January 29, 2021
SCS Project No. 16220013.00

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

Subject: Sandy Creek Energy Station
McLennan County, Texas
2020 Annual Groundwater Monitoring and Corrective Action Report Submittal

Dear Mr. Sparks:

SCS Engineers (SCS) is pleased to submit the 2020 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 James Lawrence at (817) 358-6106 if you have comments or require additional information.

Sincerely,

STATE OF TEXAS
BRETT J. DeVRIES
128061
LICENSED
PROFESSIONAL ENGINEER

Asher Boudreaux
Associate Staff Professional
SCS ENGINEERS
TBPE Registration No. F-3407

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

James Lawrence, P.G.
Project Director
SCS ENGINEERS

Attachment: 2020 Annual Groundwater Monitoring and Corrective Action Report

STATE OF TEXAS
James Lawrence
Discipline
License #
541
LICENSED
PROFESSIONAL GEOSCIENTIST

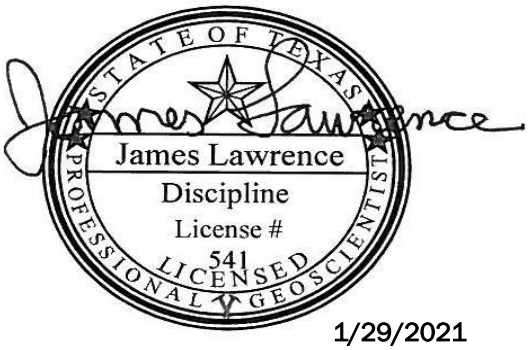
1/29/2021

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Sandy Creek Energy Station
McLennan County, Texas

Prepared For:

Sandy Creek Energy Station
2161 Rattlesnake Road
Riesel, Texas 76682



1/29/2021

SCS ENGINEERS

SCS Project 16220013.00 | January 29, 2021

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

Table of Contents

Figures

Appendices

1/29/2021

1.0 INTRODUCTION AND BACKGROUND

SCS Engineers (SCS) is submitting this 2020 Annual Groundwater Monitoring and Corrective Action Report for the Sandy Creek Energy Station (SCES). This report is prepared in accordance with Coal Combustion Residual Rule (CCR) 40 CFR §257.105(h)(1) 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 April 2020 and November 2020.

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 and the most recent version of the Operations Plan for the facility. The landfill is currently comprised of two CCR disposal cells, Cells 1 and 2, which commenced receiving waste in early 2013 and October 2014, respectively. The approximate area of Cells 1 and 2 are 10.0 and 14.3 acres, respectively.

Sampling of groundwater monitoring wells is conducted in accordance with 40 CFR §257.93 and the GWSAP. Initial monitoring of four wells (MW-1, MW-2, MW-3, and BW-1; as depicted on **Figure 1**) was performed for eight consecutive quarters in accordance with 40 CFR §257.94(b) (i.e., eight independent samples were collected for each well). The initial monitoring described above commenced in December 2015 and was completed in August 2017 in accordance with 40 CFR §257.94 (b). The constituents monitored during the required background monitoring period and the first semiannual detection monitoring event included 18 inorganic compounds, total dissolved solids, radium-226, and radium-228, while the constituents monitored in subsequent events and during the November 2020 semiannual detection monitoring event included Appendix III constituents only, in accordance with 40 CFR §257 Appendix III.

The site started 2020 in detection monitoring status. The observation of potential SSIs for boron and chloride were resolved through alternate source demonstrations (Appendix E). 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 four wells (see **Table 1** below). One upgradient (BW-1) and three downgradient (MW-1, MW-2, & MW-3). All four wells are currently in detection monitoring. **Figure 1** shows monitoring well locations at SCES.

Table 1. Sandy Creek Energy Station Groundwater Monitoring System

Well Name (U/D)[1]	Completion Date	Status	Top of Casing Elevation (ft msl)[2]	Well Depth (ft bgs)[2]	Screen Interval (ft bgs)[2]	Water Level Elevation (ft msl on 11/10/2020)
MW-1 (D)	9/21/2015	Detection	465.87	34.23	23.90 - 33.90	454.45
MW-2 (D)	9/23/2015	Detection	442.15	19.63	9.30 - 19.30	430.96
MW-3 (D)	9/1/2010	Detection	430.06	16.23	5.98 - 15.98	420.03
BW-1 (U)	9/22/2015	Detection	485.57	38.63	28.30 - 38.30	468.39

[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; **ft msl** = feet above mean sea level; **ft bgs** = feet below ground surface

2.2 SUMMARY OF 2020 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).

April 2020 – Semiannual Detection Monitoring Event

All four wells (MW-1, MW-2, MW-3, and BW-1) were purged and sampled on April 8, 2020 using the conventional purge and sampling method with disposable PVC bailers. The results of the sampling were provided to the SCES in a report dated June 18, 2020. Field forms and laboratory results are provided in **Appendices A** & **B**, respectively, and summarized in **Table 2.** The Laboratory Review Checklist was reviewed and the data were determined to conform to the most current National Environmental Laboratories Accreditation Conference (NELAC) standards.

November 2020 – Semiannual Detection Monitoring Event

All four wells (MW-1, MW-2, MW-3, and BW-1) were purged and sampled on November 10, 2020 using the conventional purge and sampling method with disposable PVC bailers. Field forms and laboratory results are provided in **Appendices A** & **B**, respectively, and summarized in **Table 2.** The Laboratory

Review Checklist was reviewed and the data were determined to conform to the most current NELAC standards.

3.0 RESULTS AND STATISTICAL ANALYSIS

A summary of April 2020 and November 2020 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, 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 2020 Sampling Results and Statistical Limits

MW-ID	Constituent	Lab Results April 2020	Lab Results Nov 2020	Statistical Limit*
MW-1 (D)	Boron (mg/L)	1.3	1.18	2.6
	Calcium (mg/L)	524	539	1030
	Chloride (mg/L)	152	168	402
	pH at 25˚C	7.1	7.2	6.136 - 8.289
	Sulfate (mg/L)	2430	2350	3402
	TDS (mg/L)	4330	4060	6765
	Fluoride (mg/L)	<0.20	0.26 J	0.4
MW-2 (D)	Boron (mg/L)	1.9	2.13	2.4
	Calcium (mg/L)	650	715	874.4
	Chloride (mg/L)	2410	2350	3336
	pH at 25˚C	6.8	6.8	6.7 - 7.5
	Sulfate (mg/L)	3120	2830	4635
	TDS (mg/L)	9820	9670	23969
	Fluoride (mg/L)	<0.20	<0.20	2.831
MW-3 (D)	Boron (mg/L)	1.1	***3.07***	1.2
	Calcium (mg/L)	530	597	688.1
	Chloride (mg/L)	307	***1160***	606.9
	pH at 25˚C	6.5	7.1	5.71 - 8.09

MW-ID	Constituent	Lab Results April 2020	Lab Results Nov 2020	Statistical Limit*
MW-3 (D)	Sulfate (mg/L)	3020	2950	4447
	TDS (mg/L)	5980	6920	9375
	Fluoride (mg/L)	<0.20	<0.20	2.201
BW-1 (U)	Boron (mg/L)	3.7	3.14	6.787
	Calcium (mg/L)	545	612	723.7
	Chloride (mg/L)	1070	1170	1540
	pH at 25˚C	6.9	7.1	6.8 - 9.5
	Sulfate (mg/L)	2760	2710	3884
	TDS (mg/L)	6660	6000	10119
	Fluoride (mg/L)	<0.20	<0.20	2.356

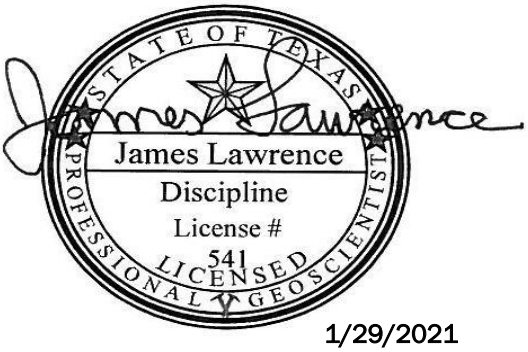
*Calculated in 2017 Annual Report
(U) = upgradient, (D) = downgradient
Bolded italicized value indicates that constituent exceeded intrawell statistical limit
"J" Indicates value is above method detection limit (MDL) but below laboratory reporting limit

Unconfirmed statistically significant increases (SSI) were determined for boron and chloride in MW-3 (November 2020). In accordance with 40 CFR §257.94(e), alternate source demonstrations (ASDs) are provided in **Appendix E**.

4.0 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 2020 Data



1/29/2021

$Va = \frac{KI}{7.5N}$ (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: 468.39 ft – 420.03 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:

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

(0.194 ft/day)(365 days/year) = **71 ft/year**

Conclusion

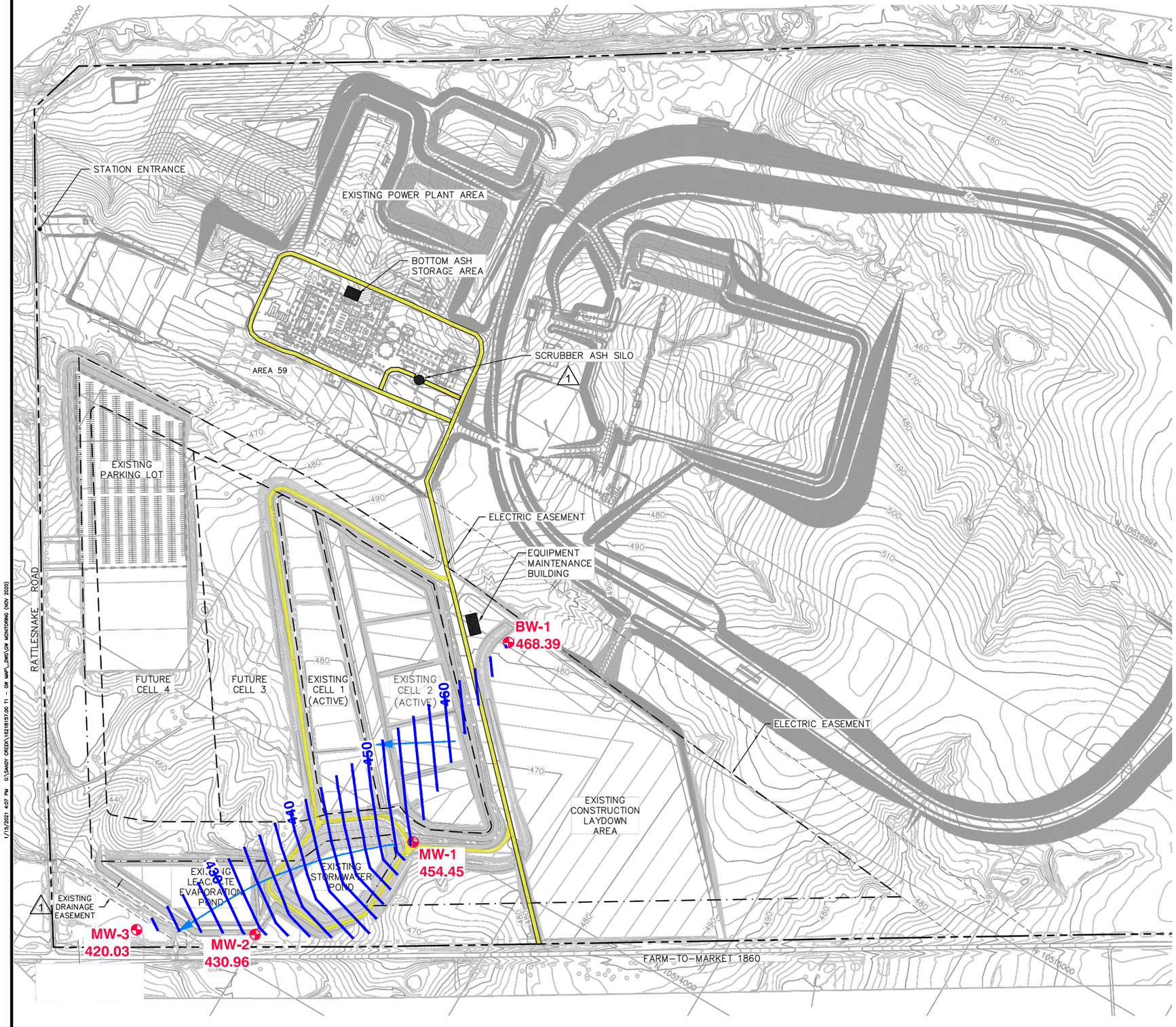
The November 2020 site groundwater flow rate is calculated to be **71 ft/year**. The gradient was measured using BW-1 and MW-3. The November 2020 groundwater flow direction is to the west-southwest. The calculated groundwater flow rate and direction are consistent with conditions previously observed at the site. See the attached groundwater gradient map for details, provided in accordance with 40 CFR Part §257.93(c).

5.0 RECOMMENDATIONS

As outlined in the attached ASDs for boron and chloride in MW-3, no confirmed SSIs were identified for any Appendix III constituents during 2020 detection monitoring at the SCES. SCS recommends that the facility remain in semiannual detection monitoring, in accordance with 40 CFR §257.94.

Due to the lack of confirmed SSIs for Appendix III constituents during 2020 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 June 2021.

Figure 1. Monitoring Well Location Map



LEGEND

- 500 — EXISTING GROUND ELEVATION (FT, MSL) (NOTES 1, 2)
- EXISTING SURFACE WATER LINE
- EXISTING SITE FENCE
- EXISTING TREE LINE
- MW-1 — EXISTING MONITORING WELL
- EXISTING BUILDING
- PROPERTY BOUNDARY
- DEED RECORDED LIMITS OF WASTE
- CELL BOUNDARY
- N 10514500 / E 3349500 — STATE PLANE COORDINATES
- SWDF OPERATIONS ACCESS ROAD
- 450 — GROUNDWATER CONTOUR
- GROUNDWATER CONTOURS (INFERRED)
- GROUNDWATER FLOW

0 250' 500'
SCALE IN FEET

NOTES:

1. THE EXISTING CONTOUR MAP SHOWN ON THIS DRAWING WAS COMPILED USING EXISTING TOPOGRAPHY DATED APRIL 2006 AND DESIGN GRADES DATED OCTOBER 2007 FROM BLACK & VEATCH CORPORATION; DESIGN GRADES DEVELOPED BY GEOSYNTEC CONSULTANTS, INC. FOR THE LEACHATE EVAPORATION POND AND CELL 2 DATED APRIL 2011 AND APRIL 2014, RESPECTIVELY; AND AREA 59 EXISTING TOPOGRAPHY SURVEY CONDUCTED BY WALKER PARTNERS DATED 9 MAY 2013.
2. ELEVATIONS 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 PLANE COORDINATE SYSTEM, TEXAS CENTRAL ZONE (4203), NORTH AMERICAN DATUM OF 1983 (NAD–83).

