February 1, 2023
SCS Project No. 16222027.00

Mr. Darryl Sparks
Compliance Manager
NAES Corporation
2161 Rattlesnake Road
Riesel, Texas 76682

Subject: Sandy Creek Energy Station
Coal Combustion Residual Waste Management Facility
TCEQ Registration No. CCR107
McLennan County, Texas
2022 Annual Groundwater Monitoring and Corrective Action Report Submittal

Dear Mr. Sparks:

SCS Engineers (SCS) is pleased to submit the 2022 Annual Groundwater Monitoring and Corrective Action Report to the Sandy Creek Energy Station (SCES), in accordance with Coal Combustion Residual Rule (CCR) 40 CFR Part §257.105(h)(1), and the site Groundwater Sampling and Analysis Plan (GWSAP), prepared by SCS, dated March 2, 2016.

Please contact Glen Collier at (936) 554-2178 if you have comments or require additional information.

Sincerely,

STATE OF TEXAS
BRETT J. DeVRIES
128061
LICENSED
PROFESSIONAL ENGINEER
2/1/23

Asher Boudreaux, G.I.T.
Associate Staff Professional
SCS ENGINEERS
TBPE Registration No. F-3407

Brett DeVries, Ph.D., P.E.
Project Engineer
SCS ENGINEERS

Glen Collier, P.G., C.P.G.
Project Director
SCS ENGINEERS

Attachment: 2022 Annual Groundwater Monitoring and Corrective Action Report

STATE OF TEXAS
GLEN A. COLLIER
GEOLOGY
25
LICENSED
PROFESSIONAL GEOSCIENTIST
2-1-23

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Sandy Creek Energy Station
Coal Combustion Residual Waste Management Facility
McLennan County, Texas

Prepared For:

Sandy Creek Energy Station
2161 Rattlesnake Road
Riesel, Texas 76682

SCS ENGINEERS

SCS Project 16222027.00 | **February, 2023**

1901 Central Drive, Suite 550
Bedford, TX 76021
817-571-2288

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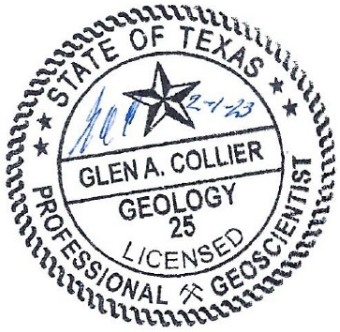


Appendices

1.0 INTRODUCTION AND BACKGROUND

SCS Engineers (SCS) is submitting this 2022 Annual Groundwater Monitoring and Corrective Action Report for the Sandy Creek Energy Station (SCES). This report is submitted in accordance with 40 CFR §257.105(h)(6), 30 TAC 352.931, and the site Groundwater Sampling and Analysis Plan (GWSAP) prepared by SCS, dated March 2, 2016. This report includes results for two semiannual detection monitoring events, conducted in May 2022 and November 2022.

SCES is a pulverized coal-fired electric generation facility which operates a landfill for disposal of dry scrubber ash and bottom ash generated during the coal combustion process at the facility. Incidental wastes generated during the operation of the facility may also be disposed in the landfill, as described in the initial registration notification to TCEQ. The landfill is currently comprised of disposal cells, Cells 1 and 2, which commenced receiving waste in early 2013 and October 2014, respectively. Additionally, a portion of Cell 3 (includes subcells 3A through 3D) was constructed in 2021. The approximate area of currently constructed Cells 1, 2, and 3 are 10.0, 14.3, and 10.3 acres, respectively.

Sampling of groundwater monitoring wells is conducted in accordance with 40 CFR §257.93, 30 TAC §352.931, and the GWSAP. Groundwater monitoring of six wells must be performed (BW-1, MW-1, MW-2, MW-3, MW-4, MW-5; as depicted on Figure 1).

In accordance with 40 CFR §257.94(b), quarterly background monitoring must be performed for each well for eight consecutive quarters (i.e., eight independent samples collected for each well). The Appendix III and IV constituents monitored during the first eight quarters and the first semiannual detection monitoring event include 18 inorganic compounds, total dissolved solids, radium-226, and radium-228. In accordance with 40 CFR §257.94(a and b), the constituents monitored in subsequent events and during the November 2022 semiannual detection monitoring event include Appendix III constituents only. Initial background monitoring for monitoring wells MW-1, MW-2, MW-3, and BW-1 commenced in December 2015 and completed in August 2017. Monitoring wells MW-1, MW-2, MW-3, and BW-1 are currently in detection monitoring. Monitoring wells MW-4 and MW-5 are currently in background monitoring and the eighth quarterly background monitoring report was developed concurrently with this report and prepared under a separate title.

At the beginning of 2022, MW-1, 2, 3, and BW-1 were in detection monitoring status and MW-4 and MW-5 were in background monitoring. The observation of a potential SSI for boron in MW-3 was resolved through an alternate source demonstration (Appendix E) submitted along with the November 2022 Annual Groundwater Monitoring Report in accordance with 40 CFR §257.94(e)(2). Accordingly, the site remains in its detection monitoring program.

2.0 GROUNDWATER MONITORING SUMMARY

2.1 GROUNDWATER MONITORING SYSTEM

The current groundwater monitoring system at the SCES landfill consists of six wells (see Table 1 below). One (BW-1) is upgradient and five (MW-1, -2, -3, -4, & -5) are downgradient. Four wells are currently in detection monitoring and two are currently in background monitoring. Figure 1 shows monitoring well locations at SCES.

Table 1 – Sandy Creek Energy Station Groundwater Monitoring System

Well ID (U/D)[1]	Status	Top of Casing Elevation (ft msl)[2]	Well Depth (ft, bgs)[2]	Screen Interval (ft, bgs)[2]	Water Level Elevation (ft msl, on 11/22/2022)
BW-1 (U)	Detection	485.57	38.63	28.30-38.30	468.67
MW-1 (D)	Detection	465.87	34.23	23.90-33.90	454.06
MW-2 (D)	Detection	442.15	19.63	9.30-19.30	429.45
MW-3 (D)	Detection	430.06	16.23	5.98-15.98	420.29
MW-4 (D)	Background	436.91	30.3	20.00-30.00	421.13
MW-5 (D)	Background	454.52	35.3	25.00-35.00	432.33

1 (U) = upgradient, (D) = downgradient; 2 Top of Casing Elevation, Well Depth, and Screen Interval information obtained from Table 1 – Monitoring Well and Piezometer Construction Details and Groundwater Elevations prepared by Geosyntec Consultants, dated March 11, 2016 and the November 2020 Groundwater Monitoring Well Install Report prepared by SCS Engineers dated January 22, 2021; ft msl = feet above mean sea level; ft bgs = feet below ground surface

2.2 SUMMARY OF 2022 SAMPLING EVENTS

All sampling events followed the groundwater sampling and laboratory analysis procedures outlined in the GWSAP. A duplicate sample was collected from one well during each event for Quality Assurance & Quality Control (QA/QC) purposes. All monitoring wells were sampled and analyzed for 40 CFR §257 Appendix III constituents, in accordance with 40 CFR §257.94(a).

May 2022 – Semiannual Detection Monitoring Event

All six wells (MW-1, MW-2, MW-3, MW-4, MW-5, and BW-1) were purged and sampled on May 10, 2022, using disposable PVC bailers. Quality Assurance/Quality Control (QA/QC) samples obtained included one duplicate (DUP) collected at MW-3. Field forms and laboratory results for this event are provided in **Appendices A** & **B**, respectively, and summarized in **Table 2**. The Laboratory Review Checklist was reviewed by SCS, and the data was determined to conform to the most current National Environmental Laboratory Accreditation Conference (NELAC) standards.

November 2022 – Annual Detection Monitoring Event

All six wells (MW-1, MW-2, MW-3, MW-4, MW-5, and BW-1) were purged and sampled on November 22, 2022, using disposable PVC bailers. Quality Assurance/Quality Control (QA/QC) samples obtained included one duplicate (DUP) collected at BW-1. Field forms and laboratory results for this event are provided in **Appendices A** & **B**, respectively, and summarized in **Table 2**. The Laboratory Review Checklist was reviewed by SCS, and the data was determined to conform to the most current NELAC standards. A potential statistically significant increase (SSI) was indicated for boron in MW-3 during

this event. As outlined in the attached ASD for boron in MW-3, the SSI was not confirmed by comparing upgradient to downgradient data and calculating an interwell parametric prediction limit. SCS recommended the continuation of detection monitoring for the site due to the lack of confirmed SSIs for Appendix III constituents.

3.0 RESULTS AND STATISTICAL ANALYSIS

A summary of May 2022 and November 2022 laboratory results and statistical limits in each well–constituent pair is provided in **Table 2**. Time series graphs of Appendix III constituent concentrations are provided in **Appendix D**. Statistical limits were determined in accordance with 40 CFR §257.93(f-g) and the GWSAP using the software program Sanitas®. Statistical limits were determined in the 2017 Annual Groundwater Monitoring and Corrective Action report at the end of background monitoring for BW-1, MW-1, MW-2, and MW-3, and were presented using Shewhart-CUSUM control charts, non-parametric prediction limits, or parametric prediction limits as deemed appropriate by background data distributions.

Table 2 – Sandy Creek Energy Station 2022 Sampling Results and Statistical Limits

MW-ID	Constituent	Lab Results May 2022	Lab Results Nov 2022	Statistical Limit*
MW-1 (D)	Boron (mg/L)	1.17	1.30	2.6
	Calcium (mg/L)	521	512	1030
	Chloride (mg/L)	161	145	402
	pH at 25˚C	7.24	7.13	6.136 - 8.289
	Sulfate (mg/L)	2460	2500	3402
	TDS (mg/L)	4090	3960	6765
	Fluoride (mg/L)	ND	0.336	0.4
MW-2 (D)	Boron (mg/L)	2.28	2.39	2.4
	Calcium (mg/L)	630	687	874.4
	Chloride (mg/L)	2370	2700	3336
	pH at 25˚C	6.93	6.74	6.7 - 7.5
	Sulfate (mg/L)	3040	3420	4635
	TDS (mg/L)	8900	10500	23969
	Fluoride (mg/L)	ND	0.341	2.831
MW-3 (D)	Boron (mg/L)	1.07	**1.61**	1.2
	Calcium (mg/L)	420	589	688.1
	Chloride (mg/L)	299	295	606.9
	pH at 25˚C	6.66	6.56	5.71 - 8.09
	Sulfate (mg/L)	2760	3130	4447
	TDS (mg/L)	5060	6560	9375
	Fluoride (mg/L)	ND	0.225	2.201

MW-ID	Constituent	Lab Results May 2022	Lab Results Nov 2022	Statistical Limit*
BW-1 (U)	Boron (mg/L)	3.26	3.33	6.787
	Calcium (mg/L)	623	619	723.7
	Chloride (mg/L)	1110	1210	1540
	pH at 25˚C	7.01	6.90	6.8 - 9.5
	Sulfate (mg/L)	2810	3090	3884
	TDS (mg/L)	6530	6460	10119
	Fluoride (mg/L)	ND	0.3	2.356

*Calculated in 2017 Annual Report at the end of background monitoring
(U)=upgradient, (D)=downgradient
Bolded italicized value indicates that constituent exceeded intrawell statistical limit (unconfirmed SSI)
ND=Not detected

An unconfirmed SSI was determined for boron in MW-3 (November 2022). In accordance with 40 CFR §257.94(e), an alternate source demonstration (ASD) is provided in **Appendix E**.

4.0 RECOMMENDATIONS

As outlined in the attached ASD (see Appendix E) for boron in MW-3, no confirmed SSIs were identified for any Appendix III constituents during 2022 detection monitoring at the SCES. SCS recommends that the facility remain in semiannual detection monitoring, in accordance with 40 CFR §257.94. Since the detection of boron falls below the interwell statistical limit, the detection is representative of background data. Due to the lack of confirmed SSIs for Appendix III constituents during 2022 detection monitoring, the facility will continue monitoring for all constituents listed in 40 CFR §257 Appendix III during semiannual groundwater monitoring events, in accordance with 40 CFR §257.94(a). The Appendix IV constituent list will be analyzed if any confirmed statistical exceedances of the Appendix III list are indicated in future events. The next planned groundwater monitoring event is a semiannual detection monitoring event scheduled for the second quarter of 2023.

5.0 GROUNDWATER FLOW RATE AND DIRECTION CALCULATIONS

In accordance with 40 CFR Part §257.93(c), the groundwater flow rate and direction in the uppermost aquifer in the area of the existing groundwater monitoring wells were calculated.

Flow Rate Calculation Using November 2022 Data

$$Va = \frac{KI}{7.5N}$$ (Driscoll, 1986, Groundwater and Wells)

Where:

Va = Actual Velocity of Groundwater Flow (ft/day)
K = Hydraulic Conductivity (gpd/ft^2)
I = Hydraulic Gradient (ft/ft)
N = Effective Porosity (%)

Then:

K = 2.0 x 10^{-4} cm/sec (geometric mean hydraulic conductivity obtained from slug tests performed by Geosyntec in 2010)

Find K equivalent in units of gpd/ft^2:

(1 cm/sec = 21,200 gallons/day/ft^2)

2.0 x 10^{-4} cm/sec x 21,200 gallons/day/ft^2 = 4.24 gpd/ft^2

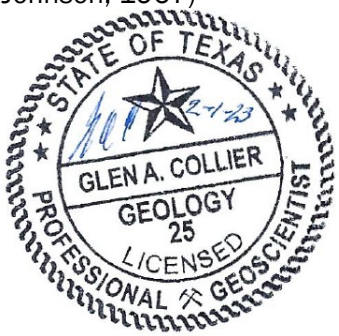
Find I: BW-1 elevation – MW-3 elevation: 468.67 ft – 420.29 ft = 0.0206 ft/ft
distance between wells: 2,350 ft

I = 0.0206 ft/ft
N = 6% (representative effective porosity for clay from Morris and Johnson, 1967)

Therefore:

$$Va = \frac{4.24 \text{ gpd/ft}^2 \times (0.0206 \text{ ft/ft})}{7.5\ (0.06)} = 0.194 \text{ ft/day}$$

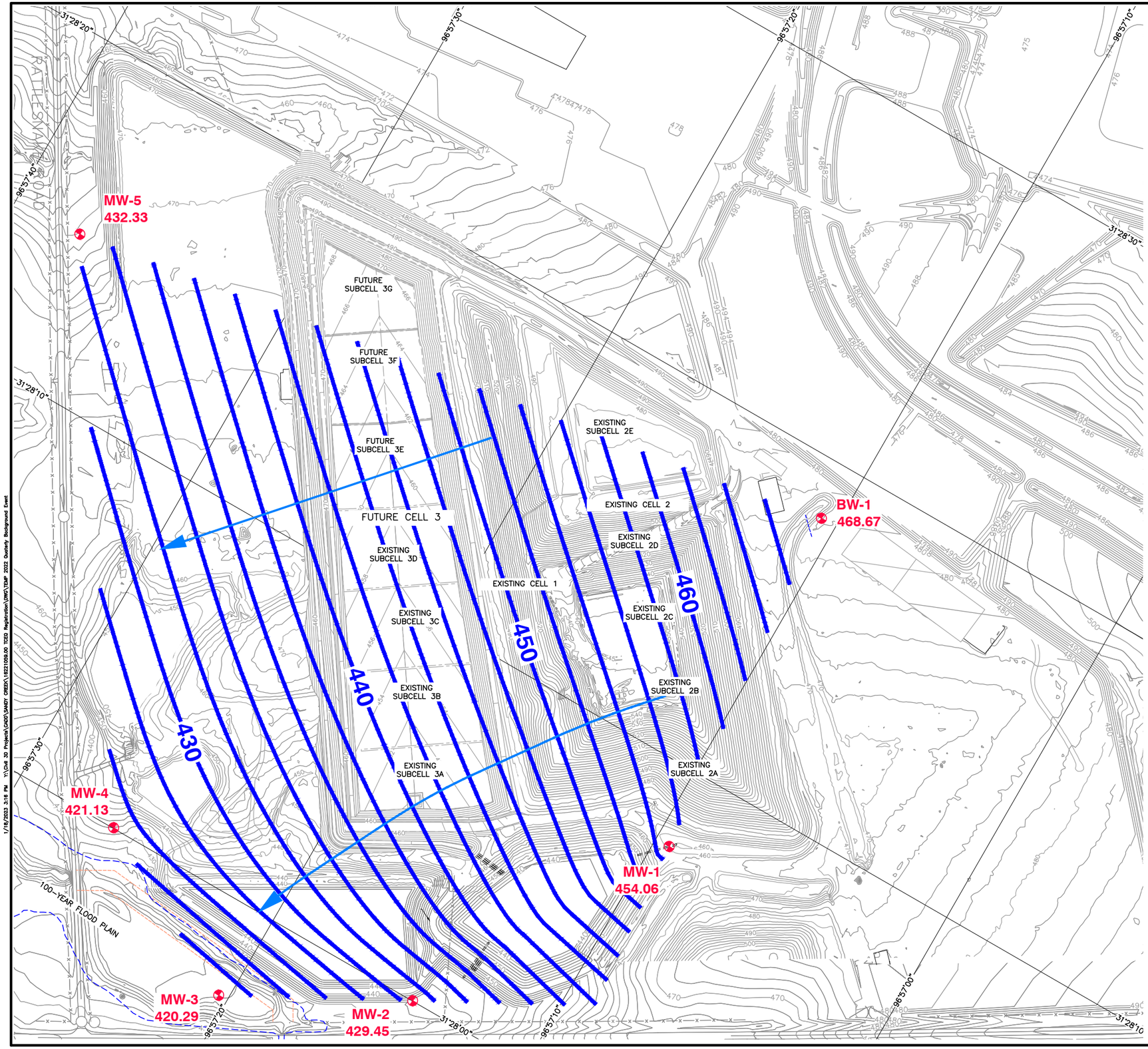
(0.194 ft/day)(365 days/year) = **70.81 ft/year**



Conclusion

The November 2022 site groundwater flow rate is approximately **70.81 ft/year**. The gradient was measured using BW-1 and MW-3. The November 2022 groundwater flow direction is to the south-southwest. The groundwater flow rate and direction are consistent with conditions previously observed at the site. See **Figure 1** for details, provided in accordance with 40 CFR Part §257.93(c).

