



2017 ANNUAL GW MONITORING REPORT

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

BYPRODUCT STORAGE AREA B

ST. JOHNS RIVER POWER PARK

JACKSONVILLE, FLORIDA

Prepared for: JEA/SJRPP

Submitted to: JEA
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January 30, 2018

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January 30, 2018

Mr. Matthew R. McClure, PE, Environmental Services
JEA
21 West Church Street
Jacksonville, FL 32202

**RE: 2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
BYPRODUCT STORAGE AREA B
ST. JOHNS RIVER POWER PARK
JACKSONVILLE, FLORIDA**

Dear Mr. McClure:

Golder Associates Inc. (Golder) is providing JEA with this 2017 Annual Groundwater Monitoring and Corrective Action Report for Byproduct Storage Area B at the St. Johns River Power Park in Jacksonville, Florida. Pursuant to the Coal Combustion Residual (CCR) Rule¹, this Annual Report documents the activities performed to establish the coal combustion residual (CCR) groundwater monitoring program and actions through the 2017 calendar year as required by §257.90(e).

Golder appreciates the opportunity to assist JEA with this project. Should you have any questions or need any additional information, please do not hesitate to contact us.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in blue ink, appearing to read 'Sam F. Stafford'.

Samuel F. Stafford, PE
Senior Project Engineer

A handwritten signature in blue ink, appearing to read 'Gregory M. Powell'.

Gregory M. Powell, PhD, PE
Practice Leader and Principal

¹ 40 Code of Federal Regulations Part 257 (40 CFR 257), Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, Published in Federal Register/ Vol 80, No. 74, April 17, 2015.





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1.0 INTRODUCTION

Pursuant to the Coal Combustion Residual (CCR) Rule², this Annual Groundwater Monitoring and Corrective Action report has been prepared for the Byproduct Storage Area B (Area B) at the St. Johns River Power Park (SJRPP) on behalf of JEA. This Annual Report has been prepared to meet the requirements of §257.90(e).

1.1 Site Information and Background

The SJRPP facility is located at 11201 New Berlin Road in Jacksonville, Florida. A site location map is provided as **Figure 1**. SJRPP consists of two coal fired steam-electric generation units and associated facilities and is slated for decommissioning in 2018. The primary CCRs generated at SJRPP include fly ash, bottom ash, and synthetic gypsum, a flue gas desulfurization product. Phase I of Area B encompasses approximately 30 acres in the northeast portion of the SJRPP. Area B Phase I is an active unlined landfill cell receiving residual CCR that are not sold for off-site beneficial use.

1.2 Site Hydrogeology

The main hydrogeologic units at Area B are an unconfined surficial aquifer system and the Floridan aquifer system (Golder, 2007 and Geosyntec, 2013). The surficial aquifer system, which is the uppermost water-bearing unit at Area B, is subdivided into three zones: 1) upper, 2) intermediate, and 3) deep zones. The underlying Hawthorn Group (generally encountered at about 98 to 106 feet below ground surface at Area B) consists of low-permeability sediments (i.e., silty clays, clayey silts, and sandy clays) that are confining units for the deeper Floridan aquifer. The upper zone of the surficial aquifer is the most transmissive zone of the surficial aquifer (Golder, 2007). The prevailing directions of groundwater flow in the upper zone of the surficial aquifer are generally from the northwest to east with southeastern components of flow. The groundwater flow velocity is approximately 17 feet/year. The average hydraulic conductivity, of the upper zone of the surficial aquifer, determined from slug tests of monitoring wells, is approximately 5 feet/day.

1.3 CCR Groundwater Monitoring Network

The CCR Rule requires an owner or operator of a CCR unit to install a groundwater monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer (§257.91). The CCR groundwater monitoring network for the Area B at SJRPP consists of three background monitoring wells (CCR-1, CCR-2, and CCR-3) and four downgradient monitoring wells (CCR-4, CCR-5, CCR-6 and CCR-7). Background and downgradient monitoring wells have been installed with screen intervals in the upper zone of the surficial aquifer (total depth of approximately 20 feet below ground surface). The background wells (CCR-1, CCR-2 and CCR-3)

² 40 Code of Federal Regulations Part 257 (40 CFR 257), Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, Published in Federal Register / Vol. 80, No. 74, April 17, 2015.



are located such that they represent background groundwater quality that has not been affected by a CCR unit and represent groundwater quality in the same zone as the downgradient monitoring wells. Downgradient monitoring wells (CCR-4 through CCR-7) have been installed as close as practical to the waste boundary to accurately represent the quality of groundwater passing the waste boundary. The monitoring wells have been encased in a manner that maintains the integrity of the monitoring well borehole. CCR groundwater monitoring well locations (CCR-1 through CCR-7) are shown on **Figure 2** and monitoring well construction data are provided in **Table 1**.



2.0 CCR GROUNDWATER MONITORING ACTIVITIES

Pursuant to §257.90(e), the following sections describe the groundwater monitoring activities performed during the preceding calendar year. As this is the initial annual groundwater report, the following sections also describe groundwater monitoring related activities prior to 2017 related to the CCR groundwater monitoring program at Area B.

2.1 Monitoring Well Installation and Decommissioning

The monitoring wells that comprise the CCR groundwater monitoring well network (CCR-1, CCR-2, CCR-3, CCR-4, CCR-5, CCR-6, and CCR-7) were installed in October 2015 (Golder, 2016). Following installation, the monitoring wells were fitted with dedicated sampling equipment.

Monitoring well CCR-4 has exhibited turbidity issues even after numerous attempts to redevelop the well. In February 2017, replacement well CCR-4R was installed with a smaller screen slot size (0.006-inch) and finer sand filter pack adjacent to CCR-4. Replacement well CCR-4R was sampled three times in the background period and exhibited similar turbidity issues as CCR-4. The analytical results from CCR-4 and CCR-4R did not differ significantly, and the field filtered results from CCR-4R were consistent with unfiltered results; therefore, CCR-4R was abandoned on October 4, 2017.

2.2 Groundwater Sampling Activities

The groundwater sampling activities related to the CCR groundwater monitoring program for Area B that occurred during 2017 and preceding years are described in the sections below.

2.2.1 Background Monitoring

Background monitoring (the collection of a minimum of eight independent samples prior to October 2017) began in November 2015 and was completed in June 2017. During that time, groundwater samples were collected on a bimonthly basis (once every two months) and analyzed for Appendix III and Appendix IV constituents pursuant to §257.94(b). During the background sampling events, background and downgradient wells were sampled in accordance with the procedures presented in the Groundwater Sampling Methodology and Analytical Procedures Technical Memorandum (Golder, 2015). Samples collected during the background events were analyzed by the NELAP certified JEA Springfield Laboratory in Jacksonville, Florida. Background laboratory analytical data is summarized in Tables A-1 to A-11 and included in **Appendix A**. A summary of the background sampling events is presented in the table below:

Monitoring Event	Sample Date
Background Event #1	11/30/2015
Background Event #2	1/21/2016
Background Event #3	2/25/2016
Background Event #4	3/23/2016



Background Event #5	5/25/2016
Background Event #6	7/27/2016
Background Event #7	9/20/2016
Background Event #8	11/8/2016
Background Event #9	2/21/2017
Background Event #10	4/18/2017
Background Event #11	6/22/2017

2.2.2 Detection Monitoring

The initial detection monitoring samples were collected by SJRPP personnel on October 11, 2017. All seven CCR groundwater monitoring wells were sampled and analyzed for Appendix III parameters. Verification samples were collected by SJRPP personnel on December 13-14, 2017 from monitoring wells CCR-4, CCR-5, CCR-6, and CCR-7. Detection monitoring laboratory analytical data is summarized in Tables A-12 and A-13 and included in **Appendix A**.

2.3 Groundwater Sampling Methodology

CCR groundwater sampling at Area B was performed in accordance with §257.93(a). The monitoring wells were purged and sampled using low-flow sampling techniques. Prior to purging, the depth to water level was measured for each well using an electronic water level indicator. The monitoring wells were purged and sampled using dedicated low-flow pneumatic bladder pumps. Calibrated water quality meters were used to monitor field stabilization parameters including, pH specific conductance, temperature, dissolved oxygen, oxygen reduction potential and turbidity. After the water quality parameters stabilized, groundwater samples were collected and placed into iced coolers under chain-of-custody control pending delivery to the laboratory.

Groundwater samples were collected for both Appendix III and Appendix IV parameters during the background monitoring period (November 2015 to June 2017). Groundwater samples collected for detection monitoring were required to be analyzed for Appendix III parameters only. Following sample collection, the samples were delivered to the JEA Springfield laboratory for analysis. The JEA laboratory sent samples to Pace Analytical Services, LLC for analysis of chloride, fluoride, lithium, radium-226 and radium-228.



3.0 CCR GROUNDWATER DATA EVALUATION

3.1 Groundwater Flow Rate and Direction

Groundwater elevation measurements were recorded for the CCR groundwater monitoring network during each sampling event at Area B. A summary of the groundwater elevations recorded for the background and detection monitoring events is provided in **Table 2**. Groundwater elevation data was used to develop a potentiometric surface map for the initial detection monitoring event in October 2017 (**Figure 3**). The hydraulic gradient (direction and magnitude) for each sampling event was calculated using the least-squares method of fitting the data to a plane. The average hydraulic gradient was 0.0018 feet per feet with an average eastward direction. A summary of the hydraulic gradients for each sampling event is provided in **Table 2**.

3.2 Statistical Analysis

Statistical analysis of the Appendix III groundwater monitoring data is described in the sections below. A statistical analysis of Appendix IV data has not been performed since the facility is still in the detection monitoring program.

3.2.1 Background Statistical Analysis

Appendix III groundwater quality data was evaluated using the interwell prediction limit approach with retesting as outlined in the Statistical Analysis Plan (Golder, 2017). The initial presumption under detection monitoring is that the facility is not contributing a release to groundwater, unless the data demonstrates otherwise (USEPA, 2009). Therefore, the downgradient groundwater quality is initially assumed to be equivalent to, or no worse than, background groundwater quality (i.e. null hypothesis). If the background groundwater data for a particular constituent could not be pooled, the background monitoring well that predicted the highest limit (or lowest limit for pH) was selected to establish the prediction limit for that constituent. Data from detection monitoring events were compared to the prediction limits to determine if statistically significant increases over background levels had occurred. Golder also performed the data evaluation outlined in the Statistical Analysis Plan to process non-detect data, evaluate outliers, trend evaluation, and normality evaluation. Appendix III background sampling results from the background monitoring wells is shown in **Table 2**. Statistical analysis worksheets are provided in **Appendix B**.

3.2.1.1 Boron

The prediction limit for boron was established based on the groundwater data from the background wells (CCR-1, CCR-2, and CCR-3). Background boron results from these background wells did not exhibit significant spatial variability and were therefore pooled to calculate the prediction limit. There was one outlier identified in the dataset, however; there was no further justification for its removal from the dataset and the data fit a lognormal distribution. Therefore, the outlier was not removed from the dataset. The data evaluation summary for and calculated background concentration limit for boron is shown below:



Background Basis:	CCR-1, CCR-2, & CCR-3
Non-Detect Percentage:	0%
Outlier:	Yes, 667.75 micrograms per liter (µg/L)
Distribution:	Lognormal
Mean (log-mean):	122.9 µg/L (4.503)
Standard Deviation (log-standard deviation):	118.5 µg/L (0.800)
k (w=4, n=33)	1.86
Upper Prediction Limit:	400 µg/L

3.2.1.2 Calcium

The prediction limit for calcium was established based on the pooled groundwater data from the background wells (CCR-1, CCR-2, and CCR-3). Background calcium results from these background wells did not exhibit significant spatial variability and were therefore pooled to calculate the prediction limit. There was one upper outlier identified in the dataset; however, there was no further justification for its removal from the dataset and the data fit a lognormal distribution. Therefore, the outlier was not removed from the dataset. The calcium data evaluation summary and calculated background concentration limit for calcium is shown below:

Background Basis:	CCR-1, CCR-2, & CCR-3
Non-Detect Percentage:	0%
Outlier:	Yes, 14632 µg/L
Distribution:	Lognormal
Mean (log-mean):	3866 µg/L (8.158)
Standard Deviation (log-standard deviation):	2254 µg/L (0.424)
k (w=4, n=33)	1.86
Upper Prediction Limit:	7681 µg/L

3.2.1.3 Chloride

The prediction limit for chloride was established based on the groundwater data from CCR-1. Background chloride results from CCR-1, CCR-2, and CCR-3 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. The chloride data evaluation summary for CCR-1 and calculated background concentration limit for chloride is shown below:

Background Basis:	CCR-1
Non-Detect Percentage:	0%
Trend:	Yes, Negative
Outlier:	No
Distribution:	Normal
Mean:	25.6 milligrams per liter (mg/L)
Standard Deviation:	4.0 mg/L
k (w=4, n=11)	2.26
Upper Prediction Limit:	34.7 mg/L



3.2.1.4 Fluoride

The prediction limit for boron was established based on the pooled groundwater data from the background wells (CCR-1, CCR-2, and CCR-3). Background fluoride results from the background wells did not exhibit significant spatial variability and were therefore pooled to calculate the prediction limit. There was one upper outlier identified in the dataset, however, there was no further justification for its removal from the dataset and the data fit a lognormal distribution. Therefore, the outlier was not removed from the dataset. The fluoride data evaluation summary and calculated background concentration limit for fluoride is shown below:

Background Basis:	CCR-1, CCR-2, & CCR-3
Non-Detect Percentage:	0%
Outlier:	Yes, 0.041 mg/L (I value)
Distribution:	Lognormal
Mean (log-mean):	0.062 mg/L (-2.798)
Standard Deviation (log-standard deviation):	0.02 mg/L (0.215)
k (w=4, n=33)	1.86
Upper Prediction Limit:	0.09 mg/L

3.2.1.5 pH

The prediction limits for pH were based on the groundwater data from CCR-1 (upper prediction limit) and CCR-3 (lower prediction limit). Background pH results from CCR-1, CCR-2, and CCR-3 exhibited significant spatial variability and were therefore unable to be pooled into a single dataset. The pH data evaluation summary for CCR-2 and calculated background concentration limit for chloride is shown below:

Background Basis:	CCR-1	CCR-3
Non-Detect Percentage:	0%	0%
Outlier:	Yes, 4.60	No
Trend:	No	No
Distribution:	Normal	Normal
Mean:	4.95 S.U.	4.41 S.U.
Standard Deviation:	0.13 S.U.	0.12 S.U.
k (w=4, n=11)	2.26	2.26
Lower Prediction Limit	--	4.14 S.U.
Upper Prediction Limit:	5.26 S.U.	--

Notes: S.U. – Standard Units

3.2.1.6 Sulfate

The prediction limit for sulfate was established based on the groundwater data from CCR-2 and CCR-3. The background sulfate results from CCR-1 contained a significant number of non-detects, and the data from CCR-2 and CCR-3 did not exhibit significant spatial variability. The distribution for the pooled dataset from CCR-2 and CCR-3 was approximately lognormal. The sulfate data evaluation summary and background concentration limit for sulfate are shown in the table below:



Background Basis:	CCR-2 + CCR-3
Non-Detect Percentage:	0%
Outlier:	No
Distribution:	Lognormal
Mean (log-mean):	36.5 mg/L (3.543)
Standard Deviation (log-standard deviation):	13.1 mg/L (0.328)
k (w=4, n=22)	1.95
Upper Prediction Limit:	65.6 mg/L

3.2.1.7 Total Dissolved Solids

The prediction limit for total dissolved solids was established based on the groundwater data from the background wells (CCR-1, CCR-2, and CCR-3). Total dissolved solids results from these background wells did not exhibit significant spatial variability and were therefore pooled to calculate the prediction limit. There was one upper outlier identified in the dataset, however; there was no further justification for its removal from the dataset and the data fit a lognormal distribution. Therefore, the outlier was not removed from the dataset. The total dissolved solids data evaluation summary and background concentration limits for total dissolved solids are shown in the table below:

Background Basis:	CCR-1, CCR-2, CCR-3
Non-Detect Percentage:	0%
Outlier:	Yes, 320 mg/L
Distribution:	Lognormal
Mean (log-mean):	118 mg/L (4.720)
Standard Deviation (log-standard deviation):	44.6 mg/L (0.296)
k (w=4, n=33)	1.86
Upper Prediction Limit:	195 mg/L

3.2.2 Initial Detection Monitoring Statistical Analysis

The purpose of the detection monitoring program is to determine if there is a SSI relative to background concentrations of any Appendix III parameter at any downgradient monitoring well. SJRPP collected the initial detection monitoring samples on October 11, 2017. The results of the initial detection monitoring event are shown in **Table 3**. Golder reviewed the results of the initial detection monitoring event and identified potential SSIs for the following wells and parameters:

- CCR-4: Boron, Calcium, Chloride, Fluoride, Sulfate, Total Dissolved Solids
- CCR-5: Boron, Calcium, Chloride, Fluoride, Sulfate, Total Dissolved Solids
- CCR-6: Boron, Calcium, Chloride, Sulfate, Total Dissolved Solids
- CCR-7: Boron, Calcium, Chloride, Fluoride, Sulfate, Total Dissolved Solids

If the initial groundwater result exceeds the established background concentration (i.e. prediction limit), verification sampling is warranted. Verification sampling was performed on December 13-14, 2017. The results of the verification sampling are shown in **Table 3**. Pursuant to the Statistical Analysis Plan, if a



verification sample result exceeds the prediction limit, an SSI is confirmed. The SSI evaluation is summarized in the table below:

Constituent	Background Limit	Monitoring Wells – Verified SSIs
Boron	400 µg/L	CCR-4, CCR-5, CCR-6, CCR-7
Calcium	7681 µg/L	CCR-4, CCR-5, CCR-6, CCR-7
Chloride	34.7 mg/L	CCR-4, CCR-5, CCR-6, CCR-7
Fluoride	0.09 mg/L	CCR-4, CCR-5
pH	4.14 / 5.26 S.U.	none
Sulfate	65.6 mg/L	CCR-4, CCR-6, CCR-7
Total Dissolved Solids	195 mg/L	CCR-4, CCR-5, CCR-6, CCR-7



4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the evaluations presented herein, Golder recommends conducting an alternate source demonstration or transitioning to assessment monitoring in accordance with §257.94(e). Based on the SSI determination date of January 15, 2018, initiation of assessment monitoring would be required no later than April 15, 2018 and notification that an assessment monitoring program has been established would be required no later than May 15, 2018.



