0.23	0.61	0.37		0.58
6/18/2019	0.3	0.66	0.43	0.36	0.67
8/13/2019					0.66
10/29/2019	0.35	0.73	0.5	0.27	0.74
11/29/2019				0.28	0.73
12/18/2019				0.27	0.67
1/22/2020	0.36	0.77	0.58	0.29	0.7
4/23/2020	0.122	0.763	0.296	0.219	0.56
7/22/2020				0.195	
10/13/2020					0.481 (J)
10/14/2020	0.29	0.574	0.285 (J)	0.113	
4/27/2021	0.415	0.834	0.48	0.219	0.811
Mean	0.3464	0.7332	0.4709	0.2805	0.6628
Std. Dev.	0.1119	0.07396	0.1228	0.09867	0.1149
Upper Lim.	0.38	0.7751	0.522	0.3628	0.7407
Lower Lim.	0.3	0.6912	0.37	0.1983	0.5849

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



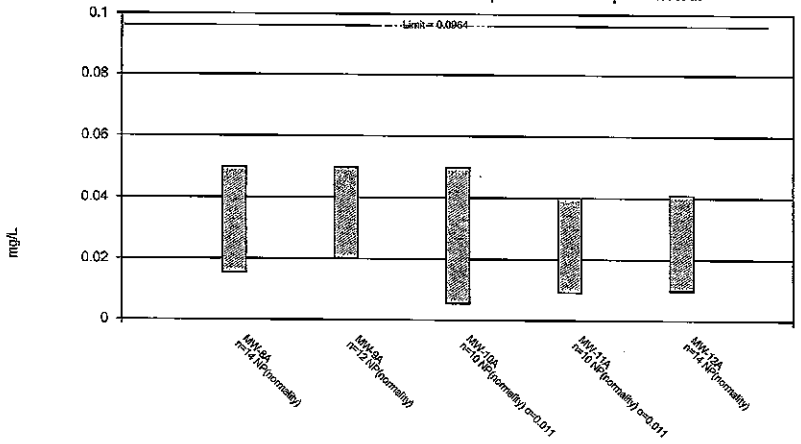
Constituent: Lead Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



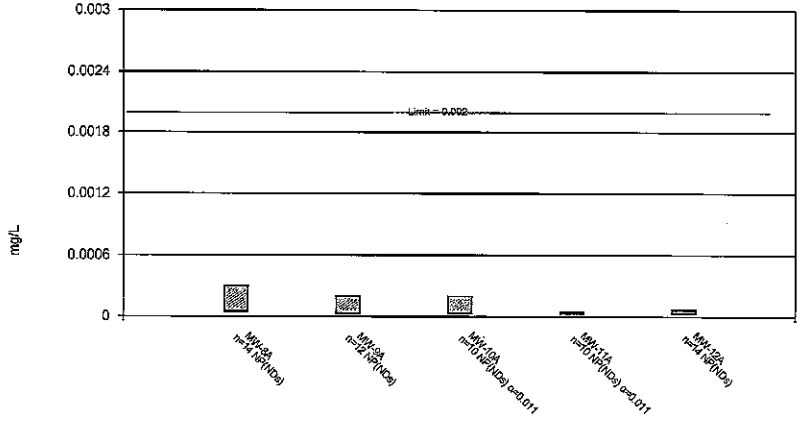
Constituent: Lithium Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



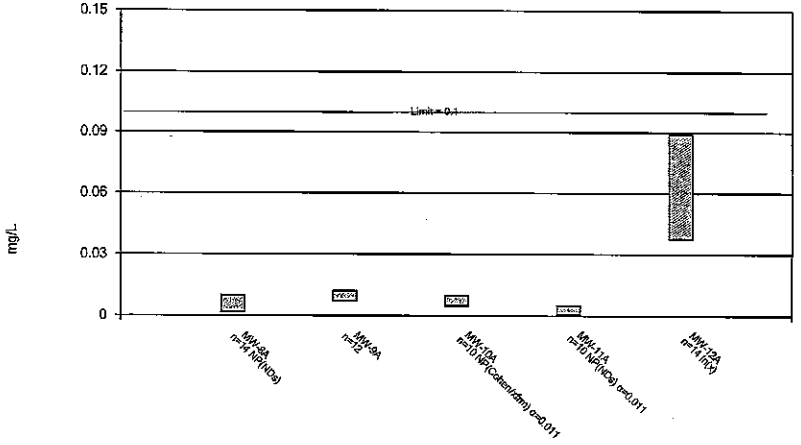
Constituent: Mercury Analysis Run 1/19/2022 9:52 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 1/19/2022 9:53 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	0.0222		
5/26/2018	<0.01	0.0114	0.0128		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	0.0254	<0.01			
9/2/2018	0.00232	0.00095			
10/19/2018	<0.005			<0.005	<0.005
11/27/2018	<0.005				<0.005
12/24/2018	<0.005	<0.005	<0.005		<0.005
1/22/2019					0.008
4/22/2019					0.005
6/18/2019				0.006	<0.005
8/13/2019					0.01
10/29/2019				0.008	0.021
11/29/2019				<0.005	0.008
12/18/2019				<0.005	0.012
1/22/2020	<0.005	0.01	0.011	0.005	0.013
4/23/2020	<0.0006	0.00135 (J)	0.00403	0.00107 (J)	<0.0006
7/22/2020				0.00444	
10/13/2020					0.00458
10/14/2020	0.00706	0.00263	0.0881	<0.0006	
4/27/2021	0.00437	0.000899 (J)	0.00334	0.00106 (J)	0.000997 (J)
Mean	0.007839	0.006852	0.01765	0.004117	0.00737
Std. Dev.	0.005945	0.004285	0.02534	0.002423	0.005327
Upper Lim.	0.01	0.01	0.0222	0.006279	0.01072
Lower Lim.	0.00437	0.00095	0.00403	0.001955	0.0009038

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.05	<0.05	<0.05		
3/3/2018	<0.05	<0.05	<0.05		
4/14/2018	<0.05	<0.05	<0.05		
5/26/2018	<0.05	<0.05	<0.05		
6/23/2018	<0.05	<0.05	<0.05		
7/29/2018	<0.05	<0.05			
9/2/2018	0.0044	0.0136			
10/19/2018	<0.04			<0.04	0.041
11/27/2018	<0.04				<0.04
12/24/2018	<0.04	<0.04	<0.04		<0.04
1/22/2019					<0.04
4/22/2019					<0.04
6/18/2019				<0.04	<0.04
8/13/2019					<0.04
10/29/2019				<0.04	<0.04
11/29/2019				<0.04	<0.04
12/18/2019				<0.04	<0.04
1/22/2020	<0.04	<0.04	<0.04	<0.04	<0.04
4/23/2020	0.0102	0.0275	0.00552	0.0094	0.00975
7/22/2020				0.0114	
10/13/2020					0.00301 (J)
10/14/2020	0.0153	0.0227	0.017	0.00917	
4/27/2021	0.0204 (J)	0.0202	0.00346 (J)	0.00877	0.00528
Mean	0.03645	0.03867	0.0356	0.02787	0.03279
Std. Dev.	0.01658	0.01389	0.01932	0.01567	0.01458
Upper Lim.	0.05	0.05	0.05	0.04	0.041
Lower Lim.	0.0153	0.0202	0.00552	0.00917	0.00975

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.0002	<0.0002	<0.0002		
3/3/2018	<0.0002	<0.0002	<0.0002		
4/14/2018	<0.0002	<0.0002	<0.0002		
5/26/2018	<0.0002	<0.0002	<0.0002		
6/23/2018	<0.0002	<0.0002	<0.0002		
7/29/2018	<0.0002	<0.0002			
9/2/2018	<0.0002	<0.0002			
10/19/2018	<5E-05			<5E-05	<5E-05
11/27/2018	<0.0005				<5E-05
12/24/2018	<5E-05	<5E-05	<5E-05		<5E-05
1/22/2019					6.8E-05
4/22/2019					<5E-05
6/18/2019				<5E-05	<5E-05
8/13/2019					<5E-05
10/29/2019				<5E-05	<5E-05
11/29/2019				<5E-05	<5E-05
12/18/2019				<5E-05	<5E-05
1/22/2020	<0.00015	<5E-05	<5E-05	<5E-05	<5E-05
4/23/2020	<0.0003	<3E-05	<3E-05	<3E-05	<3E-05
7/22/2020				<3E-05	
10/13/2020					<3E-05
10/14/2020	<3E-05	<3E-05	3.4E-05 (J)	<3E-05	
4/27/2021	<3E-05	<3E-05	<3E-05	<3E-05	<3E-05
Mean	0.0001793	0.0001325	0.0001194	4.2E-05	4.7E-05
Std. Dev.	0.0001238	8.368E-05	8.524E-05	1.033E-05	1.037E-05
Upper Lim.	0.0003	0.0002	0.0002	5E-05	6.8E-05
Lower Lim.	5E-05	3E-05	3E-05	3E-05	3E-05

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 1/19/2022 9:56 AM

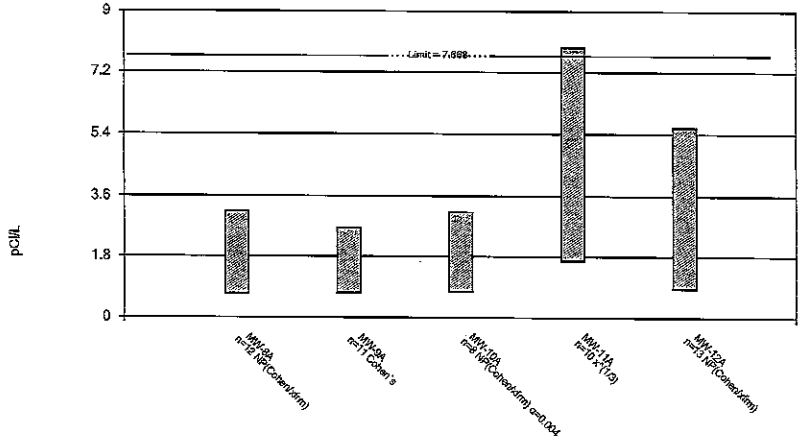
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	0.014	<0.01		
3/3/2018	<0.01	0.0128	<0.01		
4/14/2018	<0.01	0.0124	<0.01		
5/26/2018	<0.01	0.0105	<0.01		
6/23/2018	<0.01	0.0117	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	<0.01	0.0102			
10/19/2018	<0.005			<0.005	0.027
11/27/2018	<0.005				0.242
12/24/2018	<0.005	0.011	<0.005		0.117
1/22/2019					0.106
4/22/2019					0.057
6/18/2019				<0.005	0.03
8/13/2019					0.054
10/29/2019				<0.005	0.093
11/29/2019				<0.005	0.057
12/18/2019				<0.005	0.043
1/22/2020	<0.005	0.008	<0.005	<0.005	0.048
4/23/2020	0.00145 (J)	0.00579	0.00613	<0.0006	0.0306
7/22/2020				<0.0006	
10/13/2020					0.0411
10/14/2020	0.000698 (J)	0.00448 (J)	0.0329	<0.0006	
4/27/2021	0.00185 (J)	0.00556	0.00204 (J)	<0.0006	0.0445
Mean	0.006714	0.009702	0.01011	0.00324	0.07073
Std. Dev.	0.003668	0.003084	0.008516	0.002272	0.05678
Upper Lim.	0.01	0.01212	0.01	0.005	0.08907
Lower Lim.	0.00185	0.007283	0.005	0.0006	0.03743

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



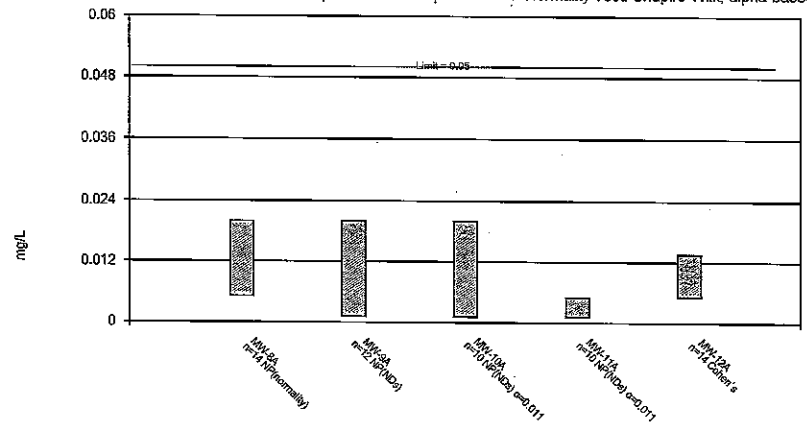
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:53 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



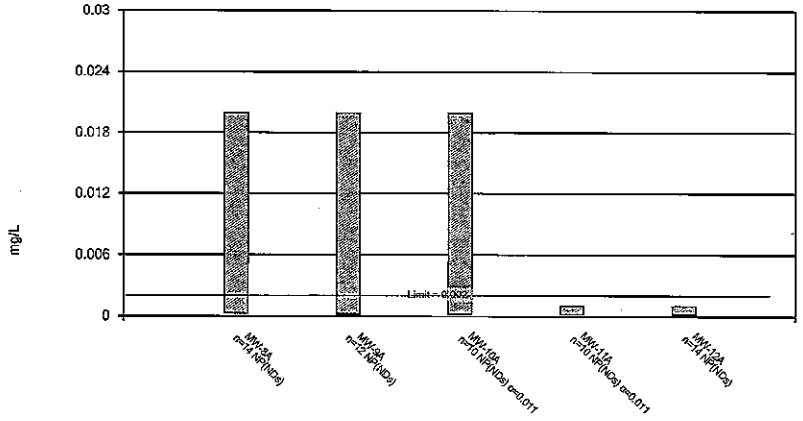
Constituent: Selenium Analysis Run 1/19/2022 9:53 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Thallium Analysis Run 1/19/2022 9:53 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Ra 226 and 228 (pCi/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
3/3/2018	0.913	0.8328	1.444		
4/14/2018	0.843	0.13573	0.882		
5/26/2018	3.16	1.005			
6/23/2018	0.7	0.658	1.753		
7/29/2018	0.423	1.586			
9/2/2018	1.397	0.421			
10/19/2018	<0.954			1.414	1.308
11/27/2018	<1.145				<0.832
12/24/2018	<1.05	<2.288	1.792		3.46
1/22/2019					<1.106
4/22/2019					2.141
6/18/2019				4.34	5.588
10/29/2019				<1.311	<2.885
11/29/2019				17.67	<6.223
12/18/2019				4.65	<2.648
1/22/2020	4.373	2.65	3.13	8.85	2.191
4/23/2020		<0.74	<0.94	3.36	1.2
7/22/2020				2.41	
10/13/2020					0.86
10/14/2020	<0.77	2.21	1.05	2.87	
4/27/2021	<1.02	<0.83	<0.77	3.12	1.04
Mean	1.396	1.214	1.47	4.999	2.422
Std. Dev.	1.162	0.8371	0.7776	4.942	1.763
Upper Lim.	3.16	2.651	3.13	7.943	5.588
Lower Lim.	0.7	0.7262	0.77	1.672	0.86

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.02	<0.02	<0.02		
3/3/2018	<0.02	<0.02	<0.02		
4/14/2018	<0.02	<0.02	<0.02		
5/26/2018	<0.02	<0.02	<0.02		
6/23/2018	<0.02	<0.02	<0.02		
7/29/2018	<0.02	<0.02			
9/2/2018	0.00509	<0.002			
10/19/2018	0.005			<0.005	0.015
11/27/2018	0.006				0.009
12/24/2018	<0.005	<0.005	<0.005		0.012
1/22/2019					0.015
4/22/2019					<0.005
6/18/2019				0.035	0.009
8/13/2019					0.007
10/29/2019				<0.005	0.013
11/29/2019				<0.005	0.011
12/18/2019				<0.005	0.015
1/22/2020	0.018	<0.005	<0.005	<0.005	0.018
4/23/2020	0.0139	<0.0011	<0.0011	<0.0011	0.00158 (J)
7/22/2020				<0.0011	
10/13/2020					<0.0011
10/14/2020	0.0132	<0.0011	0.00314	<0.0011	
4/27/2021	0.013	<0.0011	<0.0011	<0.0011	<0.0011
Mean	0.01423	0.01127	0.01153	0.00644	0.009484
Std. Dev.	0.006435	0.009205	0.009018	0.01022	0.005647
Upper Lim.	0.02	0.02	0.02	0.005	0.01348
Lower Lim.	0.00509	0.0011	0.0011	0.0011	0.005116

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 1/19/2022 9:56 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.02	<0.02	<0.02		
3/3/2018	<0.02	<0.02	<0.02		
4/14/2018	<0.02	<0.02	<0.02		
5/26/2018	<0.02	<0.02	<0.02		
6/23/2018	<0.02	<0.02	<0.02		
7/29/2018	<0.02	<0.02			
9/2/2018	0.00036	<0.002			
10/19/2018	<0.001			<0.001	<0.001
11/27/2018	<0.001				<0.001
12/24/2018	<0.001	<0.001	<0.001		<0.001
1/22/2019					<0.001
4/22/2019					<0.001
6/18/2019				<0.001	<0.001
8/13/2019					<0.001
10/29/2019				<0.001	<0.001
11/29/2019				<0.001	<0.001
12/18/2019				<0.001	<0.001
1/22/2020	<0.001	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
7/22/2020				<0.0002	
10/13/2020					<0.0002
10/14/2020	<0.0002	<0.0002	0.000475 (J)	<0.0002	
4/27/2021	0.000252 (J)	<0.0002	<0.0002	<0.0002	<0.0002
Mean	0.008929	0.01038	0.01029	0.00068	0.0008286
Std. Dev.	0.009954	0.01006	0.01024	0.0004131	0.0003407
Upper Lim.	0.02	0.02	0.02	0.001	0.001
Lower Lim.	0.000252	0.0002	0.0002	0.0002	0.0002

ATTACHMENT H

SANITAS™ OUTPUT

(EVALUATION OF SECOND 2021 DATA)

TREND ANALYSIS

Sen's / Mann-Kendall

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:24 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony (mg/L)	**MW-6A (bg)**	**-0.00294**	**-82**	**-45**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-8A**	**-0.002819**	**-69**	**-41**	**Yes**	**15**	**86.67**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-9A**	**-0.002854**	**-52**	**-34**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-10A**	**-0.002787**	**-38**	**-27**	**Yes**	**11**	**72.73**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	**MW-11A**	**-0.001968**	**-32**	**-27**	**Yes**	**11**	**90.91**	**n/a**	**n/a**	**0.05**	**NP**
Antimony (mg/L)	MW-12A	0	-40	-41	No	15	100	n/a	n/a	0.05	NP
Arsenic (mg/L)	**MW-6A (bg)**	**-0.003262**	**-71**	**-45**	**Yes**	**16**	**50**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	**MW-8A**	**-0.002501**	**-59**	**-41**	**Yes**	**15**	**60**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	MW-9A	-0.002168	-29	-34	No	13	53.85	n/a	n/a	0.05	NP
Arsenic (mg/L)	MW-10A	-0.0001873	-11	-27	No	11	54.55	n/a	n/a	0.05	NP
Arsenic (mg/L)	**MW-11A**	**-0.00183**	**-31**	**-27**	**Yes**	**11**	**36.36**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic (mg/L)	MW-12A	0	14	41	No	15	46.67	n/a	n/a	0.05	NP
Barium (mg/L)	**MW-6A (bg)**	**-0.1149**	**-62**	**-45**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Barium (mg/L)	MW-8A	0.01375	11	41	No	15	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-9A	0.003972	24	34	No	13	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-10A	-0.01126	-7	-27	No	11	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-11A	0.0121	1	27	No	11	0	n/a	n/a	0.05	NP
Barium (mg/L)	MW-12A	0.001484	6	41	No	15	0	n/a	n/a	0.05	NP
Beryllium (mg/L)	**MW-6A (bg)**	**-0.002645**	**-80**	**-45**	**Yes**	**16**	**87.5**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	**MW-8A**	**-0.002784**	**-75**	**-41**	**Yes**	**15**	**86.67**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	**MW-9A**	**-0.002913**	**-53**	**-34**	**Yes**	**13**	**84.62**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	**MW-10A**	**-0.002696**	**-35**	**-27**	**Yes**	**11**	**90.91**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium (mg/L)	MW-11A	-0.0003423	-24	-27	No	11	72.73	n/a	n/a	0.05	NP
Beryllium (mg/L)	MW-12A	0	-20	-41	No	15	60	n/a	n/a	0.05	NP
Cadmium (mg/L)	**MW-6A (bg)**	**-0.002645**	**-84**	**-45**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-8A**	**-0.002964**	**-78**	**-41**	**Yes**	**15**	**93.33**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-9A**	**-0.002913**	**-54**	**-34**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-10A**	**-0.002878**	**-40**	**-27**	**Yes**	**11**	**72.73**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	**MW-11A**	**-0.0003423**	**-30**	**-27**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium (mg/L)	MW-12A	0	-41	-41	No	15	93.33	n/a	n/a	0.05	NP
Chromium (mg/L)	**MW-6A (bg)**	**-0.006495**	**-65**	**-45**	**Yes**	**16**	**37.5**	**n/a**	**n/a**	**0.05**	**NP**
Chromium (mg/L)	MW-8A	0	-20	-41	No	15	46.67	n/a	n/a	0.05	NP
Chromium (mg/L)	**MW-9A**	**-0.00218**	**-39**	**-34**	**Yes**	**13**	**53.85**	**n/a**	**n/a**	**0.05**	**NP**
Chromium (mg/L)	MW-10A	-0.0004451	-20	-27	No	11	54.55	n/a	n/a	0.05	NP
Chromium (mg/L)	**MW-11A**	**-0.003881**	**-34**	**-27**	**Yes**	**11**	**54.55**	**n/a**	**n/a**	**0.05**	**NP**
Chromium (mg/L)	MW-12A	0	-40	-41	No	15	80	n/a	n/a	0.05	NP
Cobalt (mg/L)	**MW-6A (bg)**	**-0.007026**	**-75**	**-45**	**Yes**	**16**	**43.75**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	**MW-8A**	**-0.001811**	**-48**	**-41**	**Yes**	**15**	**73.33**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	**MW-9A**	**-0.0003749**	**-38**	**-34**	**Yes**	**13**	**69.23**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	MW-10A	-0.0006315	-7	-27	No	11	36.36	n/a	n/a	0.05	NP

Sen's / Mann-Kendall

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:24 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt (mg/L)	**MW-11A**	**-0.004446**	**-34**	**-27**	**Yes**	**11**	**63.64**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt (mg/L)	MW-12A	0	-24	-41	No	15	66.67	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-6A (bg)	0.003842	18	76	No	23	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-8A	-0.02194	-55	-76	No	23	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-9A	0.005766	14	66	No	21	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	MW-10A	0	-14	-58	No	19	21.05	n/a	n/a	0.05	NP
Fluoride (mg/L)	**MW-11A**	**-0.1217**	**-42**	**-30**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	MW-12A	0.04221	16	45	No	16	0	n/a	n/a	0.05	NP
Lead (mg/L)	**MW-6A (bg)**	**-0.00668**	**-64**	**-45**	**Yes**	**16**	**43.75**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	**MW-8A**	**-0.001978**	**-54**	**-41**	**Yes**	**15**	**73.33**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	**MW-9A**	**-0.002747**	**-45**	**-34**	**Yes**	**13**	**53.85**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	MW-10A	-0.002185	-20	-27	No	11	36.36	n/a	n/a	0.05	NP
Lead (mg/L)	**MW-11A**	**-0.002311**	**-38**	**-27**	**Yes**	**11**	**45.45**	**n/a**	**n/a**	**0.05**	**NP**
Lead (mg/L)	MW-12A	2.8e-10	8	41	No	15	33.33	n/a	n/a	0.05	NP
Lithium (mg/L)	**MW-6A (bg)**	**-0.01622**	**-83**	**-45**	**Yes**	**16**	**50**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-8A**	**-0.01081**	**-62**	**-41**	**Yes**	**15**	**66.67**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-9A**	**-0.008987**	**-50**	**-34**	**Yes**	**13**	**61.54**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-10A**	**-0.01306**	**-42**	**-27**	**Yes**	**11**	**63.64**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-11A**	**-0.01318**	**-34**	**-27**	**Yes**	**11**	**54.55**	**n/a**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**MW-12A**	**-0.001508**	**-56**	**-41**	**Yes**	**15**	**66.67**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	**MW-6A (bg)**	**-0.00005514**	**-85**	**-45**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	MW-8A	-0.00002645	-40	-41	No	15	100	n/a	n/a	0.05	NP
Mercury (mg/L)	**MW-9A**	**-0.00005054**	**-50**	**-34**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	**MW-10A**	**-0.00004992**	**-39**	**-27**	**Yes**	**11**	**90.91**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	**MW-11A**	**-0.000008558**	**-30**	**-27**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Mercury (mg/L)	MW-12A	0	-25	-41	No	15	86.67	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**MW-6A (bg)**	**-0.002958**	**-83**	**-45**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**MW-8A**	**-0.002666**	**-74**	**-41**	**Yes**	**15**	**80**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	**MW-9A**	**-0.002507**	**-64**	**-34**	**Yes**	**13**	**7.692**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	MW-10A	0	-6	-27	No	11	63.64	n/a	n/a	0.05	NP
Molybdenum (mg/L)	**MW-11A**	**-0.001883**	**-30**	**-27**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum (mg/L)	MW-12A	-0.01661	-26	-41	No	15	0	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	**MW-6A (bg)**	**-0.7222**	**-57**	**-37**	**Yes**	**14**	**28.57**	**n/a**	**n/a**	**0.05**	**NP**
Ra 226 and 228 (pCi/L)	MW-8A	0.1413	16	34	No	13	38.46	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-9A	0.1615	16	30	No	12	33.33	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-10A	-0.1487	-8	-20	No	9	22.22	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-11A	-1.028	-11	-27	No	11	18.18	n/a	n/a	0.05	NP
Ra 226 and 228 (pCi/L)	MW-12A	-0.1583	-13	-37	No	14	35.71	n/a	n/a	0.05	NP
Selenium (mg/L)	**MW-6A (bg)**	**-0.004076**	**-51**	**-45**	**Yes**	**16**	**56.25**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	**MW-8A**	**-0.002395**	**-53**	**-41**	**Yes**	**15**	**53.33**	**n/a**	**n/a**	**0.05**	**NP**

Sen's / Mann-Kendall

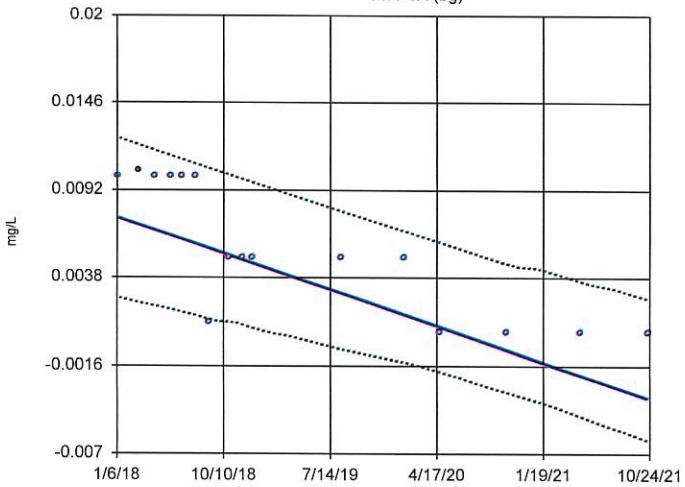
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 9:24 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Selenium (mg/L)	**MW-9A**	**-0.005618**	**-52**	**-34**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	**MW-10A**	**-0.00555**	**-39**	**-27**	**Yes**	**11**	**90.91**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	**MW-11A**	**-0.002217**	**-33**	**-27**	**Yes**	**11**	**90.91**	**n/a**	**n/a**	**0.05**	**NP**
Selenium (mg/L)	MW-12A	-0.003401	-36	-41	No	15	26.67	n/a	n/a	0.05	NP
Thallium (mg/L)	**MW-6A (bg)**	**-0.005344**	**-89**	**-45**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-8A**	**-0.005446**	**-69**	**-41**	**Yes**	**15**	**86.67**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-9A**	**-0.005724**	**-56**	**-34**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-10A**	**-0.005624**	**-39**	**-27**	**Yes**	**11**	**90.91**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-11A**	**-0.0003423**	**-30**	**-27**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.05**	**NP**
Thallium (mg/L)	**MW-12A**	**0**	**-44**	**-41**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.05**	**NP**

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.00294 units per year.

Mann-Kendall statistic = -82
critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

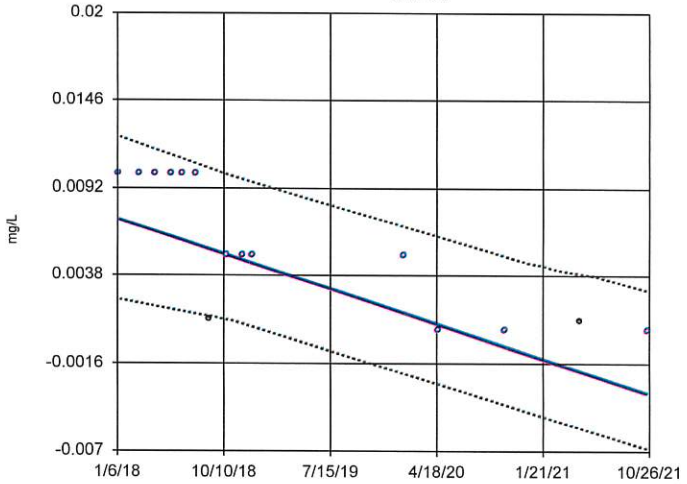
Constituent: Antimony Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.002819 units per year.

Mann-Kendall statistic = -69
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

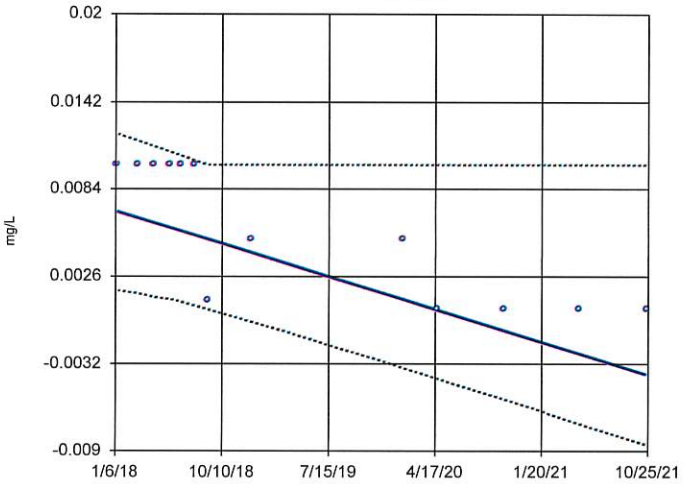
Constituent: Antimony Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.002854 units per year.

Mann-Kendall statistic = -52
critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

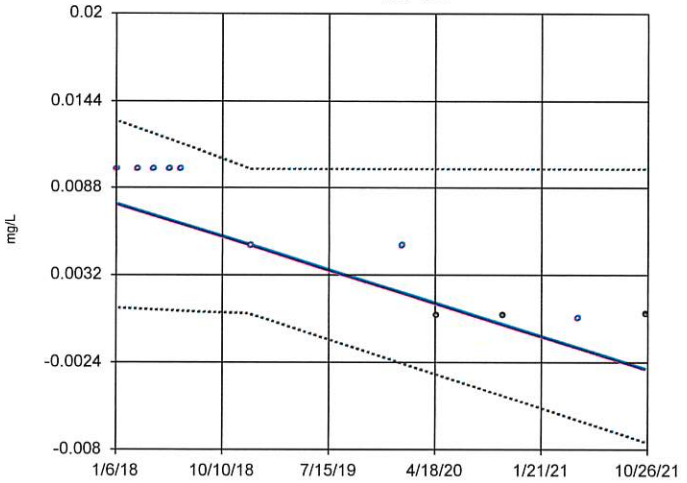
Constituent: Antimony Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.002787 units per year.

Mann-Kendall statistic = -38
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Antimony Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Antimony Analysis Run 1/19/2022 9:24 AM

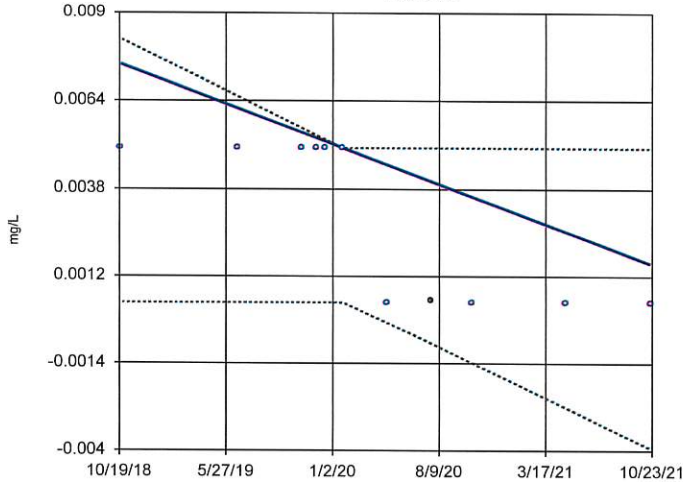
Big Fork Ranch Facility Client: Enviro Clean Cardinal Date: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	0.0104	<0.01	<0.01	<0.01
4/14/2018	<0.01	<0.01	<0.01	<0.01
5/26/2018	<0.01	<0.01	<0.01	<0.01
6/23/2018	<0.01	<0.01	<0.01	<0.01
7/29/2018	<0.01	<0.01	<0.01	
9/2/2018	<0.001	0.00108	<0.001	
10/19/2018		<0.005		
10/24/2018	<0.005			
11/27/2018	<0.005	<0.005		
12/24/2018	<0.005	<0.005	<0.005	<0.005
8/13/2019	<0.005			
1/22/2020	<0.005	<0.005	<0.005	<0.005
4/23/2020	<0.0004	<0.0004	<0.0004	0.000655 (J)
10/14/2020	<0.0004	<0.0004	<0.0004	0.000632 (J)
4/27/2021	<0.0004	0.000975 (J)	<0.0004	<0.0004
10/18/2021	<0.0004			
10/19/2021			<0.0004	
10/20/2021		<0.0004		0.000723 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.001968 units per year.

Mann-Kendall statistic = -32 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

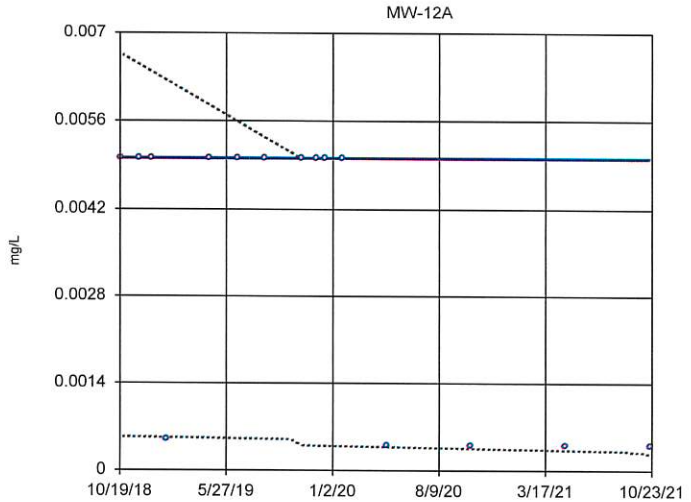
Constituent: Antimony Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = -40 critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

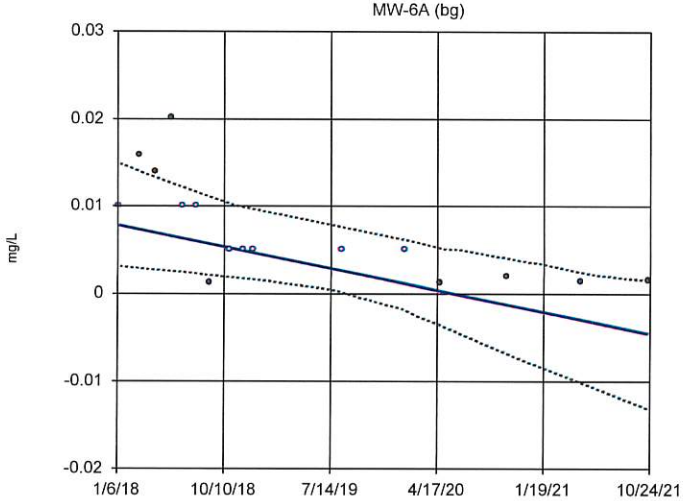
Constituent: Antimony Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.003262 units per year.

Mann-Kendall statistic = -71 critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

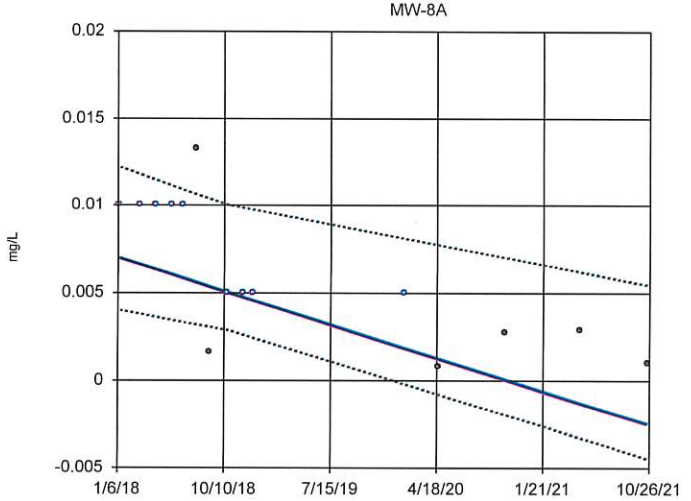
Constituent: Arsenic Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.002501 units per year.

Mann-Kendall statistic = -59 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Antimony, Arsenic Analysis Run 1/19/2022 9:24 AM

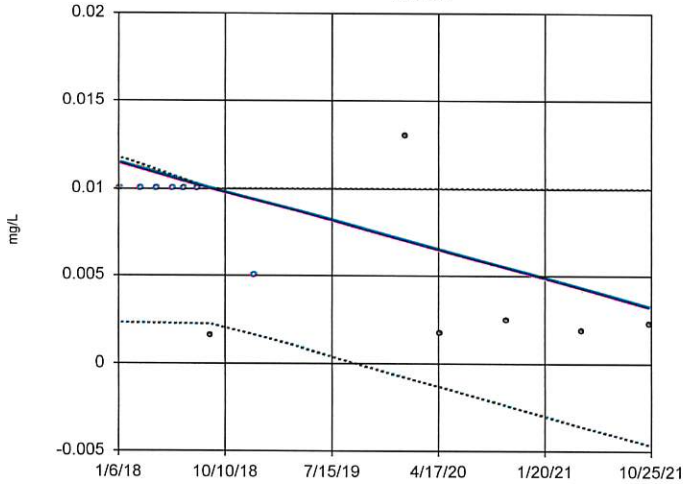
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	<0.01
3/3/2018			0.0158	<0.01
4/14/2018			0.0139	<0.01
5/26/2018			0.0202	<0.01
6/23/2018			<0.01	<0.01
7/29/2018			<0.01	0.0133
9/2/2018			0.00118	0.00164
10/19/2018	<0.005	<0.005		<0.005
10/24/2018			<0.005	
11/27/2018		<0.005	<0.005	<0.005
12/24/2018		<0.005	<0.005	<0.005
1/22/2019		<0.0005		
4/22/2019		<0.005		
6/18/2019	<0.005	<0.005		
8/13/2019		<0.005	<0.005	
10/29/2019	<0.005	<0.005		
11/29/2019	<0.005	<0.005		
12/18/2019	<0.005	<0.005		
1/22/2020	<0.005	<0.005	<0.005	<0.005
4/23/2020	<0.0004	<0.0004	0.00125 (J)	0.000833 (J)
7/22/2020	0.000484 (J)			
10/13/2020		<0.0004		
10/14/2020	<0.0004		0.00198 (J)	0.00276
4/27/2021	<0.0004	<0.0004	0.00136 (J)	0.00288
10/18/2021	<0.0004	<0.0004	0.00153 (J)	
10/20/2021				0.00104 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.002168 units per year.