Figure 1. Groundwater Contour Map



0 150 300

SCALE IN FEET

LEGEND

- 96°57'10" — LATITUDE/LONGITUDE LINES
- 100-YEAR FLOOD PLAIN
- MW-1 — EXISTING MONITORING WELL
- 450 — GROUNDWATER CONTOUR
- 450 — PROPOSED/EXISTING EXCAVATION CONTOURS (SEE NOTE 3)

NOTES:

1. THE EXISTING CONTOUR MAP SHOWN ON THIS DRAWING WAS COMPILED FROM AN AERIAL SURVEY CONDUCTED BY DALLAS AERIAL SURVEY, INC. IN NOVEMBER, 2020 AND EXISTING TOPOGRAPHY BY BLACK & VEATCH CORPORATION DATED APRIL 2006. STATE PLANE COORDINATE GRID CORRESPONDS TO TEXAS STATE PLAN COORDINATE SYSTEM, TEXAS CENTRAL ZONE (4203), NORTH AMERICAN DATUM 83 (NAD83) 1983.
2. ELEVATION ARE IN FEET ABOVE MEAN SEA LEVEL (FT, MSL) AS DEFINED BY THE USGS NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1988. STATE PLANE COORDINATE GRID CORRESPONDS TO TEXAS STATE COORDINATE SYSTEM, TEXAS CENTRAL ZONE (4203), NORTH AMERICAN DATUM OF 1983 (NAD-83)
3. .EXISTING FEATURES IN SUBCELLS 3A THROUGH 3D ARE EXISTING AND SUBCELLS 3E THROUGH 3G ARE PROPOSED AT THE TIME OF THIS REGISTRATION APPLICATION DEVELOPMENT.

STATE OF TEXAS
BRETT J. DeVRIES
128061
LICENSED
PROFESSIONAL ENGINEER
Brett DeVries 2/1/23

STATE OF TEXAS
2-1-23
GLEN A. COLLIER
GEOLOGY
25
LICENSED
PROFESSIONAL GEOSCIENTIST

FOR INFORMATION PURPOSES ONLY

REV	DATE	DESCRIPTION	BY

DRAWING TITLE
GROUNDWATER CONTOUR MAP

PROJECT TITLE
NOVEMBER 2022 ANNUAL GROUNDWATER MONITORING EVENT

CLIENT
NAES CORPORATION
2161 RATTLESNAKE ROAD
RIESEL, TEXAS 76682

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
1901 CENTRAL DRIVE, SUITE 550, BEDFORD, TX 76021
PH (817) 571-2288 FAX NO. (817) 571-2186

PROJ. NO. 162181457.00 | DWN. BY: JG | CHK. BY: AB | QA/A R/W BY: GG | APP. BY: GG | DSN. BY: AB

CADD FILE: TEMP 2022 QUATERLY BACKGROUND EVENT

DATE: 11/2022

SCALE: AS SHOWN

DRAWING NO. **1**

1/19/2023 3:16 PM X:\Civil 3D Projects\CAD\QAM07 CREEK\162210590.000 TCEQ Registration\DWG\TEMP 2022 Quaterly Background Event

Appendix A

2022 Groundwater Monitoring Field Forms

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: BW-1
3. Date of sampling: 5/10/2022

Name of sampler: Gavin Kellough
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/22/2015

Most recent previous sampling: 12/15/2021
Date of water level measurements: 5/10/2022
Datum reference point: Top of Casing
Datum elevation*: 485.57
Depth to water(below datum)*: 16.90
4. Water level elevation*: 468.67

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 3.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ☐ yes ■ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	8.03	
15. Spec. cond.	10.6	16. ■ mS/cm
17. Temp.	29.72	18. ☐ F or ■ C (check one)
19. Turbidity	419	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: MW-1
3. Date of sampling: 5/10/2022

Name of sampler: Gavin Kellough
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/21/2015

Most recent previous sampling: 12/15/2021
Date of water level measurements: 5/10/2022
Datum reference point: Top of Casing
Datum elevation*: 465.87
Depth to water(below datum)*: 10.78
4. Water level elevation*: 455.09

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 2.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ■ yes ☐ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	8.16	
15. Spec. cond.	5.32	16. ■ mS/cm
17. Temp.	28.32	18. ☐ F or ■ C (check one)
19. Turbidity	22.4	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: MW-2
3. Date of sampling: 5/10/2022

Name of sampler: Gavin Kellough
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/23/2015

Most recent previous sampling: 12/15/2021
Date of water level measurements: 5/10/2022
Datum reference point: Top of Casing
Datum elevation*: 442.15
Depth to water(below datum)*: 11.52
4. Water level elevation*: 430.63

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 3.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ■ yes ☐ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	7.78	
15. Spec. cond.	14.5	16. ■ mS/cm
17. Temp.	26.82	18. ☐ F or ■ C (check one)
19. Turbidity	0	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: MW-3
3. Date of sampling: 5/10/2022

Name of sampler: Gavin Kellough
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/1/2010

Most recent previous sampling: 12/15/2021
Date of water level measurements: 5/10/2022
Datum reference point: Top of Casing
Datum elevation*: 430.06
Depth to water(below datum)*: 9.82
4. Water level elevation*: 420.24

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 3.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ☐ yes ■ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	7.43	
15. Spec. cond.	6.89	16. ■ mS/cm
17. Temp.	27.58	18. ☐ F or ■ C (check one)
19. Turbidity	23.6	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: DUP
3. Date of sampling: 5/10/2022

Name of sampler: Gavin Kellough
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: N/A
Installation date: N/A

Most recent previous sampling: N/A
Date of water level measurements: N/A
Datum reference point: Top of Casing
Datum elevation*: N/A
Depth to water(below datum)*: N/A
4. Water level elevation*: N/A

5. Purging/Sampling method: N/A (Enter bailer or pump)
Were low-flow methods used? ☐ yes ☐ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: N/A
7. Was the well dry before purging? ☐ yes ☐ no (check one)
8. Was the well dry after purging? ☐ yes ☐ no (check one)
9. How long before sampling? N/A
10. Unit of measure? N/A (Enter value as days, hours, or mins.)

11. Sample event: Background
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Quarterly
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Duplicate
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	N/A	
15. Spec. cond.	N/A	16. ☐ mS/cm
17. Temp.	N/A	18. ☐ F or ☐ C (check one)
19. Turbidity	N/A	20. ☐ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: BW-1
3. Date of sampling: 11/22/2022

Name of sampler: Asher Boudreaux
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/22/2015

Most recent previous sampling: 5/10/2022
Date of water level measurements: 11/22/2022
Datum reference point: Top of Casing
Datum elevation*: 485.57
Depth to water(below datum)*: 16.90
4. Water level elevation*: 468.67

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 3.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ☐ yes ■ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	7.04	
15. Spec. cond.	8.1	16. ■ mS/cm
17. Temp.	21.38	18. ☐ F or ■ C (check one)
19. Turbidity	60.8	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: MW-1
3. Date of sampling: 11/22/2022

Name of sampler: Asher Boudreaux
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/21/2015

Most recent previous sampling: 5/10/2022
Date of water level measurements: 11/22/2022
Datum reference point: Top of Casing
Datum elevation*: 465.87
Depth to water(below datum)*: 11.81
4. Water level elevation*: 454.06

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 2.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ■ yes ☐ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	7.57	
15. Spec. cond.	4.56	16. ■ mS/cm
17. Temp.	21.93	18. ☐ F or ■ C (check one)
19. Turbidity	11.4	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: MW-2
3. Date of sampling: 11/22/2022

Name of sampler: Asher Boudreaux
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 9/23/2015

Most recent previous sampling: 5/10/2022
Date of water level measurements: 11/22/2022
Datum reference point: Top of Casing
Datum elevation*: 442.15
Depth to water(below datum)*: 12.70
4. Water level elevation*: 429.45

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 3.0
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ☐ yes ■ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	7.16	
15. Spec. cond.	10.2	16. ■ mS/cm
17. Temp.	21.95	18. ☐ F or ■ C (check one)
19. Turbidity	8.1	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: MW-4
3. Date of sampling: 11/22/2022

Name of sampler: Asher Boudreaux
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: Good
Installation date: 11/2/2020

Most recent previous sampling: 9/8/2022
Date of water level measurements: 11/22/2022
Datum reference point: Top of Casing
Datum elevation*: 436.91
Depth to water(below datum)*: 15.78
4. Water level elevation*: 421.13

5. Purging/Sampling method: Bailer (Enter bailer or pump)
Were low-flow methods used? ☐ yes ■ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: 2.9
7. Was the well dry before purging? ☐ yes ■ no (check one)
8. Was the well dry after purging? ■ yes ☐ no (check one)
9. How long before sampling? 1
10. Unit of measure? hours (Enter value as days, hours, or mins.)

11. Sample event: Background
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Quarterly
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Regular
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	7.44	
15. Spec. cond.	7.79	16. ■ mS/cm
17. Temp.	20.55	18. ☐ F or ■ C (check one)
19. Turbidity	12.1	20. ■ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Groundwater Monitoring Form

Facility name: Sandy Creek Energy Station
Permittee: Sandy Creek Energy Associates, L.P.
County: McLennan

1. Facility Type: Power Station
2. Monitor well no.: DUP
3. Date of sampling: 11/22/2022

Name of sampler: Asher Boudreaux
Affiliation of sampler: SCS Engineers
If split sampled, with whom? N/A
Integrity of well: N/A
Installation date: N/A

Most recent previous sampling: N/A
Date of water level measurements: N/A
Datum reference point: Top of Casing
Datum elevation*: N/A
Depth to water(below datum)*: N/A
4. Water level elevation*: N/A

5. Purging/Sampling method: N/A (Enter bailer or pump)
Were low-flow methods used? ☐ yes ☐ no (check one)
If yes, what volume was purged? N/A gal.
6. Well volumes purged: N/A
7. Was the well dry before purging? ☐ yes ☐ no (check one)
8. Was the well dry after purging? ☐ yes ☐ no (check one)
9. How long before sampling? N/A
10. Unit of measure? N/A (Enter value as days, hours, or mins.)

11. Sample event: Background
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Quarterly
- Quarterly - Fourth Year
- Semi-Annual - Other
- Annual

13. Sample type: Duplicate
- Regular - Split
- Duplicate - Other
- Resample

Field Measurements:

14. pH	N/A	
15. Spec. cond.	N/A	16. ☐ mS/cm
17. Temp.	N/A	18. ☐ F or ☐ C (check one)
19. Turbidity	N/A	20. ☐ NTU

Laboratory:

21. Name: ALS Environmental Phone: (281) 530 5656
Address: 10450 Stancliff Rd., Suite 210 Houston, TX 77099

* Report depth to water and elevations to nearest 0.01 foot relative to mean sea level (msl).

Appendix B

2022 Laboratory Reports with Chain of Custody Forms

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

May 26, 2022

Gil Gabaldon
SCS Engineers
1901 Central Drive
Suite 550
Bedford, TX 76021

Work Order: **HS22050551**

Laboratory Results for: **Sandy Creek**

Dear Gil Gabaldon,

ALS Environmental received 5 sample(s) on May 12, 2022 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: DANE.WACASEY
Dane J. Wacasey

Client: SCS Engineers
Project: Sandy Creek
Work Order: HS22050551

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22050551-01	BW-1	Groundwater		10-May-2022 13:15	12-May-2022 09:15	☐
HS22050551-02	MW-1	Groundwater		10-May-2022 13:45	12-May-2022 09:15	☐
HS22050551-03	MW-2	Groundwater		10-May-2022 14:40	12-May-2022 09:15	☐
HS22050551-04	MW-3	Groundwater		10-May-2022 16:30	12-May-2022 09:15	☐
HS22050551-05	DUP	Groundwater		10-May-2022 00:00	12-May-2022 09:15	☐

Client: SCS Engineers **CASE NARRATIVE**
Project: Sandy Creek
Work Order: HS22050551

Metals by Method SW6020A

Batch ID: 179097

Sample ID: MW-2 (HS22050551-03MS)

- Boron Failed for MS/MSD but passed for PDS.
- The MS and/or MSD recovery was outside of the control limits; however, the result in the parent sample is greater than 4x the spike amount. (Calcium)

Sample ID: MW-2 (HS22050551-03MSD)

- Potassium Failed for MSD but passed for MS and PDS.

WetChemistry by Method SW9056

Batch ID: R409396

Sample ID: BW-1 (HS22050551-01)

- The reporting limit(s) is/are elevated due to dilution for high concentrations of Cl and SO4

Sample ID: DUP (HS22050551-05)

- The reporting limit(s) is/are elevated due to dilution for high concentrations of SO4

Sample ID: HS22051125-02MS

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

Sample ID: MW-1 (HS22050551-02)

- The reporting limit(s) is/are elevated due to dilution for high concentrations of SO4

Sample ID: MW-2 (HS22050551-03)

- The reporting limit(s) is/are elevated due to dilution for high concentrations of Cl and SO4

Sample ID: MW-3 (HS22050551-04)

- The reporting limit(s) is/are elevated due to dilution for high concentrations of SO4

WetChemistry by Method M2540C

Batch ID: R408774,R408848

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

WetChemistry by Method SW9040C

Batch ID: R408541

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: BW-1
Collection Date: 10-May-2022 13:15

ANALYTICAL REPORT
WorkOrder:HS22050551
Lab ID:HS22050551-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 23-May-2022		Analyst: JHD
Boron	**3.26**		**0.0550**	**0.100**	**mg/L**	5	24-May-2022 20:26
Calcium	**623**		**0.170**	**2.50**	**mg/L**	5	24-May-2022 20:26
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**6,530**		**5.00**	**10.0**	**mg/L**	1	16-May-2022 15:39
PH BY SW9040C		**Method:SW9040C**					Analyst: SB
pH	**7.01**	H	**0.100**	**0.100**	**pH Units**	1	13-May-2022 14:53
Temp Deg C @pH	**23.9**	H	**0**	**0**	**DEG C**	1	13-May-2022 14:53
ANIONS BY SW9056A		**Method:SW9056**					Analyst: YP
Chloride	**1,110**		**20.0**	**50.0**	**mg/L**	100	25-May-2022 19:57
Fluoride	U		0.250	0.500	mg/L	5	25-May-2022 19:52
Sulfate	**2,810**		**20.0**	**50.0**	**mg/L**	100	25-May-2022 19:57

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: MW-1
Collection Date: 10-May-2022 13:45

ANALYTICAL REPORT
WorkOrder:HS22050551
Lab ID:HS22050551-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 23-May-2022		Analyst: JHD
Boron	**1.17**		**0.0550**	**0.100**	**mg/L**	5	24-May-2022 20:28
Calcium	**521**		**0.170**	**2.50**	**mg/L**	5	24-May-2022 20:28
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**4,090**		**5.00**	**10.0**	**mg/L**	1	16-May-2022 15:39
PH BY SW9040C		**Method:SW9040C**					Analyst: SB
pH	**7.24**	H	**0.100**	**0.100**	**pH Units**	1	13-May-2022 14:53
Temp Deg C @pH	**24.1**	H	**0**	**0**	**DEG C**	1	13-May-2022 14:53
ANIONS BY SW9056A		**Method:SW9056**					Analyst: YP
Chloride	**161**		**1.00**	**2.50**	**mg/L**	5	25-May-2022 20:02
Fluoride	U		0.250	0.500	mg/L	5	25-May-2022 20:02
Sulfate	**2,460**		**10.0**	**25.0**	**mg/L**	50	25-May-2022 20:08

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: MW-2
Collection Date: 10-May-2022 14:40

ANALYTICAL REPORT
WorkOrder:HS22050551
Lab ID:HS22050551-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 23-May-2022		Analyst: JHD
Boron	**2.28**		**1.10**	**2.00**	**mg/L**	100	24-May-2022 15:38
Calcium	**630**		**3.40**	**50.0**	**mg/L**	100	24-May-2022 15:38
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**8,900**		**5.00**	**10.0**	**mg/L**	1	16-May-2022 15:39
PH BY SW9040C		**Method:SW9040C**					Analyst: SB
pH	**6.93**	H	**0.100**	**0.100**	**pH Units**	1	13-May-2022 14:53
Temp Deg C @pH	**24.0**	H	**0**	**0**	**DEG C**	1	13-May-2022 14:53
ANIONS BY SW9056A		**Method:SW9056**					Analyst: YP
Chloride	**2,370**		**40.0**	**100**	**mg/L**	200	25-May-2022 20:18
Fluoride	U		0.500	1.00	mg/L	10	25-May-2022 20:13
Sulfate	**3,040**		**40.0**	**100**	**mg/L**	200	25-May-2022 20:18

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: MW-3
Collection Date: 10-May-2022 16:30

ANALYTICAL REPORT
WorkOrder:HS22050551
Lab ID:HS22050551-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 23-May-2022		Analyst: JHD
Boron	**1.07**		**0.0550**	**0.100**	**mg/L**	5	24-May-2022 20:30
Calcium	**420**		**0.170**	**2.50**	**mg/L**	5	24-May-2022 20:30
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**5,060**		**5.00**	**10.0**	**mg/L**	1	17-May-2022 15:39
PH BY SW9040C		**Method:SW9040C**					Analyst: SB
pH	**6.66**	H	**0.100**	**0.100**	**pH Units**	1	13-May-2022 14:53
Temp Deg C @pH	**23.4**	H	**0**	**0**	**DEG C**	1	13-May-2022 14:53
ANIONS BY SW9056A		**Method:SW9056**					Analyst: YP
Chloride	**299**		**2.00**	**5.00**	**mg/L**	10	25-May-2022 20:23
Fluoride	U		0.500	1.00	mg/L	10	25-May-2022 20:23
Sulfate	**2,760**		**20.0**	**50.0**	**mg/L**	100	25-May-2022 20:29

