

PLUM POINT ENERGY STATION

GROUNDWATER MONITORING AND CORRECTIVE ACTION 2018 ANNUAL REPORT

PREPARED IN COMPLIANCE WITH THE
EPA FINAL RULE FOR THE DISPOSAL OF
COAL COMBUSTION RESIDUALS
TITLE 40, CODE OF FEDERAL REGULATIONS, PART 257

PLUM POINT ENERGY STATION

GROUNDWATER MONITORING AND CORRECTIVE ACTION 2018 ANNUAL REPORT

Prepared for

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EXECUTIVE SUMMARY

Plum Point Services Company, LLC (PPSC), operates a landfill for the disposal of coal combustion residuals (CCRs) at the Plum Point Energy Station located near Osceola, Arkansas. The landfill is regulated by the Environmental Protection Agency (EPA) Coal Combustion Residuals rule, promulgated at Title 40 of the Code of Federal Regulations (40 CFR), Part 257, and published on April 17, 2015. Landfills regulated by this new rule are required to implement and maintain a groundwater monitoring program to determine if the CCR landfill is impacting groundwater quality at the facility's compliance boundary. For this purpose, semiannual groundwater detection monitoring is required. This report presents results from semiannual detection monitoring events performed during 2018 in accordance with 40 CFR Part 257.

The landfill's groundwater monitoring program uses a certified monitoring well network comprised of ten monitoring wells (FTN 2017a). Groundwater sample collection is performed in accordance with the landfill's groundwater sampling and analysis plan (FTN 2017b). Data collected from this program are evaluated in accordance with the landfill's certified statistical analysis plan (FTN 2017c).

FTN Associates, Ltd. (FTN), was contracted to sample groundwater and statistically evaluate the data from the 2018 semiannual monitoring events. Major conclusions from the evaluations include the following:

- 1. Detection monitoring was performed during April and September 2018 for the first and second half of 2018 monitoring periods, respectively.
- 2. The direction of groundwater flow varied between the first and second half monitoring events. Water levels gauged during April 2018 indicate ground water flow was generally toward the southwest. Water levels gauged during September 2018 indicate ground water flow was generally toward the southeast across the active landfill area.
- 3. The secondary drinking water standards (SWDSs) for total dissolved solids (TDS) and pH were exceeded at both background and compliance wells during the first half of 2018 monitoring event. The SWDS for pH was exceeded at two compliance wells during the second half of 2018 monitoring period. SDWSs are non-enforceable guidelines established by EPA for aesthetic considerations.

- Published groundwater quality data for the region indicate that exceedances for TDS and pH are generally typical for the underlying aquifer.
- 4. Of the parameters evaluated, only fluoride has an EPA maximum contaminant level (MCL). None of the measured values in groundwater exceeded the MCL for fluoride.
- 5. Time-series plots and box-and-whiskers diagrams show variability across the well network for calcium, chloride, fluoride, sulfate, and TDS. Values for boron and pH are relatively similar across all wells, with measured levels of boron being below the laboratory RDL for all wells for the period of record.
- 6. Statistical evaluation of the first half of 2018 monitoring data identified a confirmed statistically significant increase (SSI) for calcium at MW-116. PPSC completed a successful alternate source demonstration (ASD) in response to the SSI in accordance with §257.94(e)(2). The ASD was certified by an Arkansas-registered professional engineer and was posted to the facility's operating record on October 9, 2018. Based on the successful ASD, PPSC continued with detection monitoring in accordance with §257.94.
- 7. Statistical evaluation of the second half of 2018 monitoring data identified an SSI for calcium at MW-116. This SSI was previously confirmed during the first half of 2018 monitoring period and, as noted above, a successful ASD was made. PPSC will undertake an ASD during the first half of 2019 to address the reoccurrence of the SSI in accordance with §257.94(e)(2). Pending the results of the ASD, PPSC will continue with detection monitoring in accordance with §257.94.

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1.0 BACKGROUND

Plum Point Services Company, LLC (PPSC), operates a landfill for the disposal of coal combustion residuals (CCRs) at the Plum Point Energy Station in Mississippi County, Arkansas. The plant and landfill are located approximately 2 miles south of the city of Osceola, as shown on Figure 1.1. The landfill is regulated by the Environmental Protection Agency (EPA) Coal Combustion Residuals rule, promulgated at Title 40 of the Code of Federal Regulations (40 CFR), Part 257, and published on April 17, 2015. The regulation, referred to hereafter as the CCR rule, requires regulated landfills to implement and maintain a groundwater monitoring program to determine if the CCR landfill is impacting groundwater quality at the facility's compliance boundary. For this purpose, groundwater detection monitoring is required on a semiannual frequency. A groundwater sampling program that meets the requirements of the CCR rule was implemented by PPSC during 2015, and the first semiannual detection monitoring event was performed at the landfill during the second half of 2017.

FTN Associates, Ltd. (FTN), was contracted to sample groundwater and statistically evaluate the data from the semiannual monitoring events performed during 2018. This report presents the results from both sampling events and the associated statistical evaluations, and is intended to satisfy the reporting requirements of §257.90(e)(1) through (5). The following sections provide a brief description of the sampling area, operational history of the plant and landfill, regional and site-specific hydrogeological setting, and general regional and site groundwater quality.

1.1 Sampling Area

The landfill area encompasses approximately 245 acres located approximately 1 mile west of the Mississippi River and 2 miles south of Osceola, Arkansas. The landfill is bordered by Arkansas Highway 239 to the east, Arkansas Highway 198 to the south, and the BNSF rail line to the west. Beyond these features and immediately north of the landfill are agricultural fields, and topography is relatively flat. A vicinity map of the Plum Point Energy Station and landfill is provided as Figure 1.2.

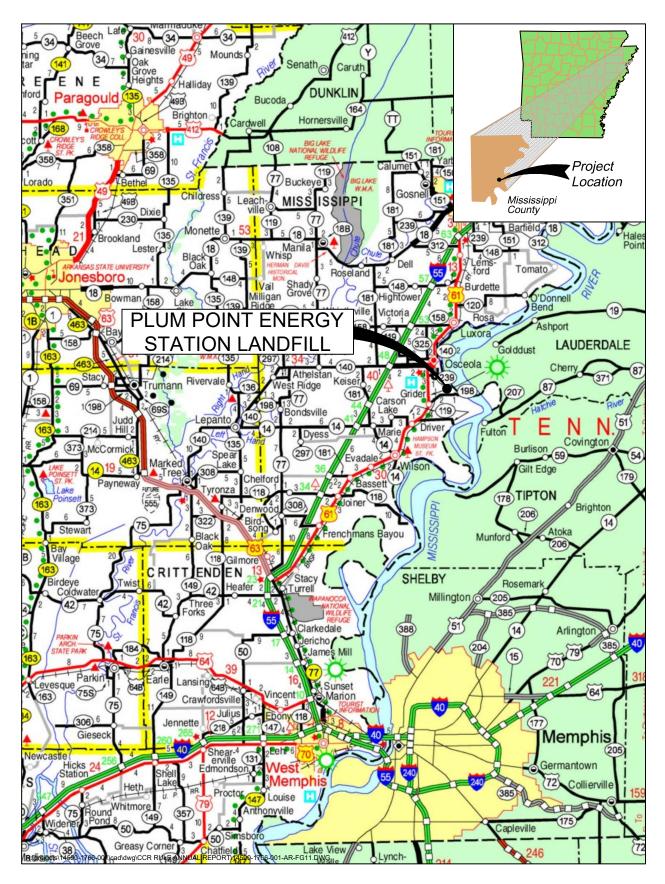


Figure 1.1. Location map.

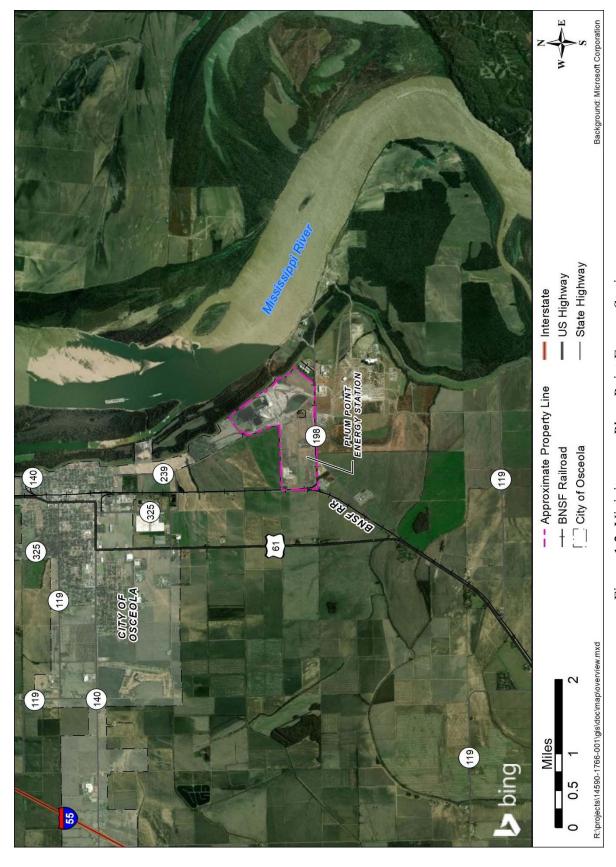


Figure 1.2. Vicinity map, Plum Point Energy Station.