Mann-Kendall statistic = -29 critical = -34

Trend not significant at 95% confidence level (α = 0.025 per tail).

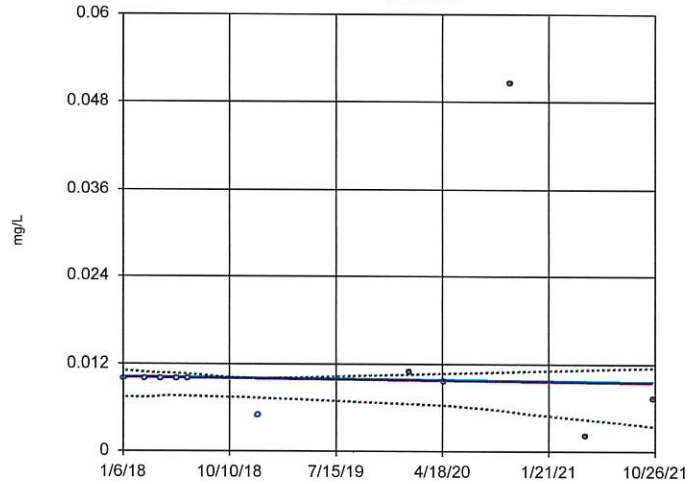
Constituent: Arsenic Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.0001873 units per year.

Mann-Kendall statistic = -11 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

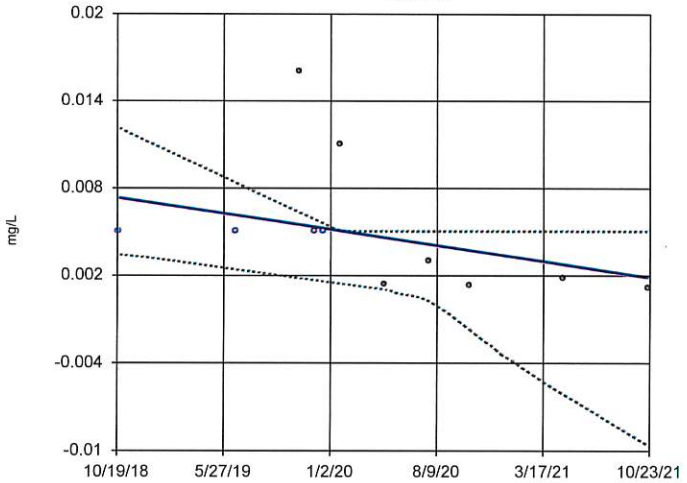
Constituent: Arsenic Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.00183 units per year.

Mann-Kendall statistic = -31 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

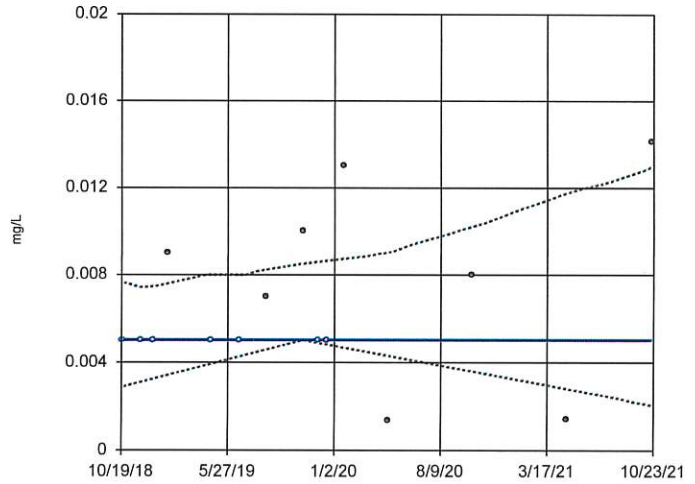
Constituent: Arsenic Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = 14 critical = 41

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Arsenic Analysis Run 1/19/2022 9:24 AM

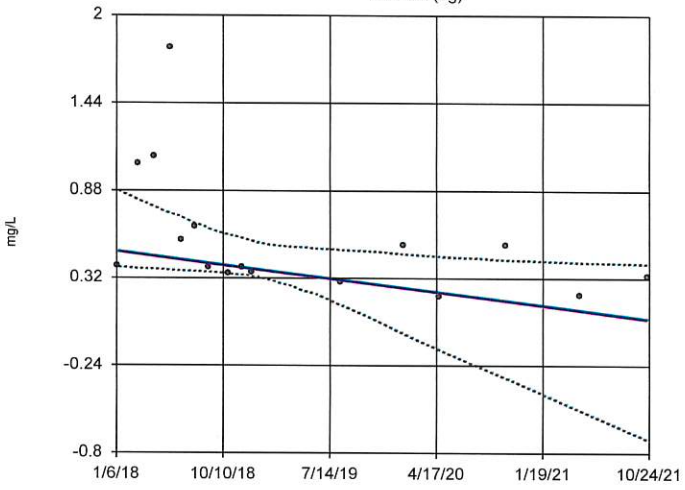
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01		
3/3/2018	<0.01	<0.01		
4/14/2018	<0.01	<0.01		
5/26/2018	<0.01	<0.01		
6/23/2018	<0.01	<0.01		
7/29/2018	<0.01			
9/2/2018	0.00158			
10/19/2018			<0.005	<0.005
11/27/2018				<0.005
12/24/2018	<0.005	<0.005		<0.005
1/22/2019				0.009
4/22/2019				<0.005
6/18/2019			<0.005	<0.005
8/13/2019				0.007
10/29/2019			0.016	0.01
11/29/2019			<0.005	<0.005
12/18/2019			<0.005	<0.005
1/22/2020	0.013	0.011	0.011	0.013
4/23/2020	0.00174 (J)	0.00957	0.00142 (J)	0.00135 (J)
7/22/2020			0.00303	
10/13/2020				0.00798
10/14/2020	0.00248	0.0505	0.00136 (J)	
4/27/2021	0.00185 (J)	0.00211	0.00184 (J)	0.00143 (J)
10/18/2021			0.00117 (J)	0.0141
10/19/2021	0.00225			
10/20/2021		0.00734		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.1149 units per year.

Mann-Kendall statistic = -62 critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

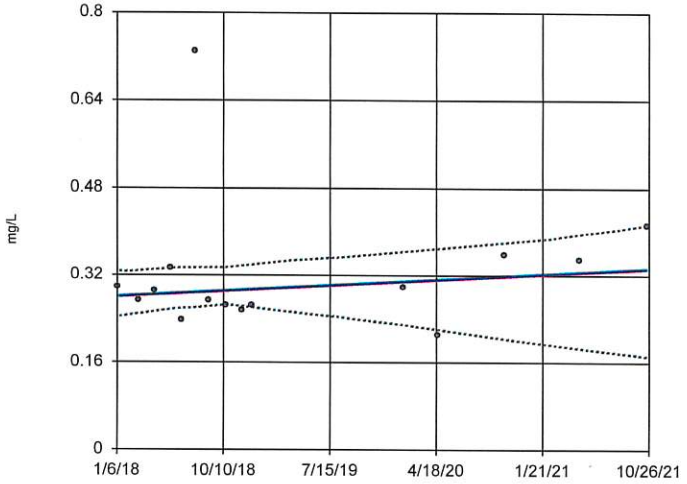
Constituent: Barium Analysis Run 1/19/2022 9:20 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = 0.01375 units per year.

Mann-Kendall statistic = 11 critical = 41

Trend not significant at 95% confidence level (α = 0.025 per tail).

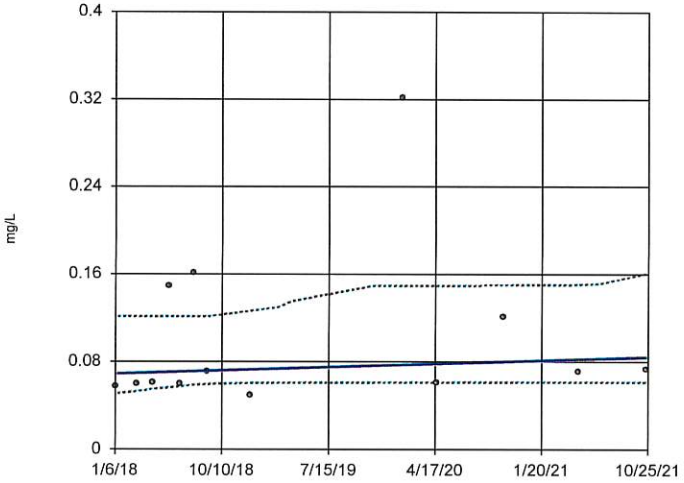
Constituent: Barium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = 0.003972 units per year.

Mann-Kendall statistic = 24 critical = 34

Trend not significant at 95% confidence level (α = 0.025 per tail).

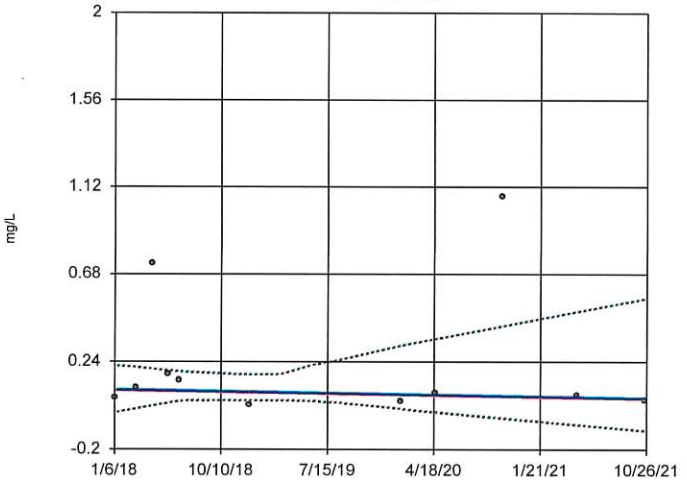
Constituent: Barium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.01126 units per year.

Mann-Kendall statistic = -7 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Barium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

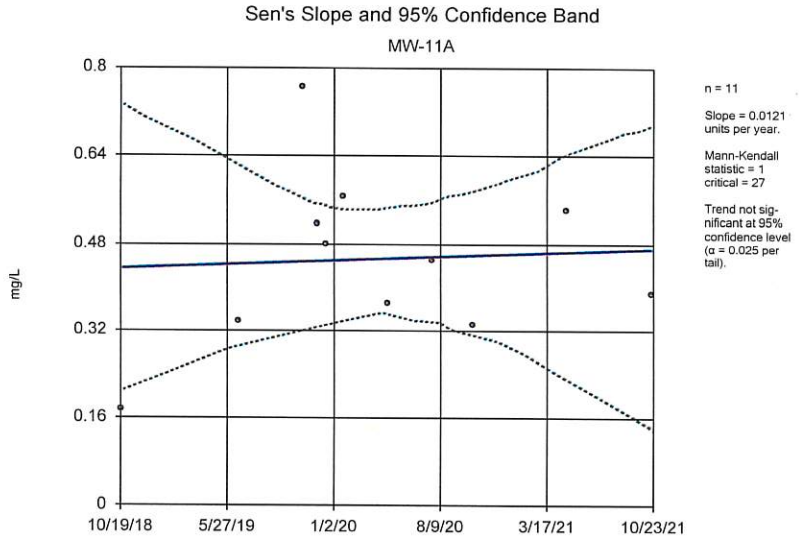
Sen's Slope Estimator

Constituent: Barium Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	0.394	0.298	0.0574	0.0588
3/3/2018	1.05	0.272	0.0591	0.109
4/14/2018	1.1	0.29	0.0602	0.732
5/26/2018	1.79	0.334	0.149	0.174
6/23/2018	0.562	0.237	0.0597	0.148
7/29/2018	0.643	0.73	0.161	
9/2/2018	0.391	0.274	0.0712	
10/19/2018		0.265		
10/24/2018	0.353			
11/27/2018	0.388	0.255		
12/24/2018	0.36	0.265	0.05	0.022
8/13/2019	0.292			
1/22/2020	0.526	0.298	0.321	0.045
4/23/2020	0.205	0.211	0.061	0.0861
10/14/2020	0.533	0.357	0.121	1.07
4/27/2021	0.212	0.348	0.0711	0.0735
10/18/2021	0.334			
10/19/2021			0.0728	
10/20/2021		0.412		0.0459

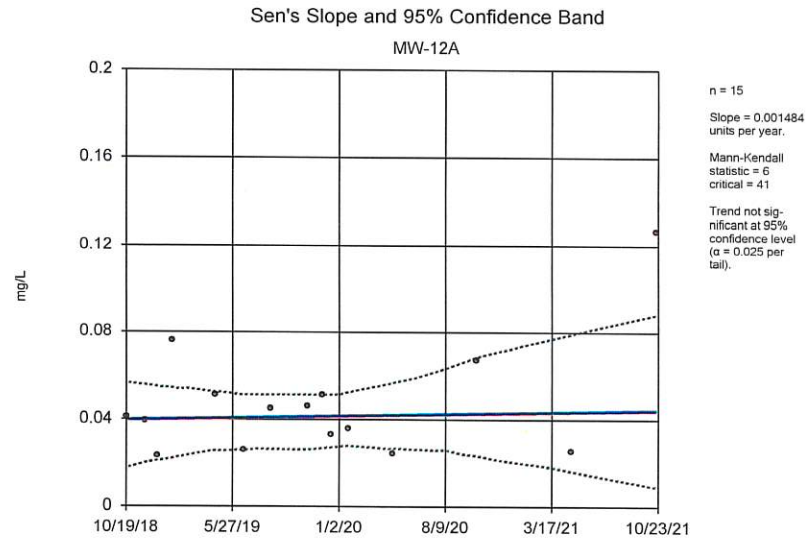
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Barium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

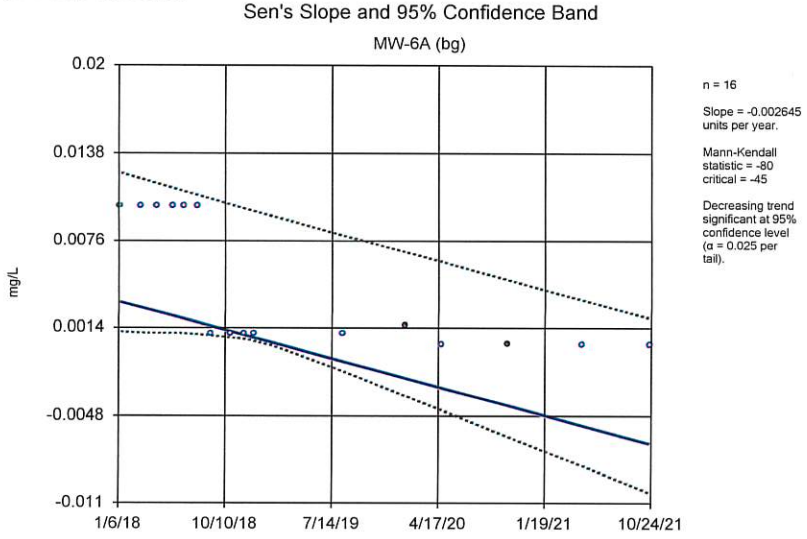
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Barium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

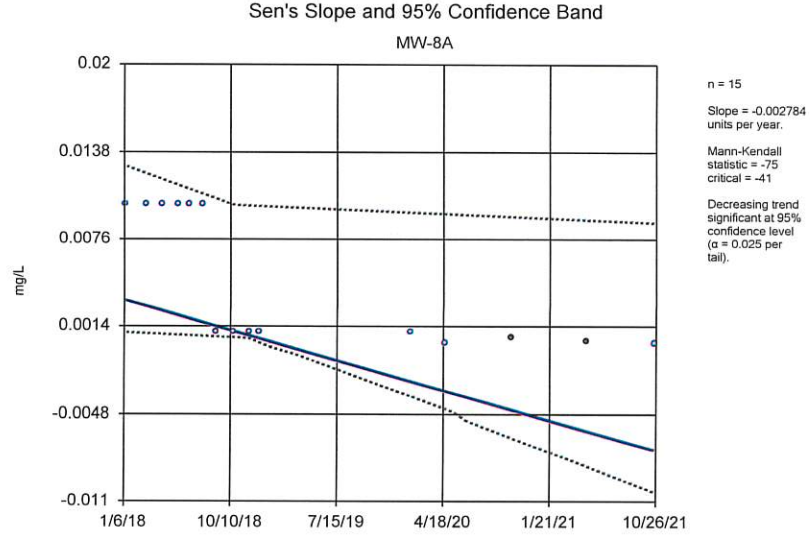
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Beryllium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Beryllium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Barium, Beryllium Analysis Run 1/19/2022 9:24 AM

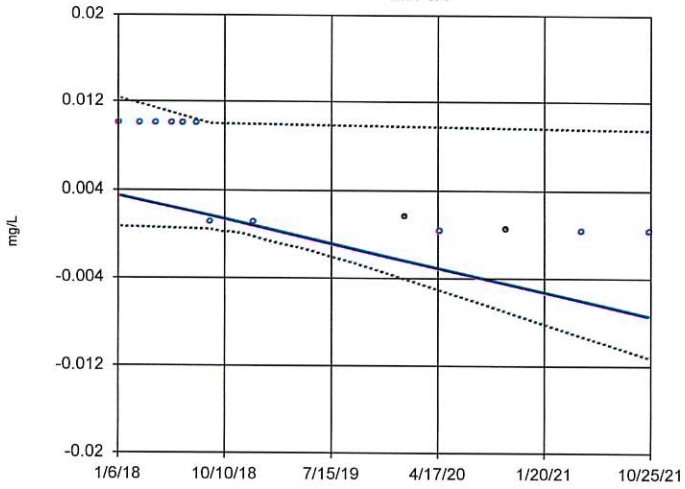
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	<0.01
3/3/2018			<0.01	<0.01
4/14/2018			<0.01	<0.01
5/26/2018			<0.01	<0.01
6/23/2018			<0.01	<0.01
7/29/2018			<0.01	<0.01
9/2/2018			<0.001	<0.001
10/19/2018	0.176	0.041		<0.001
10/24/2018			<0.001	
11/27/2018		0.039	<0.001	<0.001
12/24/2018		0.023	<0.001	<0.001
1/22/2019		0.076		
4/22/2019		0.051		
6/18/2019	0.338	0.026		
8/13/2019		0.045	<0.001	
10/29/2019	0.765	0.046		
11/29/2019	0.515	0.051		
12/18/2019	0.481	0.033		
1/22/2020	0.564	0.036	0.0016	<0.001
4/23/2020	0.371	0.0241	<0.0002	<0.0002
7/22/2020	0.448			
10/13/2020		0.067		
10/14/2020	0.332		0.000305 (J)	0.000585 (J)
4/27/2021	0.541	0.0256	<0.0002	0.000347 (J)
10/18/2021	0.389	0.127	<0.0002	
10/20/2021				<0.0002

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.002913 units per year.

Mann-Kendall statistic = -53 critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

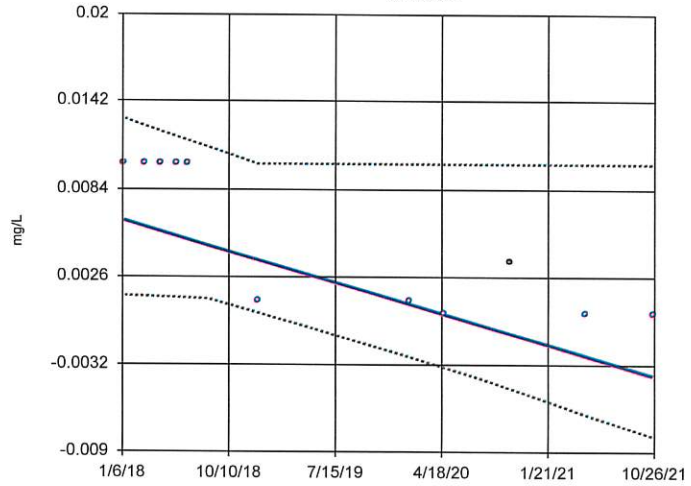
Constituent: Beryllium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.002696 units per year.

Mann-Kendall statistic = -35 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

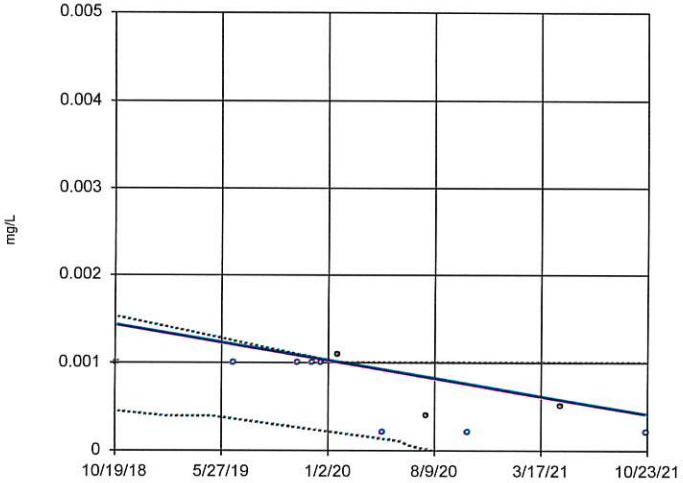
Constituent: Beryllium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.0003423 units per year.

Mann-Kendall statistic = -24 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

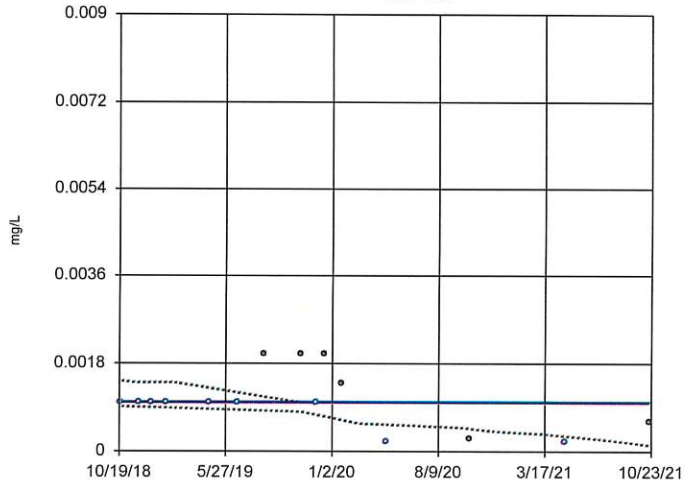
Constituent: Beryllium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = -20 critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Beryllium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Beryllium Analysis Run 1/19/2022 9:24 AM

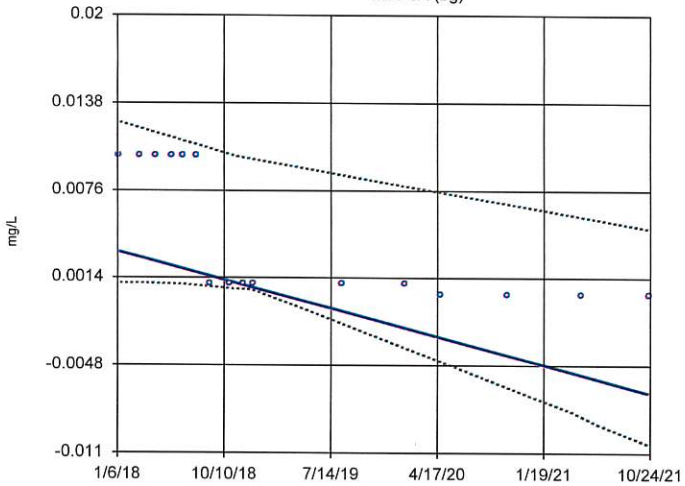
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01		
3/3/2018	<0.01	<0.01		
4/14/2018	<0.01	<0.01		
5/26/2018	<0.01	<0.01		
6/23/2018	<0.01	<0.01		
7/29/2018	<0.01			
9/2/2018	<0.001			
10/19/2018			<0.001	<0.001
11/27/2018				<0.001
12/24/2018	<0.001	<0.001		<0.001
1/22/2019				<0.001
4/22/2019				<0.001
6/18/2019			<0.001	<0.001
8/13/2019				0.002
10/29/2019			<0.001	0.002
11/29/2019			<0.001	<0.001
12/18/2019			<0.001	0.002
1/22/2020	0.0016	<0.001	0.0011	0.0014
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002
7/22/2020			0.00039 (J)	
10/13/2020				0.000258 (J)
10/14/2020	0.000391 (J)	0.00368	<0.0002	
4/27/2021	<0.0002	<0.0002	0.000502 (J)	<0.0002
10/18/2021			<0.0002	0.00061 (J)
10/19/2021	<0.0002			
10/20/2021		<0.0002		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.002645 units per year.

Mann-Kendall statistic = -84
critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

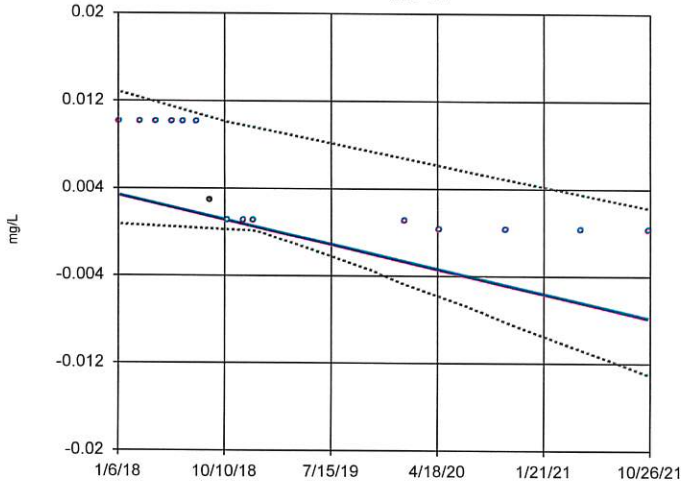
Constituent: Cadmium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.002964 units per year.

Mann-Kendall statistic = -78
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

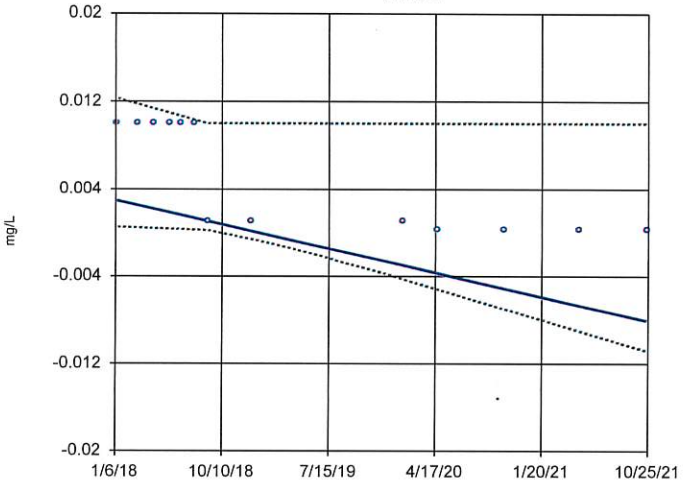
Constituent: Cadmium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.002913 units per year.

Mann-Kendall statistic = -54
critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

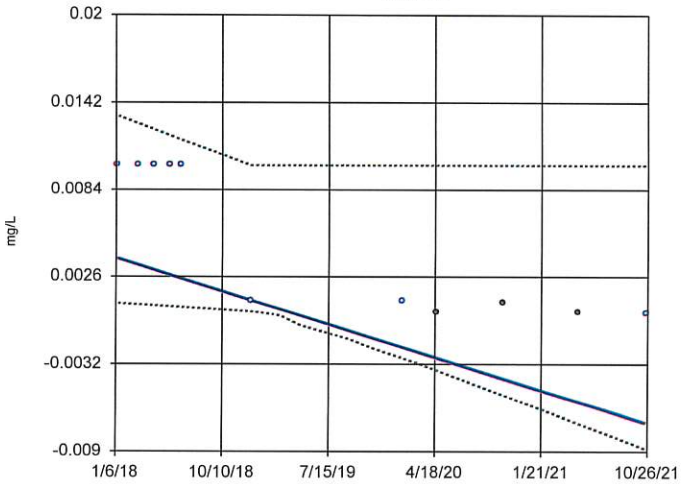
Constituent: Cadmium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.002878 units per year.

Mann-Kendall statistic = -40
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

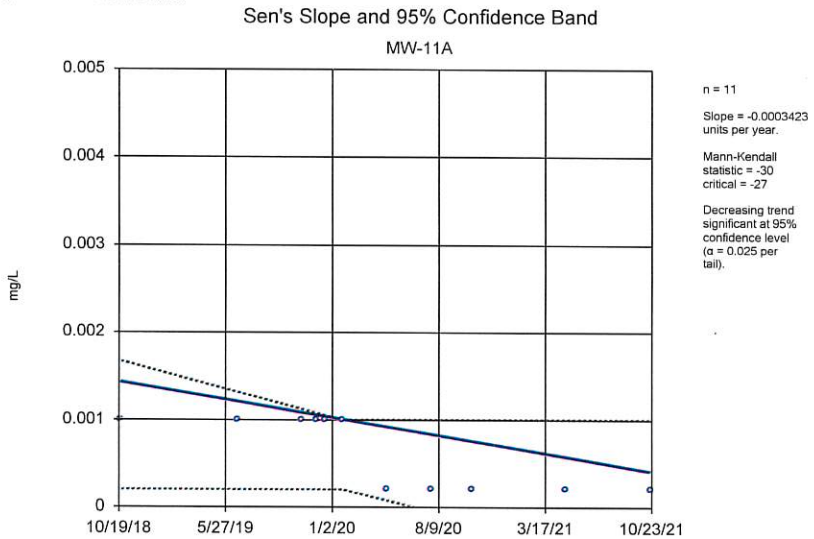
Sen's Slope Estimator

Constituent: Cadmium Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	<0.01	<0.01	<0.01	<0.01
4/14/2018	<0.01	<0.01	<0.01	<0.01
5/26/2018	<0.01	<0.01	<0.01	<0.01
6/23/2018	<0.01	<0.01	<0.01	<0.01
7/29/2018	<0.01	<0.01	<0.01	
9/2/2018	<0.001	0.00289	<0.001	
10/19/2018		<0.001		
10/24/2018	<0.001			
11/27/2018	<0.001	<0.001		
12/24/2018	<0.001	<0.001	<0.001	<0.001
8/13/2019	<0.001			
1/22/2020	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	<0.0002	0.00023 (J)
10/14/2020	<0.0002	<0.0002	<0.0002	0.0009 (J)
4/27/2021	<0.0002	<0.0002	<0.0002	0.000272 (J)
10/18/2021	<0.0002			
10/19/2021			<0.0002	
10/20/2021		<0.0002		<0.0002

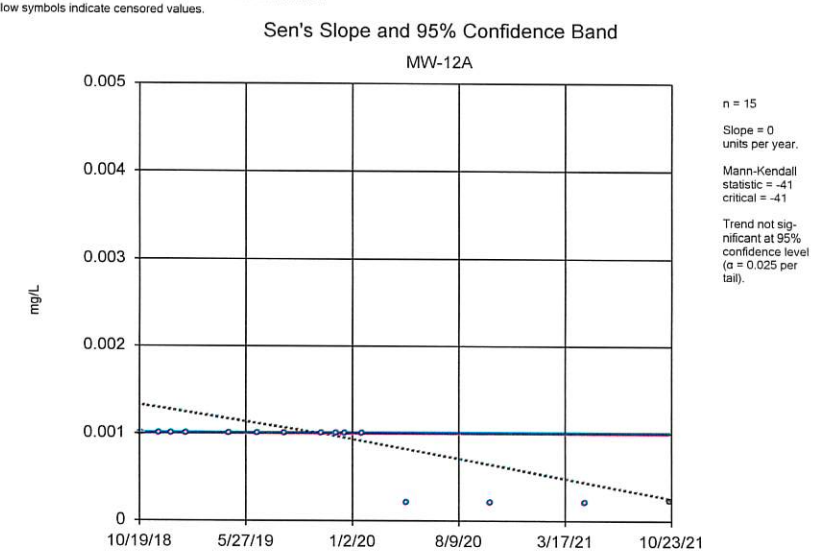
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Cadmium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

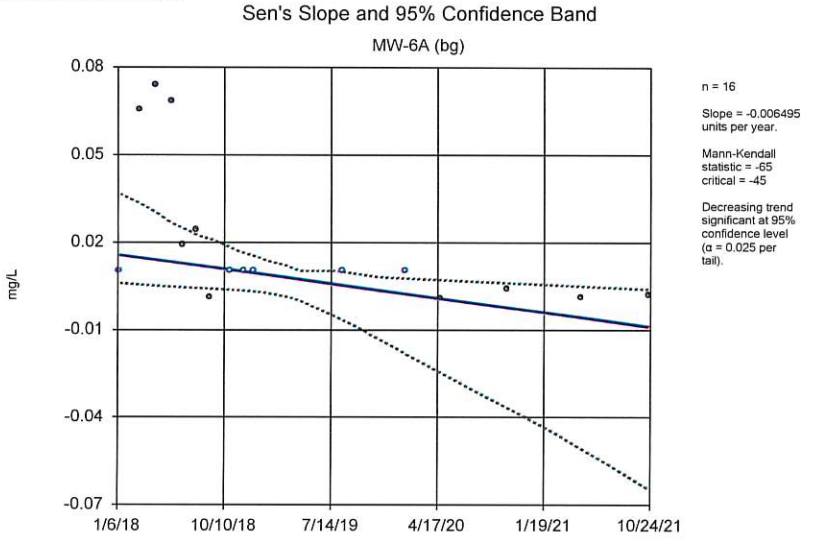
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Cadmium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

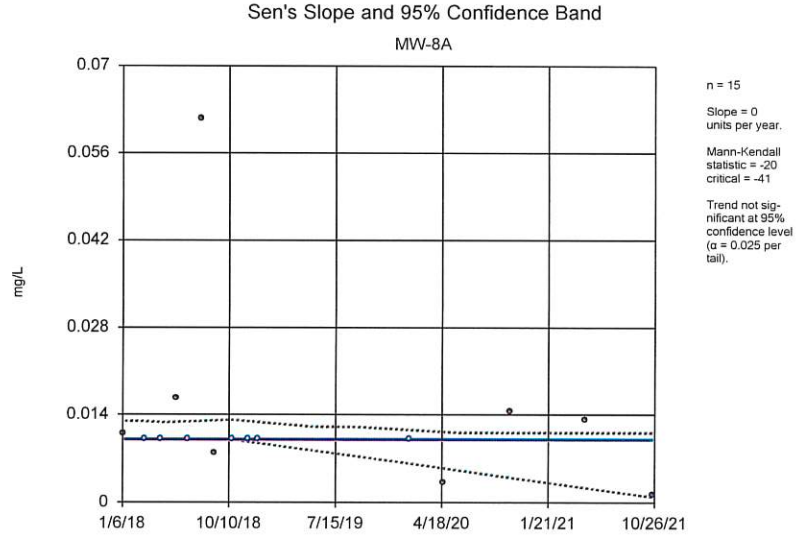
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Chromium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Chromium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Cadmium, Chromium Analysis Run 1/19/2022 9:24 AM

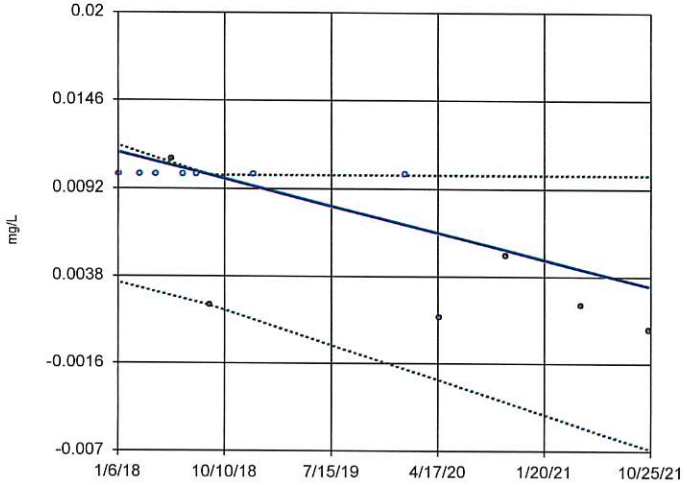
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	0.0111
3/3/2018			0.0657	<0.01
4/14/2018			0.0741	<0.01
5/26/2018			0.0685	0.0167
6/23/2018			0.0193	<0.01
7/29/2018			0.0244	0.0615
9/2/2018			0.00131	0.00783
10/19/2018	<0.001	<0.001		<0.01
10/24/2018			<0.01	
11/27/2018		<0.001	<0.01	<0.01
12/24/2018		<0.001	<0.01	<0.01
1/22/2019		<0.001		
4/22/2019		<0.001		
6/18/2019	<0.001	<0.001		
8/13/2019		<0.001	<0.01	
10/29/2019	<0.001	<0.001		
11/29/2019	<0.001	<0.001		
12/18/2019	<0.001	<0.001		
1/22/2020	<0.001	<0.001	<0.01	<0.01
4/23/2020	<0.0002	<0.0002	0.000977 (J)	0.00323 (J)
7/22/2020	<0.0002			
10/13/2020		<0.0002		
10/14/2020	<0.0002		0.00411	0.0146
4/27/2021	<0.0002	<0.0002	0.00133 (J)	0.0131
10/18/2021	<0.0002	0.000234 (J)	0.00211 (J)	
10/20/2021				0.00118 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.00218 units per year.

Mann-Kendall statistic = -39 critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

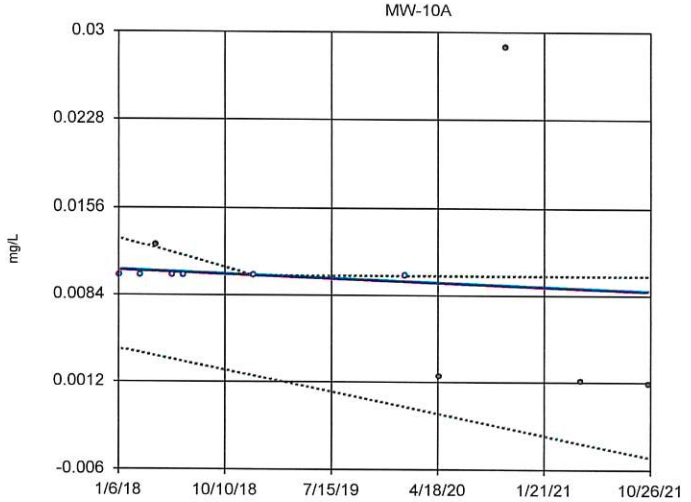
Constituent: Chromium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.0004451 units per year.