5.0 REFERENCES

- Geosyntec Consultants. 2013. Industrial Wastewater and Solid Waste Groundwater Monitoring Plans, Revision 4, St. Johns River Power Park, Jacksonville Florida, dated June 2013.
- Golder. 2015. Technical Memorandum, Groundwater Sampling Methodology and Analytical Procedures, CCR Groundwater Monitoring Plan, Byproduct Storage Area B, St. Johns River Power Park, dated December 14, 2015.
- Golder. 2016. Monitoring Well Installation Report, CCR Rule Compliance Support, Byproduct Storage Area B – Phase I, St. Johns River Power Park, Jacksonville, Florida, dated February 4, 2016.
- Golder. 2017b. CCR Groundwater Monitoring Network Certification, Byproduct Storage Area B, Phase I Development, St. Johns River Power Park, Jacksonville, Florida, dated October 13, 2017.
- Golder. 2017b. Statistical Analysis Plan, CCR Groundwater Monitoring, St. Johns River Power Park, Jacksonville, Florida, dated October 2017.
- JEA. 2007. JEA SJRPP Byproduct Storage Area B, dated April 19, 2007. [This document includes as an attachment a report prepared by Golder in April 2007, Hydrogeologic and Geotechnical Site Evaluation, St. Johns River Power Park Area B By-product Storage Area, Duval County, Florida (Golder 2007)]
- USEPA, 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. EPA 350/R-09-007, dated March 2009.

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TABLES

TABLE 1
SUMMARY OF CCR MONITORING WELL CONSTRUCTION DETAILS

Byproduct Storage Area B - St. Johns River Power Park

Well ID	Date Installed	Northing (ft NAD83)	Easting (ft NAD83)	Ground Surface Elevation (ft NAVD88)	TOC Elevation (ft NAVD88)	Stick-up Height (feet)	Well Depth (ft bgs)	Screen Interval Depth (ft bgs)
CCR-1	10/20/2015	2221016.34	485450.08	13.37	16.58	3.2	19.79	9.79-19.79
CCR-2	10/20/2015	2222219.71	485292.98	14.45	18.06	3.6	19.49	9.49-19.49
CCR-3	10/20/2015	2222897.83	485087.81	14.22	17.74	3.5	19.78	9.78-19.78
CCR-4	10/21/2015	2221065.31	486365.39	17.87	20.73	2.9	20.84	10.84-20.84
CCR-5	10/21/2015	2221064.27	486865.44	15.44	18.29	2.9	20.35	10.35-20.35
CCR-6	10/21/2015	2221455.96	487055.81	13.07	16.07	3.0	20.10	10.1-20.1
CCR-7	10/22/2015	2221887.42	487053.83	12.44	15.72	3.3	20.12	10.12-20.12
Notes: TOC - Top of Casing ft bgs - feet below ground surface ft TOC - feet below top of casing NAD83 - Horizontal Control: North American Datum, State Plan Coordinate System Florida, East Zone NAVD88 - Vertical Control: North American Vertical Datum of 1988								

TABLE 2
SUMMARY OF GROUNDWATER ELEVATION MEASUREMENTS

Byproduct Storage Area B - St. Johns River Power Park

Well ID	Groundwater Elevation (ft NAVD88)										
	11/30/2015	1/21/2016	2/23/2016	3/23/2016	5/25/2016	7/27/2016	9/20/2016	11/8/2016	4/18/2017	6/22/2017	10/11/2017
CCR-1	11.9	11.5	11.7	10.9	11.1	9.1	7.7	11.3	9.9	11.4	11.9
CCR-2	13.4	12.2	12.4	11.8	11.5	9.8	6.3	12.2	10.5	11.6	13.0
CCR-3	12.7	12.3	12.4	11.4	11.7	9.5	6.6	12.1	10.2	11.9	12.8
CCR-4	11.9	11.1	11.4	10.4	10.4	8.5	2.6	10.5	9.1	10.9	12.0
CCR-5	9.6	9.2	9.5	8.6	8.5	6.6	4.2	8.6	7.2	9.5	9.8
CCR-6	9.2	8.7	8.9	8.2	8.0	6.4	5.9	8.3	6.8	8.1	9.2
CCR-7	9.3	8.8	8.9	8.2	8.2	6.5	6.8	8.8	7.0	8.4	9.3
Hydraulic Gradient (ft/ft)	1.94E-03	1.85E-03	1.87E-03	1.83E-03	1.93E-03	1.77E-03	8.66E-04	1.87E-03	1.94E-03	1.95E-03	1.87E-03
Flow Direction (degrees from N)	85.41	84.75	81.86	82.90	83.12	83.41	148.58	90.89	81.66	76.27	83.74
Coefficient of Determination	0.87	0.93	0.92	0.93	0.95	0.94	0.21	0.95	0.95	0.92	0.88

Notes:

Hydraulic Gradient calculated using the least squares method of fitting data to a plane

ft/ft = feet per foot

degrees from N = degrees from north in clockwise direction

NAVD88 - Vertical Control: North American Vertical Datum of 1988

TABLE 3
APPENDIX III BACKGROUND SAMPLING RESULTS
BACKGROUND MONITORING WELLS

Byproduct Storage Area B - St. Johns River Power Park

Monitoring Well	Sampling Date	Boron ug/L	Calcium ug/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	Total Dissolved Solids mg/L
CCR-1	11/30/2015	18.3	3063.4	31.6	0.056	5	2.5 U	106
	1/21/2016	26.7	3019	29.2	0.076	5.06	2.5 U	121
	2/23/2016	20.6	2800.1	29.5	0.057	4.95	2.5 U	120
	3/23/2016	18.3	2811	29.6	0.054	5.1	2.5 U	164
	5/25/2016	108.52	2812.9	25.4	0.054	4.89	6.3	94
	7/27/2016	43.8 I	2630	25.7	0.053	4.91	2.5 U	76
	9/20/2016	124	4220	22.6	0.067	4.91	27.3	126
	11/8/2016	35.2	2213.2	24.6	0.069	5.04	2.5 U	80
	2/22/2017	48.3	2243	22.6	0.065	4.99	2.8 I	79
	4/18/2017	57	2413.1	22.4	0.067	5.02	3.6 I	93
	6/22/2017	667.75	14632	18.3	0.14	4.6	169	320
CCR-2	11/30/2015	83.5	3684.2	22	0.052	5.04	23.7	137
	1/21/2016	88.5	2251.6	20.2	0.058	4.91	24.9	134
	2/23/2016	86.9	2067.7	21.3	0.051	4.79	25.4	141
	3/23/2016	89.7	2118	21.4	0.045 I	4.81	26.2	100
	5/25/2016	121.22	2193.8	21	0.05	4.59	26.4	107
	7/27/2016	151	1870	19.7	0.051	4.74	24.3	98
	9/20/2016	183	2660	19	0.066	4.47	28	113
	11/8/2016	193.98	2402.6	19.2	0.069	4.68	37.4	122
	2/22/2017	260.15	4020	17.5	0.065	4.7	61.9	143
	4/18/2017	274.5	4713.8	16.7	0.071	4.82	64.7	151
	6/22/2017	258.73	4414.5	16.6	0.078	4.59	61.7	148
CCR-3	11/30/2015	85.3	4139.9	11.7	0.053	4.45	31.8	87
	1/21/2016	78.3	4651.8	10.6	0.056	4.45	24.3	88
	2/23/2016	83.9	4440.7	11.8	0.053	4.36	30.7	118
	3/23/2016	105.08	4062	13.7	0.062	4.55	45.2	164
	5/25/2016	99.9	4552.4	12.3	0.059	4.47	35.5	81
	7/27/2016	146	4260	13.4	0.074	4.25	51.1	108
	9/20/2016	89.6	4740	11.2	0.067	4.53	34	88
	11/8/2016	122.38	5130.4	11.6	0.072	4.44	42.5	92
	2/22/2017	131.15	5773.1	11.1	0.06	4.23	43.5	109
	4/18/2017	92.6	5914.4	10.1	0.051	4.5	32.5	78
	6/22/2017	60.8	4656.5	10	0.041 I	4.25	27.5	90
Notes: ug/L - micrograms per liter mg/L - milligrams per liter SU - Standard Units U - Result less than the method detection limit I - Reported value is between the method detection limit and practical quantification limit								

TABLE 4
DETECTION MONITORING ANALYTICAL RESULTS

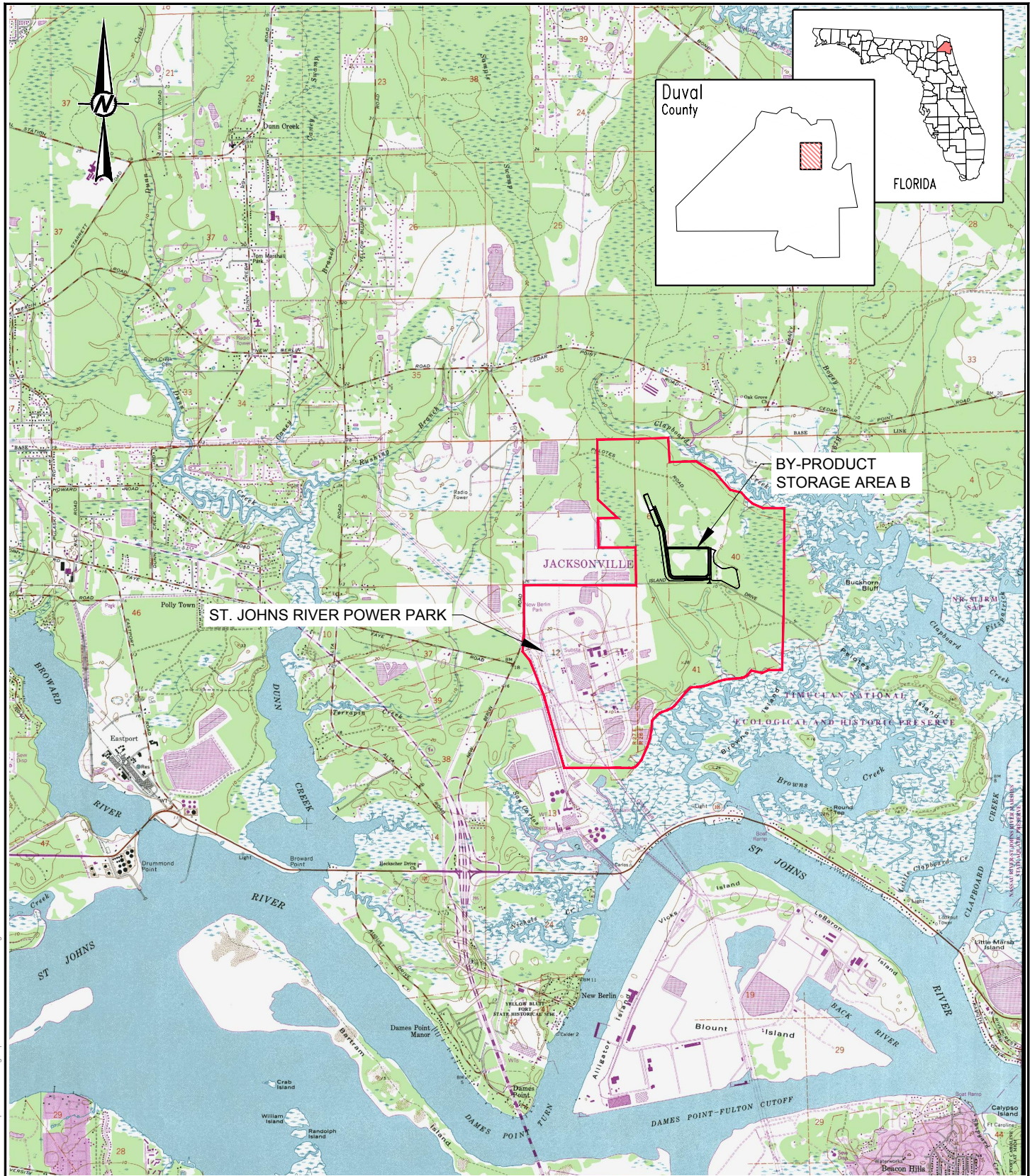
Byproduct Storage Area B - St. Johns River Power Park

Monitoring Well	Sampling Date	Boron ug/L	Calcium ug/L	Chloride mg/L	Fluoride mg/L	pH SU	Sulfate mg/L	Total Dissolved Solids mg/L
CCR-1	10/11/2017	89.9	2659.6	22.0	0.063	4.71	10.2	90
CCR-2	10/11/2017	399.66	6245.2	17.5	0.089	4.26	86.0	193
CCR-3	10/11/2017	86.0	5591.8	8.1	0.053	4.05	31.1	78
CCR-4	10/11/2017	22143	399300	77.4	0.51	5.15	1290	2412
	12/13/2017	21452	420710	65.8	0.40	--	1320	2240
CCR-5	10/11/2017	2316.6	18947	189	0.11	4.29	98.3	490
	12/13/2017	2075.7	15387	178	0.12	--	49.6	426
CCR-6	10/11/2017	25155	287730	122	0.17 U	4.73	1690	2753
	12/14/2017	24132	290760	111	--	--	1700	2646
CCR-7	10/11/2017	17099	134130	145	0.10	4.25	1150	2022
	12/14/2017	19904	154870	135	0.17 U	--	1350	2196

Notes:

- ug/L - micrograms per liter
- mg/L - milligrams per liter
- SU - Standard Units
- U - Result less than the method detection limit
- I - Reported value is between the method detection limit and practical quantification limit

FIGURES



REFERENCE(S)

- 1.) USGS TOPOGRAPHIC MAP, 7.5 MIN. QUADRANGLE MAP SERIES:
EASTPORT QUADRANGLE, DUVAL COUNTY, FLORIDA.

CLIENT

HOPPING GREEN & SAMS

CONSULTANT



YYYY-MM-DD 2018-01-22

DESIGNED SFS

PREPARED BCL

REVIEWED SFS

APPROVED GMP

PROJECT

ST. JOHNS RIVER POWER PARK - CCR SUPPORT
JACKSONVILLE, DUVAL COUNTY, FLORIDA

TITLE

SITE LOCATION MAP

PROJECT NO.
15-26356.2

Phase
1526356-N001

REV.

FIGURE

1

0 2500 5000
SCALE FEET

APPENDIX A
LABORATORY ANALYTICAL RESULTS

TABLE A-1 - NOVEMBER 2015 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-2 - JANUARY 2016 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-3 - FEBRUARY 2016 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-5 - MAY 2016 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-6 - JULY 2016 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-7 - SEPTEMBER 2016 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-9 - FEBRUARY 2017 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-10 - APRIL 2017 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

TABLE A-11 - JUNE 2017 BACKGROUND SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]



Laboratory Services
1002 Main Street North
Jacksonville, FL 32202
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT: #E52459

2015 DEC 1 AM 8 57

CHAIN OF CUSTODY RECORD

page 1 of 2

4 SB
12/1/15

152572

For Lab Use Only

Project Number:

Entered by: SB

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Temp. of Contents: 1 deg. C received under ice (Y) N

1 Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

phone: 904-665-7886

SJRPP

2. Site Name

Groundwater CCR wells RFEA 304

10. Analyses Requested

11. Turnaround Time (circle)

Standard Rush: 1/1

Matrix Codes (for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
AR = Air

Preservative Codes (for item 8)

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

8. Preservative

9. Container Type

Container Codes (for item 9)

V = VOA vial
G = Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

Sb, As, Ba, Be, Bi, Cd, Co, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Tl, U, V, Zn

TDS

Ap-Info

Field Cond

12. Laboratory Section (circle)

Springfield X Fuels
Contract:

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	15-432-CCR1	11/30/15	0903		X	GW		1	1	1	1	150							
2	15-433-CCR1FD	11/30/15	0925		X	GW		1	1	1	1	150							
3	15-434-CCR2	11/30/15	0959		X	GW		1	1	1	1	182							
4	15-435-CCR3	11/30/15	1028		X	GW		1	1	1	1	146							
5	15-436-CCR4	11/30/15	1107		X	GW		1	1	1	1	2776							
6	15-437-CCR5	11/30/15	1209		X	GW		1	1	1	1	1919							
7	15-438-CCR6	11/30/15	1323		X	GW		1	1	1	1	4021							

14. Sampled By & Title (Signature)

15. Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

Signature: [Signature] chemical specialist

1-7

See Above

Sampled By & Title (Signature)

Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 [Signature]

12/1/15 0857

SB

12/1/15 0857

Hand delivered [check]

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32202
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

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CHAIN OF CUSTODY RECORD

page 2 of 24

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Project Number:

Entered by: SB

Scanned by:

Temp. of Contents: 1 deg. C received under ice N

1. Client

SSRPP

Address:

1120 New Berlin Rd
Jacksonville FL 32226

phone: 904-665-7886

152574

2 SB 12/1/15

2. Site Name

Groundwater CCR wells REA 304

10. Analyses Requested

8. Preservative

9. Container Type

Container Codes (for item 9)

V = VOA vial
G = Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

N

N

C

N

P

P

TDS

pp-Info

Field Cond.