STATE OF TEXAS
James Lawrence
Discipline
License #
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LICENSED PROFESSIONAL GEOSCIENTIST

1/29/2021

SOURCE: BACKGROUND INFORMATION FOR THIS DRAWING IS FROM A DRAWING NAMED SITE LAYOUT BY GEOSYNTEC CONSULTANTS, DATED JUNE 2014.

1/15/2021 4:37 PM G:\SANDY CREEK\162181577.00 T1 - GW MAPS_DWG\GW MONITORING (NOV 2020)

REV	DATE	DESCRIPTION	BY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

DRAWING TITLE: GROUNDWATER GRADIENT MAP

PROJECT TITLE: SANDY CREEK NOVEMBER 2020 ANNUAL GROUNDWATER MONITORING REPORT

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) 571-2188

PROJ. NO. 162181457.00
DSN. BY: AB
DWN. BY: JJJ
CHK. BY: AB
QA/A RVW BY: JL
APP. BY: JL

CADD FILE: GW MONITORING (NOV 2020)

DATE: 06/2020

SCALE: AS SHOWN

FIGURE: 1

Appendix A

2020 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.: MW-1
3. Date of sampling: 4/8/2020

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: 12/10/2019
Date of water level measurements: 4/8/2020
Datum reference point: Top of Casing
Datum elevation*: 465.87
Depth to water(below datum)*: 10.88
4. Water level elevation*: 454.99

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: 2.4
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 7.22
15. Spec. cond. 4.66 16. ■ mS/cm
17. Temp. 25.70 18. ☐ F or ■ C (check one)
19. Turbidity 137 20. ■ NTU

Laboratory:

21. Name Pace Analytical Allen Laboratory Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013
Representative's signature: 

Site operator's signature: Date:

* 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: 4/8/2020

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: 12/10/2019
Date of water level measurements: 4/8/2020
Datum reference point: Top of Casing
Datum elevation*: 442.15
Depth to water(below datum)*: 12.08
4. Water level elevation*: 430.07

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: 2.7
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 6.70
15. Spec. cond. 13
16. ■ mS/cm
17. Temp. 23.90
18. ☐ F or ■ C (check one)
19. Turbidity 6.6
20. ■ NTU

Laboratory:

21. Name Pace Analytical Allen Laboratory
Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013
Representative's signature:

Site operator's signature:
Date:

* 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: 4/8/2020

Name of sampler: Asher Boudreaux
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: 12/10/2019
Date of water level measurements: 4/8/2020
Datum reference point: Top of Casing
Datum elevation*: 430.06
Depth to water(below datum)*: 8.00
4. Water level elevation*: 422.06

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: 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 6.38
15. Spec. cond. 6.46
16. ■ mS/cm
17. Temp. 23.29
18. ☐ F or ■ C (check one)
19. Turbidity 21.6
20. ■ NTU

Laboratory:

21. Name Pace Analytical Allen Laboratory
Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013
Representative's signature:

Site operator's signature:
Date:

* 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: 4/8/2020

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: 12/10/2019
Date of water level measurements: 4/8/2020
Datum reference point: Top of Casing
Datum elevation*: 485.57
Depth to water(below datum)*: 17.94
4. Water level elevation*: 467.63

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: 2.8
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 7.05
15. Spec. cond. 8.15
16. ■ mS/cm
17. Temp. 27.37
18. ☐ F or ■ C (check one)
19. Turbidity 428
20. ■ NTU

Laboratory:

21. Name Pace Analytical Allen Laboratory
Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013
Representative's signature:

Site operator's signature:
Date:

* 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: 4/8/2020

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: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- 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 Pace Analytical Allen Laboratory Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013
Representative's signature: 

Site operator's signature: Date:

* 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: 11/10/2020

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: 4/8/2020
Date of water level measurements: 11/10/2020
Datum reference point: Top of Casing
Datum elevation*: 465.87
Depth to water(below datum)*: 11.42
4. Water level elevation*: 454.45

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: 2.1
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? 2
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	6.91		
15. Spec. cond.	4.73	16. ■ mS/cm	
17. Temp.	23.21	18. ☐ F or ■ C	(check one)
19. Turbidity	4.7	20. ■ NTU	

Laboratory:

21. Name: Pace Analytical Allen Laboratory
Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013

* 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: 11/10/2020

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: 4/8/2020
Date of water level measurements: 11/10/2020
Datum reference point: Top of Casing
Datum elevation*: 442.15
Depth to water(below datum)*: 11.19
4. Water level elevation*: 430.96

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: 2.5
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? 2
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	6.35		
15. Spec. cond.	13.7	16. ■ mS/cm	
17. Temp.	23.51	18. ☐ F or ■ C	(check one)
19. Turbidity	20.4	20. ■ NTU	

Laboratory:

21. Name: Pace Analytical Allen Laboratory
Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013

* 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: 11/10/2020

Name of sampler: Asher Boudreaux
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: 4/8/2020
Date of water level measurements: 11/10/2020
Datum reference point: Top of Casing
Datum elevation*: 430.06
Depth to water(below datum)*: 10.03
4. Water level elevation*: 420.03

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? 2
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 6.10
15. Spec. cond. 7.21 16. ■ mS/cm
17. Temp. 24.01 18. ☐ F or ■ C (check one)
19. Turbidity 18.9 20. ■ NTU

Laboratory:

21. Name Pace Analytical Allen Laboratory Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013

* 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: 11/10/2020

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: 4/8/2020
Date of water level measurements: 11/10/2020
Datum reference point: Top of Casing
Datum elevation*: 485.57
Depth to water(below datum)*: 17.18
4. Water level elevation*: 468.39

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? 2
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	6.68		
15. Spec. cond.	8.28	16. ■ mS/cm	
17. Temp.	23.53	18. ☐ F or ■ C	(check one)
19. Turbidity	262	20. ■ NTU	

Laboratory:

21. Name: Pace Analytical Allen Laboratory
Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013

* 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: 11/10/2020

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: Detection
- Background - Corrective Action
- Detection - Other
- Assessment

12. Sample schedule: Semi-Annual
- 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 Pace Analytical Allen Laboratory Phone: (972)-727-1123
Address: 3714, 400 W Bethany Dr #190, Allen, TX 75013

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

Appendix B

2020 Laboratory Reports with Chain of Custody Forms

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

November 18, 2020

Asher Boudreaux
SCS Engineering
1901 Central Drive, Ste 550
Bedford, TX 76021

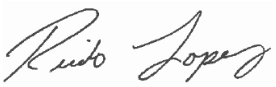
RE: Pace Project 75144400
Project ID: Sandy Crreek 16220013.00 Task

Dear Asher Boudreaux:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2020. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Ricky Lopez
ricky.lopez@pacelabs.com
(972)727-1123

Laboratory Certifications

Pace Analytical Dallas : Texas Certification T104704232-20-32
Pace Analytical Dallas : EPA# TX00074

REPORT OF LABORATORY ANALYSIS

11/18/2020 17:00:06

Sample Cross Reference

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Pace Project 75144400

Client: SCS Engineers
Project ID: Sandy Crreek 16220013.00 Task

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
BW1	75144400001	Water	11/10/2020 14:55	11/11/2020 12:24
MW1	75144400002	Water	11/10/2020 15:20	11/11/2020 12:24
MW2	75144400003	Water	11/10/2020 15:30	11/11/2020 12:24
MW3	75144400004	Water	11/10/2020 15:50	11/11/2020 12:24
DUP	75144400005	Water	11/10/2020 16:00	11/11/2020 12:24

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Pace Project 75144400

Holding Times:

These holding times were exceeded due to sample receipt or re-extraction after the holding time expired.

Sample 75144400001 analysis 9040 pH
Sample 75144400002 analysis 9040 pH
Sample 75144400003 analysis 9040 pH
Sample 75144400004 analysis 9040 pH
Sample 75144400005 analysis 9040 pH

Blanks:

The following blank results were above method detection limits:
Batch 155471 sample 707456 Chloride

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogate:

All surrogate recoveries were within QC limits.

Appendix A
LABORATORY DATA PACKAGE COVER PAGE

This data package is for Job No. 75144400 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

[X] R1 - Field chain-of-custody documentation;

[X] R2 - Sample identification cross-reference;

[X] R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. Dilution factors,

c. Preparation methods,

d. Cleanup methods, and

e. If required for the project, tentatively identified compounds (TICs).

[X] R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

[X] R5 - Test reports/summary forms for blank samples;

[X] R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

[X] R7 - Test reports/summary forms for matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences, and

e. The laboratory's MS/MSD QC limits.

[X] R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and,

c. The laboratory's QC limits for analytical duplicated.

[X] R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte and

[X] R10 - Other problems or anomalies.

The exception Report for each "No" or "Not Reviewed (NR) " item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [X] TCEQ on 12/11/2019

Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Ricky Lopez		Project Manager	11/18/2020

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Client: SCS Engineers

Client ID: BW1 **Project ID:** Sandy Crreek 16220013.00
Lab ID: 75144400001 **Moisture:** N/A **Pace Project** 75144400
Collected: 11/10/2020 14:55 **Received** 11/11/2020 12:24 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**3140**		ug/L	100	17.4	11/18/2020 11:50	11/17/2020 11:30	155529	75ICP1
Calcium	1	**612000**		ug/L	1000	92.5	11/18/2020 11:50	11/17/2020 11:30	155529	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**7.1**	H3,H6	Std. Units	0.10	0.10	11/16/2020 13:27		155429	75WETP
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	100	**1170**	M6	mg/L	80.0	5.4	11/17/2020 23:11		155471	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	11/17/2020 20:48		155471	75WTA4
Sulfate	500	**2710**		mg/L	350	99.5	11/18/2020 09:16		155471	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**6000**		mg/L	500	500	11/12/2020 16:12		155234	75BL17

Pace Analytical Services, LLC
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Allen, TX 75013
(972) 727-1123

Client: SCS Engineers

Client ID: MW1 **Project ID:** Sandy Crreek 16220013.00
Lab ID: 75144400002 **Moisture:** N/A **Pace Project** 75144400
Collected: 11/10/2020 15:20 **Received** 11/11/2020 12:24 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**1180**		ug/L	100	17.4	11/18/2020 11:54	11/17/2020 11:30	155529	75ICP1
Calcium	1	**539000**		ug/L	1000	92.5	11/18/2020 11:54	11/17/2020 11:30	155529	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**7.2**	H3,H6	Std. Units	0.10	0.10	11/16/2020 13:30		155429	75WETP
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	20	**168**		mg/L	16.0	1.1	11/18/2020 10:09		155471	75WTA4
Fluoride	1	**0.26**	J	mg/L	0.50	0.20	11/18/2020 00:05		155471	75WTA4
Sulfate	500	**2350**		mg/L	350	99.5	11/18/2020 10:27		155471	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**4060**		mg/L	83.3	83.3	11/12/2020 16:12		155234	75BL17

Pace Analytical Services, LLC
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Allen, TX 75013
(972) 727-1123

Client: SCS Engineers

Client ID: MW2 **Project ID:** Sandy Crreek 16220013.00
Lab ID: 75144400003 **Moisture:** N/A **Pace Project** 75144400
Collected: 11/10/2020 15:30 **Received** 11/11/2020 12:24 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**2130**		ug/L	100	17.4	11/18/2020 11:58	11/17/2020 11:30	155529	75ICP1
Calcium	1	**715000**		ug/L	1000	92.5	11/18/2020 11:58	11/17/2020 11:30	155529	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**6.8**	H3,H6	Std. Units	0.10	0.10	11/16/2020 13:32		155429	75WETP
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	500	**2350**		mg/L	400	27.0	11/18/2020 11:39		155471	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	11/18/2020 00:58		155471	75WTA4
Sulfate	500	**2830**		mg/L	350	99.5	11/18/2020 11:39		155471	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**9670**		mg/L	833	833	11/12/2020 16:13		155234	75BL17

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Client: SCS Engineers

Client ID: MW3 **Project ID:** Sandy Crreek 16220013.00
Lab ID: 75144400004 **Moisture:** N/A **Pace Project** 75144400
Collected: 11/10/2020 15:50 **Received** 11/11/2020 12:24 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**3070**		ug/L	100	17.4	11/18/2020 12:02	11/17/2020 11:30	155529	75ICP1
Calcium	1	**597000**		ug/L	1000	92.5	11/18/2020 12:02	11/17/2020 11:30	155529	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**7.1**	H3,H6	Std. Units	0.10	0.10	11/16/2020 13:33		155429	75WETP
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	100	**1160**		mg/L	80.0	5.4	11/18/2020 03:04		155471	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	11/18/2020 02:28		155471	75WTA4
Sulfate	500	**2950**		mg/L	350	99.5	11/18/2020 11:03		155471	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**6920**		mg/L	500	500	11/12/2020 16:13		155234	75BL17

Pace Analytical Services, LLC
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Allen, TX 75013
(972) 727-1123

Client: SCS Engineers

Client ID: DUP
Lab ID: 75144400005
Collected: 11/10/2020 16:00
Moisture: N/A
Received 11/11/2020 12:24
Project ID: Sandy Crreek 16220013.00
Pace Project 75144400
Matrix: Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**1250**		ug/L	100	17.4	11/18/2020 12:07	11/17/2020 11:30	155529	75ICP1
Calcium	1	**543000**		ug/L	1000	92.5	11/18/2020 12:07	11/17/2020 11:30	155529	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**6.6**	H3,H6	Std. Units	0.10	0.10	11/16/2020 13:35		155429	75WETP
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	100	**310**	B	mg/L	80.0	5.4	11/18/2020 03:57		155471	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	11/18/2020 03:21		155471	75WTA4
Sulfate	500	**2990**		mg/L	350	99.5	11/18/2020 11:21		155471	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**5520**		mg/L	500	500	11/12/2020 16:13		155234	75BL17