Mann-Kendall statistic = -20 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

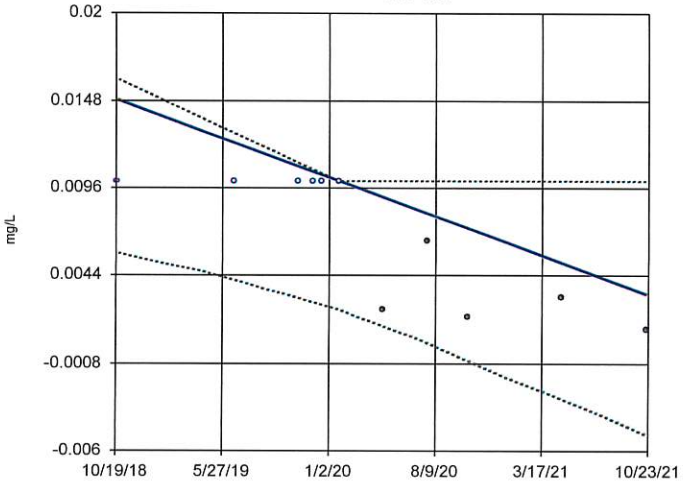
Constituent: Chromium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.003881 units per year.

Mann-Kendall statistic = -34 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

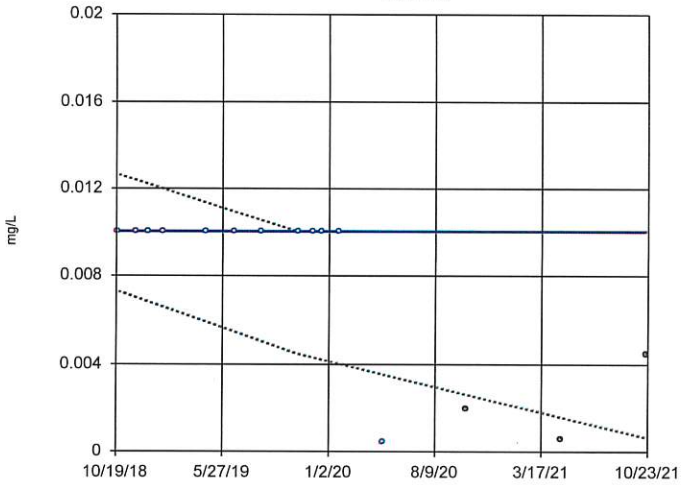
Constituent: Chromium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = -40 critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Chromium Analysis Run 1/19/2022 9:24 AM

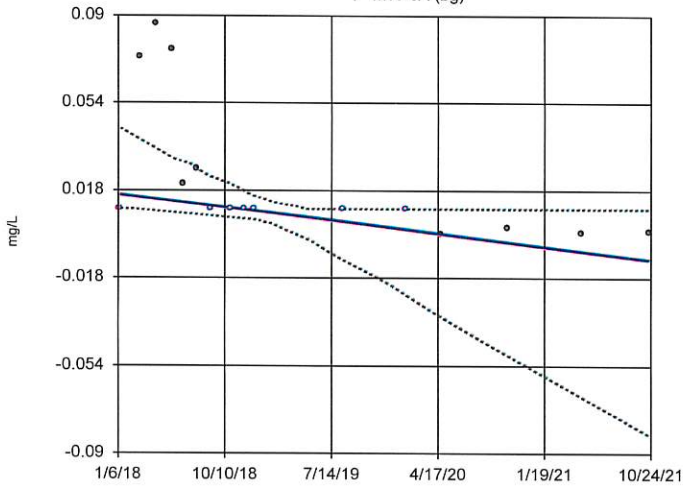
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01		
3/3/2018	<0.01	<0.01		
4/14/2018	<0.01	0.0125		
5/26/2018	0.011	<0.01		
6/23/2018	<0.01	<0.01		
7/29/2018	<0.01			
9/2/2018	0.00195			
10/19/2018			<0.01	<0.01
11/27/2018				<0.01
12/24/2018	<0.01	<0.01		<0.01
1/22/2019				<0.01
4/22/2019				<0.01
6/18/2019			<0.01	<0.01
8/13/2019				<0.01
10/29/2019			<0.01	<0.01
11/29/2019			<0.01	<0.01
12/18/2019			<0.01	<0.01
1/22/2020	<0.01	<0.01	<0.01	<0.01
4/23/2020	0.00126 (J)	0.00169 (J)	0.00236 (J)	<0.0004
7/22/2020			0.00644	
10/13/2020				0.00198 (J)
10/14/2020	0.00507	0.0287	0.0019 (J)	
4/27/2021	0.00196 (J)	0.00124 (J)	0.00306 (J)	0.00059 (J)
10/18/2021			0.00121 (J)	0.00447
10/19/2021	0.000462 (J)			
10/20/2021		0.00104 (J)		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.007026 units per year.

Mann-Kendall statistic = -75 critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

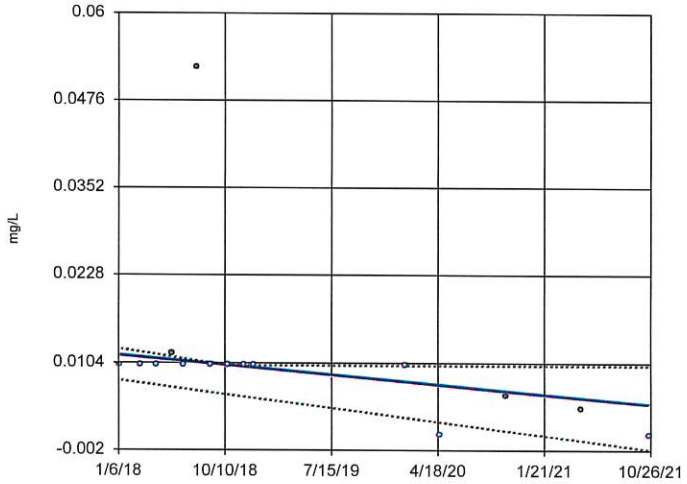
Constituent: Cobalt Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.001811 units per year.

Mann-Kendall statistic = -48 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

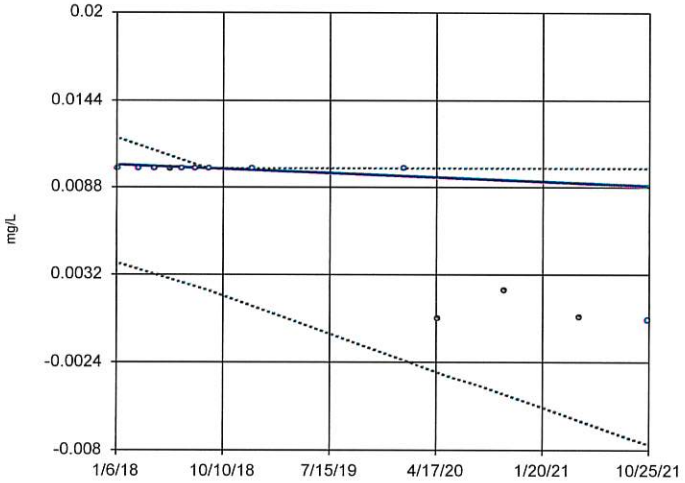
Constituent: Cobalt Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.0003749 units per year.

Mann-Kendall statistic = -38 critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

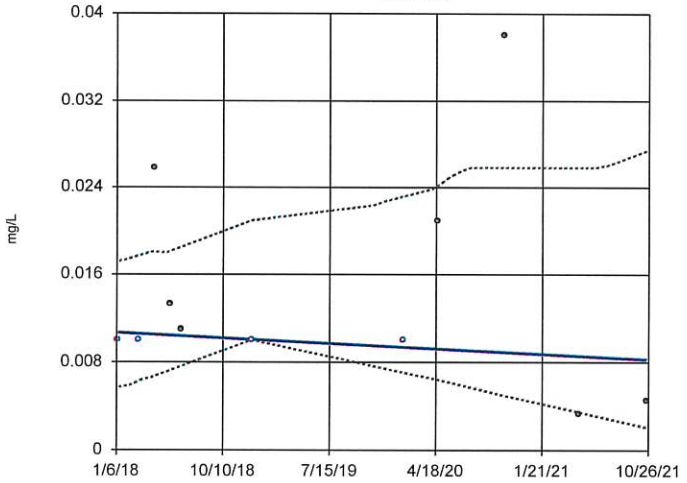
Constituent: Cobalt Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.0006315 units per year.

Mann-Kendall statistic = -7 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

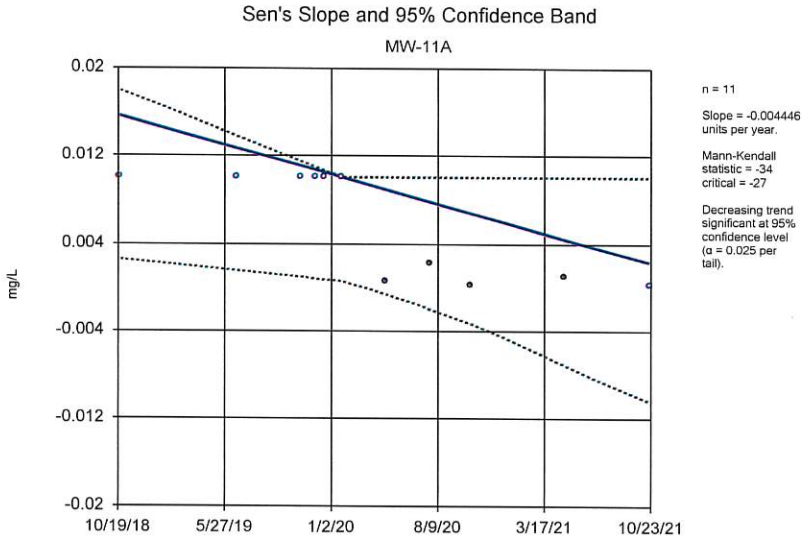
Sen's Slope Estimator

Constituent: Cobalt Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

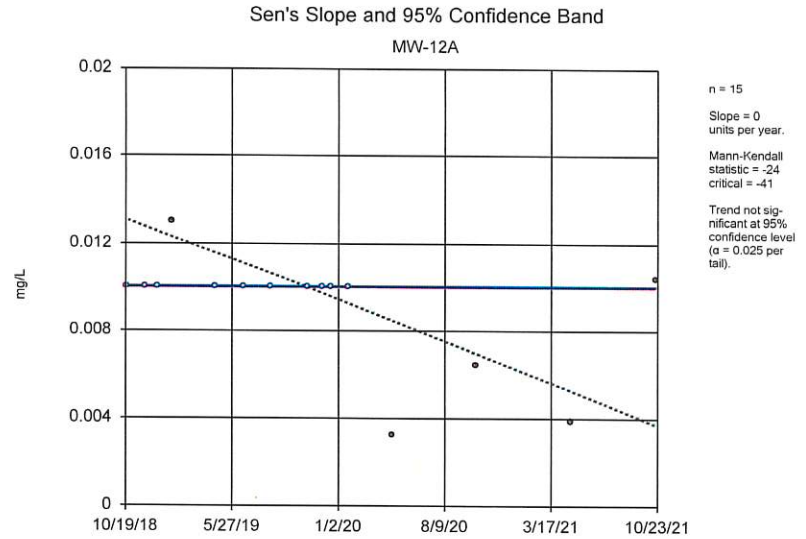
	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	0.073	<0.01	<0.01	<0.01
4/14/2018	0.0867	<0.01	<0.01	0.0258
5/26/2018	0.0764	0.0117	0.01	0.0133
6/23/2018	0.0205	<0.01	<0.01	0.011
7/29/2018	0.0264	0.0524	<0.01	
9/2/2018	<0.01	<0.01	<0.01	
10/19/2018		<0.01		
10/24/2018	<0.01			
11/27/2018	<0.01	<0.01		
12/24/2018	<0.01	<0.01	<0.01	<0.01
8/13/2019	<0.01			
1/22/2020	<0.01	<0.01	<0.01	<0.01
4/23/2020	0.000235 (J)	<0.0002	0.000419 (J)	0.0209
10/14/2020	0.0025 (J)	0.00589	0.00217 (J)	0.0381
4/27/2021	0.000278 (J)	0.00401 (J)	0.000489 (J)	0.00325 (J)
10/18/2021	0.00123 (J)			
10/19/2021			<0.0002	
10/20/2021		<0.0002		0.00449 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



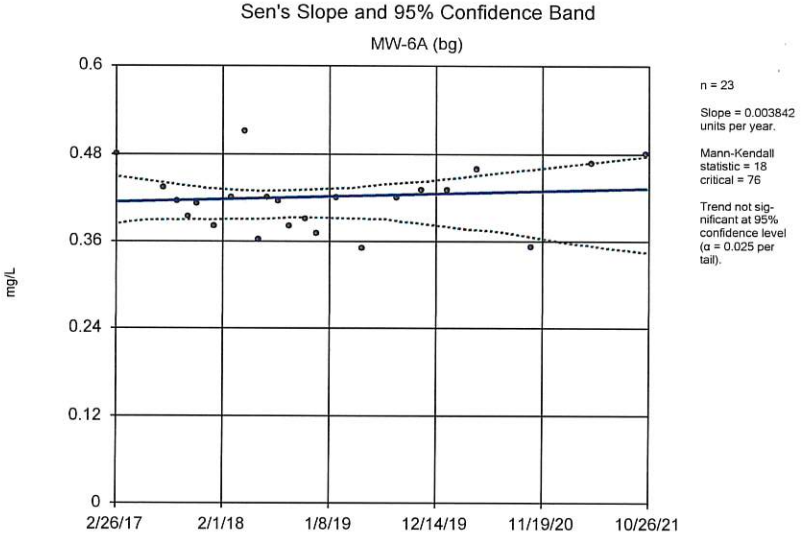
Constituent: Cobalt Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



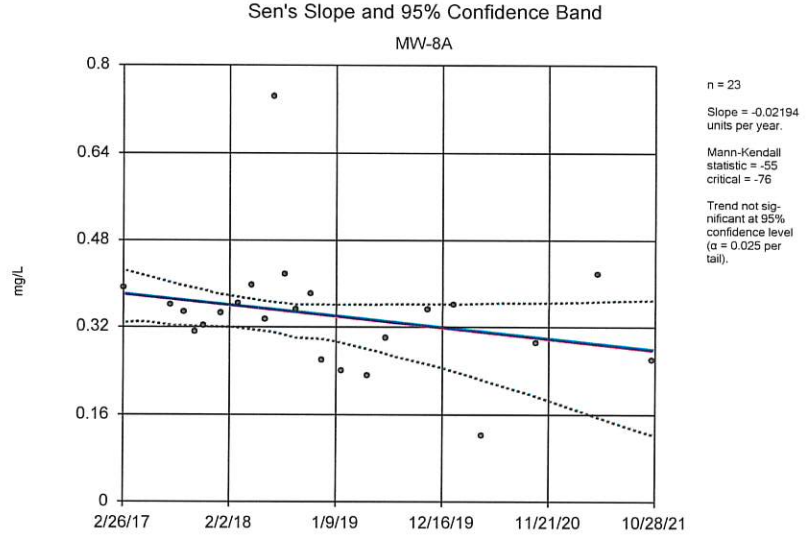
Constituent: Cobalt Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Fluoride Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Fluoride Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

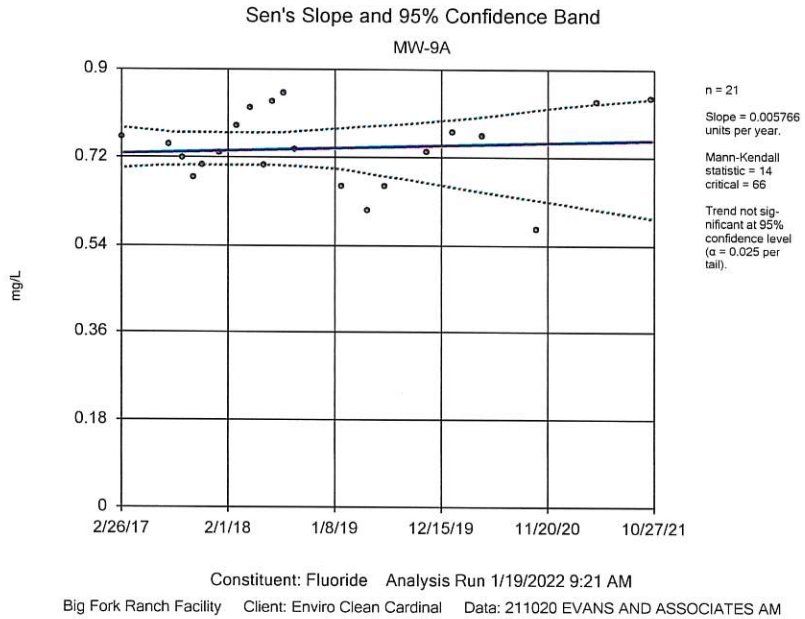
Sen's Slope Estimator

Constituent: Cobalt, Fluoride Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
2/26/2017			0.48	0.39
7/29/2017			0.433	0.359
9/10/2017			0.415	0.346
10/14/2017			0.394	0.31
11/11/2017			0.412	0.322
1/6/2018			0.38	0.344
3/3/2018			0.42	0.363
4/14/2018			0.51	0.396
5/26/2018			0.362	0.333
6/23/2018			0.42	0.743
7/29/2018			0.416	0.415
9/2/2018			0.38	0.352
10/19/2018	<0.01	<0.01		0.38
10/24/2018			0.39	
11/27/2018		<0.01	0.37	0.26
12/24/2018		<0.01		
1/22/2019		0.013		
1/29/2019			0.42	0.24
4/22/2019		<0.01	0.35	0.23
6/18/2019	<0.01	<0.01		0.3
8/13/2019		<0.01	0.42	
10/29/2019	<0.01	<0.01	0.43	0.35
11/29/2019	<0.01	<0.01		
12/18/2019	<0.01	<0.01		
1/22/2020	<0.01	<0.01	0.43	0.36
4/23/2020	0.000556 (J)	0.00326 (J)	0.458	0.122
7/22/2020	0.00218 (J)			
10/13/2020		0.00644		
10/14/2020	0.000225 (J)		0.352	0.29
4/27/2021	0.00097 (J)	0.00387 (J)	0.467	0.415
10/18/2021	<0.0002	0.0104	0.48	
10/20/2021				0.26

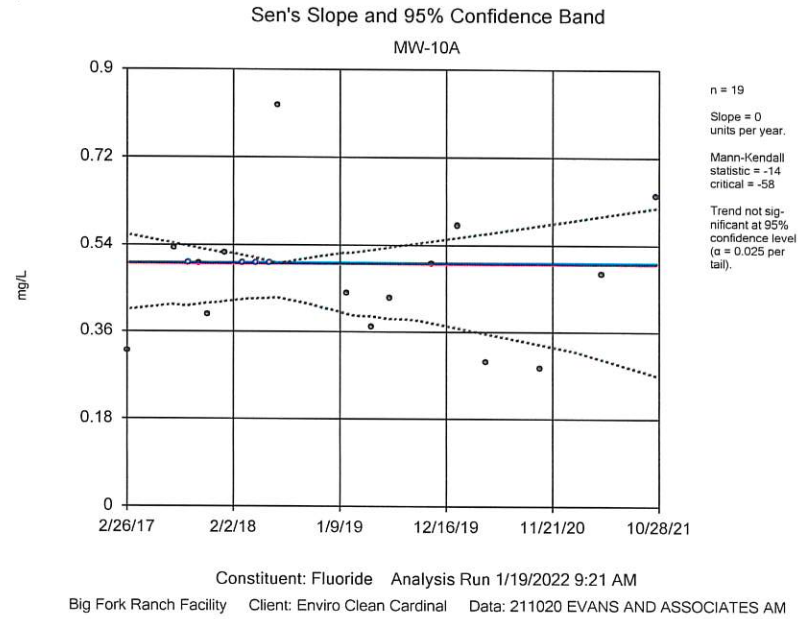
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Fluoride Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

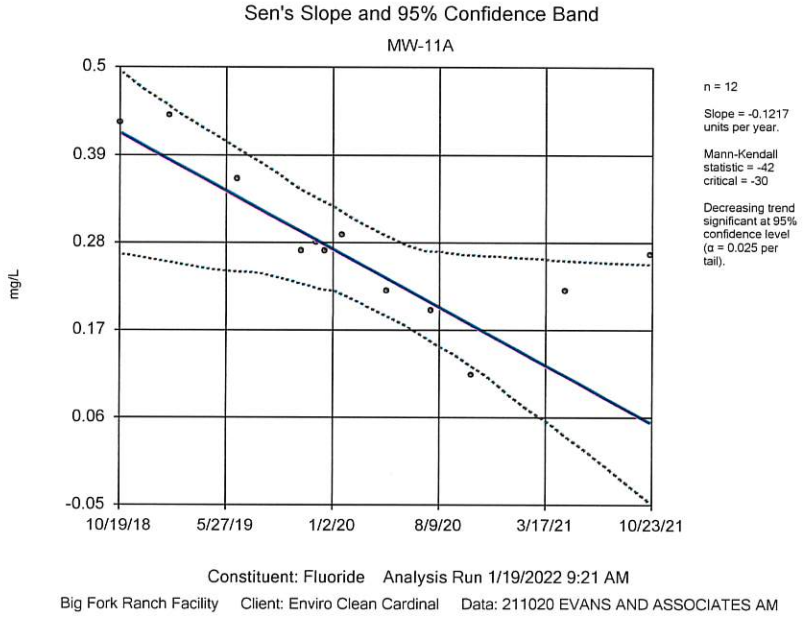
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Fluoride Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

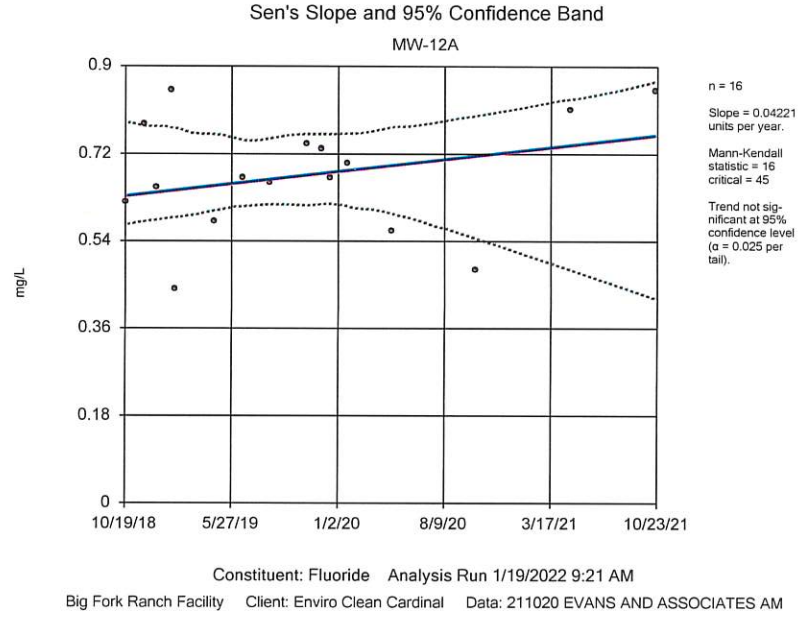
Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Fluoride Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG



Constituent: Fluoride Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Fluoride Analysis Run 1/19/2022 9:24 AM

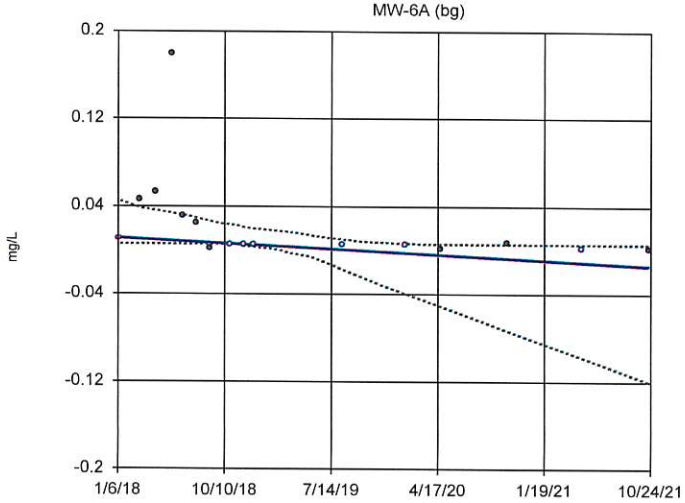
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
2/26/2017	0.76	0.32		
7/29/2017	0.747	0.533		
9/10/2017	0.717	<1		
10/14/2017	0.679	0.5		
11/11/2017	0.703	0.394		
1/6/2018	0.729	0.522		
3/3/2018	0.784	<1		
4/14/2018	0.822	<1		
5/26/2018	0.702	<1		
6/23/2018	0.834	0.826		
7/29/2018	0.85			
9/2/2018	0.735			
10/19/2018			0.43	0.62
11/27/2018				0.78
12/24/2018				0.65
1/22/2019				0.85
1/29/2019			0.44	0.44
1/30/2019	0.66	0.44		
4/22/2019	0.61	0.37		0.58
6/18/2019	0.66	0.43	0.36	0.67
8/13/2019				0.66
10/29/2019	0.73	0.5	0.27	0.74
11/29/2019			0.28	0.73
12/18/2019			0.27	0.67
1/22/2020	0.77	0.58	0.29	0.7
4/23/2020	0.763	0.296	0.219	0.56
7/22/2020			0.195	
10/13/2020				0.481 (J)
10/14/2020	0.574	0.285 (J)	0.113	
4/27/2021	0.834	0.48	0.219	0.811
10/18/2021			0.265	0.85
10/19/2021	0.842			
10/20/2021		0.64		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.00668 units per year.

Mann-Kendall statistic = -64 critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

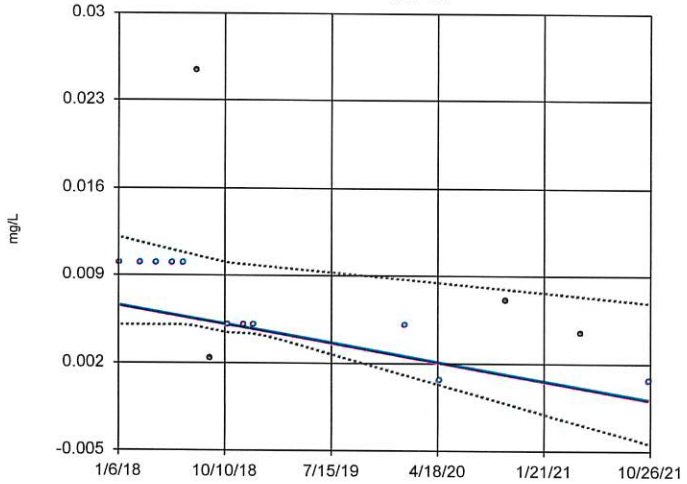
Constituent: Lead Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.001978 units per year.

Mann-Kendall statistic = -54 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

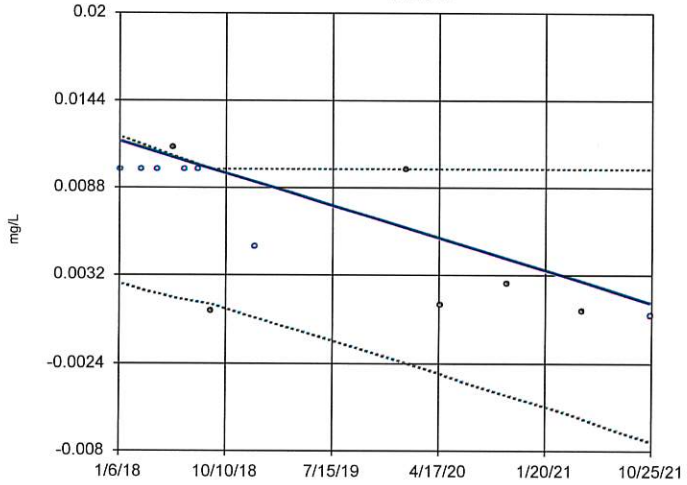
Constituent: Lead Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.002747 units per year.

Mann-Kendall statistic = -45 critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

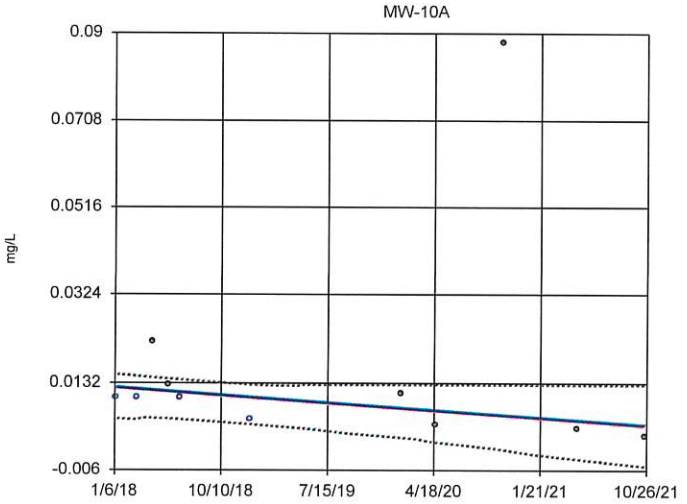
Constituent: Lead Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.002185 units per year.

Mann-Kendall statistic = -20 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lead Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

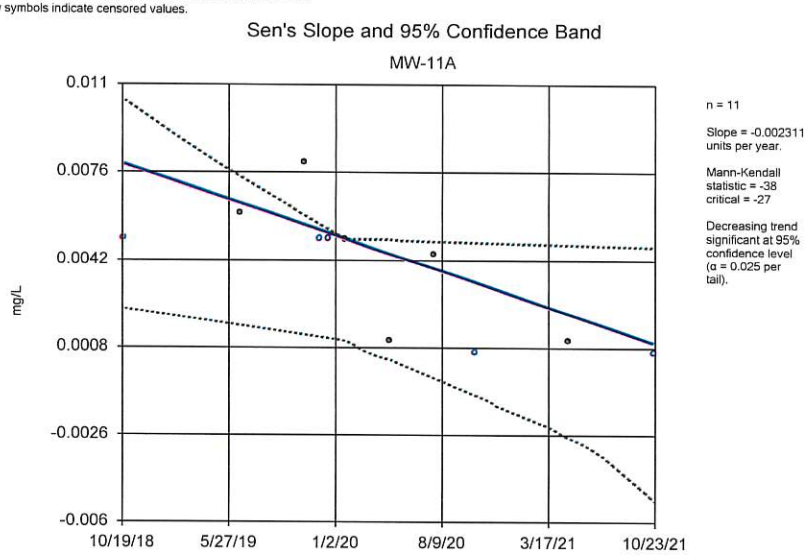
Sen's Slope Estimator

Constituent: Lead Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

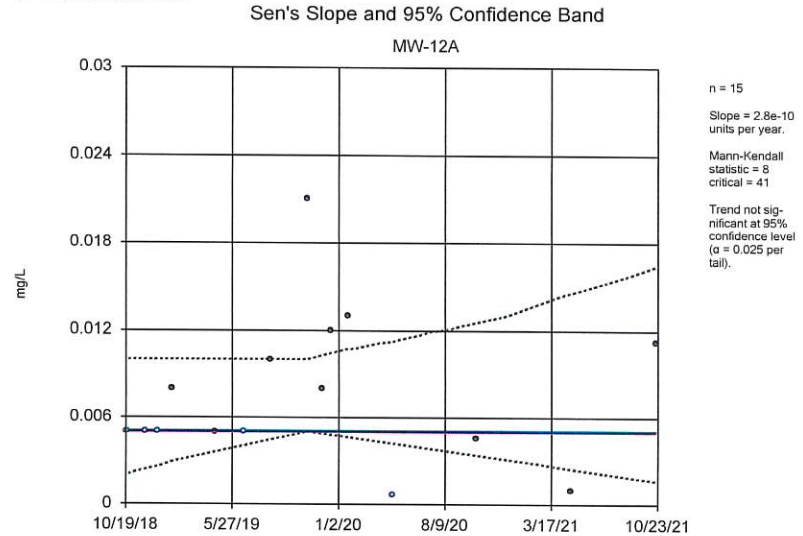
	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.01	<0.01	<0.01	<0.01
3/3/2018	0.0456	<0.01	<0.01	<0.01
4/14/2018	0.0525	<0.01	<0.01	0.0222
5/26/2018	0.179	<0.01	0.0114	0.0128
6/23/2018	0.0317	<0.01	<0.01	<0.01
7/29/2018	0.0242	0.0254	<0.01	
9/2/2018	0.00106	0.00232	0.00095	
10/19/2018		<0.005		
10/24/2018	<0.005			
11/27/2018	<0.005	<0.005		
12/24/2018	<0.005	<0.005	<0.005	<0.005
8/13/2019	<0.005			
1/22/2020	<0.005	<0.005	0.01	0.011
4/23/2020	0.000869 (J)	<0.0006	0.00135 (J)	0.00403
10/14/2020	0.00702	0.00706	0.00263	0.0881
4/27/2021	<0.0006	0.00437	0.000899 (J)	0.00334
10/18/2021	0.00134 (J)			
10/19/2021			<0.0006	
10/20/2021		<0.0006		0.00172 (J)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



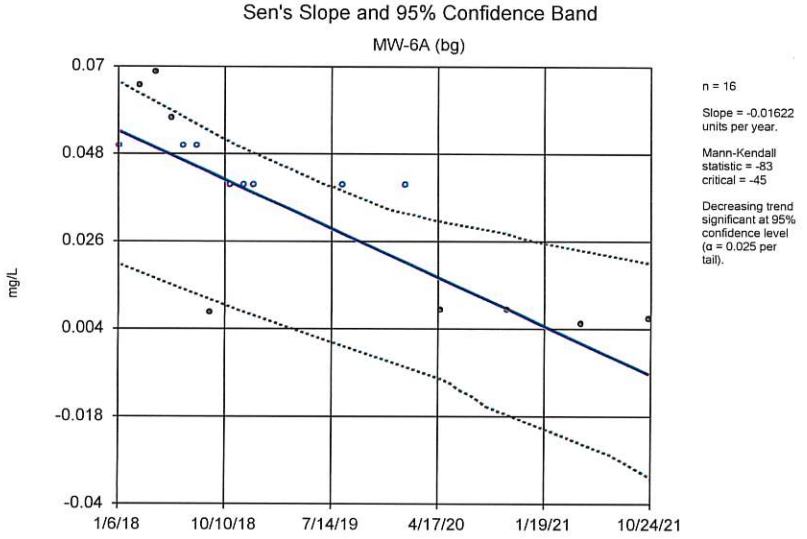
Constituent: Lead Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



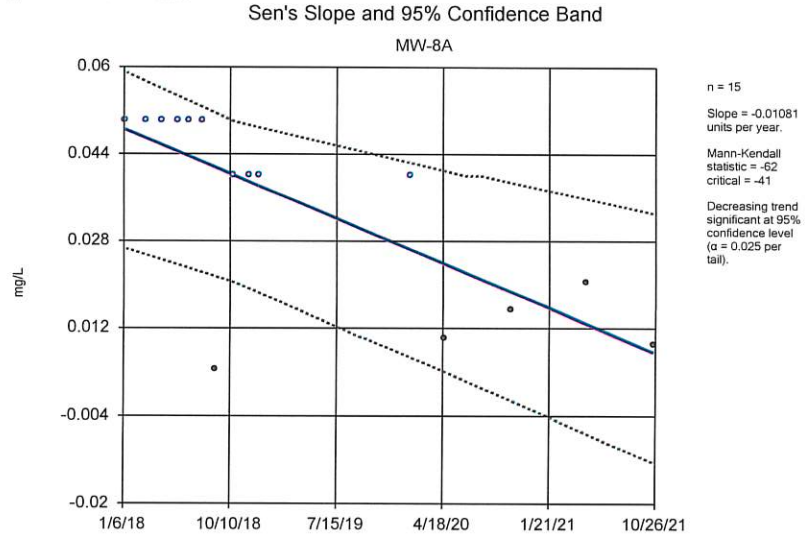
Constituent: Lead Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Lithium Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Lithium Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Lead, Lithium Analysis Run 1/19/2022 9:24 AM

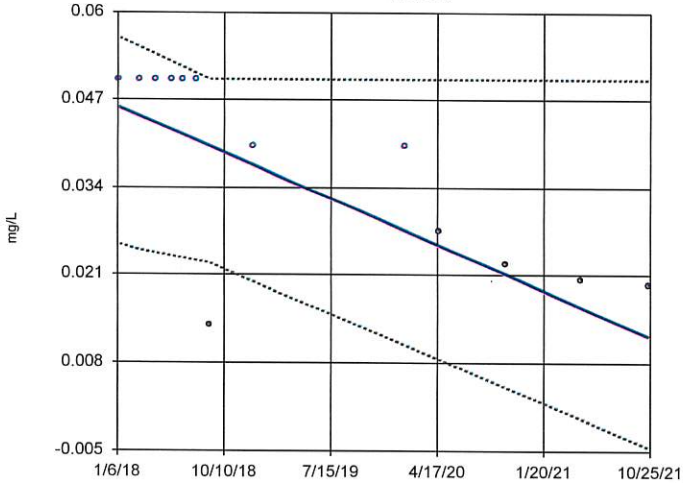
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.05	<0.05
3/3/2018			0.0654	<0.05
4/14/2018			0.0687	<0.05
5/26/2018			0.0569	<0.05
6/23/2018			<0.05	<0.05
7/29/2018			<0.05	<0.05
9/2/2018			0.008	0.0044
10/19/2018	<0.005	<0.005		<0.04
10/24/2018			<0.04	
11/27/2018		<0.005	<0.04	<0.04
12/24/2018		<0.005	<0.04	<0.04
1/22/2019		0.008		
4/22/2019		0.005		
6/18/2019	0.006	<0.005		
8/13/2019		0.01	<0.04	
10/29/2019	0.008	0.021		
11/29/2019	<0.005	0.008		
12/18/2019	<0.005	0.012		
1/22/2020	0.005	0.013	<0.04	<0.04
4/23/2020	0.00107 (J)	<0.0006	0.00865	0.0102
7/22/2020	0.00444			
10/13/2020		0.00458		
10/14/2020	<0.0006		0.00863	0.0153
4/27/2021	0.00106 (J)	0.000997 (J)	0.00518	0.0204 (J)
10/18/2021	<0.0006	0.0112	0.0063	
10/20/2021				0.00903

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.008987 units per year.

Mann-Kendall statistic = -50
critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

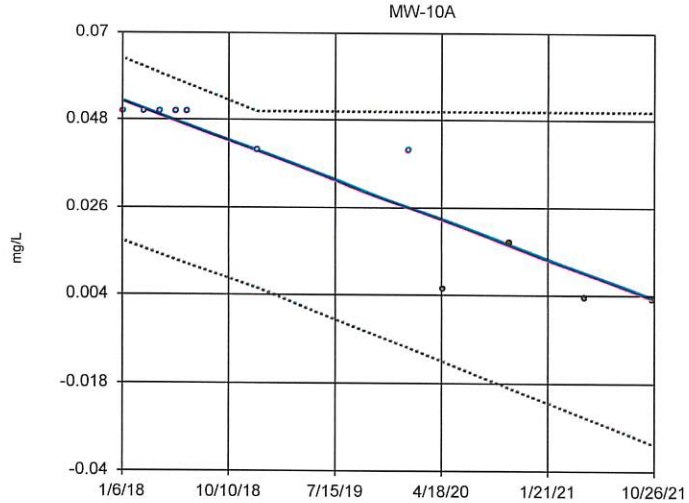
Constituent: Lithium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.01306 units per year.