11. Turnaround Time (circle)

Standard Rush: 1/1/

12. Laboratory Section (circle)

Springfield X Fuels Contract:

7. Container Num/Letter/Lot

13. Lims ID

Matrix Codes (for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
AR = Air

Preservative Codes (for item 8)

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

F = Filtered
OT = Other

3 4 5 6

No Sample Desc or Field ID Date Time Comp Grab Matrix Let

1 15-439-CCR7 11/30/15 1358 X aw 1 1 1 1 1645

2 15-440-FBI 11/30/15 1123 X aw 1 1 1 1 1645

3

4

5

6

7

14. Sampled By & Title (Signature)

15. Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

Sampled By & Title (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 12/1/15 0857

SB

12/1/15 0857

Hand delivered

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32202
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Fax (904) 665-8343

Laboratory Time Stamp

FL CERT: #E52459

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CHAIN OF CUSTODY RECORD

page ³ of ⁴ ^{SB} 12/1/15

15257 ² ^{SB} 12/1/15

For Lab Use Only

Project Number: _____

Entered by: SB

Scanned by: _____

Temp. of Contents: 1 deg. C received under ice ☒ Y ☐ N

1. Client

Address: 11201 New Berlin Rd
Jacksonville FL 32226

phone: 904-665-7886

SSRPP

2. Site Name

Groundwater Wells CCR RFEA 304

10. Analyses Requested

11. Turnaround Time (circle)

Standard ☒ Rush: 1/1/1

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
AR = Air

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

CONTAINER
Chloride, Fluoride
Sulfate
Lithium
Radium 226/228

12. Laboratory Section (circle)

Springfield _____ Fuels _____
Contract: PACE

7. Container Num/Letter/Lot

3			4			5		6	Let	10. Analyses Requested											11. Turnaround Time (circle)	
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix				A	B	C	D	E	F	G	H	I	J	K	13. Lims ID	
1	15-432-CCR1	11/30/15	0903		X	GW			1	1	2										S151130PPCCR1XX01	
2	15-433-CCR1FD	11/30/15	0925		X	GW			1	1	2										S151130PPCCR1XX02	
3	15-434-CCR2	11/30/15	0959		X	GW			1	1	2										S151130PPCCR2XX01	
4	15-435-CCR3	11/30/15	1028		X	GW			1	1	2										S151130PPCCR3XX01	
5	15-436-CCR4	11/30/15	1107		X	GW			1	1	2										S151130PPCCR4XX01	
6	15-437-CCR5	11/30/15	1209		X	GW			1	1	2										S151130PPCCR5XX01	
7	15-438-CCR6	11/30/15	1323		X	GW			1	1	2										S151130PPCCR6XX01	

14. Sampled By & Title (Signature)			15. Samp No	Date	Time	Sampled By & Title (Signature)			Samp No	Date	Time
<u>[Signature]</u> chemical specialist			17			See Above					
Sampled By & Title (Signature)			Samp No	Date	Time	Sampled By & Title (Signature)			Samp No	Date	Time

16. Relinquished By:			Date	Time	17. Received By:	Date	Time	18. Shipping Method:	19. Send Report To:	
1 <u>[Signature]</u>			12/1/15	0857	SB	12/1/15	0857	Hand delivered <input checked="" type="checkbox"/>	Name: _____	
2 <u>[Signature]</u>			12/2/15	1352	<u>[Signature]</u>	12/2/15	1352	Bus _____	Location/ Address: _____	
3								Courier _____		
4								Other _____		

20. Remarks: Instructions on back

River Flow:

Treated Flow:



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1002 Main Street North
Jacksonville, FL 32202
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2015 DEC 1 AM 8 57



CHAIN OF CUSTODY RECORD

page 4 of 4

SB 12/1/15

152573 SB 12/1/15

For Lab Use Only

Project Number: _____

Entered by: _____

Scanned by: _____

Temp. of Contents: 1 deg. C received under ice ☒ Y ☐ N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jacksonville FL 32226

phone: 904-665-7886

2. Site Name

Groundwater wells CCR RFEA 304

10. Analyses Requested

11. Turnaround Time (circle)

Standard ☒ Rush: ☐ ☐

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only

F = Filtered

V = VOA vial

GW = Ground Water

H = HCL

OT = Other

G = Glass

SW = Surface Water

N = HNO3

P = Plastic

WW = Waste Water

OH = NaOH

M = Micro bag/cup

SG = Sludge OI = Oil

S = H2SO4

C = Cubitainer

SL = Soil

SF = Solid Fuel

T = Na2S2O3

OT = Other

AR = Air

OT = Other

D = Dark

OT = Other

Chloride, Fluoride
Sulfate
Lithium
Radium 226/228

12. Laboratory Section (circle)

Springfield _____ Fuels _____

Contract: PACE

7. Container Num/Letter/Lot

3			4			5		6	R	13. Lims ID												
Sample Desc or Field ID			Date	Time	Comp	Grab	Matrix	Let		S151130PPCCR7XX01												
1	15-439-CCR7		11/30/15	1358		X	GW	1	1	2												
2																						
3																						
4																						
5																						
6																						
7																						

14. Sampled By & Title (Signature)			15. Samp No	Date Time		Sampled By & Title (Signature)			Samp No	Date Time	
[Signature] chemical specialist			1	See Above							
Sampled By & Title (Signature)			Samp No	Date Time		Sampled By & Title (Signature)			Samp No	Date Time	

16. Relinquished By:			Date Time		17. Received By:			Date Time		18. Shipping Method:		19. Send Report To:	
1 [Signature]			12/1/15	0857	SB			12/1/15	0857	Hand delivered <input checked="" type="checkbox"/>		Name: _____	
2 [Signature] SB			12/2/15	1352	[Signature]			12/2/15	1352	Bus _____		Location/ Address: _____	
3										Courier _____			
4										Other _____			

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2016 JAN 22 AM 8 30

CHAIN OF CUSTODY RECORD part 2 of 2

For Lab Use Only SB Project Number: _____
Entered by: _____ Scanned by: _____
Temp. of Contents: 0 deg. C received under ice Y N

1. Client

SJRPP

Address: 11201 New Berlin Rd
Jacksonville FL 32226

phone: 904-665-7846

160114-004

2. Site Name										10. Analysis Requested										11. Turnaround Time (circle)																																						
Groundwater CCR Wells RFEA 304																				STANDARD																																						
Matrix Codes (for item 6)			Preservative Codes (for item 8)			Container Codes (for item 9)			CONTAINER			Sb, As, Ba, Be, B, Cd			Ca, Cr, Co, Pb, Hg			Mo, Se, Ti			TDS			PP-Info			Field Cond.			12. Laboratory Section																												
DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water SG = Sludge SL = Soil W = NPW			C = Cool Only H = HCL N = HNO3 OH = NaOH S = H2SO4 T = Na2S2O3 D = Dark			F = Filtered OT = Other V = VOA vial G = Glass AG = Amber Glass P = Plastic M = Micro bag/cup C = Cubitainer OT = Other																								Fuels ⁴ Springfield																												
3			4			5			6			7			8			9			10			11			12			13			7. Container Num/Letter/Lot																									
No			Sample Desc or Field ID			Date			Time			Comp			Grab			Matrix			Let			A			B			C			D			E			F			G			H			I			J			K			13. Lims ID	
1			16-024-CCR7			1/21/16			1330						X			GW						1			1			1			1			1			1751															342300008				
2			16-025-FB1			1/21/16			1320						X			GW						1			1			1																					342300009							
3																																																										
4																																																										
5																																																										
6																																																										
7																																																										
14. Sampled By (Signature)					15. Samp No					Date Time					Sampled By (Signature)					Samp No					Date Time																																	
<u>[Signature]</u>					1-2					<u>See Above</u>																																																
Sampled By (Signature)					Samp No					Date Time					Sampled By (Signature)					Samp No					Date Time																																	
16. Relinquished By:					Date Time					17. Received By:					Date Time					18. Shipping Method:					19. Send Report To:																																	
1 <u>[Signature]</u>					1/22/16 0830					<u>SBensel</u>					1-22-16 0830					Hand delivered <input checked="" type="checkbox"/>					Name: _____																																	
2																				Bus _____					Location/ Address: _____																																	
3																				Courier _____																																						
4																				Other _____																																						

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E02459

2016 FEB 25 AM 10 22

CHAIN OF CUSTODY RECORD

part 1 of 1

160218-025

For Lab Use Only

Project Number:

Entered by: SB

Scanned by:

Temp. of Contents: 3 deg. C received under ice ☒ N

1. Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

CCR Wells RFEA 304

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only F = Filtered
H = HCL OT=Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

Sb, As, Ba, Be, B, Cd

Ca, Cr, Co, Pb, Hg

Mo, Se, Ti

TDS

PP-INFO

Field Cond

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	16-049-CCR4	2/25/16	0853		X	GW		1	1	1	1	1	2985					
2	16-054-FB2	2/25/16	0907		X	GW		1	1	1								
3																		
4																		
5																		
6																		
7																		

14. Sampled By (Signature)	15. Samp No	Date Time	Sampled By (Signature)	Samp No	Date Time
<u>[Signature]</u> Chemical Specialist	1-2	See Above			
Sampled By (Signature)	Samp No	Date Time	Sampled By (Signature)	Samp No	Date Time

16. Relinquished By:	Date Time	17. Received By:	Date Time	18. Shipping Method:	19. Send Report To:
<u>[Signature]</u>	2/25/16 1022	SBensel	2-25-16 1622	Hand delivered <input checked="" type="checkbox"/>	Name:
				Bus	Location/ Address:
				Courier	
				Other	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E02459

2016 FEB 25 AM 10 22

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by: SB

Scanned by:

Temp. of Contents: 3 deg. C received under ice (Y) N

1. Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7886

160218-0295

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

CCR Wells RFEA 304

8. Preservative

C

C

N

N

9. Container Type

P

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

C
O
N
T
A
I
N
E
R

Chloride, Fluoride

Sulfate

Lithium

Radium 226/228

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

S160225PPCCR4XX01

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	16-049-CCR4	2/25/16	0853		X	GW		1	1	1	2							
2																		
3																		
4																		
5																		
6																		
7																		

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Chemical Specialist

1

See Above

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 SB 2/25/16 1022

SB 2/25/16 1022

Hand delivered ☒

Name:

2 SB 2/25/16 1430

SB 2/25/16 1430

Bus ☐

Location/ Address:

3

Courier ☐

4

Other ☐

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2016 FEB 24 AM 8 24

CHAIN OF CUSTODY RECORD

part 1 of 2

For Lab Use Only

Project Number: 3440

Entered by: [Signature]

Scanned by:

Temp. of Contents:

deg. C received under ice (Y) N

1. Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7886

160218-024

Short
Holding
Time

2. Site Name

CCR Wells RFEA 304

Matrix Codes
(for item 6)

DW = Drinking Water

GW = Ground Water

SW = Surface Water

WW = Waste Water

SG = Sludge OI = Oil

SL = Soil SF = Solid Fuel

W = NPW OT = Other

Preservative Codes
(for item 8)

C = Cool Only F = Filtered

H = HCL OT = Other

N = HNO3

OH = NaOH

S = H2SO4

T = Na2S2O3

D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial

G = Glass

AG = Amber Glass

P = Plastic

M = Micro bag/cup

C = Cubitainer

OT = Other

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	16-045-CCR1	2/23/16	0836		X	GW		1	1	1	1	1	140					
2	16-046-CCR2	2/23/16	0909		X	GW		1	1	1	1	1	174					
3	16-047-CCR3	2/23/16	1010		X	GW		1	1	1	1	1	143					
4	16-048-CCR3FD	2/23/16	1046		X	GW		1	1	1	1	1	143					
5	16-050-CCR5	2/23/16	1205		X	GW		1	1	1	1	1	174					
6	16-051-CCR6	2/23/16	1232		X	GW		1	1	1	1	1	4095					
7	16-052-CCR7	2/23/16	1303		X	GW		1	1	1	1	1	1764					

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

[Signature]

17

See Above

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 [Signature]
2 [Signature]
3
4

2/24/16 0824

[Signature]

2/24/16 0824

Hand delivered

Bus

Courier

Other

Name:

Location/ Address:

20. Remarks: Instructions on back

River Flow:

Treated Flow:

Subout samples not delivered to lab on 2/24/16. WATERA JUV- will deliver samples on 2/25/16, same collection.

Form # S1 Version 1.0

Issued 6/15 Revised 6/15

Page 1 of 4



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp
FL CERT. #E53459

2016 FEB 24 AM 8 24

CHAIN OF CUSTODY RECORD part 2 of 2

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents:

deg. C received under ice

1. Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7886

160218-024

2. Site Name

CCR Wells RFEA 304

Matrix Codes
(for item 6)

DW = Drinking Water

GW = Ground Water

SW = Surface Water

WW = Waste Water

SG = Sludge OI = Oil

SL = Soil SF = Solid Fuel

W = NPW OT = Other

Preservative Codes
(for item 8)

C = Cool Only F = Filtered

H = HCL OT = Other

N = HNO3

OH = NaOH

S = H2SO4

T = Na2S2O3

D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial

G = Glass

AG = Amber Glass

P = Plastic

M = Micro bag/cup

C = Cubitainer

OT = Other

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

N

P

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

3

4

5

6

No Sample Desc or Field ID

Date

Time

Comp

Grab

Matrix

Let

A

B

C

D

E

F

G

H

I

J

K

1 16-053-FB1

2/23/16

1316

X

GW

1

1

1

349000004

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

[Signature] chemical specialist

1-

See Above

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 *[Signature]*

2/24/16

0824

[Signature]

2/24/16

0824

Hand delivered ☒

Bus

Courier

Other

Name:

Location/ Address:

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp
FL CERT. #E52459
2016 FEB 25 AM 10 22

CHAIN OF CUSTODY RECORD

part 1 of 2
For Lab Use Only
Entered by: SB Project Number: _____
Temp. of Contents: 3 deg. C received under ice (Y) N

1. Client
SJRPP

Address: 11201 New Berlin Rd
Jacksonville FL 32226
phone: 904-665-7886

160218-02X54

MS 2-25-16

2. Site Name						10. Analysis Requested										11. Turnaround Time (circle)			
CCR Wells RFEA 304						8. Preservative	C	C	N	N								STANDARD	
Matrix Codes (for item 6)						9. Container Type	P	P	P	P								12. Laboratory Section	
Preservative Codes (for item 8)						Container Codes (for item 9)	C	Chloride, Fluoride	Sulfate	Lithium	Radium 226/228							Pace	
DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water SG = Sludge SL = Soil W = NPW						C = Cool Only H = HCL N = HNO3 OH = NaOH S = H2SO4 T = Na2S2O3 D = Dark	V = VOA vial G = Glass AG = Amber Glass P = Plastic M = Micro bag/cup C = Cubitainer OT = Other											7. Container Num/Letter/Lot	
3						4	5	6											
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	
1	16-045-CCR1	2/23/16	0836		X	GW		1	1	1	2								
2	16-046-CCR2	2/23/16	0909		X	GW		1	1	1	2								
3	16-047-CCR3	2/23/16	1010		X	GW		1	1	1	2								
4	16-048-CCR3FD	2/23/16	1046		X	GW		1	1	1	2								
5	16-050-CCR5	2/23/16	1205		X	GW		1	1	1	2								
6	16-051-CCR6	2/23/16	1232		X	GW		1	1	1	2								
7	16-052-CCR7	2/23/16	1303		X	GW		1	1	1	2								
14. Sampled By (Signature)						15. Samp No		Date Time		Sampled By (Signature)						Samp No		Date Time	
<u>[Signature]</u>						17		See Above											
Sampled By (Signature)						Samp No		Date Time		Sampled By (Signature)						Samp No		Date Time	
16. Relinquished By:						Date Time		17. Received By:		Date Time		18. Shipping Method:		19. Send Report To:					
1 <u>[Signature]</u>						2/25/16 1022		<u>SBensel</u>		2-25-16 1022		Hand delivered <input checked="" type="checkbox"/>		Name: _____					
2 <u>[Signature]</u>						2-25-16 1435		<u>[Signature]</u>		2-25-16 1430		Bus _____		Location/ Address: _____					
3												Courier _____							
4												Other _____							

20. Remarks: Instructions on back
COC received on 2-25-16. Subout samples were brought to lab on 2-25-16. MS 2-25-16
Subouts were logged w/ Springfield samples on 2-24-16



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #22-459

2016 MAR 24 AM 10 21

CHAIN OF CUSTODY RECORD part 1 of 2

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 0 deg. C received under ice N

1. Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells RFEA 304

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
WL = NPW

C = Cool Only F = Filtered
H = HCL OT = Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

CONTAINER

N

N

N

C

P

P

P

P

Sb, As, Ba, Be, B

Cd, Ca, Cr, Co, Pb

Hg, Mo, Se, Ti

TDS

PP-INFO

Field Cond.

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	16-125-CCR1	3/23/16	0906		X	GW		1	1	1	1	1	140					
2	16-126-CCR2	3/23/16	0934		X	GW		1	1	1	1	1	175					
3	16-127-CCR3	3/23/16	1024		X	GW		1	1	1	1	1	183					
4	16-128-CCR4	3/23/16	1127		X	GW		1	1	1	1	1	305					
5	16-129-CCR4FD	3/23/16	1144		X	GW		1	1	1	1	1	3016					
6	16-130-CCR5	3/23/16	1325		X	GW		1	1	1	1	1	1006					
7	16-131-CCR6	3/23/16	1355		X	GW		1	1	1	1	1	4128					

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
<i>[Signature]</i>	1-7		See Above				
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time

16. Relinquished By:	Date	Time	17. Received By:	Date	Time	18. Shipping Method:	19. Send Report To:
1 <i>[Signature]</i>	3/24/16	1021	<i>[Signature]</i>	3-24-16	1021	Hand delivered <input checked="" type="checkbox"/>	Name: _____
2						Bus _____	Location/ Address: _____
3						Courier _____	
4						Other _____	

20. Remarks: Instructions on back River Flow: Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. # L-459

2016 MAR 24 AM 10 21

CHAIN OF CUSTODY RECORD

part 2 of 4

SB

3-24-16

160229-052

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 0 deg. C received under ice

N

1. Client

Address:

11201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells RFEA 304

8. Preservative

N

N

N

C

9. Container Type

P

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

3

4

5

6

No Sample Desc or Field ID

Date

Time

Comp

Grab

Matrix

Let

A

B

C

D

E

F

G

H

I

J

K

13. Lims ID

1 16-132-CCR7

3/23/16

1419

X

GW

1

1

1

1

1

2053

355100008

2 16-133-FB1

3/23/16

1407

X

GW

1

1

1

355100009

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled/By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1

3/24/16 1021

SB

3-24-16 1021

Hand delivered

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp
FL CERT. # 100459
2016 MAR 24 AM 10 21

CHAIN OF CUSTODY RECORD

part 2 of 2

For Lab Use Only
Entered by: SB Project Number: _____
Scanned by: _____
Temp. of Contents: 0 deg. C received under ice Y N

1. Client

SJRPP

Address: 11201 New Berlin Rd
Jacksonville FL 32226
phone: 904-665-7886

2. Site Name

Groundwater CCR Wells RFEA 304

Matrix Codes
(for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

Preservative Codes
(for item 8)

C = Cool Only F = Filtered
H = HCL OT = Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
C
N
N
P
P
P
P

C

C

N

N

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

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P

P

P

P

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P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

13. Lims ID

S160323PPCCR7XX01

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 SB

3/24/16 1021

SB

3/24/16 1021

Hand delivered ☒

Name:

2 SB

3/24/16 1400

SB

3-24 1400

Bus ☐

Location/ Address:

3

Courier ☐

4

Other ☐

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

2016 MAY 26 PM 12 05

Laboratory Time Stamp

FL CERT. #E52459

CHAIN OF CUSTODY RECORD

part 1 of 24

240
5/26/16

160505-006

For Lab Use Only

Project Number:

Entered by: *[Signature]*

Scanned by: *[Signature]*

Temp. of Contents: *2.1* deg. C received under ice

Y N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jacksonville FL 32226

phone: 904-665-7886

2. Site Name

Groundwater CCR wells RFEA 304

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only F = Filtered
H = HCL OT=Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

N

N

N

C

P

P

P

P

Sb, As, Ba, Be, B, Cd

Ca, Cr, Co, Pb, Hg

Mo, Se, Ti

TDS

PP-INFO

Field Cond.

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	3	Sample Desc or Field ID	4	Date	Time	5	6	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1		16-210-CCR1		5/25/16	0830				X	GW		1	1	1	1	1							366300001
2		16-211-CCR2		5/25/16	0859				X	GW		1	1	1	1	1							366300002
3		16-212-CCR3		5/25/16	0924				X	GW		1	1	1	1	1							366300003
4		16-213-CCR4		5/25/16	1049				X	GW		1	1	1	1	1							366300004
5		16-214-CCR5		5/25/16	1159				X	GW		1	1	1	1	1							366300005
6		16-215-CCR5FD		5/25/16	1216				X	GW		1	1	1	1	1							366300006
7		16-216-CCR6		5/25/16	1239				X	GW		1	1	1	1	1							366300007

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
<i>[Signature]</i> chemical specialist	1-7		See Above				
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time

16. Relinquished By	Date	Time	17. Received By:	Date	Time	18. Shipping Method:	19. Send Report To:
<i>[Signature]</i>	5/26/16	1205	<i>[Signature]</i>	5/26/16	1205	Hand delivered _____	Name: _____
						Bus _____	Location/ Address: _____
						Courier _____	
						Other _____	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



2016 MAY 26 PM 12 05

Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

CHAIN OF CUSTODY RECORD

part 2 of 24

160505-006

For Lab Use Only

Project Number:

Entered by: *SP*

Scanned by:

Temp. of Contents: *2.1* deg. C received under ice *(Y)* N

1. Client

Address:

SJRPP

*11201 New Berlin Rd
Jacksonville FL 32226
phone: 904-665-7886*

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR wells RFEA 304

8. Preservative

N

N

N

C

9. Container Type

P

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only F = Filtered
H = HCL OT=Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

Sb, As, Ba, Be, B, Cd

Ca, Cr, Co, Pb, Hg

Mo, Se, Ti

TDS

PP-INFO

Field Cond.