Pace Analytical Services, LLC
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Allen, TX 75013
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Batch: 155529
Method: EPA 6010
Prep EPA 3010

Pace Project No.: 75144400
Instrument ID: 75ICP1

Blank: 707665

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Boron	1	U	<17.4	ug/L	100	17.4	11/18/2020 11:30	11/17/2020 11:30
Calcium	1	U	<92.5	ug/L	1000	92.5	11/18/2020 11:30	11/17/2020 11:30

Laboratory Control Sample: 707666

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Boron	1000	1030	ug/L	103	80-120	
Calcium	10000	10300	ug/L	103	80-120	

Matrix Spike: 707667
Matrix Spike Duplicate: 707668
Original for Sample: Batch sample 144263021

Parameters	Original Result	MS Spk	MSD Spk	MS Result	MSD Result	Units	MS %Rec	MSD %Rec	% Rec Limits	RPD	Max RPD	Quals
Boron	<17.4	1000	1000	1040	1020	ug/L	103	101	84-113	1	20	
Calcium	274J	10000	10000	10500	10500	ug/L	102	102	10-200	0	20	

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Allen, TX 75013
(972) 727-1123

Batch: 155429
Method: EPA 9040

Pace Project No.: 75144400
Instrument ID: 75WETP

Laboratory Control Sample: 707270

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
pH at 25 Degrees C	6	6.0	Std. Units	101	99-101	H6

Duplicate: 707271

Original for Sample: Project sample BW1

Parameters	Original Result	Dup Result	Units	RPD	Max RPD	Quals
pH at 25 Degrees C	7.1	7.1	Std. Units	0	20	H3,H6

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Batch: 155471
Method: EPA 9056A

Pace Project No.: 75144400
Instrument ID: 75WTA4

Blank: 707456

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Chloride	1	J	0.32	mg/L	0.80	0.054	11/17/2020 20:13	
Fluoride	1	U	<0.20	mg/L	0.50	0.20	11/17/2020 20:13	
Sulfate	1	U	<0.20	mg/L	0.70	0.20	11/17/2020 20:13	

Laboratory Control Sample: 707457

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Chloride	5	4.6	mg/L	92	80-120	
Fluoride	5	4.7	mg/L	95	80-120	
Sulfate	5	4.8	mg/L	95	80-120	

Matrix Spike: 707458
Matrix Spike Duplicate: 707459
Original for Sample: Project sample BW1

Parameters	Original Result	MS Spk	MSD Spk	MS Result	MSD Result	Units	MS %Rec	MSD %Rec	% Rec Limits	RPD	Max RPD	Quals
Chloride	1170	500	500	1760	2020	mg/L	118	169	80-120	14	20	E
Fluoride	<0.20	5	5	4.1	4.3	mg/L	82	85	80-120	4	20	
Sulfate	2710	2500	2500	5310	5300	mg/L	104	104	80-120	0	20	

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Batch: 155234
Method: SM 2540C

Pace Project No.: 75144400
Instrument ID: 75BL17

Blank: 706425

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Total Dissolved Solids	1	U	<25.0	mg/L	25.0	25.0	11/12/2020 16:12	

Laboratory Control Sample: 706426

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Total Dissolved Solids	250	247	mg/L	99	85-115	

Duplicate: 706427

Original for Sample: Project sample DUP

Parameters	Original Result	Dup Result	Units	RPD	Max RPD	Quals
Total Dissolved Solids	5520	5440	mg/L	1	5	

Unadjusted MQL

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Pace Project 75144400

Analyte	Method	Unadjusted MQL	Reporting Units
Boron	EPA 6010	100	ug/L
Calcium	EPA 6010	1000	ug/L
pH at 25 Degrees C	EPA 9040	0.10	Std. Units
Chloride	EPA 9056A	0.80	mg/L
Fluoride	EPA 9056A	0.50	mg/L
Sulfate	EPA 9056A	0.70	mg/L
Total Dissolved Solids	SM 2540C	25.0	mg/L

Pace Analytical Services, LLC
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Pace Project 75144400

DEFINITIONS

DF	Dilution Factor
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting
U	Indicates the compound was analyzed for, but not detected.
SDL	Sample Detection Limit
MQL	Method Quantitation Limit
LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
RPD	Relative Percent Difference
TNI	The Nelac Institute

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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Quality Control Data
Cross Reference Table

Pace Project 75144400

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical	Analytical
75144400001	**BW1**	EPA 3010	155529	EPA 6010	155603
75144400002	**MW1**	EPA 3010	155529	EPA 6010	155603
75144400003	**MW2**	EPA 3010	155529	EPA 6010	155603
75144400004	**MW3**	EPA 3010	155529	EPA 6010	155603
75144400005	**DUP**	EPA 3010	155529	EPA 6010	155603
75144400001	**BW1**	SM 2540C	155234		
75144400002	**MW1**	SM 2540C	155234		
75144400003	**MW2**	SM 2540C	155234		
75144400004	**MW3**	SM 2540C	155234		
75144400005	**DUP**	SM 2540C	155234		
75144400001	**BW1**	EPA 9040	155429		
75144400002	**MW1**	EPA 9040	155429		
75144400003	**MW2**	EPA 9040	155429		
75144400004	**MW3**	EPA 9040	155429		
75144400005	**DUP**	EPA 9040	155429		
75144400001	**BW1**	EPA 9056A	155471		
75144400002	**MW1**	EPA 9056A	155471		
75144400003	**MW2**	EPA 9056A	155471		
75144400004	**MW3**	EPA 9056A	155471		
75144400005	**DUP**	EPA 9056A	155471		

TRRP LABORATORY REVIEW CHECKLIST								
Laboratory	Pace Analytical Services, LLC		**LRC Date:**	11/18/2020				
Project Name:	Sandy Crreek 16220013.00 Task		**Laboratory Job**	75144400				
Reviewer	Ricky Lopez		**Prep Batch Number**	See exception report.				
#[1]	**A[2]**	**Description**		**Yes**	**No**	**NA[3]**	**NR[4]**	**ER #[5]**
R1	**OI**	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?			X			R1.1
		Were all departures from standard conditions described in an exception report?		X				
R2	**OI**	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X				
R3	**OI**	**Test reports**						
		Were all samples prepared and analyzed within holding times?			X			R3.1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?			X			R3.2
		Were calculations checked by a peer or supervisor?		X				
		Were all analyte identifications checked by a peer or supervisor?		X				
		Were sample detection limits reported for all analytes not detected?		X				
		Were all results for soil and sediment samples reported on a dry weight basis?				X		
		Were % moisture (or solids) reported for all soil and sediment samples?				X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X		
		If required for the project, are TICs reported?				X		
R4	**O**	**Surrogate recovery data**						
		Were surrogates added prior to extraction?				X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				X		
R5	**OI**	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?		X				
		Were blanks analyzed at the appropriate frequency?		X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X				
		Were blank concentrations < MQL?		X				
R6	**OI**	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?		X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X				
		Were LCSs analyzed at the required frequency?		X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X				
		Was the LCSD RPD within QC limits?				X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?		X				
		Were MS/MSD analyzed at the appropriate frequency?		X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X			R7.3
		Were MS/MSD RPDs within laboratory QC limits?		X				
R8	**OI**	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?		X				
		Were analytical duplicates analyzed at the appropriate frequency?		X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X				
R9	**OI**	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?		X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?		X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X				
R10	**OI**	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				

TRRP LABORATORY REVIEW CHECKLIST			
Laboratory	Pace Analytical Services, LLC	**LRC Date:**	11/18/2020
Project Name:	Sandy Crreek 16220013.00 Task	**Laboratory Job**	75144400
Reviewer	Ricky Lopez	**Prep Batch Number**	See exception report.

1. Items identified by the letter "R" must be included in the laboratory in the laboratory data package submitted in the TRRP-required reports(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = Organic analyses; I = inorganic analysises (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

TRRP LABORATORY REVIEW CHECKLIST				
Laboratory	Pace Analytical Services, LLC	**LRC Date:**	11/18/2020	
Project Name:	Sandy Crreek 16220013.00 Task	**Laboratory Job**	75144400	
Reviewer	Ricky Lopez	**Prep Batch Number**	See exception report.	

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER #[5]
S1	**OI**	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	**OI**	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	**O**	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	**O**	**Internal standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	**OI**	**Raw data (NELAC Section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	**O**	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	**O**	**Tentatively identified compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	**I**	**Interference Check Sample (ICS) results**					
		Were percent recoveries within method QC limits?	X				
S9	**I**	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	**OI**	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	**OI**	**Proficiency test reports**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	**OI**	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	**OI**	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	**OI**	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	**OI**	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	**OI**	**Laboratory standard operating procedures (SOPs)**					
		Are laboratory SOPs current and on file for each method performed?	X				

1. Items identified by the letter "R" must be included in the laboratory in the laboratory data package submitted in the TRRP-required reports(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = Organic analyses; I = inorganic analysises (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

TRRP LABORATORY REVIEW CHECKLIST			
Laboratory	Pace Analytical Services, LLC	**LRC Date:**	11/18/2020
Project Name:	Sandy Crreek 16220013.00 Task	**Laboratory Job**	75144400
Reviewer	Ricky Lopez	**Prep Batch Number**	155234,155429,155471,155529

ER #[1]	Description
R1.1	Sample 707271, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75144400001, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75144400002, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75144400003, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75144400004, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75144400005, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R3.1	Sample 75144400001, 9040 pH. Run on 11/16/20 13:27 is 5.9 days past hold. Sample received after hold date.
R3.1	Sample 75144400002, 9040 pH. Run on 11/16/20 13:30 is 5.9 days past hold. Sample received after hold date.
R3.1	Sample 75144400003, 9040 pH. Run on 11/16/20 13:32 is 5.9 days past hold. Sample received after hold date.
R3.1	Sample 75144400004, 9040 pH. Run on 11/16/20 13:33 is 5.9 days past hold. Sample received after hold date.
R3.1	Sample 75144400005, 9040 pH. Run on 11/16/20 13:35 is 5.9 days past hold. Sample received after hold date.
R3.2	Sample 707458, Method EPA 9056A, Chloride: E - Analyte concentration exceeded the calibration range. The reported result is estimated.
R3.2	Sample 707459, Method EPA 9056A, Chloride: E - Analyte concentration exceeded the calibration range. The reported result is estimated.
R7.3	MSD Sample #707459: Chloride 169% spike recovery outside laboratory QC limit of 80-120%.

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Pace Analytical®	Document Name: Sample Condition Upon Receipt	Document Revised: 7/27/20 Page 1 of 1
	Document No.: F-DAL-C-001-rev.14	Issuing Authority: Pace Dallas Quality Office

Sample Condition Upon Receipt

☐Dallas ☑Ft Worth ☐Corpus Christi ☐Austin

WO# : 75144400

75144400

Client Name: SCS ENGINEERS Project Work order (

Courier: FedEX ☐ UPS ☐ USPS ☐ Client ☑ LSO ☐ PACE ☐ Other: _____

Tracking #: _____

Custody Seal on Cooler/Box: Yes ☐ No ☑

Received on ice: Wet ☑ Blue ☐ No ice ☐

Receiving Lab 1 Thermometer Used: FNTM03 Cooler Temp °C: 6.5 (Recorded) 0 (Correction Factor) 6.5 (Actual)

Receiving Lab 2 Thermometer Used: IR13 Cooler Temp °C: 1.6 (Recorded) +0.1 (Correction Factor) 1.7 (Actual)

Temperature should be above freezing to 6°C unless collected same day as receipt in which evidence of cooling is acceptable

Triage Person: _____ Date: 11.11.2020

Chain of Custody relinquished	Yes ☑ No ☐
Sampler name & signature on COC	Yes ☑ No ☐
Short HT analyses (<72 hrs)	Yes ☐ No ☑

Login Person: _____ Date: 11.11.2020

Sufficient Volume received	Yes ☑ No ☐
Correct Container used	Yes ☑ No ☐
Container Intact	Yes ☑ No ☐
Sample pH Acceptable pH Strips: 1900160 Residual Chlorine Present Cl Strips: _____ Sulfide Present Lead Acetate Strips: _____	Yes ☑ No ☐ NA ☐ Yes ☐ No ☐ NA ☑ Yes ☐ No ☐ NA ☑
Are soil samples (volatiles, TPH) received in 5035A Kits (not applicable to TCLP VOA or PST Program TPH)	Yes ☐ No ☐ NA ☑
Unpreserved 5035A soil frozen within 48 hrs	Yes ☐ No ☐ NA ☑
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑
Project sampled in USDA Regulated Area outside of Texas State Sampled: _____	Yes ☐ No ☐ NA ☑
Non-Conformance(s):	Yes ☐ No ☑

Labeling Person (if different than log-in): _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical
www.pacelabs.com

Section A — Required Client Information:

Company:	SCS Engineers
Address:	1901 Central Drive, Ste 550
	Bedford, TX 76021
Email:	aboudreaux@scsengineers.com
Phone:	817-571-2288 Fax
Requested Due Date:	

Section B — Required Project Information:

Report To:	Asher Boudreaux
Copy To:	
Purchase Order #:	
Project Name:	Sandy Creek 16220013.00 Task 02
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	ricky.lopez@pacelabs.com,
Pace Profile #:	7863 Line 3

Regulatory Agency	
State / Location	TX

WO#: 75144400
PM: RJL Due Date: 11/18/20
CLIENT: SCS Engineer

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	pH by 9040/ 2540 TDS	9056 Anions (Cl, F, SO4)	Metals by 6020 ICPMS Lead	Residual Chlorine (Y/N)	
1	BW1	WT		11/10/20	14:55	11/10/20	14:55												x	x	x		-001
2	MW-1	WT		11/10/20	15:20	11/10/20	15:20												x	x	x		-002
3	MW-2	WT		11/10/20	15:30	11/10/20	15:30												x	x	x		-003
4	MW-3	WT		11/10/20	15:50	11/10/20	15:50												x	x	x		-004
5	DUP	WT		11/10/20	16:00	11/10/20	16:00												x	x	x		-005
6																							
7																							
8																							
9																							
10																							
11																							
12																							