Mann-Kendall statistic = -42
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

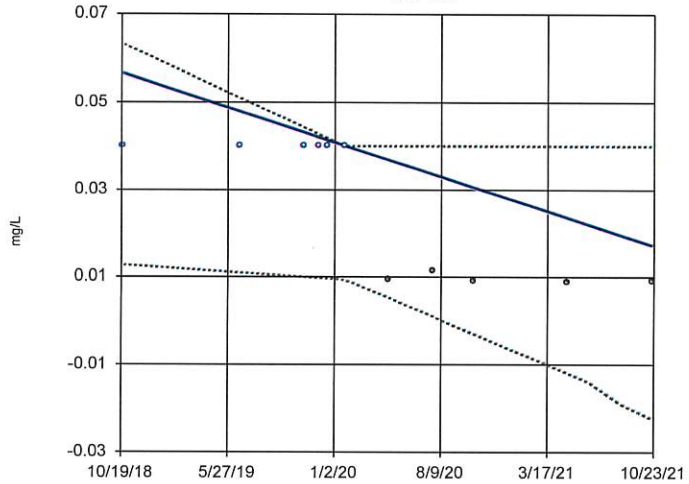
Constituent: Lithium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.01318 units per year.

Mann-Kendall statistic = -34
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

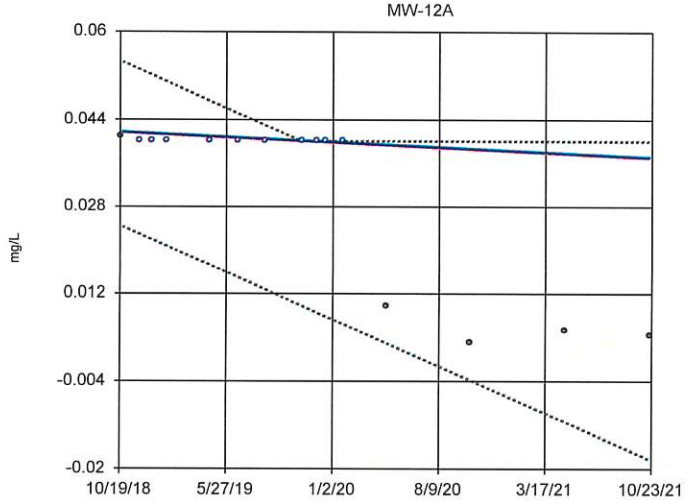
Constituent: Lithium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = -0.001508 units per year.

Mann-Kendall statistic = -56
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Lithium Analysis Run 1/19/2022 9:24 AM

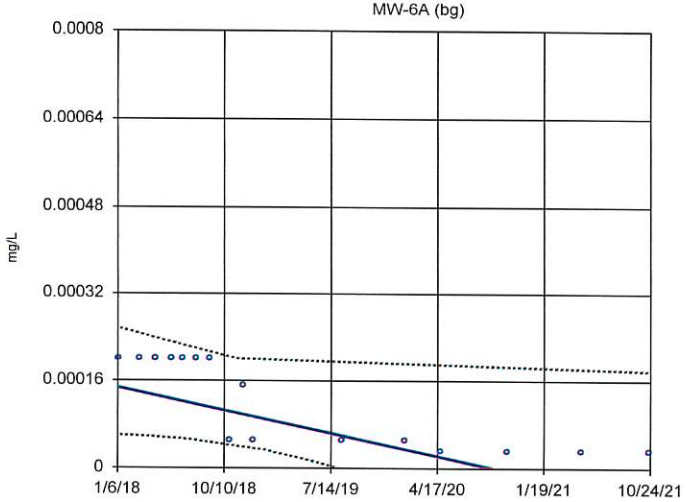
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.05	<0.05		
3/3/2018	<0.05	<0.05		
4/14/2018	<0.05	<0.05		
5/26/2018	<0.05	<0.05		
6/23/2018	<0.05	<0.05		
7/29/2018	<0.05			
9/2/2018	0.0136			
10/19/2018			<0.04	0.041
11/27/2018				<0.04
12/24/2018	<0.04	<0.04		<0.04
1/22/2019				<0.04
4/22/2019				<0.04
6/18/2019			<0.04	<0.04
8/13/2019				<0.04
10/29/2019			<0.04	<0.04
11/29/2019			<0.04	<0.04
12/18/2019			<0.04	<0.04
1/22/2020	<0.04	<0.04	<0.04	<0.04
4/23/2020	0.0275	0.00552	0.0094	0.00975
7/22/2020			0.0114	
10/13/2020				0.00301 (J)
10/14/2020	0.0227	0.017	0.00917	
4/27/2021	0.0202	0.00346 (J)	0.00877	0.00528
10/18/2021			0.0092	0.00444 (J)
10/19/2021	0.0195			
10/20/2021		0.00311 (J)		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.00005514 units per year.

Mann-Kendall statistic = -85
critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

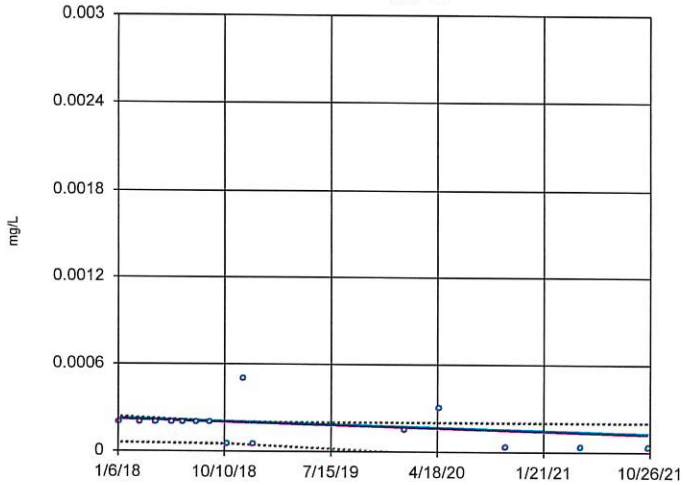
Constituent: Mercury Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.00002645 units per year.

Mann-Kendall statistic = -40
critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

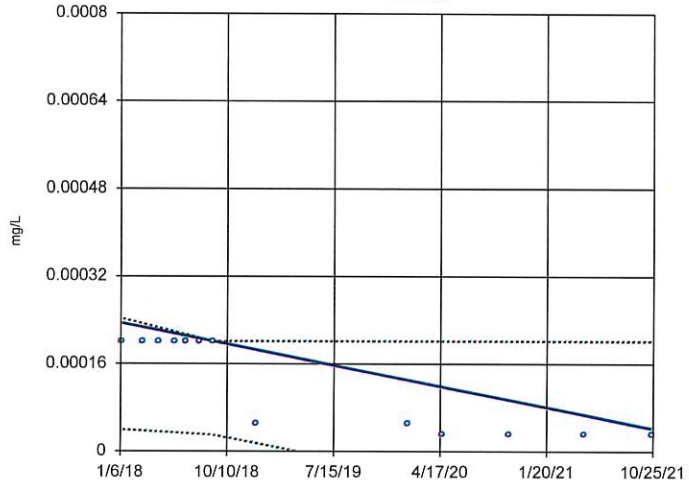
Constituent: Mercury Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.00005054 units per year.

Mann-Kendall statistic = -50
critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

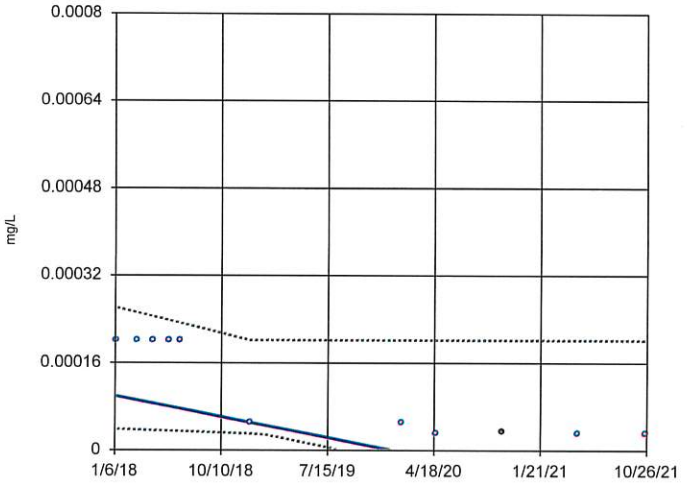
Constituent: Mercury Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.00004992 units per year.

Mann-Kendall statistic = -39
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Mercury Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

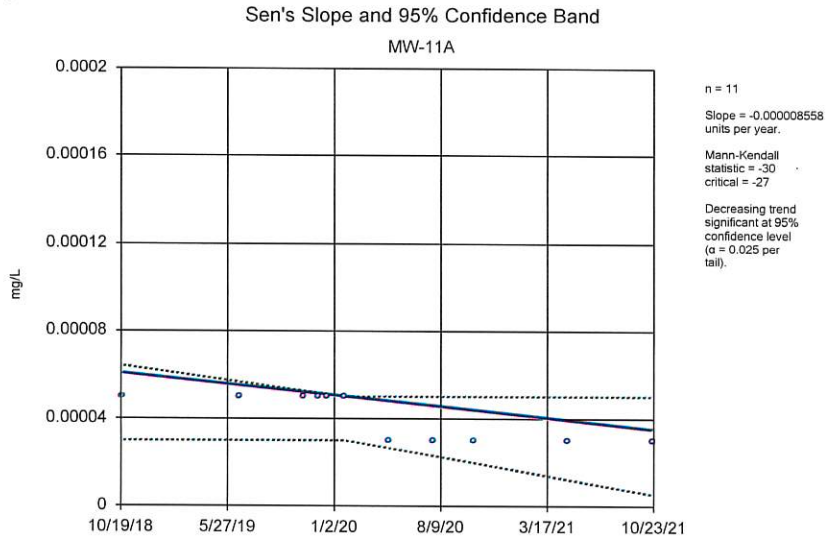
Sen's Slope Estimator

Constituent: Mercury Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

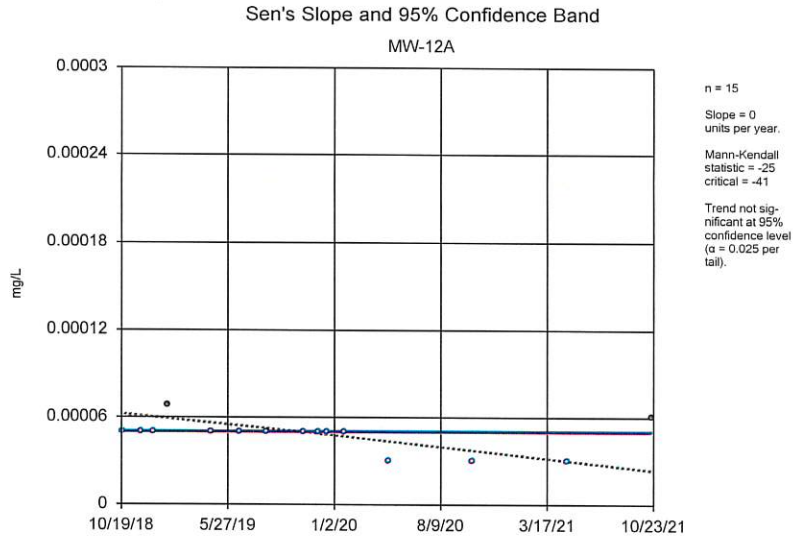
	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.0002	<0.0002	<0.0002	<0.0002
3/3/2018	<0.0002	<0.0002	<0.0002	<0.0002
4/14/2018	<0.0002	<0.0002	<0.0002	<0.0002
5/26/2018	<0.0002	<0.0002	<0.0002	<0.0002
6/23/2018	<0.0002	<0.0002	<0.0002	<0.0002
7/29/2018	<0.0002	<0.0002	<0.0002	
9/2/2018	<0.0002	<0.0002	<0.0002	
10/19/2018		<5E-05		
10/24/2018	<5E-05			
11/27/2018	<0.00015	<0.0005		
12/24/2018	<5E-05	<5E-05	<5E-05	<5E-05
8/13/2019	<5E-05			
1/22/2020	<5E-05	<0.00015	<5E-05	<5E-05
4/23/2020	<3E-05	<0.0003	<3E-05	<3E-05
10/14/2020	<3E-05	<3E-05	<3E-05	3.4E-05 (J)
4/27/2021	<3E-05	<3E-05	<3E-05	<3E-05
10/18/2021	<3E-05			
10/19/2021			<3E-05	
10/20/2021		<3E-05		<3E-05

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



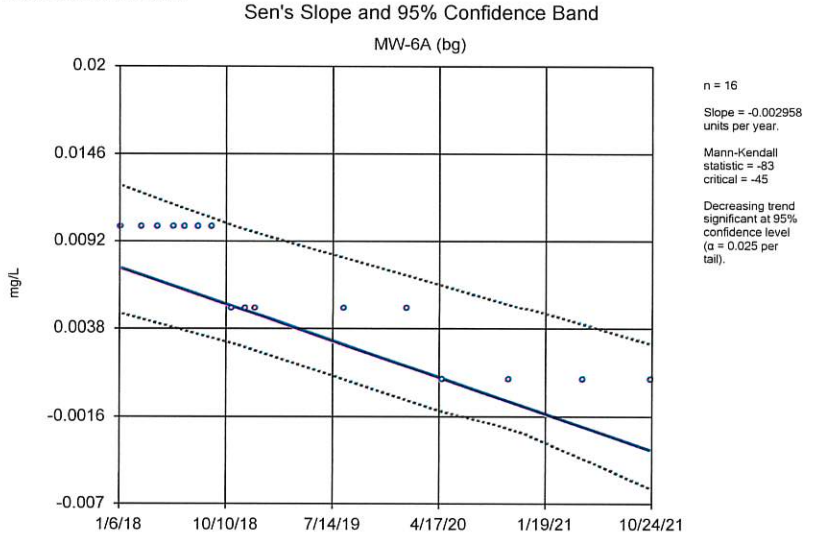
Constituent: Mercury Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



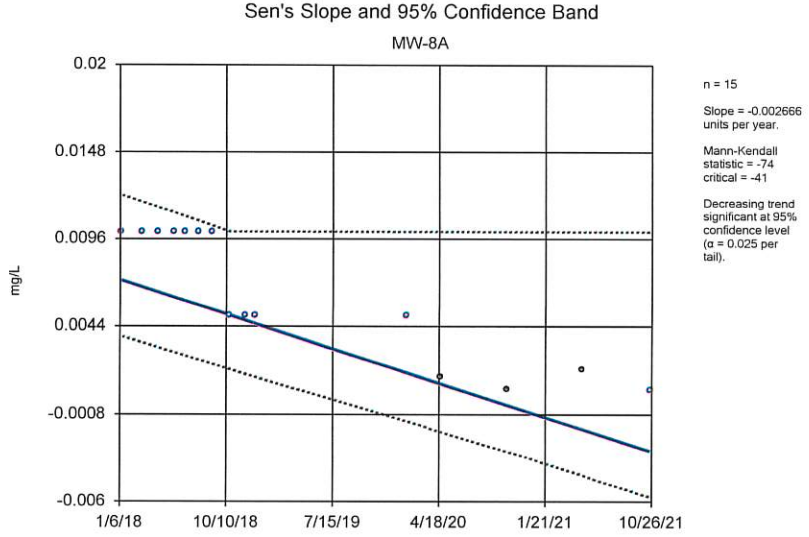
Constituent: Mercury Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Molybdenum Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.



Constituent: Molybdenum Analysis Run 1/19/2022 9:21 AM
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Mercury, Molybdenum Analysis Run 1/19/2022 9:24 AM

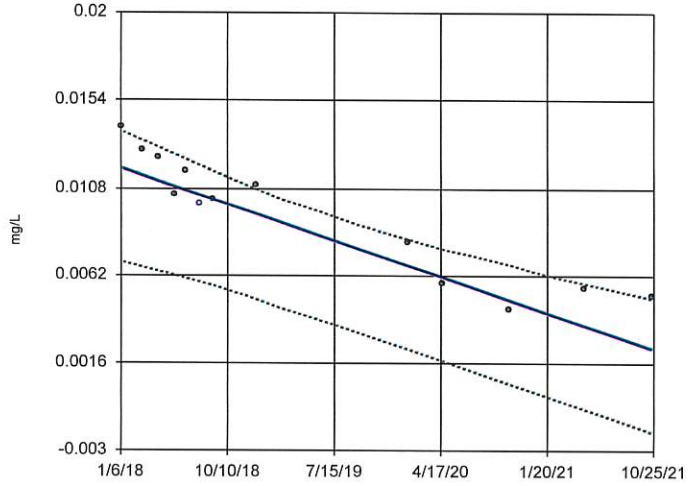
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.01	<0.01
3/3/2018			<0.01	<0.01
4/14/2018			<0.01	<0.01
5/26/2018			<0.01	<0.01
6/23/2018			<0.01	<0.01
7/29/2018			<0.01	<0.01
9/2/2018			<0.01	<0.01
10/19/2018	<5E-05	<5E-05		<0.005
10/24/2018			<0.005	
11/27/2018		<5E-05	<0.005	<0.005
12/24/2018		<5E-05	<0.005	<0.005
1/22/2019		6.8E-05		
4/22/2019		<5E-05		
6/18/2019	<5E-05	<5E-05		
8/13/2019		<5E-05	<0.005	
10/29/2019	<5E-05	<5E-05		
11/29/2019	<5E-05	<5E-05		
12/18/2019	<5E-05	<5E-05		
1/22/2020	<5E-05	<5E-05	<0.005	<0.005
4/23/2020	<3E-05	<3E-05	<0.0006	0.00145 (J)
7/22/2020	<3E-05			
10/13/2020		<3E-05		
10/14/2020	<3E-05		<0.0006	0.000698 (J)
4/27/2021	<3E-05	<3E-05	<0.0006	0.00185 (J)
10/18/2021	<3E-05	6.1E-05 (JH)	<0.0006	
10/20/2021				<0.0006

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.002507 units per year.

Mann-Kendall statistic = -64
critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

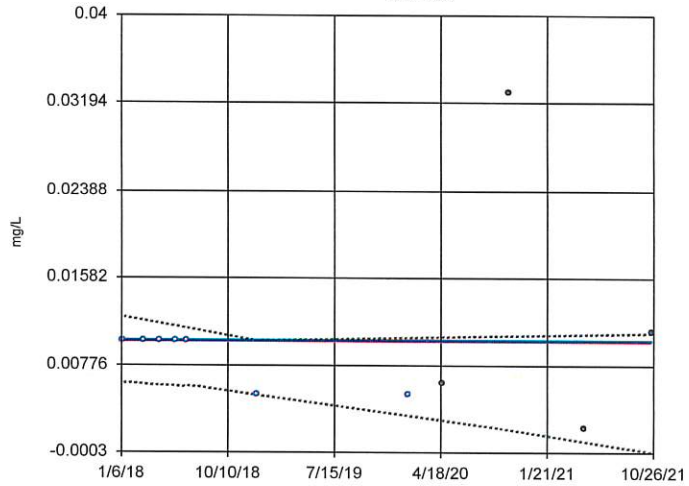
Constituent: Molybdenum Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -6
critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

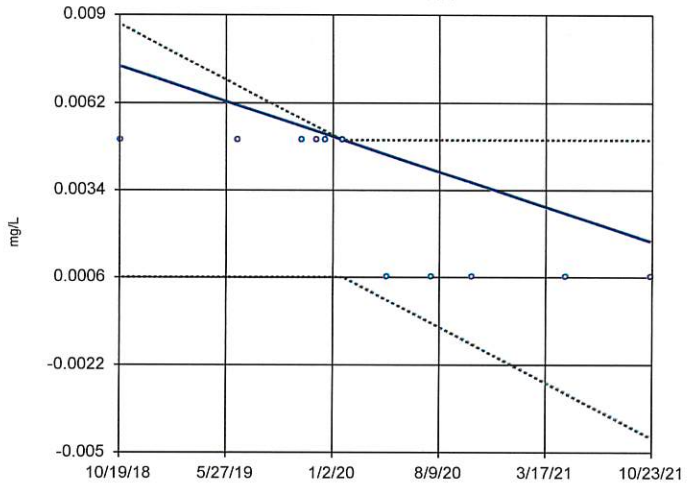
Constituent: Molybdenum Analysis Run 1/19/2022 9:21 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.001883 units per year.

Mann-Kendall statistic = -30
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

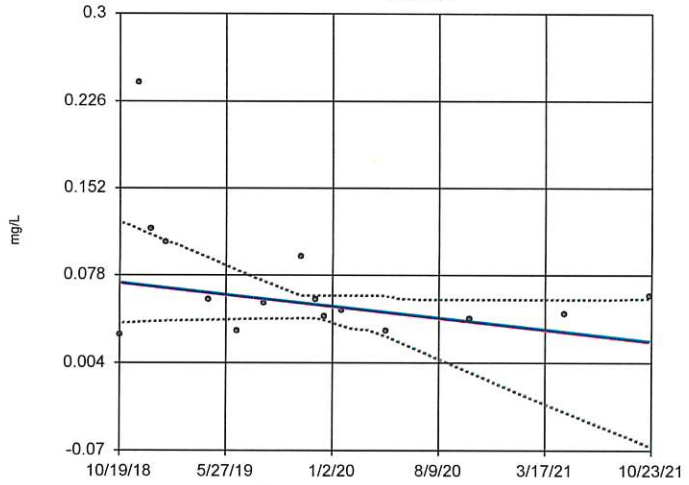
Constituent: Molybdenum Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = -0.01661 units per year.

Mann-Kendall statistic = -26
critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Molybdenum Analysis Run 1/19/2022 9:24 AM

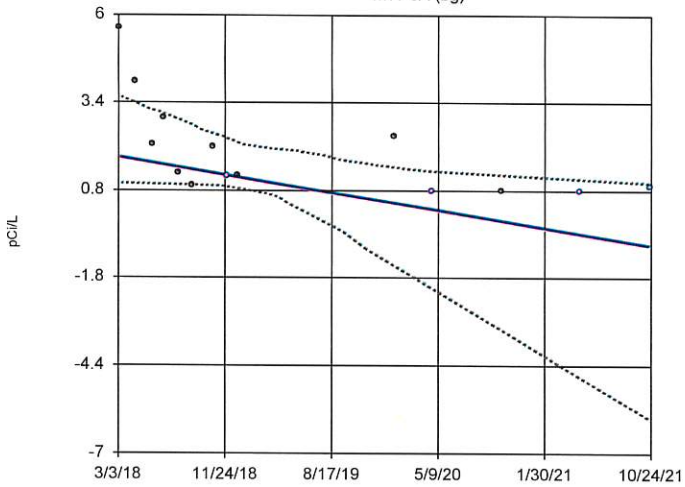
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	0.014	<0.01		
3/3/2018	0.0128	<0.01		
4/14/2018	0.0124	<0.01		
5/26/2018	0.0105	<0.01		
6/23/2018	0.0117	<0.01		
7/29/2018	<0.01			
9/2/2018	0.0102			
10/19/2018			<0.005	0.027
11/27/2018				0.242
12/24/2018	0.011	<0.005		0.117
1/22/2019				0.106
4/22/2019				0.057
6/18/2019			<0.005	0.03
8/13/2019				0.054
10/29/2019			<0.005	0.093
11/29/2019			<0.005	0.057
12/18/2019			<0.005	0.043
1/22/2020	0.008	<0.005	<0.005	0.048
4/23/2020	0.00579	0.00613	<0.0006	0.0306
7/22/2020			<0.0006	
10/13/2020				0.0411
10/14/2020	0.00448 (J)	0.0329	<0.0006	
4/27/2021	0.00556	0.00204 (J)	<0.0006	0.0445
10/18/2021			<0.0006	0.0605
10/19/2021	0.00516			
10/20/2021		0.0109		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 14

Slope = -0.7222 units per year.

Mann-Kendall statistic = -57 critical = -37

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

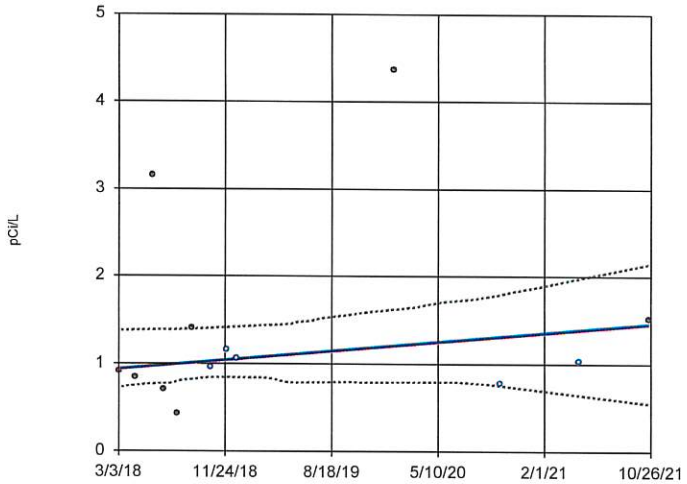
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 13

Slope = 0.1413 units per year.

Mann-Kendall statistic = 16 critical = 34

Trend not significant at 95% confidence level (α = 0.025 per tail).

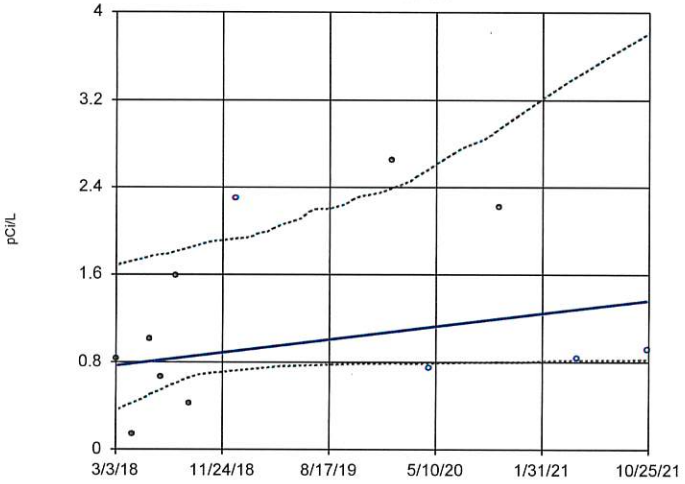
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 12

Slope = 0.1615 units per year.

Mann-Kendall statistic = 16 critical = 30

Trend not significant at 95% confidence level (α = 0.025 per tail).

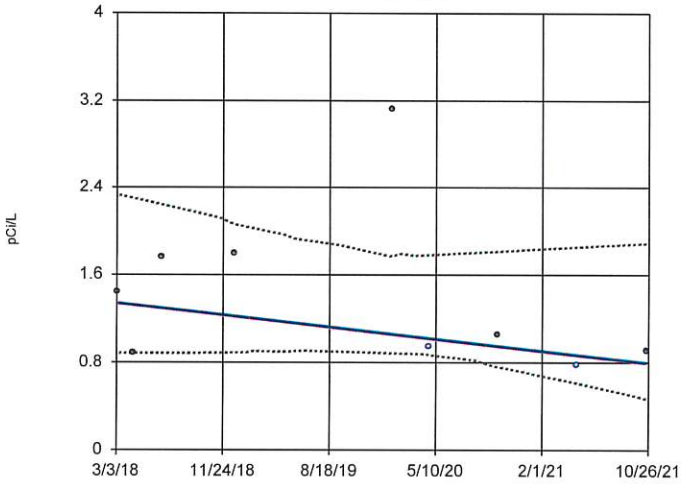
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 9

Slope = -0.1487 units per year.

Mann-Kendall statistic = -8 critical = -20

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:24 AM

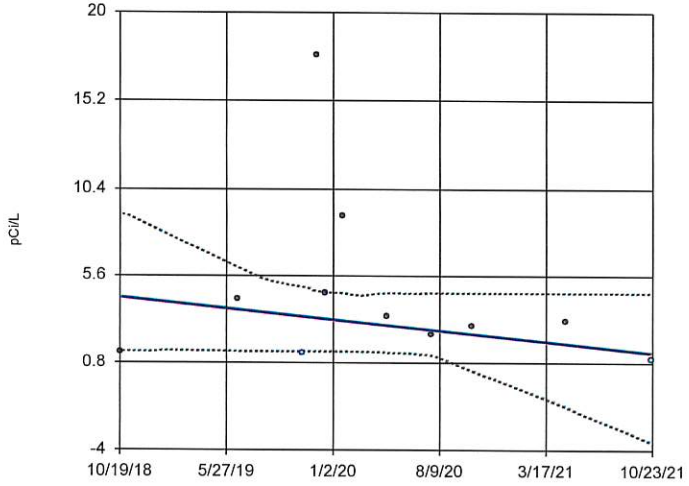
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
3/3/2018	5.62	0.913	0.8328	1.444
4/14/2018	4.04	0.843	0.13573	0.882
5/26/2018	2.151	3.16	1.005	
6/23/2018	2.94	0.7	0.658	1.753
7/29/2018	1.305	0.423	1.586	
9/2/2018	0.939	1.397	0.421	
10/19/2018		<0.954		
10/24/2018	2.067			
11/27/2018	<1.197	<1.145		
12/24/2018	1.222	<1.05	<2.288	1.792
1/22/2020	2.411	4.373	2.65	3.13
4/23/2020	<0.77		<0.74	<0.94
10/14/2020	0.81	<0.77	2.21	1.05
4/27/2021	<0.78	<1.02	<0.83	<0.77
10/18/2021	<0.93			
10/19/2021			<0.91	
10/20/2021		1.51		0.91

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -1.028 units per year.

Mann-Kendall statistic = -11 critical = -27

Trend not significant at 95% confidence level (α = 0.025 per tail).

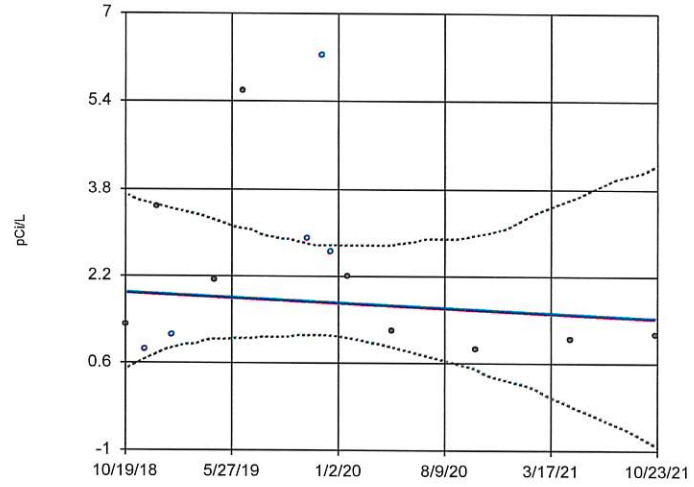
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 14

Slope = -0.1583 units per year.

Mann-Kendall statistic = -13 critical = -37

Trend not significant at 95% confidence level (α = 0.025 per tail).

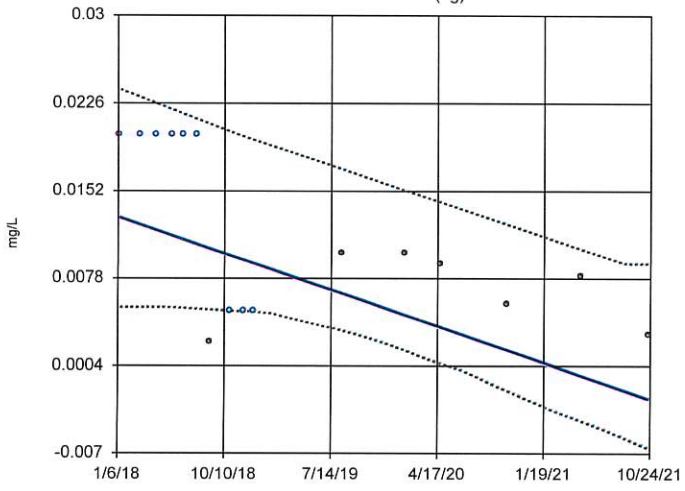
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.004076 units per year.

Mann-Kendall statistic = -51 critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

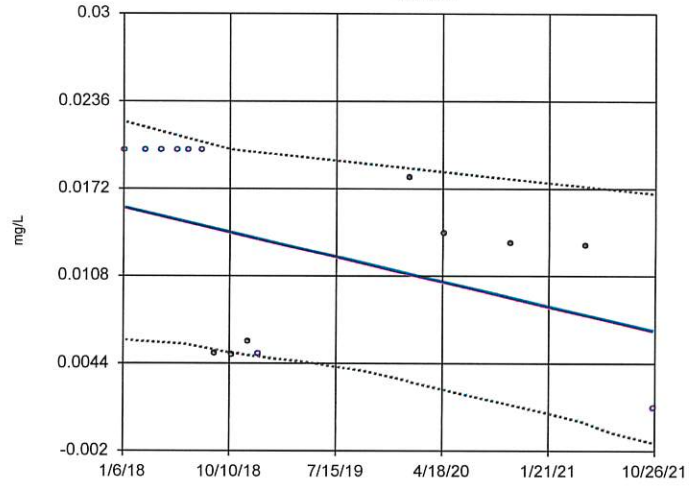
Constituent: Selenium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.002395 units per year.

Mann-Kendall statistic = -53 critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Ra 226 and 228, Selenium Analysis Run 1/19/2022 9:24 AM

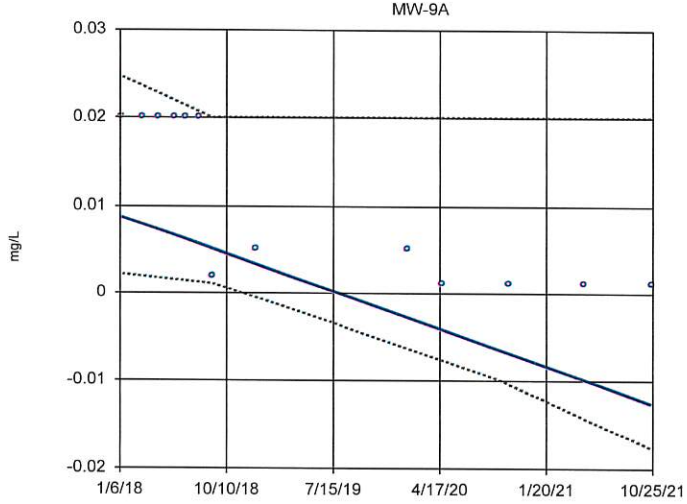
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A	MW-6A (bg)	MW-8A
1/6/2018			<0.02	<0.02
3/3/2018			<0.02	<0.02
4/14/2018			<0.02	<0.02
5/26/2018			<0.02	<0.02
6/23/2018			<0.02	<0.02
7/29/2018			<0.02	<0.02
9/2/2018			0.00244	0.00509
10/19/2018	1.414	1.308		0.005
10/24/2018			<0.005	
11/27/2018		<0.832	<0.005	0.006
12/24/2018		3.46	<0.005	<0.005
1/22/2019		<1.106		
4/22/2019		2.141		
6/18/2019	4.34	5.588		
8/13/2019			0.01	
10/29/2019	<1.311	<2.885		
11/29/2019	17.67	<6.223		
12/18/2019	4.65	<2.648		
1/22/2020	8.85	2.191	0.01	0.018
4/23/2020	3.36	1.2	0.00905	0.0139
7/22/2020	2.41			
10/13/2020		0.86		
10/14/2020	2.87		0.00564	0.0132
4/27/2021	3.12	1.04	0.00796	0.013
10/18/2021	<0.95	1.12	0.00305	
10/20/2021				<0.0011

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.005618 units per year.

Mann-Kendall statistic = -52 critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

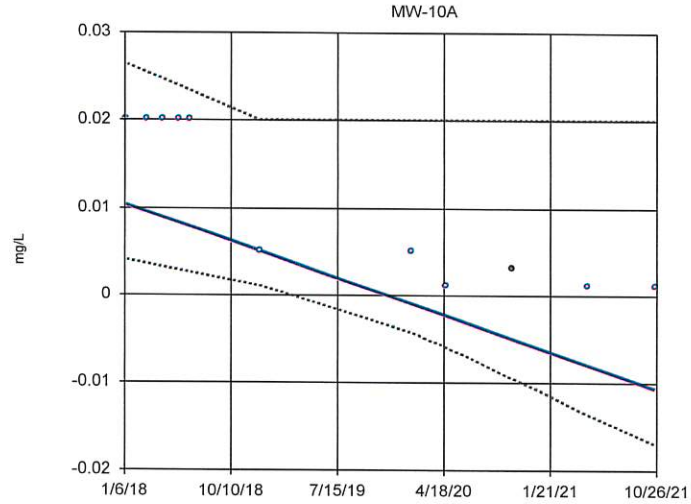
Constituent: Selenium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.00555 units per year.

Mann-Kendall statistic = -39 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

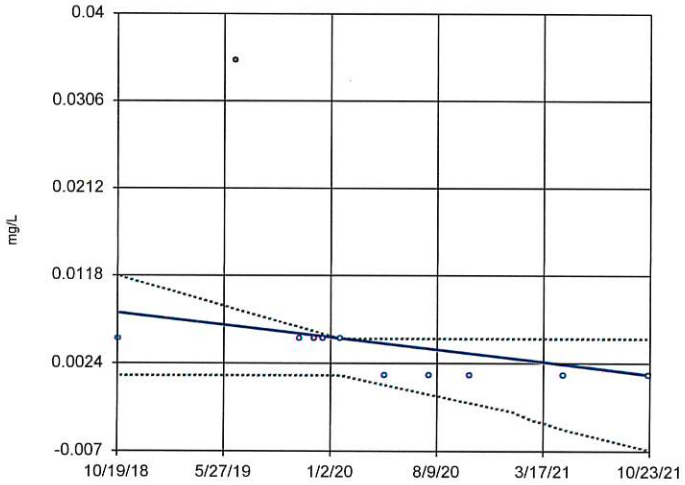
Constituent: Selenium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.002217 units per year.

Mann-Kendall statistic = -33 critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

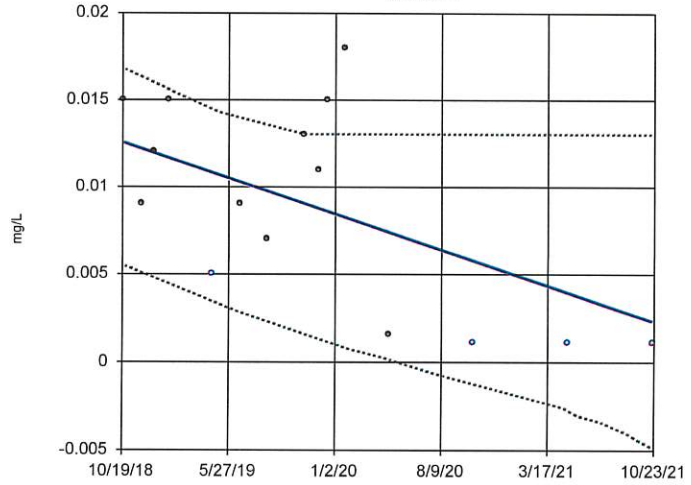
Constituent: Selenium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = -0.003401 units per year.