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

No	3	Sample Desc or Field ID	4	Date	Time	5	6	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1		16-217-CCR7		5/25/16	1304				X	GW		1	1	1	1	1							366300008
2		16-218-FB1		5/25/16	1250				X	GW		1	1	1									366300009
3																							
4																							
5																							
6																							
7																							

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
<i>[Signature]</i> chemical specialist	1-2			<i>See Above</i>			
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time

16. Relinquished By:	Date	Time	17. Received By:	Date	Time	18. Shipping Method:	19. Send Report To:
<i>[Signature]</i>	5/26/16	1205	<i>SP</i>	5/26/16	1205	Hand delivered _____	Name: _____
						Bus _____	Location/ Address: _____
						Courier _____	
						Other _____	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. # E52459

2016 MAY 26 PM 12 05

CHAIN OF CUSTODY RECORD

part 3 of 4
1 of 2

For Lab Use Only

Project Number:

Entered by: *[Signature]*

Scanned by:

Temp. of Contents: *2.1* deg. C received under ice

Y N

1. Client

Address:

1201 New Berlin Rd
Jacksonville FL 32226

SJRPP

phone: 904-665-7086

160505-0076

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR wells RFEA 304

8. Preservative

C

C

N

N

9. Container Type

P

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

C
O
N
T
A
I
N
E
R

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

12. Laboratory Section

PACE

7. Container Num/Letter/Lot

No	3	4	5	6	Let	A	B	C	D	E	F	G	H	I	J	K
1	16-210-CCR1	5/25/16 0830	X	GW		1	1	1	2							
2	16-211-CCR2	5/25/16 0859	X	GW		1	1	1	2							
3	16-212-CCR3	5/25/16 0924	X	GW		1	1	1	2							
4	16-213-CCR4	5/25/16 1049	X	GW		1	1	1	2							
5	16-214-CCR5	5/25/16 1159	X	GW		1	1	1	2							
6	16-215-CCR5FD	5/25/16 1216	X	GW		1	1	1	2							
7	16-216-CCR6	5/25/16 1239	X	GW		1	1	1	2							

S160525PPCCR1XX01

S160525PPCCR2XX01

S160525PPCCR3XX01

S160525PPCCR4XX01

S160525PPCCR5XX01

S160525PPCCR5XX01

S160525PPCCR5XX02

S160525PPCCR6XX01

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

[Signature] chemical analyst

1-7

See Above

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 *[Signature]* 5/26/16 1205
2 *[Signature]* 5/26/16 1205
3
4

[Signature] 5/26/16 1205
[Signature] 5/26/16 1439

Hand delivered _____
Bus _____
Courier _____
Other _____

Name: _____
Location/ Address: _____

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2016 MAY 26 PM 12 05

CHAIN OF CUSTODY RECORD

part 2 of 2

For Lab Use Only

Project Number:

Entered by: *SP*

Scanned by:

Temp. of Contents: *21*

deg. C received under ice

(Y) N

1. Client

Address:

*11201 New Berlin Rd
Jacksonville FL 32226*

SJRPP

phone: *904-665-7886*

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR wells RFEA 304

8. Preservative

C

C

N

N

9. Container Type

P

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

C
O
N
T
A
I
N
E
R

Chloride, Fluoride

Sulfate

Lithium

Radium 226/228

12. Laboratory Section

PACE

7. Container Num/Letter/Lot

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

OT = Other

3

4

5

6

R

A

B

C

D

E

F

G

H

I

J

K

13. Lims ID

S160525PPCCR7XX01

No Sample Desc or Field ID

Date

Time

Comp Grab

Matrix

Let

A

B

C

D

E

F

G

H

I

J

K

1 16-217-CCR7

5/25/16

1204

X

GW

1

1

1

2

2

3

4

5

6

7

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

SP *chemical analyst*

1

See Above

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 *Fuller*

5-26/16 1205

SP

5/26/16 1205

Hand delivered

Name:

2 *SP*

5/26/16

SP

5/26/16 1439

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2016 JUL 28 AM 11 20

1.3 °C

CHAIN OF CUSTODY RECORD

part 1 of 1

160720-007

For Lab Use Only
Entered by: ASP
Temp. of Contents: 22.0 deg. C received under ice (Y) N

Project Number:

Scanned by:

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

2. Site Name

Groundwater CCR Wells

Matrix Codes
(for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

Preservative Codes
(for item 8)

C = Cool Only F = Filtered
H = HCL OT=Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

Container Codes
(for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

8. Preservative

N

N

C

9. Container Type

P

P

P

C
O
N
T
A
I
N
E
R

Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS

PP-INFO

Field Cond.

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	16-262-CCR1	7-27-16	1337		X	GW		1	1	1	1	127							375800001
2	16-263-CCR2	7-27-16	1413		X	GW		1	1	1	1	160							375800002
3	16-264-CCR3	7-27-16	1444		X	GW		1	1	1	1	193							375800003
4	16-265-CCR4	7-27-16	1529		X	GW		1	1	1	1	2724							375800004
5	16-266-CCR5	7-27-16	1045		X	GW		1	1	1	1	791							375800005
6	16-267-CCR6	7-27-16	0935		X	GW		1	1	1	1	4163							375800006
7	16-268-CCR7	7-27-16	0901		X	GW		1	1	1	1	1689							375800007

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
<u>[Signature]</u>	1-7	7-27-16	1120	<u>[Signature]</u>			
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time

16. Relinquished By:	Date Time	17. Received By:	Date Time	18. Shipping Method:	19. Send Report To:
1 <u>[Signature]</u>	7/28/16 1120	<u>ASP</u>	7/28/16 1120	Hand delivered _____	Name: _____
2				Bus _____	Location/ Address: _____
3				Courier _____	
4				Other _____	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2016 JUL 28 AM 11 20

1.3°C

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents 20 deg. C received under ice (Y) N

1 Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

160720-008

2. Site Name

SJRPP Coal Rule 7/16

Groundwater CCR Wells

Matrix Codes
(for item 6)

DW = Drinking Water

GW = Ground Water

SW = Surface Water

WW = Waste Water

SG = Sludge OI = Oil

SL = Soil SF = Solid Fuel

W = NPW OT = Other

Preservative Codes
(for item 8)

C = Cool Only F = Filtered

H = HCL OT=Other

N = HNO3

OH = NaOH

S = H2SO4

T = Na2S2O3

D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial

G = Glass

AG = Amber Glass

P = Plastic

M = Micro bag/cup

C = Cubitainer

OT = Other

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

3			4		5		6	CON TAIN ER	Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS	PP-INFO	Field Cond.	F	G	H	I	J	K	L
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let											
1	16-269-CCR6FD	7-27-16	0935		X	GW			1	1	1	1	4163					
2	16-270-FB1	7-27-16	0927		X	GW			1	1								
3																		
4																		
5																		
6																		
7																		

14. Sampled By (Signature)			15. Samp No	Date	Time	Sampled By (Signature)			Samp No	Date	Time
Deborah			1-2	see above							
Sampled By (Signature)			Samp No	Date	Time	Sampled By (Signature)			Samp No	Date	Time
16. Relinquished By			Date	Time	17. Received By	Date	Time	18. Shipping Method:		19. Send Report To:	
Deborah			7-28-16	1120	AP	7/28/16	1120	Hand delivered		Name:	
								Bus		Location/ Address:	
								Courier			
								Other			

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp
2016 JUL 28 AM 11 20
1,3e

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only
Entered by: [Signature]
Temp. of Contents: 2.0 deg. C received under ice (Y) N

Project Number: _____

Scanned by: _____

1. Client

SJRPP

Address:

71201 New Berlin Rd
Jax FL 32226
904-665-7886

phone:

2. Site Name		10. Analysis Requested										11. Turnaround Time (circle)	
Groundwater CCR Wells		STANDARD											
Matrix Codes (for item 6)		Preservative Codes (for item 8)		Container Codes (for item 9)		8. Preservative		9. Container Type		12. Laboratory Section			
DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water SG = Sludge SL = Soil W = NPW		C = Cool Only H = HCL N = HNO3 OH = NaOH S = H2SO4 T = Na2S2O3 D = Dark		V = VOA vial G = Glass AG = Amber Glass P = Plastic M = Micro bag/cup C = Cubitainer OT = Other		C N N		P P P		PACE			
3		4		5		6		7. Container Num/Letter/Lot		13. Lims ID			
No Sample Desc or Field ID		Date Time		Comp Grab Matrix		Let		A B C D E F G H I J K		S160727PPCCR6XX02			
1 16-269-CCR6FD		7-27-16 0935		X GW		1 1 2							
2													
3													
4													
5													
6													
7													
14. Sampled By (Signature)		15. Samp No		Date Time		Sampled By (Signature)		Samp No		Date Time			
[Signature]		1		see above		[Signature]							
Sampled By (Signature)		Samp No		Date Time		Sampled By (Signature)		Samp No		Date Time			
16. Relinquished By:		Date Time		17. Received By:		Date Time		18. Shipping Method		19. Send Report To:			
1 [Signature]		7-28/16 1120		[Signature]		7-28/16 1120		Hand delivered		Name:			
2 [Signature]		7-28/16 1347		[Signature]		7-28/16 1347		Bus		Location/ Address:			
3								Courier					
4								Other					
20. Remarks: Instructions on back								River Flow:		Treated Flow:			



Laboratory Services
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Fax (904) 665-8343

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD

part 4 of 4

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: deg. C received under ice Y N

1. Client

Address:

JEA

phone:

160829-008/1

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

8. Preservative

N

9. Container Type

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

C
O
N
T
A
I
N
E
R

B
a
B
e
B
C
d
C
a
C
r
C
o
M
o

DW = Drinking Water

C = Cool Only

F = Filtered

V = VOA vial

GW = Ground Water

H = HCL

OT = Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge

OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil

SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW

OT = Other

D = Dark

OT = Other

12. Laboratory Section

Springfield Pace

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	3	4	5	6	Let	A	B	C	D	E	F	G	H	I	J	K
1	S160727PPCCR1XX01			X	WW	X											
2	S160727PPCCR2XX01			X	WW	X											
3	S160727PPCCR3XX01			X	WW	X											
4	S160727PPCCR4XX01			X	WW	X											
5	S160727PPCCR5XX01			X	WW	X											
6	S160727PPCCR6XX01			X	WW	X											
7	S160727PPCCR6XX02			X	WW	X											

S160727PPCCR1XX01

S160727PPCCR2XX01

S160727PPCCR3XX01

S160727PPCCR4XX01

S160727PPCCR5XX01

S160727PPCCR6XX01

S160727PPCCR6XX02

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1

8/30/14 1515

1

8-30 1515

Hand delivered

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

All metals to be analyzed by 200.7

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
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Fax (904) 665-8343

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD part 1 of 1

For Lab Use Only Project Number: _____
Entered by: _____ Scanned by: _____
Temp. of Contents: _____ deg. C received under ice Y N

1. Client Address: _____

JEA

phone: _____

160829-010 11

2 Site Name

10. Analysis Requested

11. Turnaround Time (circle)

8. Preservative

N

N

N

9. Container Type

P

P

P

RUSH / /

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

C
O
N
T
A
I
N
E
R

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge OI = Oil
SL = Soil SF = Solid Fuel
W = NPW OT = Other

C = Cool Only F = Filtered
H = HCL OT = Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

No	3	4	5	6	R	A	B	C	D	E	F	G	H	I	J	K
1	S160727PPCCR7XX01			X	WW	X										
2	S160727PPFB1FB01			X	WW	X										
3	S160729D2CMW2MW01			X	WW		X									
4	S160729D2CMW3MW01			X	WW		X									
5	S160803D2BMW1MW01			X	WW		X									
6	S160803D2CMW4MW01			X	WW		X									
7	S160808BSEFFMX01		X		WW			X								

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

13. Lims ID

S160727PPCCR7XX01

S160727PPFB1FB01

S160729D2CMW2MW01

S160729D2CMW3MW01

S160803D2BMW1MW01

S160803D2CMW4MW01

S160808BSEFFMX01

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1
2
3
4

8/30/14 1515

1515

8-30 1515

Hand delivered
Bus
Courier
Other

Name:
Location/ Address:

20. Remarks: Instructions on back

River Flow:

Treated Flow:

All metals to be analyzed by 200.7



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

2016 SEP 21 PM 2 26

CHAIN OF CUSTODY RECORD

part 1 of 4

9/21/16

160920-014

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 2.0 deg. C received under ice

Y N

1. Client

Address:

SJRPP

phone:

1120 New Berlin Rd
Jax FL 32226
904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells Coal Rule 9

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

CONTAINER

Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS, PP-INFO, Field Cond.

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	16-312-CCR1	9/20/16	13:05		X	GW		1	1	1	1	174							3902 00001
2	16-313-CCR2	9/20/16	12:40		X	GW		1	1	1	1	170							3902 00002
3	16-314-CCR3	9/20/16	12:10		X	GW		1	1	1	1	146							3902 00003
4	16-315-CCR4	9/20/16	11:30		X	GW		1	1	1	1	2795							3902 00004
5	16-316-CCR5	9/20/16	11:00		X	GW		1	1	1	1	703							3902 00005
6	16-317-CCR6	9/20/16	09:35		X	GW		1	1	1	1	4017							3902 00006
7	16-318-CCR7	9/20/16	08:49		X	GW		1	1	1	1	1710							3902 00007

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1

9-21-16 1426

2

9/21/16 1426

Hand delivered

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:

No samples properly preserved.
Acid added to all preserved samples
(metals, lithium, radium) to bring pH below 2.
RJP 9/22/16



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. # E52459

2016 SEP 21 PM 2 26

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 18 deg. C received under ice

1. Client

Address:

SJRPP

phone:

160920-0154

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells Coal Rule 9

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

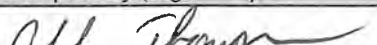
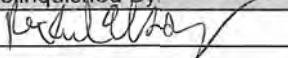
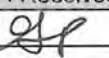
Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS, PP-INFO, Field Cond.

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	16-319-CCR7FD	9/20/16	08:49		X	GW		1	1	1	1	1710							3902 00008
2	16-320-FB1	9/20/16	09:23		X	OT		1	1										3902 00009
3																			
4																			
5																			
6																			
7																			

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
	1-2	See above					
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
16. Relinquished By:		Date Time		17. Received By:		Date Time	
1 		9-21-16 1426		2 		9/21/16 1426	
2							
3							
4							
18. Shipping Method:				19. Send Report To:			
Hand delivered _____				Name: _____			
Bus _____				Location/ Address: _____			
Courier _____							
Other _____							

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp
FL CERT # E82459
2016 SEP 21 PM 2 26

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only
Entered by: *[Signature]*
Temp. of Contents: *10* deg. C received under ice

Project Number:
Scanned by:

1. Client
SJRP

Address: *11201 New Berlin Rd
Jax FL 32226*
phone: *904-665-7886*

160920-0164

2. Site Name
10. Analysis Requested
11. Turnaround Time (circle)

Groundwater CCR Wells Coal Rule S
8. Preservative
9. Container Type
Matrix Codes (for item 6)
DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW
Preservative Codes (for item 8)
C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark
Container Codes (for item 9)
V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other
Chloride, Fluoride, Sulfate
Lithium
Radium 226/228

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	16-312-CCR1	9/20/16	13:05		X	GW		1	1	2									S160920PPCCR1XX01
2	16-313-CCR2	9/20/16	12:40		X	GW		1	1	2									S160920PPCCR2XX01
3	16-314-CCR3	9/20/16	12:10		X	GW		1	1	2									S160920PPCCR3XX01
4	16-315-CCR4	9/20/16	11:30		X	GW		1	1	2									S160920PPCCR4XX01
5	16-316-CCR5	9/20/16	11:00		X	GW		1	1	2									S160920PPCCR5XX01
6	16-317-CCR6	9/20/16	09:35		X	GW		1	1	2									S160920PPCCR6XX01
7	16-318-CCR7	9/20/16	08:49		X	GW		1	1	2									S160920PPCCR7XX01

14. Sampled By (Signature)
15. Samp No
Date Time
Sampled By (Signature)
Samp No
Date Time

16. Relinquished By
Date Time
17. Received By
Date Time
18. Shipping Method
19. Send Report To
Name
Location/ Address

20. Remarks: Instructions on back
River Flow:
Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. # E52459

2016 SEP 21 PM 2 26

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 15 deg. C received under ice

1. Client

Address:

SJRPP

phone:

160920-0174

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells Coal Rule

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

CONTAINER

Chloride, Fluoride, Sulf

Lithium

Radium 226/228

STANDARD

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

3			4		5		6	R	G	L	R											
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K				
1	16-319-CCR7FD	9/20/16	08:49		X	GW		1	1	2												
2																						
3																						
4																						
5																						
6																						
7																						

13. Lims ID

S160920PPCCR7XX02

14. Sampled By (Signature)			15. Samp No		Date Time		Sampled By (Signature)			Samp No		Date Time	
			1		see above								
Sampled By (Signature)			Samp No		Date Time		Sampled By (Signature)			Samp No		Date Time	
16. Relinquished By:			Date Time		17. Received By:		Date Time		18. Shipping Method:		19. Send Report		
1			9-21-16 1426				9/21/16 1426		Hand delivered		Name:		
2			9/22/16 1440				9/22 1440		Bus		Location/ Address:		
3									Courier				
4									Other				

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD part 1 of 1

160926-038

For Lab Use Only Project Number: _____

Entered by: _____ Scanned by: _____

Temp. of Contents: _____ deg. C received under ice Y N

1. Client Address: _____

JEA

phone: _____

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

8. Preservative

N

N

N

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

C
O
N
T
A
I
N
E
R

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil

SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW

OT = Other

D = Dark

OT = Other

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

13. Lims ID

3		4		5	6	C O N T A I N E R	A	B	C	D	E	F	G	H	I	J	K
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let										
1	S160920PPCCR1XX01	9/20/14	1305		X	GW		1	1	1							
2	S160920PPCCR2XX01		1240		X	GW		1	1	1							
3	S160920PPCCR3XX01		1210		X	GW		1	1	1							
4	S160920PPCCR4XX01		1130		X	GW		1	1	1							
5	S160920PPCCR5XX01		1100		X	GW		1	1	1							
6	S160920PPCCR6XX01		0935		X	GW		1	1	1							
7	S160920PPCCR7XX01		0849		X	GW		1	1	1							