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Asher Boudreaux	11/11/2020	12:24	e.gonzalez 1Pace	11.11.20	1224	16.5	Y	N	Y
	e.gonzalez 1Pace	11/12/20	0700	STEVE CAVAL	11/12/20	0700				
	STEVE CAVAL	11/12/20	0830	Robinson / Pace	11/12/20	0830	1.7	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Asher Boudreaux

SIGNATURE of SAMPLER: [signature] DATE Signed:

Pace Analytical Services, Inc.
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

April 16, 2020

Jim Lawrence
SCS Engineers
1901 Central Dr.
Suite 550
Bedford, TX 76021

RE: Pace Project 75129503
Project ID: 16220013.00 Task01/Sandy Creek

Dear Jim Lawrence:

Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2020. Results reported herin conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Courtney Hollins
courtney.hollins@pacelabs.com
(972)727-1123

Laboratory Certifications

Pace Analytical Dallas : Texas T104704232-19-29
Pace Analytical Dallas : Texas Certification #: T104704232-18-26

REPORT OF LABORATORY ANALYSIS

04/16/2020 14:42:16

Sample Cross Reference

Pace Analytical Services, Inc.
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Pace Project 75129503

Client: SCS Engineers
Project ID: 16220013.00 Task01/Sandy Creek

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
BW-1	75129503001	Water	04/08/2020 15:32	04/09/2020 10:17
MW-1	75129503002	Water	04/08/2020 15:45	04/09/2020 10:17
MW-2	75129503003	Water	04/08/2020 15:53	04/09/2020 10:17
MW-3	75129503004	Water	04/08/2020 16:09	04/09/2020 10:17
DUP	75129503005	Water	04/08/2020 15:32	04/09/2020 10:17

Pace Analytical Services, Inc.
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Allen, TX 75013
(972) 727-1123

Pace Project 75129503

Holding Times:

These holding times were exceeded due to sample receipt or re-extraction after the holding time expired.

Sample 75129503001 analysis 9040 pH
Sample 75129503002 analysis 9040 pH
Sample 75129503003 analysis 9040 pH
Sample 75129503004 analysis 9040 pH
Sample 75129503005 analysis 9040 pH

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogate:

All surrogate recoveries were within QC limits.

Appendix A
LABORATORY DATA PACKAGE COVER PAGE

This data package is for Job No. 75129503 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

[X] R1 - Field chain-of-custody documentation;

[X] R2 - Sample identification cross-reference;

[X] R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. Dilution factors,

c. Preparation methods,

d. Cleanup methods, and

e. If required for the project, tentatively identified compounds (TICs).

[X] R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

[X] R5 - Test reports/summary forms for blank samples;

[X] R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

[X] R7 - Test reports/summary forms for matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences, and

e. The laboratory's MS/MSD QC limits.

[X] R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and,

c. The laboratory's QC limits for analytical duplicated.

[X] R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte and

[X] R10 - Other problems or anomalies.

The exception Report for each "No" or "Not Reviewed (NR) " item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accredidation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [X] TCEQ on 05/02/2018

Any findings affecting the data in this laboratory data package are noted in the Exception Reports herin. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Courtney Hollins	Courtney Hollins	Project Manager	04/16/2020

Pace Analytical Services, Inc.
400 W. Bethany Drive, Suite 190
Allen, TX 75013
(972) 727-1123

Client: SCS Engineers

Client ID: BW-1 **Project ID:** 16220013.00 Task01/Sandy
Lab ID: 75129503001 **Moisture:** N/A **Pace Project** 75129503
Collected: 04/08/2020 15:32 **Received** 04/09/2020 10:17 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	5	**3.7**		mg/L	0.50	0.087	04/15/2020 18:47	04/14/2020 08:20	139802	75ICP1
Calcium	1	**545**	M1	mg/L	1.0	0.093	04/15/2020 12:31	04/14/2020 08:20	139802	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**6.9**	H3,H6	Std. Units	0.10	0.10	04/10/2020 14:47		139670	75WETQ
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	200	**1070**		mg/L	160	10.8	04/13/2020 23:04		139781	75WTA4
Fluoride	1	< 0.20	U,M1	mg/L	0.50	0.20	04/13/2020 22:10		139781	75WTA4
Sulfate	500	**2760**		mg/L	350	99.5	04/13/2020 23:57		139781	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**6660**		mg/L	500	500	04/14/2020 12:40		139835	75BL17

Pace Analytical Services, Inc.
400 W. Bethany Drive, Suite 190
Allen, TX 75013
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Client: SCS Engineers

Client ID: MW-1 **Project ID:** 16220013.00 Task01/Sandy
Lab ID: 75129503002 **Moisture:** N/A **Pace Project** 75129503
Collected: 04/08/2020 15:45 **Received** 04/09/2020 10:17 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**1.3**		mg/L	0.10	0.017	04/15/2020 18:51	04/14/2020 08:20	139802	75ICP1
Calcium	1	**524**		mg/L	1.0	0.093	04/15/2020 12:36	04/14/2020 08:20	139802	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**7.1**	H3,H6	Std. Units	0.10	0.10	04/10/2020 14:56		139670	75WETQ
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	50	**152**		mg/L	40.0	2.7	04/14/2020 14:47		139838	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	04/14/2020 01:27		139781	75WTA4
Sulfate	500	**2430**		mg/L	350	99.5	04/14/2020 02:02		139781	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**4330**		mg/L	125	125	04/14/2020 12:40		139835	75BL17

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Client: SCS Engineers

Client ID: MW-2 **Project ID:** 16220013.00 Task01/Sandy
Lab ID: 75129503003 **Moisture:** N/A **Pace Project** 75129503
Collected: 04/08/2020 15:53 **Received** 04/09/2020 10:17 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**1.9**		mg/L	0.10	0.017	04/15/2020 18:55	04/14/2020 08:20	139802	75ICP1
Calcium	1	**650**		mg/L	1.0	0.093	04/15/2020 12:40	04/14/2020 08:20	139802	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**6.8**	H3,H6	Std. Units	0.10	0.10	04/10/2020 14:52		139670	75WETQ
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	500	**2410**		mg/L	400	27.0	04/14/2020 02:38		139781	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	04/14/2020 02:20		139781	75WTA4
Sulfate	500	**3120**		mg/L	350	99.5	04/14/2020 02:38		139781	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**9820**		mg/L	500	500	04/14/2020 12:41		139835	75BL17

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Client: SCS Engineers

Client ID: MW-3 **Project ID:** 16220013.00 Task01/Sandy
Lab ID: 75129503004 **Moisture:** N/A **Pace Project** 75129503
Collected: 04/08/2020 16:09 **Received** 04/09/2020 10:17 **Matrix:** Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**1.1**		mg/L	0.10	0.017	04/15/2020 18:59	04/14/2020 08:20	139802	75ICP1
Calcium	1	**530**		mg/L	1.0	0.093	04/15/2020 12:44	04/14/2020 08:20	139802	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**6.5**	H3,H6	Std. Units	0.10	0.10	04/10/2020 14:57		139670	75WETQ
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	50	**307**		mg/L	40.0	2.7	04/14/2020 03:14		139781	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	04/14/2020 02:56		139781	75WTA4
Sulfate	500	**3020**		mg/L	350	99.5	04/14/2020 03:32		139781	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**5980**		mg/L	500	500	04/14/2020 12:41		139835	75BL17

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Client: SCS Engineers

Client ID: DUP
Lab ID: 75129503005
Collected: 04/08/2020 15:32
Moisture: N/A
Received 04/09/2020 10:17
Project ID: 16220013.00 Task01/Sandy
Pace Project 75129503
Matrix: Water

Parameters	DF	Results	Qual	Units	MQL	SDL	Analysis Date	Prep Date	Batch	Instr.
6010 Metals, Total	Analytical Method: EPA 6010				Preparation Method: EPA 3010					
Boron	1	**3.4**		mg/L	0.10	0.017	04/15/2020 19:04	04/14/2020 08:20	139802	75ICP1
Calcium	1	**583**		mg/L	1.0	0.093	04/15/2020 12:48	04/14/2020 08:20	139802	75ICP1
9040 pH	Analytical Method: EPA 9040									
pH at 25 Degrees C	1	**7.2**	H3,H6	Std. Units	0.10	0.10	04/10/2020 14:54		139670	75WETQ
9056 IC Anions	Analytical Method: EPA 9056A									
Chloride	100	**1160**		mg/L	80.0	5.4	04/14/2020 04:43		139781	75WTA4
Fluoride	1	< 0.20		mg/L	0.50	0.20	04/14/2020 03:50		139781	75WTA4
Sulfate	500	**2840**		mg/L	350	99.5	04/14/2020 05:01		139781	75WTA4
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	1	**6220**		mg/L	500	500	04/14/2020 12:41		139835	75BL17

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Batch: 139802
Method: EPA 6010
Prep EPA 3010

Pace Project No.: 75129503
Instrument ID: 75ICP1

Blank: 636338

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Boron	1	U	<0.017	mg/L	0.10	0.017	04/15/2020 18:31	04/14/2020 08:20
Calcium	1	U	<0.093	mg/L	1.0	0.093	04/15/2020 12:11	04/14/2020 08:20

Laboratory Control Sample: 636339

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Boron	1	1.0	mg/L	102	88-111	
Calcium	10	9.8	mg/L	98	87-112	

Matrix Spike: 636340
Matrix Spike Duplicate: 636341
Original for Sample: Project sample BW-1

Parameters	Original Result	MS Spk	MSD Spk	MS Result	MSD Result	Units	MS %Rec	MSD %Rec	% Rec Limits	RPD	Max RPD	Quals
Boron	3.7	1	1	4.7	4.8	mg/L	92	105	84-113	3	20	
Calcium	545	10	10	593	588	mg/L	485	434	10-200	1	20	M1

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Batch: 139670
Method: EPA 9040

Pace Project No.: 75129503
Instrument ID: 75WETQ

Laboratory Control Sample: 635844

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
pH at 25 Degrees C	6	6.0	Std. Units	99	99-101	H6

Duplicate: 635846

Original for Sample: Project sample BW-1

Parameters	Original Result	Dup Result	Units	RPD	Max RPD	Quals
pH at 25 Degrees C	6.9	7.0	Std. Units	1	20	H3,H6

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Batch: 139781
Method: EPA 9056A

Pace Project No.: 75129503
Instrument ID: 75WTA4

Blank: 636247

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Chloride	1	U	<0.054	mg/L	0.80	0.054	04/13/2020 21:35	
Fluoride	1	U	<0.20	mg/L	0.50	0.20	04/13/2020 21:35	
Sulfate	1	U	<0.20	mg/L	0.70	0.20	04/13/2020 21:35	

Laboratory Control Sample: 636248

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Chloride	5	4.6	mg/L	91	80-120	
Fluoride	5	4.6	mg/L	91	80-120	
Sulfate	5	4.8	mg/L	95	80-120	

Matrix Spike: 636249 **Matrix Spike Duplicate:** 636250

Original for Sample: Project sample BW-1

Parameters	Original Result	MS Spk	MSD Spk	MS Result	MSD Result	Units	MS %Rec	MSD %Rec	% Rec Limits	RPD	Max RPD	Quals
Chloride	1070	1000	1000	2160	2150	mg/L	109	108	80-120	0	20	
Fluoride	<0.20	5	5	3.2	3.3	mg/L	63	65	80-120	3	20	M1
Sulfate	2760	2500	2500	5380	5420	mg/L	105	106	80-120	1	20	

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Batch: 139838
Method: EPA 9056A

Pace Project No.: 75129503
Instrument ID: 75WTA4

Blank: 636504

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Chloride	1	U	<0.054	mg/L	0.80	0.054	04/14/2020 14:11	

Laboratory Control Sample: 636505

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Chloride	5	4.9	mg/L	97	80-120	

Matrix Spike: 636506
Matrix Spike Duplicate: 636507
Original for Sample: Project sample MW-1

Parameters	Original Result	MS Spk	MSD Spk	MS Result	MSD Result	Units	MS %Rec	MSD %Rec	% Rec Limits	RPD	Max RPD	Quals
Chloride	152	250	250	409	419	mg/L	103	107	80-120	2	20	

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Batch: 139835
Method: SM 2540C

Pace Project No.: 75129503
Instrument ID: 75BL17

Blank: 636494

Parameters	Dilutio	Quals	Result	Units	MQL	SDL	Analysis Date	Prep Date
Total Dissolved Solids	1	U	<25.0	mg/L	25.0	25.0	04/14/2020 12:39	

Laboratory Control Sample: 636495

Parameters	Spk Amt	LCS Result	Units	LCS %Rec	% Rec Limits	LCS Quals
Total Dissolved Solids	250	272	mg/L	109	85-115	

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Pace Project 75129503

Analyte	Method	Unadjusted MQL	Reporting Units
Boron	EPA 6010	0.10	mg/L
Calcium	EPA 6010	1.0	mg/L
pH at 25 Degrees C	EPA 9040	0.10	Std. Units
Chloride	EPA 9056A	0.80	mg/L
Fluoride	EPA 9056A	0.50	mg/L
Sulfate	EPA 9056A	0.70	mg/L
Total Dissolved Solids	SM 2540C	25.0	mg/L

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Pace Project 75129503

DEFINITIONS

DF	Dilution Factor
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting
U	Indicates the compound was analyzed for, but not detected.
SDL	Sample Detection Limit
MQL	Method Quantitation Limit
LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
RPD	Relative Percent Difference
TNI	The Nelac Institute

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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Quality Control Data
Cross Reference Table