Mann-Kendall statistic = -36 critical = -41

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Selenium Analysis Run 1/19/2022 9:24 AM

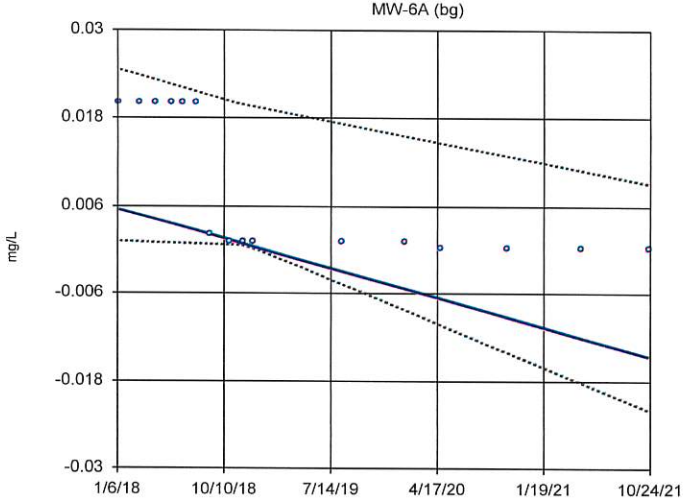
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.02	<0.02		
3/3/2018	<0.02	<0.02		
4/14/2018	<0.02	<0.02		
5/26/2018	<0.02	<0.02		
6/23/2018	<0.02	<0.02		
7/29/2018	<0.02			
9/2/2018	<0.002			
10/19/2018			<0.005	0.015
11/27/2018				0.009
12/24/2018	<0.005	<0.005		0.012
1/22/2019				0.015
4/22/2019				<0.005
6/18/2019			0.035	0.009
8/13/2019				0.007
10/29/2019			<0.005	0.013
11/29/2019			<0.005	0.011
12/18/2019			<0.005	0.015
1/22/2020	<0.005	<0.005	<0.005	0.018
4/23/2020	<0.0011	<0.0011	<0.0011	0.00158 (J)
7/22/2020			<0.0011	
10/13/2020				<0.0011
10/14/2020	<0.0011	0.00314	<0.0011	
4/27/2021	<0.0011	<0.0011	<0.0011	<0.0011
10/18/2021			<0.0011	<0.0011
10/19/2021	<0.0011			
10/20/2021		<0.0011		

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-6A (bg)



n = 16

Slope = -0.005344 units per year.

Mann-Kendall statistic = -89
critical = -45

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

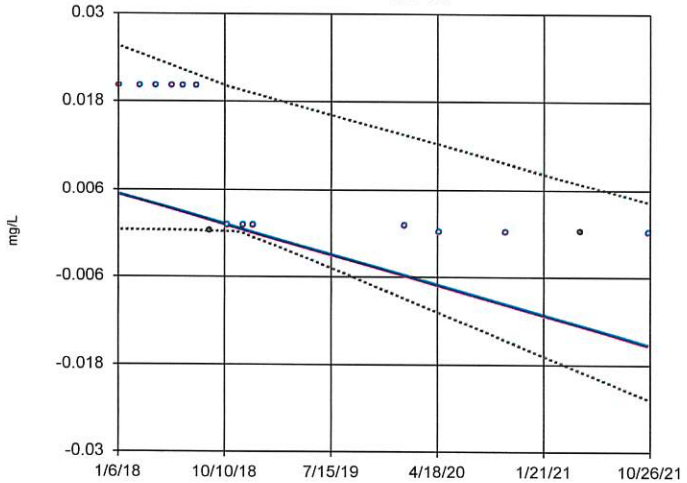
Constituent: Thallium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-8A



n = 15

Slope = -0.005446 units per year.

Mann-Kendall statistic = -69
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

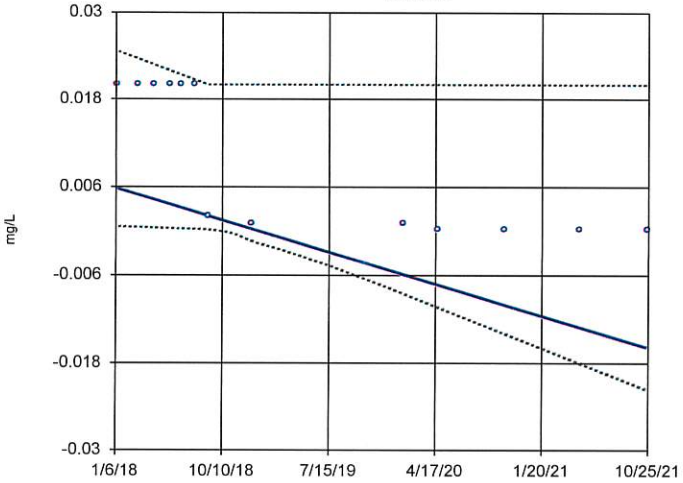
Constituent: Thallium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-9A



n = 13

Slope = -0.005724 units per year.

Mann-Kendall statistic = -56
critical = -34

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

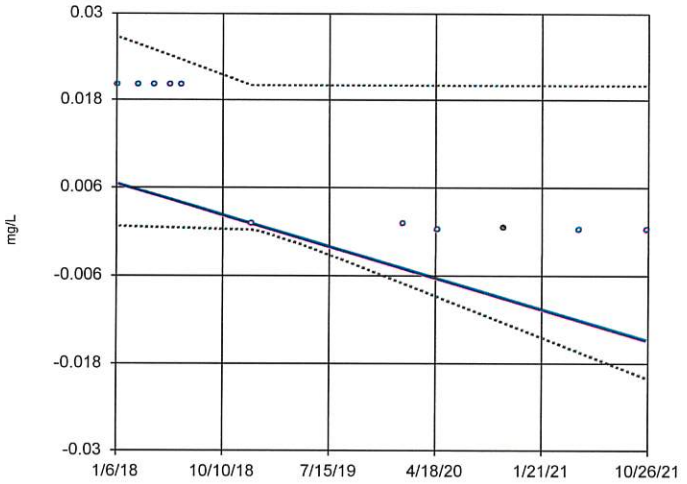
Constituent: Thallium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-10A



n = 11

Slope = -0.005624 units per year.

Mann-Kendall statistic = -39
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Thallium Analysis Run 1/19/2022 9:24 AM

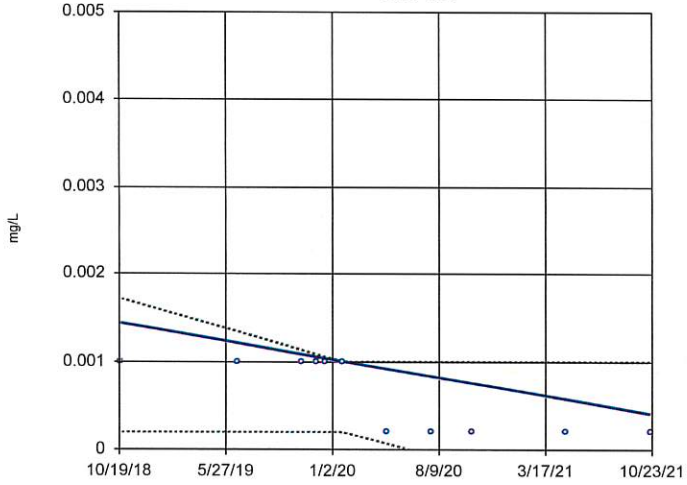
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)	MW-8A	MW-9A	MW-10A
1/6/2018	<0.02	<0.02	<0.02	<0.02
3/3/2018	<0.02	<0.02	<0.02	<0.02
4/14/2018	<0.02	<0.02	<0.02	<0.02
5/26/2018	<0.02	<0.02	<0.02	<0.02
6/23/2018	<0.02	<0.02	<0.02	<0.02
7/29/2018	<0.02	<0.02	<0.02	
9/2/2018	<0.002	0.00036	<0.002	
10/19/2018		<0.001		
10/24/2018	<0.001			
11/27/2018	<0.001	<0.001		
12/24/2018	<0.001	<0.001	<0.001	<0.001
8/13/2019	<0.001			
1/22/2020	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002
10/14/2020	<0.0002	<0.0002	<0.0002	0.000475 (J)
4/27/2021	<0.0002	0.000252 (J)	<0.0002	<0.0002
10/18/2021	<0.0002			
10/19/2021			<0.0002	
10/20/2021		<0.0002		<0.0002

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-11A



n = 11

Slope = -0.0003423 units per year.

Mann-Kendall statistic = -30
critical = -27

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

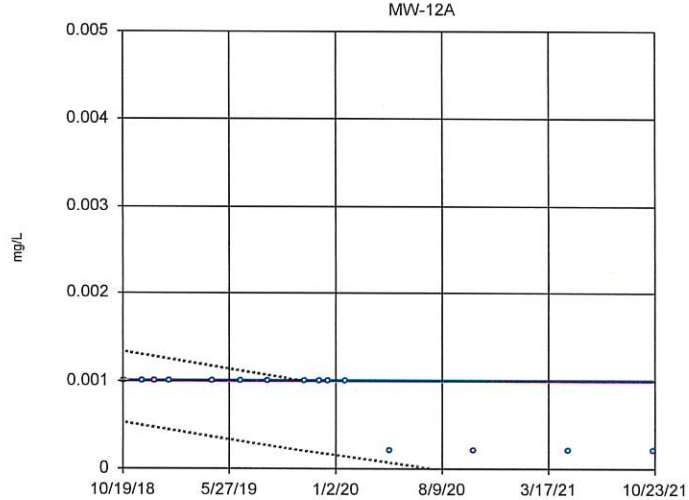
Constituent: Thallium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

MW-12A



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = -44
critical = -41

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 1/19/2022 9:22 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sen's Slope Estimator

Constituent: Thallium Analysis Run 1/19/2022 9:24 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-12A
10/19/2018	<0.001	<0.001
11/27/2018		<0.001
12/24/2018		<0.001
1/22/2019		<0.001
4/22/2019		<0.001
6/18/2019	<0.001	<0.001
8/13/2019		<0.001
10/29/2019	<0.001	<0.001
11/29/2019	<0.001	<0.001
12/18/2019	<0.001	<0.001
1/22/2020	<0.001	<0.001
4/23/2020	<0.0002	<0.0002
7/22/2020	<0.0002	
10/13/2020		<0.0002
10/14/2020	<0.0002	
4/27/2021	<0.0002	<0.0002
10/18/2021	<0.0002	<0.0002

COMPARISON OF CONFIDENCE INTERVALS TO GWPS

Confidence Interval

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-8A	0.01	0.0004	0.0104	No	15	86.67	No	0.01	NP (NDs)
Antimony (mg/L)	MW-9A	0.01	0.0004	0.0104	No	13	100	No	0.01	NP (NDs)
Antimony (mg/L)	MW-10A	0.01	0.000632	0.0104	No	11	72.73	No	0.006	NP (normality)
Antimony (mg/L)	MW-11A	0.005	0.0004	0.0104	No	11	90.91	No	0.006	NP (NDs)
Antimony (mg/L)	MW-12A	0.005	0.0004	0.0104	No	15	100	No	0.01	NP (NDs)
Arsenic (mg/L)	MW-8A	0.008895	0.003432	0.02653	No	15	60	No	0.01	Param.
Arsenic (mg/L)	MW-9A	0.013	0.00174	0.02653	No	13	53.85	No	0.01	NP (normality)
Arsenic (mg/L)	MW-10A	0.011	0.005	0.02653	No	11	54.55	No	0.006	NP (normality)
Arsenic (mg/L)	MW-11A	0.011	0.00136	0.02653	No	11	36.36	No	0.006	NP (Cohens/xfrm)
Arsenic (mg/L)	MW-12A	0.008225	0.0004235	0.02653	No	15	46.67	No	0.01	Param.
Barium (mg/L)	MW-8A	0.357	0.255	2.375	No	15	0	No	0.01	NP (normality)
Barium (mg/L)	MW-9A	0.161	0.0574	2.375	No	13	0	No	0.01	NP (normality)
Barium (mg/L)	MW-10A	0.3002	0.04229	2.375	No	11	0	ln(x)	0.01	Param.
Barium (mg/L)	MW-11A	0.5756	0.319	2.375	No	11	0	No	0.01	Param.
Barium (mg/L)	MW-12A	0.06033	0.03059	2.375	No	15	0	x^(1/3)	0.01	Param.
Beryllium (mg/L)	MW-8A	0.01	0.000347	0.004	No	15	86.67	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-9A	0.01	0.0002	0.004	No	13	84.62	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-10A	0.01	0.0002	0.004	No	11	90.91	No	0.006	NP (NDs)
Beryllium (mg/L)	MW-11A	0.001	0.0002	0.004	No	11	72.73	No	0.006	NP (normality)
Beryllium (mg/L)	MW-12A	0.002	0.000258	0.004	No	15	60	No	0.01	NP (normality)
Cadmium (mg/L)	MW-8A	0.01	0.0002	0.005	No	15	93.33	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-9A	0.01	0.0002	0.005	No	13	100	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-10A	0.01	0.00023	0.005	No	11	72.73	No	0.006	NP (normality)
Cadmium (mg/L)	MW-11A	0.001	0.0002	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MW-12A	0.001	0.0002	0.005	No	15	93.33	No	0.01	NP (NDs)
Chromium (mg/L)	MW-8A	0.0146	0.00783	0.1	No	15	46.67	No	0.01	NP (normality)
Chromium (mg/L)	MW-9A	0.011	0.00126	0.1	No	13	53.85	No	0.01	NP (normality)
Chromium (mg/L)	MW-10A	0.0125	0.00124	0.1	No	11	54.55	No	0.006	NP (normality)
Chromium (mg/L)	MW-11A	0.01	0.0019	0.1	No	11	54.55	No	0.006	NP (normality)
Chromium (mg/L)	MW-12A	0.01	0.00198	0.1	No	15	80	No	0.01	NP (NDs)
Cobalt (mg/L)	MW-8A	0.0117	0.00401	0.0867	No	15	73.33	No	0.01	NP (normality)
Cobalt (mg/L)	MW-9A	0.01	0.000419	0.0867	No	13	69.23	No	0.01	NP (normality)
Cobalt (mg/L)	MW-10A	0.0258	0.00449	0.0867	No	11	36.36	No	0.006	NP (Cohens/xfrm)
Cobalt (mg/L)	MW-11A	0.01	0.000225	0.0867	No	11	63.64	No	0.006	NP (normality)
Cobalt (mg/L)	MW-12A	0.0104	0.00644	0.0867	No	15	66.67	No	0.01	NP (normality)
Fluoride (mg/L)	MW-8A	0.38	0.29	4	No	23	0	No	0.01	NP (normality)
Fluoride (mg/L)	MW-9A	0.7802	0.6965	4	No	21	0	No	0.01	Param.
Fluoride (mg/L)	MW-10A	0.7965	0.4361	4	No	19	21.05	No	0.01	Param.
Fluoride (mg/L)	MW-11A	0.3531	0.2054	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MW-12A	0.7529	0.5961	4	No	16	0	No	0.01	Param.
Lead (mg/L)	MW-8A	0.01	0.00232	0.0179	No	15	73.33	No	0.01	NP (Cohens/xfrm)
Lead (mg/L)	MW-9A	0.01	0.000899	0.0179	No	13	53.85	No	0.01	NP (normality)
Lead (mg/L)	MW-10A	0.0222	0.00334	0.0179	No	11	36.36	No	0.006	NP (Cohens/xfrm)
Lead (mg/L)	MW-11A	0.005907	0.001688	0.0179	No	11	45.45	No	0.01	Param.
Lead (mg/L)	MW-12A	0.01079	0.001801	0.0179	No	15	33.33	No	0.01	Param.
Lithium (mg/L)	MW-8A	0.05	0.0102	0.0964	No	15	66.67	No	0.01	NP (normality)
Lithium (mg/L)	MW-9A	0.05	0.0195	0.0964	No	13	61.54	No	0.01	NP (normality)
Lithium (mg/L)	MW-10A	0.05	0.00346	0.0964	No	11	63.64	No	0.006	NP (normality)
Lithium (mg/L)	MW-11A	0.04	0.00917	0.0964	No	11	54.55	No	0.006	NP (normality)
Lithium (mg/L)	MW-12A	0.041	0.00528	0.0964	No	15	66.67	No	0.01	NP (normality)

Confidence Interval

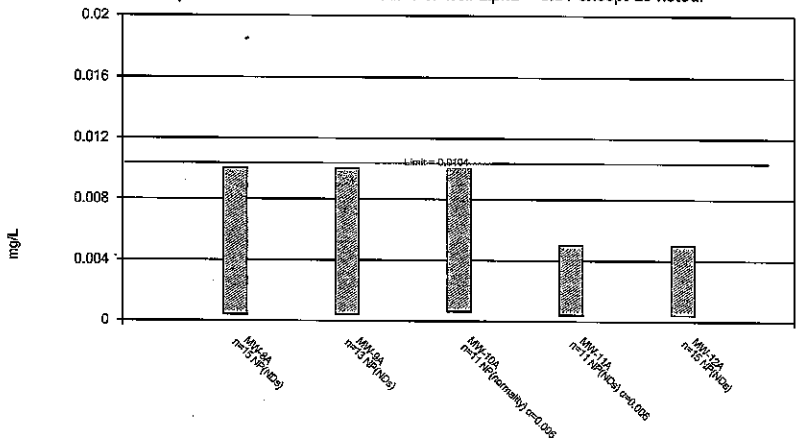
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/19/2022, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Mercury (mg/L)	MW-8A	0.0003	0.00003	0.002	No	15	100	No	0.01	NP (NDs)
Mercury (mg/L)	MW-9A	0.0002	0.00003	0.002	No	13	100	No	0.01	NP (NDs)
Mercury (mg/L)	MW-10A	0.0002	0.00003	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MW-11A	0.00005	0.00003	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MW-12A	0.000061	0.00003	0.002	No	15	86.67	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-8A	0.01	0.00145	0.1	No	15	80	No	0.01	NP (NDs)
Molybdenum (mg/L)	MW-9A	0.01174	0.006966	0.1	No	13	7.692	No	0.01	Param.
Molybdenum (mg/L)	MW-10A	0.0109	0.005	0.1	No	11	63.64	No	0.006	NP (Cohens/xfrm)
Molybdenum (mg/L)	MW-11A	0.005	0.0006	0.1	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MW-12A	0.08638	0.03884	0.1	No	15	0	ln(x)	0.01	Param.
Ra 226 and 228 (pCi/L)	MW-8A	3.16	0.7	7.668	No	13	38.46	No	0.01	NP (Cohens/xfrm)
Ra 226 and 228 (pCi/L)	MW-9A	2.788	0.8724	7.668	No	12	33.33	No	0.01	Param.
Ra 226 and 228 (pCi/L)	MW-10A	3.13	0.77	7.668	No	9	22.22	No	0.002	NP (Cohens/xfrm)
Ra 226 and 228 (pCi/L)	MW-11A	8.85	1.311	7.668	No	11	18.18	No	0.006	NP (Cohens/xfrm)
Ra 226 and 228 (pCi/L)	MW-12A	3.46	1.04	7.668	No	14	35.71	No	0.01	NP (Cohens/xfrm)
Selenium (mg/L)	MW-8A	0.02	0.005	0.05	No	15	53.33	No	0.01	NP (normality)
Selenium (mg/L)	MW-9A	0.02	0.0011	0.05	No	13	100	No	0.01	NP (NDs)
Selenium (mg/L)	MW-10A	0.02	0.0011	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MW-11A	0.005	0.0011	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MW-12A	0.0129	0.004448	0.05	No	15	26.67	No	0.01	Param.
Thallium (mg/L)	MW-8A	0.02	0.0002	0.002	No	15	86.67	No	0.01	NP (NDs)
Thallium (mg/L)	MW-9A	0.02	0.0002	0.002	No	13	100	No	0.01	NP (NDs)
Thallium (mg/L)	MW-10A	0.02	0.0002	0.002	No	11	90.91	No	0.006	NP (NDs)
Thallium (mg/L)	MW-11A	0.001	0.0002	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MW-12A	0.001	0.0002	0.002	No	15	100	No	0.01	NP (NDs)

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



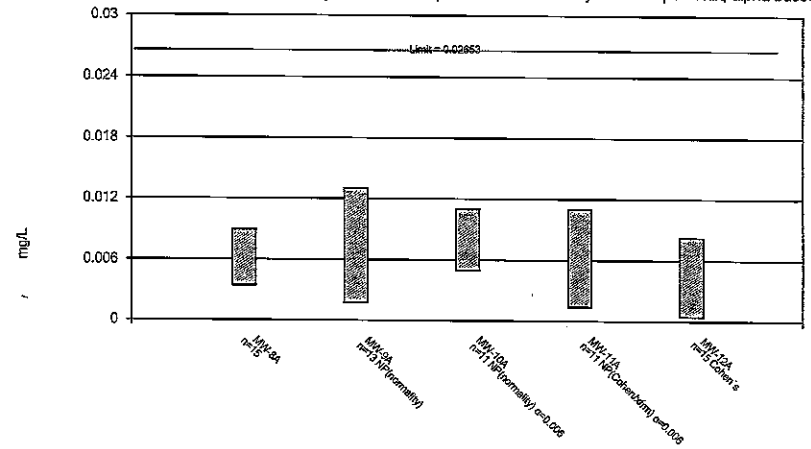
Constituent: Antimony Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



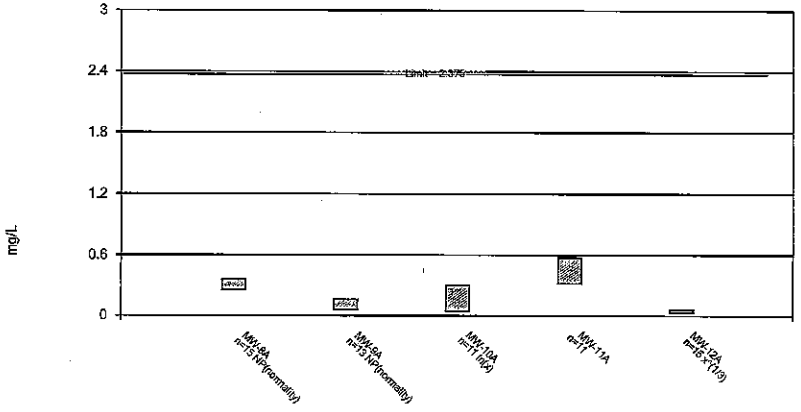
Constituent: Arsenic Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



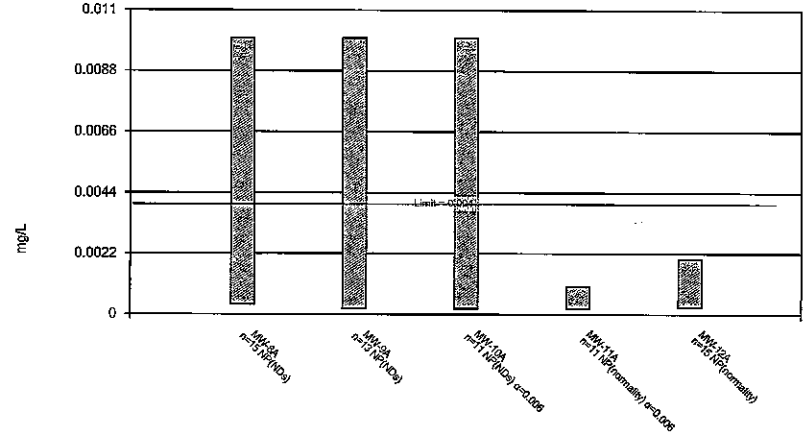
Constituent: Barium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Beryllium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	0.00108	<0.001			
10/19/2018	<0.005			<0.005	<0.005
11/27/2018	<0.005				<0.005
12/24/2018	<0.005	<0.005	<0.005		<0.005
1/22/2019					<0.0005
4/22/2019					<0.005
6/18/2019				<0.005	<0.005
8/13/2019					<0.005
10/29/2019				<0.005	<0.005
11/29/2019				<0.005	<0.005
12/18/2019				<0.005	<0.005
1/22/2020	<0.005	<0.005	<0.005	<0.005	<0.005
4/23/2020	<0.0004	<0.0004	0.000655 (J)	<0.0004	<0.0004
7/22/2020				0.000484 (J)	
10/13/2020					<0.0004
10/14/2020	<0.0004	<0.0004	0.000632 (J)	<0.0004	
4/27/2021	0.000975 (J)	<0.0004	<0.0004	<0.0004	<0.0004
10/18/2021				<0.0004	<0.0004
10/19/2021		<0.0004			
10/20/2021	<0.0004		0.000723 (J)		
Mean	0.00555	0.005585	0.005674	0.002917	0.003473
Std. Dev.	0.004145	0.00453	0.004443	0.002394	0.002235
Upper Lim.	0.01	0.01	0.01	0.005	0.005
Lower Lim.	0.0004	0.0004	0.000632	0.0004	0.0004

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	0.0133	<0.01			
9/2/2018	0.00164	0.00158			
10/19/2018	<0.005			<0.005	<0.005
11/27/2018	<0.005				<0.005
12/24/2018	<0.005	<0.005	<0.005		<0.005
1/22/2019					0.009
4/22/2019					<0.005
6/18/2019				<0.005	<0.005
8/13/2019					0.007
10/29/2019				0.016	0.01
11/29/2019				<0.005	<0.005
12/18/2019				<0.005	<0.005
1/22/2020	<0.005	0.013	0.011	0.011	0.013
4/23/2020	0.000833 (J)	0.00174 (J)	0.00957	0.00142 (J)	0.00135 (J)
7/22/2020				0.00303	
10/13/2020					0.00798
10/14/2020	0.00276	0.00248	0.0505	0.00136 (J)	
4/27/2021	0.00288	0.00185 (J)	0.00211	0.00184 (J)	0.00143 (J)
10/18/2021				0.00117 (J)	0.0141
10/19/2021		0.00225			
10/20/2021	0.00104 (J)		0.00734		
Mean	0.006164	0.006762	0.01232	0.005075	0.006591
Std. Dev.	0.004031	0.00428	0.01295	0.004599	0.003672
Upper Lim.	0.008895	0.013	0.011	0.011	0.008225
Lower Lim.	0.003432	0.00174	0.005	0.00136	0.0004235

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	0.298	0.0574	0.0588		
3/3/2018	0.272	0.0591	0.109		
4/14/2018	0.29	0.0602	0.732		
5/26/2018	0.334	0.149	0.174		
6/23/2018	0.237	0.0597	0.148		
7/29/2018	0.73	0.161			
9/2/2018	0.274	0.0712			
10/19/2018	0.265			0.176	0.041
11/27/2018	0.255				0.039
12/24/2018	0.265	0.05	0.022		0.023
1/22/2019					0.076
4/22/2019					0.051
6/18/2019				0.338	0.026
8/13/2019					0.045
10/29/2019				0.765	0.046
11/29/2019				0.515	0.051
12/18/2019				0.481	0.033
1/22/2020	0.298	0.321	0.045	0.564	0.036
4/23/2020	0.211	0.061	0.0861	0.371	0.0241
7/22/2020				0.448	
10/13/2020					0.067
10/14/2020	0.357	0.121	1.07	0.332	
4/27/2021	0.348	0.0711	0.0735	0.541	0.0256
10/18/2021				0.389	0.127
10/19/2021		0.0728			
10/20/2021	0.412		0.0459		
Mean	0.3231	0.1011	0.2331	0.4473	0.04738
Std. Dev.	0.1237	0.07556	0.3417	0.154	0.02685
Upper Lim.	0.357	0.161	0.3002	0.5756	0.06033
Lower Lim.	0.255	0.0574	0.04229	0.319	0.03059

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 1/19/2022 11:00 AM

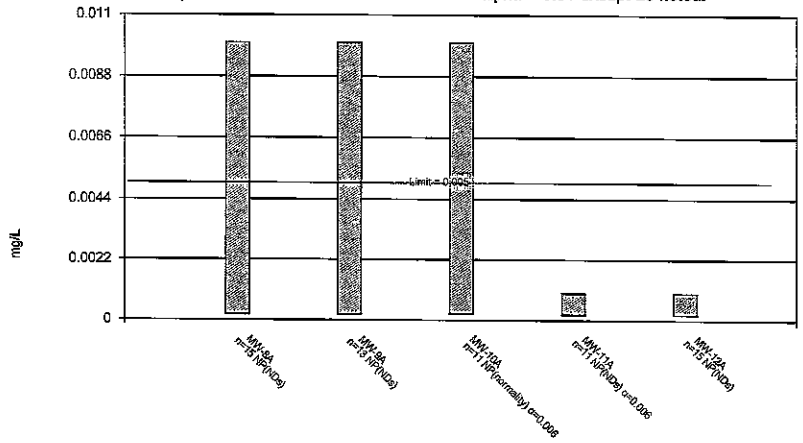
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	<0.001	<0.001			
10/19/2018	<0.001			<0.001	<0.001
11/27/2018	<0.001				<0.001
12/24/2018	<0.001	<0.001	<0.001		<0.001
1/22/2019					<0.001
4/22/2019					<0.001
6/18/2019				<0.001	<0.001
8/13/2019					0.002
10/29/2019				<0.001	0.002
11/29/2019				<0.001	<0.001
12/18/2019				<0.001	0.002
1/22/2020	<0.001	0.0016	<0.001	0.0011	0.0014
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
7/22/2020				0.00039 (J)	
10/13/2020					0.000258 (J)
10/14/2020	0.000585 (J)	0.000391 (J)	0.00368	<0.0002	
4/27/2021	0.000347 (J)	<0.0002	<0.0002	0.000502 (J)	<0.0002
10/18/2021				<0.0002	0.00061 (J)
10/19/2021		<0.0002			
10/20/2021	<0.0002		<0.0002		
Mean	0.004422	0.004969	0.005116	0.0006902	0.001045
Std. Dev.	0.004722	0.004864	0.004772	0.0003866	0.0006043
Upper Lim.	0.01	0.01	0.01	0.001	0.002
Lower Lim.	0.000347	0.0002	0.0002	0.0002	0.000258

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



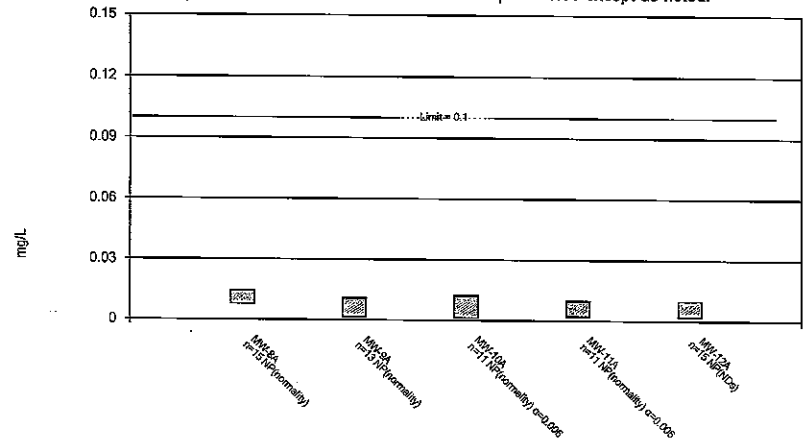
Constituent: Cadmium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



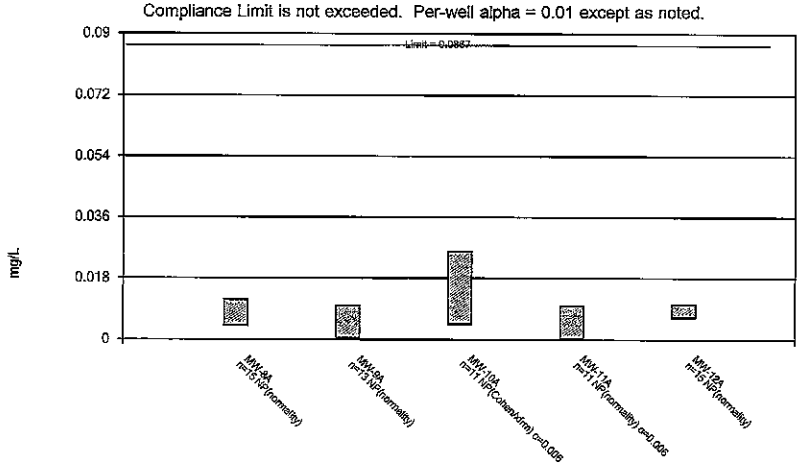
Constituent: Chromium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



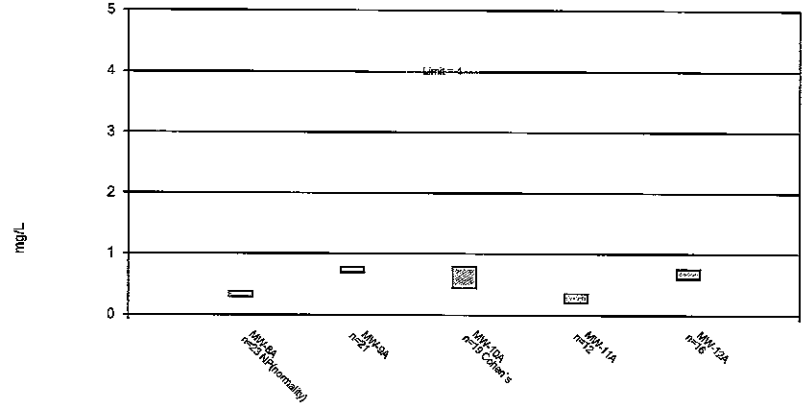
Constituent: Cobalt Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	<0.01		
5/26/2018	<0.01	<0.01	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	0.00289	<0.001			
10/19/2018	<0.001			<0.001	<0.001
11/27/2018	<0.001				<0.001
12/24/2018	<0.001	<0.001	<0.001		<0.001
1/22/2019					<0.001
4/22/2019					<0.001
6/18/2019				<0.001	<0.001
8/13/2019					<0.001
10/29/2019				<0.001	<0.001
11/29/2019				<0.001	<0.001
12/18/2019				<0.001	<0.001
1/22/2020	<0.001	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	0.00023 (J)	<0.0002	<0.0002
7/22/2020				<0.0002	
10/13/2020					<0.0002
10/14/2020	<0.0002	<0.0002	0.0009 (J)	<0.0002	
4/27/2021	<0.0002	<0.0002	0.000272 (J)	<0.0002	<0.0002
10/18/2021				<0.0002	0.000234 (J)
10/19/2021		<0.0002			
10/20/2021	<0.0002		<0.0002		
Mean	0.004513	0.004908	0.004873	0.0006364	0.0007889
Std. Dev.	0.004683	0.004916	0.004917	0.0004178	0.0003624
Upper Lim.	0.01	0.01	0.01	0.001	0.001
Lower Lim.	0.0002	0.0002	0.00023	0.0002	0.0002

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	0.0111	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	0.0125		
5/26/2018	0.0167	0.011	<0.01		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	0.0615	<0.01			
9/2/2018	0.00783	0.00195			
10/19/2018	<0.01			<0.01	<0.01
11/27/2018	<0.01				<0.01
12/24/2018	<0.01	<0.01	<0.01		<0.01
1/22/2019					<0.01
4/22/2019					<0.01
6/18/2019				<0.01	<0.01
8/13/2019					<0.01
10/29/2019				<0.01	<0.01
11/29/2019				<0.01	<0.01
12/18/2019				<0.01	<0.01
1/22/2020	<0.01	<0.01	<0.01	<0.01	<0.01
4/23/2020	0.00323 (J)	0.00126 (J)	0.00169 (J)	0.00236 (J)	<0.0004
7/22/2020				0.00644	
10/13/2020					0.00198 (J)
10/14/2020	0.0146	0.00507	0.0287	0.0019 (J)	
4/27/2021	0.0131	0.00196 (J)	0.00124 (J)	0.00306 (J)	0.00059 (J)
10/18/2021				0.00121 (J)	0.00447
10/19/2021		0.000462 (J)			
10/20/2021	0.00118 (J)		0.00104 (J)		
Mean	0.01328	0.007054	0.009561	0.006815	0.007829
Std. Dev.	0.01388	0.004176	0.007615	0.00388	0.003826
Upper Lim.	0.0146	0.011	0.0125	0.01	0.01
Lower Lim.	0.00783	0.00126	0.00124	0.0019	0.00198

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	0.0258		
5/26/2018	0.0117	0.01	0.0133		
6/23/2018	<0.01	<0.01	0.011		
7/29/2018	0.0524	<0.01			
9/2/2018	<0.01	<0.01			
10/19/2018	<0.01			<0.01	<0.01
11/27/2018	<0.01				<0.01
12/24/2018	<0.01	<0.01	<0.01		<0.01
1/22/2019					0.013
4/22/2019					<0.01
6/18/2019				<0.01	<0.01
8/13/2019					<0.01
10/29/2019				<0.01	<0.01
11/29/2019				<0.01	<0.01
12/18/2019				<0.01	<0.01
1/22/2020	<0.01	<0.01	<0.01	<0.01	<0.01
4/23/2020	<0.0002	0.000419 (J)	0.0209	0.000556 (J)	0.00326 (J)
7/22/2020				0.00218 (J)	
10/13/2020					0.00644
10/14/2020	0.00589	0.00217 (J)	0.0381	0.000225 (J)	
4/27/2021	0.00401 (J)	0.000489 (J)	0.00325 (J)	0.00097 (J)	0.00387 (J)
10/18/2021				<0.0002	0.0104
10/19/2021		<0.0002			
10/20/2021	<0.0002		0.00449 (J)		
Mean	0.01096	0.007175	0.01426	0.00583	0.009131
Std. Dev.	0.01205	0.004434	0.01023	0.004819	0.002585
Upper Lim.	0.0117	0.01	0.0258	0.01	0.0104
Lower Lim.	0.00401	0.000419	0.00449	0.000225	0.00644

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 1/19/2022 11:00 AM

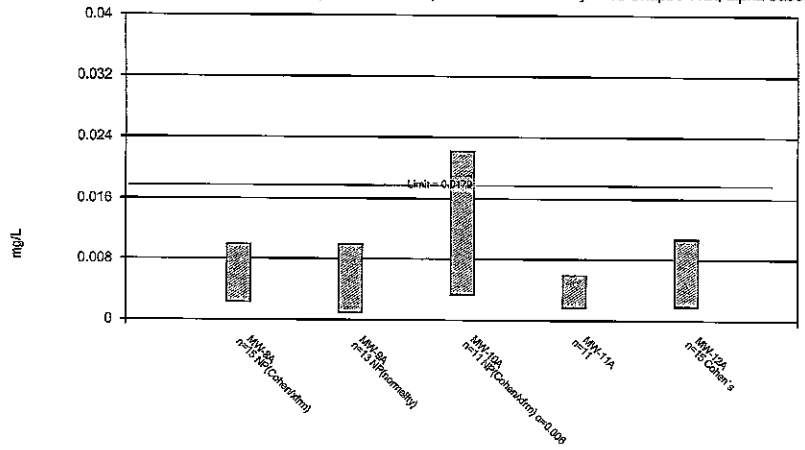
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
2/26/2017	0.39	0.76	0.32		
7/29/2017	0.359	0.747	0.533		
9/10/2017	0.346	0.717	<1		
10/14/2017	0.31	0.679	0.5		
11/11/2017	0.322	0.703	0.394		
1/6/2018	0.344	0.729	0.522		
3/3/2018	0.363	0.784	<1		
4/14/2018	0.396	0.822	<1		
5/26/2018	0.333	0.702	<1		
6/23/2018	0.743	0.834	0.826		
7/29/2018	0.415	0.85			
9/2/2018	0.352	0.735			
10/19/2018	0.38			0.43	0.62
11/27/2018	0.26				0.78
12/24/2018					0.65
1/22/2019					0.85
1/29/2019	0.24			0.44	0.44
1/30/2019		0.66	0.44		
4/22/2019	0.23	0.61	0.37		0.58
6/18/2019	0.3	0.66	0.43	0.36	0.67
8/13/2019					0.66
10/29/2019	0.35	0.73	0.5	0.27	0.74
11/29/2019				0.28	0.73
12/18/2019				0.27	0.67
1/22/2020	0.36	0.77	0.58	0.29	0.7
4/23/2020	0.122	0.763	0.296	0.219	0.56
7/22/2020				0.195	
10/13/2020					0.481 (J)
10/14/2020	0.29	0.574	0.285 (J)	0.113	
4/27/2021	0.415	0.834	0.48	0.219	0.811
10/18/2021				0.265	0.85
10/19/2021		0.842			
10/20/2021	0.26		0.64		
Mean	0.3426	0.7383	0.4798	0.2793	0.6745
Std. Dev.	0.1108	0.0759	0.1255	0.09418	0.1205
Upper Lim.	0.38	0.7802	0.7965	0.3531	0.7529
Lower Lim.	0.29	0.6965	0.4361	0.2054	0.5961