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: DUP
Collection Date: 10-May-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22050551
Lab ID:HS22050551-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 23-May-2022		Analyst: JHD
Boron	**1.09**		**0.0550**	**0.100**	**mg/L**	5	24-May-2022 20:32
Calcium	**416**		**0.170**	**2.50**	**mg/L**	5	24-May-2022 20:32
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**5,070**		**5.00**	**10.0**	**mg/L**	1	17-May-2022 15:39
PH BY SW9040C		**Method:SW9040C**					Analyst: SB
pH	**6.67**	H	**0.100**	**0.100**	**pH Units**	1	13-May-2022 14:53
Temp Deg C @pH	**24.8**	H	**0**	**0**	**DEG C**	1	13-May-2022 14:53
ANIONS BY SW9056A		**Method:SW9056**					Analyst: YP
Chloride	**296**		**2.00**	**5.00**	**mg/L**	10	25-May-2022 20:45
Fluoride	U		0.500	1.00	mg/L	10	25-May-2022 20:45
Sulfate	**2,720**		**20.0**	**50.0**	**mg/L**	100	25-May-2022 20:50

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

Weight / Prep Log

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

Batch ID: 179097 **Start Date:** 23 May 2022 10:00 **End Date:** 23 May 2022 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22050551-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22050551-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22050551-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22050551-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS22050551-05		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 179097 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS22050551-01	BW-1	10 May 2022 13:15		23 May 2022 10:00	24 May 2022 20:26	5
HS22050551-02	MW-1	10 May 2022 13:45		23 May 2022 10:00	24 May 2022 20:28	5
HS22050551-03	MW-2	10 May 2022 14:40		23 May 2022 10:00	24 May 2022 15:38	100
HS22050551-04	MW-3	10 May 2022 16:30		23 May 2022 10:00	24 May 2022 20:30	5
HS22050551-05	DUP	10 May 2022 00:00		23 May 2022 10:00	24 May 2022 20:32	5
Batch ID: R408541 (0)	**Test Name :** PH BY SW9040C				**Matrix:** Groundwater	
HS22050551-01	BW-1	10 May 2022 13:15			13 May 2022 14:53	1
HS22050551-02	MW-1	10 May 2022 13:45			13 May 2022 14:53	1
HS22050551-03	MW-2	10 May 2022 14:40			13 May 2022 14:53	1
HS22050551-04	MW-3	10 May 2022 16:30			13 May 2022 14:53	1
HS22050551-05	DUP	10 May 2022 00:00			13 May 2022 14:53	1
Batch ID: R408774 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Groundwater	
HS22050551-01	BW-1	10 May 2022 13:15			16 May 2022 15:39	1
HS22050551-02	MW-1	10 May 2022 13:45			16 May 2022 15:39	1
HS22050551-03	MW-2	10 May 2022 14:40			16 May 2022 15:39	1
Batch ID: R408848 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Groundwater	
HS22050551-04	MW-3	10 May 2022 16:30			17 May 2022 15:39	1
HS22050551-05	DUP	10 May 2022 00:00			17 May 2022 15:39	1
Batch ID: R409396 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS22050551-01	BW-1	10 May 2022 13:15			25 May 2022 19:57	100
HS22050551-01	BW-1	10 May 2022 13:15			25 May 2022 19:52	5
HS22050551-02	MW-1	10 May 2022 13:45			25 May 2022 20:08	50
HS22050551-02	MW-1	10 May 2022 13:45			25 May 2022 20:02	5
HS22050551-03	MW-2	10 May 2022 14:40			25 May 2022 20:18	200
HS22050551-03	MW-2	10 May 2022 14:40			25 May 2022 20:13	10
HS22050551-04	MW-3	10 May 2022 16:30			25 May 2022 20:29	100
HS22050551-04	MW-3	10 May 2022 16:30			25 May 2022 20:23	10
HS22050551-05	DUP	10 May 2022 00:00			25 May 2022 20:50	100
HS22050551-05	DUP	10 May 2022 00:00			25 May 2022 20:45	10

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

QC BATCH REPORT

Batch ID: 179097 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-179097** Units: **mg/L** Analysis Date: **23-May-2022 23:43**
Client ID: Run ID: **ICPMS06_409153** SeqNo: **6660317** PrepDate: **23-May-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	U	0.0200								
Calcium	U	0.500								

LCS Sample ID: **LCS-179097** Units: **mg/L** Analysis Date: **23-May-2022 23:45**
Client ID: Run ID: **ICPMS06_409153** SeqNo: **6660318** PrepDate: **23-May-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.5168	0.0200	0.5	0	103	80 - 120				
Calcium	4.92	0.500	5	0	98.4	80 - 120				

MS Sample ID: **HS22050551-03MS** Units: **mg/L** Analysis Date: **23-May-2022 23:51**
Client ID: **MW-2** Run ID: **ICPMS06_409153** SeqNo: **6660321** PrepDate: **23-May-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	2.656	0.0200	0.5	1.898	152	80 - 120				SE
Calcium	743.1	0.500	5	714.7	569	80 - 120				SEO

MSD Sample ID: **HS22050551-03MSD** Units: **mg/L** Analysis Date: **23-May-2022 23:53**
Client ID: **MW-2** Run ID: **ICPMS06_409153** SeqNo: **6660322** PrepDate: **23-May-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	2.788	0.0200	0.5	1.898	178	80 - 120	2.656	4.86	20	SE
Calcium	763.6	0.500	5	714.7	979	80 - 120	743.1	2.72	20	SEO

PDS Sample ID: **HS22050551-03PDS** Units: **mg/L** Analysis Date: **24-May-2022 15:41**
Client ID: **MW-2** Run ID: **ICPMS06_409258** SeqNo: **6661517** PrepDate: **23-May-2022** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	41.46	2.00	50	2.282	78.4	75 - 125				
Calcium	1871	50.0	1000	629.9	124	75 - 125				

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

QC BATCH REPORT

Batch ID: 179097 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS22050551-03SD** Units: **mg/L** Analysis Date: **24-May-2022 15:40**
Client ID: **MW-2** Run ID: **ICPMS06_409258** SeqNo: **6661516** PrepDate: **23-May-2022** DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	U	10.0					2.282	0	10	
Calcium	646.9	250					629.9	2.69	10	

The following samples were analyzed in this batch: HS22050551-01 HS22050551-02 HS22050551-03 HS22050551-04 HS22050551-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

QC BATCH REPORT

Batch ID: **R408541 (0)** **Instrument:** **WetChem_HS** **Method:** **PH BY SW9040C**

DUP Sample ID: **HS22050551-05DUP** Units: **pH Units** Analysis Date: **13-May-2022 14:53**
Client ID: **DUP** Run ID: **WetChem_HS_408541** SeqNo: **6644355** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.7	0.100					6.67	0.449	10	
Temp Deg C @pH	24.2	0					24.8	2.45	10	

The following samples were analyzed in this batch: HS22050551-01 HS22050551-02 HS22050551-03 HS22050551-04 HS22050551-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

QC BATCH REPORT

Batch ID: R408774 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-051622** Units: **mg/L** Analysis Date: **16-May-2022 15:39**
Client ID: Run ID: **Balance1_408774** SeqNo: **6650165** 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-051622** Units: **mg/L** Analysis Date: **16-May-2022 15:39**
Client ID: Run ID: **Balance1_408774** SeqNo: **6650166** 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)	1042	10.0	1000	0	104	85 - 115				

DUP Sample ID: **HS22050525-08DUP** Units: **mg/L** Analysis Date: **16-May-2022 15:39**
Client ID: Run ID: **Balance1_408774** SeqNo: **6650155** 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)	3390	10.0					3388	0.059	5	

The following samples were analyzed in this batch: HS22050551-01 HS22050551-02 HS22050551-03

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

QC BATCH REPORT

Batch ID: R408848 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-051722** Units: **mg/L** Analysis Date: **17-May-2022 15:39**
Client ID: Run ID: **Balance1_408848** SeqNo: **6652052** 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-051722** Units: **mg/L** Analysis Date: **17-May-2022 15:39**
Client ID: Run ID: **Balance1_408848** SeqNo: **6652053** 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)	1044	10.0	1000	0	104	85 - 115				

DUP Sample ID: **HS22050641-02DUP** Units: **mg/L** Analysis Date: **17-May-2022 15:39**
Client ID: Run ID: **Balance1_408848** SeqNo: **6652046** 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)	18230	10.0					18250	0.121	5	

DUP Sample ID: **HS22050568-01DUP** Units: **mg/L** Analysis Date: **17-May-2022 15:39**
Client ID: Run ID: **Balance1_408848** SeqNo: **6652033** 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)	488	10.0					490	0.409	5	

The following samples were analyzed in this batch: HS22050551-04 HS22050551-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22050551

QC BATCH REPORT

Batch ID: R409396 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **25-May-2022 12:45**
Client ID: Run ID: **ICS-Integrion_409396** SeqNo: **6664706** 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: **25-May-2022 12:50**
Client ID: Run ID: **ICS-Integrion_409396** SeqNo: **6664707** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.19	0.500	20	0	101	80 - 120				
Fluoride	4.199	0.100	4	0	105	80 - 120				
Sulfate	20.01	0.500	20	0	100	80 - 120				

MS Sample ID: **HS22051125-02MS** Units: **mg/L** Analysis Date: **25-May-2022 13:43**
Client ID: Run ID: **ICS-Integrion_409396** SeqNo: **6664711** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	130	2.50	50	76.93	106	80 - 120				
Fluoride	19.02	0.500	10	6.34	127	80 - 120				S
Sulfate	2587	2.50	50	2653	-132	80 - 120				SEO

MSD Sample ID: **HS22051125-02MSD** Units: **mg/L** Analysis Date: **25-May-2022 13:48**
Client ID: Run ID: **ICS-Integrion_409396** SeqNo: **6664712** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	129.9	2.50	50	76.93	106	80 - 120	130	0.0693	20	
Fluoride	19.36	0.500	10	6.34	130	80 - 120	19.02	1.79	20	S
Sulfate	2584	2.50	50	2653	-139	80 - 120	2587	0.132	20	SEO

The following samples were analyzed in this batch: HS22050551-01 HS22050551-02 HS22050551-03 HS22050551-04 HS22050551-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: **HS22050551**

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-34	30-Jun-2022
Illinois	2000322022-9	09-May-2023
Kansas	E-10352 2021-2022	31-Jul-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Maryland	343, 2021-2022	30-Jun-2022
North Carolina	624-2022	31-Dec-2022
Oklahoma	2021-080	31-Aug-2022
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932021-12	30-Jul-2022

Sample Receipt Checklist

Work Order ID: HS22050551 **Date/Time Received:** **12-May-2022 09:15**

Client Name: SCS ENGINEERS - Bedford TX **Received by:** **Corey Grandits**

Completed By: /S/ Pablo Marinez (eSignature) 12-May-2022 18:04 (Date/Time) **Reviewed by:** /S/ Dane J. Wacasey (eSignature) 26-May-2022 17:46 (Date/Time)

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:269442
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.5°C/1.0°C UC/C	IR 31
Cooler(s)/Kit(s):	BLUE	
Date/Time sample(s) sent to storage:	5/12/22 18:05	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

+1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 269442

HS22050551

SCS Engineers
Sandy Creek

Customer Information		Project Information		ALS Project Manager:	
Purchase Order	Sandy Creek	Project Name	Sandy Creek	A	pH_W_9040C (9040 pH)
Work Order		Project Number	16221023.00 Task 3	B	9056_anions_W (9056 Cl, F, SO4)
Company Name	SCS Engineers	Bill To Company	SCS Engineers	C	TDS_W 2540C (2540C TDS)
Send Report To	Glen Collier	Invoice Attn	Krystal Kuntz - A/P	D	ICP_TW (6020 B, Ca)
Address	1901 Central Drive Suite 550	Address	1901 Central Drive Suite 550	E	
				F	
City/State/Zip	Bedford, TX 76021	City/State/Zip	Bedford TX 76021	G	
Phone	(817) 571-2288	Phone	(817) 571-2288	H	
Fax		Fax		I	
e-Mail Address	GCollier@scsengineers.com	e-Mail Address	kkuntz@scsengineers.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	BW-1	5-10-22	13:15	Groundwa	2,8	2	X	X	X	X							
2	MW-1	5-10-22	13:45	Groundwa	2,8	2	X	X	X	X							
3	MW-2	5-10-22	14:40	Groundwa	2,8	2	X	X	X	X							
4	MW-3	5-10-22	16:30	Groundwa	2,8	2	X	X	X	X							
5	DUP	5-10-22	—	Groundwa	2,8	2	X	X	X	X							
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Gavin Kellough

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ____ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Gavin Kellough Date: 5-11-22 Time: 9:05 Received by:

Relinquished by: Date: Time: Received by (Laboratory): COREY G 5-12-22 0919

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: SCS Sandy Creek

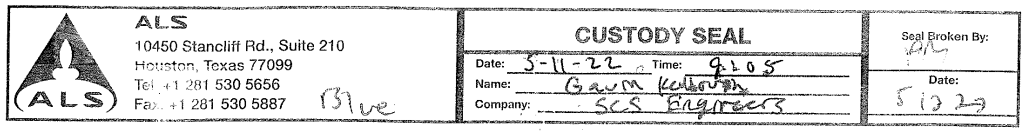
Cooler ID	Cooler Temp.
MD BLUE	
1231	
CF-015	

QC Package: (Check One Box Below)

- ☒ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

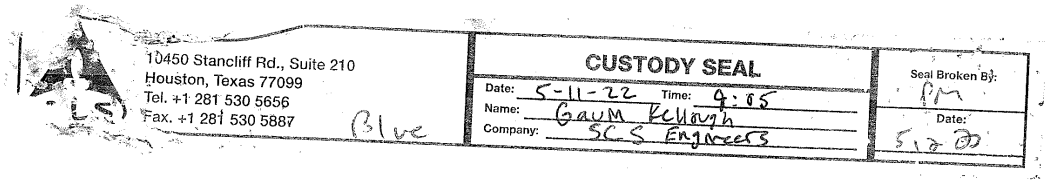


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Blue

CUSTODY SEAL
Date: 5-11-22 Time: 9:05
Name: Gaum Kellough
Company: SCS Engineers

Seal Broken By:
Date: 5/12/22

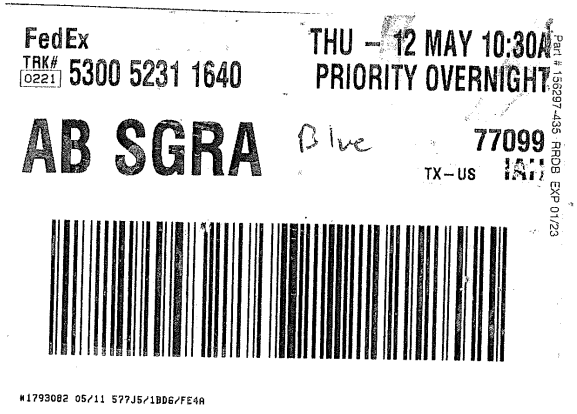


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Blue

CUSTODY SEAL
Date: 5-11-22 Time: 9:05
Name: Gaum Kellough
Company: SCS Engineers

Seal Broken By:
Date: 5/12/22



FedEx
TRK# 0221 5300 5231 1640

THU - 12 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

Blue

77099
TX-US IAH

Part # 156297-435 RRDB EXP 01/23

#1793082 05/11 577J5/1BD6/FE4A

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

December 09, 2022

Gil Gabaldon
SCS Engineers
1901 Central Drive
Suite 550
Bedford, TX 76021

Work Order: **HS22111432**

Laboratory Results for: **Sandy Creek**

Dear Gil Gabaldon,

ALS Environmental received 5 sample(s) on Nov 23, 2022 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
Dane J. Wacasey

Client: SCS Engineers
Project: Sandy Creek
Work Order: HS22111432

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22111432-01	BW-1	Groundwater		22-Nov-2022 14:35	23-Nov-2022 09:30	☐
HS22111432-02	MW-1	Groundwater		22-Nov-2022 14:40	23-Nov-2022 09:30	☐
HS22111432-03	MW-2	Groundwater		22-Nov-2022 15:05	23-Nov-2022 09:30	☐
HS22111432-04	MW-3	Groundwater		22-Nov-2022 15:36	23-Nov-2022 09:30	☐
HS22111432-05	DUP	Groundwater		22-Nov-2022 00:00	23-Nov-2022 09:30	☐

Client: SCS Engineers **CASE NARRATIVE**
Project: Sandy Creek
Work Order: HS22111432

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.