Pace Project 75129503

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical	Analytical
75129503001	**BW-1**	EPA 3010	139802	EPA 6010	139862
75129503002	**MW-1**	EPA 3010	139802	EPA 6010	139862
75129503003	**MW-2**	EPA 3010	139802	EPA 6010	139862
75129503004	**MW-3**	EPA 3010	139802	EPA 6010	139862
75129503005	**DUP**	EPA 3010	139802	EPA 6010	139862
75129503001	**BW-1**	EPA 9040	139670		
75129503002	**MW-1**	EPA 9040	139670		
75129503003	**MW-2**	EPA 9040	139670		
75129503004	**MW-3**	EPA 9040	139670		
75129503005	**DUP**	EPA 9040	139670		
75129503001	**BW-1**	SM 2540C	139835		
75129503002	**MW-1**	SM 2540C	139835		
75129503003	**MW-2**	SM 2540C	139835		
75129503004	**MW-3**	SM 2540C	139835		
75129503005	**DUP**	SM 2540C	139835		
75129503001	**BW-1**	EPA 9056A	139781		
75129503002	**MW-1**	EPA 9056A	139781		
75129503003	**MW-2**	EPA 9056A	139781		
75129503004	**MW-3**	EPA 9056A	139781		
75129503005	**DUP**	EPA 9056A	139781		
75129503002	**MW-1**	EPA 9056A	139838		

TRRP LABORATORY REVIEW CHECKLIST								
Laboratory	Pace Analytical Services, Inc.		**LRC Date:**	04/16/2020				
Project Name:	16220013.00 Task01/Sandy Creek		**Laboratory Job**	75129503				
Reviewer	Courtney Hollins		**Prep Batch Number**	See exception report.				
#[1]	**A[2]**	**Description**		**Yes**	**No**	**NA[3]**	**NR[4]**	**ER #[5]**
R1	**OI**	**Chain-of-custody (C-O-C)**						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?			X			R1.1
		Were all departures from standard conditions described in an exception report?		X				
R2	**OI**	**Sample and quality control (QC) identification**						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X				
R3	**OI**	**Test reports**						
		Were all samples prepared and analyzed within holding times?			X			R3.1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X				
		Were calculations checked by a peer or supervisor?		X				
		Were all analyte identifications checked by a peer or supervisor?		X				
		Were sample detection limits reported for all analytes not detected?		X				
		Were all results for soil and sediment samples reported on a dry weight basis?				X		
		Were % moisture (or solids) reported for all soil and sediment samples?				X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X		
		If required for the project, are TICs reported?				X		
R4	**O**	**Surrogate recovery data**						
		Were surrogates added prior to extraction?				X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				X		
R5	**OI**	**Test reports/summary forms for blank samples**						
		Were appropriate type(s) of blanks analyzed?		X				
		Were blanks analyzed at the appropriate frequency?		X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X				
		Were blank concentrations < MQL?		X				
R6	**OI**	**Laboratory control samples (LCS):**						
		Were all COCs included in the LCS?		X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X				
		Were LCSs analyzed at the required frequency?		X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X				
		Was the LCSD RPD within QC limits?				X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**						
		Were the project/method specified analytes included in the MS and MSD?		X				
		Were MS/MSD analyzed at the appropriate frequency?		X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X			R7.3
		Were MS/MSD RPDs within laboratory QC limits?		X				
R8	**OI**	**Analytical duplicate data**						
		Were appropriate analytical duplicates analyzed for each matrix?		X				
		Were analytical duplicates analyzed at the appropriate frequency?		X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X				
R9	**OI**	**Method quantitation limits (MQLs):**						
		Are the MQLs for each method analyte included in the laboratory data package?		X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?		X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X				
R10	**OI**	**Other problems/anomalies**						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				

TRRP LABORATORY REVIEW CHECKLIST			
Laboratory	Pace Analytical Services, Inc.	**LRC Date:**	04/16/2020
Project Name:	16220013.00 Task01/Sandy Creek	**Laboratory Job**	75129503
Reviewer	Courtney Hollins	**Prep Batch Number**	See exception report.

1. Items identified by the letter "R" must be included in the laboratory in the laboratory data package submitted in the TRRP-required reports(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = Organic analyses; I = inorganic analysises (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

TRRP LABORATORY REVIEW CHECKLIST				
Laboratory	Pace Analytical Services, Inc.	**LRC Date:**	04/16/2020	
Project Name:	16220013.00 Task01/Sandy Creek	**Laboratory Job**	75129503	
Reviewer	Courtney Hollins	**Prep Batch Number**	See exception report.	

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER #[5]
S1	**OI**	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	**OI**	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were precent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	**O**	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	**O**	**Internal standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	**OI**	**Raw data (NELAC Section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	**O**	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	**O**	**Tentatively identified compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	**I**	**Interference Check Sample (ICS) results**					
		Were percent recoveries within method QC limits?	X				
S9	**I**	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	**OI**	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	**OI**	**Proficiency test reports**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	**OI**	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	**OI**	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	**OI**	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	**OI**	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	**OI**	**Laboratory standard operating procedures (SOPs)**					
		Are laboratory SOPs current and on file for each method performed?	X				

1. Items identified by the letter "R" must be included in the laboratory in the laboratory data package submitted in the TRRP-required reports(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = Organic analyses; I = inorganic analysises (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

TRRP LABORATORY REVIEW CHECKLIST			
Laboratory	Pace Analytical Services, Inc.	**LRC Date:**	04/16/2020
Project Name:	16220013.00 Task01/Sandy Creek	**Laboratory Job**	75129503
Reviewer	Courtney Hollins	**Prep Batch Number**	139670,139781,139802,139835,139838

ER #[1]	Description
R1.1	Sample 635845, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 635846, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75129503001, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75129503002, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75129503003, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75129503004, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R1.1	Sample 75129503005, Method EPA 9040, pH at 25 Degrees C: H3 - Sample was received or analysis requested beyond the recognized method holding time.
R3.1	Sample 75129503001, 9040 pH. Run on 04/10/20 14:47 is 2 days past hold. Sample received after hold date.
R3.1	Sample 75129503002, 9040 pH. Run on 04/10/20 14:56 is 2 days past hold. Sample received after hold date.
R3.1	Sample 75129503003, 9040 pH. Run on 04/10/20 14:52 is 1.9 days past hold. Sample received after hold date.
R3.1	Sample 75129503004, 9040 pH. Run on 04/10/20 14:57 is 1.9 days past hold. Sample received after hold date.
R3.1	Sample 75129503005, 9040 pH. Run on 04/10/20 14:54 is 2 days past hold. Sample received after hold date.
R7.3	MS Sample #636249: Fluoride 63% spike recovery outside laboratory QC limit of 80-120%.
R7.3	MS Sample #636340: Calcium 485% spike recovery outside laboratory QC limit of 10-200%.
R7.3	MSD Sample #636250: Fluoride 65% spike recovery outside laboratory QC limit of 80-120%.
R7.3	MSD Sample #636341: Calcium 434% spike recovery outside laboratory QC limit of 10-200%.

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Pace Analytical	Document Name: Sample Condition Upon Receipt	Document Revised: 01/03/20 Page 1 of 1
	Document No.: F-DAL-C-001-rev.12	Issuing Authority: Pace Dallas Quality Office

Sample Condition Upon Receipt

☐Dallas ☑Ft Worth ☐Corpus Chri **WO#: 75129503**

75129503

Client Name: SCS Engineers Project Work order: ___

Courier: FedEX ☐ UPS ☐ USPS ☐ Client ☑ LSO ☐ PACE ☐ Other: _____

Tracking #: _____ DHH 4-9-20

Custody Seal on Cooler/Box: Yes ☑ ~~No ☐~~ **Packing Material:** Bubble Wrap/Bags ☐ Foam ☐ None ☑ Other ☐

Received on Ice: Yes ☑ No ☐ **Type of Ice:** Wet ☑ Blue ☐

Thermometer Used: IR-12 **Cooler Temp °C:** 5.5 (Recorded) -0.3 (Correction Factor) 5.2 (Actual)

Temperature should be above freezing to 6°C

Triage Person: DHH Date: 04·09·20

Chain of Custody relinquished	Yes ☑ No ☐
Sampler name & signature on COC	Yes ☑ No ☐
Short HT analyses (<72 hrs)	Yes ☐ No ☑

Login Person: DHH Date: 04·09·20

Sufficient Volume received	Yes ☑ No ☐
Correct Container used	Yes ☑ No ☐
Container Intact	Yes ☑ No ☐
Sample pH Acceptable pH Strips: 166568 Residual Chlorine Present Cl Strips: _____ Sulfide Present Lead Acetate Strips: _____	Yes ☑ No ☐ NA ☐ Yes ☐ No ☐ NA ☑ Yes ☐ No ☐ NA ☑
Are soil samples (volatiles, TPH) received in 5035A Kits (not applicable to TCLP VOA or PST Program TPH)	Yes ☐ No ☐ NA ☑
Unpreserved 5035A soil frozen within 48 hrs	Yes ☐ No ☐ NA ☑
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑
Project sampled in USDA Regulated Area: State Sampled: TX	Yes ☑ No ☐
Non-Conformance(s):	Yes ☐ No ☑

Labeling Person (if different than log-in): _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	SCS Engineers	Report To:	Tyson Milbrand	Attention:	
Address:	1901 Central Drive	Copy To:		Company Name:	
Bedford, TX 76021				Address:	
Email:	tmilbrand@scsengineers.com	Purchase Order #:		Pace Quote:	
Phone:	817-571-2288 Fax:	Project Name:	16220013.00 Task 01/Sandy Creek	Pace Project Manager:	courtney.hollins@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	5660

Regulatory Agency: —

State /Location: TX

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	pH by 9040	TDS	Chloride, Fluoride, Sulfate	6010 Metals (Ca and B)	Residual Chlorine (Y/N)	
1	BW-1	WT		4/6/2	1532														x	x	x	x		-001
2	MW-1	WT			1545														x	x	x	x		-002
3	MW-2	WT			1553														x	x	x	x		-003
4	MW-3	WT			1609														x	x	x	x		-004
5	DUP	WT		↓	—														x	x	x	x		-005
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Per client - use earliest collection time for duplicate. -DLH 4/9/20	[signature]	4/9/2020	10:17	[signature]	4/9/20	1017	5.2	Y	Y	Y
	[signature]	4.10.2020	0700	[signature]	4.10.2020	0700				
	[signature]	4.10.20	0930	[signature]	4/10/2020	09:30	0.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Asher Boudreaux

SIGNATURE of SAMPLER: [signature] DATE Signed: 4/9/2020

WO#: 75129503

PM: CRH Due Date: 04/16/20

CLIENT: SCS Engineer

Appendix C
Historical Groundwater Analytical Data

APPENDIX C - GROUNDWATER ANALYTICAL DATA
2020 ANNUAL GROUNDWATER MONITORING REPORT
SANDY CREEK ENERGY STATION
2161 RATTLESNAKE ROAD
RIESEL, TX 76682

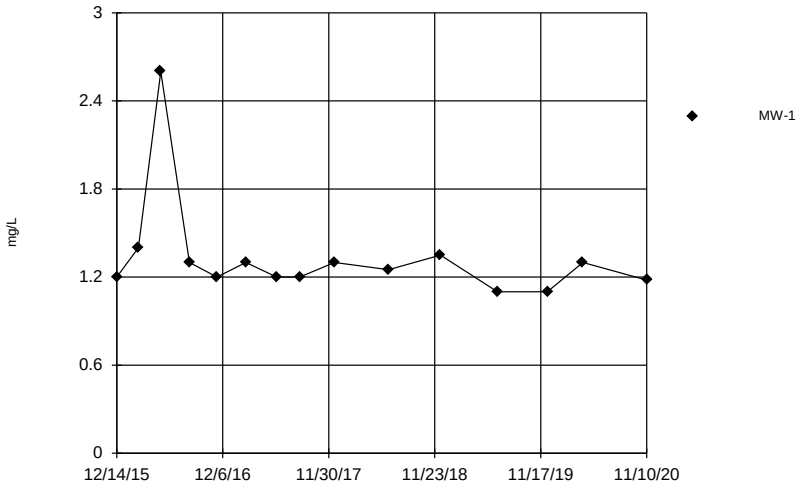
	Water Level	Conductivity	Turbidity	Boron	Calcium	Chloride	pH at 25°C	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium-226	Radium-228	Combined Radium	Fluoride
Units	**ft msl**	**mS/cm**	**NTU**	**mg/L**	**mg/L**	**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**	**25.2**	**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**	**>800**	**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**	**>800**	**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**	**800**	**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**	**17.7**	**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**	**452**	**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**	**500**	**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**	**223**	**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**	**66.2**	**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**	**681**	**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**	**30**	**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**	**22.9**	**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**	**64**	**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**	**137**	**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**	**4.7**	**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**
MW-2																										
12/14/2015	**424.11**	**10.6**	**2.8**	**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**	**52.2**	**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**	**23.7**	**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**	**5.5**	**2.1**	**680**	**2440**	**6.7**	**3080**	**7870**	<0.0020	<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**	**0.4**	**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**	**6.2**	**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**	**30.5**	**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**	**8.1**	**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**	**37.7**	**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**	**4.42**	**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**	**15.1**	**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**	**9.87**	**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**	**19.1**	**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**	**6.6**	**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**	**20.4**	**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**
MW-3																										
12/14/2015	**421.77**	**1.17**	**11.9**	**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**	**93.3**	**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**	**197**	**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**	**101**	**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**	**87**	**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**	**82**	**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**	**145**	**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**	**82.6**	**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**	**22.4**	**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**	**51.1**	**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**	**10.6**	**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**	**10.3**	**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**	**34.3**	**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**	**21.6**	**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**	**18.9**	**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**
BW-1																										
12/14/2015	**465.60**	**5.35**	**155**	**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**	**307**	**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**	**866**	**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**	**56**	**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**	**8.1**	**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**	**245**	**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**	**852**	**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**	**162**	**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**	**180**	**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**	**39.3**	**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**	**81.8**	**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**	**157**	**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**	**214**	**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**	**428**	**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**	**262**	**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**