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 JEP

9/27/14 1445

My 4

9/27 1445

Hand delivered

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD part 1 of 1

160926-039

For Lab Use Only Project Number: _____

Entered by: _____ Scanned by: _____

Temp. of Contents: _____ deg. C received under ice Y N

1. Client Address: _____

JEA

phone: _____

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Matrix Codes (for item 6)	Preservative Codes (for item 8)	Container Codes (for item 9)	CONTAINER	200.7- Ba Be B Cd	200.7 - Ca Cr Co Mo	200.8- Sb As Pb Se Ti	200.7 full scan metals												
DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water SG = Sludge OI = Oil SL = Soil SF = Solid Fuel W = NPW OT = Other	C = Cool Only F = Filtered H = HCL OT=Other N = HNO3 OH = NaOH S = H2SO4 T = Na2S2O3 D = Dark	V = VOA vial G = Glass AG = Amber Glass P = Plastic M = Micro bag/cup C = Cubitainer OT = Other																	

STANDARD

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	S160920PPCCR7XX02	9/20/16	0849		X	GW		1	1	1									
2	S160920PPFB1FB01	9/20/16	0923		X	GW		1	1	1									
3	S160808BSEFFBA01	8/8/16	2345		X	GW					1								
4	S160810BSEFFBB01	8/10/16	2345		X	GW					1								
5	S160812BSEFFBC01	8/12/16	2345		X	GW					1								
6																			
7																			

14. Sampled By (Signature) 15. Samp No Date Time Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time Sampled By (Signature) Samp No Date Time

16. Relinquished By: Date Time 17. Received By: Date Time 18. Shipping Method: 19. Send Report To:

1	ESP	9/27/16 1445	MJ	9/27 1445	Hand delivered _____	Name: _____
2					Bus _____	Location/ Address: _____
3					Courier _____	
4					Other _____	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



2016 NOV 9 PM 1 24

Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. #E52459

CHAIN OF CUSTODY RECORD

part 1 of 1

161102-013

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 2 deg. C received under ice ☒ Y ☐ N

1. Client

Address:

SJRP

phone:

11201 New Berlin Rd
Jacksonville FL 32226
904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

CCR Wells SJRP Coal Rule 11/16

8. Preservative

N

N

C

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)Preservative Codes
(for item 8)Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

3			4		5		6	C O N T A I N E R	Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS	PP-INFO	Field Cond.	13. Lims ID										
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let															
1	16-409-CCR1	11-8-16	1415		X	GW			1	1	1	1										4003000001
2	16-410-CCR2	11-8-16	1356		X	GW			1	1	1	1										4003000002
3	16-411-CCR3	11-8-16	1332		X	GW			1	1	1	1										4003000003
4	16-412-CCR4	11-8-16	1131		X	GW			1	1	1	1										4003000004
5	16-413-CCR5	11-8-16	1104		X	GW			1	1	1	1										4003000005
6	16-414-CCR6	11-8-16	1009		X	GW			1	1	1	1										4003000006
7	16-415-CCR7	11-8-16	1257		X	GW			1	1	1	1										4003000007

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1

11-9-16 1324

JLP

11/9/16 1324

Hand delivered

Name:

2

Bus

Location/ Address:

3

Courier

4

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp
FL CERT. #E52459
2016 NOV 9 PM 1 24

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only
Entered by: *[Signature]*
Temp. of Contents: *1* deg. C received under ice

Project Number: _____

Scanned by: _____

Y N

1 Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

161102-0143

2. Site Name

CCR Wells SJRPP Coal Rule 11/16

Matrix Codes (for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW
OI = Oil
SF = Solid Fuel
OT = Other

Preservative Codes (for item 8)

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark
F = Filtered
OT = Other

8. Preservative

9. Container Type

Container Codes (for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

N

P

C

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

400300008
400300009

3		4		5		6		R	Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS	PP-INFO	Field Cond.	F	G	H	I	J	K
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let										
1	16-416-CCR1FD	11-8-16	1415		X	GW	1	1	1	1							
2	16-417-FB1	11-8-16	1009		X	GW	1	1									
3																	
4																	
5																	
6																	
7																	

14. Sampled By (Signature)		15. Samp No		Date Time		Sampled By (Signature)		Samp No		Date Time	
<i>[Signature]</i>		1-2		see above							
Sampled By (Signature)		Samp No		Date Time		Sampled By (Signature)		Samp No		Date Time	

16. Relinquished By:		Date Time		17. Received By:		Date Time		18. Shipping Method:		19. Send Report To:	
<i>[Signature]</i>		11-9-16 1324		<i>[Signature]</i>		11/9/16 1324		Hand delivered _____		Name: _____	
								Bus _____		Location/ Address: _____	
								Courier _____			
								Other _____			

20. Remarks: Instructions on back

River Flow:

Treated Flow:



2016 NOV 9 PM 1 24

Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

FL CERT. # 1332459

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by: *[Signature]*

Scanned by:

Temp. of Contents: *21* deg. C received under ice *(Y)* N

1. Client

Address:

SJRPP

phone:

3044
11/9/16
161102-01\$3
11201 New Berlin Rd
Jax FL 32226
904-665-7886

2. Site Name

10. Analysis Requested

11 Turnaround Time (circle)

CCR Wells SJRPP Coal Rule 11/16

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	16-409-CCR1	11-8-16	1415		X	GW		1	1	2								
2	16-410-CCR2	11-8-16	1356		X	GW		1	1	2								
3	16-411-CCR3	11-8-16	1332		X	GW		1	1	2								
4	16-412-CCR4	11-8-16	1131		X	GW		1	1	2								
5	16-413-CCR5	11-8-16	1104		X	GW		1	1	2								
6	16-414-CCR6	11-8-16	1009		X	GW		1	1	2								
7	16-415-CCR7	11-8-16	1257		X	GW		1	1	2								

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By

Date Time

17. Received By

Date Time

18. Shipping Method

19. Send Report To:

1 *[Signature]*

11-9-16 1321

2 *[Signature]*

11/9/16 1321

Hand delivered

Name:

2 *[Signature]*

11/10/16

3 *[Signature]*

11/10 1348

Bus

Location/ Address:

3 *[Signature]*

Courier

4 *[Signature]*

Other

20. Remarks: Instructions on back

River Flow:

Treated Flow:



2018

NOV 9 PM 1 24

Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

FL CERT. # E52455

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: ~1 deg. C received under ice

(Y) N

1. Client

Address:

SJRPP

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

161102-0163

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

CCR Wells SJRPP Coal Rule 11/16

8. Preservative

C

N

N

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)Preservative Codes
(for item 8)Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT = Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

3			4		5		6	Let	A	B	C	D	E	F	G	H	I	J	K
No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix													
1	16-416-CCR1FD	11-8-16	1415		X	GW			1	1	2								
2									1	1	2								
3									1	1	2								
4									1	1	2								
5									1	1	2								
6									1	1	2								
7									1	1	2								

13. Lims ID

S161108PPCCR1XX02

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 11-9-16 1324

2 11/10/16 1345

3

4

11/9/16 1324

11/10/16 1345

Hand delivered

Bus

Courier

Other

Name:

Location/ Address:

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

2017 FEB 23 AM 10 12

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD

part 1 of 14

170221-0121

For Lab Use Only Project Number:

Entered by: Scanned by:

Temp. of Contents: 28 deg. C received under ice Y N

1. Client

SJRPP

Address: 11201 New Berlin Rd

Orlando FL 32226

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11 Turnaround Time (circle)

Groundwater CCR Wells (Coal Rule)

8. Preservative

N

N

C

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

3

4

5

6

No Sample Desc or Field ID

Date Time

Comp Grab Matrix

1 17-040-CCR1

2-22-17 848

2 17-041-CCR2

2-22-17 918

3 17-042-CCR3

2-22-17 1000

4 17-043-CCR4

2-21-17 1306

5 17-044-CCR5

2-22-17 805

6 17-045-CCR6

2-21-17 1428

7 17-046-CCR7

2-22-17 739

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1

2-23-17 1012

2

3

4

Hand delivered

Bus

Courier

Other

Name:

Location/ Address:

20. Remarks:

Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 FEB 23 AM 10 12

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only Project Number:
Entered by:
Temp. of Contents: 28 deg. C received under ice
N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226

phone:

904-665-7886

170221-0131

2. Site Name

Groundwater CCR Wells (Coal Rule)

Matrix Codes
(for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

Preservative Codes
(for item 8)

C = Cool Only F = Filtered
H = HCL OT=Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

N

N

C

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

P

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	17-047-CCR2-6F1	2-21-17	1428		X	GW		1	1	1	1	3695							41600008
2	17-048-CCR4R	2-21-17	1336		X	GW		1	1	1	1	3033							41600009
3	17-049-FB	2-21-17	1253	1253	X	GW		1	1										416000010
4	17-050-FB2	2-22-17	0700					1	1										416000011
5																			
6																			
7																			

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
Jeff Roe	1-4		see above				
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
16. Relinquished By:	Date	Time	17. Received By:	Date	Time	18. Shipping Method:	19. Send Report To:
Jeff Roe	2-23-17	1012	Jeff Roe	2/23/17	1012	Hand delivered	Name:
						Bus	Location/ Address:
						Courier	
						Other	

20. Remarks: Instructions on back

CCR4R - TDS sample Arrived half full

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 FEB 23 AM 10 12

CHAIN OF CUSTODY RECORD

part 1 of 1

170221-011

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 28 deg. C received under ice (Y) N

1. Client

Address: 11201 New Berlin Rd

SJRPP

JAX FL 32226

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells (Coal Rule)

8. Preservative

C

N

N

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only

F = Filtered

V = VOA vial

GW = Ground Water

H = HCL

OT = Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge

Oil = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil

SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW

OT = Other

D = Dark

OT = Other

3 4 5 6

No Sample Desc or Field ID Date Time Comp Grab Matrix Let

1 17-040-CCR1 2-22-17 848 X GW 1 1 2

2 17-041-CCR2 2-22-17 918 X GW 1 1 2

3 17-042-CCR3 2-22-17 1000 X GW 1 1 2

4 17-043-CCR4 2-21-17 1306 X GW 1 1 2

5 17-044-CCR5 2-22-17 805 X GW 1 1 2

6 17-045-CCR6 2-21-17 1428 X GW 1 1 2

7 17-046-CCR7 2-22-17 739 X GW 1 1 2

14. Sampled By (Signature) 15. Samp No Date Time

Jeff Roe 1-7 see above

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

16. Relinquished By: Date Time

1 2/23/17 1012

2 2/23/17 1320

3

4

17. Received By: Date Time

2/23/17 1012

2/23/17 1320

Date Time

2/23/17 1012

2/23/17 1320

18. Shipping Method:

Hand delivered

Bus

Courier

Other

19. Send Report To:

Name:

Location/ Address:

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

2017 FEB 23 AM 10 12

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD

part 1 of 14

170221-0121

For Lab Use Only Project Number:

Entered by: Scanned by:

Temp. of Contents: 28 deg. C received under ice Y N

1. Client

Address: 11201 New Berlin Rd
Jax FL 32226

SJRPP

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11 Turnaround Time (circle)

Groundwater CCR Wells (Coal Rule)

8. Preservative

N

N

C

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW

OT = Other

D = Dark

OT = Other

3 4 5 6

No Sample Desc or Field ID Date Time Comp Grab Matrix Let

1 17-040-CCR1 2-22-17 848 X GW 1 1 1 1 119

2 17-041-CCR2 2-22-17 918 X GW 1 1 1 1 241

3 17-042-CCR3 2-22-17 1000 X GW 1 1 1 1 174

4 17-043-CCR4 2-21-17 1306 X GW 1 1 1 1 2548

5 17-044-CCR5 2-22-17 805 X GW 1 1 1 1 801

6 17-045-CCR6 2-21-17 1428 X GW 1 1 1 1 3695

7 17-046-CCR7 2-22-17 739 X GW 1 1 1 1 1740

14. Sampled By (Signature) 15. Samp No Date Time

Jeff Roe 1-7 see above

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

16. Relinquished By: Date Time 17. Received By: Date Time

1 2-23-17 1012 2-23-17 1012

2

3

4

18. Shipping Method: 19. Send Report To:

Hand delivered _____ Name: _____

Bus _____ Location/ Address: _____

Courier _____

Other _____

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 FEB 23 AM 10 12

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only Project Number:
Entered by:
Temp. of Contents: 28 deg. C received under ice
N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226

phone:

904-665-7886

170221-0131

2. Site Name										10. Analysis Requested										11. Turnaround Time (circle)									
Groundwater CCR Wells (Coal Rule)										8. Preservative										STANDARD									
9. Container Type										N N C																			
Matrix Codes (for item 6)										P P P																			
Preservative Codes (for item 8)										Sb, As, Ba, Be, B, Cd, Cr, Co, Pb, Hg, Mo, Se, TDS, PP-INFO, Field Cond.																			
Container Codes (for item 9)										C O N T A I N E R																			
DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water SG = Sludge SL = Soil W = NPW										C = Cool Only H = HCL N = HNO3 OH = NaOH S = H2SO4 T = Na2S2O3 D = Dark																			
F = Filtered OT = Other										V = VOA vial G = Glass AG = Amber Glass P = Plastic M = Micro bag/cup C = Cubitainer OT = Other																			
3										4										5									
No Sample Desc or Field ID										Date Time										Comp Grab Matrix									
1 17-047-CCR2-6F1										2-21-17 1428										X GW									
2 17-048-CCR4R										2-21-17 1336										X GW									
3 17-049-FB										2-21-17 1253										X GW									
4 17-050-FB2										2-22-17 0700																			
5																													
6																													
7																													
14. Sampled By (Signature)										15. Samp No										Date Time									
Jeff Roe										1-4										see above									
Sampled By (Signature)										Samp No										Date Time									
16. Relinquished By:										Date Time										17. Received By:									
1										2-23-17 1012										2/23/17 1012									
2																													
3																													
4																													
18. Shipping Method:										19. Send Report To:																			
Hand delivered										Name:																			
Bus										Location/ Address:																			
Courier																													
Other																													

20. Remarks: Instructions on back

CCR4R - TDS sample Arrived half full

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 FEB 23 AM 10 12

CHAIN OF CUSTODY RECORD

part 1 of 1

170221-011

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 28 deg. C received under ice (Y) N

1. Client

Address: 11201 New Berlin Rd

SJRPP

JAX FL 32226

phone: 904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells (Coal Rule)

8. Preservative

C

N

N

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only

F = Filtered

V = VOA vial

GW = Ground Water

H = HCL

OT = Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge

OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil

SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW

OT = Other

D = Dark

OT = Other

3 4 5 6

No Sample Desc or Field ID Date Time Comp Grab Matrix Let

1 17-040-CCR1 2-22-17 848 X GW 1 1 2

2 17-041-CCR2 2-22-17 918 X GW 1 1 2

3 17-042-CCR3 2-22-17 1000 X GW 1 1 2

4 17-043-CCR4 2-21-17 1306 X GW 1 1 2

5 17-044-CCR5 2-22-17 805 X GW 1 1 2

6 17-045-CCR6 2-21-17 1428 X GW 1 1 2

7 17-046-CCR7 2-22-17 739 X GW 1 1 2

14. Sampled By (Signature) 15. Samp No Date Time

Jeff Roe 1-7 see above

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

Sampled By (Signature) Samp No Date Time

16. Relinquished By: Date Time

1 2/23/17 1012

2 2/23/17 1320

3

4

17. Received By: Date Time

2/23/17 1012

2/23/17 1320

Date Time

2/23/17 1012

2/23/17 1320

18. Shipping Method:

Hand delivered

Bus

Courier

Other

19. Send Report To:

Name:

Location/ Address:

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 APR 19 AM 10 55

CHAIN OF CUSTODY RECORD part 1 of 24

For Lab Use Only
Entered by: *[Signature]* Project Number: _____
Temp. of Contents: 3 deg. C received under ice N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
904-665-7886

phone:

170419-012

2. Site Name

Groundwater CCR Wells

Matrix Codes
(for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge OI = Oil
SL = Soil SF = Solid Fuel
W = NPW OT = Other

Preservative Codes
(for item 8)

C = Cool Only F = Filtered
H = HCL OT = Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

Container Codes
(for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
T
A
I
N
E
R

N

N

C

P

P

P

Sb, As, Ba, Be, B, Cd, C

Cr, Co, Pb, Hg, Mo, Se,

TDS

PP-INFO

Field Cond.

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	13. Lims ID
1	17-132-CCR1	4-18-17	1240		X	GW		1	1	1	1	121							428100001
2	17-133-CCR2	4-18-17	1210		X	GW		1	1	1	1	245							428100002
3	17-134-CCR3	4-18-17	1140		X	GW		1	1	1	1	156							428100003
4	17-135-CCR4	4-18-17	0825		X	GW		1	1	1	1	2519							428160004
5	17-136-CCR5	4-18-17	0945		X	GW		1	1	1	1	819							428100005
6	17-137-CCR6	4-18-17	1005		X	GW		1	1	1	1	3712							428100006
7	17-138-CCR7	4-18-17	1030		X	GW		1	1	1	1	2413							428100007

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
<i>JR</i>	1-7		see above				
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time

16. Relinquished By:	Date Time	17. Received By:	Date Time	18. Shipping Method:	19. Send Report To:
<i>[Signature]</i>	4-19-17 1055	<i>[Signature]</i>	4/19/17 1055	Hand delivered _____	Name: _____
				Bus _____	Location/ Address: _____
				Courier _____	
				Other _____	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 APR 19 AM 10 55

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by: *JSO*

Scanned by:

Temp. of Contents: *7* deg. C received under ice *(Y)* N

1. Client

Address:

SJRPP

phone:

*11201 New Berlin Rd
Jax FL 32226
904-665-7886*

170419-015

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells

8. Preservative

N

N

C

9. Container Type

P

P

P

STANDARD

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water

C = Cool Only F = Filtered

V = VOA vial

GW = Ground Water

H = HCL OT=Other

G = Glass

SW = Surface Water

N = HNO3

AG = Amber Glass

WW = Waste Water

OH = NaOH

P = Plastic

SG = Sludge OI = Oil

S = H2SO4

M = Micro bag/cup

SL = Soil SF = Solid Fuel

T = Na2S2O3

C = Cubitainer

W = NPW OT = Other

D = Dark

OT = Other

3 4 5 6

No Sample Desc or Field ID Date Time Comp Grab Matrix Let

1 17-139-CCR2FD 4-18-17 1210 X GW 1 1 1 1 245

2 17-140-CCR4R 4-18-17 0920 X GW 1 1 1 1 2835

3 17-141-FB 4-18-17 0840 X GW 1 1

4

5

6

7

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

JK

1-3

see above

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

20. Remarks: *Instructions on back*

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 APR 19 AM 10 55

CHAIN OF CUSTODY RECORD

part 4 of 4

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 3 deg. C received under ice Y N

Client

Address:

SJRPP

phone:

170419-013

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells

Matrix Codes (for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

Preservative Codes (for item 8)

C = Cool Only F = Filtered
H = HCL OT=Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

Container Codes (for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C N N
P P P
C
O
N
T
A
I
N
E
R

Chloride, Fluoride, Sul
Lithium
Radium 226/228

STANDARD

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	17-132-CCR1	4-18-17	1240		X	GW		1	1	2								
2	17-133-CCR2	4-18-17	1210		X	GW		1	1	2								
3	17-134-CCR3	4-18-17	1140		X	GW		1	1	2								
4	17-135-CCR4	4-18-17	0825		X	GW		1	1	2								
5	17-136-CCR5	4-18-17	0945		X	GW		1	1	2								
6	17-137-CCR6	4-18-17	1005		X	GW		1	1	2								
7	17-138-CCR7	4-18-17	1030		X	GW		1	1	2								