1.2 Operational History

The plant has been in operation since 2010 and generates electricity through the combustion of coal. Approximately 500,000 tons of CCR material is produced and deposited in the landfill each year. The landfill is permitted by the Arkansas Department of Environmental Quality (ADEQ) under Permit No. 0303-S3N-R1 and became active during March 2010. The landfill currently has two active disposal cells, Cells 1 and 3, which are shown on Figure 1.3. The combined area of the two active CCR disposal cells is approximately 30 acres.

Groundwater detection monitoring was initiated at the landfill in November 2007, in accordance with Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 22 requirements. The landfill's groundwater monitoring system was expanded and designed to conform to the requirements of the CCR rule. The groundwater monitoring network was certified by FTN in October 2017 (FTN 2017a). Details regarding the certified groundwater monitoring network are provided in Section 2.0 and in the landfill network certification report (FTN 2017a).

1.3 Regional Hydrogeology

The landfill is located in the Mississippi Alluvial Plain physiographic region, as shown on Figure 1.4. The region was formed by the deposits of the Mississippi River and its tributaries and is generally flat-lying (Cushing, Boswell, and Hosman 1964). The uppermost aquifer in the region is the Mississippi River Valley alluvial aquifer (hereafter referred to as the alluvial aquifer). The alluvial aquifer is comprised of unconsolidated Quaternary-age alluvial and terrace deposit sands and gravels that generally grade upward to clays and silts, which form a semiconfining to confining layer over much of the aquifer. Regionally, the alluvium reaches depths of 100 ft to 200 ft below ground surface (bgs) (Ryling 1960; Cushing, Boswell, and Hosman 1964). Beneath the alluvial aquifer is the Tertiary-aged Jackson-Claiborne clay, which acts as a lower confining unit. The Jackson group contains dense marine clays and shale with occasional lenses of fine-grained sand (Peterson, Broom, and Bush 1985). The regional direction of groundwater flow is toward the southwest (Schrader 2015).

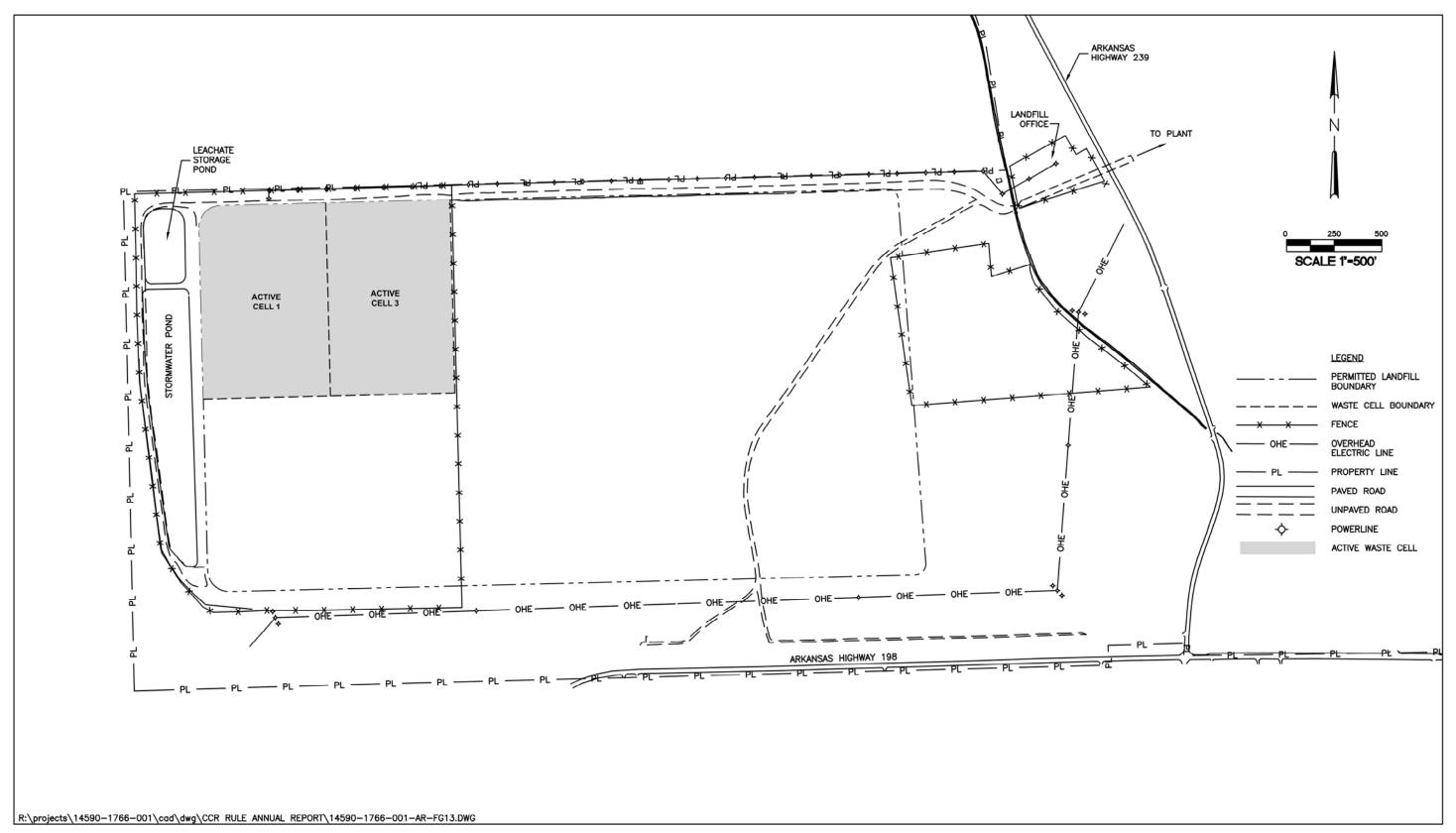


Figure 1.3. Landfill layout map, Plum Point Energy Station landfill.

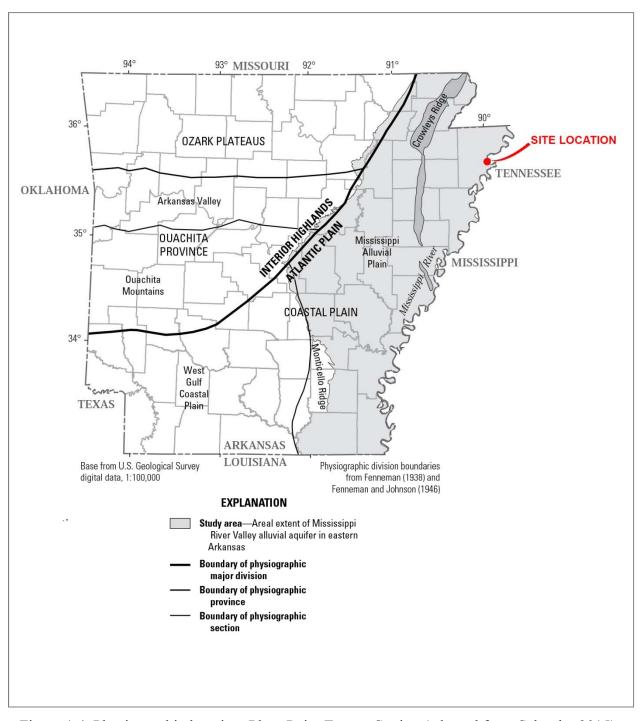


Figure 1.4. Physiographic location, Plum Point Energy Station (adapted from Schrader 2015).

1.4 Site Hydrogeology

A detailed site investigation was performed in 2001 as part of the ADEQ permit application for the landfill. The findings from the investigation were submitted to ADEQ by Genesis Environmental Consulting, Inc. (GEC), in a geotechnical and hydrogeological investigation (GHI) report (GEC 2001). Findings from the GHI indicate that the confining unit above the alluvial aquifer ranges from 0 ft to over 30 ft thick, with an average thickness of 15 ft at the site. Confining unit soils are comprised of brown to grey clay, silty clay, and sandy clays. Underlying the confining unit are fine- to coarse-grained sands of the alluvial aquifer, with fine-to coarse-grained gravel encountered at depth. Based on one deep boring, completed to a depth of 200 ft below ground surface (bgs), the coarse-grained aquifer materials reach a depth of 190 ft bgs in the vicinity of the landfill.

Laboratory geotechnical testing of confining unit soils indicate a vertical permeability ranging from 6.7×10^{-4} centimeters per second (cm/s) to 3.7×10^{-8} cm/s. Field results from one aquifer pumping test and multiple aquifer slug tests indicate that the uppermost alluvial aquifer has an average hydraulic conductivity of 1.09×10^{-2} cm/s (GEC 2001). The GHI reported an effective porosity for the aquifer of 27% (GEC 2001), which agrees with published values ranging from 10% to 30% for similar aquifer materials (EPA 1998, Yu et al. 2015).

The direction of groundwater flow at the landfill is variable and changes from eastward to westward on a seasonal basis (FTN 2017a). The direction of flow is influenced by the river stage of the adjacent Mississippi River (Kresse et al. 2014).