Metals by Method SW6020A

Batch ID: 187016

Sample ID: HS22120067-02MS

• MS and MSD are for an unrelated sample

Sample ID: HS22120067-02PDS

• PDS is for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R423351

Sample ID: MW-2 (HS22111432-03)

• The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Fluoride)

WetChemistry by Method M2540C

Batch ID: R422844

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

WetChemistry by Method SW9040C

Batch ID: R422599

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: BW-1
Collection Date: 22-Nov-2022 14:35

ANALYTICAL REPORT
WorkOrder:HS22111432
Lab ID:HS22111432-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 06-Dec-2022		Analyst: ALR
Boron	**3.33**		**0.0550**	**0.100**	**mg/L**	5	06-Dec-2022 22:34
Calcium	**619**		**0.170**	**2.50**	**mg/L**	5	06-Dec-2022 22:07
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**6,460**		**5.00**	**10.0**	**mg/L**	1	29-Nov-2022 14:16
PH BY SW9040C		**Method:SW9040C**					Analyst: CD
pH	**6.90**	H	**0.100**	**0.100**	**pH Units**	1	28-Nov-2022 12:54
Temp Deg C @pH	**20.2**	H	**0**	**0**	**DEG C**	1	28-Nov-2022 12:54
ANIONS BY SW9056A		**Method:SW9056**					Analyst: TH
Chloride	**1,210**		**10.0**	**25.0**	**mg/L**	50	07-Dec-2022 06:26
Fluoride	**0.300**		**0.100**	**0.200**	**mg/L**	2	07-Dec-2022 06:21
Sulfate	**3,090**		**10.0**	**25.0**	**mg/L**	50	07-Dec-2022 06:26

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: MW-1
Collection Date: 22-Nov-2022 14:40

ANALYTICAL REPORT
WorkOrder:HS22111432
Lab ID:HS22111432-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 06-Dec-2022		Analyst: ALR
Boron	**1.30**		**0.0550**	**0.100**	**mg/L**	5	06-Dec-2022 22:36
Calcium	**512**		**0.170**	**2.50**	**mg/L**	5	06-Dec-2022 22:09
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**3,960**		**5.00**	**10.0**	**mg/L**	1	29-Nov-2022 14:16
PH BY SW9040C		**Method:SW9040C**					Analyst: CD
pH	**7.13**	H	**0.100**	**0.100**	**pH Units**	1	28-Nov-2022 12:54
Temp Deg C @pH	**20.3**	H	**0**	**0**	**DEG C**	1	28-Nov-2022 12:54
ANIONS BY SW9056A		**Method:SW9056**					Analyst: TH
Chloride	**145**		**2.00**	**5.00**	**mg/L**	10	07-Dec-2022 06:37
Fluoride	**0.336**		**0.0500**	**0.100**	**mg/L**	1	07-Dec-2022 06:32
Sulfate	**2,500**		**10.0**	**25.0**	**mg/L**	50	07-Dec-2022 07:40

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: MW-2
Collection Date: 22-Nov-2022 15:05

ANALYTICAL REPORT
WorkOrder:HS22111432
Lab ID:HS22111432-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 06-Dec-2022		Analyst: ALR
Boron	**2.39**		**0.0550**	**0.100**	**mg/L**	5	06-Dec-2022 22:38
Calcium	**687**		**0.170**	**2.50**	**mg/L**	5	06-Dec-2022 22:11
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**10,500**		**5.00**	**10.0**	**mg/L**	1	29-Nov-2022 14:16
PH BY SW9040C		**Method:SW9040C**					Analyst: CD
pH	**6.74**	H	**0.100**	**0.100**	**pH Units**	1	28-Nov-2022 12:54
Temp Deg C @pH	**20.5**	H	**0**	**0**	**DEG C**	1	28-Nov-2022 12:54
ANIONS BY SW9056A		**Method:SW9056**					Analyst: TH
Chloride	**2,700**		**10.0**	**25.0**	**mg/L**	50	07-Dec-2022 06:47
Fluoride	**0.341**	J	**0.250**	**0.500**	**mg/L**	5	07-Dec-2022 06:42
Sulfate	**3,420**		**10.0**	**25.0**	**mg/L**	50	07-Dec-2022 06:47

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: MW-3
Collection Date: 22-Nov-2022 15:36

ANALYTICAL REPORT
WorkOrder:HS22111432
Lab ID:HS22111432-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 06-Dec-2022		Analyst: ALR
Boron	**1.61**		**0.0550**	**0.100**	**mg/L**	5	06-Dec-2022 22:39
Calcium	**589**		**0.170**	**2.50**	**mg/L**	5	06-Dec-2022 22:13
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**6,560**		**5.00**	**10.0**	**mg/L**	1	29-Nov-2022 14:16
PH BY SW9040C		**Method:SW9040C**					Analyst: CD
pH	**6.56**	H	**0.100**	**0.100**	**pH Units**	1	28-Nov-2022 12:54
Temp Deg C @pH	**20.7**	H	**0**	**0**	**DEG C**	1	28-Nov-2022 12:54
ANIONS BY SW9056A		**Method:SW9056**					Analyst: TH
Chloride	**295**		**2.00**	**5.00**	**mg/L**	10	07-Dec-2022 06:58
Fluoride	**0.225**		**0.0500**	**0.100**	**mg/L**	1	07-Dec-2022 06:53
Sulfate	**3,130**		**10.0**	**25.0**	**mg/L**	50	07-Dec-2022 07:45

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

Client: SCS Engineers
Project: Sandy Creek
Sample ID: DUP
Collection Date: 22-Nov-2022 00:00

ANALYTICAL REPORT
WorkOrder:HS22111432
Lab ID:HS22111432-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 06-Dec-2022		Analyst: ALR
Boron	**3.57**		**0.0550**	**0.100**	**mg/L**	5	06-Dec-2022 22:41
Calcium	**548**		**0.170**	**2.50**	**mg/L**	5	06-Dec-2022 22:15
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: CWG
Total Dissolved Solids (Residue, Filterable)	**6,640**		**5.00**	**10.0**	**mg/L**	1	29-Nov-2022 14:16
PH BY SW9040C		**Method:SW9040C**					Analyst: CD
pH	**6.87**	H	**0.100**	**0.100**	**pH Units**	1	28-Nov-2022 12:54
Temp Deg C @pH	**20.3**	H	**0**	**0**	**DEG C**	1	28-Nov-2022 12:54
ANIONS BY SW9056A		**Method:SW9056**					Analyst: TH
Chloride	**1,120**		**4.00**	**10.0**	**mg/L**	20	07-Dec-2022 07:08
Fluoride	U		0.100	0.200	mg/L	2	07-Dec-2022 07:03
Sulfate	**2,760**		**8.00**	**20.0**	**mg/L**	40	07-Dec-2022 07:50

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

Weight / Prep Log

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

Batch ID: 187016 **Start Date:** 06 Dec 2022 09:00 **End Date:** 06 Dec 2022 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22111432-01		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS22111432-02		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS22111432-03		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS22111432-04		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2
HS22111432-05		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 187016 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS22111432-01	BW-1	22 Nov 2022 14:35		06 Dec 2022 09:00	06 Dec 2022 22:34	5
HS22111432-01	BW-1	22 Nov 2022 14:35		06 Dec 2022 09:00	06 Dec 2022 22:07	5
HS22111432-02	MW-1	22 Nov 2022 14:40		06 Dec 2022 09:00	06 Dec 2022 22:36	5
HS22111432-02	MW-1	22 Nov 2022 14:40		06 Dec 2022 09:00	06 Dec 2022 22:09	5
HS22111432-03	MW-2	22 Nov 2022 15:05		06 Dec 2022 09:00	06 Dec 2022 22:38	5
HS22111432-03	MW-2	22 Nov 2022 15:05		06 Dec 2022 09:00	06 Dec 2022 22:11	5
HS22111432-04	MW-3	22 Nov 2022 15:36		06 Dec 2022 09:00	06 Dec 2022 22:39	5
HS22111432-04	MW-3	22 Nov 2022 15:36		06 Dec 2022 09:00	06 Dec 2022 22:13	5
HS22111432-05	DUP	22 Nov 2022 00:00		06 Dec 2022 09:00	06 Dec 2022 22:41	5
HS22111432-05	DUP	22 Nov 2022 00:00		06 Dec 2022 09:00	06 Dec 2022 22:15	5
Batch ID: R422599 (0)	**Test Name :** PH BY SW9040C				**Matrix:** Groundwater	
HS22111432-01	BW-1	22 Nov 2022 14:35			28 Nov 2022 12:54	1
HS22111432-02	MW-1	22 Nov 2022 14:40			28 Nov 2022 12:54	1
HS22111432-03	MW-2	22 Nov 2022 15:05			28 Nov 2022 12:54	1
HS22111432-04	MW-3	22 Nov 2022 15:36			28 Nov 2022 12:54	1
HS22111432-05	DUP	22 Nov 2022 00:00			28 Nov 2022 12:54	1
Batch ID: R422844 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Groundwater	
HS22111432-01	BW-1	22 Nov 2022 14:35			29 Nov 2022 14:16	1
HS22111432-02	MW-1	22 Nov 2022 14:40			29 Nov 2022 14:16	1
HS22111432-03	MW-2	22 Nov 2022 15:05			29 Nov 2022 14:16	1
HS22111432-04	MW-3	22 Nov 2022 15:36			29 Nov 2022 14:16	1
HS22111432-05	DUP	22 Nov 2022 00:00			29 Nov 2022 14:16	1
Batch ID: R423351 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS22111432-01	BW-1	22 Nov 2022 14:35			07 Dec 2022 06:26	50
HS22111432-01	BW-1	22 Nov 2022 14:35			07 Dec 2022 06:21	2
HS22111432-02	MW-1	22 Nov 2022 14:40			07 Dec 2022 07:40	50
HS22111432-02	MW-1	22 Nov 2022 14:40			07 Dec 2022 06:37	10
HS22111432-02	MW-1	22 Nov 2022 14:40			07 Dec 2022 06:32	1
HS22111432-03	MW-2	22 Nov 2022 15:05			07 Dec 2022 06:47	50
HS22111432-03	MW-2	22 Nov 2022 15:05			07 Dec 2022 06:42	5
HS22111432-04	MW-3	22 Nov 2022 15:36			07 Dec 2022 07:45	50
HS22111432-04	MW-3	22 Nov 2022 15:36			07 Dec 2022 06:58	10
HS22111432-04	MW-3	22 Nov 2022 15:36			07 Dec 2022 06:53	1
HS22111432-05	DUP	22 Nov 2022 00:00			07 Dec 2022 07:50	40
HS22111432-05	DUP	22 Nov 2022 00:00			07 Dec 2022 07:08	20
HS22111432-05	DUP	22 Nov 2022 00:00			07 Dec 2022 07:03	2

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

QC BATCH REPORT

Batch ID: 187016 (0) **Instrument: ICPMS07** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-187016** Units: **mg/L** Analysis Date: **07-Dec-2022 16:48**
Client ID: Run ID: **ICPMS07_423374** SeqNo: **7019325** PrepDate: **06-Dec-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	U	0.0200								
Calcium	U	0.500								

LCS Sample ID: **LCS-187016** Units: **mg/L** Analysis Date: **07-Dec-2022 16:50**
Client ID: Run ID: **ICPMS07_423374** SeqNo: **7019326** PrepDate: **06-Dec-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4742	0.0200	0.5	0	94.8	80 - 120				

LCS Sample ID: **LCS-187016** Units: **mg/L** Analysis Date: **06-Dec-2022 21:50**
Client ID: Run ID: **ICPMS07_423332** SeqNo: **7017499** PrepDate: **06-Dec-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	5.397	0.500	5	0	108	80 - 120				

MS Sample ID: **HS22120067-02MS** Units: **mg/L** Analysis Date: **07-Dec-2022 16:55**
Client ID: Run ID: **ICPMS07_423374** SeqNo: **7019329** PrepDate: **06-Dec-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.8958	0.0200	0.5	0.2992	119	80 - 120				
Calcium	150.8	0.500	5	150	14.8	80 - 120				SO

MSD Sample ID: **HS22120067-02MSD** Units: **mg/L** Analysis Date: **07-Dec-2022 16:57**
Client ID: Run ID: **ICPMS07_423374** SeqNo: **7019330** PrepDate: **06-Dec-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	1.054	0.0200	0.5	0.2992	151	80 - 120	0.8958	16.2	20	SE
Calcium	154.2	0.500	5	150	83.2	80 - 120	150.8	2.24	20	O

PDS Sample ID: **HS22120067-02PDS** Units: **mg/L** Analysis Date: **08-Dec-2022 15:50**
Client ID: Run ID: **ICPMS07_423501** SeqNo: **7021819** PrepDate: **06-Dec-2022** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.7946	0.100	0.5	0.24	111	75 - 125				

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

QC BATCH REPORT

Batch ID: 187016 (0) **Instrument: ICPMS07** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS22120067-02PDS** Units: **mg/L** Analysis Date: **07-Dec-2022 16:59**
Client ID: Run ID: **ICPMS07_423374** SeqNo: **7019331** PrepDate: **06-Dec-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	138.7	0.500	10	150	-113	75 - 125				SO

SD Sample ID: **HS22120067-02SD** Units: **mg/L** Analysis Date: **08-Dec-2022 15:42**
Client ID: Run ID: **ICPMS07_423501** SeqNo: **7021817** PrepDate: **06-Dec-2022** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	0.3696	0.500					0.24	0	10	J

SD Sample ID: **HS22120067-02SD** Units: **mg/L** Analysis Date: **07-Dec-2022 16:53**
Client ID: Run ID: **ICPMS07_423374** SeqNo: **7019328** PrepDate: **06-Dec-2022** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	143.3	2.50					150	4.49	10	

The following samples were analyzed in this batch: HS22111432-01 HS22111432-02 HS22111432-03 HS22111432-04 HS22111432-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

QC BATCH REPORT

Batch ID: R422599 (0) **Instrument: WetChem_HS** **Method: PH BY SW9040C**

DUP Sample ID: **HS22111247-01DUP** Units: **pH Units** Analysis Date: **28-Nov-2022 12:54**
Client ID: Run ID: **WetChem_HS_422599** SeqNo: **7000114** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.85	0.100					8.82	0.34	10	
Temp Deg C @pH	20.6	0					20.6	0	10	

The following samples were analyzed in this batch: HS22111432-01 HS22111432-02 HS22111432-03 HS22111432-04 HS22111432-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

QC BATCH REPORT

Batch ID: R422844 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-112922** Units: **mg/L** Analysis Date: **29-Nov-2022 14:16**
Client ID: Run ID: **Balance1_422844** SeqNo: **7006192** 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-112922** Units: **mg/L** Analysis Date: **29-Nov-2022 14:16**
Client ID: Run ID: **Balance1_422844** SeqNo: **7006193** 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)	1070	10.0	1000	0	107	85 - 115				

DUP Sample ID: **HS22111432-01DUP** Units: **mg/L** Analysis Date: **29-Nov-2022 14:16**
Client ID: **BW-1** Run ID: **Balance1_422844** SeqNo: **7006187** 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)	6480	10.0					6460	0.309	5	

The following samples were analyzed in this batch: HS22111432-01 HS22111432-02 HS22111432-03 HS22111432-04 HS22111432-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: HS22111432

QC BATCH REPORT

Batch ID: R423351 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **07-Dec-2022 04:20**
Client ID: Run ID: **ICS-Integrion_423351** SeqNo: **7018027** 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: **07-Dec-2022 04:25**
Client ID: Run ID: **ICS-Integrion_423351** SeqNo: **7018028** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.7	0.500	20	0	98.5	80 - 120				
Fluoride	4.279	0.100	4	0	107	80 - 120				
Sulfate	20.15	0.500	20	0	101	80 - 120				

MS Sample ID: **HS22111232-04MS** Units: **mg/L** Analysis Date: **07-Dec-2022 05:13**
Client ID: Run ID: **ICS-Integrion_423351** SeqNo: **7018035** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	757.6	10.0	200	590	83.8	80 - 120				
Fluoride	42.6	2.00	40	0.758	105	80 - 120				
Sulfate	197.2	10.0	200	0	98.6	80 - 120				

MSD Sample ID: **HS22111232-04MSD** Units: **mg/L** Analysis Date: **07-Dec-2022 05:18**
Client ID: Run ID: **ICS-Integrion_423351** SeqNo: **7018036** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	766.4	10.0	200	590	88.2	80 - 120	757.6	1.15	20	
Fluoride	43.24	2.00	40	0.758	106	80 - 120	42.6	1.51	20	
Sulfate	199.2	10.0	200	0	99.6	80 - 120	197.2	1.04	20	

The following samples were analyzed in this batch: HS22111432-01 HS22111432-02 HS22111432-03 HS22111432-04 HS22111432-05

Client: SCS Engineers
Project: Sandy Creek
WorkOrder: **HS22111432**

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS22111432 **Date/Time Received:** **23-Nov-2022 09:30**

Client Name: SCS ENGINEERS - Bedford TX **Received by:** **Paresh M. Giga**

Completed By:	/S/ Nilesh D. Ranchod	23-Nov-2022 16:16	**Reviewed by:**	/S/ Dane J. Wacasey	07-Dec-2022 17:17
	eSignature	Date/Time		eSignature	Date/Time

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:285546
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.9C/1.4C UC/C	IR #31	
Cooler(s)/Kit(s):	49946		
Date/Time sample(s) sent to storage:	11/23/2022 17:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page _____ of _____

COC ID: 285546

HS22111432

SCS Engineers
Sandy Creek

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	16-DA01918 16221023.00 Task 3	Project Name	Sandy Creek	A	pH_W_9040C (9040 pH)
Work Order		Project Number	16221023.00 Task 3	B	9056_anions_W (9056 Cl, F, SO4)
Company Name	SCS Engineers	Bill To Company	SCS Engineers	C	TDS_W 2540C (2540C TDS)
Send Report To	Gil Gabaldon	Invoice Attn	Krystal Kuntz - A/P	D	ICP_TW (6020 B, Ca)
Address	1901 Central Drive Suite 550	Address	1901 Central Drive Suite 550	E	
				F	
City/State/Zip	Bedford, TX 76021	City/State/Zip	Bedford TX 76021	G	
Phone	(817) 571-2288	Phone	(817) 571-2288	H	
Fax		Fax		I	
e-Mail Address	GGabaldon@scsengineers.com	e-Mail Address	kkuntz@scsengineers.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	BW-1	11/22/22	14:35	Groundwa	2,8	2	X	X	X	X							
2	MW-1		14:40	Groundwa	2,8	2	X	X	X	X							
3	MW-2		15:05	Groundwa	2,8	2	X	X	X	X							
4	MW-3		15:36	Groundwa	2,8	2	X	X	X	X							
5	~~MW-4~~			~~Groundwa~~	~~2,8~~	~~2~~	~~X~~	~~X~~	~~X~~	~~X~~							
6	~~MW-5~~			~~Groundwa~~	~~2,8~~	~~2~~	~~X~~	~~X~~	~~X~~	~~X~~							
7	DUP	11/22/22		Groundwa	2,8	2	X	X	X	X							
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Asher Boudreaux

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other _____ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Asher Boudreaux	11/22/22	17:15	
Relinquished by:	Date:	Time:	Received by (Laboratory): 11/23/22 09:30
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: SCS Sandy Creek

Cooler ID	Cooler Temp.
49946	1.9 °C
	4.3 °C

QC Package: (Check One Box Below)

- ☒ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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