S170418PPCCR1XX01

S170418PPCCR2XX01

S170418PPCCR3XX01

S170418PPCCR4XX01

S170418PPCCR5XX01

S170418PPCCR6XX01

S170418PPCCR7XX01

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1	4/19/17 1055	4/19/17 1055	Hand delivered	Name:
2	4/19/17 1457	4/19/17 1457	Bus	Location/ Address:
3			Courier	
4			Other	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 APR 19 AM 10 55

CHAIN OF CUSTODY RECORD

part 4 of 4

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 3 deg. C received under ice (Y) N

1 Client

Address:

SJRPP

phone:

11201 New Berlin Rd
Jax FL 32226
904-665-7886

170419-026

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C N N
P P P
C
N
T
A
I
N
E
R

Chloride, Fluoride, Sulfate

Lithium

Radium 226/228

STANDARD

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	17-139-CCR2FD	4-18-17	1210		X	GW		1	1	2								
2	17-140-CCR4R	4-18-17	0920		X	GW		1	1	2								
3																		
4																		
5																		
6																		
7																		

13. Lims ID

S170418PPCCR2XX02

S170418PPCCR4RXX01

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1	4-19-17	1055	4-19-17	1055	Hand delivered	Name:
2	4-19-17	1457	4-19-17	1457	Bus	Location/ Address:
3					Courier	
4					Other	

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

2017 JUN 23 AM 10 05

W0 = 4394

Laboratory Time Stamp

CHAIN OF CUSTODY RECORD part 1 of 1

170623-001

For Lab Use Only

Project Number:

Entered by: AV

Scanned by:

Temp. of Contents: 29 deg. C received under ice Q N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

2. Site Name

10. Analysis Requested

11. Turnaround Time (circle)

Groundwater CCR Wells

Matrix Codes
(for item 6)

DW = Drinking Water

GW = Ground Water

SW = Surface Water

WW = Waste Water

SG = Sludge OI = Oil

SL = Soil SF = Solid Fuel

W = NPW OT = Other

Preservative Codes
(for item 8)

C = Cool Only F = Filtered

H = HCL OT = Other

N = HNO3

OH = NaOH

S = H2SO4

T = Na2S2O3

D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial

G = Glass

AG = Amber Glass

P = Plastic

M = Micro bag/cup

C = Cubitainer

OT = Other

N

N

C

P

P

P

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

C

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16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1 Rel. 9/1/17

6/23/17 1005

AV

6/23/17 1005

Hand delivered _____

Name: _____

Bus _____

Location/ Address: _____

Courier _____

Other _____

20. Remarks Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

2017 JUN 23 AM 10 05

CHAIN OF CUSTODY RECORD part 1 of 1

For Lab Use Only Project Number: _____
Entered by: 217 Scanned by: _____
Temp. of Contents 217 deg. C received under ice Y N

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
904-665-7886

phone:

170623-0021

06/23/17

2 Site Name

Groundwater CCR Wells

Matrix Codes
(for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge OI = Oil
SL = Soil SF = Solid Fuel
W = NPW OT = Other

Preservative Codes
(for item 8)

C = Cool Only F = Filtered
H = HCL OT = Other
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

8. Preservative

9. Container Type

Container Codes
(for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
O
N
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A
I
N
E
R

Chloride, Fluoride, Sulf

Lithium

Radium 226/228

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Pace

7. Container Num/Letter/Lot

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	17-192-CCR1	6-22-17	1401		X	GW		1	1	1								
2	17-193-CCR2	6-22-17	1433		X	GW		1	1	1								
3	17-194-CCR3	6-22-17	1157		X	GW		1	1	1								
4	17-195-CCR4	6-22-17	1125		X	GW		1	1	1								
5	17-196-CCR5	6-22-17	1505		X	GW		1	1	1								
6	17-197-CCR6	6-22-17	1603		X	GW		1	1	1								
7	17-198-CCR7	6-22-17	1538		X	GW		1	1	1								

S170622PPCCR1XX01

S170622PPCCR2XX01

S170622PPCCR3XX01

S170622PPCCR4XX01

S170622PPCCR5XX01

S170622PPCCR6XX01

S170622PPCCR7XX01

14. Sampled By (Signature)

15. Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

Sampled By (Signature)

Samp No

Date Time

16. Relinquished By:

Date Time

17. Received By:

Date Time

18. Shipping Method:

19. Send Report To:

1
2
3
4

Hand delivered _____

Bus _____

Courier _____

Other _____

Name: _____

Location/ Address: _____

20. Remarks: Instructions on back

River Flow:

Treated Flow:

TABLE A-12 - OCTOBER 2017 DETECTION MONITORING SAMPLING LABORATORY ANALYTICAL RESULTS

[illegible]

**TABLE A-13 - DECEMBER 2017 DETECTION MONITORING VERIFICATION SAMPLING
LABORATORY ANALYTICAL RESULTS**

Sample ID	Sample Date	Boron (ug/L)	Calcium (ug/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Residue, Filterable (TDS) (mg/L)
CCR 4	11-Oct-17	21452	420710	65.8	0.40	1320	2240
CCR 5	11-Oct-17	2075.7	15387	178	0.12	49.6	426
CCR 6	11-Oct-17	24132	290760	111	--	1700	2646
CCR 7	11-Oct-17	19904	154870	135	0.17 U	1350	2196



Laboratory Services
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Laboratory Time Stamp

17 OCT-13 AM 10:31

CHAIN OF CUSTODY RECORD

part 1 of 1

171010-014

For Lab Use Only

Project Number:

Entered by: *[Signature]*

Scanned by:

Temp. of Contents: 3 deg. C received under ice

Y N

1. Client

Address:

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

SJRPP

2. Site Name										10. Analysis Requested										11 Turnaround Time (circle)									
Groundwater CCR Wells										8. Preservative										STANDARD									
										9. Container Type										12 Laboratory Section									
Matrix Codes (for item 6)										Container Codes (for item 9)										Springfield									
Preservative Codes (for item 8)										C O N T A I N E R										7. Container Num/Letter/Lot									
DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water SG = Sludge SL = Soil W = NPW										V = VOA vial G = Glass AG = Amber Glass P = Plastic M = Micro bag/cup C = Cubitainer OT = Other																			
C = Cool Only H = HCL N = HNO3 OH = NaOH S = H2SO4 T = Na2S2O3 D = Dark										TDS PP-INFO B, Ca																			
F = Filtered OT=Other																													
3										4																			
No Sample Desc or Field ID										Date Time										13. Lims ID									
1 17-322-CCR1										10-11-17 1221										402500001									
2 17-323-CCR2										10-11-17 1242										402500002									
3 17-324-CCR3										10-11-17 1330										402500003									
4 17-325-CCR4										10-11-17 1014										402500004									
5 17-326-CCR5										10-11-17 938										402500005									
6 17-327-CCR6										10-11-17 912										402500006									
7 17-328-CCR7										10-11-17 8646										402500007									
14. Sampled By (Signature)										15. Samp No										Date Time									
<i>[Signature]</i>										1-7																			
Sampled By (Signature)										Samp No										Date Time									
16. Relinquished By:										Date Time										17. Received By:									
1 <i>[Signature]</i>										10-13-17 1031										10-13-17 1031									
2																													
3																													
4																													
18. Shipping Method:										19. Send Report To:																			
Hand delivered <input checked="" type="checkbox"/>										Name:																			
Bus <input type="checkbox"/>										Location/ Address:																			
Courier <input type="checkbox"/>																													
Other <input type="checkbox"/>																													

20. Remarks: Instructions on back River Flow: Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
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Fax (904) 665-8343

Laboratory Time Stamp

17 OCT-13 AM 10:32

CHAIN OF CUSTODY RECORD

part 1 of 1

For Lab Use Only

Project Number:

Entered by:

Scanned by:

Temp. of Contents: 3 deg. C received under ice

1. Client

Address:

SJRPP

phone:

11201 New Berlin Rd
Jax FL 32226
904-665-7886

171010-017

10/13/17

2. Site Name

Groundwater CCR Wells

Matrix Codes
(for item 6)

Preservative Codes
(for item 8)

Container Codes
(for item 9)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW
OI = Oil
SF = Solid Fuel
OT = Other

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark
F = Filtered
OT = Other

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

10. Analysis Requested

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K	L
1	17-329-CCR4FD	10/1/17	10/14		X	GW		1	1	1									
2	17-330-FB	10/1/17	904		X	GW				1									
3																			
4																			
5																			
6																			
7																			

14. Sampled By (Signature)	15. Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
	1-2						
Sampled By (Signature)	Samp No	Date	Time	Sampled By (Signature)	Samp No	Date	Time
16. Relinquished By	Date Time	17. Received By	Date Time	18. Shipping Method:	19. Send Report To:		
	10/13/17 1032		10/13/17 1031	Hand delivered _____	Name: _____		
				Bus _____	Location/ Address: _____		
				Courier _____			
				Other _____			

20. Remarks: Instructions on back

River Flow:

Treated Flow:



Laboratory Services
1002 Main Street North
Jacksonville, FL 32206
Phone (904) 665-4517
Fax (904) 665-8343

Laboratory Time Stamp

17 DEC-15 AM 11:08

CHAIN OF CUSTODY RECORD

part 1 of 1

171207-023

For Lab Use Only
Entered by: *[Signature]*
Temp. of Contents: *[Signature]* deg. C received under ice *[Signature]* Y N

Project Number:

Scanned by:

1. Client

SJRPP

Address:

11201 New Berlin Rd
Jax FL 32226
phone: 904-665-7886

2. Site Name

Groundwater CCR Wells resample

Matrix Codes
(for item 6)

DW = Drinking Water
GW = Ground Water
SW = Surface Water
WW = Waste Water
SG = Sludge
SL = Soil
W = NPW

Preservative Codes
(for item 8)

C = Cool Only
H = HCL
N = HNO3
OH = NaOH
S = H2SO4
T = Na2S2O3
D = Dark

Container Codes
(for item 9)

V = VOA vial
G = Glass
AG = Amber Glass
P = Plastic
M = Micro bag/cup
C = Cubitainer
OT = Other

C
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A
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B, Ca
TDS

10. Analysis Requested

N

C

P

P

11. Turnaround Time (circle)

STANDARD

12. Laboratory Section

Springfield

7. Container Num/Letter/Lot

13. Lims ID

No	Sample Desc or Field ID	Date	Time	Comp	Grab	Matrix	Let	A	B	C	D	E	F	G	H	I	J	K
1	17-408-CCR4	12-13-17	1417		X	GW		1	1									
2	17-409-CCR5	12-13-17	1439		X	GW		1	1									
3	17-410-CCR6	12-14-17	1358		X	GW		1	1									
4	17-411-CCR7	12-14-17	1413		X	GW		1	1									
5																		
6																		
7																		

413500001
413500002
413500003
413500004

14. Sampled By (Signature)		15. Samp No		Date Time		Sampled By (Signature)		Samp No		Date Time	
<i>[Signature]</i>		1-4									
Sampled By (Signature)		Samp No		Date Time		Sampled By (Signature)		Samp No		Date Time	
16. Relinquished By:		Date Time		17. Received By:		Date Time		18. Shipping Method:		19. Send Report To:	
1 <i>[Signature]</i>		12-15-17/108		<i>[Signature]</i>		12/15/17 1/08		Hand delivered		Name:	
2								Bus		Location/ Address:	
3								Courier			
4								Other			

20. Remarks: Instructions on back

River Flow:

Treated Flow:

APPENDIX B
STATISTICAL WORKSHEETS

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\TDS.NCSS
 Response CCR_1 TDS,CCR_2 TDS,CCR_3 TDS

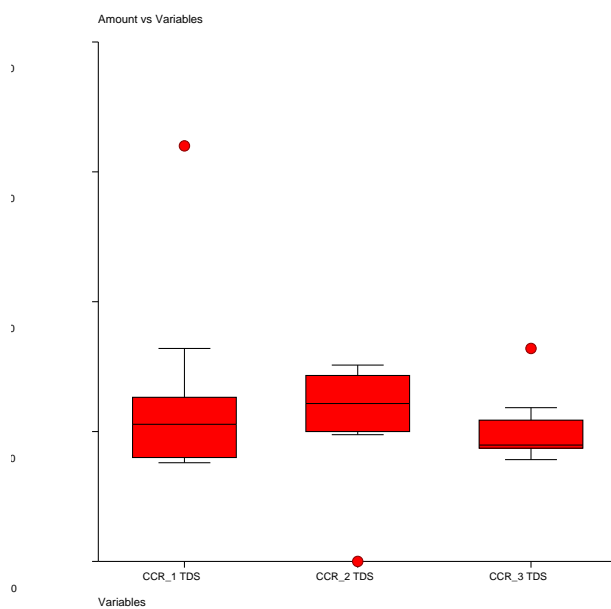
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	3.6972	0.00022	Yes
Kurtosis	3.9142	0.00009	Yes
Skewness and Kurtosis (Omnibus)	28.9897	0.00000	Yes

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.9029	0.41613	No
Levene (Data - Means)	1.2557	0.29941	No
Conover (Ranks of Deviations)	3.9863	0.13627	No
Bartlett (Likelihood Ratio)	9.4417	0.00891	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\TDS.NCSS
 Response CCR_1 TDS,CCR_2 TDS,CCR_3 TDS

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	2	3478.061	1739.03	0.7190	0.49545	No	0.16007
Within (Error)	30	72560.91	2418.697				
Adjusted Total	32	76038.97					
Total	33						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	2	3.7224	0.15549	No
Corrected for Ties	2	3.7237	0.15539	No
Number Sets of Ties	2			
Multiplicity Factor	12			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_1 TDS	11	186.50	16.95	-0.0191	106
CCR_2 TDS	11	231.00	21.00	1.6803	122
CCR_3 TDS	11	143.50	13.05	-1.6612	90

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	2	2.1933	0.33398	No
Van der Waerden - Normal Quantiles	2	2.3981	0.30148	No

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\TDS.NCSS
 Response CCR_1 TDS,CCR_2 TDS,CCR_3 TDS

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	33	113.303	113.303			
A:						
CCR_1 TDS	11	125.3636	12.06061	106	69.62366	14.8284
CCR_2 TDS	11	114.2727	0.969697	122	42.49257	14.8284
CCR_3 TDS	11	100.2727	-13.0303	90	24.55643	14.8284

Tukey-Kramer Multiple-Comparison Test

Response: CCR_1 TDS,CCR_2 TDS,CCR_3 TDS
 Term A:

Alpha=0.050 Error Term=S(A) DF=30 MSE=2418.697 Critical Value=3.4937

Group	Count	Mean	Different From Groups
CCR_1 TDS	11	125.3636	
CCR_2 TDS	11	114.2727	
CCR_3 TDS	11	100.2727	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Sulfate.NCSS
 Response CCR_2 Sulfate,CCR_3 Sulfate

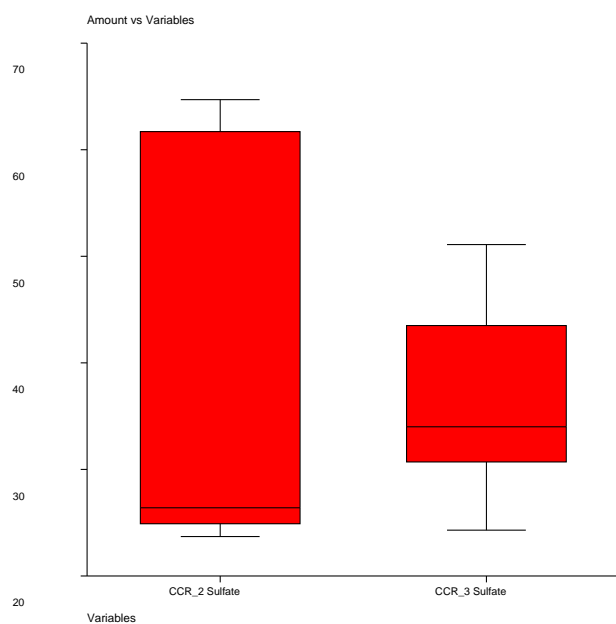
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	2.0696	0.03849	Yes
Kurtosis	0.1789	0.85800	No
Skewness and Kurtosis (Omnibus)	4.3153	0.11560	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	1.0718	0.31289	No
Levene (Data - Means)	7.2197	0.01418	Yes
Conover (Ranks of Deviations)	5.8914	0.01522	Yes
Bartlett (Likelihood Ratio)	4.6593	0.03089	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Sulfate.NCSS
 Response CCR_2 Sulfate,CCR_3 Sulfate

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	1	1.636364	1.636364	0.0091	0.92507	No	0.05094
Within (Error)	20	3608.082	180.4041				
Adjusted Total	21	3609.718					
Total	22						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	1	0.8451	0.35793	No
Corrected for Ties	1	0.8456	0.35780	No
Number Sets of Ties	1			
Multiplicity Factor	6			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_2 Sulfate	11	112.50	10.23	-0.9193	26.4
CCR_3 Sulfate	11	140.50	12.77	0.9193	34

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	1	0.4708	0.49262	No
Van der Waerden - Normal Quantiles	1	0.5185	0.47147	No

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	22	36.50909	36.50909			
A:						
CCR_2 Sulfate	11	36.78182	0.2727273	26.4	17.10607	4.049737
CCR_3 Sulfate	11	36.23636	-0.2727273	34	8.257756	4.049737

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Sulfate.NCSS
Response CCR_2 Sulfate,CCR_3 Sulfate

Tukey-Kramer Multiple-Comparison Test

Response: CCR_2 Sulfate,CCR_3 Sulfate

Term A:

Alpha=0.050 Error Term=S(A) DF=20 MSE=180.4041 Critical Value=2.9581

Group	Count	Mean	Different From Groups
CCR_2 Sulfate	11	36.78182	
CCR_3 Sulfate	11	36.23636	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\pH.NCSS
 Response CCR_1 pH,CCR_2 pH,CCR_3 pH

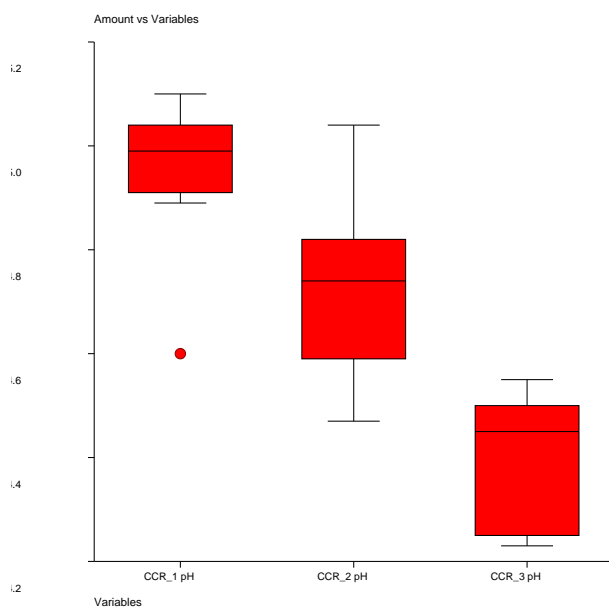
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	-1.3748	0.16921	No
Kurtosis	1.0575	0.29030	No
Skewness and Kurtosis (Omnibus)	3.0082	0.22222	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.4632	0.63370	No
Levene (Data - Means)	0.4091	0.66789	No
Conover (Ranks of Deviations)	1.5011	0.47210	No
Bartlett (Likelihood Ratio)	0.9634	0.61773	No