1.5 General Groundwater Quality

Regionally, groundwater in the alluvial aquifer is a calcium-bicarbonate water type with sodium, magnesium, chloride, sulfate, silica, and iron comprising the majority of the remaining dissolved ions (Kresse et al. 2014). Elevated concentrations of trace metals including iron, manganese, and arsenic are ubiquitous in the alluvial aquifer and thought to be elevated due to the presence of carbonaceous material within the aquifer that drives redox-sensitive parameters to dissolve in groundwater (Kresse and Fazio 2003, Gonthier 2003, Kresse and Clark 2008, Welch et al. 2009, Kresse et al. 2014). Concentrations of most parameters vary widely both

laterally and vertically in the aquifer (Kresse et al. 2014). Groundwater at the top of the aquifer is generally influenced by the quality of natural recharge (e.g., precipitation and surface waterbodies) and anthropogenic activity. Conversely, groundwater quality at the base of the aquifer is influenced heavily by the underlying confining formation (Kresse et al. 2014).

2.0 MONITORING NETWORK AND SCHEDULE

The following sections describe the certified monitoring well network, changes made to the network during 2018, sampling schedule, network maintenance, sampling methodology, and required laboratory analyses.

2.1 Monitoring Well Network

The certified groundwater monitoring network for the CCR rule includes the 10 monitoring wells shown on Figure 2.1. The wells are constructed of 2-inch, schedule 40 polyvinyl chloride (PVC) pipe, with 10-ft slotted well screens. A summary of well construction details is included in Table 2.1.

Table 2.1. Summary of well construction details.

Well Number	Well Installation Date	Ground Surface Elevation (ft NAVD) ^(a)	Measuring Point Elevation ^(b) (ft NAVD)	Total Depth (ft below measuring point)	Screened Interval (ft NAVD)
MW-101	4/9/2001	239.4	242.75	33.6	219.2-209.2
MW-102	4/9/2001	240.5	243.99	30.2	223.8-213.8
MW-103	9/26/2007	240.5	243.25	32.8	220.5-210.5
MW-108	4/11/2001	241.8	245.11	32.4	222.7-212.7
MW-113	4/07/2009	241.5	244.63	35.9	223.7-208.7
MW-115	9/25/2007	240.4	243.55	33.0	220.6-210.7
MW-116	6/23/2015	239.3	243.97	31.9	222.5-212.5
MW-117	6/24/2015	239.4	242.53	34.2	218.5-208.5
MW-118	6/24/2015	238.0	241.23	31.4	220.2-210.2
MW-119	10/6/2016	243.6	246.53	35.4	221.5-211.5

Notes:

a. North American Vertical Datum of 1988.

b. Measuring point is the surveyed and marked point on the top of casing (TOC) of each monitoring well.

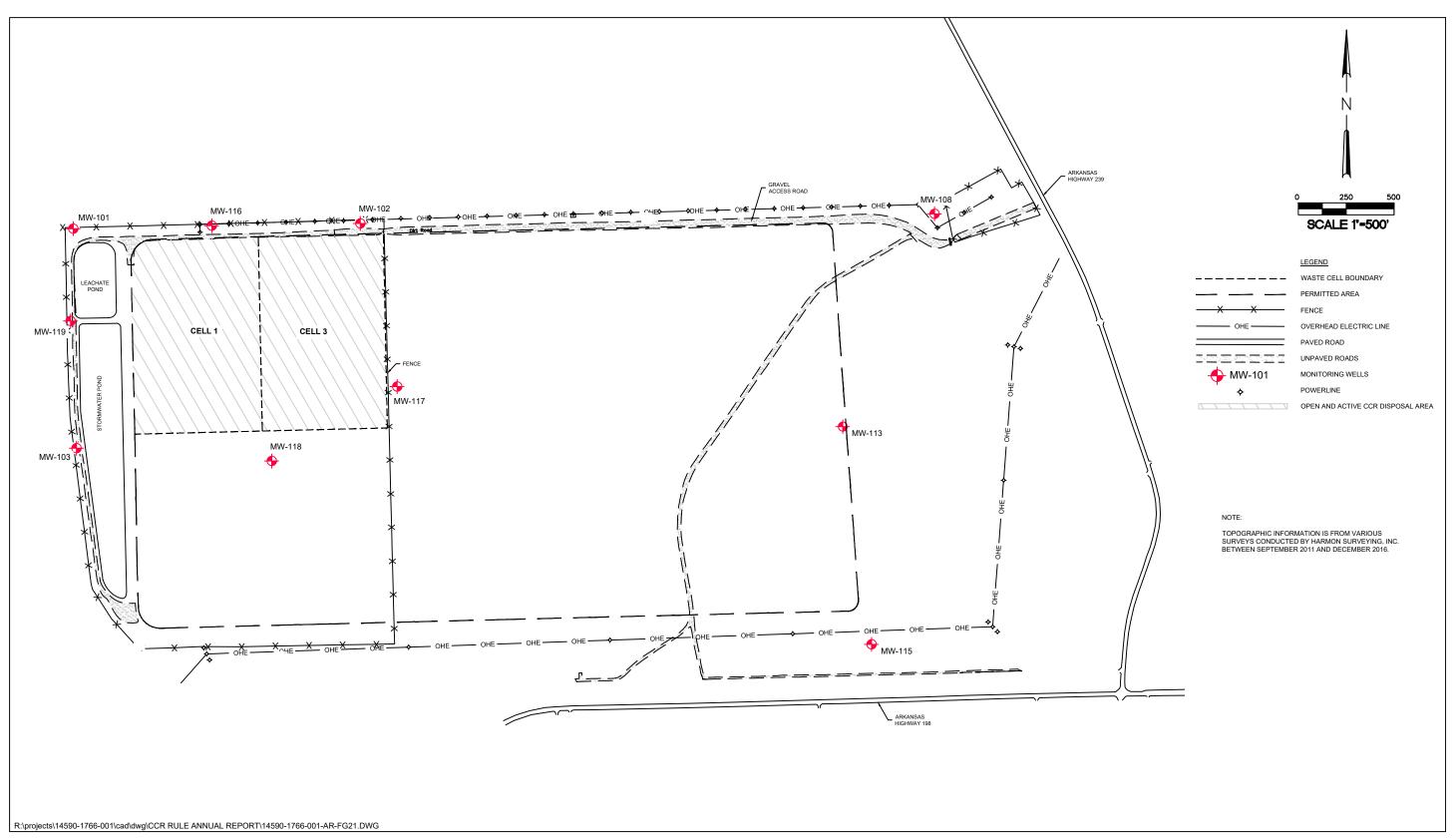


Figure 2.1. Monitoring well locations, Plum Point Energy Station.

Each monitoring well is screened in the alluvial aquifer, the uppermost aquifer in the vicinity of the landfill. The direction of groundwater flow beneath the site is seasonally variable. As a result, there is not a hydraulically upgradient location with respect to Cell 1 and Cell 3. As allowed by §257.91(a)(1), the groundwater program utilizes wells for background water quality that are not hydraulically upgradient of the CCR management area. Monitoring wells MW-108, MW-113, and MW-115 (Figure 2.1) are used for this purpose because they are positioned outside the potential zone of impact from Cell 1 and Cell 3. The rationale for this is based on the age of the landfill, the estimated maximum rate of groundwater flow, and the distance of MW-108, MW-113, and MW-115 from the CCR management area (FTN 2017a).

2.2 Network Improvements During 2018

All of the 10 monitoring wells in the certified network were installed prior to 2018. No new wells were installed and none of the existing wells were altered or abandoned during 2018.

2.3 Sampling Schedule

In accordance with the CCR rule and the landfill's groundwater sampling and analysis plan (GWSAP), detection monitoring is scheduled to occur semiannually. Detection monitoring was conducted at all wells except MW-119 during 2018. Monitoring well MW-119 was installed during October 2016 and is still being assessed for background. The first half of 2018 detection monitoring event was conducted during April and the second half of 2018 detection monitoring event was conducted during September. Based on statistical evaluation of the data sets, verification sampling was performed during July and November, as discussed in Section 4.0. The anticipated sampling schedule for 2019 is provided in Table 2.2.

						_	ling Events
Monitoring	Sampling	g Program	Sampling 1	Frequency]	During 2	2019
Well	Detection	Background	Semiannual	Quarterly	March	June	September
MW-101	X		X		X		X
MW-102	X		X		X		X
MW-103	X		X		X		X
MW-108	X		X		X		X
MW-113	X		X		X		X
MW-115	X		X		X		X
MW-116	X		X		X		X
MW-117	X		X		X		X
MW-118	X		X		X		X
MW_110		Y		Y	Y	Y	Y

Table 2.2. Anticipated monitoring well sampling frequency during 2019.

2.4 Monitoring Well Operation and Maintenance

The integrity of each monitoring well was inspected prior to commencement of groundwater sampling activities. Well casing, concrete pads, and bollards were inspected for any indications of damage and dedicated sampling equipment was assessed for visible damage.

Noted damages and recommended repairs, if any, are communicated to PPSC.