CUSTODY SEAL

Date: 11/27/22 Time: 1715
Name: Asher B.
Company: SCS

Seal Broken By:
Date: 11/23/22

449446

NOV 23 2022

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

449446

CUSTODY SEAL

Date: 11/27/22 Time: 1715
Name: Asher B.
Company: SCS

Seal Broken By:
Date: 11/23/22

449446

Part # 159459-4324 MTW EXP 09/23

ORIGIN ID:SGRA (817) 368-0837
ASHER BOUDREAUX
SCS ENGINEERS
1901 CENTRAL DRIVE
SUITE 550
BEDFORD, TX 76021
UNITED STATES US

SHIP DATE: 21NOV22
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3616
DIMS: 26x14x14 IN

TO **SHIPPING DEPT**
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5666
REF: SANDY CREEK-DW

RMA:

FedEx Express

FedEx
TRK# 0221 5789 2001 3225

WED - 23 NOV 10:30A
PRIORITY OVERNIGHT

43 SGRA

77099
TX-US IAH

#1786261 11/22 581J6/E4B8/FE2D

Appendix C
Historical Groundwater Analytical Data

APPENDIX C - GROUNDWATER ANALYTICAL DATA
2022 ANNUAL GROUNDWATER MONITORING REPORT
SANDY CREEK ENERGY STATION
2161 RATTLESNAKE ROAD
RIESEL, TX 76682

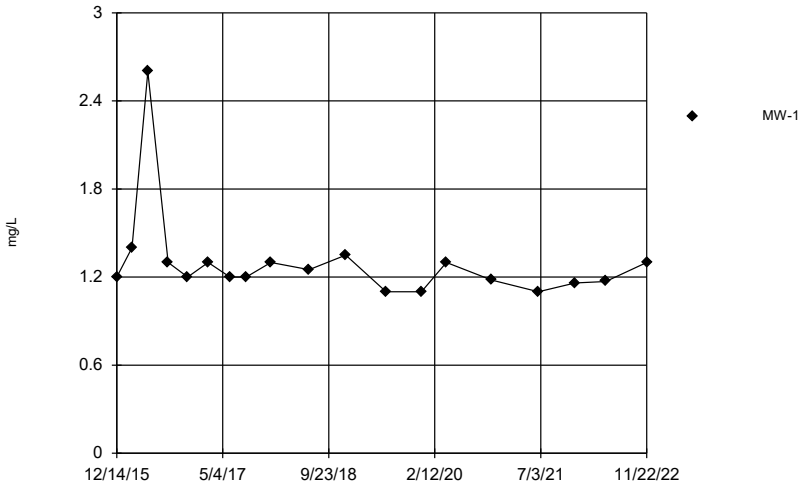
	Water Level	Conductivity	Boron	Calcium	Chloride	pH at 25°C	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226	Radium-228	Combined Radium	Fluoride
Units	**ft msl**	**mS/cm**	**mg/L**	**mg/L**	**mg/L**	**Std. Units**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**pCi/L**	**pCi/L**	**pCi/L**	**mg/L**
MW-1																									
12/14/2015	453.53	4.51	1.2	454	253	7.6	2090	4090	<0.0010	<0.0050	**0.044**	<0.0010	<0.0010	**0.0073**	<0.0025	<0.0050	**0.43**	<0.00020	<0.010	**0.16**	<0.00050	**1.04 ± 0.838**	**1.09 ± 0.523**	**2.13**	<0.30
2/25/2016	453.38	4.98	1.4	520	236	7.5	2190	4060	<0.0010	<0.0050	**0.033**	<0.0010	<0.0010	**0.0074**	<0.0025	**0.0084**	**0.39**	<0.00020	<0.010	**0.2**	<0.00050	**0.922 ± 0.720**	**1.46 ± 0.496**	**2.382**	<0.30
5/11/2016	454.14	4.83	2.6	1030	402	7.2	2580	5260	<0.0010	**0.12**	**1**	**0.029**	<0.0020	**0.69**	**0.087**	**0.21**	**0.78**	<0.00020	<0.020	**0.039**	**0.00089**	**3.94 ± 1.31**	**8.39 ± 1.74**	**12.33**	<0.30
8/16/2016	453.67	4.47	1.3	535	239	6.8	2300	3880	<0.0010	<0.0050	**0.022**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	**0.41**	<0.00020	<0.010	**0.13**	<0.00050	**0.593 ± 0.620**	**3.29 ± 0.828**	**3.883**	**0.35**
11/17/2016	454.43	4.45	1.2	542	216	7	2130	3720	<0.0010	<0.0050	**0.018**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	**0.37**	<0.00020	<0.020	**0.16**	<0.00050	**0.338 ± 0.339**	**2.49 ± 0.783**	**2.828**	<0.30
2/23/2017	454.72	5.08	1.3	531	223	7	2350	3980	<0.0010	<0.010	<0.20	<0.0050	<0.0050	<0.010	<0.010	<0.0050	**0.44**	<0.00020	<0.010	**0.066**	<0.00050	**-0.207 ± 0.945**	**3.13 ± 0.908**	**2.923**	<0.30
6/7/2017	454.42	4.77	1.2	530	203	7.5	2010	3680	<0.0010	<0.0050	**0.019**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	**0.36**	<0.00020	<0.020	**0.15**	<0.00050	**0.000 ± 0.449**	**1.30 ± 0.518**	**1.3**	<0.30
8/24/2017	454.69	4.58	1.2	518	241	7.1	2620	4550	<0.0010	<0.0050	**0.02**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	**0.395**	<0.00020	<0.020	**0.17**	<0.00050	**0.577 ± 0.429**	**1.69 ± 0.634**	**2.267**	**0.4**
12/20/2017	454.22	4.287	1.3	548	248	7.4	2340	4250	<0.0010	<0.0060	**0.017**	<0.0010	<0.0050	<0.0070	<0.0025	<0.010	**0.38**	<0.00020	<0.030	**0.18**	<0.00050	**1.26 ± 0.680**	**2.46 ± 0.888**	**3.72**	**1.1**
6/21/2018	453.85	4.67	1.25	587	247	7.38	2530	4270	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.3 J**
12/13/2018	454.86	4.369	1.35	515	241	7.52	2570	4100	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.585**
6/24/2019	455.38	4.142	1.1	492	169	7.2	2430	4030	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.73**
12/10/2019	453.99	4.278	1.1	534	192	7.43	2420	3720	n/a	**0.000667**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.0809**	n/a	n/a	n/a	n/a	**0.236**
4/8/2020	454.99	4.66	1.3	524	152	7.1	2430	4330	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
11/10/2020	454.45	4.73	1.18	539	168	7.2	2350	4060	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.26 J**
6/22/2021	455.29	4.32	1.1	510	161	7.19	2470	3830	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
12/15/2021	455.13	4.45	1.16	534	144	7.15	2360	3940	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.271**
5/10/2022	455.09	5.32	1.17	521	161	7.24	2460	4090	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
11/22/2022	454.06	4.56	1.3	512	145	7.13	2500	3960	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.336**
MW-2																									
12/14/2015	424.11	10.6	1.9	569	1890	6.7	2810	8520	<0.0010	<0.0050	**0.031**	<0.0010	<0.0010	<0.0050	**0.0061**	<0.0050	**0.69**	<0.00020	<0.010	<0.010	<0.00050	**1.41 ± 0.938**	**2.76 ± 0.771**	**4.17**	**0.98**
2/25/2016	429.50	11.3	2.4	697	2080	7.3	2890	8070	<0.0010	**0.014**	**0.038**	<0.0010	<0.0010	<0.0050	<0.011	<0.0050	**0.74**	<0.00020	<0.010	<0.010	<0.00050	**0.857 ± 0.590**	**2.57 ± 0.665**	**3.427**	<0.30
5/11/2016	430.72	10.8	2.2	613	2340	6.7	3010	9930	<0.0010	**0.0059**	**0.027**	<0.0010	<0.0010	<0.0050	**0.0079**	<0.0050	**0.87**	<0.00020	<0.010	<0.010	<0.00050	**0.859 ± 0.561**	**3.13 ± 0.822**	**3.989**	<0.30
8/16/2016	430.78	11.9	2.1	680	2440	6.7	3080	7870	<0.0010	<0.0050	**0.021**	<0.0010	<0.0010	<0.0050	**0.0084**	<0.0050	**0.84**	<0.00020	<0.010	<0.010	<0.0010	**0.237 ± 0.329**	**3.28 ± 0.775**	**3.517**	**0.64**
11/17/2016	430.80	10.7	1.9	701	2140	6.7	2770	9680	<0.0010	**0.0059**	**0.024**	<0.0010	<0.0010	<0.0050	**0.0064**	<0.0050	**0.82**	<0.00020	**0.024**	<0.010	<0.00050	**0.923 ± 0.594**	**3.16 ± 0.826**	**4.083**	**0.35**
2/23/2017	430.85	13.7	1.9	646	2320	6.9	3110	9630	<0.0010	<0.010	<0.20	<0.0050	<0.0050	<0.010	<0.010	<0.0050	**0.8**	<0.00020	<0.010	<0.020	<0.00050	**1.52 ± 1.50**	**4.27 ± 1.07**	**5.79**	**0.46**
6/7/2017	431.12	11	1.9	640	2420	7.5	2970	14200	<0.0010	<0.0050	**0.016**	<0.0010	<0.0010	<0.0050	**0.0051**	<0.0050	**0.75**	<0.00020	<0.020	<0.010	<0.00050	**0.344 ± 0.415**	**3.82 ± 0.931**	**4.164**	**1.3**
8/24/2017	431.20	11.4	1.9	664	2520	6.8	3710	9600	<0.0010	<0.010	**0.017**	<0.0010	<0.0020	<0.0050	**0.0065**	<0.010	**0.729**	<0.00020	<0.020	**0.026**	<0.00050	**1.12 ± 0.610**	**3.78 ± 0.960**	**4.9**	**0.32**
12/20/2017	429.47	6.198	2.2	716	2590	7.2	3100	9600	<0.0010	<0.012	**0.022**	<0.0010	<0.010	<0.014	**0.0072**	<0.020	**0.74**	<0.00020	<0.030	<0.040	<0.00050	**0.945 ± 0.578**	**4.07 ± 0.940**	**5.015**	<0.50
6/21/2018	430.02	12.66	1.9	706	2840	7.09	3400	10200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.6
12/13/2018	430.72	11.89	2.58	690	2740	6.71	3220	10500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.618**
6/24/2019	432.28	10.77	1.7	656	2420	7.0	3480	9560	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.18
12/10/2019	430.19	8.676	1.48	660	2180	6.93	2620	8120	n/a	**0.00219**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.010	n/a	n/a	n/a	n/a	**0.229**
4/8/2020	430.07	13	1.9	650	2410	6.8	3120	9820	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
11/10/2020	430.96	13.7	2.13	715	2350	6.8	2830	9670	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
6/22/2021	431.88	11.3	1.83	704	2780	6.82	3370	9500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
12/15/2021	430.79	12	2.02	656	2350	6.83	2970	8780	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.254**
5/10/2022	430.63	14.5	2.28	630	2370	6.93	3040	8900	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
11/22/2022	429.45	10.2	2.39	687	2700	6.74	3420	10500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.341**
MW-3																									
12/14/2015	421.77	1.17	0.35	67.6	12.3	7.2	135	586	<0.0010	<0.0050	**0.021**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	<0.050	<0.00020	<0.010	<0.010	<0.00050	**0.997 ± 0.813**	**0.736 ± 0.505**	**1.733**	**0.62**
2/25/2016	421.66	6.04	1.2	479	347	7	2430	5400	<0.0010	**0.0061**	**0.052**	<0.0010	<0.0010	<0.0050	**0.0098**	<0.0050	**0.85**	<0.00020	<0.010	<0.010	<0.00050	**1.26 ± 0.762**	**3.02 ± 0.791**	**4.28**	**0.9**
5/11/2016	421.94	3.82	1.1	465	349	6.5	2330	5440	<0.0010	<0.0050	**0.024**	<0.0010	<0.0010	<0.0050	**0.0059**	<0.0050	**0.65**	<0.00020	<0.010	<0.010	<0.00050	**1.54 ± 0.797**	**1.62 ± 0.547**	**3.16**	<0.30
8/16/2016	420.42	6.01	1.2	505	381	7.3	2950	5680	<0.0010	<0.0050	**0.018**	<0.0010	<0.0010	<0.0050	**0.006**	<0.0050	**0.98**	<0.00020	<0.010	<0.010	<0.00050	**0.891 ± 0.626**	**5.10 ± 1.13**	**5.991**	<0.30
11/17/2016	421.03	5.43	1.1	494	322	6.6	2420	5420	<0.0010	<0.0050	**0.028**	<0.0010	<0.0010	<0.0050	**0.0068**	<0.0050	**0.94**	<0.00020	<0.020	<0.010	<0.00050	**0.872 ± .0579**	**5.23 ± 1.30**	**6.102**	<0.30
2/23/2017	422.58	6.79	1.1	389	202	7	1450	2900	<0.0010	<0.010	<0.20	<0.0050	<0.0050	<0.010	<0.010	<0.0050	**0.7**	<0.00020	<0.010	<0.020	<0.00050	**-0.239 ± 1.09**	**4.07 ± 1.03**	**3.831**	**0.45**
6/7/2017	422.23	3.68	1.2	486	327	7.1	2260	4740	<0.0010	<0.0050	**0.015**	<0.0010	<0.0010	<0.0050	**0.0058**	<0.0050	**0.62**	<0.00020	<0.020	<0.010	<0.00050	**0.941 ± 0.658**	**2.76 ± 0.765**	**3.701**	**0.57**
8/24/2017	419.66	6.55	1.1	519	401	6.5	2890	6160	<0.0010	<0.010	**0.014**	<0.0010	<0.0020	<0.0050	**0.0084**	<0.010	**1.03**	<0.00020	<0.020	<0.020	<0.00050	**1.26 ± 0.600**	**4.41 ± 1.07**	**5.67**	<0.30
12/20/2017	421.08	6.459	1.3	563	380	6.8	2830	5790	<0.0010	<0.0060	**0.034**	<0.0010	<0.0050	<0.0070	**0.0086**	<0.010	**0.92**	<0.00020	<0.030	<0.020	<0.00050	**0.626 ± 0.567**	**2.77 ± 0.728**	**3.396**	**0.61**
6/21/2018	418.68	6.633	1.13	526	396	6.76	3160	6090	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.3
12/13/2018	422.36	4.47	1.08	327	206	6.61	1790	3520	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.662**
6/24/2019	423.00	5.659	0.99	452	306	6.6	3130	5740	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.18
12/10/2019	419.87	6.189	1.26	572	345	6.67	3140	5830	n/a	**0.0024**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.010	n/a	n/a	n/a	n/a	**0.137**
4/8/2020	422.06	6.46	1.1	530	307	6.5	3020	5980	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
11/10/2020	420.03	7.21	3.07	597	1160	7.1	2950	6920	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
6/22/2021	421.46	6.06	1.02	469	300	6.77	3170	5080	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
12/15/2021	420.96	6.71	1.24	518	318	6.54	2970	5500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.50**
5/10/2022	420.24	6.89	1.07	420	299	6.66	2760	5060	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
11/22/2022	420.29	6.75	1.61	589	295	6.56	3130	6560	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.225**
BW-1																									
12/14/2015	465.60	5.35	1.8	465	727	9.5	2130	4900	<0.0010	<0.0050	**0.17**	<0.0010	<0.0010	**0.015**	**0.0026**	<0.0050	**0.7**	<0.00020	<0.010	<0.010	**0.00073**	**0.900 ± 0.728**	**1.13 ± 0.513**	**2.03**	<0.30
2/25/2016	465.44	5.8	3.5	586	1050	7.4	2690	6420	<0.0010	**0.015**	**0.055**	<0.0010	<0.0010	**0.0053**	**0.0035**	**0.0069**	**0.71**	<0.00020	<0.010	<0.010	<0.00050	**0.887 ± 0.697**	**1.82 ± 0.541**	**2.707**	**0.67**
5/11/2016	465.56	7.5	4	566	1120	7	2610	6360	<0.0010	**0.0084**	**0.04**	<0.0010	<0.0010	**0.011**	**0.0035**	**0.0091**	**0.79**	<0.00020	<0.010	<0.010	<0.00050	**2.40 ± 0.944**	**2.80 ± 0.710**	**5.2**	**0.32**
8/16/2016	465.71	7.52	3.7	566	1130	7.2	2720	6280	<0.0010	**0.0064**	**0.04**	<0.0010	<0.0010	**0.0073**	**0.0029**	<0.0050	**0.78**	<0.00020	<0.010	<0.010	<0.00050	**0.610 ± 0.483**	**3.42 ± 0.777**	**4.03**	**0.94**
11/17/2016	466.12	7.36	2.8	548	991	6.8	2590	6400	<0.0010	**0.0066**	**0.023**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	**0.74**	<0.00020	**0.022**	<0.010	<0.00050	**0.605 ± 0.548**	**2.94 ± 0.799**	**3.545**	**0.85**
2/23/2017	466.57	7.17	3.1	532	1080	7.2	2760	6280	<0.0010	<0.010	<0.20	<0.0050	<0.0050	<0.010	<0.010	<0.0050	**0.73**	<0.00020	<0.010	<0.020	<0.00050	**0.816 ± .0983**	**4.07 ± 1.08**	**4.886**	<0.30
6/7/2017	466.17	7.58	3.8	539	1020	7.7	2220	7320	<0.0010	<0.0050	**0.026**	<0.0010	<0.0010	<0.0050	<0.0025	<0.0050	**0.79**	<0.00020	<0.020	<0.010	<0.00050	**1.36 ± 0.685**	**3.13 ± 0.783**	**4.49**	<0.30
8/24/2017	466.38	7.81	3.4	531	1160	7.1	2870	7260	<0.0010	<0.010	**0.037**	<0.0010	<0.0020	<0.0050	<0.0050	<0.010	**0.738**	<0.00020	<0.020	<0.020	<0.00050	**1.58 ± 0.602**	**2.80 ± 0.759**	**4.38**	**0.37**
12/20/2017	466.51	7.063	3.5	658	1030	7.2	2620	6140	<0.0010	<0.0060	**0.044**	<0.0010	<0.0050	<0.0070	**0.0034**	<0.010	**0.73**	<0.00020	<0.030	<0.020	<0.00050	**1.07 ± 0.681**	**3.13 ± 0.788**	**4.2**	<0.50
6/21/2018	466.13	7.755	3.31	610	1200	7.22	3030	6640	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<0.3
12/13/2018	467.24	7.159	3.25	637	1120	7.1	2780	6400	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.586**
6/24/2019	467.37	7.21	3.1	564	1160	7.1	2930	6380	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.9**
12/10/2019	467.39	6.612	2.98	591	1150	7.11	2830	6300	n/a	**0.00236**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.010**	n/a	n/a	n/a	n/a	**0.309**
4/8/2020	467.63	8.15	3.7	545	1070	6.9	2760	6660	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
11/10/2020	468.39	8.28	3.14	612	1170	7.1	2710	6000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.20**
6/22/2021	468.37	7.54	3.39	607	1290	7.05	3170	6560	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.512**
12/15/2021	468.76	8.31	3.36	616	1140	6.92	2820	6380	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**<0.50**
5/10/2022	468.67	10.6	3.26	623	1110	7.01	2810	6530	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
11/22/2022	468.67	8.1	3.33	619	1210	6.9	3090	6460	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**0.3**