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

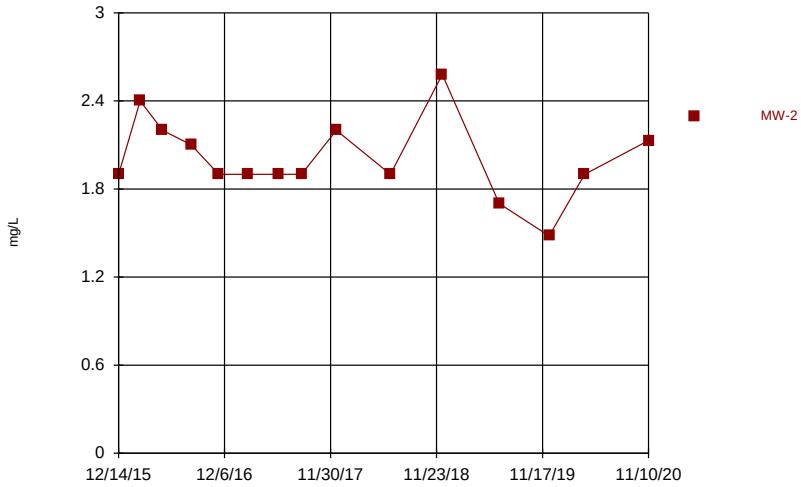


Constituent: Boron Analysis Run 1/7/2021 1:14 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

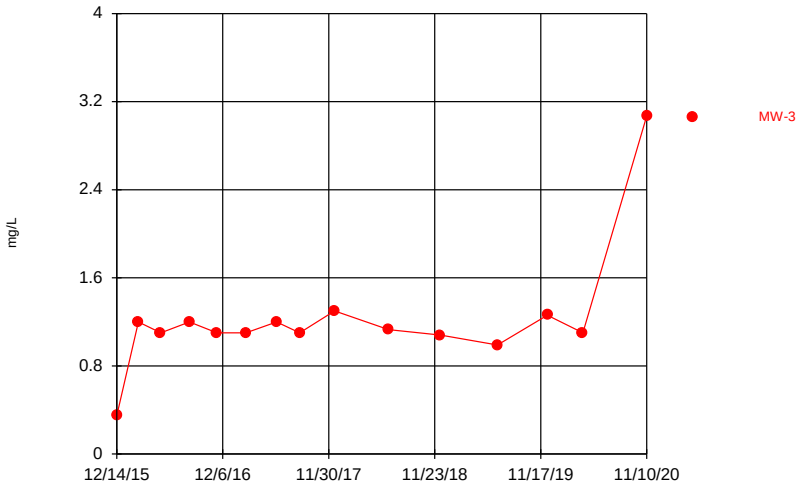


Constituent: Boron Analysis Run 1/7/2021 1:14 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

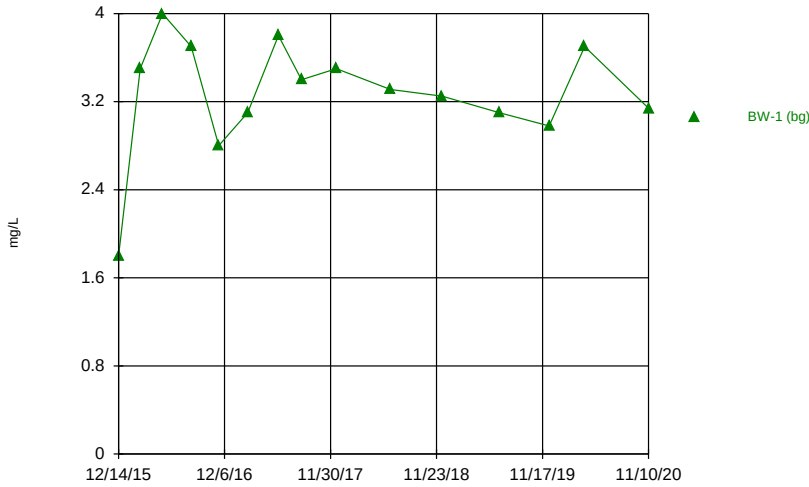


Constituent: Boron Analysis Run 1/7/2021 1:14 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

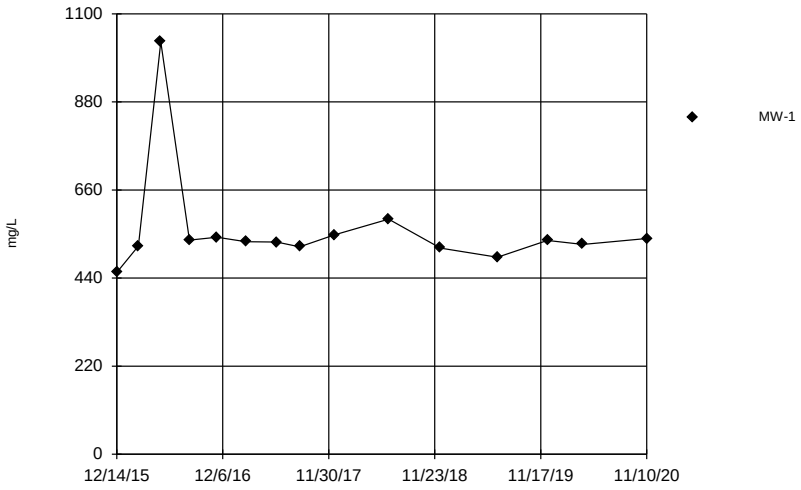
Time Series



Constituent: Boron Analysis Run 1/7/2021 1:14 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Time Series

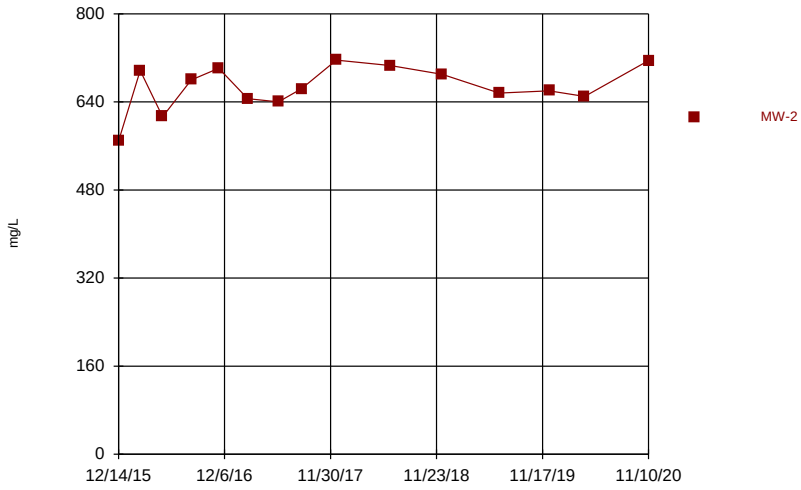


Constituent: Calcium Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

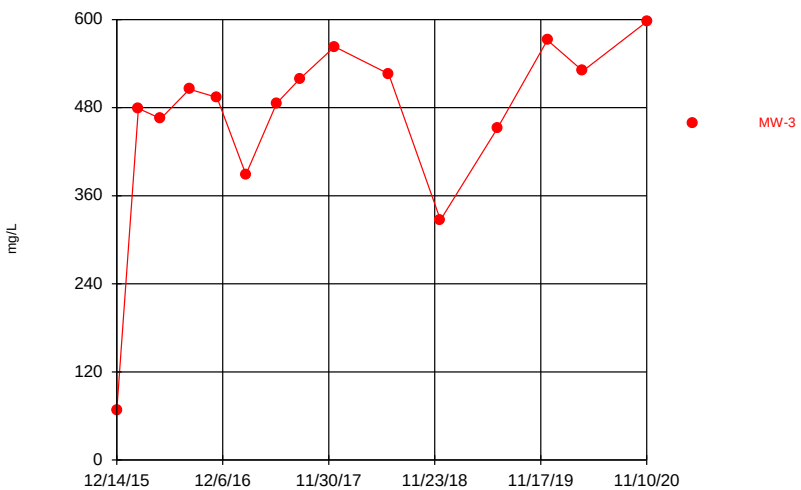


Constituent: Calcium Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

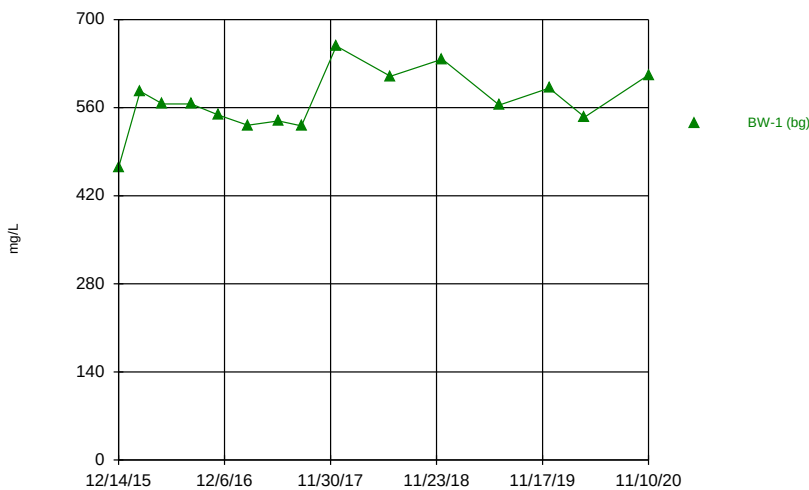


Constituent: Calcium Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

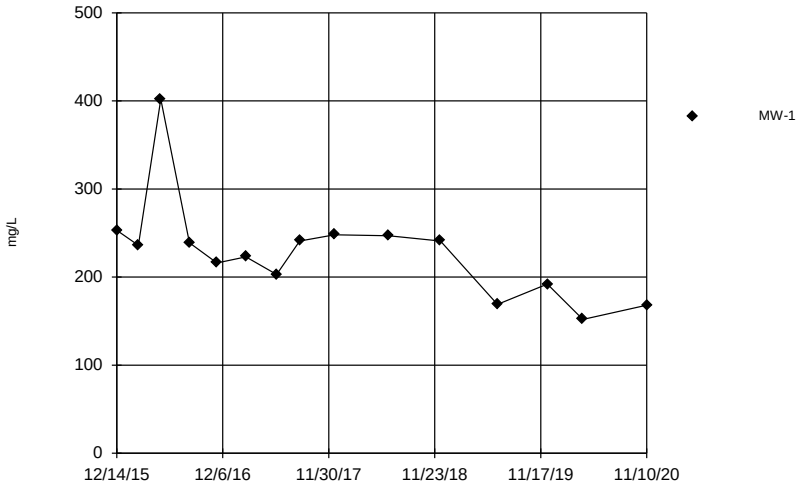
Time Series



Constituent: Calcium Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Time Series