2.5 Sampling Methodology

To ensure that monitoring results are an accurate representation of groundwater quality, sample collection follows the guidelines for sample collection, preservation, shipment, chain-of-custody (COC) control, and quality control outlined in the landfill's GWSAP (FTN 2017a). Groundwater sample collection during the current monitoring period was performed in accordance with the landfill's GWSAP and EPA guidelines (Puls and Barcelona 1996). Groundwater was sampled with a Geopump Peristaltic Series II Pump and linear low-density polyethylene tubing. Field parameters were measured during purging and sampling using a Hach 2100P portable turbidity meter and a handheld YSI 556 (MPS) multiparameter instrument fitted with a flow-through cell. Field sampling forms for the current monitoring event are provided in Appendix A.

2.6 Laboratory Analyses

Samples collected for each detection monitoring event are required to be analyzed for the 40 CFR Part 257 appendix III list of parameters provided in Table 2.3. Pace Environmental (Pace), formerly known as Environmental Science Corporation (ESC) Lab Sciences, of Mt. Juliet, Tennessee, provided laboratory services during the detection monitoring period. Samples were analyzed in accordance with EPA's *Test Methods for Evaluating Solid Waste Physical/Chemical Methods* (SW-846) (EPA 1986b), or equivalent, and guidelines established by EPA. Pace/ESC laboratory reports are included in Appendix B.

Table 2.3. Appendix III parameters for groundwater detection monitoring.

Appendix III to Part 257 – Parameters for Detection Monitoring							
Boron	Sulfate						
Calcium	Total dissolved solids (TDS)						
Chloride	pH (field-measured)						
Fluoride							

3.0 DATA PRESENTATION

This section presents the data collected during the current monitoring event. Water level data are presented in Section 3.1, field-measured groundwater quality data are presented in Section 3.2, laboratory analytical data are presented in Section 3.3, and a review of quality assurance and quality control (QA/QC) measures is presented in Section 3.4.

3.1 Water Level Data

This section presents groundwater level measurements and groundwater flow characteristics determined from these measurements.

3.1.1 Water Level Measurements and Hydrographs

Static water levels were measured in all 10 monitoring wells using a Solinst 101 water level meter on April 10, 2018, and September 24, 2018, prior to conducting any sampling activities. Depth to water was measured to the nearest 0.01 ft from the measuring point (MP) located on the top of casing (TOC) of each well and recorded on the field water level data sheet included in Appendix A. Field water level measurements are tabulated in Table 3.1.

		April 1	0, 2018	Septembe	er 24, 2018
	MP Elevation	Depth to Water	Water Elevation	Depth to Water	Water Elevation
Well ID	(ft NAVD88)	(ft below MP)	(ft NAVD88)	(ft below MP)	(ft NAVD88)
MW-101	242.75	10.12	232.63	17.46*	225.29*
MW-102	243.99	10.49	233.50	19.84	224.15
MW-103	243.25	10.91	232.34	19.09	224.16
MW-108	245.11	10.12	234.99	20.22	224.89
MW-113	244.63	10.40	234.23	20.55	224.08
MW-115	243.55	9.40	234.15	19.26	224.29
MW-116	243.97	11.08	232.89	20.14	223.83
MW-117	242.53	9.34	233.19	18.82	223.71
MW-118	241.23	8.47	232.76	17.51	223.72
MW-119	246.53	14.01	232.52	21.42	225.11

Table 3.1. Water level data.

^{*}Due to a discrepancy in water level readings, the pre-purge confirmation water level was used.

Hydrographs depicting water level elevations over time are included in Appendix C. As shown on the hydrographs, within-well water levels fluctuated seasonally as much as ± 18 ft over the period of record for the CCR rule program.

3.1.2 Direction of Groundwater Flow

Depth-to-water measurements were converted to feet NAVD88 and used to construct the potentiometric surface maps shown on Figures 3.1 and 3.2 (figures are included at the end of Section 3.0). As shown on Figure 3.1, groundwater flow beneath the Cell 1 and Cell 3 area was generally to the southwest during the April 2018 monitoring event. As shown on Figure 3.2, groundwater flow beneath Cell 1 and Cell 3 was generally to the southeast during the September 2018 monitoring event.

3.1.3 Rate of Groundwater Flow

The rate of groundwater flow beneath the landfill is estimated based on Darcy's law, modified to account for the open space available for groundwater flow within the aquifer. The resulting equation used to estimate the average linear groundwater velocity, or rate of flow, is shown below (Kuo 1999):

$$V_x = K/n_e(dh/dl)$$

Where: $V_x = linear velocity$,

K = hydraulic conductivity, $n_e = effective porosity, and$

dh/dl = hydraulic gradient.

The hydraulic conductivity (K) and the effective porosity (n_e) of the alluvial aquifer are 1.09×10^{-2} cm/sec and 27%, respectively, based on previous reports (GEC 2001). The hydraulic gradient (dh/dl) is calculated using water level elevations that most closely represent the flow line from upgradient to downgradient across Cell 1 and Cell 3. The hydraulic gradient was estimated to be 5.9×10^{-4} ft/ft during April 2018 and 8.4×10^{-4} ft/ft during September 2018 using the potentiometric surface maps shown on Figures 3.1 and 3.2, respectively. Based on these

values, V_x was calculated to be approximately 25 ft/year during April 2018 and 30 ft/year during September 2018. These values are consistent with historically observed flow rates at the site (FTN 2017a).

3.2 Field-Measured Water Quality Data

Groundwater sampling records for the current monitoring event are included in Appendix A. Field-measured water quality parameters from the 2018 monitoring events are summarized in Table 3.2. A review of the field quality control samples is provided in Section 3.4.

3.3 Laboratory Analytical Data

Laboratory reports for sampling performed during 2018 monitoring periods are included in Appendix B. A review of the laboratory quality control information is provided in Section 3.4. Reported measured values along with field-measured pH are summarized in Tables 3.3 and 3.4 for the first and second half of 2018 monitoring periods, respectively. EPA-promulgated maximum contaminant levels (MCLs) and secondary drinking water standards (SWDSs) are shown for comparison purposes. Data from these monitoring events are compiled in the landfill's historical groundwater database for appendix III parameters, included as Appendix D.

Table 3.2. Field-measured water quality data.

		Conductivity	pН	Temperature	Turbidity			
Well	Date	(µmhos/cm)	(su)	(C)	(NTU)			
First Quarter	2018 Background	Sampling Even	t					
MW-116	1/30/2018	626	6.5	17.3	0.8			
MW-119	1/30/2018	581	6.4	18.2	1.2			
First Half of 2018 Sampling Event								
MW-101	4/12/2018	692	6.4	16.7	2.7			
MW-102	4/11/2018	728	6.3	17.1	2.2			
MW-103	4/11/2018	766	6.2	17.6	1.1			
MW-108	4/10/2018	960	6.5	16.3	1.9			
MW-113	4/10/2018	587	6.4	16.2	1.8			
MW-115	4/10/2018	647	6.3	15.9	0.7			
MW-116	4/11/2018	768	6.4	17.6	0.9			
MW-117	4/11/2018	486	6.4	17.2	1.8			
MW-118	4/11/2018	429	5.8	16.5	1.3			
MW-119	4/11/2018	524	6.4	18.0	0.9			
First Half of	2018 Verification S	Sampling Event		-				
MW-102	7/9/2018	804	6.7	23.5	3.0			
MW-116	7/9/2018	828	6.6	23.8	3.2			
MW-118	7/10/2018	477	6.5	22.1	1.2			
Second Half	of 2018 Sampling I	Event						
MW-101	9/26/2018	657	6.8	18.8	2.3			
MW-102	9/27/2018	642	6.5	18.4	2.1			
MW-103	9/26/2018	705	6.6	19.4	1.3			
MW-108	9/25/2018	867	6.7	22.9	1.9			
MW-113	9/25/2018	567	6.7	20.8	0.8			
MW-115	9/25/2018	701	6.7	21.8	1.1			
MW-116	9/26/2018	732	6.6	19.5	1.5			
MW-117	9/27/2018	484	6.4	18.5	2.2			
MW-118	9/27/2018	443	6.3	17.9	1.0			
MW-119	9/27/2018	562	6.7	19.2	1.3			
Second Half	of 2018 Verification	n Sampling and	Fourth Quarter	2018 Background	Sampling Event			
MW-117	11/19/2018	383	6.6	17.1	1.7			
MW-119	11/20/2018	426	6.8	18.5	0.6			

Table 3.3. Summary of appendix III results, first half of 2018.