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



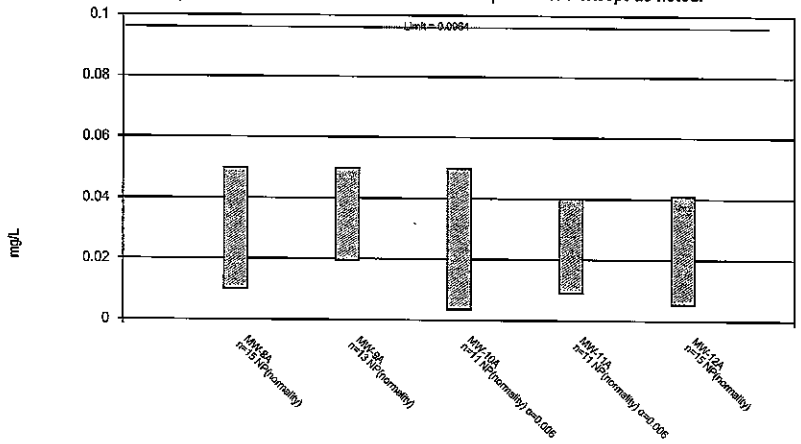
Constituent: Lead Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



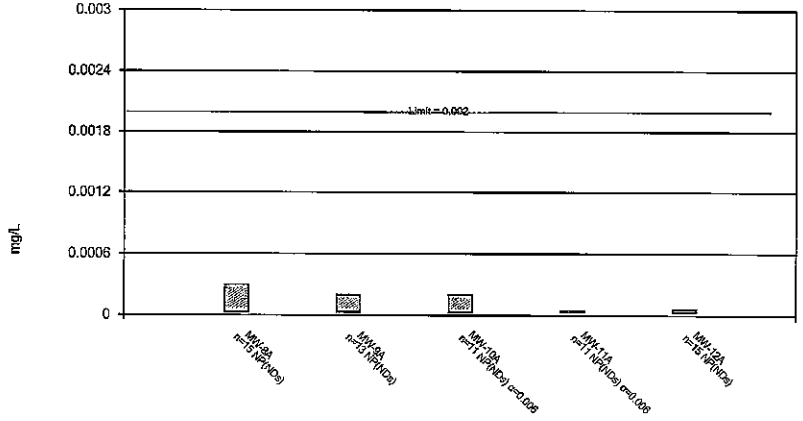
Constituent: Lithium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



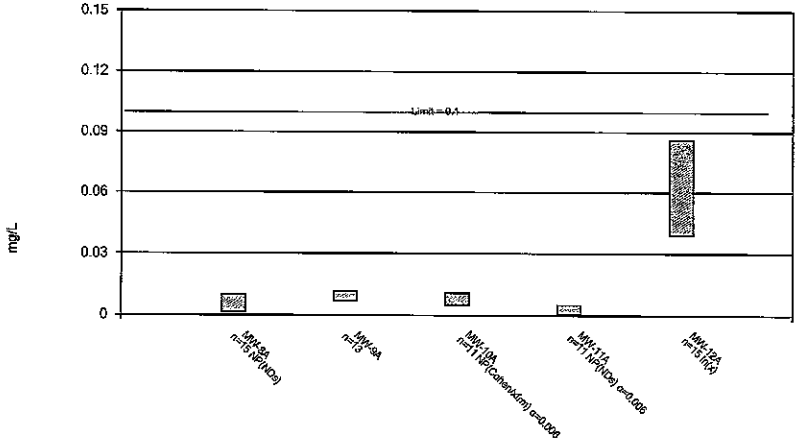
Constituent: Mercury Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	<0.01	<0.01		
3/3/2018	<0.01	<0.01	<0.01		
4/14/2018	<0.01	<0.01	0.0222		
5/26/2018	<0.01	0.0114	0.0128		
6/23/2018	<0.01	<0.01	<0.01		
7/29/2018	0.0254	<0.01			
9/2/2018	0.00232	0.00095			
10/19/2018	<0.005			<0.005	<0.005
11/27/2018	<0.005				<0.005
12/24/2018	<0.005	<0.005	<0.005		<0.005
1/22/2019					0.008
4/22/2019					0.005
6/18/2019				0.006	<0.005
8/13/2019					0.01
10/29/2019				0.008	0.021
11/29/2019				<0.005	0.008
12/18/2019				<0.005	0.012
1/22/2020	<0.005	0.01	0.011	0.005	0.013
4/23/2020	<0.0006	0.00135 (J)	0.00403	0.00107 (J)	<0.0006
7/22/2020				0.00444	
10/13/2020					0.00458
10/14/2020	0.00706	0.00263	0.0881	<0.0006	
4/27/2021	0.00437	0.000899 (J)	0.00334	0.00106 (J)	0.000997 (J)
10/18/2021				<0.0006	0.0112
10/19/2021		<0.0006			
10/20/2021	<0.0006		0.00172 (J)		
Mean	0.007357	0.006371	0.0162	0.003797	0.007625
Std. Dev.	0.006026	0.004454	0.02451	0.002532	0.005228
Upper Lim.	0.01	0.01	0.0222	0.005907	0.01079
Lower Lim.	0.00232	0.000899	0.00334	0.001688	0.001801

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.05	<0.05	<0.05		
3/3/2018	<0.05	<0.05	<0.05		
4/14/2018	<0.05	<0.05	<0.05		
5/26/2018	<0.05	<0.05	<0.05		
6/23/2018	<0.05	<0.05	<0.05		
7/29/2018	<0.05	<0.05			
9/2/2018	0.0044	0.0136			
10/19/2018	<0.04			<0.04	0.041
11/27/2018	<0.04				<0.04
12/24/2018	<0.04	<0.04	<0.04		<0.04
1/22/2019					<0.04
4/22/2019					<0.04
6/18/2019				<0.04	<0.04
8/13/2019					<0.04
10/29/2019				<0.04	<0.04
11/29/2019				<0.04	<0.04
12/18/2019				<0.04	<0.04
1/22/2020	<0.04	<0.04	<0.04	<0.04	<0.04
4/23/2020	0.0102	0.0275	0.00552	0.0094	0.00975
7/22/2020				0.0114	
10/13/2020					0.00301 (J)
10/14/2020	0.0153	0.0227	0.017	0.00917	
4/27/2021	0.0204 (J)	0.0202	0.00346 (J)	0.00877	0.00528
10/18/2021				0.0092	0.00444 (J)
10/19/2021		0.0195			
10/20/2021	0.00903		0.00311 (J)		
Mean	0.03462	0.03719	0.03264	0.02618	0.0309
Std. Dev.	0.01747	0.01432	0.02078	0.0159	0.01584
Upper Lim.	0.05	0.05	0.05	0.04	0.041
Lower Lim.	0.0102	0.0195	0.00346	0.00917	0.00528

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.0002	<0.0002	<0.0002		
3/3/2018	<0.0002	<0.0002	<0.0002		
4/14/2018	<0.0002	<0.0002	<0.0002		
5/26/2018	<0.0002	<0.0002	<0.0002		
6/23/2018	<0.0002	<0.0002	<0.0002		
7/29/2018	<0.0002	<0.0002			
9/2/2018	<0.0002	<0.0002			
10/19/2018	<5E-05			<5E-05	<5E-05
11/27/2018	<0.0005				<5E-05
12/24/2018	<5E-05	<5E-05	<5E-05		<5E-05
1/22/2019					6.8E-05
4/22/2019					<5E-05
6/18/2019				<5E-05	<5E-05
8/13/2019					<5E-05
10/29/2019				<5E-05	<5E-05
11/29/2019				<5E-05	<5E-05
12/18/2019				<5E-05	<5E-05
1/22/2020	<0.00015	<5E-05	<5E-05	<5E-05	<5E-05
4/23/2020	<0.0003	<3E-05	<3E-05	<3E-05	<3E-05
7/22/2020				<3E-05	
10/13/2020					<3E-05
10/14/2020	<3E-05	<3E-05	3.4E-05 (J)	<3E-05	
4/27/2021	<3E-05	<3E-05	<3E-05	<3E-05	<3E-05
10/18/2021				<3E-05	6.1E-05 (JH)
10/19/2021		<3E-05			
10/20/2021	<3E-05		<3E-05		
Mean	0.0001693	0.0001246	0.0001113	4.091E-05	4.793E-05
Std. Dev.	0.0001254	8.501E-05	8.524E-05	1.044E-05	1.063E-05
Upper Lim.	0.0003	0.0002	0.0002	5E-05	6.1E-05
Lower Lim.	3E-05	3E-05	3E-05	3E-05	3E-05

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 1/19/2022 11:00 AM

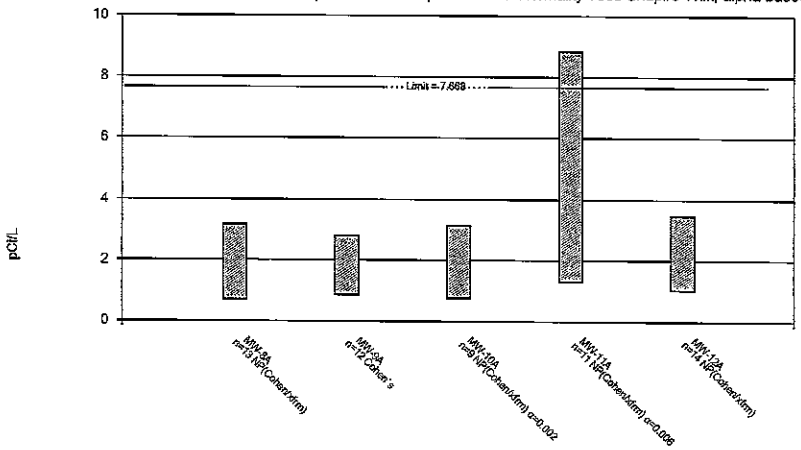
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.01	0.014	<0.01		
3/3/2018	<0.01	0.0128	<0.01		
4/14/2018	<0.01	0.0124	<0.01		
5/26/2018	<0.01	0.0105	<0.01		
6/23/2018	<0.01	0.0117	<0.01		
7/29/2018	<0.01	<0.01			
9/2/2018	<0.01	0.0102			
10/19/2018	<0.005			<0.005	0.027
11/27/2018	<0.005				0.242
12/24/2018	<0.005	0.011	<0.005		0.117
1/22/2019					0.106
4/22/2019					0.057
6/18/2019				<0.005	0.03
8/13/2019					0.054
10/29/2019				<0.005	0.093
11/29/2019				<0.005	0.057
12/18/2019				<0.005	0.043
1/22/2020	<0.005	0.008	<0.005	<0.005	0.048
4/23/2020	0.00145 (J)	0.00579	0.00613	<0.0006	0.0306
7/22/2020				<0.0006	
10/13/2020					0.0411
10/14/2020	0.000698 (J)	0.00448 (J)	0.0329	<0.0006	
4/27/2021	0.00185 (J)	0.00556	0.00204 (J)	<0.0006	0.0445
10/18/2021				<0.0006	0.0605
10/19/2021		0.00516			
10/20/2021	<0.0006		0.0109		
Mean	0.006307	0.009353	0.01018	0.003	0.07005
Std. Dev.	0.003871	0.00321	0.008082	0.002298	0.05477
Upper Lim.	0.01	0.01174	0.0109	0.005	0.08638
Lower Lim.	0.00145	0.006966	0.005	0.0006	0.03884

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



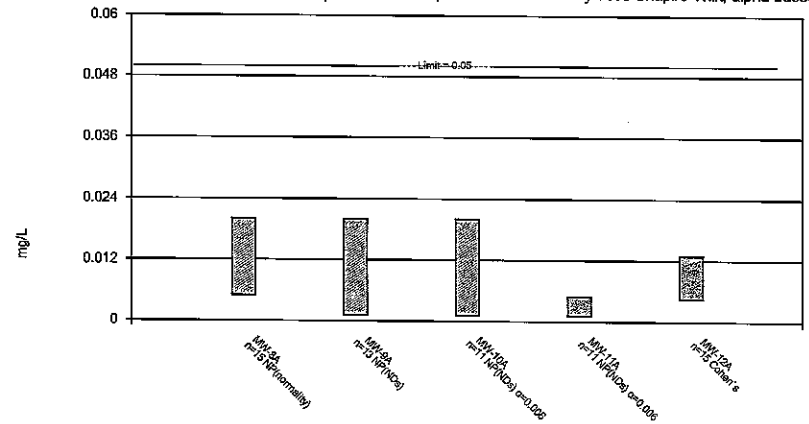
Constituent: Ra 226 and 228 Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



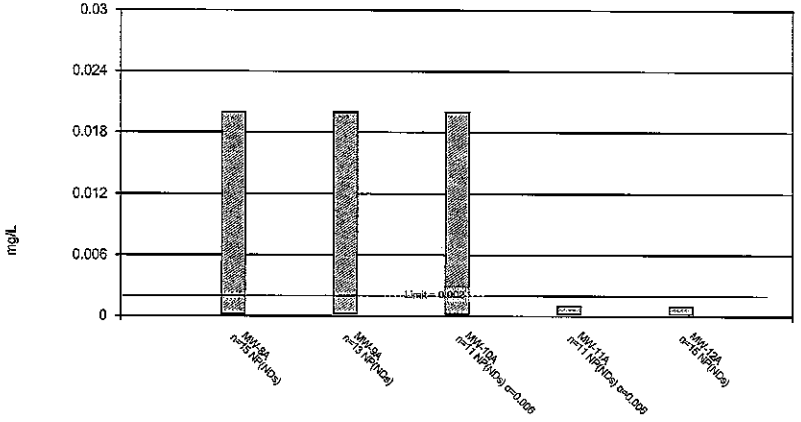
Constituent: Selenium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Thallium Analysis Run 1/19/2022 10:59 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Ra 226 and 228 (pCi/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
3/3/2018	0.913	0.8328	1.444		
4/14/2018	0.843	0.13573	0.882		
5/26/2018	3.16	1.005			
6/23/2018	0.7	0.658	1.753		
7/29/2018	0.423	1.586			
9/2/2018	1.397	0.421			
10/19/2018	<0.954			1.414	1.308
11/27/2018	<1.145				<0.832
12/24/2018	<1.05	<2.288	1.792		3.46
1/22/2019					<1.106
4/22/2019					2.141
6/18/2019				4.34	5.588
10/29/2019				<1.311	<2.885
11/29/2019				17.67	<6.223
12/18/2019				4.65	<2.648
1/22/2020	4.373	2.65	3.13	8.85	2.191
4/23/2020		<0.74	<0.94	3.36	1.2
7/22/2020				2.41	
10/13/2020					0.86
10/14/2020	<0.77	2.21	1.05	2.87	
4/27/2021	<1.02	<0.83	<0.77	3.12	1.04
10/18/2021				<0.95	1.12
10/19/2021		<0.91			
10/20/2021	1.51		0.91		
Mean	1.404	1.189	1.408	4.631	2.329
Std. Dev.	1.113	0.803	0.751	4.845	1.729
Upper Lim.	3.16	2.788	3.13	8.85	3.46
Lower Lim.	0.7	0.8724	0.77	1.311	1.04

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.02	<0.02	<0.02		
3/3/2018	<0.02	<0.02	<0.02		
4/14/2018	<0.02	<0.02	<0.02		
5/26/2018	<0.02	<0.02	<0.02		
6/23/2018	<0.02	<0.02	<0.02		
7/29/2018	<0.02	<0.02			
9/2/2018	0.00509	<0.002			
10/19/2018	0.005			<0.005	0.015
11/27/2018	0.006				0.009
12/24/2018	<0.005	<0.005	<0.005		0.012
1/22/2019					0.015
4/22/2019					<0.005
6/18/2019				0.035	0.009
8/13/2019					0.007
10/29/2019				<0.005	0.013
11/29/2019				<0.005	0.011
12/18/2019				<0.005	0.015
1/22/2020	0.018	<0.005	<0.005	<0.005	0.018
4/23/2020	0.0139	<0.0011	<0.0011	<0.0011	0.00158 (J)
7/22/2020				<0.0011	
10/13/2020					<0.0011
10/14/2020	0.0132	<0.0011	0.00314	<0.0011	
4/27/2021	0.013	<0.0011	<0.0011	<0.0011	<0.0011
10/18/2021				<0.0011	<0.0011
10/19/2021		<0.0011			
10/20/2021	<0.0011		<0.0011		
Mean	0.01335	0.01049	0.01059	0.005955	0.008925
Std. Dev.	0.007067	0.009254	0.009115	0.009829	0.005857
Upper Lim.	0.02	0.02	0.02	0.005	0.0129
Lower Lim.	0.005	0.0011	0.0011	0.0011	0.004448

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 1/19/2022 11:00 AM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-11A	MW-12A
1/6/2018	<0.02	<0.02	<0.02		
3/3/2018	<0.02	<0.02	<0.02		
4/14/2018	<0.02	<0.02	<0.02		
5/26/2018	<0.02	<0.02	<0.02		
6/23/2018	<0.02	<0.02	<0.02		
7/29/2018	<0.02	<0.02			
9/2/2018	0.00036	<0.002			
10/19/2018	<0.001			<0.001	<0.001
11/27/2018	<0.001				<0.001
12/24/2018	<0.001	<0.001	<0.001		<0.001
1/22/2019					<0.001
4/22/2019					<0.001
6/18/2019				<0.001	<0.001
8/13/2019					<0.001
10/29/2019				<0.001	<0.001
11/29/2019				<0.001	<0.001
12/18/2019				<0.001	<0.001
1/22/2020	<0.001	<0.001	<0.001	<0.001	<0.001
4/23/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
7/22/2020				<0.0002	
10/13/2020					<0.0002
10/14/2020	<0.0002	<0.0002	0.000475 (J)	<0.0002	
4/27/2021	0.000252 (J)	<0.0002	<0.0002	<0.0002	<0.0002
10/18/2021				<0.0002	<0.0002
10/19/2021		<0.0002			
10/20/2021	<0.0002		<0.0002		
Mean	0.008347	0.0096	0.00937	0.0006364	0.0007867
Std. Dev.	0.009853	0.01003	0.01018	0.0004178	0.0003662
Upper Lim.	0.02	0.02	0.02	0.001	0.001
Lower Lim.	0.0002	0.0002	0.0002	0.0002	0.0002

ATTACHMENT I

SANITAS™ OUTPUT

RECACALCULATING BACKGROUND TO INCORPORATE GWMP-11A INTO MONITORING NETWORK

CALCULATE TOLERANCE LIMITS FOR DETECTION MONITOIRNG PARAMETERS

Tolerance Limit

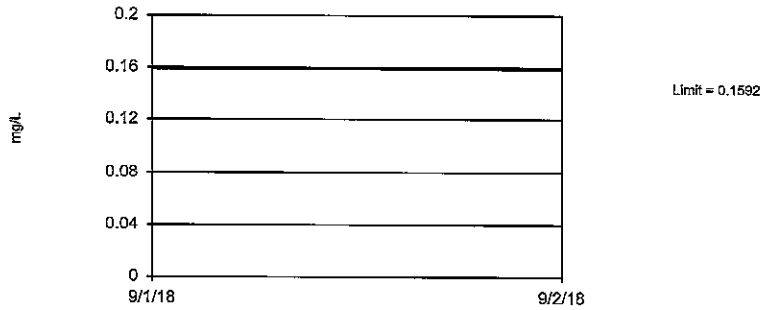
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 1:55 PM

Constituent	Upper Lim.	Lower Lim.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	0.1592	n/a	12	8.333	None	No	0.01	Inter
Calcium (mg/L)	201	n/a	12	0	None	No	0.01	Inter
Chloride (mg/L)	3.385	n/a	12	0	None	No	0.01	Inter
Fluoride (mg/L)	0.5609	n/a	12	0	None	No	0.01	Inter
pH (SU)	9.383	4.722	12	0	None	No	0.01	Inter
Sulfate (mg/L)	48.2	n/a	12	0	None	No	0.01	Inter
TDS (mg/L)	598.7	n/a	12	0	None	No	0.01	Inter

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=0.08193, Std. Dev.=0.02267, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8691, critical = 0.805. Report alpha = 0.01.

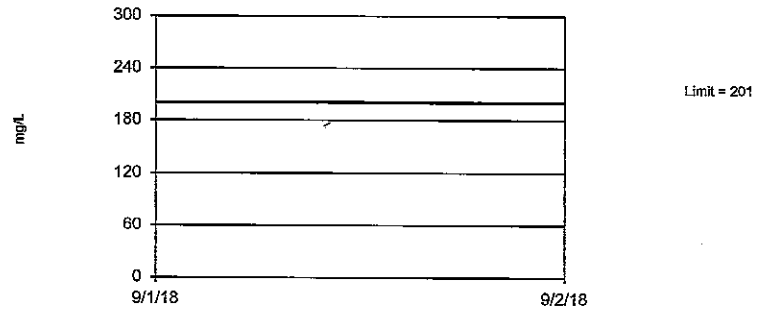
Constituent: Boron Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=112.5, Std. Dev.=25.94, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.815, critical = 0.805. Report alpha = 0.01.

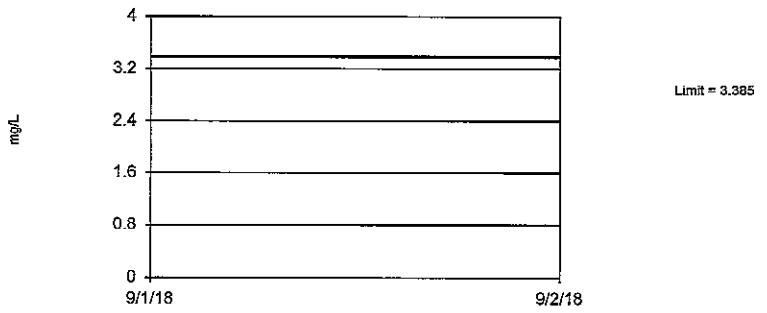
Constituent: Calcium Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=1.678, Std. Dev.=0.5008, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8438, critical = 0.805. Report alpha = 0.01.

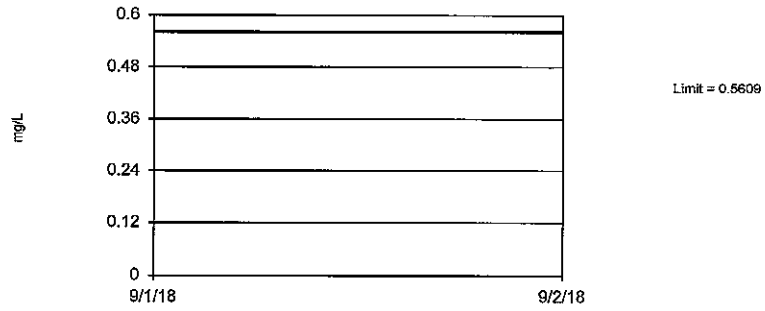
Constituent: Chloride Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental, UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=0.4185, Std. Dev.=0.04176, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9028, critical = 0.805. Report alpha = 0.01.

Constituent: Fluoride Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Tolerance Limit

Constituent: Boron (mg/L) Analysis Run 1/18/2022 1:55 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	<0.1
7/29/2017	0.0705
9/10/2017	0.0704
10/14/2017	0.0654
11/11/2017	0.0766
1/6/2018	0.068
3/3/2018	0.113
4/14/2018	0.121
5/26/2018	0.115
6/23/2018	0.0678
7/29/2018	0.0894
9/2/2018	0.076

Tolerance Limit

Constituent: Calcium (mg/L) Analysis Run 1/18/2022 1:55 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	81
7/29/2017	89.8
9/10/2017	105
10/14/2017	97.3
11/11/2017	99.4
1/6/2018	110
3/3/2018	121
4/14/2018	127
5/26/2018	184
6/23/2018	116
7/29/2018	112
9/2/2018	108

Tolerance Limit

Constituent: Chloride (mg/L) Analysis Run 1/18/2022 1:55 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	3
7/29/2017	1.73
9/10/2017	1.99
10/14/2017	1.53
11/11/2017	1.29
1/6/2018	1.58
3/3/2018	1.22
4/14/2018	1.14
5/26/2018	1.34
6/23/2018	1.54
7/29/2018	1.81
9/2/2018	1.96

Tolerance Limit

Constituent: Fluoride (mg/L) Analysis Run 1/18/2022 1:55 PM

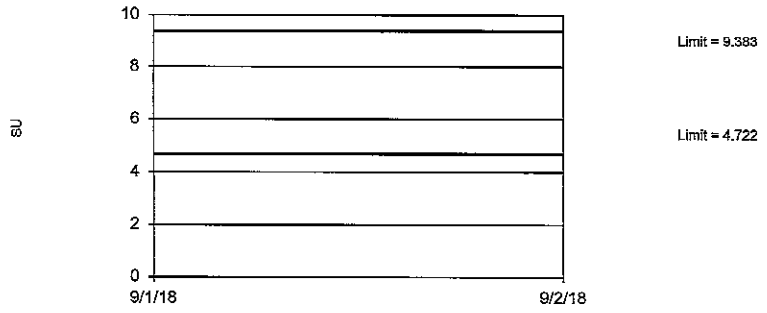
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	0.48
7/29/2017	0.433
9/10/2017	0.415
10/14/2017	0.394
11/11/2017	0.412
1/6/2018	0.38
3/3/2018	0.42
4/14/2018	0.51
5/26/2018	0.362
6/23/2018	0.42
7/29/2018	0.416
9/2/2018	0.38

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=7.053, Std. Dev.=0.6022, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9384, critical = 0.805. Report alpha = 0.005 per tail.

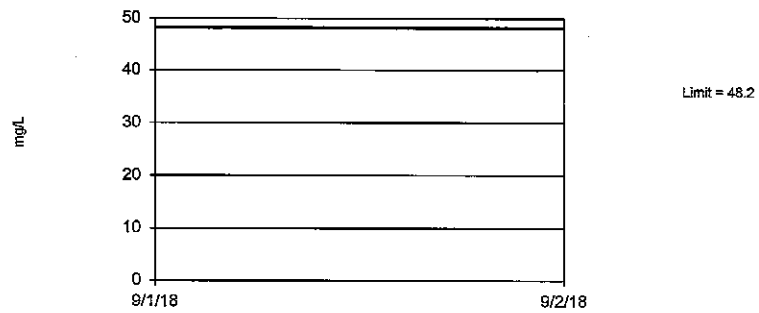
Constituent: pH Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=27.63, Std. Dev.=6.031, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9149, critical = 0.805. Report alpha = 0.01.

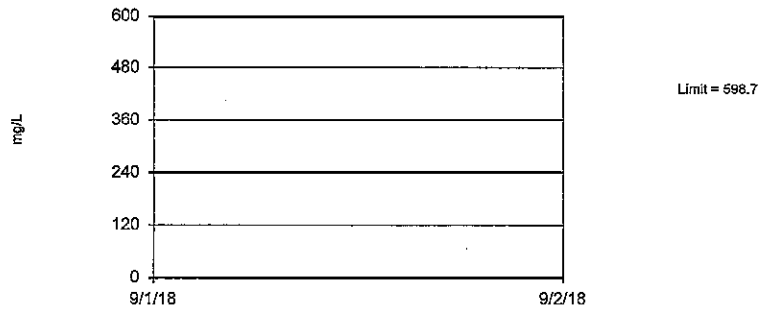
Constituent: Sulfate Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary: Mean=420.3, Std. Dev.=52.31, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.983, critical = 0.805. Report alpha = 0.01.

Constituent: TDS Analysis Run 1/18/2022 1:52 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Tolerance Limit

Constituent: pH (SU) Analysis Run 1/18/2022 1:55 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	6.92
7/29/2017	7.34
9/10/2017	6.34
10/14/2017	6.47
11/11/2017	8.1
1/6/2018	6.32
3/3/2018	7.6
4/14/2018	7.92
5/26/2018	7.12
6/23/2018	6.7
7/29/2018	7.2
9/2/2018	6.6

Tolerance Limit

Constituent: Sulfate (mg/L) Analysis Run 1/18/2022 1:55 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	40.45
7/29/2017	26.5
9/10/2017	32.3
10/14/2017	26.4
11/11/2017	26.5
1/6/2018	31.3
3/3/2018	23.6
4/14/2018	21.6
5/26/2018	20.6
6/23/2018	21.6
7/29/2018	35
9/2/2018	25.7

Tolerance Limit

Constituent: TDS (mg/L) Analysis Run 1/18/2022 1:55 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	460
7/29/2017	372
9/10/2017	330
10/14/2017	380
11/11/2017	380
1/6/2018	400
3/3/2018	470
4/14/2018	432
5/26/2018	522
6/23/2018	434
7/29/2018	454
9/2/2018	410

COMPARE CONFIDENCE INTERVALS TO TOLERANCE LIMITS FOR DETECTION MONITOIRNG PARAMETERS

Confidence Interval

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 2:16 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-8A	0.1235	0.09938	0.1592	No	12	0	No	0.01	Param.
Boron (mg/L)	**MW-9A**	**1.416**	**1.284**	**0.1592**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
Boron (mg/L)	**MW-10A**	**4.623**	**3.751**	**0.1592**	**Yes**	**10**	**0**	**x^2**	**0.01**	**Param.**
Calcium (mg/L)	MW-8A	98.53	64.44	201	No	12	0	No	0.01	Param.
Calcium (mg/L)	MW-9A	72.7	35.3	201	No	12	0	No	0.01	NP (normality)
Calcium (mg/L)	MW-10A	166	121	201	No	10	0	No	0.011	NP (normality)
Chloride (mg/L)	**MW-8A**	**4.55**	**3.5**	**3.385**	**Yes**	**12**	**0**	**No**	**0.01**	**NP (normality)**
Chloride (mg/L)	**MW-9A**	**18.89**	**15.2**	**3.385**	**Yes**	**12**	**0**	**x^3**	**0.01**	**Param.**
Chloride (mg/L)	**MW-10A**	**29.6**	**22**	**3.385**	**Yes**	**10**	**0**	**No**	**0.011**	**NP (normality)**
Fluoride (mg/L)	MW-8A	0.415	0.322	0.5609	No	12	0	No	0.01	NP (normality)
Fluoride (mg/L)	**MW-9A**	**0.7991**	**0.7112**	**0.5609**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-10A	0.533	0.394	0.5609	No	10	40	No	0.011	NP (normality)
pH (SU)	MW-8A	8.106	6.565	9.383	No	12	0	No	0.005	Param.
pH (SU)	MW-9A	7.668	6.9	9.383	No	12	0	x^2	0.005	Param.
pH (SU)	MW-10A	7.556	6.662	9.383	No	10	0	No	0.005	Param.
Sulfate (mg/L)	MW-8A	34.33	30.9	48.2	No	12	0	No	0.01	Param.
Sulfate (mg/L)	**MW-9A**	**105.8**	**97.16**	**48.2**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
Sulfate (mg/L)	**MW-10A**	**933.5**	**533.5**	**48.2**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
TDS (mg/L)	MW-8A	408.3	350.7	598.7	No	12	0	No	0.01	Param.
TDS (mg/L)	MW-9A	540.1	477.9	598.7	No	12	0	No	0.01	Param.
TDS (mg/L)	**MW-10A**	**2019**	**1561**	**598.7**	**Yes**	**10**	**0**	**x^3**	**0.01**	**Param.**

Confidence Interval

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 2:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-11A	0.275	0.04	0.1592	No	8	0	No	0.004	NP (normality)
Calcium (mg/L)	MW-11A	238.6	91.95	201	No	8	0	No	0.01	Param.
Chloride (mg/L)	**MW-11A**	**15.5**	**4.09**	**3.385**	**Yes**	**8**	**0**	**No**	**0.004**	**NP (normality)**
Fluoride (mg/L)	MW-11A	0.3688	0.2097	0.5609	No	8	0	No	0.01	Param.
pH (SU)	MW-11A	7.318	6.504	9.383	No	8	0	No	0.005	Param.
Sulfate (mg/L)	MW-11A	203	27.5	48.2	No	8	0	No	0.004	NP (normality)
TDS (mg/L)	MW-11A	686	398	598.7	No	8	0	No	0.004	NP (normality)

Confidence Interval

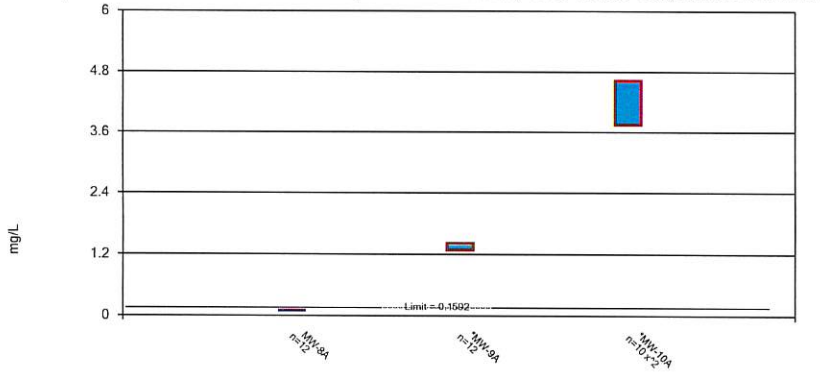
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 2:29 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**MW-12A**	**10.66**	**7.958**	**0.1592**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
Calcium (mg/L)	**MW-12A**	**354**	**235**	**201**	**Yes**	**8**	**0**	**No**	**0.004**	**NP (normality)**
Chloride (mg/L)	**MW-12A**	**112.3**	**58.83**	**3.385**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	**MW-12A**	**0.7885**	**0.599**	**0.5609**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
pH (SU)	MW-12A	7.173	6.669	9.383	No	8	0	No	0.005	Param.
Sulfate (mg/L)	**MW-12A**	**2654**	**1609**	**48.2**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
TDS (mg/L)	**MW-12A**	**4542**	**2919**	**598.7**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



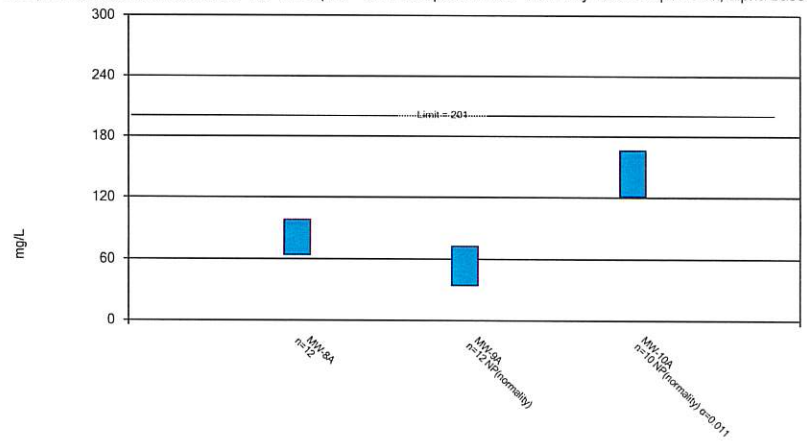
Constituent: Boron Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



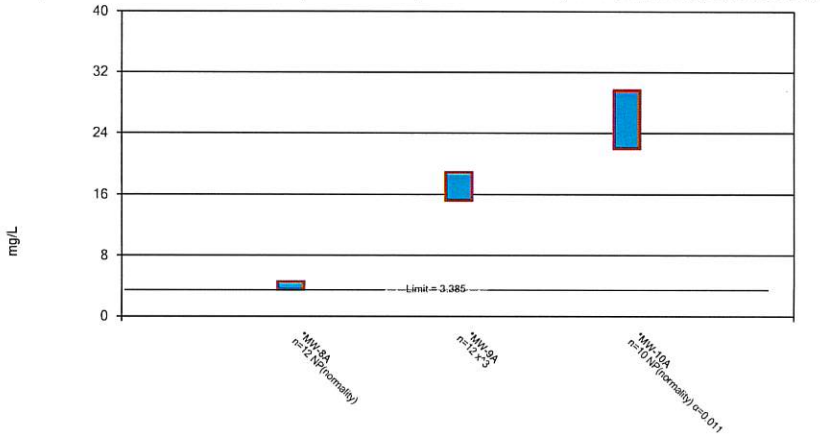
Constituent: Calcium Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



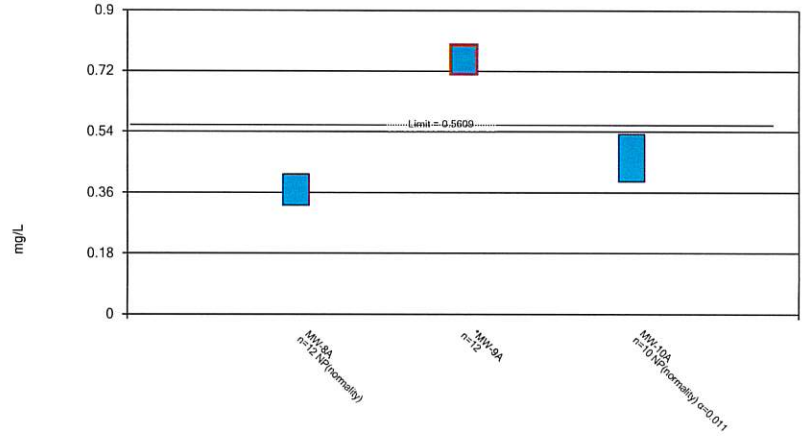
Constituent: Chloride Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Boron (mg/L) Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	0.12	1.2	3.4
7/29/2017	0.13	1.21	3.13
9/10/2017	0.111	1.32	4.4
10/14/2017	0.108	1.36	4.52
11/11/2017	0.109	1.36	4.17
1/6/2018	0.11	1.43	4.05
3/3/2018	0.107	1.43	4.41
4/14/2018	0.108	1.36	4.43
5/26/2018	0.122	1.37	4.55
6/23/2018	0.079	1.29	4.74
7/29/2018	0.138	1.48	
9/2/2018	0.0953	1.39	
Mean	0.1114	1.35	4.18
Std. Dev.	0.01537	0.08453	0.5226
Upper Lim.	0.1235	1.416	4.623
Lower Lim.	0.09938	1.284	3.751

Confidence Interval

Constituent: Calcium (mg/L) Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	63	35	130
7/29/2017	84.8	35.3	124
9/10/2017	92.1	44.8	166
10/14/2017	74.7	36.8	167
11/11/2017	38.9	73.7	134
1/6/2018	86	38	122
3/3/2018	78.3	35.4	123
4/14/2018	84.1	36.4	115
5/26/2018	87.2	72.7	121
6/23/2018	76	37.1	166
7/29/2018	134	63.6	
9/2/2018	78.7	41.9	
Mean	81.48	45.89	136.8
Std. Dev.	21.72	15	21
Upper Lim.	98.53	72.7	166
Lower Lim.	64.44	35.3	121

Confidence Interval

Constituent: Chloride (mg/L) Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	3.5	7.5	7
7/29/2017	4.55	18.8	29.6
9/10/2017	4.61	17.1	26.5
10/14/2017	3.78	16.4	27.3
11/11/2017	3.57	17.7	78.9
1/6/2018	3.55	16.9	28.2
3/3/2018	3.59	17	27.8
4/14/2018	3.52	17.4	26.3
5/26/2018	3.18	15.7	24.3
6/23/2018	3.86	21.2	22
7/29/2018	3.78	18	
9/2/2018	3.63	17.4	
Mean	3.76	16.76	29.79
Std. Dev.	0.4205	3.224	18.43
Upper Lim.	4.55	18.89	29.6
Lower Lim.	3.5	15.2	22

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 1/18/2022 2:15 PM

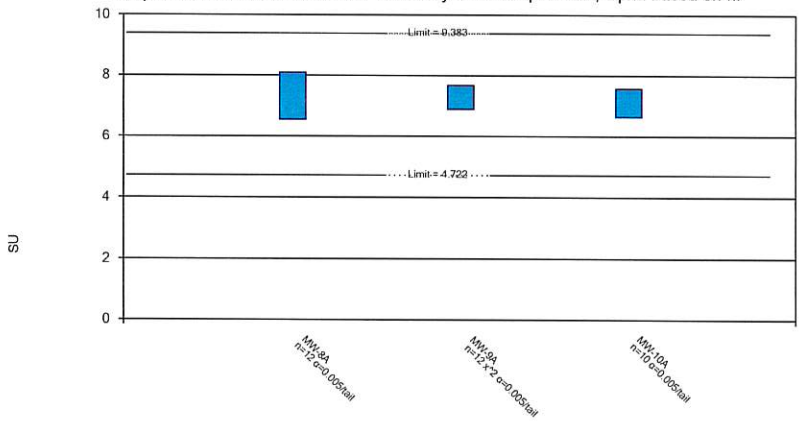
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	0.39	0.76	0.32
7/29/2017	0.359	0.747	0.533
9/10/2017	0.346	0.717	<1
10/14/2017	0.31	0.679	0.5
11/11/2017	0.322	0.703	0.394
1/6/2018	0.344	0.729	0.522
3/3/2018	0.363	0.784	<1
4/14/2018	0.396	0.822	<1
5/26/2018	0.333	0.702	<1
6/23/2018	0.743	0.834	0.826
7/29/2018	0.415	0.85	
9/2/2018	0.352	0.735	
Mean	0.3894	0.7552	0.5095
Std. Dev.	0.1155	0.056	0.1293
Upper Lim.	0.415	0.7991	0.533
Lower Lim.	0.322	0.7112	0.394

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.