40 CFR 257 Appendix III Constituent
40 CFR 257 Appendix IV Constituent
40 CFR 257 Appendix III & IV Constituent

"<" - Indicates analyte was not detected above the laboratory reporting limit
"J" Indicates value is above method detection limit (MDL) but below laboratory reporting limit
ND- indicates constituent was non-detect

Appendix D
Time Series Graphs

Time Series

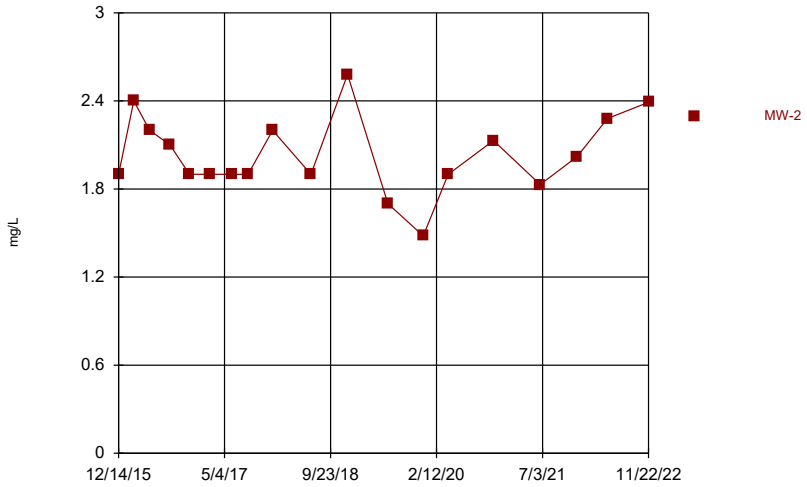


Constituent: Boron Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

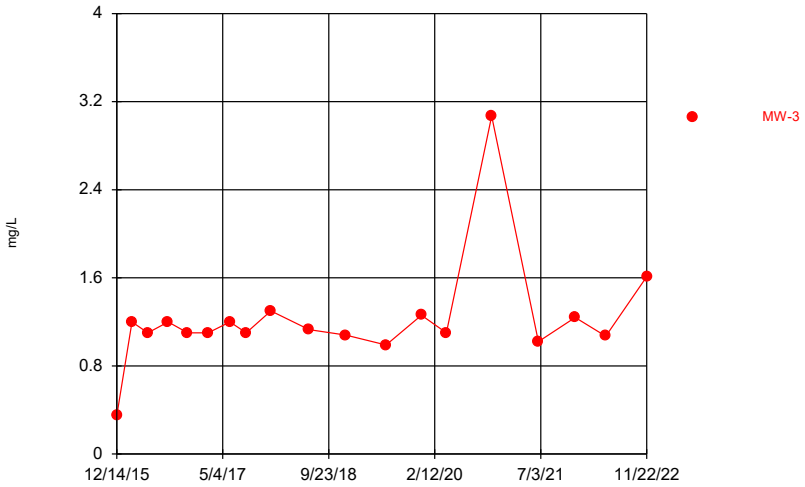


Constituent: Boron Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

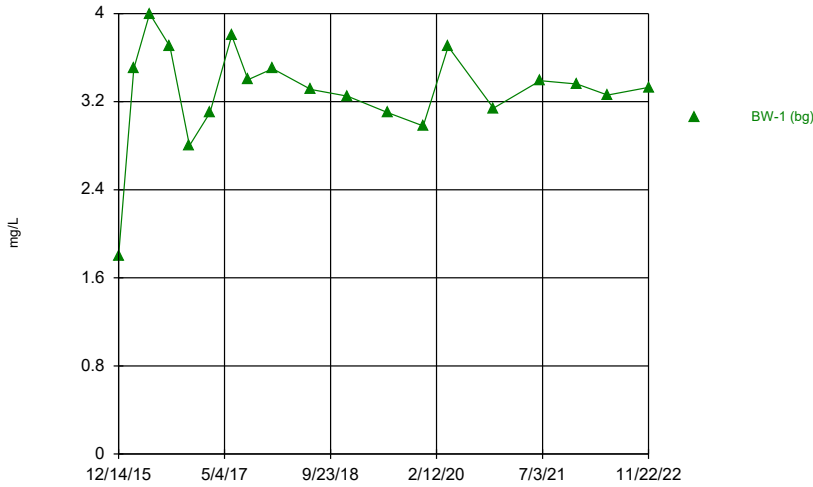


Constituent: Boron Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series



Constituent: Boron Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

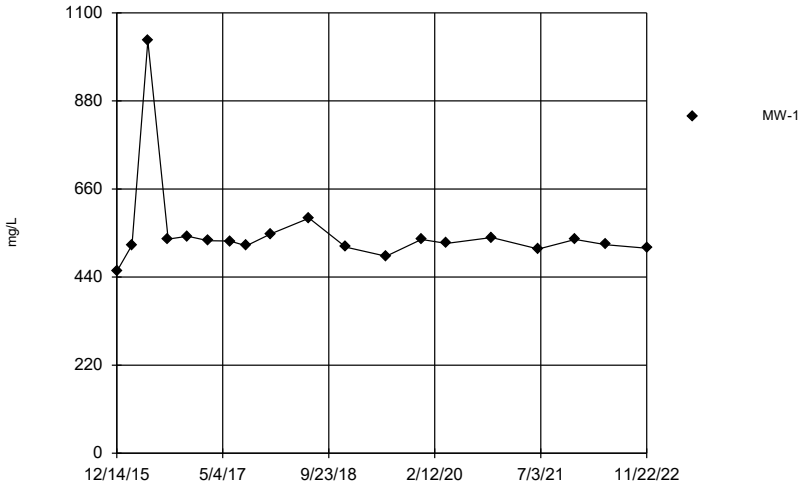
Time Series

Constituent: Boron Analysis Run 1/16/2023 7:40 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	1.2	1.9	0.35	1.8
2/25/2016	1.4	2.4	1.2	3.5
5/11/2016	2.6	2.2	1.1	4
8/16/2016	1.3	2.1	1.2	3.7
11/17/2016	1.2	1.9	1.1	2.8
2/23/2017	1.3	1.9	1.1	3.1
6/7/2017	1.2	1.9	1.2	3.8
8/24/2017	1.2	1.9	1.1	3.4
12/20/2017	1.3	2.2	1.3	3.5
6/21/2018	1.25	1.9	1.13	3.31
12/13/2018	1.35	2.58	1.08	3.25
6/24/2019	1.1	1.7	0.99	3.1
12/10/2019	1.1	1.48	1.26	2.98
4/8/2020	1.3	1.9	1.1	3.7
11/10/2020	1.18	2.13	3.07	3.14
6/22/2021	1.1	1.83	1.02	3.39
12/15/2021	1.16	2.02	1.24	3.36
5/10/2022	1.17	2.28	1.07	3.26
11/22/2022	1.3	2.39	1.61	3.33

Time Series



Constituent: Calcium Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

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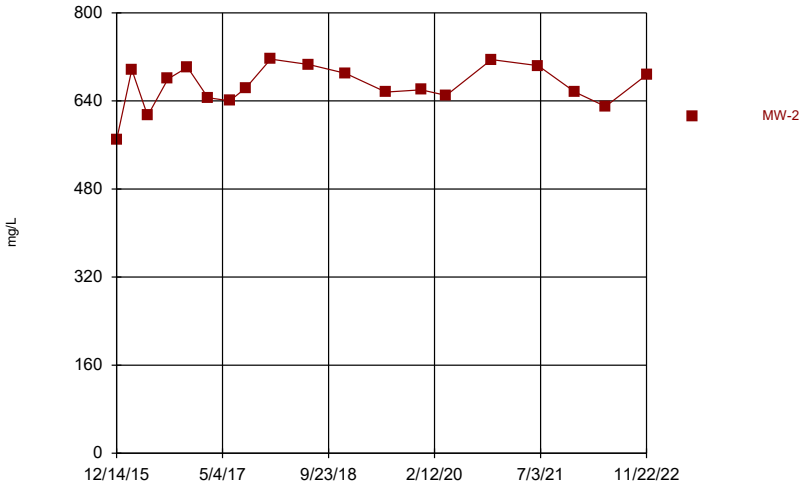
Time Series

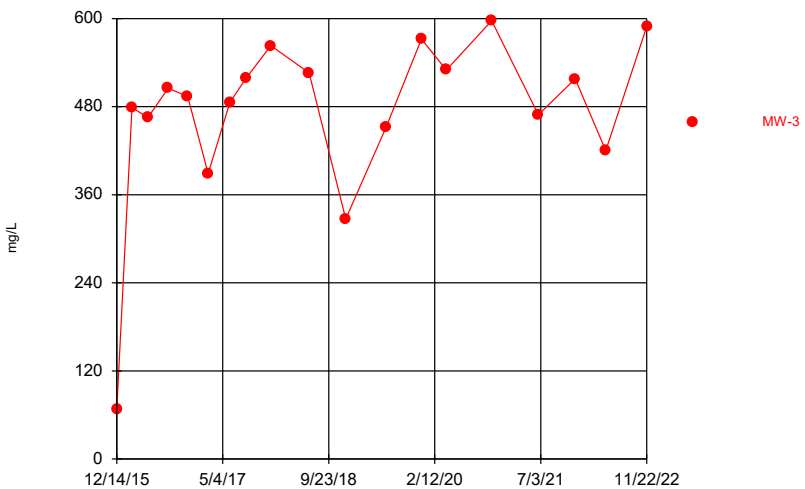


Constituent: Calcium Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

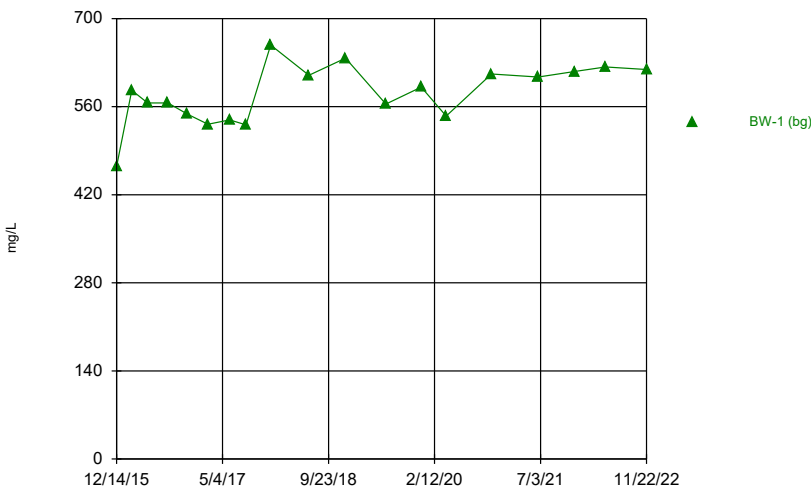


Constituent: Calcium Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series



Constituent: Calcium Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

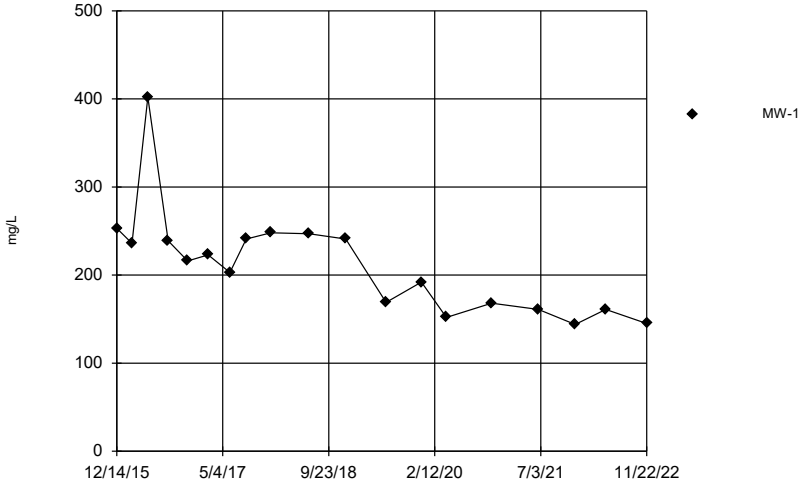
Time Series

Constituent: Calcium Analysis Run 1/16/2023 7:40 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	454	569	67.6	465
2/25/2016	520	697	479	586
5/11/2016	1030	613	465	566
8/16/2016	535	680	505	566
11/17/2016	542	701	494	548
2/23/2017	531	646	389	532
6/7/2017	530	640	486	539
8/24/2017	518	664	519	531
12/20/2017	548	716	563	658
6/21/2018	587	706	526	610
12/13/2018	515	690	327	637
6/24/2019	492	656	452	564
12/10/2019	534	660	572	591
4/8/2020	524	650	530	545
11/10/2020	539	715	597	612
6/22/2021	510	704	469	607
12/15/2021	534	656	518	616
5/10/2022	521	630	420	623
11/22/2022	512	687	589	619

Time Series

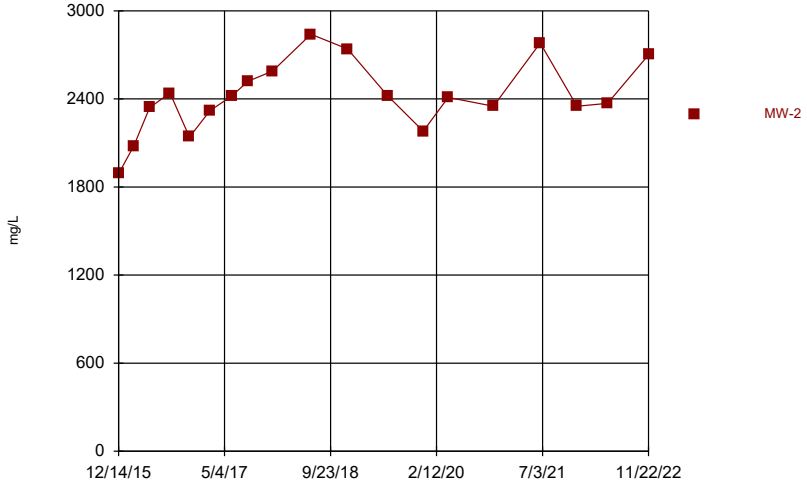


Constituent: Chloride Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

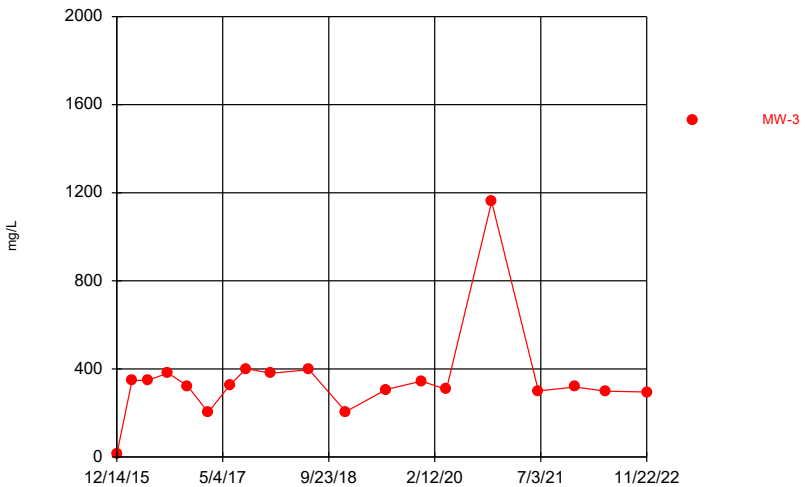


Constituent: Chloride Analysis Run 1/16/2023 7:37 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

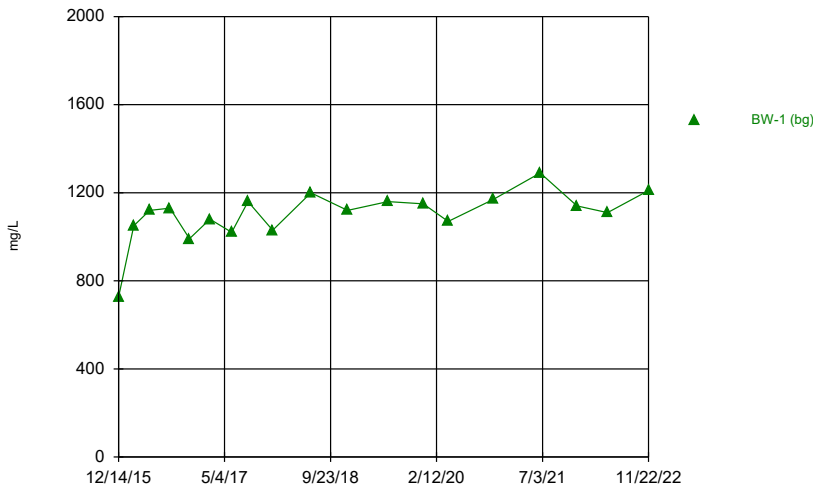


Constituent: Chloride Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series



Constituent: Chloride Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Time Series

Constituent: Chloride Analysis Run 1/16/2023 7:40 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	253	1890	12.3	727
2/25/2016	236	2080	347	1050
5/11/2016	402	2340	349	1120
8/16/2016	239	2440	381	1130
11/17/2016	216	2140	322	991
2/23/2017	223	2320	202	1080
6/7/2017	203	2420	327	1020
8/24/2017	241	2520	401	1160
12/20/2017	248	2590	380	1030
6/21/2018	247	2840	396	1200
12/13/2018	241	2740	206	1120
6/24/2019	169	2420	306	1160
12/10/2019	192	2180	345	1150
4/8/2020	152	2410	307	1070
11/10/2020	168	2350	1160	1170
6/22/2021	161	2780	300	1290
12/15/2021	144	2350	318	1140
5/10/2022	161	2370	299	1110
11/22/2022	145	2700	295	1210

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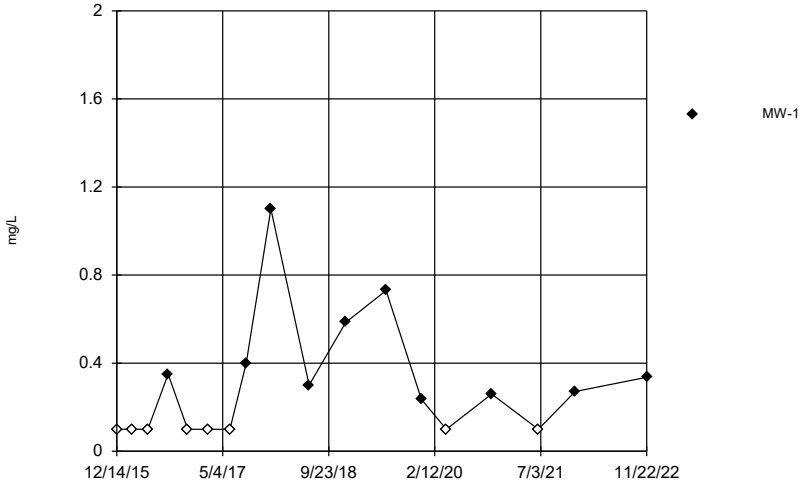
Hollow symbols indicate censored values.