	Date	Boron		Calcium	Chloride	Fluoride	Sulfate	TDS	pН
Well ID	Collected	(mg/L)		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(su)
	ter 2018 Bac		ampl	`		8 /	<u> </u>	8 /	(2.27)
MW-116	1/30/2018		Î				35.5		6.5
MW-119	1/30/2018	0.0805 H	3J	99.3	2.07	0.259	35.5	380	6.4
First Half of 2018 Sampling Event									
MW-101	4/12/2018	0.0840 H	3J	121	2.75	0.307	17.4	420	6.4
MW-102	4/11/2018	0.144 I	3J	136	1.77	0.206	46.7	472	6.3
MW-103	4/11/2018	0.122 I	3J	128	3.24	0.163	80.6	468	6.2
MW-108	4/10/2018	0.171 H	3J	183	3.03	0.177	44.5	582	6.5
MW-113	4/10/2018	0.0899 H	3J	92.0	2.94	0.0562 J	10.1	340	6.4
MW-115	4/10/2018	0.0666 H	3J	111	1.34	0.209	5.81	368	6.3
MW-116	4/11/2018	0.111 H	3J	137	4.90	0.166	113	511	6.4
MW-117	4/11/2018	0.0952 H	3J	82.5	1.57	0.124	7.28	290	6.4
MW-118	4/11/2018	0.0949 H	3J	71.8	1.36	0.157	15.2	257	5.8
MW-119	4/11/2018	0.0950 H	3J	85.9	2.15	0.230	31.1	315	6.4
First Half	of 2018 Veri	fication San	nplir	ng Event					
MW-102	7/9/2018			124					6.7
MW-116	7/9/2018			125					6.6
MW-118	7/10/2018								6.5
Quality Co	ntrol Sampl	es							
MW-200 ^(a)	1/30/2018	0.102 H	3J	108	4.89	0.208	87.3	424	
MW-202 ^(a)	1/30/2018	0.0293 J	Г	<1	<1	< 0.1	0.288 J	<10	
MW-201 ^(b)	4/12/2018	0.0454 J	ſ	<1	<1	<0.1	<5	<10	
MW-202 ^(b)	4/11/2018	0.110 H	3J	128	3.25	0.163	80.7	464	
MW-201 ^(c)	7/9/2018			127					
MW-202 ^(c)	7/9/2018			124					
Water Qua Standard	lity				250 ^(d)	4 ^(e) / 2 ^(d)	250 ^(d)	500 ^(d)	6.5-8.5 ^(d)

Notes:

[&]quot;B" flag indicates that the analyte was detected in an associated quality control blank. "J" flag indicates that the analyte was detected at a level below the laboratory reporting detection limit (RDL) and thus the value is an estimate.

a. MW-200 was a duplicate of MW-119 and MW-202 was a field equipment blank.

b. MW-201 was a field equipment blank and MW-202 was a duplicate of MW-102.

c. MW-201 was a duplicate of MW-116 and MW-202 was a duplicate of MW-102.

d. Water quality standard is an EPA secondary drinking water standard.

e. Water quality standard is an EPA maximum contaminant level.

Table 3.4. Summary of appendix III results, second half of 2018.

	Date	Boro		Calcium	Chlor		Fluoride	Sulfate	TDS	pН
Well ID	Collected	(mg/I	را)	(mg/L)	(mg/l	<u>ل)</u>	(mg/L)	(mg/L)	(mg/L)	(su)
Second Ha	lf of 2018 Sai	mpling E	vent							
MW-101	9/26/2018	0.0981	BJ	115	1.94	В	0.290 B	14.6	421	6.8
MW-102	9/27/2018	0.121	BJ	121	3.84		0.183 B	88.6	453	6.5
MW-103	9/26/2018	0.145	BJ	129	1.36	В	0.217 B	32.8	440	6.6
MW-108	9/25/2018	0.183	BJ	163	3.11		0.188 B	52.2	537	6.7
MW-113	9/25/2018	0.111	BJ	90.0	2.84	В	0.114 B	9.81	337	6.7
MW-115	9/25/2018	0.0764	BJ	123	1.18	В	0.216 B	5.00 J	417	6.7
MW-116	9/26/2018	0.153	BJ	132	4.13		0.183 B	97.5	500	6.6
MW-117	9/27/2018	0.127	BJ	89.8	1.25	В	0.144 B	7.19	318	6.4
MW-118	9/27/2018	0.113	BJ	80.6	1.33	В	0.165 B	17.0	375	6.3
MW-119	9/27/2018	0.103	BJ	99.0	2.30	В	0.253 B	41.6	290	6.7
Second Ha	lf of 2018 Ve	rification	Sam	pling and F	ourth Q	uar	ter Backgro	und Samı	pling Eve	nt
MW-117	11/19/2018			85.7					288	6.6
MW-119	11/20/2018	0.0826	BJ	94.0	1.96		0.271	33.0	343	6.8
Quality Co	ntrol Sample	es								
MW-116	9/26/2018	0.121	BJ	130	4.14		0.189 B	98.4	512	
DUP ^(a)										
EB-2 ^(a)	9/27/2018	0.0533	J	0.500 J	0.311	J	< 0.100	< 5.00	<10.0	
MW-119 DUP ^(b)	11/20/2018	0.0866	J	95.7	1.91		0.273	32.7	340	
EPA EB-1 ^(b)	11/20/2018	0.0416	J	<1.00	<1.00		<0.100	<5.00	<10.0	
Water Qua Standard	ality				250(4 ^(d) / 2 ^(c)	250 ^(c)	500 ^(c)	6.5- 8.5 ^(c)

Notes:

and thus the value is an estimate.

[&]quot;B" flag indicates that the analyte was detected in an associated quality control blank. "J" flag indicates that the analyte was detected at a level below the laboratory RDL

a. MW-116 was a duplicate of MW-116 and EB-2 was a field equipment blank.

b. MW-119 DUP was a duplicate of MW-119 and EPA EB-1 was a field equipment blank.

c. Water quality standard is an EPA secondary drinking water standard.

d. Water quality standard is an EPA maximum contaminant level.

Of the appendix III parameters listed in Tables 3.3 and 3.4, fluoride is the only parameter with an established MCL. As shown in Tables 3.3 and 3.4, none of the measured levels for fluoride exceed the fluoride MCL of 4 mg/L. Parameters with established SDWSs listed in Tables 3.3 and 3.4 include chloride, fluoride, sulfate, TDS, and pH. Of these, the reported values for TDS at MW-108 exceeded the SDWS during the first and second half of 2018 monitoring periods (Tables 3.3 and 3.4) and the reported value for TDS at MW-116 exceeded the SDWS during the first half of 2018 monitoring period (Table 3.3). Values for pH were below the lower SDWS of 6.5 su at all wells except MW-108 during the first half of 2018 monitoring period as well as at wells MW-117 and MW-118 during the second half of 2018 monitoring period. However, all of the measured values for TDS and pH are generally consistent with historically reported values at the landfill prior to development of Cells 1 and 3, and with published values for regional groundwater quality for the aquifer (Kresse et al. 2014). SDWSs were established for aesthetic properties such as taste, color, and odor and do not have enforceable limits established by the federal National Primary Drinking Water Regulations.

3.4 Quality Assurance and Quality Control

A review of laboratory and field QA/QC measures is presented below.

3.4.1 Review of Laboratory Quality Control Samples

Based on a review of the data quality documentation provided by ESC/Pace in Appendix B, samples were received by the laboratory in good condition, properly preserved, at the correct temperature, and were analyzed within holding times. The overall quality of the data relative to the contaminants of concern was acceptable and generally met method-specific requirements for precision and accuracy.

3.4.2 Review of Field Quality Control Samples

Field QA/QC samples include field duplicates and field equipment blanks. Field duplicates are two samples taken from the same well and collected as close to each other in time as practical. Data from the duplicate pair are compared to evaluate the level of precision

associated with the sampling and analytical methods. Field equipment rinsate blanks are prepared by pouring deionized water over decontaminated sampling equipment. Equipment blank results are used to verify that proper protocols for equipment decontamination were followed in the field. In accordance with the landfill's GWSAP, a minimum of one duplicate sample and one equipment rinsate blank is to be collected per sampling event, or one per 20 groundwater samples collected.

In accordance with the GWSAP, field QA/QC samples were collected in conjunction with groundwater sampling activities for this monitoring period. All QA/QC samples were handled in the same manner as groundwater samples with respect to sample collection, packaging, shipping, preservation, and COC procedures. A review of the field QA/QC samples is performed upon receipt of the data from the laboratory. Field duplicate pairs are evaluated to verify that the duplicate pair showed reasonable precision for analyzed parameters by calculating the relative percent difference (RPD) for parameters where the detected level was at least five times the laboratory reported detection limit (RDL) and where neither result was qualified or suspected of contamination. Calculated RPDs were below the quality control limit of 20% for all duplicate-pairs evaluated, except as noted below, indicating that field methods produced samples with an acceptable level of reproducibility. Results for the equipment rinsate blanks were all below their respective laboratory RDLs, indicating field decontamination methods were effective Noted deviations from the QA/QC program are noted below.

- The April 2018 field-duplicate pair was taken at MW-102. Calculated RPDs were below the quality control limit of 20% for all parameters evaluated except for sulfate, which had an RPD of 53%. A review of the field sampling forms show that the field technician noted strong winds and blowing dust while sampling at this well. Airborne particulates may have affected the groundwater samples pulled from the well.
- The field technician inadvertently took two field duplicates during the July 2018 event as opposed to one field duplicate and one equipment blank. The omission of the field blank does not affect the validity of the sampling results for this event.