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\pH.NCSS
 Response CCR_1 pH,CCR_2 pH,CCR_3 pH

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	2	1.657715	0.8288576	43.4274	0.00000	Yes	1.00000
Within (Error)	30	0.5725818	0.01908606				
Adjusted Total	32	2.230297					
Total	33						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	2	24.0297	0.00001	Yes
Corrected for Ties	2	24.0659	0.00001	Yes
Number Sets of Ties	6			
Multiplicity Factor	54			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_1 pH	11	290.50	26.41	3.9526	4.99
CCR_2 pH	11	201.00	18.27	0.5347	4.74
CCR_3 pH	11	69.50	6.32	-4.4873	4.45

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	2	22.2208	0.00001	Yes
Van der Waerden - Normal Quantiles	2	22.5448	0.00001	Yes

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\pH.NCSS
 Response CCR_1 pH,CCR_2 pH,CCR_3 pH

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	33	4.699697	4.699697			
A:						
CCR_1 pH	11	4.951818	0.2521212	4.99	0.1345227	0.04165449
CCR_2 pH	11	4.74	0.04030303	4.74	0.1599375	0.04165449
CCR_3 pH	11	4.407273	-0.2924242	4.45	0.1165411	0.04165449

Tukey-Kramer Multiple-Comparison Test

Response: CCR_1 pH,CCR_2 pH,CCR_3 pH
 Term A:

Alpha=0.050 Error Term=S(A) DF=30 MSE=0.01908606 Critical Value=3.4937

Group	Count	Mean	Different From Groups
CCR_1 pH	11	4.951818	CCR_2 pH, CCR_3 pH
CCR_2 pH	11	4.74	CCR_1 pH, CCR_3 pH
CCR_3 pH	11	4.407273	CCR_1 pH, CCR_2 pH

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset C:\...sstafford\Documents\NCSS 11\Data\SJRPP\Fluoride.NCSS
 Response CCR_1 Fluoride,CCR_2 Fluoride,CCR_3 Fluoride

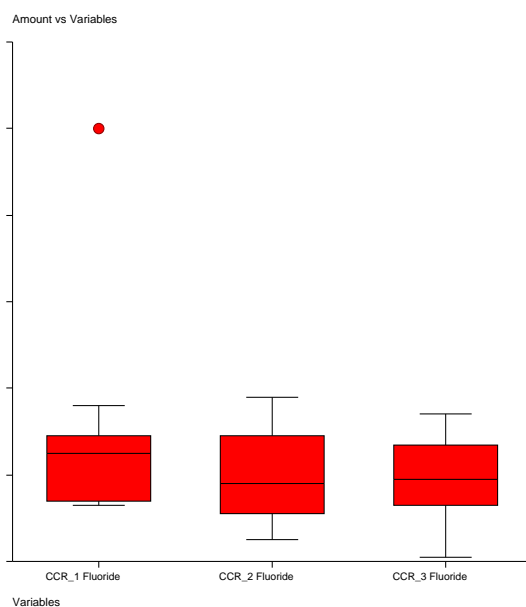
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	4.8414	0.00000	Yes
Kurtosis	4.3030	0.00002	Yes
Skewness and Kurtosis (Omnibus)	41.9549	0.00000	Yes

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.5903	0.56046	No
Levene (Data - Means)	0.9336	0.40428	No
Conover (Ranks of Deviations)	1.0016	0.60605	No
Bartlett (Likelihood Ratio)	10.9182	0.00426	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\...\sstafford\Documents\NCSS 11\Data\SJRPP\Fluoride.NCSS
 Response CCR_1 Fluoride,CCR_2 Fluoride,CCR_3 Fluoride

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	2	0.0006838788	0.0003419394	1.2494	0.30116	No	0.25065
Within (Error)	30	0.008210364	0.0002736788				
Adjusted Total	32	0.008894242					
Total	33						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	2	1.5678	0.45662	No
Corrected for Ties	2	1.5720	0.45566	No
Number Sets of Ties	7			
Multiplicity Factor	96			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_1 Fluoride	11	219.50	19.95	1.2412	0.065
CCR_2 Fluoride	11	167.00	15.18	-0.7638	0.058
CCR_3 Fluoride	11	174.50	15.86	-0.4774	0.059

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	2	2.0279	0.36279	No
Van der Waerden - Normal Quantiles	2	1.9664	0.37412	No

One-Way Analysis of Variance Report

Dataset C:\...\sstafford\Documents\NCSS 11\Data\SJRPP\Fluoride.NCSS
 Response CCR_1 Fluoride,CCR_2 Fluoride,CCR_3 Fluoride

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	33	0.06248485	0.06248485			
A:						
CCR_1 Fluoride	11	0.06890909	0.006424243	0.065	0.02476471	0.004987975
CCR_2 Fluoride	11	0.05963636	-0.002848485	0.058	0.01067963	0.004987975
CCR_3 Fluoride	11	0.05890909	-0.003575758	0.059	0.009679407	0.004987975

Tukey-Kramer Multiple-Comparison Test

Response: CCR_1 Fluoride,CCR_2 Fluoride,CCR_3 Fluoride
 Term A:

Alpha=0.050 Error Term=S(A) DF=30 MSE=0.0002736788 Critical Value=3.4937

Group	Count	Mean	Different From Groups
CCR_1 Fluoride	11	0.06890909	
CCR_2 Fluoride	11	0.05963636	
CCR_3 Fluoride	11	0.05890909	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset C:\...\sstafford\Documents\NCSS 11\Data\SJRPP\Chloride.NCSS
 Response CCR_1 Chloride,CCR_2 Chloride,CCR_3 Chloride

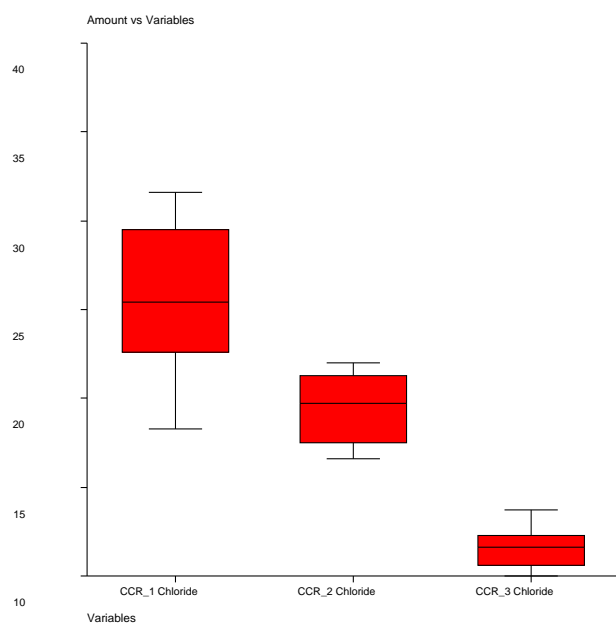
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	-0.5108	0.60946	No
Kurtosis	1.4337	0.15167	No
Skewness and Kurtosis (Omnibus)	2.3164	0.31406	No

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	6.8314	0.00359	Yes
Levene (Data - Means)	7.1906	0.00281	Yes
Conover (Ranks of Deviations)	11.7873	0.00276	Yes
Bartlett (Likelihood Ratio)	13.7904	0.00101	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\...\sstafford\Documents\NCSS 11\Data\SJRPP\Chloride.NCSS
 Response CCR_1 Chloride,CCR_2 Chloride,CCR_3 Chloride

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	2	1084.182	542.0912	76.1267	0.00000	Yes	1.00000
Within (Error)	30	213.6273	7.120909				
Adjusted Total	32	1297.81					
Total	33						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	2	26.7127	0.00000	Yes
Corrected for Ties	2	26.7172	0.00000	Yes
Number Sets of Ties	1			
Multiplicity Factor	6			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_1 Chloride	11	300.00	27.27	4.3154	25.4
CCR_2 Chloride	11	195.00	17.73	0.3055	19.7
CCR_3 Chloride	11	66.00	6.00	-4.6209	11.6

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	2	24.7772	0.00000	Yes
Van der Waerden - Normal Quantiles	2	25.1541	0.00000	Yes

One-Way Analysis of Variance Report

Dataset C:\...\sstafford\Documents\NCSS 11\Data\SJRPP\Chloride.NCSS
 Response CCR_1 Chloride,CCR_2 Chloride,CCR_3 Chloride

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	33	18.89697	18.89697			
A:						
CCR_1 Chloride	11	25.59091	6.693939	25.4	4.034217	0.804584
CCR_2 Chloride	11	19.50909	0.6121212	19.7	1.909688	0.804584
CCR_3 Chloride	11	11.59091	-7.306061	11.6	1.200379	0.804584

Tukey-Kramer Multiple-Comparison Test

Response: CCR_1 Chloride,CCR_2 Chloride,CCR_3 Chloride
 Term A:

Alpha=0.050 Error Term=S(A) DF=30 MSE=7.120909 Critical Value=3.4937

Group	Count	Mean	Different From Groups
CCR_1 Chloride	11	25.59091	CCR_2 Chloride, CCR_3 Chloride
CCR_2 Chloride	11	19.50909	CCR_1 Chloride, CCR_3 Chloride
CCR_3 Chloride	11	11.59091	CCR_1 Chloride, CCR_2 Chloride

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Calcium.NCSS
 Response CCR_1 Calcium,CCR_2 Calcium,CCR_3 Calcium

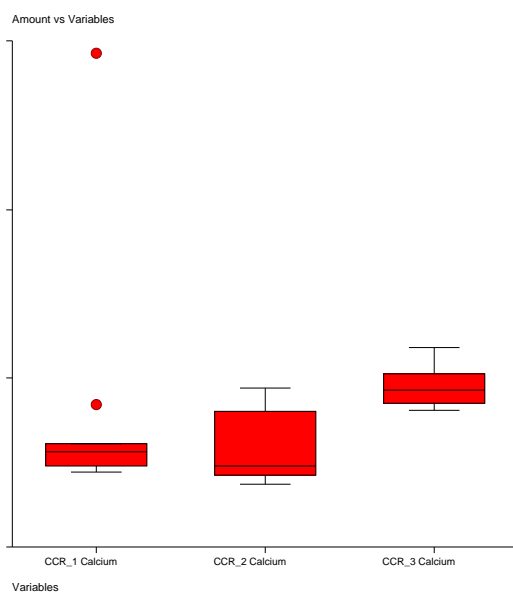
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	5.9995	0.00000	Yes
Kurtosis	5.0717	0.00000	Yes
Skewness and Kurtosis (Omnibus)	61.7164	0.00000	Yes

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.6090	0.55050	No
Levene (Data - Means)	2.3604	0.11168	No
Conover (Ranks of Deviations)	11.2867	0.00354	Yes
Bartlett (Likelihood Ratio)	28.9970	0.00000	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Calcium.NCSS
 Response CCR_1 Calcium,CCR_2 Calcium,CCR_3 Calcium

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	2	1.80608E+07	9030401	1.8742	0.17102	No	0.35880
Within (Error)	30	1.445519E+08	4818395				
Adjusted Total	32	1.626127E+08					
Total	33						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	2	14.5046	0.00071	Yes
Corrected for Ties	2	14.5046	0.00071	Yes
Number Sets of Ties	0			
Multiplicity Factor	0			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_1 Calcium	11	154.00	14.00	-1.2603	2811
CCR_2 Calcium	11	122.00	11.09	-2.4823	2402.6
CCR_3 Calcium	11	285.00	25.91	3.7426	4651.8

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	2	12.6251	0.00181	Yes
Van der Waerden - Normal Quantiles	2	12.9433	0.00155	Yes

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Calcium.NCSS
 Response CCR_1 Calcium,CCR_2 Calcium,CCR_3 Calcium

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	33	3865.912	3865.912			
A:						
CCR_1 Calcium	11	3896.155	30.24242	2811	3602.032	661.8428
CCR_2 Calcium	11	2945.109	-920.803	2402.6	1049.755	661.8428
CCR_3 Calcium	11	4756.473	890.5606	4651.8	615.2778	661.8428

Tukey-Kramer Multiple-Comparison Test

Response: CCR_1 Calcium,CCR_2 Calcium,CCR_3 Calcium
 Term A:

Alpha=0.050 Error Term=S(A) DF=30 MSE=4818395 Critical Value=3.4937

Group	Count	Mean	Different From Groups
CCR_1 Calcium	11	3896.155	
CCR_2 Calcium	11	2945.109	
CCR_3 Calcium	11	4756.473	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Boron.NCSS
 Response CCR_1 Background,CCR_2 Background,CCR_3 Background

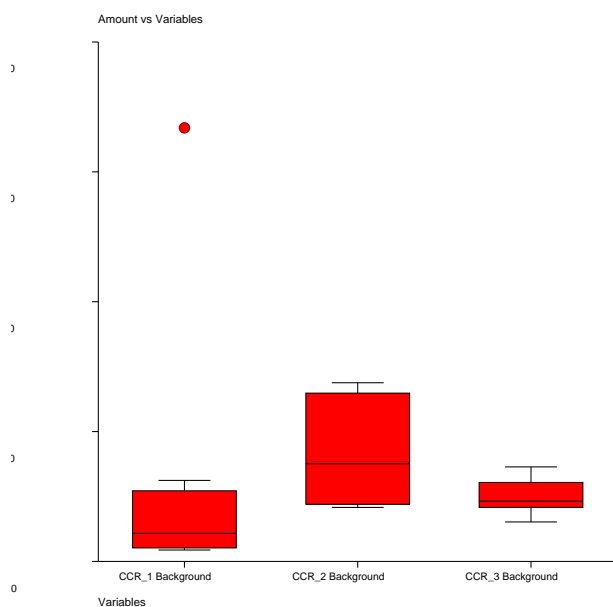
Tests of the Normality of Residuals Assumption

Normality Attributes	Test Value	Prob Level	Reject Normality? ($\alpha=0.05$)
Skewness	5.7050	0.00000	Yes
Kurtosis	4.8841	0.00000	Yes
Skewness and Kurtosis (Omnibus)	56.4014	0.00000	Yes

Tests of the Equality of Group Variances Assumption

Test Name	Test Value	Prob Level	Reject Equal Variances? ($\alpha=0.05$)
Brown-Forsythe (Data - Medians)	0.9674	0.39161	No
Levene (Data - Means)	2.4639	0.10215	No
Conover (Ranks of Deviations)	10.9604	0.00417	Yes
Bartlett (Likelihood Ratio)	29.4867	0.00000	Yes

Box Plot Section



One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Boron.NCSS
 Response CCR_1 Background,CCR_2 Background,CCR_3 Background

Analysis of Variance Table and F-Test

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ($\alpha=0.05$)	Power ($\alpha=0.05$)
Between	2	26600.51	13300.25	0.9432	0.40063	No	0.19785
Within (Error)	30	423043.6	14101.45				
Adjusted Total	32	449644.1					
Total	33						

Kruskal-Wallis One-Way ANOVA on Ranks

Hypotheses

H0: All medians are equal.

H1: At least two medians are different.

Test Results

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Not Corrected for Ties	2	9.8260	0.00735	Yes
Corrected for Ties	2	9.8276	0.00734	Yes
Number Sets of Ties	1			
Multiplicity Factor	6			

Group Detail

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
CCR_1 Background	11	114.00	10.36	-2.7878	43.8
CCR_2 Background	11	256.00	23.27	2.6351	151
CCR_3 Background	11	191.00	17.36	0.1528	92.6

Normal Scores Tests

Hypotheses

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

Results

Test	DF	Chi-Squared (H)	Prob Level	Reject H0? ($\alpha=0.05$)
Terry-Hoeffding - Expected Normal Scores	2	9.1500	0.01031	Yes
Van der Waerden - Normal Quantiles	2	9.3875	0.00915	Yes

One-Way Analysis of Variance Report

Dataset C:\Users\sstafford\Documents\NCSS 11\Data\SJRPP\Boron.NCSS
 Response CCR_1 Background,CCR_2 Background,CCR_3 Background

Descriptive Statistics

Group	Count (ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	33	122.8685	122.8685			
A:						
CCR_1 Background	11	106.2245	-16.64394	43.8	189.5966	35.80433
CCR_2 Background	11	162.8345	39.96606	151	75.70881	35.80433
CCR_3 Background	11	99.54636	-23.32212	92.6	25.01298	35.80433

Tukey-Kramer Multiple-Comparison Test

Response: CCR_1 Background,CCR_2 Background,CCR_3 Background
 Term A:

Alpha=0.050 Error Term=S(A) DF=30 MSE=14101.45 Critical Value=3.4937

Group	Count	Mean	Different From Groups
CCR_1 Background	11	106.2245	
CCR_2 Background	11	162.8345	
CCR_3 Background	11	99.54636	

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

Outlier Tests for Selected Variables replacing nondetects with 1/2 the Detection Limit

Date/Time of Computation ProUCL 5.11/5/2018 2:04:39 PM
From File ApplIII_background.xls
Full Precision OFF

Rosner's Outlier Test for 2 Outliers in Result (boron)

Total N 33
Number NDs 0
Number Detects 33
Mean with NDs=DL/2 122.9
SD with NDs=DL/2 118.5
Number of data 33
Number of suspected outliers 2
NDs replaced with half value.

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	122.9	116.7	667.8	11	4.668	2.95	3.29
2	105.8	68.03	274.5	21	2.479	2.94	3.27

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 667.8 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Rosner's Outlier Test for 2 Outliers in Result (calcium)

Total N 33
Number NDs 0
Number Detects 33
Mean with NDs=DL/2 3866
SD with NDs=DL/2 2254
Number of data 33
Number of suspected outliers 2
NDs replaced with half value.

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	3866	2220	14632	11	4.85	2.95	3.29
2	3529	1179	5914	32	2.023	2.94	3.27

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 14632 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Rosner's Outlier Test for 2 Outliers in Result (fluoride)

Total N 33
 Number NDs 0
 Number Detects 33
 Mean with NDs=DL/2 0.0625
 SD with NDs=DL/2 0.0167
 Number of data 33
 Number of suspected outliers 2
 NDs replaced with half value.

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.0625	0.0164	0.14	11	4.722	2.95	3.29
2	0.0601	0.00933	0.041	33	2.043	2.94	3.27

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 0.14 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Rosner's Outlier Test for 2 Outliers in Result (ph)

Total N 33
 Number NDs 0
 Number Detects 33
 Mean with NDs=DL/2 4.7
 SD with NDs=DL/2 0.264
 Number of data 33
 Number of suspected outliers 2
 NDs replaced with half value.