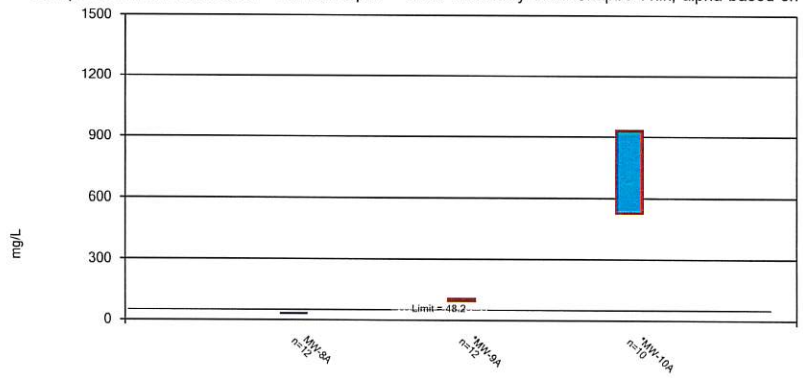
Constituent: pH Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



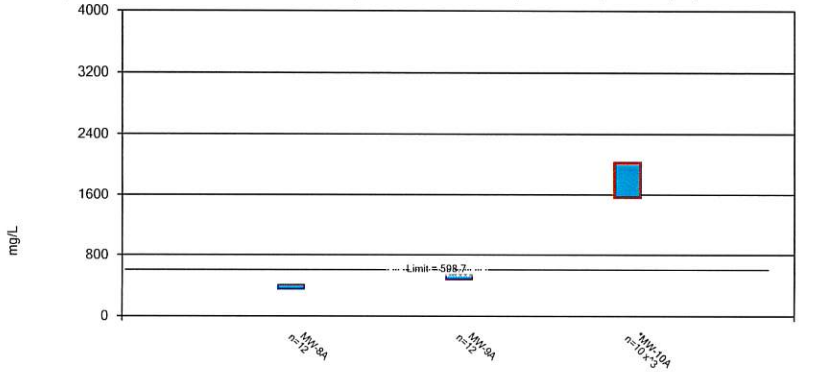
Constituent: Sulfate Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: TDS Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: pH (SU) Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	7.44	7.75	7.19
7/29/2017	8.05	7.92	7.22
9/10/2017	7.2	7.18	6.78
10/14/2017	7.02	7.19	6.32
11/11/2017	9.2	7.4	7.2
1/6/2018	5.82	7.24	7.24
3/3/2018	6.8	7.3	7.9
4/14/2018	8.21	6.11	6.65
5/26/2018	7.39	7.62	7.19
6/23/2018	7.3	7.1	7.4
7/29/2018	6.6	7.3	
9/2/2018	7	7.27	
Mean	7.336	7.282	7.109
Std. Dev.	0.8593	0.4454	0.435
Upper Lim.	8.106	7.668	7.556
Lower Lim.	6.565	6.9	6.662

Confidence Interval

Constituent: Sulfate (mg/L) Analysis Run 1/18/2022 2:15 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	37.21	93.18	713.03
7/29/2017	30.8	111	677
9/10/2017	31.5	106	914
10/14/2017	32.3	101	1140
11/11/2017	31.9	96.8	804
1/6/2018	31.2	98.3	711
3/3/2018	33.1	106	814
4/14/2018	30.2	101	682
5/26/2018	30.8	93.7	619
6/23/2018	34	104	261
7/29/2018	32.2	99.8	
9/2/2018	36.2	107	
Mean	32.62	101.5	733.5
Std. Dev.	2.186	5.502	224.2
Upper Lim.	34.33	105.8	933.5
Lower Lim.	30.9	97.16	533.5

Confidence Interval

Constituent: TDS (mg/L) Analysis Run 1/18/2022 2:16 PM

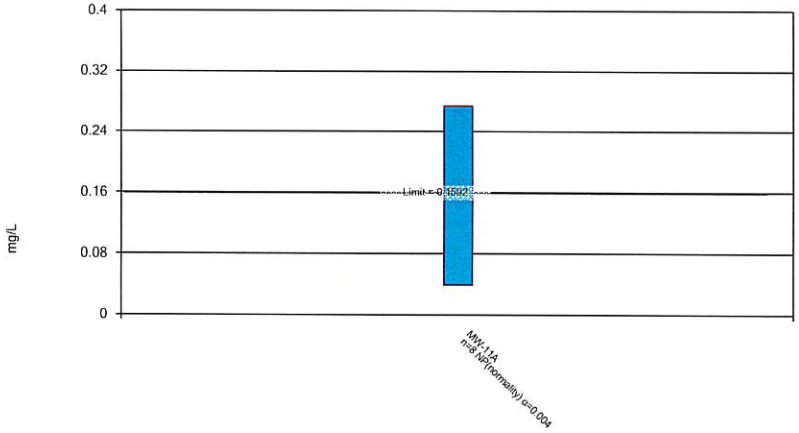
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A
2/26/2017	352	496	1730
7/29/2017	422	530	1740
9/10/2017	316	454	2080
10/14/2017	372	510	2140
11/11/2017	354	516	1940
1/6/2018	374	512	1760
3/3/2018	444	526	1800
4/14/2018	430	524	1790
5/26/2018	382	414	1810
6/23/2018	360	520	874
7/29/2018	362	546	
9/2/2018	386	560	
Mean	379.5	509	1766
Std. Dev.	36.65	39.69	344.8
Upper Lim.	408.3	540.1	2019
Lower Lim.	350.7	477.9	1561

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



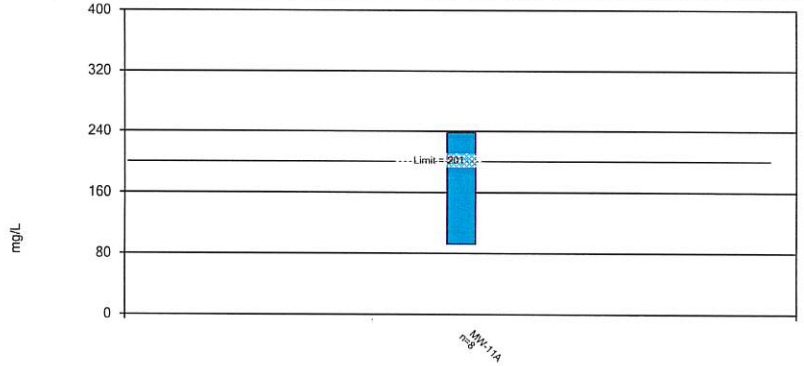
Constituent: Boron Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



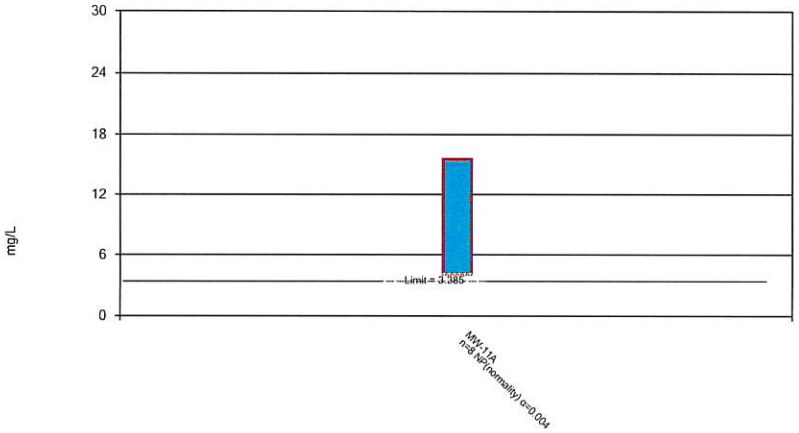
Constituent: Calcium Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance limit is exceeded.



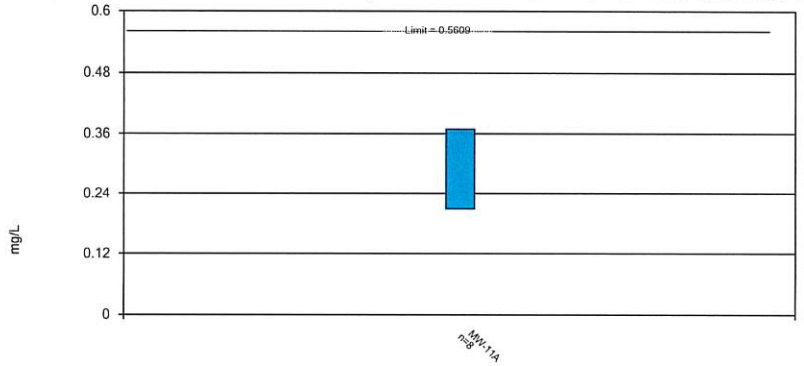
Constituent: Chloride Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Boron (mg/L) Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	0.049
6/18/2019	0.275
10/29/2019	0.047
11/29/2019	0.044
12/18/2019	0.04
1/22/2020	0.07
4/23/2020	0.0422
7/22/2020	0.084
Mean	0.0814
Std. Dev.	0.07973
Upper Lim.	0.275
Lower Lim.	0.04

Confidence Interval

Constituent: Calcium (mg/L) Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	92.5
6/18/2019	150
10/29/2019	76.7
11/29/2019	245
12/18/2019	215
1/22/2020	264
4/23/2020	129
7/22/2020	150
Mean	165.3
Std. Dev.	69.18
Upper Lim.	238.6
Lower Lim.	91.95

Confidence Interval

Constituent: Chloride (mg/L) Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	15.5
6/18/2019	4.09
10/29/2019	7.28
11/29/2019	4.86
12/18/2019	4.98
1/22/2020	4.56
4/23/2020	4.84
7/22/2020	4.37
Mean	6.31
Std. Dev.	3.839
Upper Lim.	15.5
Lower Lim.	4.09

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 1/18/2022 2:36 PM

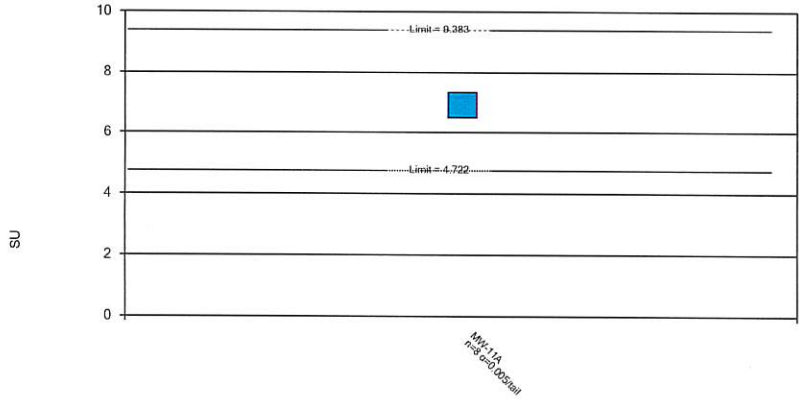
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	0.43
6/18/2019	0.36
10/29/2019	0.27
11/29/2019	0.28
12/18/2019	0.27
1/22/2020	0.29
4/23/2020	0.219
7/22/2020	0.195
Mean	0.2893
Std. Dev.	0.07508
Upper Lim.	0.3688
Lower Lim.	0.2097

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.



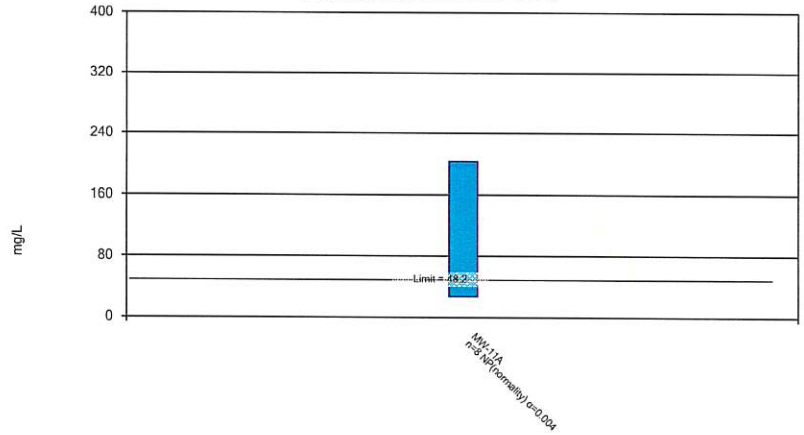
Constituent: pH Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



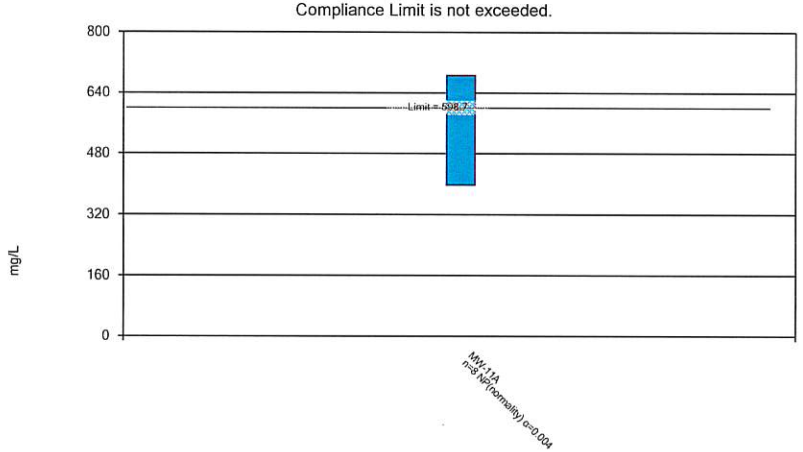
Constituent: Sulfate Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: TDS Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: pH (SU) Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	7.01
6/18/2019	6.72
10/29/2019	6.57
11/29/2019	6.49
12/18/2019	7.06
1/22/2020	6.86
4/23/2020	7.06
7/22/2020	7.52
Mean	6.911
Std. Dev.	0.329
Upper Lim.	7.318
Lower Lim.	6.504

Confidence Interval

Constituent: Sulfate (mg/L) Analysis Run 1/18/2022 2:36 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	27.5
6/18/2019	203
10/29/2019	31.8
11/29/2019	31.6
12/18/2019	34.6
1/22/2020	34.1
4/23/2020	35.7
7/22/2020	40.6
Mean	54.86
Std. Dev.	59.97
Upper Lim.	203
Lower Lim.	27.5

Confidence Interval

Constituent: TDS (mg/L) Analysis Run 1/18/2022 2:36 PM

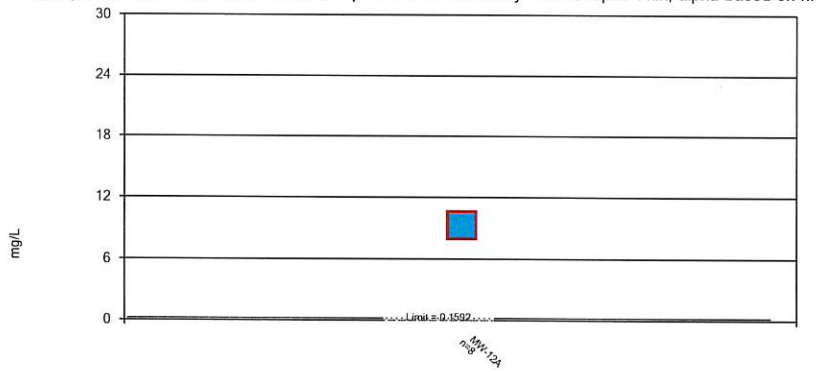
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A
10/19/2018	426
6/18/2019	686
10/29/2019	418
11/29/2019	410
12/18/2019	438
1/22/2020	434
4/23/2020	440
7/22/2020	398
Mean	456.3
Std. Dev.	93.95
Upper Lim.	686
Lower Lim.	398

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



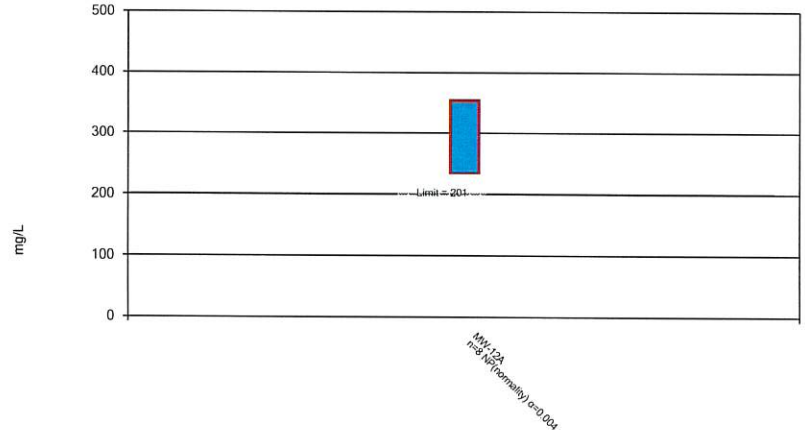
Constituent: Boron Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Non-Parametric Confidence Interval

Compliance limit is exceeded.



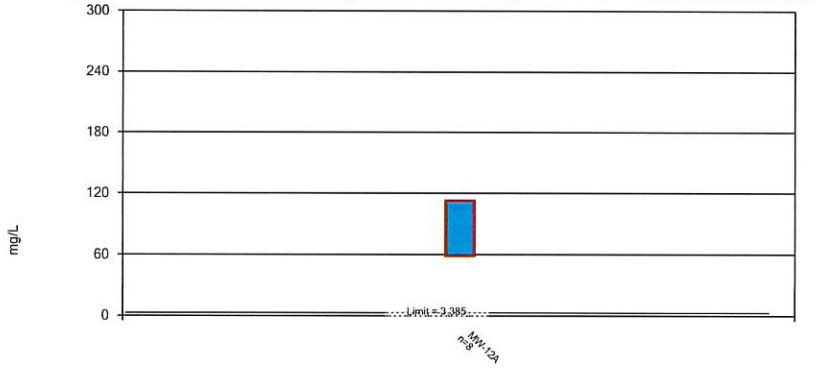
Constituent: Calcium Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



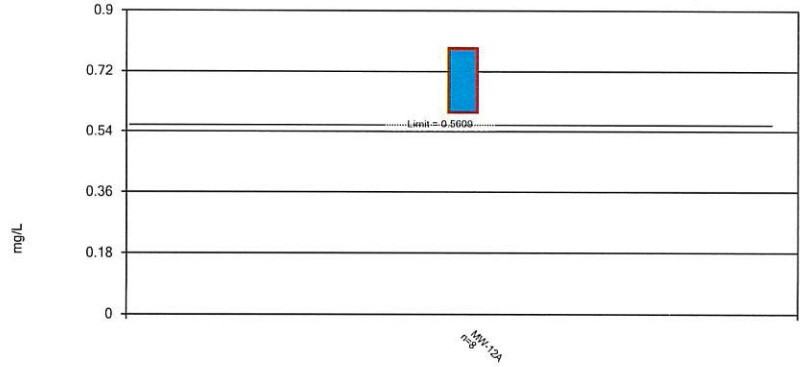
Constituent: Chloride Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: Boron (mg/L) Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	8.8
11/27/2018	11.6
12/24/2018	10.3
1/22/2019	9.99
4/22/2019	9.3
6/18/2019	8.09
8/13/2019	7.72
10/29/2019	8.67
Mean	9.309
Std. Dev.	1.275
Upper Lim.	10.66
Lower Lim.	7.958

Confidence Interval

Constituent: Calcium (mg/L) Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	248
11/27/2018	251
12/24/2018	246
1/22/2019	354
4/22/2019	296
6/18/2019	252
8/13/2019	265
10/29/2019	235
Mean	268.4
Std. Dev.	39.11
Upper Lim.	354
Lower Lim.	235

Confidence Interval

Constituent: Chloride (mg/L) Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	69.1
11/27/2018	61.3
12/24/2018	65
1/22/2019	86.1
4/22/2019	70.8
6/18/2019	105
8/13/2019	136
10/29/2019	91.2
Mean	85.56
Std. Dev.	25.23
Upper Lim.	112.3
Lower Lim.	58.83

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 1/18/2022 2:29 PM

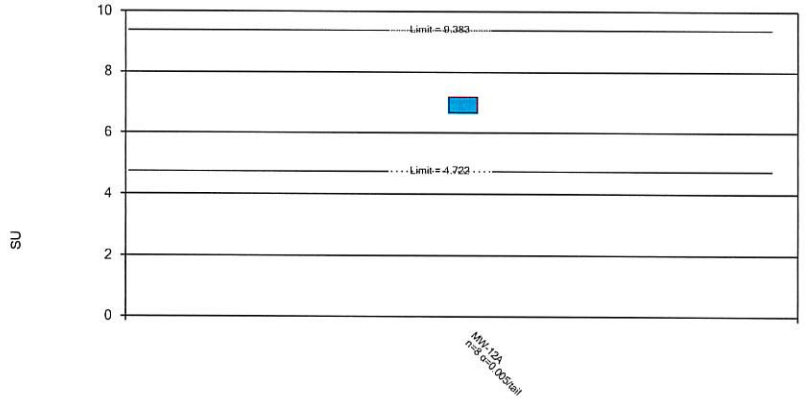
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	0.62
11/27/2018	0.78
12/24/2018	0.65
1/22/2019	0.85
4/22/2019	0.58
6/18/2019	0.67
8/13/2019	0.66
10/29/2019	0.74
Mean	0.6938
Std. Dev.	0.08943
Upper Lim.	0.7885
Lower Lim.	0.599

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Normality Test: Shapiro Wilk, alpha based on n.



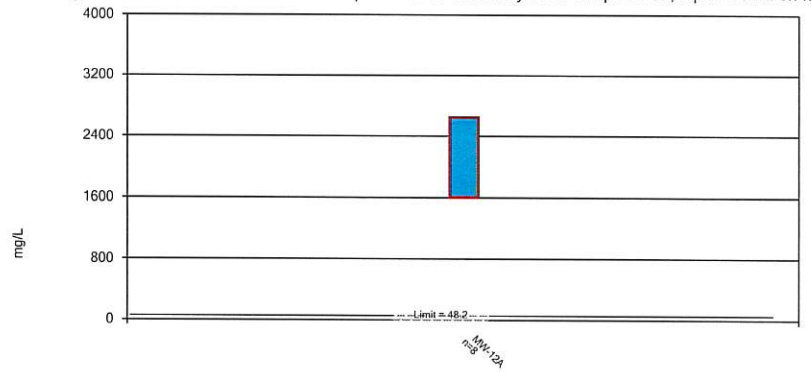
Constituent: pH Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



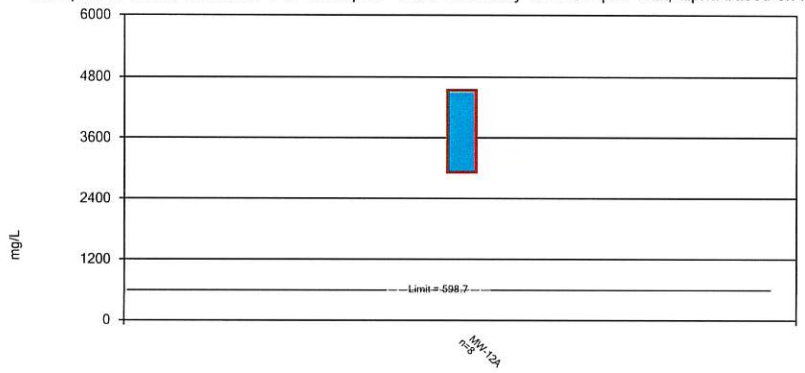
Constituent: Sulfate Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Parametric Confidence Interval

Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: TDS Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Confidence Interval

Constituent: pH (SU) Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	7.15
11/27/2018	7.08
12/24/2018	6.98
1/22/2019	7.01
4/22/2019	6.84
6/18/2019	6.93
8/13/2019	6.9
10/29/2019	6.48
Mean	6.921
Std. Dev.	0.2038
Upper Lim.	7.173
Lower Lim.	6.669

Confidence Interval

Constituent: Sulfate (mg/L) Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	2220
11/27/2018	2560
12/24/2018	2480
1/22/2019	1170
4/22/2019	2410
6/18/2019	1690
8/13/2019	1980
10/29/2019	2540
Mean	2131
Std. Dev.	492.8
Upper Lim.	2654
Lower Lim.	1609

Confidence Interval

Constituent: TDS (mg/L) Analysis Run 1/18/2022 2:29 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A
10/19/2018	3756
11/27/2018	4752
12/24/2018	4236
1/22/2019	2388
4/22/2019	4356
6/18/2019	3088
8/13/2019	3338
10/29/2019	3932
Mean	3731
Std. Dev.	765.4
Upper Lim.	4542
Lower Lim.	2919

CALCULATE UPPER PREDICTION LIMITS FOR DETECTION MONITOIRNG PARAMETERS USING INTER-WELL METHODS

Inter-Well Prediction Limit

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 2:57 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	n/a	0.1339	n/a	n/a	5 future	n/a	12	8.333	No	0.001504	Param Inter 1 of 2
Calcium (mg/L)	n/a	172	n/a	n/a	5 future	n/a	12	0	No	0.001504	Param Inter 1 of 2
Chloride (mg/L)	n/a	2.825	n/a	n/a	5 future	n/a	12	0	No	0.001504	Param Inter 1 of 2
Fluoride (mg/L)	n/a	0.5142	n/a	n/a	5 future	n/a	12	0	No	0.001504	Param Inter 1 of 2
Sulfate (mg/L)	n/a	41.45	n/a	n/a	5 future	n/a	12	0	No	0.001504	Param Inter 1 of 2
TDS (mg/L)	n/a	540.2	n/a	n/a	5 future	n/a	12	0	No	0.001504	Param Inter 1 of 2

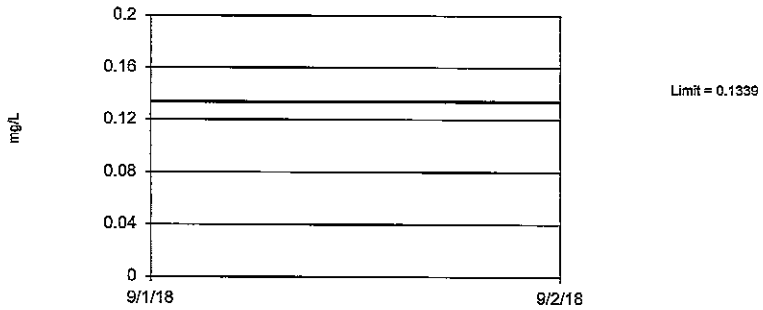
Inter-Well Prediction Limit

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 5:33 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
pH (SU)	n/a	8.433	5.672	n/a	5 future	n/a	12	0	No	0.000752	Param 1 of 2

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.08193, Std. Dev.=0.02267, n=12, 8.333% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8691, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Assumes 5 future values.

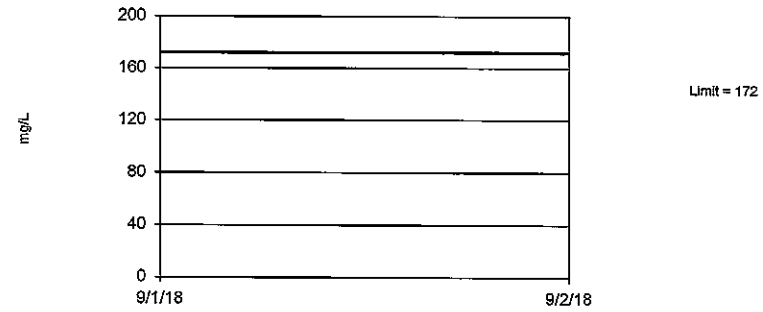
Constituent: Boron Analysis Run 1/18/2022 2:48 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=112.5, Std. Dev.=25.94, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.815, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Assumes 5 future values.

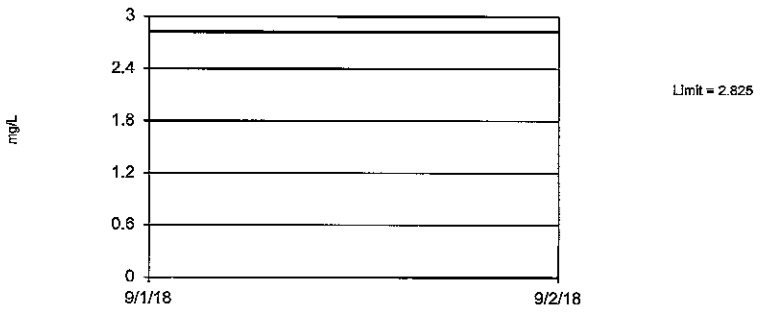
Constituent: Calcium Analysis Run 1/18/2022 2:49 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=1.678, Std. Dev.=0.5008, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8438, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Assumes 5 future values.

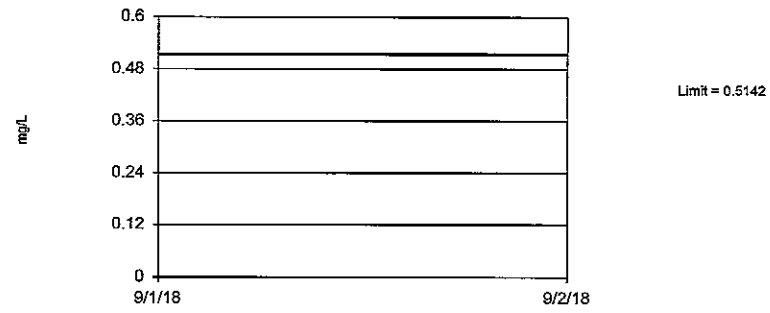
Constituent: Chloride Analysis Run 1/18/2022 2:49 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.4185, Std. Dev.=0.04176, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9028, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Assumes 5 future values.

Constituent: Fluoride Analysis Run 1/18/2022 2:49 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 1/18/2022 2:57 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	<0.1
7/29/2017	0.0705
9/10/2017	0.0704
10/14/2017	0.0654
11/11/2017	0.0766
1/6/2018	0.068
3/3/2018	0.113
4/14/2018	0.121
5/26/2018	0.115
6/23/2018	0.0678
7/29/2018	0.0894
9/2/2018	0.076

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 1/18/2022 2:57 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	81
7/29/2017	89.8
9/10/2017	105
10/14/2017	97.3
11/11/2017	99.4
1/6/2018	110
3/3/2018	121
4/14/2018	127
5/26/2018	184
6/23/2018	116
7/29/2018	112
9/2/2018	108

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 1/18/2022 2:57 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	3
7/29/2017	1.73
9/10/2017	1.99
10/14/2017	1.53
11/11/2017	1.29
1/6/2018	1.58
3/3/2018	1.22
4/14/2018	1.14
5/26/2018	1.34
6/23/2018	1.54
7/29/2018	1.81
9/2/2018	1.96

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 1/18/2022 2:57 PM

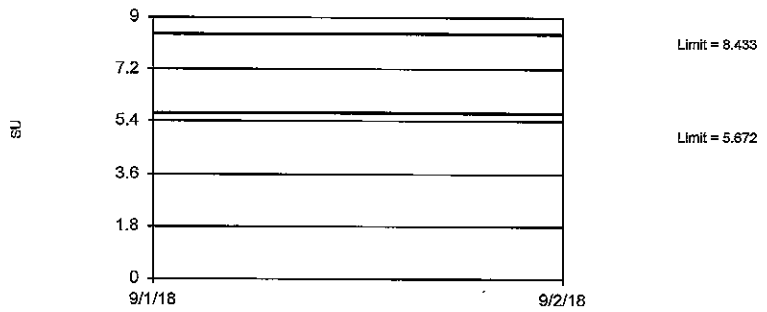
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	0.48
7/29/2017	0.433
9/10/2017	0.415
10/14/2017	0.394
11/11/2017	0.412
1/6/2018	0.38
3/3/2018	0.42
4/14/2018	0.51
5/26/2018	0.362
6/23/2018	0.42
7/29/2018	0.416
9/2/2018	0.38

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=7.053, Std. Dev.=0.6022, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9384, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.000752. Assumes 5 future values.

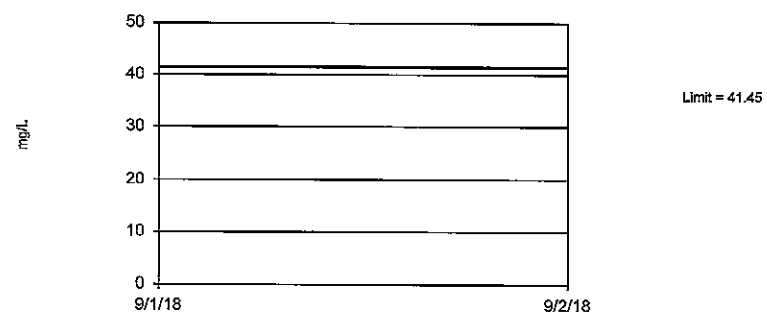
Constituent: pH Analysis Run 1/18/2022 2:49 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=27.63, Std. Dev.=6.031, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9149, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Assumes 5 future values.

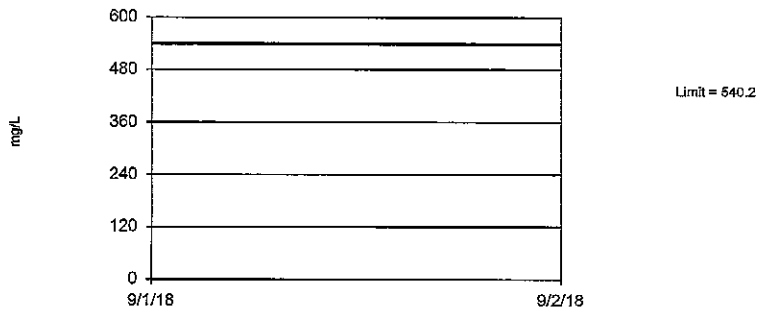
Constituent: Sulfate Analysis Run 1/18/2022 2:49 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=420.3, Std. Dev.=52.31, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.983, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Assumes 5 future values.

Constituent: TDS Analysis Run 1/18/2022 2:49 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: pH (SU) Analysis Run 1/18/2022 2:57 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	6.92
7/29/2017	7.34
9/10/2017	6.34
10/14/2017	6.47
11/11/2017	8.1
1/6/2018	6.32
3/3/2018	7.6
4/14/2018	7.92
5/26/2018	7.12
6/23/2018	6.7
7/29/2018	7.2
9/2/2018	6.6

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 1/18/2022 2:57 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	40.45
7/29/2017	26.5
9/10/2017	32.3
10/14/2017	26.4
11/11/2017	26.5
1/6/2018	31.3
3/3/2018	23.6
4/14/2018	21.6
5/26/2018	20.6
6/23/2018	21.6
7/29/2018	35
9/2/2018	25.7

Prediction Limit

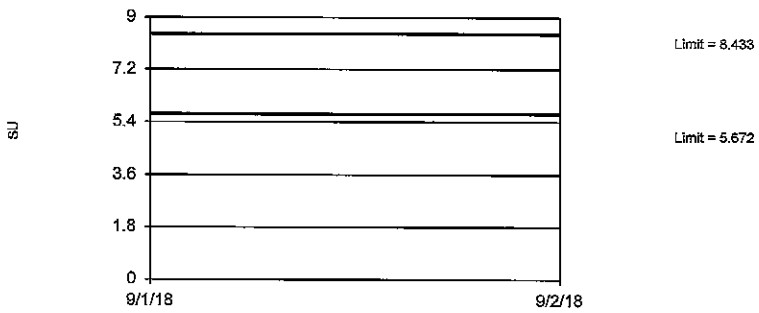
Constituent: TDS (mg/L) Analysis Run 1/18/2022 2:57 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	460
7/29/2017	372
9/10/2017	330
10/14/2017	380
11/11/2017	380
1/6/2018	400
3/3/2018	470
4/14/2018	432
5/26/2018	522
6/23/2018	434
7/29/2018	454
9/2/2018	410

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=7.053, Std. Dev.=0.6022, n=12. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9384, critical = 0.805. Kappa = 2.292 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.000752. Assumes 5 future values.