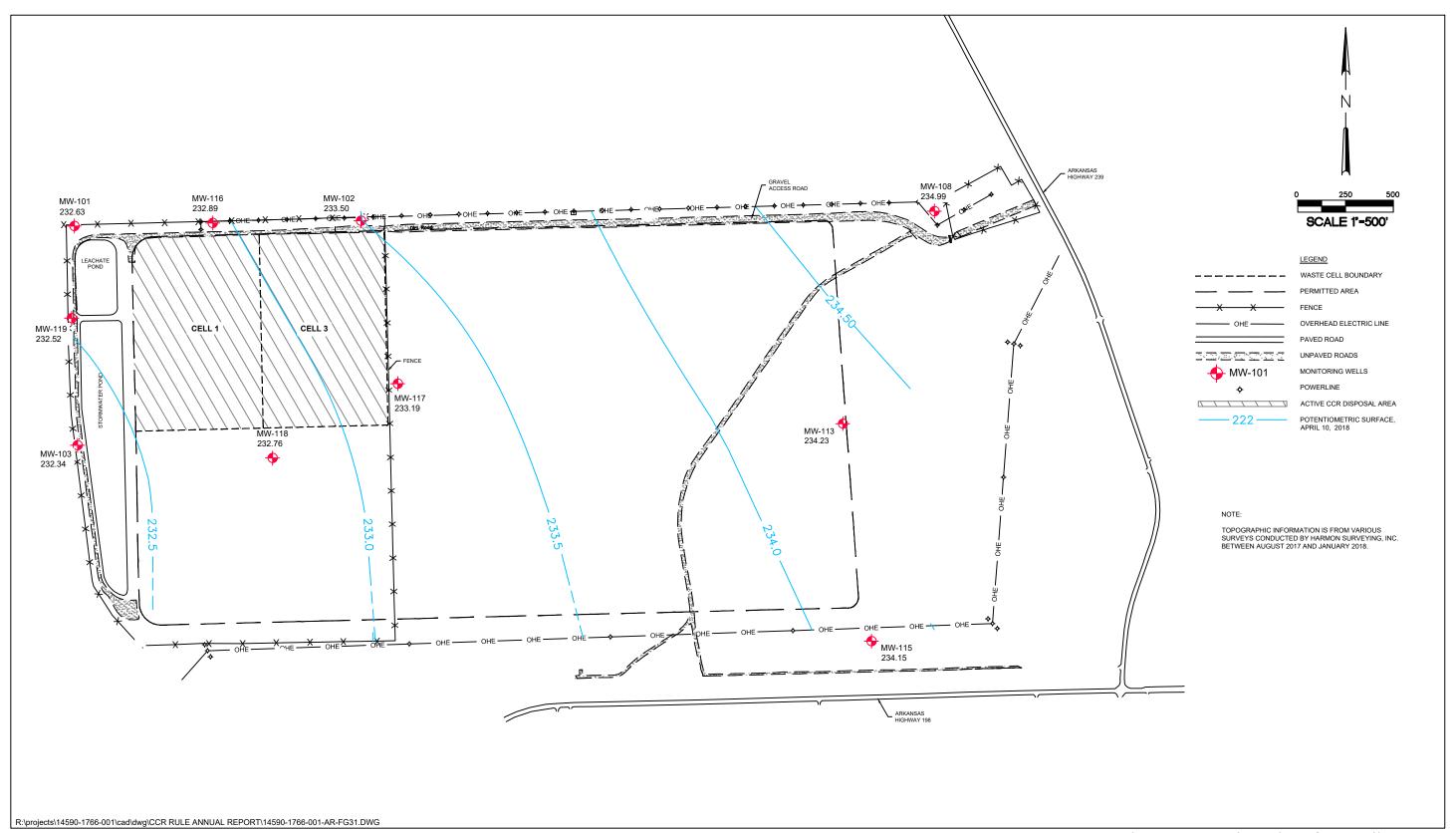


Figure 3.1. Potentiometric surface, April 10, 2018.

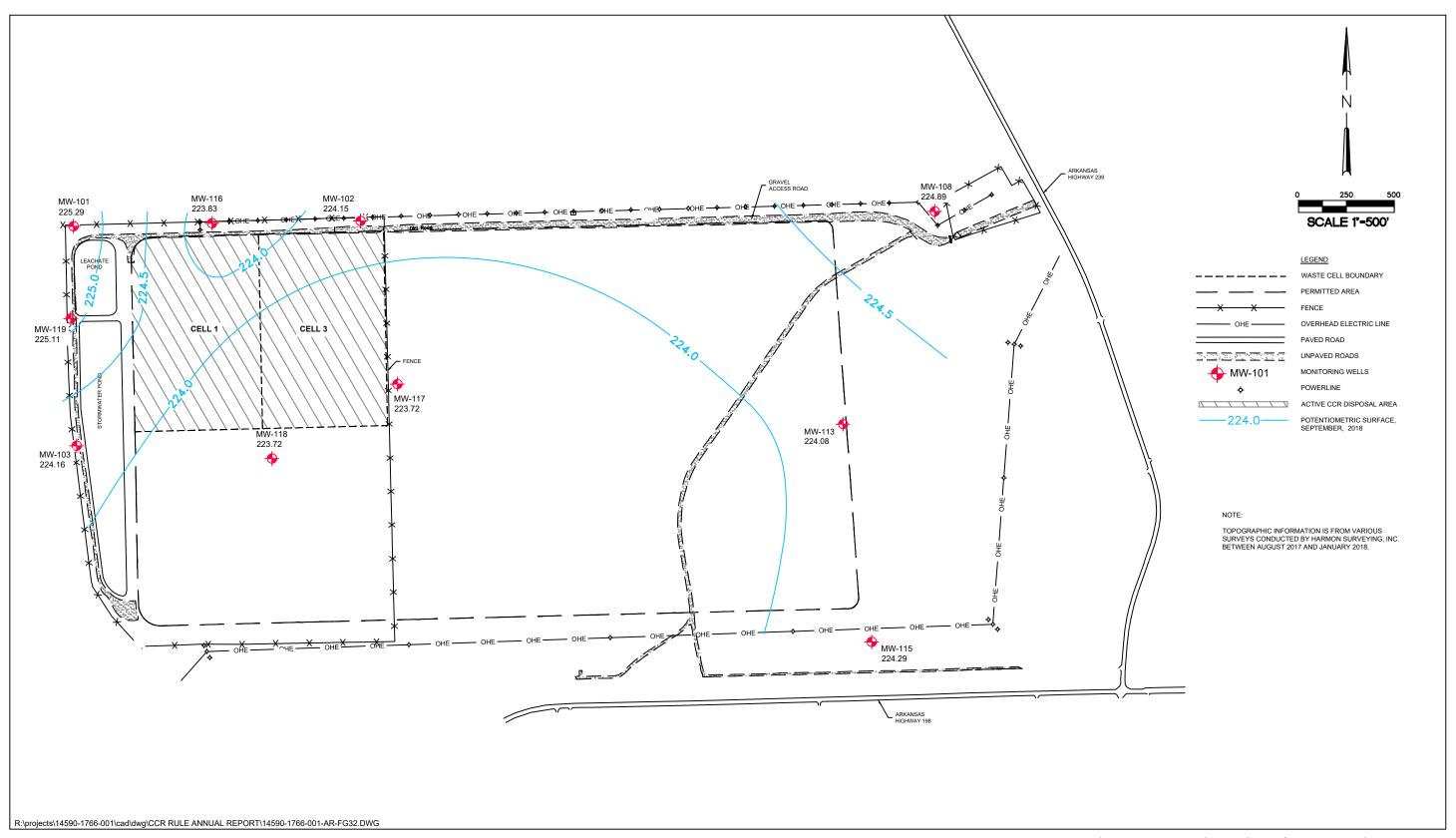


Figure 3.2. Potentiometric surface, September 24, 2018.

4.0 STATISTICAL EVALUATION

This section describes the statistical approach and evaluation of the detection monitoring data collected during 2018. Groundwater quality data were evaluated using the statistical software *Sanitas version 9.5*. Statistical analyses of the data were performed in accordance with the landfill's SAP.

4.1 Statistical Program Design

4.1.1 Statistical Approach

The statistical approach for groundwater monitoring at the landfill is described in the facility's SAP and adheres to recommendations in EPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*, released in March 2009 (Unified Guidance). Groundwater quality data collected for detection monitoring are evaluated with either an intrawell prediction limit combined with a "1 of 2" retesting strategy or with the Mann-Kendall/Sen's Slope test for trends. The technical basis for selecting these tests is discussed in the facility's SAP. Each test and its appropriate application is briefly discussed below.

A prediction limit tests for the likelihood that a new monitoring value (compliance value) comes from the same population as background data. Prediction limit analysis combined with retesting (verification sampling) is effective at reducing a monitoring program's site-wide false positive rate (SWFPR) and improving the statistical power of the monitoring program. The prediction limit test requires a minimum of 8 to 10 background values that are statistically independent and that exhibit stationarity. Retesting, or verification sampling, is performed if an initial sampling result exceeds a prediction limit. The "1 of 2" retesting strategy requires one verification sample be obtained within the same monitoring period as the initial exceedance. If the measured value in the verification sample also exceeds the prediction limit, then a statistically significant increase (SSI) (or statistically significant decrease [SSD] in the case of pH) is declared.