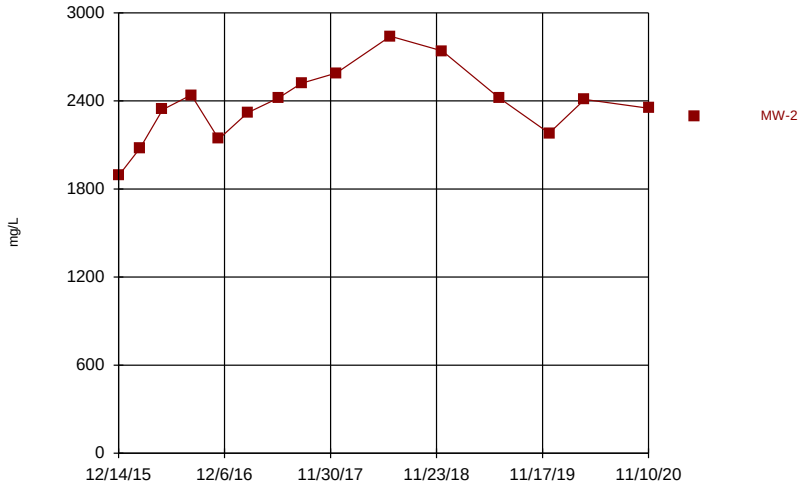


Constituent: Chloride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

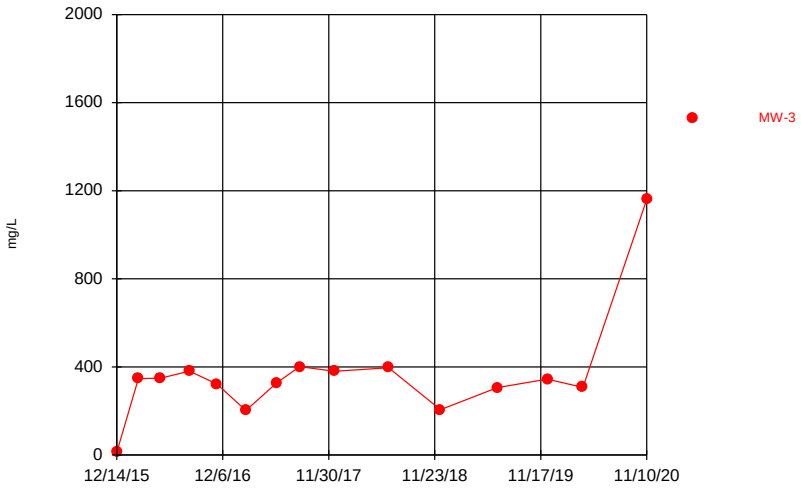


Constituent: Chloride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

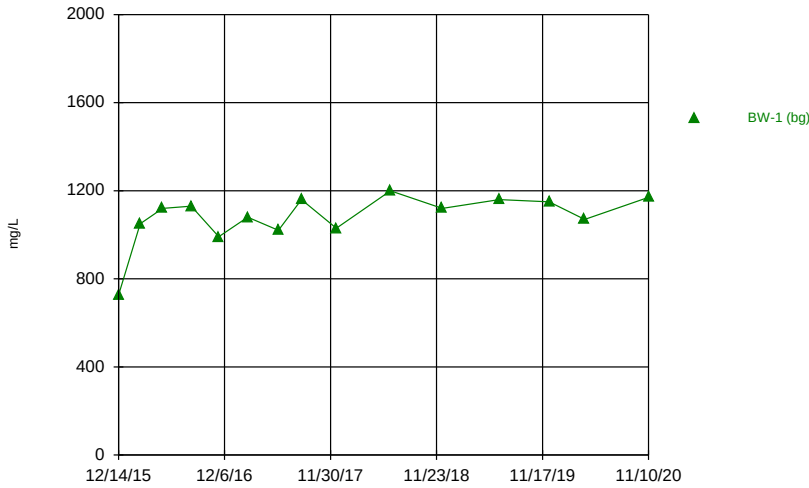


Constituent: Chloride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

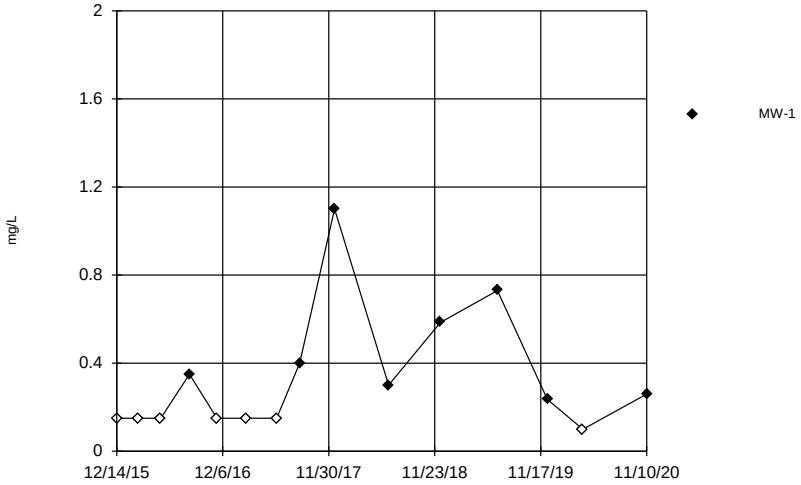


Constituent: Chloride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

Time Series

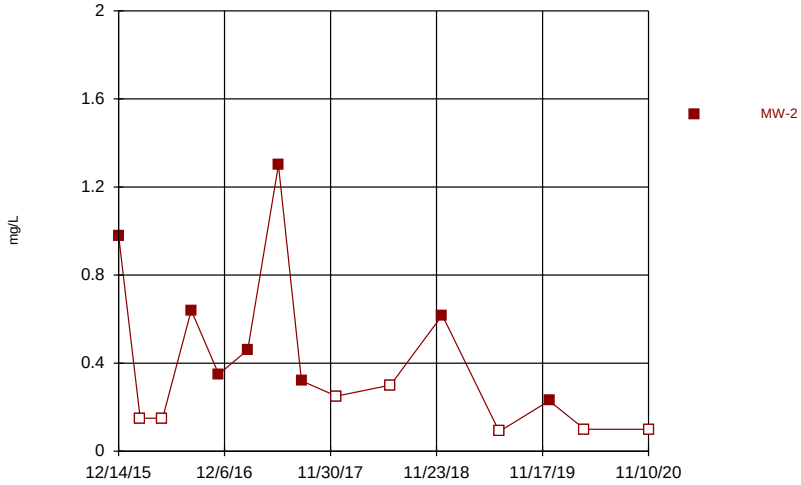


Constituent: Fluoride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

Time Series

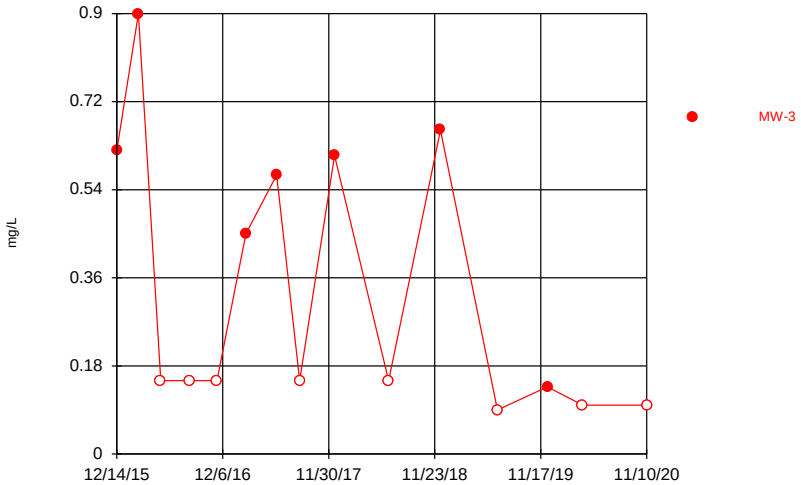


Constituent: Fluoride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

Time Series

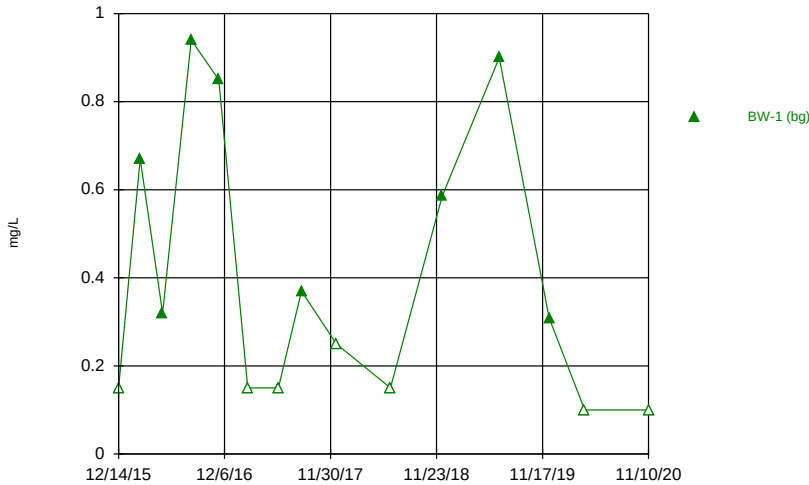


Constituent: Fluoride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA
Hollow symbols indicate censored values.

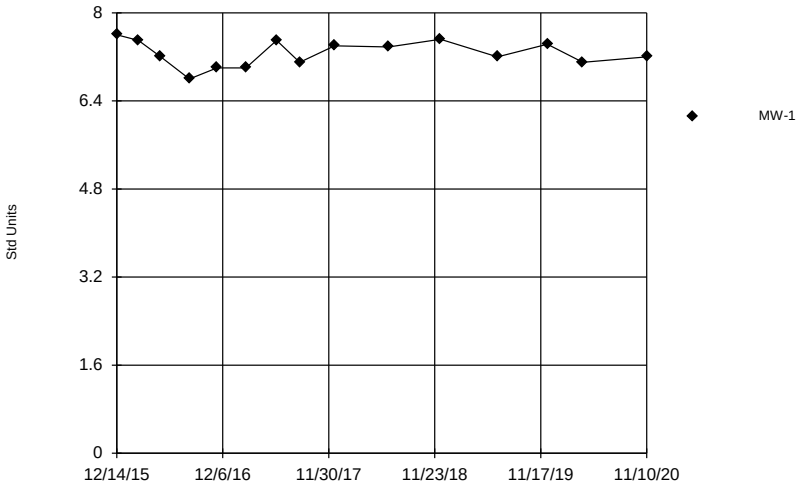
Time Series



Constituent: Fluoride Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Time Series

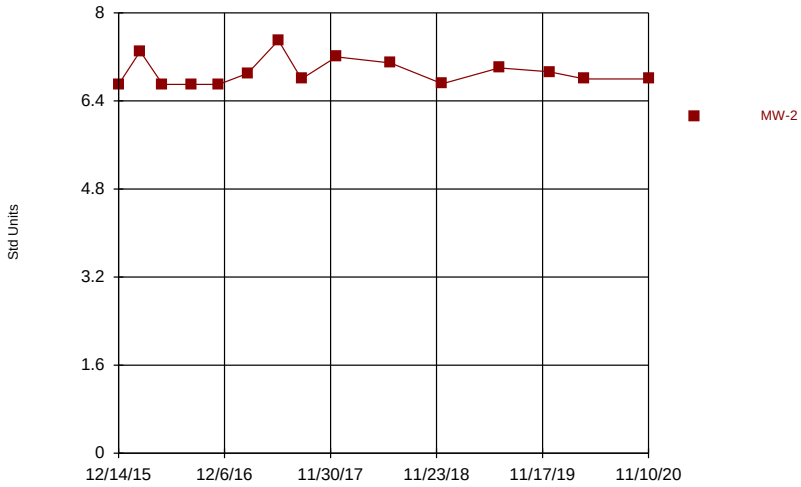


Constituent: pH Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

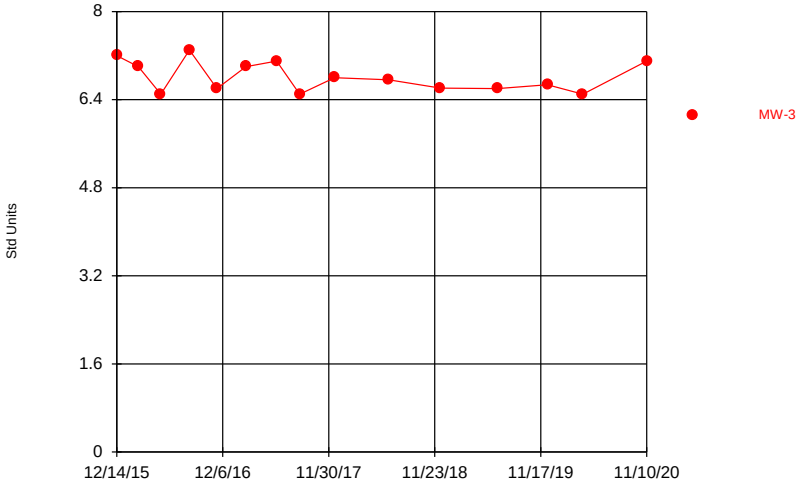


Constituent: pH Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series



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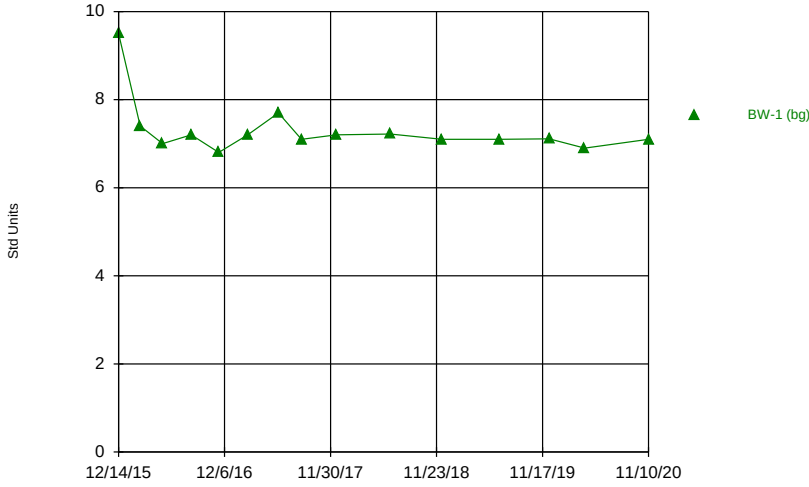
Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

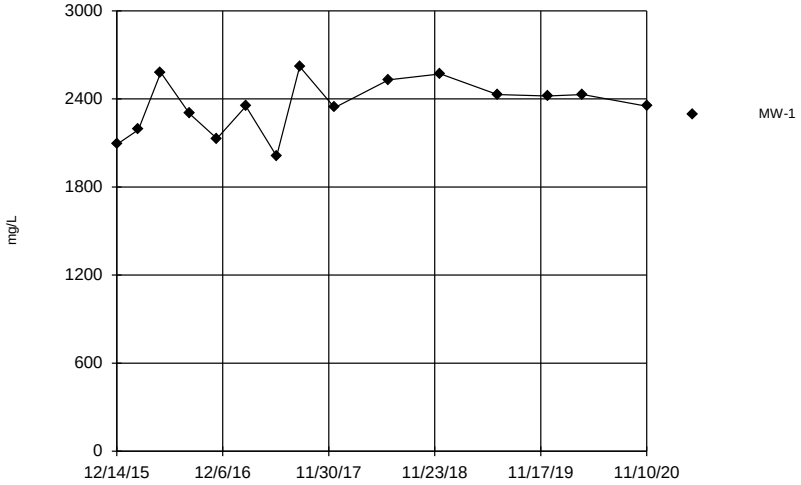
Time Series



Constituent: pH Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Time Series

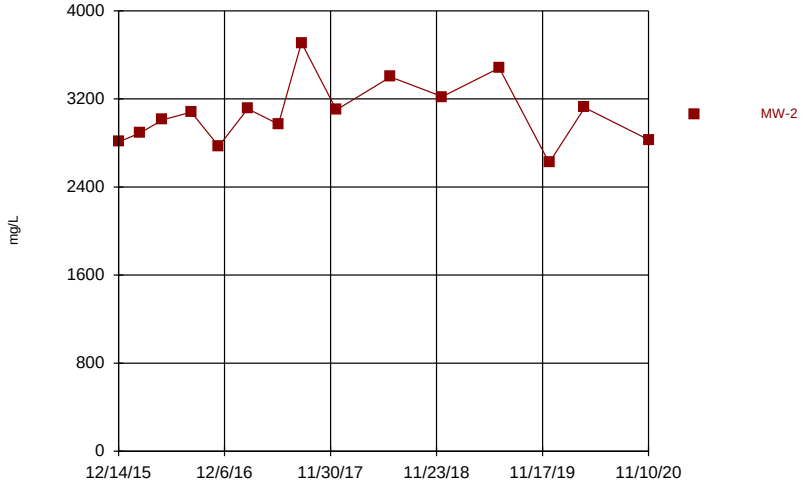


Constituent: Sulfate Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series



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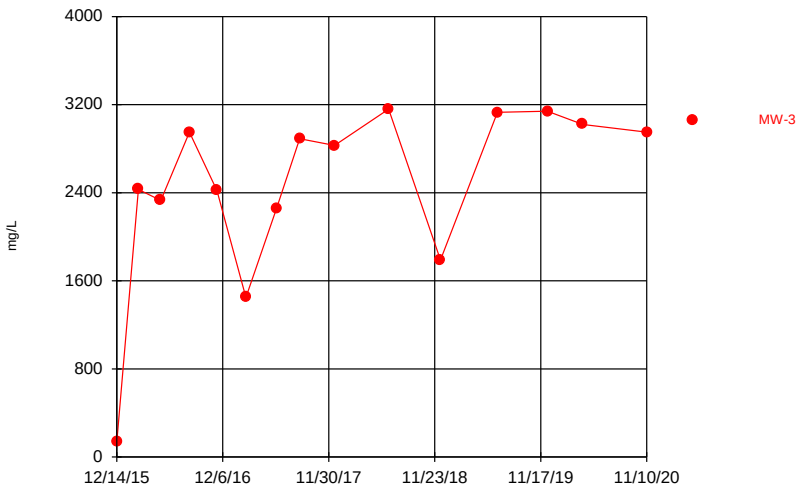
Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