Constituent: pH Analysis Run 1/18/2022 5:32 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: pH (SU) Analysis Run 1/18/2022 5:33 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-6A (bg)
2/26/2017	6.92
7/29/2017	7.34
9/10/2017	6.34
10/14/2017	6.47
11/11/2017	8.1
1/6/2018	6.32
3/3/2018	7.6
4/14/2018	7.92
5/26/2018	7.12
6/23/2018	6.7
7/29/2018	7.2
9/2/2018	6.6

CALCULATE UPPER PREDICATION LIMITS FOR DETECTION MONITORING PARAMETERS USING INTRA-WELL METHODS

Intra-Well Prediction Limit

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 5:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-8A	0.1471	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Boron (mg/L)	MW-9A	1.546	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Boron (mg/L)	MW-10A	5.475	n/a	n/a	1 future	n/a	10	0	No	0.001504	Param 1 of 2
Calcium (mg/L)	MW-8A	131.9	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Calcium (mg/L)	MW-9A	73.7	n/a	n/a	1 future	n/a	12	0	n/a	0.01077	NP (normality) 1 of 2
Calcium (mg/L)	MW-10A	191.7	n/a	n/a	1 future	n/a	10	0	sqrt(x)	0.001504	Param 1 of 2
Chloride (mg/L)	MW-8A	4.736	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Chloride (mg/L)	MW-9A	22.33	n/a	n/a	1 future	n/a	12	0	x^2	0.001504	Param 1 of 2
Chloride (mg/L)	MW-10A	78.9	n/a	n/a	1 future	n/a	10	0	n/a	0.01476	NP (normality) 1 of 2
Fluoride (mg/L)	MW-8A	0.743	n/a	n/a	1 future	n/a	12	0	n/a	0.01077	NP (normality) 1 of 2
Fluoride (mg/L)	MW-9A	0.8852	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Fluoride (mg/L)	MW-10A	1.85	n/a	n/a	1 future	n/a	10	40	sqrt(x)	0.001504	Param 1 of 2
pH (SU)	MW-8A	9.331	5.341	n/a	1 future	n/a	12	0	No	0.000752	Param 1 of 2
pH (SU)	MW-9A	8.316	6.247	n/a	1 future	n/a	12	0	No	0.000752	Param 1 of 2
pH (SU)	MW-10A	8.187	6.031	n/a	1 future	n/a	10	0	No	0.000752	Param 1 of 2
Sulfate (mg/L)	MW-8A	37.69	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Sulfate (mg/L)	MW-9A	114.3	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
Sulfate (mg/L)	MW-10A	1289	n/a	n/a	1 future	n/a	10	0	No	0.001504	Param 1 of 2
TDS (mg/L)	MW-8A	464.6	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
TDS (mg/L)	MW-9A	601.1	n/a	n/a	1 future	n/a	12	0	No	0.001504	Param 1 of 2
TDS (mg/L)	MW-10A	2403	n/a	n/a	1 future	n/a	10	0	x^2	0.001504	Param 1 of 2

Intra-Well Prediction Limit

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 5:20 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-11A	0.275	n/a	n/a	1 future	n/a	8	0	n/a	0.02144	NP (normality) 1 of 2
Calcium (mg/L)	MW-11A	354.8	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
Chloride (mg/L)	MW-11A	15.5	n/a	n/a	1 future	n/a	8	0	n/a	0.02144	NP (normality) 1 of 2
Fluoride (mg/L)	MW-11A	0.495	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
pH (SU)	MW-11A	7.813	6.01	n/a	1 future	n/a	8	0	No	0.000752	Param 1 of 2
Sulfate (mg/L)	MW-11A	203	n/a	n/a	1 future	n/a	8	0	n/a	0.02144	NP (normality) 1 of 2
TDS (mg/L)	MW-11A	686	n/a	n/a	1 future	n/a	8	0	n/a	0.02144	NP (normality) 1 of 2

Intra-Well Prediction Limit

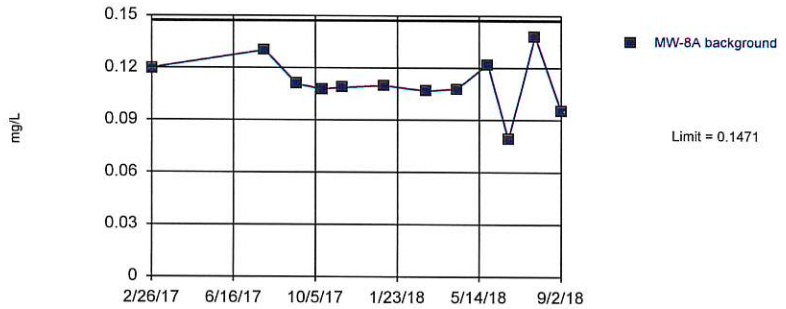
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM Printed 1/18/2022, 5:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MW-12A	12.8	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
Calcium (mg/L)	MW-12A	375.5	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
Chloride (mg/L)	MW-12A	154.7	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
Fluoride (mg/L)	MW-12A	0.9388	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
pH (SU)	MW-12A	7.48	6.363	n/a	1 future	n/a	8	0	No	0.000752	Param 1 of 2
Sulfate (mg/L)	MW-12A	3481	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2
TDS (mg/L)	MW-12A	5828	n/a	n/a	1 future	n/a	8	0	No	0.001504	Param 1 of 2

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-8A



Background Data Summary: Mean=0.1114, Std. Dev.=0.01537, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9454, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

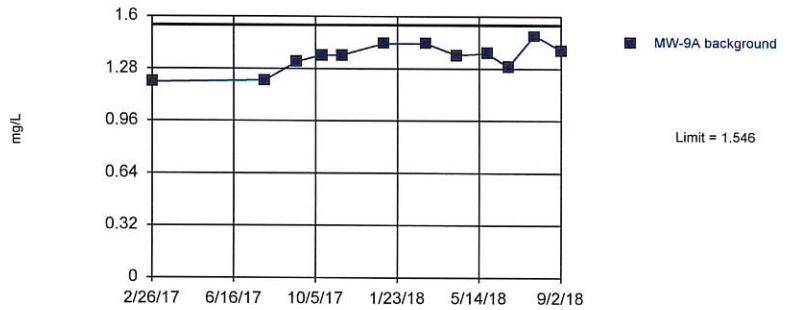
Constituent: Boron Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-9A



Background Data Summary: Mean=1.35, Std. Dev.=0.08453, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9367, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

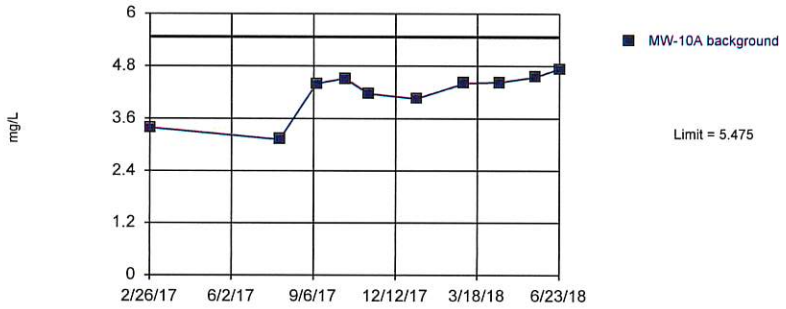
Constituent: Boron Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-10A



Background Data Summary: Mean=4.18, Std. Dev.=0.5226, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8382, critical = 0.781. Kappa = 2.478 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

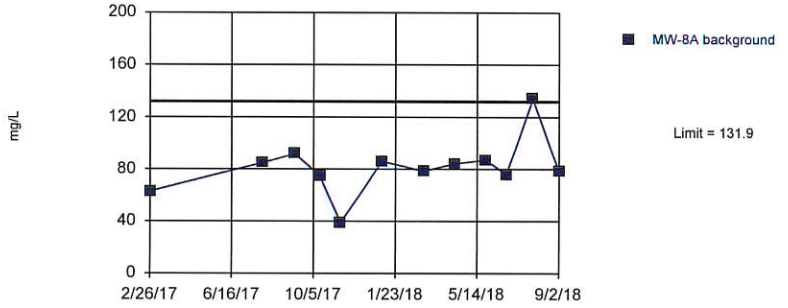
Constituent: Boron Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-8A



Background Data Summary: Mean=81.48, Std. Dev.=21.72, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8655, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: Calcium Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: Boron, Calcium Analysis Run 1/18/2022 5:14 PM

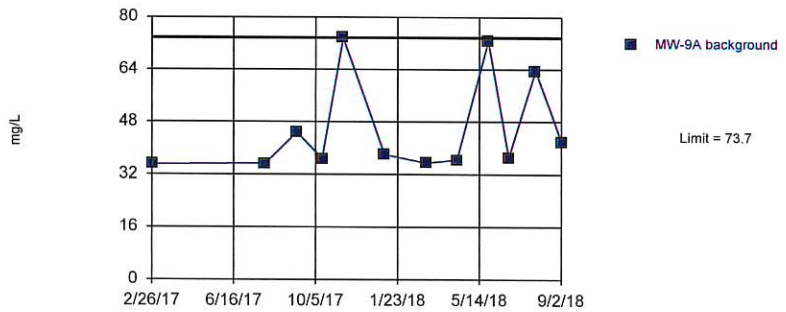
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-8A
2/26/2017	0.12	1.2	3.4	63
7/29/2017	0.13	1.21	3.13	84.8
9/10/2017	0.111	1.32	4.4	92.1
10/14/2017	0.108	1.36	4.52	74.7
11/11/2017	0.109	1.36	4.17	38.9
1/6/2018	0.11	1.43	4.05	86
3/3/2018	0.107	1.43	4.41	78.3
4/14/2018	0.108	1.36	4.43	84.1
5/26/2018	0.122	1.37	4.55	87.2
6/23/2018	0.079	1.29	4.74	76
7/29/2018	0.138	1.48		134
9/2/2018	0.0953	1.39		78.7

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-9A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.02143. Individual comparison alpha = 0.01077 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

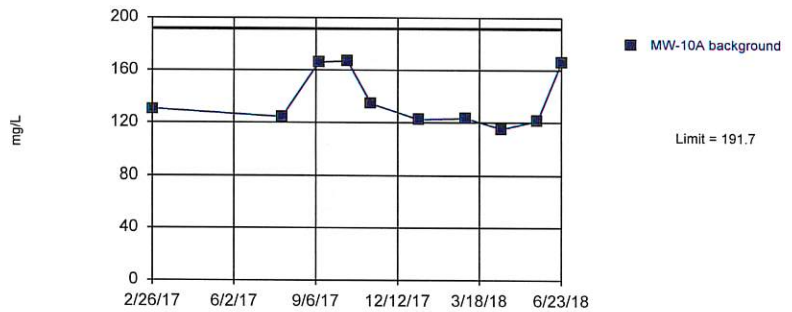
Constituent: Calcium Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-10A



Background Data Summary (based on square root transformation): Mean=11.67, Std. Dev.=0.879, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7913, critical = 0.781. Kappa = 2.478 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

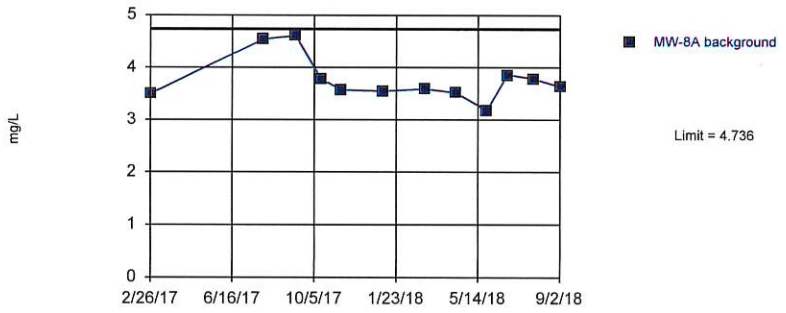
Constituent: Calcium Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-8A



Background Data Summary: Mean=3.76, Std. Dev.=0.4205, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8278, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

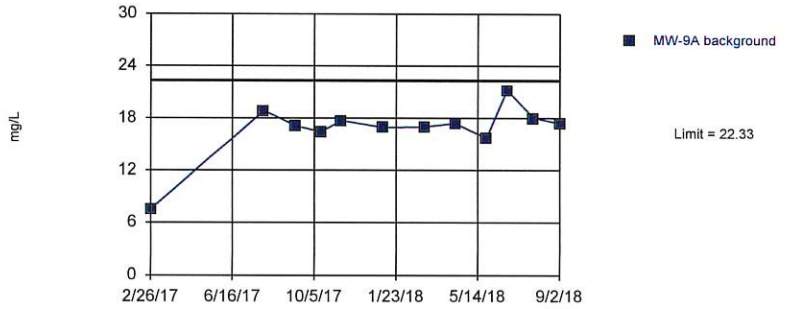
Constituent: Chloride Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-9A



Background Data Summary (based on square transformation): Mean=290.4, Std. Dev.=89.68, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8223, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: Chloride Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: Calcium, Chloride Analysis Run 1/18/2022 5:14 PM

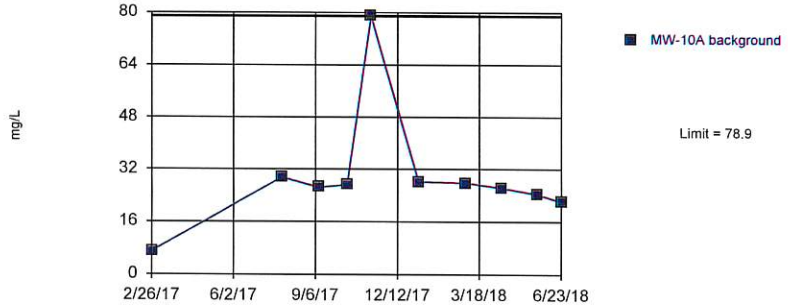
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-9A	MW-10A	MW-8A	MW-9A
2/26/2017	35	130	3.5	7.5
7/29/2017	35.3	124	4.55	18.8
9/10/2017	44.8	166	4.61	17.1
10/14/2017	36.8	167	3.78	16.4
11/11/2017	73.7	134	3.57	17.7
1/6/2018	38	122	3.55	16.9
3/3/2018	35.4	123	3.59	17
4/14/2018	36.4	115	3.52	17.4
5/26/2018	72.7	121	3.18	15.7
6/23/2018	37.1	166	3.86	21.2
7/29/2018	63.6		3.78	18
9/2/2018	41.9		3.63	17.4

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-10A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 10 background values. Well-constituent pair annual alpha = 0.0293. Individual comparison alpha = 0.01476 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

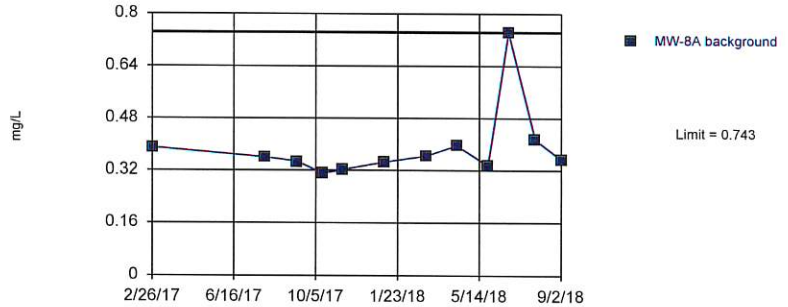
Constituent: Chloride Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-8A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.02143. Individual comparison alpha = 0.01077 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

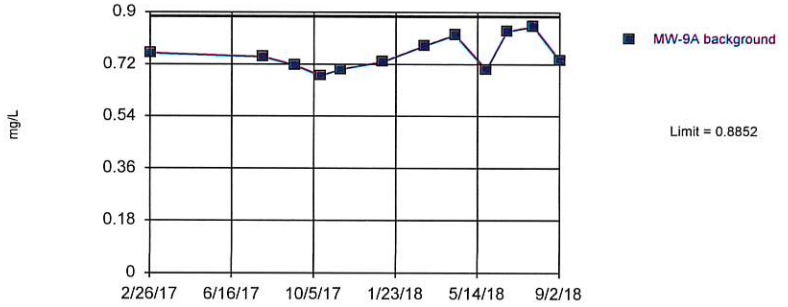
Constituent: Fluoride Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-9A



Background Data Summary: Mean=0.7552, Std. Dev.=0.056, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9319, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

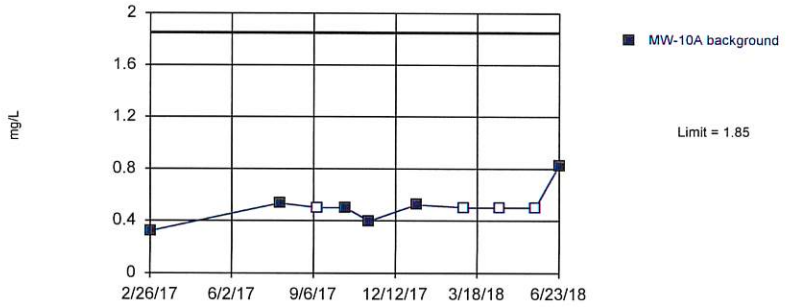
Constituent: Fluoride Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG
Hollow symbols indicate censored values.

Prediction Limit

Intrawell Parametric, MW-10A



Background Data Summary (based on square root transformation) (after Aitchison`s Adjustment): Mean=0.4262, Std. Dev.=0.3769, n=10, 40% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8079, critical = 0.781. Kappa = 2.478 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: Fluoride Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: Chloride, Fluoride Analysis Run 1/18/2022 5:14 PM

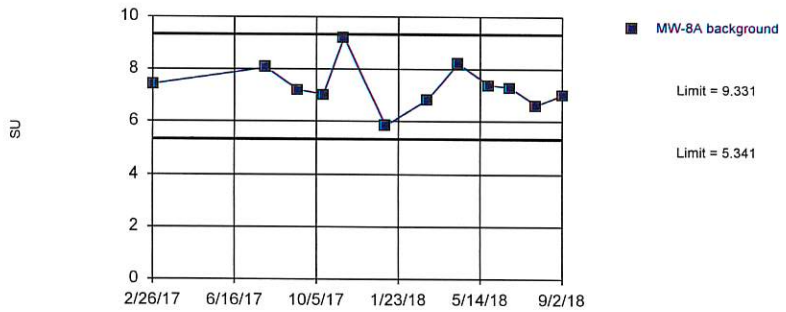
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-10A	MW-8A	MW-9A	MW-10A
2/26/2017	7	0.39	0.76	0.32
7/29/2017	29.6	0.359	0.747	0.533
9/10/2017	26.5	0.346	0.717	<1
10/14/2017	27.3	0.31	0.679	0.5
11/11/2017	78.9	0.322	0.703	0.394
1/6/2018	28.2	0.344	0.729	0.522
3/3/2018	27.8	0.363	0.784	<1
4/14/2018	26.3	0.396	0.822	<1
5/26/2018	24.3	0.333	0.702	<1
6/23/2018	22	0.743	0.834	0.826
7/29/2018		0.415	0.85	
9/2/2018		0.352	0.735	

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-8A



Background Data Summary: Mean=7.336, Std. Dev.=0.8593, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9558, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

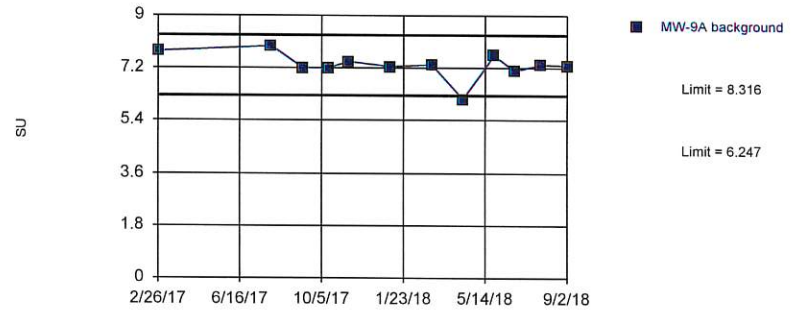
Constituent: pH Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-9A



Background Data Summary: Mean=7.282, Std. Dev.=0.4454, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8352, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

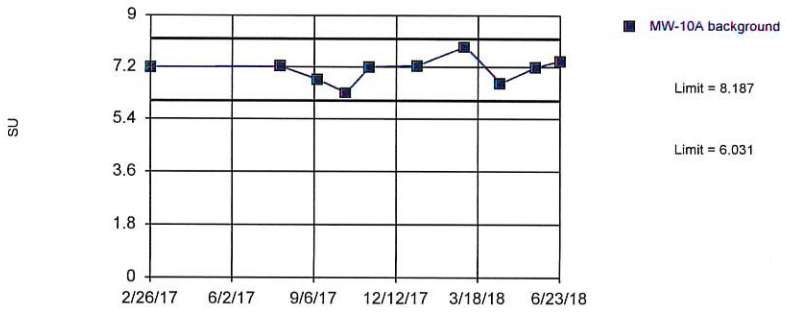
Constituent: pH Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-10A



Background Data Summary: Mean=7.109, Std. Dev.=0.435, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9267, critical = 0.781. Kappa = 2.478 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

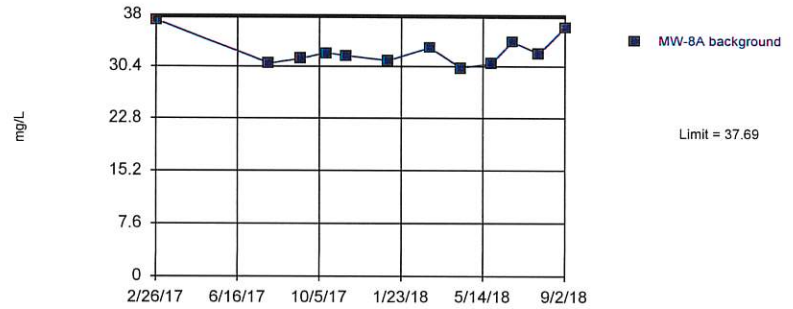
Constituent: pH Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-8A



Background Data Summary: Mean=32.62, Std. Dev.=2.186, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8715, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: Sulfate Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: pH, Sulfate Analysis Run 1/18/2022 5:14 PM

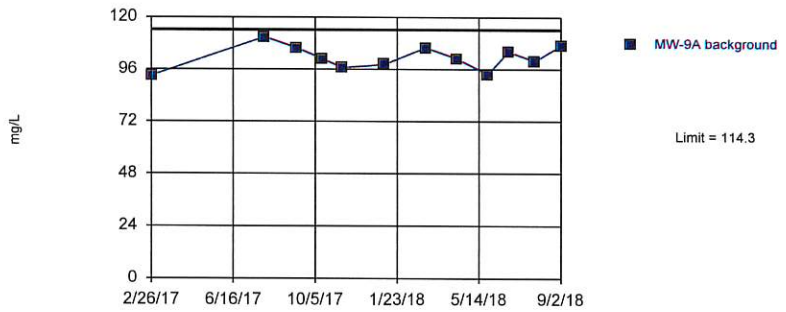
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-8A	MW-9A	MW-10A	MW-8A
2/26/2017	7.44	7.75	7.19	37.21
7/29/2017	8.05	7.92	7.22	30.8
9/10/2017	7.2	7.18	6.78	31.5
10/14/2017	7.02	7.19	6.32	32.3
11/11/2017	9.2	7.4	7.2	31.9
1/6/2018	5.82	7.24	7.24	31.2
3/3/2018	6.8	7.3	7.9	33.1
4/14/2018	8.21	6.11	6.65	30.2
5/26/2018	7.39	7.62	7.19	30.8
6/23/2018	7.3	7.1	7.4	34
7/29/2018	6.6	7.3		32.2
9/2/2018	7	7.27		36.2

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-9A



Background Data Summary: Mean=101.5, Std. Dev.=5.502, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9671, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

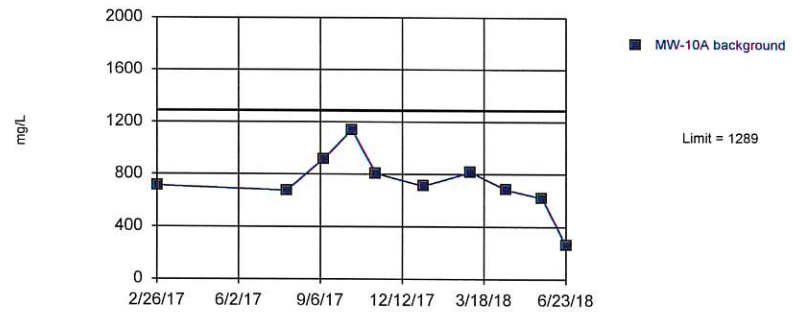
Constituent: Sulfate Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-10A



Background Data Summary: Mean=733.5, Std. Dev.=224.2, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9221, critical = 0.781. Kappa = 2.478 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

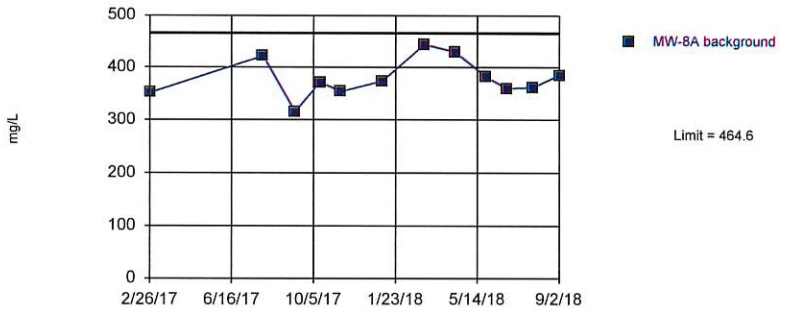
Constituent: Sulfate Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-8A



Background Data Summary: Mean=379.5, Std. Dev.=36.65, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9423, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

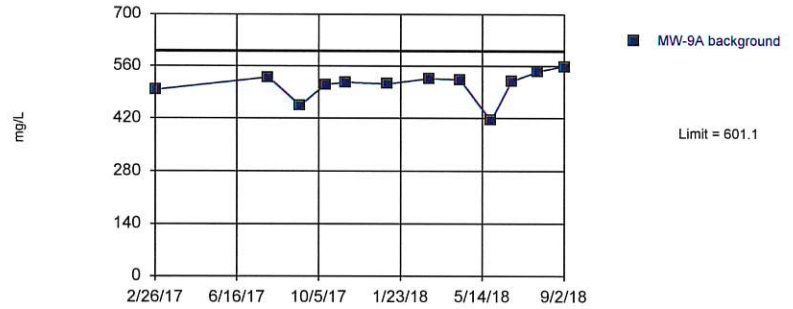
Constituent: TDS Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-9A



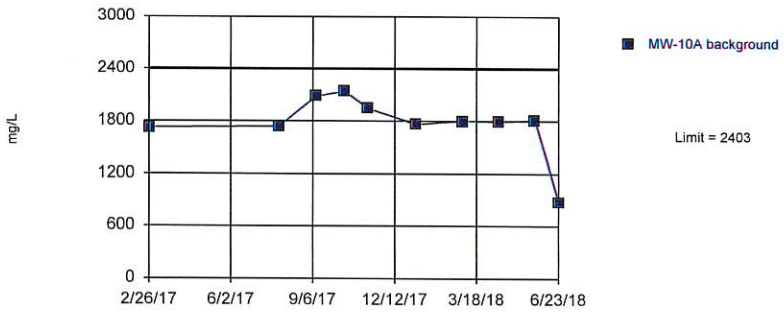
Background Data Summary: Mean=509, Std. Dev.=39.69, n=12. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.863, critical = 0.805. Kappa = 2.322 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: TDS Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Intrawell Parametric, MW-10A



Background Data Summary (based on square transformation): Mean=3227178, Std. Dev.=1027810, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8302, critical = 0.781. Kappa = 2.478 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: TDS Analysis Run 1/18/2022 5:11 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: TDS Analysis Run 1/18/2022 5:14 PM

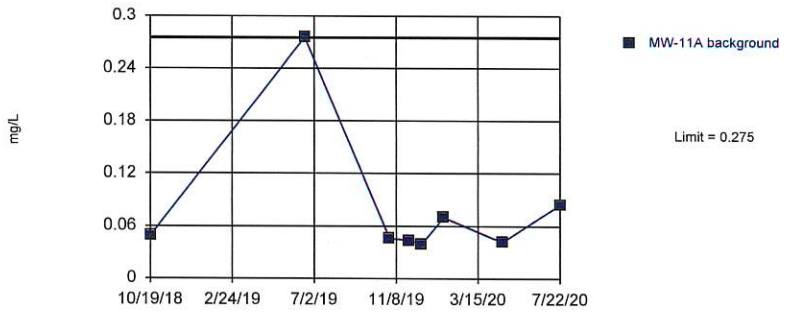
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-10A
2/26/2017	1730
7/29/2017	1740
9/10/2017	2080
10/14/2017	2140
11/11/2017	1940
1/6/2018	1760
3/3/2018	1800
4/14/2018	1790
5/26/2018	1810
6/23/2018	874

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-11A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

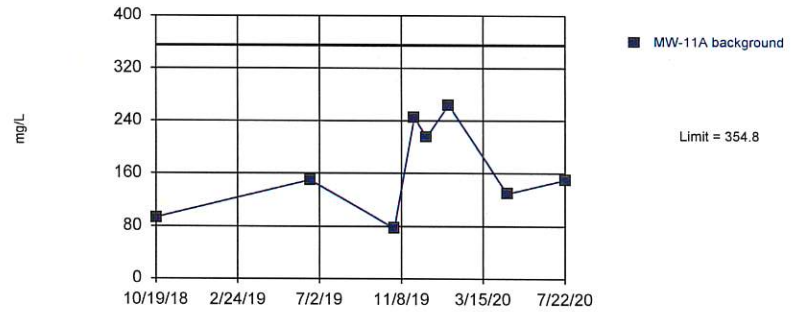
Constituent: Boron Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-11A



Background Data Summary: Mean=165.3, Std. Dev.=69.18, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9309, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

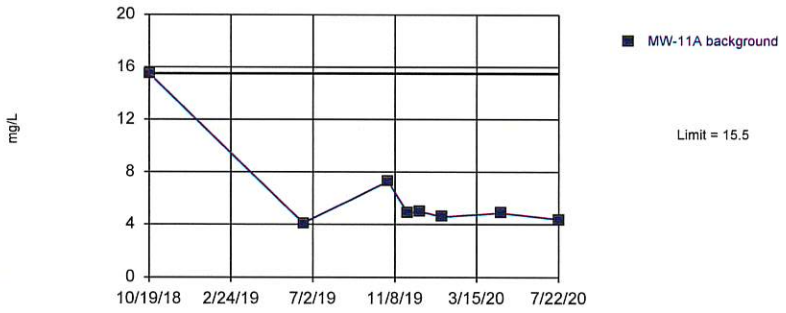
Constituent: Calcium Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-11A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

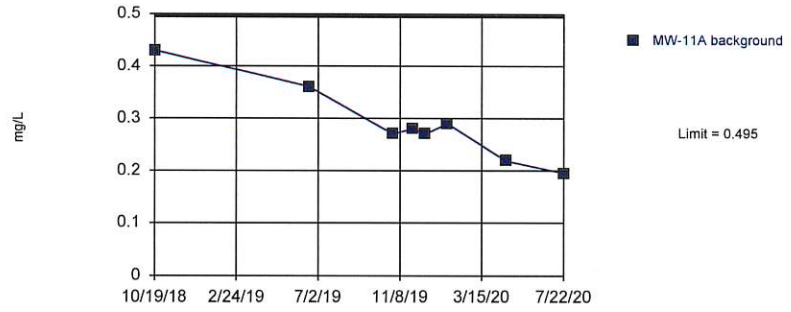
Constituent: Chloride Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-11A



Background Data Summary: Mean=0.2893, Std. Dev.=0.07508, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9233, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

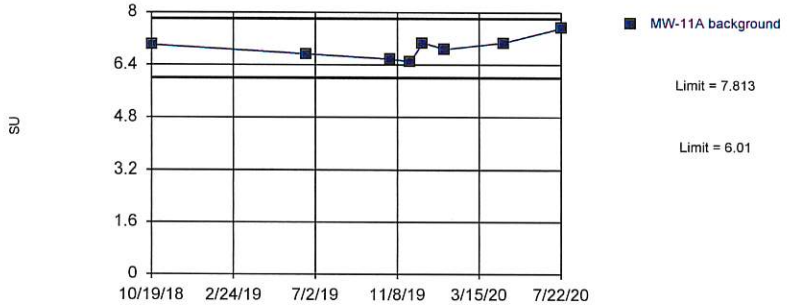
Constituent: Fluoride Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-11A



Background Data Summary: Mean=6.911, Std. Dev.=0.329, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9448, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

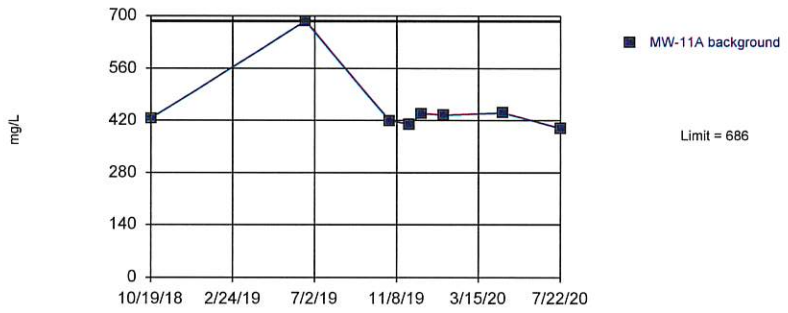
Constituent: pH Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-11A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

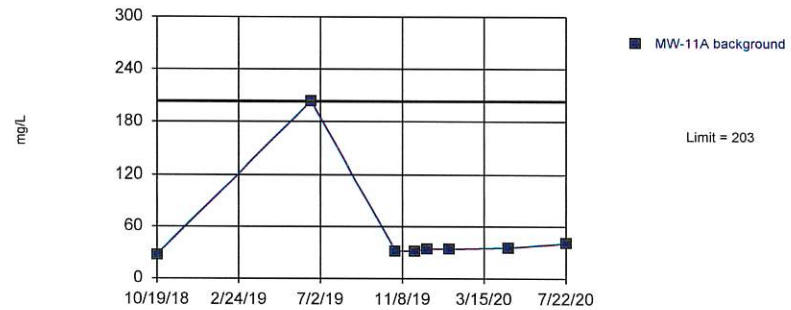
Constituent: TDS Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Non-parametric, MW-11A



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Assumes 1 future value. Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 1/18/2022 5:19 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: pH, Sulfate, TDS Analysis Run 1/18/2022 5:20 PM

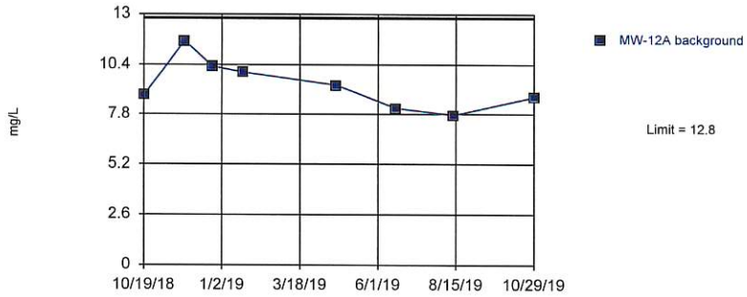
Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-11A	MW-11A	MW-11A
10/19/2018	7.01	27.5	426
6/18/2019	6.72	203	686
10/29/2019	6.57	31.8	418
11/29/2019	6.49	31.6	410
12/18/2019	7.06	34.6	438
1/22/2020	6.86	34.1	434
4/23/2020	7.06	35.7	440
7/22/2020	7.52	40.6	398

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=9.309, Std. Dev.=1.275, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9608, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

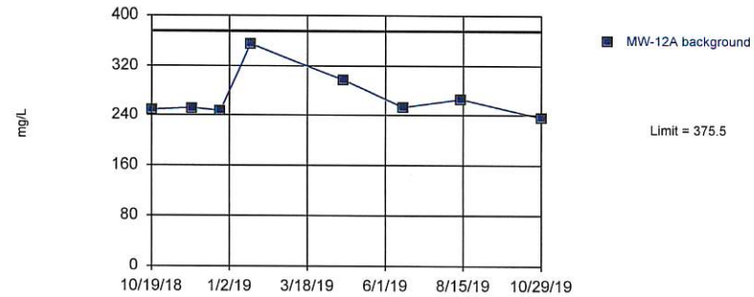
Constituent: Boron Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=268.4, Std. Dev.=39.11, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7711, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

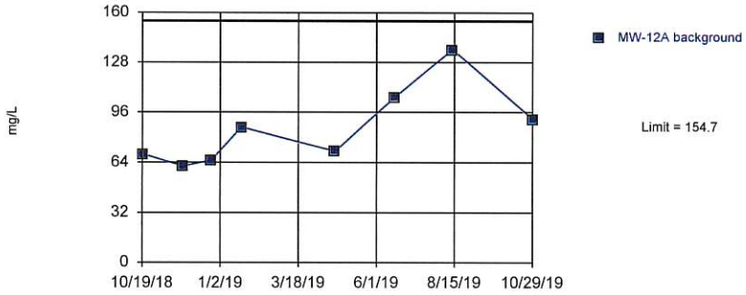
Constituent: Calcium Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=85.56, Std. Dev.=25.23, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8791, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

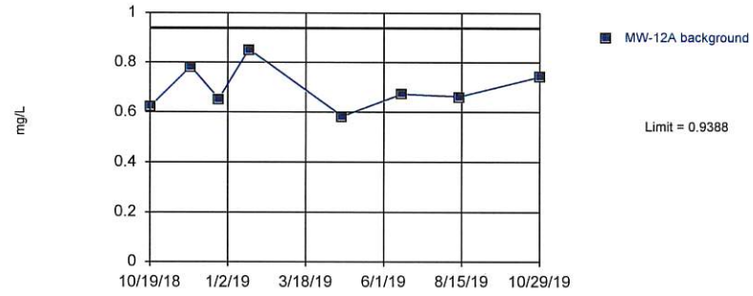
Constituent: Chloride Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=0.6938, Std. Dev.=0.08943, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9471, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

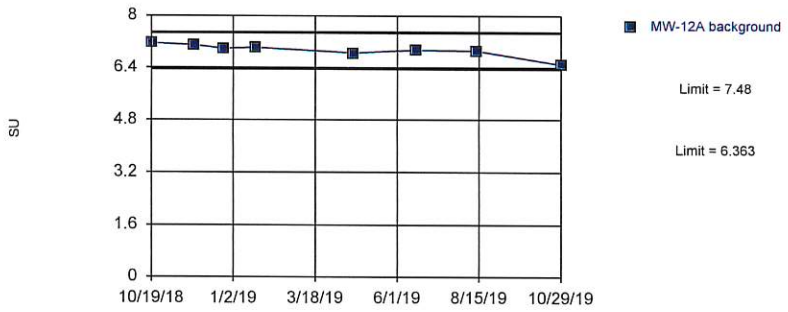
Constituent: Fluoride Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=6.921, Std. Dev.=0.2038, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8718, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

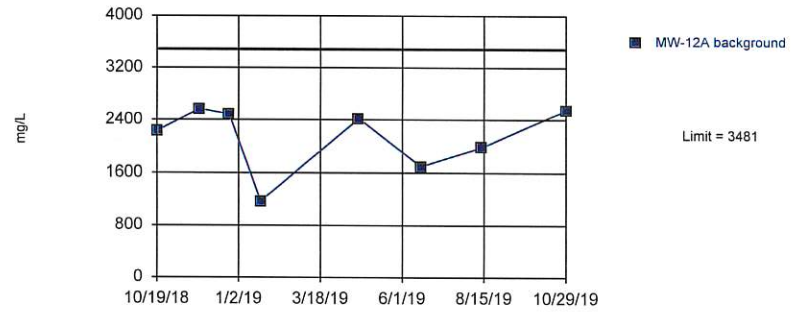
Constituent: pH Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=2131, Std. Dev.=492.8, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8585, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

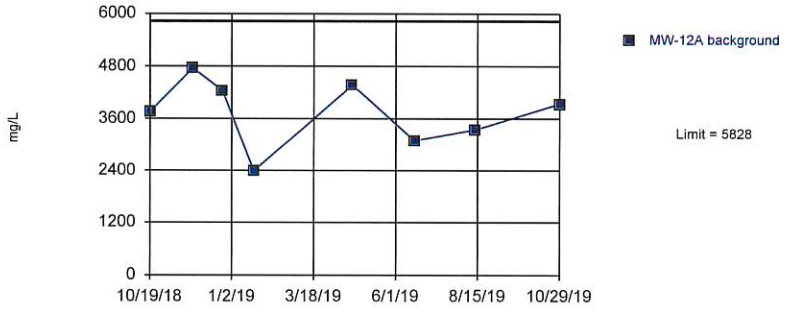
Constituent: Sulfate Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Sanitas™ v.9.6.32 Sanitas software licensed to Cardinal Environmental. UG

Prediction Limit

Intrawell Parametric, MW-12A



Background Data Summary: Mean=3731, Std. Dev.=765.4, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9738, critical = 0.749. Kappa = 2.74 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.001504. Assumes 1 future value.

Constituent: TDS Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

Prediction Limit

Constituent: pH, Sulfate, TDS Analysis Run 1/18/2022 5:22 PM

Big Fork Ranch Facility Client: Enviro Clean Cardinal Data: 211020 EVANS AND ASSOCIATES AM

	MW-12A	MW-12A	MW-12A
10/19/2018	7.15	2220	3756
11/27/2018	7.08	2560	4752
12/24/2018	6.98	2480	4236
1/22/2019	7.01	1170	2388
4/22/2019	6.84	2410	4356
6/18/2019	6.93	1690	3088
8/13/2019	6.9	1980	3338
10/29/2019	6.48	2540	3932