If data characteristics do not meet the requirements for a prediction limit test, the well-parameter pair is tested using the Mann-Kendall/Sen's Slope test for trends, as recommended by the Unified Guidance. If a statistically significant increasing trend (or statistically significant decreasing trend in the case of pH) is indicated, then this is evidence of possible deteriorating groundwater quality. While there is no explicit retesting strategy for the Mann-Kendall/Sen's Slope test (as there is for prediction limits), retesting can be applied (Cameron 2015).

Background data were evaluated in accordance with the landfill's SAP to determine the appropriate testing strategy for each well-parameter pair. Results of the evaluation are summarized in Appendix E. At this time, all statistically evaluated well-parameter pairs can be tested using an intrawell prediction limit.

4.1.2 Site-Wide False Positive Rate and Statistical Power

The Unified Guidance recommends that detection monitoring programs have adequate statistical power and an SWFPR (alpha) value of 10% over a one-year period of testing. As a result, the semiannual SWFPR is fixed at 5%. The magnitude of the per-test alpha will vary depending on how many statistical tests are required per semiannual evaluation. Input values used to determine the per-test alpha for intrawell prediction limit analyses, combined with a "1 of 2" retesting strategy are listed in Table 4.1.

Certified Well Network

Certified Well Network							
Statistical Test	Intrawell Prediction Limit						
Number of Compliance Wells (w)	6						
Minimum Background Sample Size (n)	8						
Number of Constituents (c)	6						
Resample Strategy	1 of 2						
Semiannual SWFPR	0.05						

Table 4.1. Values used to determine test alpha and power curve.

Statistical power is inversely related to the SWFPR and is an estimate of the rate at which false negative results will occur. To gauge statistical power, the Unified Guidance recommends

the use of the EPA Reference Power Curve (ERPC) to estimate the ability of any individual test to identify an exceedance above background. Any single statistical test should have the ability to detect an exceedance 55% to 60% of the time at three standard deviations (3 σ) above background and 80% to 85% of the time at 4 σ above background. Input values for the detection monitoring program's power curve are listed in Table 4.1 and discussed below.

Figure 4.1 depicts the power curve for the well network plotted against the ERPC. This curve shows that any single test is expected to detect exceedances approximately 57% of the time at levels 3σ above background and 92% of the time at levels 4σ above background. Given this comparison, the statistical power of the landfill's detection monitoring program exceeds EPA recommendations.

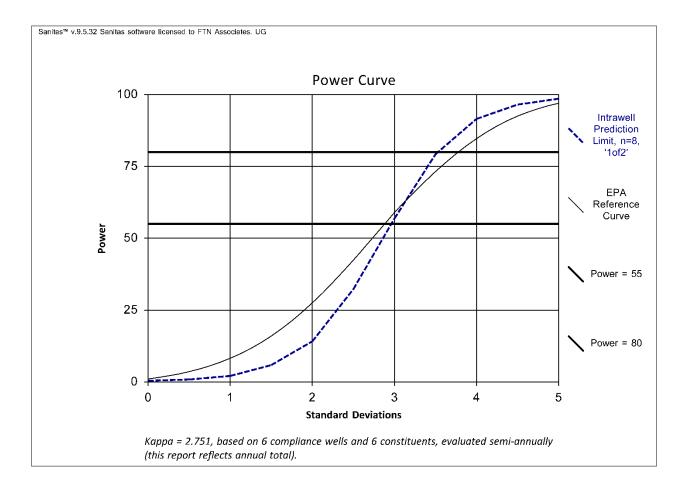


Figure 4.1. ERPC versus landfill power curve for detection monitoring.

4.2 Exploratory Data Analysis

Exploratory data analysis (EDA) includes viewing data graphically to identify apparent trends or excursions from normal ranges. To accomplish this, period-of-record data were screened using time-series plots, box-and-whiskers diagrams, and outlier tests. Time-series plots are used to visualize changes in data over time. Box-and-whiskers diagrams provide a graphic depiction of the mean, median, minimum, maximum, and interquartile range of a data set to assist with visualizing the variation in groundwater quality within and across wells. Outlier tests help identify values that are extremely different from other values in a given data set. Section 4.2.1 summarizes observations made from time-series and box-and-whiskers diagrams. Evaluation for the presence of outliers is discussed in Section 4.2.2. The graphical plots from the EDA evaluation are included in Appendix F.

4.2.1 Time-Series Plots and Box-and-Whiskers Diagrams

The following observations are based on a review of the time-series plots and box-and-whiskers diagrams (Appendix F):

- Boron values are below the laboratory RDL (represented as hollow values on the time-series plots) for all wells for the period of record.
- Calcium, chloride, fluoride, sulfate, and TDS values are variable across the network.
- Measured pH is generally similar across the well network. As discussed in the 2017 annual report (FTN 2018), there is a noted deviation in the pH data collected during the July 2016 background sampling event which is thought to be the result of equipment malfunction. Due to the limited number of data in background available for statistical analysis, these data have not been excluded from the background data set. However, rejection of these values may be warranted as future measurements are collected and appended to background, where applicable.

4.2.2 Identification of Outliers

Period-of-record data for statistically evaluated wells were evaluated to identify possible outliers in the April and September 2018 data sets (Appendix F). Dixon's outlier test was applied to data sets with a normal distribution, or to populations that could be mathematically

transformed so they have a normal distribution. For data sets that did not have a normal distribution, the non-parametric Tukey's outlier screening was applied. Statistically significant outlier results are included in Appendix F.

Three outliers were identified in the April 2018 data set; the reported value for calcium at MW-116 was statistically elevated compared to the period-of-record data for that well, and chloride and sulfate at MW-102 were statistically low. One outlier was identified in the September 2018 data set; the reported value for TDS at MW-117 was statistically elevated compared to the period-of-record data for that well. None of the outliers are suspected to be the result of field or laboratory error. It is suspected that the limited range of data available for evaluation may cause the test to be overly sensitive to identification of outliers. As such, no action was taken to flag these data as unrepresentative of groundwater quality.

4.3 Statistical Evaluation Results

Groundwater quality data from the 2018 monitoring periods were statistically evaluated if detected at or above the laboratory RDL. Results detected below the RDL but above a method detection limit ("trace" values) are estimated values and therefore are not statistically evaluated. Trace values are flagged with a "J" in the laboratory reports provided in Appendix B and in the historical database included in Appendix D. Statistical analyses are not performed on non-detect data, which are flagged with a "U" in the laboratory reports (Appendix B) and represented in the historical database as less than (<) the RDL value for the method used (Appendix D).

4.3.1 Intrawell Prediction Limit Analysis, First Half of 2018

Intrawell prediction limit analyses were performed on all detected appendix III parameters, in accordance with 257.93(h), using the background data sets identified in Appendix E. Results from the first half of 2018 monitoring period are summarized in Table 4.2 and graphical plots of the evaluation are included in Appendix G. Three potential exceedances were identified in the April 2018 data set; calcium at MW-102 and MW-116 and field-measured pH at MW-118. Measurements for all other well-parameter combinations were below calculated intrawell prediction limits. In accordance with the facility's SAP and "1 of 2" retesting strategy,

verification sampling was performed during July 2018 for these well-parameter pairs. As shown in Table 4.2, the measured value in the verification sample for calcium at MW-116 exceeded the prediction limit, resulting in a confirmed statistically significant increase (SSI). Measured values for calcium at MW-102 and pH at MW-118 disconfirmed the potential exceedances at these wells.

Table 4.2. Summary of statistically significant results, intrawell prediction limit analysis, first half of 2018.

Well	Parameter	Prediction Limit (mg/L)	April 2018 Observation (mg/L)	July 2018 Verification (mg/L)	SSI Confirmed?
MW-102	Calcium	133.9	136	124	No
MW-116	Calcium	121.6	137 ^(a)	125	Yes
MW-118	рН	6.1 su ^(b)	5.8 su	6.5 su	No

Notes:

- a. Statistically high outlier (see Section 4.2.2).
- b. Lower prediction limit.

In response to the confirmed SSI for calcium at MW-116 identified during the first half of 2018 detection monitoring period, PPSC completed a successful alternate source demonstration (ASD), in accordance with §257.94(e)(2). The ASD was certified by an Arkansas-registered professional engineer and posted to the facility's operating record on October 9, 2018. As required by §257.94(e)(2), a copy of the ASD is included in Appendix H. Based on the successful ASD, the facility continued with detection monitoring in accordance with §257.94.

4.3.2 Intrawell Prediction Limit Analysis, Second Half of 2018

Intrawell prediction limit analyses were performed on all detected appendix III parameters, in accordance with 257.93(h), using the background data sets identified in Appendix E. Results from the second half of 2018 monitoring period are summarized in Table 4.3 and graphical plots of the evaluation are included in Appendix G. Two potential exceedances were identified in the September 2018 data set; calcium and TDS at MW-117 exceeded their respective prediction limits. Additionally, the measured value for calcium at

MW-116 exceeded the prediction limit; however, this well-parameter pair was identified as a confirmed SSI during the first half of 2018 monitoring period and, as noted in Section 4.3.1, as successful ASD was made and is included in in Appendix H. Measurements for all other well-parameter combinations during the second half of 2018 were below calculated intrawell prediction limits.