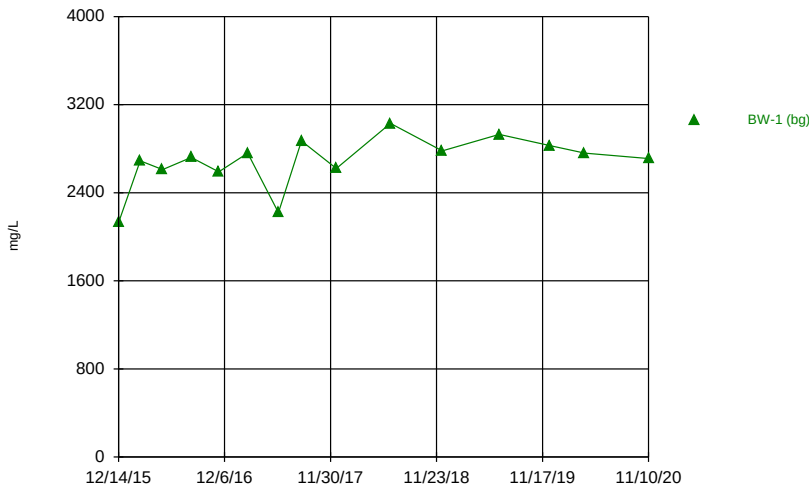


Constituent: Sulfate Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

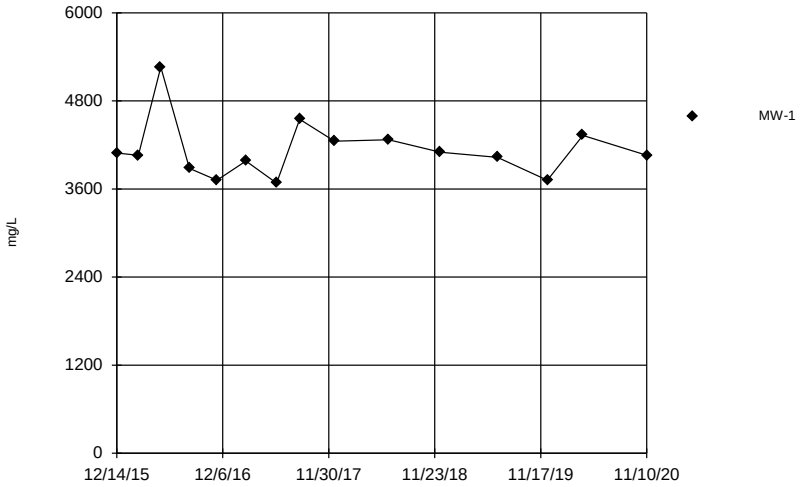
Time Series



Constituent: Sulfate Analysis Run 1/7/2021 1:15 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Time Series

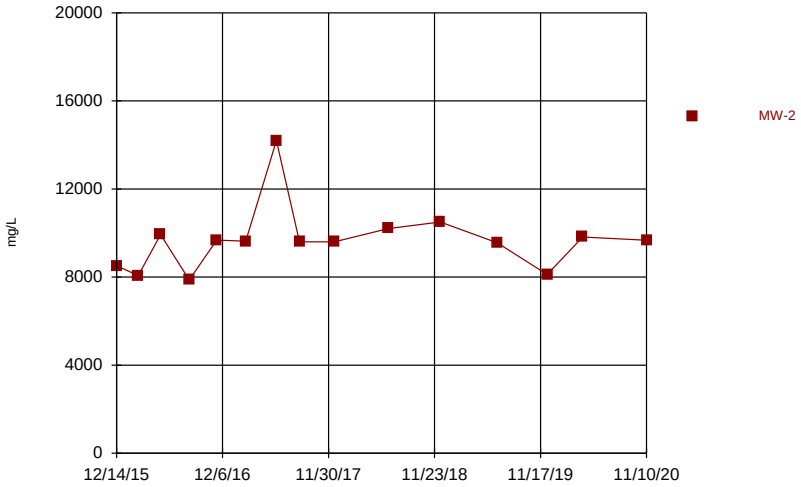


Constituent: Total Dissolved Solids Analysis Run 1/7/2021 1:16 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series

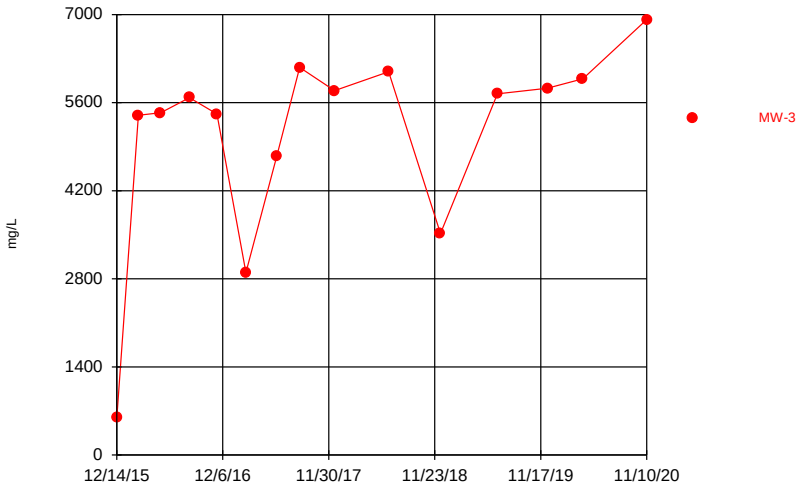


Constituent: Total Dissolved Solids Analysis Run 1/7/2021 1:16 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Sanitas™ v.9.6.27 Sanitas software licensed to SCS Engineers. EPA

Time Series



Constituent: Total Dissolved Solids Analysis Run 1/7/2021 1:16 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

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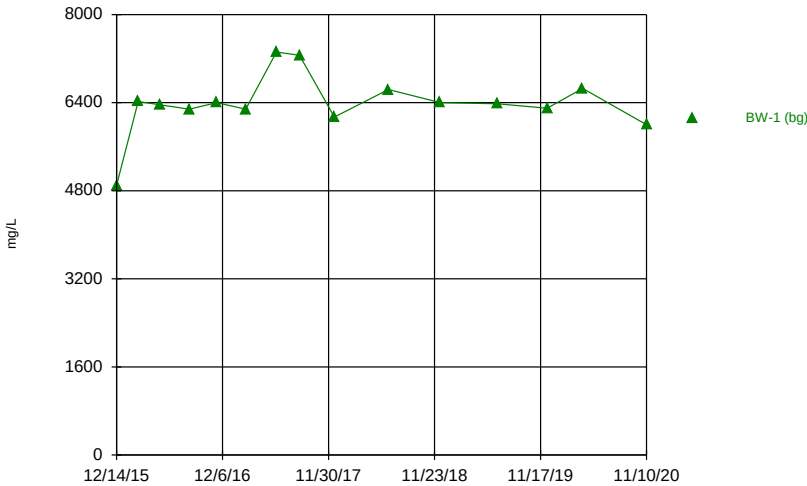
Time Series



Constituent: Total Dissolved Solids Analysis Run 1/7/2021 1:16 PM

Sandy Creek Energy Station Client: Sandy Creek Data: Sandy Creek GWdata (Sanitas)_11.10.2020

Appendix E
2020 Alternate Source Demonstrations

January 29, 2021
SCS Project 16220013.00

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

Subject: Alternate Source Demonstration for Boron and Chloride in MW-3
2020 Annual Groundwater Monitoring Report
Sandy Creek Energy Station
McLennan County, Texas

Dear Mr. Sparks:

SCS Engineers (SCS) is submitting this Alternate Source Demonstration (ASD) in accordance with the site Groundwater Sampling and Analysis Plan (GWSAP) for the Sandy Creek Energy Station (SCES) prepared by SCS, dated March 2, 2016, and Coal Combustion Residual Rule Title 40 Code of Federal Regulations (CFR) §257.94(e)(2). This ASD addresses the boron and chloride detections in groundwater monitoring well MW-3 during the November 2020 groundwater monitoring event. Boron was detected in MW-3 at 3.07 mg/L, above the statistical limit of 1.2 mg/L, and chloride was detected in MW-3 at 1160 mg/L, above the statistical limit of 606.9 mg/L. This ASD is being undertaken to demonstrate that the boron and chloride detections likely result from the natural variation in groundwater quality at the site, and are not indicative of impacts from the SCES landfill. In accordance with 40 CFR §257.94(e)(2), this ASD is being completed within 90 days of detecting an unconfirmed statistically significant increase (SSI) above background values.

Project Background

The CCR landfill is classified as an existing landfill as defined under §257.53, which was constructed and commenced operation prior to October 14, 2015. The landfill is currently comprised of two CCR disposal cells, Cells 1 and 2, which commenced receiving waste in early 2013 and October 2014, respectively. The approximate area of Cells 1 and 2 are 10.0 and 14.3 acres, respectively.

The primary wastes disposed in the landfill are 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 and the most recent version of the Operations Plan for the facility.

In accordance with 40 CFR §257 Appendix III and IV, the initial list of constituents for background monitoring at SCES included 18 inorganic compounds, total dissolved solids, radium-226, and radium-228. Currently, all monitoring wells are sampled and analyzed for 40 CFR §257 Appendix III constituents, in accordance with 40 CFR §257.94(a).

Naturally Occurring Boron in Texas Soils

The Texas Commission on Environmental Quality (TCEQ) Texas-Specific Soil Background Concentration (TSBC) for boron is 30 mg/kg (equivalent mg/L) in soil (see attached TCEQ TSBC guidance). Note that the naturally-occurring median boron concentration expected in Texas soils is much greater than the concentration that is the subject of this ASD, detected in groundwater on November 10, 2020. SCS recognizes that these numbers are not directly comparable, but it is reasonable to assume the multiple-orders-of-magnitude difference can be responsible for significant fluctuations in the small concentrations detected in water moving through these sediments.

Monitoring Well #3 Data Are Consistent with General Background

Consistent with the prevalence of boron in area soils (see attached TCEQ TSBC guidance) in concentrations sufficient to account for the levels in groundwater, monitoring of boron in the SCES background well (BW-1) finds concentrations of magnitude very similar to the levels observed in MW 3. Similarly, the November 2020 chloride concentration in MW-3 is generally similar to chloride concentrations in background well BW-1.

Table 1 – Boron and Chloride Concentrations (mg/L)
Comparison Between MW-3 (D) Present Concentrations vs. BW-1 (U) Highest Concentrations

Well ID	Sample Date	Boron Concentration (mg/L)
MW-3 (D)	11/10/2020	3.07
BW-1 (U)	5/11/2016	4.0
Well ID	**Sample Date**	**Chloride Concentration (mg/L)**
MW-3 (D)	11/10/2020	1160
BW-1 (U)	6/21/2018	1200

The data compiled in Table 1 demonstrate that these concentrations are not abnormal for the site, and in fact are consistent with background concentrations.

Concentration Trends

We also note that chloride and boron concentrations would experience a sustained increase over time if the landfill was impacting site groundwater. Time-series graphs prepared as a part of the 2020 Annual Groundwater Monitoring and Corrective Action Report do not show increasing trends. We also note that Total Dissolved Solids in this sampling period are somewhat higher than historical concentrations in the MW-3. This could account for higher boron and chloride concentrations.

Groundwater Travel Distance

Attribution of the levels in MW3 to leakage from the landfill would be inconsistent with the information available about calculated groundwater flow rate. The closest upgradient waste deposit relative to MW-3 is the southwest corner of Cell 1. The distance between these two locations is approximately 1,120 feet. As reported in the 2020 Annual Groundwater Monitoring and Corrective Action Report, the calculated site groundwater flow rate is 71 ft/yr. As stated previously in the Project Background, Cell 1 has received waste for seven years, starting in early 2013. The calculated Site groundwater travel distance over this seven-year period of time is approximately 497 feet. Comparing this groundwater travel distance (497 feet) to the distance between the upgradient southwest corner of Cell 1 and downgradient well MW-3 (1,120 feet) demonstrates that there would not have been sufficient time for any assumed landfill leakage to travel from waste to MW-3.

Conclusion

The detections of boron and chloride are most likely a naturally-derived component of the site geology, which can result in a natural variation in groundwater quality. 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 Jim Lawrence at (817) 358-6106 if you have comments or require additional information.

Sincerely,

STATE OF TEXAS
BRETT J. DeVRIES
128061
LICENSED
PROFESSIONAL ENGINEER

Asher Boudreaux
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Project Engineer
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James Lawrence, P.G.
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Attachments: TCEQ Texas-Specific Soil Background Concentrations Guidance

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1/29/2021

Texas-Specific Soil Background Concentrations milligrams per kilogram (mg/kg)[1]	
Metal	Median Background Concentration (mg/kg)
Aluminum	30,000
Antimony	1
Arsenic	5.9
Barium	300
Beryllium	1.5
Boron	30
Total Chromium	30
Cobalt	7
Copper	15
Fluoride	190
Iron	15,000
Lead	15
Manganese	300
Mercury	0.04
Nickel	10
Selenium	0.3
Strontium	100
Tin	0.9
Titanium	2,000
Thorium	9.3
Vanadium	50
Zinc	30

[1] Source: "Background Geochemistry of Some Rocks, Soils, Plants, and Vegetables in the Conterminous United States", by Jon J. Connor, Hansford T. Shacklette, et al., Geological Survey Professional Paper 574-F, US Geological Survey.