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	4.7	0.26	4.23	31	1.807	2.95	3.29
2	4.714	0.254	4.25	28	1.827	2.94	3.27

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Dixon's Outlier Test for Result (sulfate)

Total N = 22

Number NDs = 0

Number Detects = 22

Number Data (n) = 22

10% critical value: 0.382

5% critical value: 0.43

1% critical value: 0.514

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 64.7 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.074

For 10% significance level, 64.7 is not an outlier.

For 5% significance level, 64.7 is not an outlier.

For 1% significance level, 64.7 is not an outlier.

2. Data Value 23.7 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.016

For 10% significance level, 23.7 is not an outlier.

For 5% significance level, 23.7 is not an outlier.

For 1% significance level, 23.7 is not an outlier.

Rosner's Outlier Test for 2 Outliers in Result (tds)

Total N 33
Number NDs 0
Number Detects 33
Mean with NDs=DL/2 117.5
SD with NDs=DL/2 44.44
Number of data 33
Number of suspected outliers 2
NDs replaced with half value.

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	117.5	43.76	320	11	4.629	2.95	3.29
2	111.1	25.96	164	4	2.037	2.94	3.27

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 320 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Outlier Tests for Selected Variables replacing nondetects with 1/2 the Detection Limit

User Selected Options

Date/Time of Computation ProUCL 5.11/5/2018 2:09:21 PM
From File Appll_data.xls
Full Precision OFF

Dixon's Outlier Test for Chloride1

Total N = 11

Number NDs = 0

Number Detects = 11

Number Data (n) = 11

10% critical value: 0.517

5% critical value: 0.576

1% critical value: 0.679

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 31.6 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.228

For 10% significance level, 31.6 is not an outlier.

For 5% significance level, 31.6 is not an outlier.

For 1% significance level, 31.6 is not an outlier.

2. Data Value 18.3 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.381

For 10% significance level, 18.3 is not an outlier.

For 5% significance level, 18.3 is not an outlier.

For 1% significance level, 18.3 is not an outlier.

Dixon's Outlier Test for pH1

Total N = 11

Number NDs = 0

Number Detects = 11

Number Data (n) = 11

10% critical value: 0.517

5% critical value: 0.576

1% critical value: 0.679

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 5.1 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.286

For 10% significance level, 5.1 is not an outlier.

For 5% significance level, 5.1 is not an outlier.

For 1% significance level, 5.1 is not an outlier.

2. Data Value 4.6 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.674

For 10% significance level, 4.6 is an outlier.

For 5% significance level, 4.6 is an outlier.

For 1% significance level, 4.6 is not an outlier.

Dixon's Outlier Test for pH3

Total N = 11

Number NDs = 0

Number Detects = 11

Number Data (n) = 11

10% critical value: 0.517

5% critical value: 0.576

1% critical value: 0.679

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 4.55 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.167

For 10% significance level, 4.55 is not an outlier.

For 5% significance level, 4.55 is not an outlier.

For 1% significance level, 4.55 is not an outlier.

2. Data Value 4.23 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.067

For 10% significance level, 4.23 is not an outlier.

For 5% significance level, 4.23 is not an outlier.

For 1% significance level, 4.23 is not an outlier.

Theil-Sen Trend Test Analysis

User Selected Options
Date/Time of Computation ProUCL 5.11/5/2018 2:11:28 PM
From File AppIII_data.xls
Full Precision OFF
Average Replicates Replicates at sampling events will be averaged!
Confidence Coefficient 0.95
Level of Significance 0.05

Chloride1

General Statistics

Number of Events	11
Number of Values Reported (n)	11
Number of Values After Averaging	11
Number of Replicates	0
Minimum	18.3
Maximum	31.6
Mean	25.59
Geometric Mean	25.29
Median	25.4
Standard Deviation	4.034
Coefficient of Variation	0.158

Mann-Kendall Statistics

M-K Test Value (S)	-44
Tabulated p-value	0
Standard Deviation of S	12.81
Standardized Value of S	-3.358
Approximate p-value	3.9292E-4

Approximate inference for Theil-Sen Trend Test

Number of Slopes	55
Theil-Sen Slope	-0.133
Theil-Sen Intercept	29.94
M2'	38.03
One-sided 95% upper limit of Slope	-0.11
95% LCL of Slope (0.025)	-0.174
95% UCL of Slope (0.975)	-0.105

Statistically significant evidence of a decreasing trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	31.6	29.94	1.66
2	7.39	29.2	28.96	0.239
3	12.15	29.5	28.33	1.17
4	16.25	29.6	27.79	1.814
5	25.25	25.4	26.59	-1.193
6	34.25	25.7	25.4	0.3
7	42.1	22.6	24.36	-1.758
8	49.1	24.6	23.43	1.17
9	64.21	22.6	21.43	1.172
10	72.1	22.4	20.38	2.019
11	81.39	18.3	19.15	-0.85

Theil-Sen Trend Test Analysis

User Selected Options
Date/Time of Computation ProUCL 5.11/5/2018 2:13:07 PM
From File ApplII_data.xls
Full Precision OFF
Average Replicates Replicates at sampling events will be averaged!
Confidence Coefficient 0.95
Level of Significance 0.05

pH1

General Statistics

Number of Events	11
Number of Values Reported (n)	11
Number of Values After Averaging	11
Number of Replicates	0
Minimum	4.6
Maximum	5.1
Mean	4.952
Geometric Mean	4.95
Median	4.99
Standard Deviation	0.135
Coefficient of Variation	0.0272

Mann-Kendall Statistics

M-K Test Value (S)	-12
Tabulated p-value	0.179
Standard Deviation of S	12.81
Standardized Value of S	-0.859
Approximate p-value	0.195

Approximate inference for Theil-Sen Trend Test

Number of Slopes	55
Theil-Sen Slope	-0.00134
Theil-Sen Intercept	5.036
M1	14.95
M2	40.05
95% LCL of Slope (0.025)	-0.00506
95% UCL of Slope (0.975)	0.00223

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	5	5.036	-0.0357
2	7.39	5.06	5.026	0.0341
3	12.15	4.95	5.02	-0.0695
4	16.25	5.1	5.014	0.086
5	25.25	4.89	5.002	-0.112
6	34.25	4.91	4.99	-0.08
7	42.1	4.91	4.98	-0.0695
8	49.1	5.04	4.97	0.0698
9	64.21	4.99	4.95	0.04
10	72.1	5.02	4.939	0.0805
11	81.39	4.6	4.927	-0.327

Theil-Sen Trend Test Analysis

User Selected Options
Date/Time of Computation ProUCL 5.11/5/2018 2:14:06 PM
From File ApplII_data.xls
Full Precision OFF
Average Replicates Replicates at sampling events will be averaged!
Confidence Coefficient 0.95
Level of Significance 0.05

pH3

General Statistics

Number of Events	11
Number of Values Reported (n)	11
Number of Values After Averaging	11
Number of Replicates	0
Minimum	4.23
Maximum	4.55
Mean	4.407
Geometric Mean	4.406
Median	4.45
Standard Deviation	0.117
Coefficient of Variation	0.0264

Mann-Kendall Statistics

M-K Test Value (S)	-11
Tabulated p-value	0.223
Standard Deviation of S	12.77
Standardized Value of S	-0.783
Approximate p-value	0.217

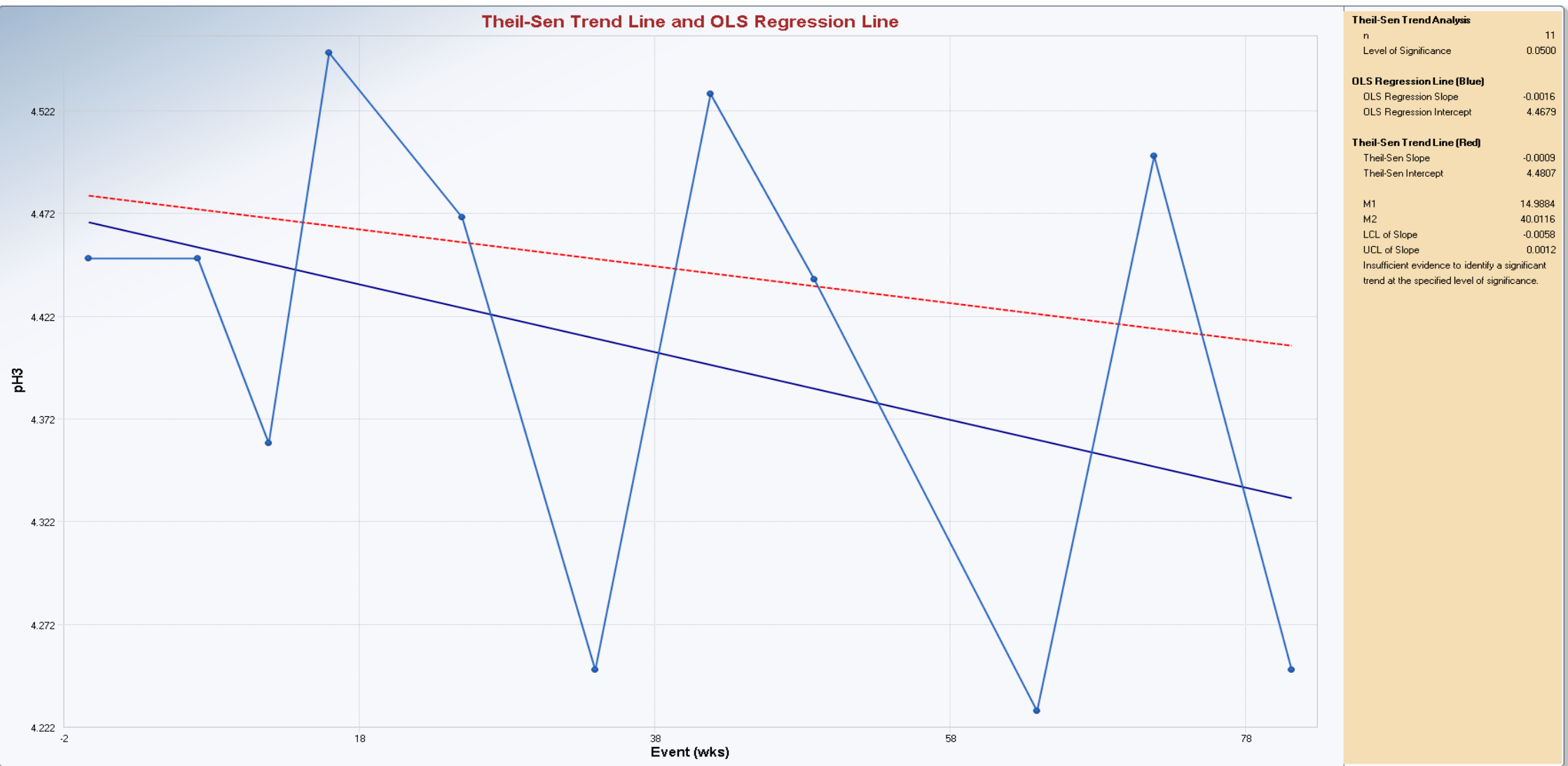
Approximate inference for Theil-Sen Trend Test

Number of Slopes	55
Theil-Sen Slope	-8.951E-4
Theil-Sen Intercept	4.481
M1	14.99
M2	40.01
95% LCL of Slope (0.025)	-0.00584
95% UCL of Slope (0.975)	0.00117

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Estimates and Residuals

#	Events	Values	Estimates	Residuals
1	0	4.45	4.481	-0.0307
2	7.39	4.45	4.474	-0.024
3	12.15	4.36	4.47	-0.11
4	16.25	4.55	4.466	0.0839
5	25.25	4.47	4.458	0.0119
6	34.25	4.25	4.45	-0.2
7	42.1	4.53	4.443	0.087
8	49.1	4.44	4.437	0.0033
9	64.21	4.23	4.423	-0.193
10	72.1	4.5	4.416	0.0839
11	81.39	4.25	4.408	-0.158



Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

Date/Time of Computation ProUCL 5.11/5/2018 2:16:11 PM
From File ApplIII_background.xls
Full Precision OFF
Confidence Coefficient 0.95

Result (boron)

Raw Statistics

Number of Valid Observations	33
Number of Distinct Observations	32
Minimum	18.3
Maximum	667.8
Mean of Raw Data	122.9
Standard Deviation of Raw Data	118.5
Khat	1.769
Theta hat	69.47
Kstar	1.628
Theta star	75.47
Mean of Log Transformed Data	4.503
Standard Deviation of Log Transformed Data	0.8

Normal GOF Test Results

Correlation Coefficient R	0.804
Shapiro Wilk Test Statistic	0.676
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	1.9001E-8
Lilliefors Test Statistic	0.23
Lilliefors Critical (0.05) Value	0.152

Data not Normal at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.979
Shapiro Wilk Test Statistic	0.96
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	0.304
Lilliefors Test Statistic	0.158
Lilliefors Critical (0.05) Value	0.152

Data appear Approximate_Lognormal at (0.05) Significance Level

Result (calcium)

Raw Statistics

Number of Valid Observations	33
Number of Distinct Observations	33
Minimum	1870
Maximum	14632
Mean of Raw Data	3866
Standard Deviation of Raw Data	2254
Khat	5.062
Theta hat	763.7
Kstar	4.622
Theta star	836.4
Mean of Log Transformed Data	8.158
Standard Deviation of Log Transformed Data	0.424

Normal GOF Test Results

Correlation Coefficient R	0.785
Shapiro Wilk Test Statistic	0.65
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	5.6388E-9
Lilliefors Test Statistic	0.228
Lilliefors Critical (0.05) Value	0.152

Data not Normal at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.945
Shapiro Wilk Test Statistic	0.904
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	0.00741
Lilliefors Test Statistic	0.119
Lilliefors Critical (0.05) Value	0.152

Data appear Approximate_Lognormal at (0.05) Significance Level

Result (fluoride)

Raw Statistics

Number of Valid Observations	33
Number of Distinct Observations	23
Minimum	0.041
Maximum	0.14
Mean of Raw Data	0.0625
Standard Deviation of Raw Data	0.0167
Khat	19.85
Theta hat	0.00315
Kstar	18.06
Theta star	0.00346
Mean of Log Transformed Data	-2.798
Standard Deviation of Log Transformed Data	0.215

Normal GOF Test Results

Correlation Coefficient R	0.821
Shapiro Wilk Test Statistic	0.71
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	9.7685E-8
Lilliefors Test Statistic	0.166
Lilliefors Critical (0.05) Value	0.152

Data not Normal at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.923
Shapiro Wilk Test Statistic	0.88
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	0.00142
Lilliefors Test Statistic	0.119
Lilliefors Critical (0.05) Value	0.152

Data appear Approximate_Lognormal at (0.05) Significance Level

Result (sulfate)

Raw Statistics

Number of Valid Observations	22
Number of Distinct Observations	21
Minimum	23.7
Maximum	64.7
Mean of Raw Data	36.51
Standard Deviation of Raw Data	13.11
Khat	9.349
Theta hat	3.905
Kstar	8.104
Theta star	4.505
Mean of Log Transformed Data	3.543
Standard Deviation of Log Transformed Data	0.328

Normal GOF Test Results

Correlation Coefficient R	0.925
Shapiro Wilk Test Statistic	0.844
Shapiro Wilk Critical (0.05) Value	0.911
Approximate Shapiro Wilk P Value	0.00195
Lilliefors Test Statistic	0.167
Lilliefors Critical (0.05) Value	0.184

Data appear Approximate Normal at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.956
Shapiro Wilk Test Statistic	0.897
Shapiro Wilk Critical (0.05) Value	0.911
Approximate Shapiro Wilk P Value	0.0242
Lilliefors Test Statistic	0.149
Lilliefors Critical (0.05) Value	0.184

Data appear Approximate_Lognormal at (0.05) Significance Level

Result (tds)

Raw Statistics

Number of Valid Observations	33
Number of Distinct Observations	31
Minimum	76
Maximum	320
Mean of Raw Data	117.5
Standard Deviation of Raw Data	44.44
Khat	10.51
Theta hat	11.18
Kstar	9.575
Theta star	12.27
Mean of Log Transformed Data	4.718
Standard Deviation of Log Transformed Data	0.294

Normal GOF Test Results

Correlation Coefficient R	0.828
Shapiro Wilk Test Statistic	0.715
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	1.2032E-7
Lilliefors Test Statistic	0.175
Lilliefors Critical (0.05) Value	0.152

Data not Normal at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.943
Shapiro Wilk Test Statistic	0.901
Shapiro Wilk Critical (0.05) Value	0.931
Approximate Shapiro Wilk P Value	0.00595
Lilliefors Test Statistic	0.0942
Lilliefors Critical (0.05) Value	0.152

Data appear Approximate_Lognormal at (0.05) Significance Level

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

Date/Time of Computation ProUCL 5.11/5/2018 2:19:16 PM
From File ApplIII_data.xls
Full Precision OFF
Confidence Coefficient 0.95

Chloride1

Raw Statistics

Number of Valid Observations	11
Number of Distinct Observations	10
Minimum	18.3
Maximum	31.6
Mean of Raw Data	25.59
Standard Deviation of Raw Data	4.034
Khat	42.71
Theta hat	0.599
Kstar	31.12
Theta star	0.822
Mean of Log Transformed Data	3.23
Standard Deviation of Log Transformed Data	0.163

Normal GOF Test Results

Correlation Coefficient R	0.975
Shapiro Wilk Test Statistic	0.947
Shapiro Wilk Critical (0.05) Value	0.85
Approximate Shapiro Wilk P Value	0.63
Lilliefors Test Statistic	0.178
Lilliefors Critical (0.05) Value	0.251

Data appear Normal at (0.05) Significance Level

pH1

Raw Statistics

Number of Valid Observations	11
Number of Distinct Observations	10
Minimum	4.6
Maximum	5.1
Mean of Raw Data	4.952
Standard Deviation of Raw Data	0.135
Khat	1447
Theta hat	0.00342
Kstar	1052
Theta star	0.00471
Mean of Log Transformed Data	1.599
Standard Deviation of Log Transformed Data	0.0278

Normal GOF Test Results

Correlation Coefficient R	0.893
Shapiro Wilk Test Statistic	0.819
Shapiro Wilk Critical (0.05) Value	0.85
Approximate Shapiro Wilk P Value	0.0122
Lilliefors Test Statistic	0.232
Lilliefors Critical (0.05) Value	0.251

Data appear Approximate Normal at (0.05) Significance Level

pH3

Raw Statistics

Number of Valid Observations	11
Number of Distinct Observations	9
Minimum	4.23
Maximum	4.55
Mean of Raw Data	4.407
Standard Deviation of Raw Data	0.117
Khat	1559
Theta hat	0.00283
Kstar	1134
Theta star	0.00389
Mean of Log Transformed Data	1.483
Standard Deviation of Log Transformed Data	0.0266

Normal GOF Test Results

Correlation Coefficient R	0.947
Shapiro Wilk Test Statistic	0.876
Shapiro Wilk Critical (0.05) Value	0.85
Approximate Shapiro Wilk P Value	0.136
Lilliefors Test Statistic	0.247
Lilliefors Critical (0.05) Value	0.251

Data appear Normal at (0.05) Significance Level