Time Series

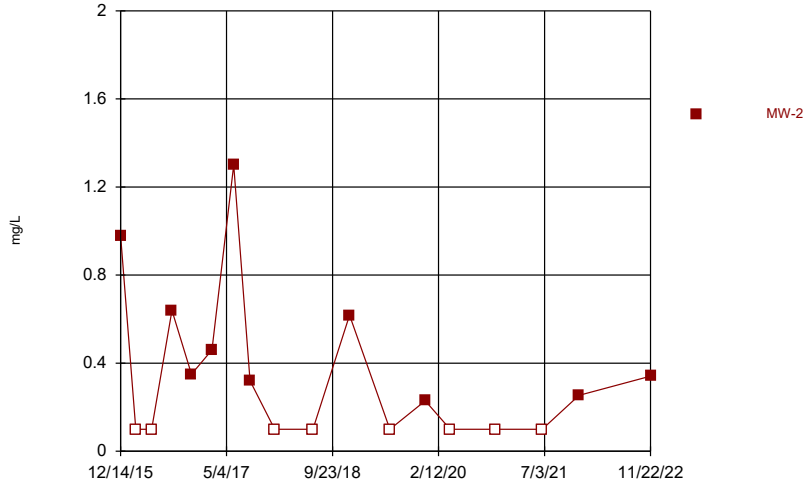


Constituent: Fluoride Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

Time Series

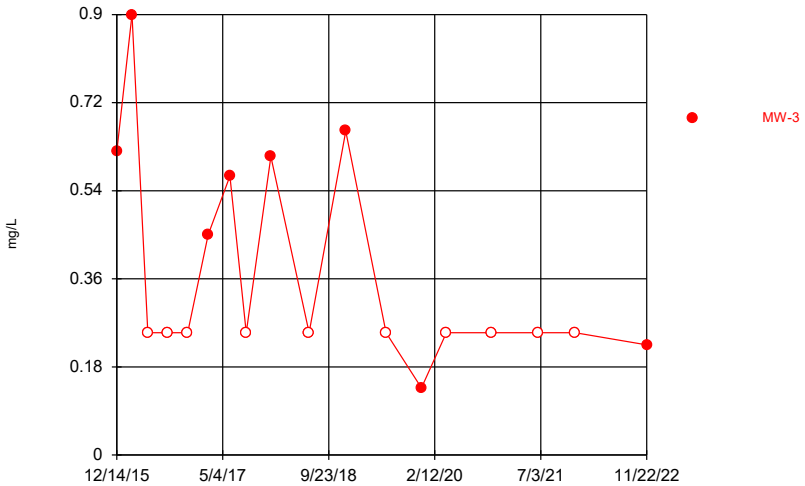


Constituent: Fluoride Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

Time Series

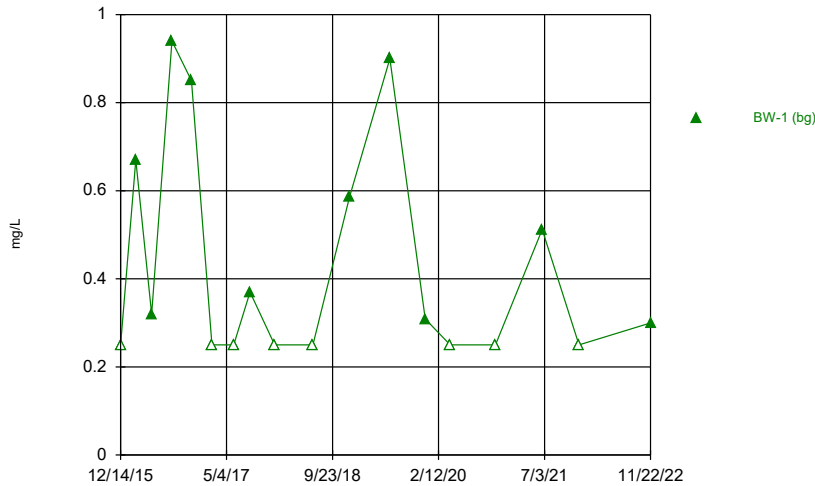


Constituent: Fluoride Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

Time Series



Constituent: Fluoride Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Time Series

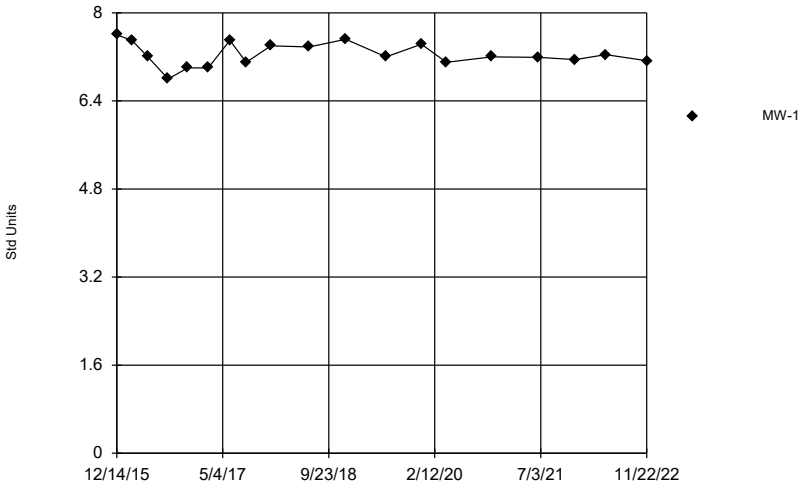
Constituent: Fluoride Analysis Run 1/16/2023 7:40 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	<0.2	0.98	0.62	<0.5
2/25/2016	<0.2	<0.2	0.9	0.67
5/11/2016	<0.2	<0.2	<0.5	0.32
8/16/2016	0.35	0.64	<0.5	0.94
11/17/2016	<0.2	0.35	<0.5	0.85
2/23/2017	<0.2	0.46	0.45	<0.5
6/7/2017	<0.2	1.3	0.57	<0.5
8/24/2017	0.4	0.32	<0.5	0.37
12/20/2017	1.1	<0.2	0.61	<0.5
6/21/2018	0.3	<0.2	<0.5	<0.5
12/13/2018	0.585	0.618	0.662	0.586
6/24/2019	0.73	<0.2	<0.5	0.9
12/10/2019	0.236	0.229	0.137	0.309
4/8/2020	<0.2	<0.2	<0.5	<0.5
11/10/2020	0.26	<0.2	<0.5	<0.5
6/22/2021	<0.2	<0.2	<0.5	0.512
12/15/2021	0.271	0.254	<0.5	<0.5
11/22/2022	0.336	0.341	0.225	0.3

ND substitution: RL/2.

Time Series



Constituent: pH Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

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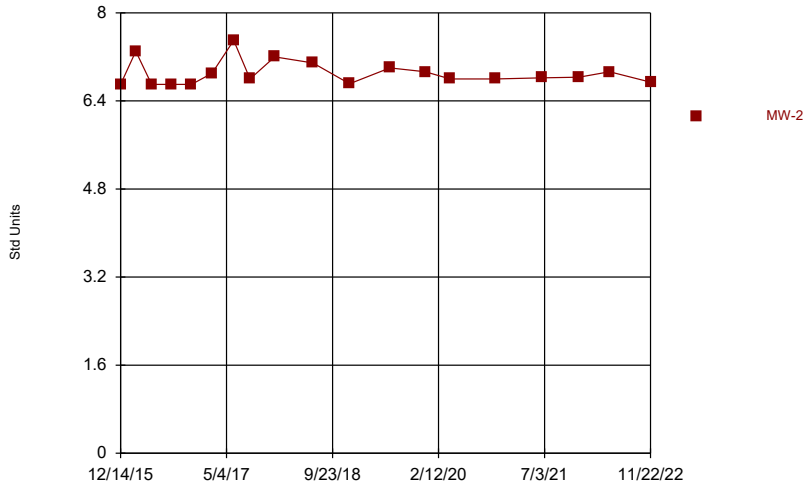
Time Series



Constituent: pH Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

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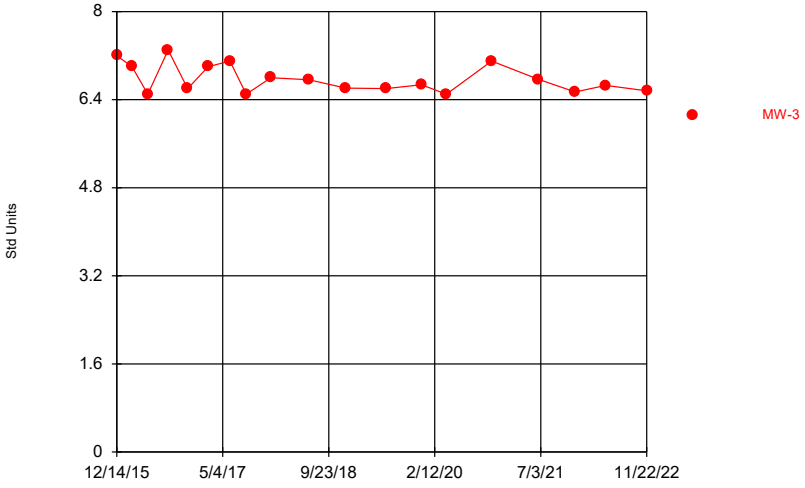
Time Series



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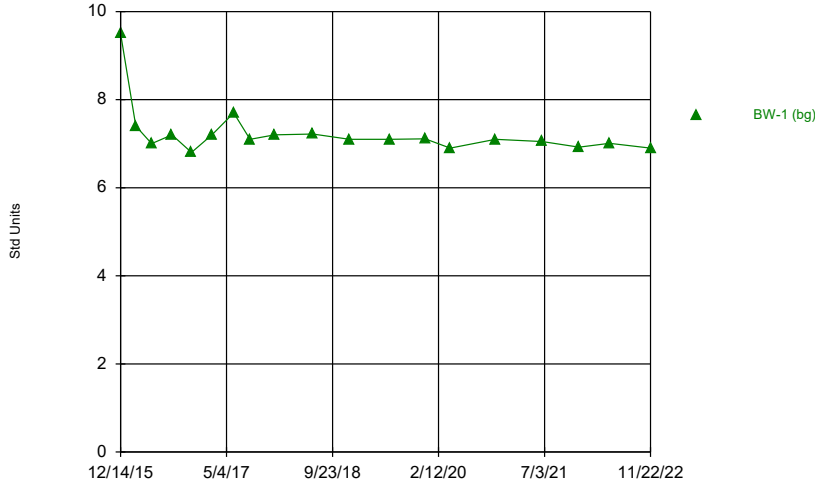


Constituent: pH Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

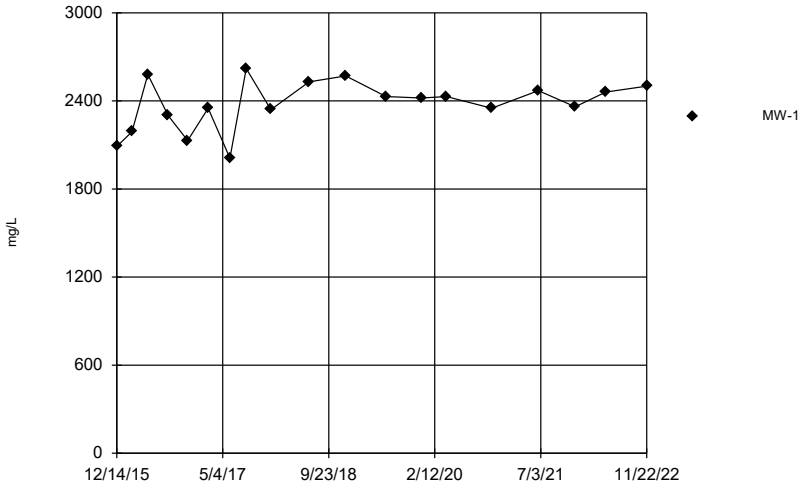
Time Series

Constituent: pH Analysis Run 1/16/2023 7:40 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	7.6	6.7	7.2	9.5
2/25/2016	7.5	7.3	7	7.4
5/11/2016	7.2	6.7	6.5	7
8/16/2016	6.8	6.7	7.3	7.2
11/17/2016	7	6.7	6.6	6.8
2/23/2017	7	6.9	7	7.2
6/7/2017	7.5	7.5	7.1	7.7
8/24/2017	7.1	6.8	6.5	7.1
12/20/2017	7.4	7.2	6.8	7.2
6/21/2018	7.38	7.09	6.76	7.22
12/13/2018	7.52	6.71	6.61	7.1
6/24/2019	7.2	7	6.6	7.1
12/10/2019	7.43	6.93	6.67	7.11
4/8/2020	7.1	6.8	6.5	6.9
11/10/2020	7.2	6.8	7.1	7.1
6/22/2021	7.19	6.82	6.77	7.05
12/15/2021	7.15	6.83	6.54	6.92
5/10/2022	7.24	6.93	6.66	7.01
11/22/2022	7.13	6.74	6.56	6.9

Time Series



Constituent: Sulfate Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

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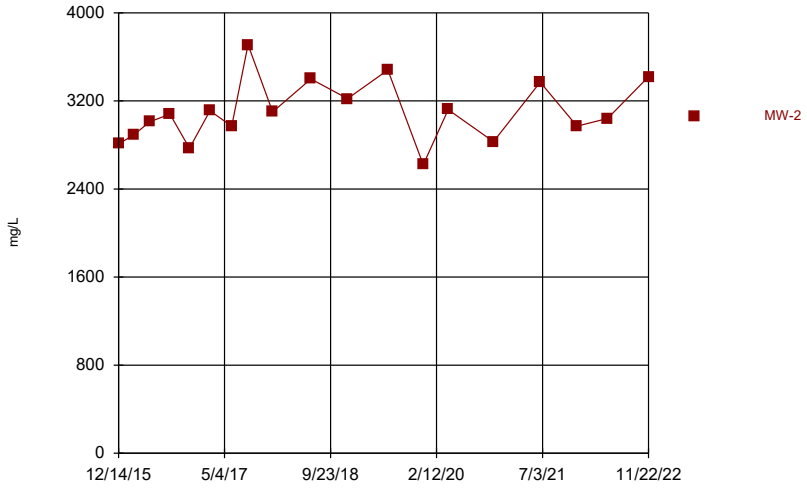
Time Series



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Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

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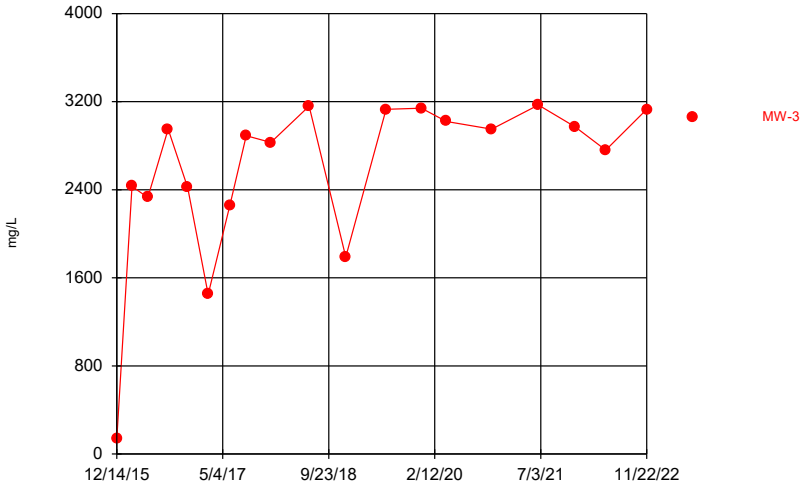

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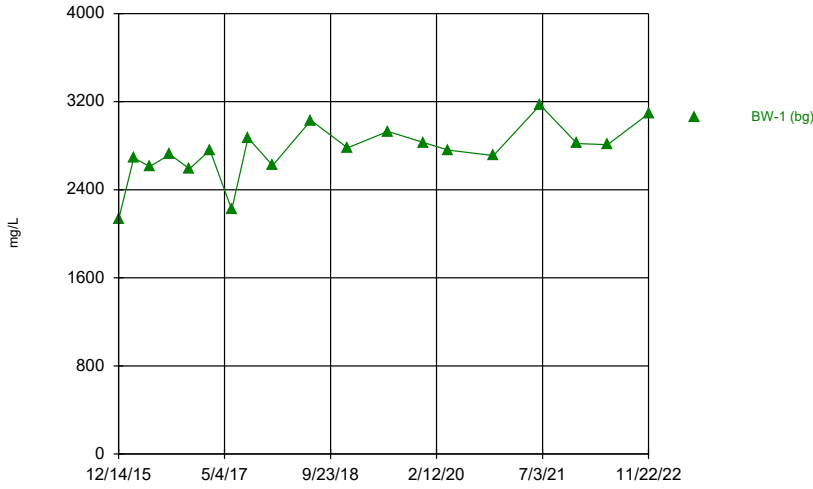
Time Series



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Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

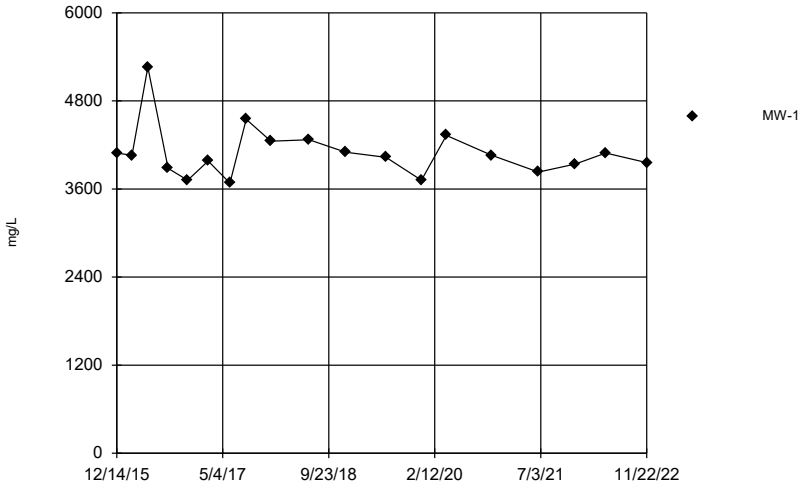
Time Series

Constituent: Sulfate Analysis Run 1/16/2023 7:40 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	2090	2810	135	2130
2/25/2016	2190	2890	2430	2690
5/11/2016	2580	3010	2330	2610
8/16/2016	2300	3080	2950	2720
11/17/2016	2130	2770	2420	2590
2/23/2017	2350	3110	1450	2760
6/7/2017	2010	2970	2260	2220
8/24/2017	2620	3710	2890	2870
12/20/2017	2340	3100	2830	2620
6/21/2018	2530	3400	3160	3030
12/13/2018	2570	3220	1790	2780
6/24/2019	2430	3480	3130	2930
12/10/2019	2420	2620	3140	2830
4/8/2020	2430	3120	3020	2760
11/10/2020	2350	2830	2950	2710
6/22/2021	2470	3370	3170	3170
12/15/2021	2360	2970	2970	2820
5/10/2022	2460	3040	2760	2810
11/22/2022	2500	3420	3130	3090

Time Series

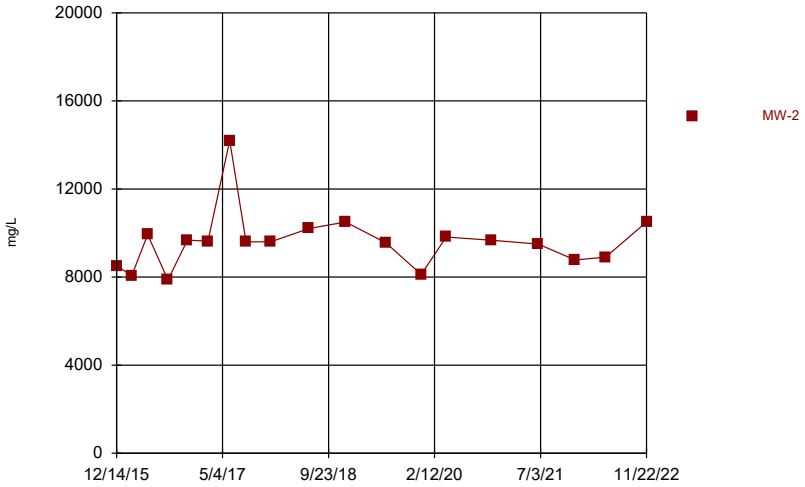


Constituent: Total Dissolved Solids Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

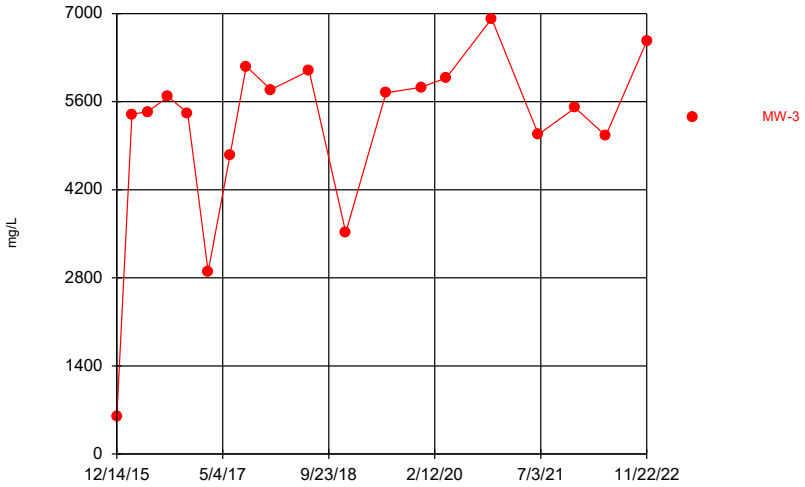


Constituent: Total Dissolved Solids Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series

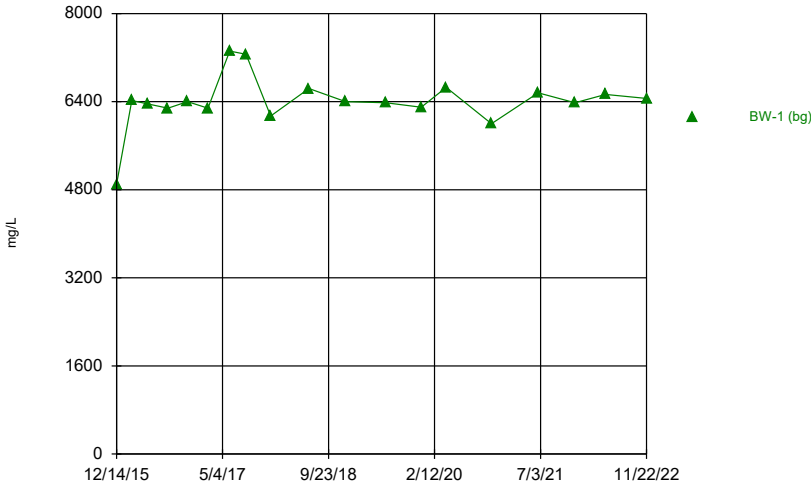


Constituent: Total Dissolved Solids Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Sanitas™ v.9.6.36 Sanitas software licensed to SCS Engineers. EPA

Time Series



Constituent: Total Dissolved Solids Analysis Run 1/16/2023 7:38 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Time Series

Constituent: Total Dissolved Solids Analysis Run 1/16/2023 7:41 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-1	MW-2	MW-3	BW-1 (bg)
12/14/2015	4090	8520	586	4900
2/25/2016	4060	8070	5400	6420
5/11/2016	5260	9930	5440	6360
8/16/2016	3880	7870	5680	6280
11/17/2016	3720	9680	5420	6400
2/23/2017	3980	9630	2900	6280
6/7/2017	3680	14200	4740	7320
8/24/2017	4550	9600	6160	7260
12/20/2017	4250	9600	5790	6140
6/21/2018	4270	10200	6090	6640
12/13/2018	4100	10500	3520	6400
6/24/2019	4030	9560	5740	6380
12/10/2019	3720	8120	5830	6300
4/8/2020	4330	9820	5980	6660
11/10/2020	4060	9670	6920	6000
6/22/2021	3830	9500	5080	6560
12/15/2021	3940	8780	5500	6380
5/10/2022	4090	8900	5060	6530
11/22/2022	3960	10500	6560	6460

Appendix E
2022 Alternate Source Demonstration

February 1, 2023
SCS Project 16222027.00

Mr. Darryl Sparks
Compliance Manager
NAES Corporation
2161 Rattlesnake Road
Riesel, Texas 76682

Subject: Alternate Source Demonstration for Boron in MW-3
2022 Annual Groundwater Monitoring Report
Sandy Creek Energy Station
Coal Combustion Residual Waste Management Facility
TCEQ Registration No. CCR107
McLennan County, Texas

Dear Mr. Sparks:

On behalf of the Sandy Creek Energy Station (SCES), SCS Engineers (SCS) is submitting this Alternate Source Demonstration (ASD) in accordance with the site Groundwater Sampling and Analysis Plan (GWSAP) prepared by SCS Engineers, dated March 2, 2016, and Coal Combustion Residual Rule Title 40 Code of Federal Regulations (CFR) §257.94(e)(2) for a boron detection in groundwater monitoring well MW-3. During the November 2022 groundwater monitoring event, boron was detected in MW-3 at 1.61 mg/L, above the statistical limit of 1.2 mg/L. This ASD was conducted to investigate the likely source of the boron detection. In accordance with 40 CFR §257.94(e)(2), this ASD is being submitted within 90 days of detecting an unconfirmed statistically significant increase (SSI) above background values.

Project Background

SCES is a pulverized coal-fired electric generation facility which operates a landfill for disposal of dry scrubber ash and bottom ash generated during the coal combustion process at the facility. Incidental wastes generated during the operation of the facility may also be disposed in the landfill, as described in the initial registration notification to TCEQ. The landfill is currently comprised of disposal cells, Cells 1 and 2, which commenced receiving waste in early 2013 and October 2014, respectively. Additionally, a portion of Cell 3 (includes subcells 3A through 3D) was constructed in 2021. The approximate area of currently constructed Cells 1, 2, and 3 are 10.0, 14.3, and 10.3 acres, respectively.

Sampling of groundwater monitoring wells is conducted in accordance with 40 CFR §257.93, 30 TAC §352.931, and the GWSAP. Groundwater monitoring of six wells must be performed (BW-1, MW-1, MW-2, MW-3, MW-4, MW-5; as depicted on Figure 1).

In accordance with 40 CFR §257.94(b), quarterly background monitoring must be performed for each well for eight consecutive quarters (i.e., eight independent samples collected for each well). The Appendix III and IV constituents monitored during the first eight quarters and the first semiannual detection monitoring event include 18 inorganic compounds, total dissolved solids, radium-226, and radium-228. In accordance with 40 CFR §257.94(a and b), the constituents monitored in subsequent

events and during the November 2022 semiannual detection monitoring event include Appendix III constituents only. Initial background monitoring for monitoring wells MW-1, MW-2, MW-3, and BW-1 commenced in December 2015 and completed in August 2017. Monitoring wells MW-1, MW-2, MW-3, and BW-1 are currently in detection monitoring. Monitoring wells MW-4 and MW-5 are currently in background monitoring and the eighth quarterly background monitoring report was developed concurrently with this report.

November 2022 Boron Detection

Boron was detected in MW-3 at a concentration of 1.61 mg/L during the November 2022 annual groundwater monitoring event.

Statistical Analysis

Initial statistical analysis of boron in MW-3 included the use of a non-parametric prediction limit, using background data collected from MW-3. This test is appropriate because the background data pool for boron in MW-3 is non-normally distributed. Therefore, the intrawell statistical limit is represented as the highest of the eight background values from boron in MW-3 (see "Intrawell Limit" in Table 1).

Since the November 2022 laboratory result for boron in MW-3 exceeded its respective intrawell limit, additional statistical evaluation was performed in accordance with 40 CFR §257.94(e)(2). This additional analysis consisted of calculating an interwell parametric prediction limit (see "Interwell Limit" in Table 1 and attachments). This test is commonly used to provide a comparison between a detection in a downgradient monitoring well and a statistical limit derived from background data from one or more upgradient monitoring wells. If the detection falls below the interwell statistical limit, the detection is representative of background data.

Table 1 – November 2022 Unconfirmed SSIs (mg/L)

MW- ID	Constituent	Lab Result	Intrawell Limit	Interwell Limit
MW-3	Boron	1.61	1.2	3.984

Conclusion

As a result of this analysis comparing upgradient to downgradient data, the interwell statistical limit is higher than the November 2022 laboratory result for boron in MW-3. Attached are the interwell statistical graph and data, demonstrating the comparison between the upgradient and downgradient wells. Since the detection of boron falls below the interwell statistical limit, this is evidence that the detection is representative of background data within the boundary of the facility. SCS proposes no further action is necessary.

Closing

SCS recommends that the facility remain in detection monitoring, in accordance with 40 CFR §257.94, as this ASD satisfies the 90-day demonstration period requirement outlined in 40 CFR §257.94(e)(2). Please contact Glen Collier at (936) 554-2178 if you have comments or require additional information.

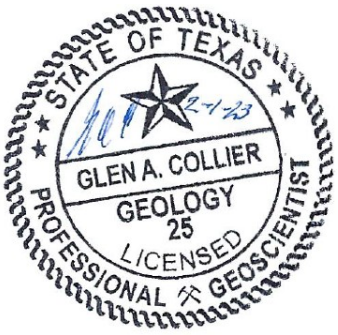
Sincerely,

Asher Boudreaux, G.I.T.
Staff Professional
SCS ENGINEERS
TBPE Registration No. F-3407

Brett DeVries, Ph.D., P.E.
Project Engineer
SCS ENGINEERS

Glen Collier, P.G.
Project Director
SCS ENGINEERS

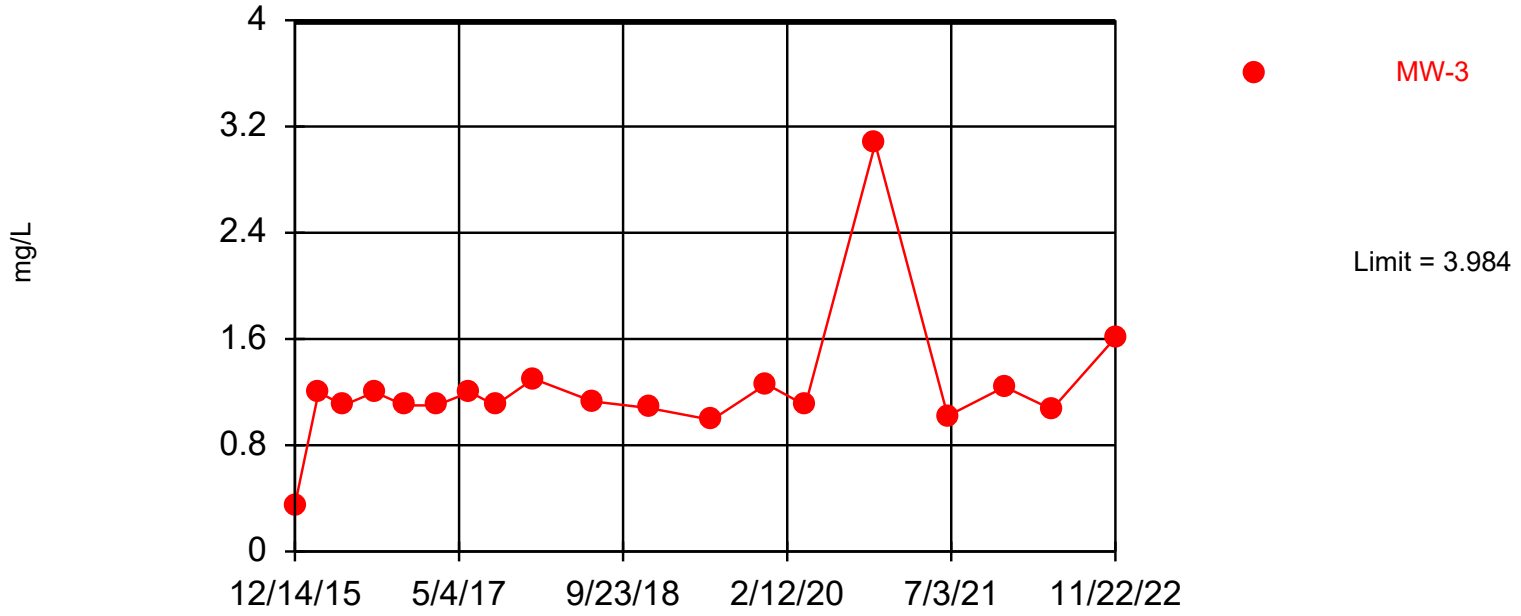
Attachments: Interwell Statistical Graph and Data



Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (based on square transformation): Mean=11, Std. Dev.=2.741, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9328, critical = 0.901. Report alpha = 0.05. Most recent point compared to limit.

Constituent: Boron Analysis Run 1/16/2023 7:44 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 1/16/2023 7:45 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.22.2022

	MW-3	BW-1 (bg)
12/14/2015	0.35	1.8
2/25/2016	1.2	3.5
5/11/2016	1.1	4
8/16/2016	1.2	3.7
11/17/2016	1.1	2.8
2/23/2017	1.1	3.1
6/7/2017	1.2	3.8
8/24/2017	1.1	3.4
12/20/2017	1.3	3.5
6/21/2018	1.13	3.31
12/13/2018	1.08	3.25
6/24/2019	0.99	3.1
12/10/2019	1.26	2.98
4/8/2020	1.1	3.7
11/10/2020	3.07	3.14
6/22/2021	1.02	3.39
12/15/2021	1.24	3.36
5/10/2022	1.07	3.26
11/22/2022	1.61	3.33