In accordance with the facility's SAP and "1 of 2" retesting strategy, verification sampling was performed during November 2018 for calcium and TDS at MW-117. As shown in Table 4.3, the measured values in the verification samples for calcium and TDS at MW-117 were below the respective prediction limits, disconfirming the potential exceedances indicated based on the initial results.

Table 4.3. Summary of statistically significant results, intrawell prediction limit analysis, second half of 2018.

Well	Parameter	Prediction Limit (mg/L)	September 2018 Observation (mg/L)	November 2018 Verification (mg/L)	SSI Confirmed?
MW-116	Calcium	121.6	130		Yes ^(a)
MW-117	Calcium	87.44	89.7 ^(b)	85.7	No
MW-117	TDS	301	318	288	No

Notes:

- Previously confirmed SSI.
- b. Statistically high outlier (see Section 4.2.2).

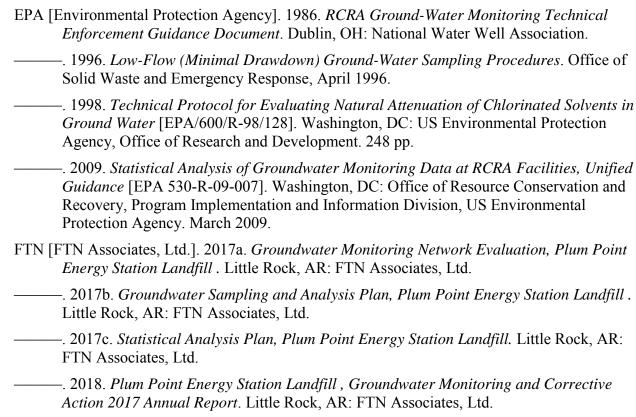
Measured calcium at MW-116 during the second half of 2018 is similar to the level measured during the first half of 2018 when the SSI was first confirmed. As discussed in the ASD (Appendix H), measured calcium at this well is below that measured in onsite background and is within published levels for the aquifer. In accordance with §257.94(e)(2), PPSC will undertake an ASD during the first half of 2019 to address the reoccurrence of the SSI for calcium at MW-116. Pending the results of the ASD, PPSC will continue with detection monitoring in accordance with §257.94.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The following recommendations and conclusions are based on a review of data for the landfill from the 2018 monitoring periods:

- 1. The direction of groundwater flow at the landfill is seasonally variable. During the monitoring events performed during the first and second half of 2018, flow was to the southwest and southeast, respectively, beneath the Cell 1 and Cell 3 area.
- 2. The SWDSs for TDS and pH were exceeded at both background and compliance wells during the first half of 2018 monitoring event. The SWDS for pH was exceeded at two compliance wells during the second half of 2018 monitoring period. SDWSs are non-enforceable guidelines established by EPA for aesthetic considerations. Published groundwater quality data for the region indicate that exceedances for TDS and pH are generally typical for the underlying aquifer.
- 3. Of the parameters evaluated, only fluoride has an EPA MCL. None of the measured values in groundwater exceeded the MCL for fluoride.
- 4. Time-series plots and box-and-whiskers diagrams show variability across the well network for calcium, chloride, fluoride, sulfate, and TDS. Values for boron and pH are relatively similar across all wells, with measured levels of boron being below the laboratory RDL for all wells during the period of record.
- 5. A comparison of the statistical power curve for the detection monitoring program to the EPA Reference Power Curve indicates that the detection rates for statistical exceedances meet EPA recommendations
- 6. Intrawell prediction limit analysis of the first half of 2018 data set identified one confirmed SSI: calcium at MW-116. A successful ASD was completed for the SSI and posted to the facility's operating record on October 9, 2018. The facility continued with detection monitoring in accordance with §257.94.
- 7. Statistical evaluation of the second half of 2018 monitoring data identified an SSI for calcium at MW-116. This SSI was previously confirmed during the first half of 2018 monitoring period and, as noted above, a successful ASD was made. PPSC will undertake an ASD during the first half of 2019 to address the reoccurrence of the SSI in accordance with §257.94(e)(2). Pending the results of the ASD, PPSC will continue with detection monitoring in accordance with §257.94.

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Field Sampling Forms





Groundwater Level Data Sheet Plum Point Energy Station Investigator

ADEQ GW				00-1469-001		Investigat	ior:		Pag	$ge \underline{\mathcal{I}} of \underline{\mathcal{I}}$
Weather Co	onditions:		Mea	suring Device:				***		
196 3	30			solan'sT	101					
	10.00	1					8 8			
Well ID	Date	Tin	ne	Depth to Water (feet below TOC)			Damages/	Repairs		
MW-1	1/29/16	14	કે કેચ	20,40	Damaged w Damaged be Damaged ec	1	Damaged To Damaged loc Un-kept vege	k 🛭	Lac	ks visibility ks access gw sample record
MW-2		135	4	22,87	Damaged be	quipment	Damaged To Damaged loc Un-kept vege	k 🗀	Laci	ks visibility ks access gw sample record
MW-3R		141.	2	21.11	Damaged be	quipment	Damaged To Damaged loc Un-kept vege	ck Exetation	Laci	ks visibility ks access gw sample record
MW-4R2		/3	41	18.40	Damaged be	quipment	Damaged To Damaged loo Un-kept vege	ck Extation	Lacl	ks visibility ks access gw sample record
MW-5		13.	34	20.93	Damaged w Damaged be Damaged ec		Damaged To Damaged loc Un-kept veg	k 🗀	Lac	ks visibility ks access gw sample record
MW-6		/3á	١7	21.00	Damaged w Damaged be Damaged ec		Damaged To Damaged loo Un-kept vege	k 🖺	Lac	ks visibility ks access gw sample record
MW-7		13/1	,	25.35	Damaged w Damaged be Damaged ec		Damaged To Damaged loc Un-kept veg	k 🗀	Lac	ks visibility ks access gw sample record
MW-8		/30	4	25/10) present	ell pad/casing ollards	Damaged To Damaged loo Un-kept vege	OC Ek	Lac	ks visibility ks access gw sample record
MW-10R		/32	کـا	18.15		rell pad/casing ollards	Damaged To Damaged loo Un-kept vege	OC Ek	Lac Lac	ks visibility ks access gw sample record
MW-11R		/3/		20.33	Damaged w Damaged be Damaged ec		Damaged To Damaged loo Un-kept vege	oc E	Lac Lac	ks visibility ks access gw sample record
MW-13R		/25	77	25.31	Damaged w Damaged be Damaged ec		Damaged To Damaged loo Un-kept vege	k 🗀	Lac Lac	ks visibility ks access gw sample record
MW-15		1250	2	22.81	Damaged w Damaged be Damaged ec		Damaged To Damaged loo Un-kept veg	ck 🗀	Lac	ks visibility ks access gw sample record
MW-16		1400))	22.64	Damaged w Damaged be Damaged ec	1	Damaged To Damaged loo Un-kept veg	ck 🛭	Lac	ks visibility ks access gw sample record
MW-17		134	G	21.35	Damaged w Damaged be Damaged ec		Damaged To Damaged loc Un-kept veg	OC E	Lac Lac	ks visibility ks access gw sample record
MW-18		140		1952		rell pad/casing ollards	Damaged To Damaged loo Un-kept veg	oc E	Lac	ks visibility ks access gw sample record
MW-19		141		24.14		ell pad/casing ollards	Damaged To Damaged loo Un-kept veg	OC E	Lac	ks visibility ks access gw sample record

Groundwater Sampling Record PPES – EPA Sampling Program

Facility: Plum	Point En	ergy Stati	on			Site ID:	mil	11h	Sample	r: 121	CL			,	
Project Numb						Date: /		17			ization:				
1		·					-67	/1	. I						
Site Descript															
Weather:	Cloud				Air Tem		33	***************************************			Wind:	NE	@ 8		
Site type: Monitorin	o Wall			337 - 11		Well cas		terial:	Well d	iameter		ir	ches	\mathcal{Q}	Well
Production			xtractio orehole		1.3	✓ PVC ☐ Steel			Total d	enth fro	m TOC	fc	et		locked?
☐ Irrigation		\Box S				☐ Iron									Yes
Other:						Othe:	r:		TOC b	elow/ab	ove gro	und fe	et		No
Damages/repa	airs neede		./.												
		Map	y 1				 					0		 ,	****
Water Level	Data														
Measuring po			V	Vater le	vel mete	r: Hero	n Dippe	er-T	Slope Wa	iter Lev	el Indica	ator O	her: S	lon's	
■ Mark/noto □ North rim				Pre-pur	ge F	re-purge	,	During		Purge		After			
Other:	or roc			initial		nfirmatio	1	purging		end		mpling		Remar	ks
Time	24-h	our		1400	1	350	-	14/1		441	1	453			
Depth to Wat	er feet		<u> </u>	22.6		12,52		252		1d 52		152			
Product		APL/DNA	PL	<u> </u>	/ X	22	- 4	<u> </u>	-	u ox		<u> </u>			
Prod. thicknes	ss feet											* .			
	,														
Field Data															
Field data me		, п	LoMot	+- 2020	Turbidi		Pum	p descri Peristalti	ption:				description		•
☐ Hydrolab					urbidim				c (dedicate	ed / nort	able)		posable j posable '		ylene
Other:								Submers	ible	ou, pox			posable l		
Purge depth	feet		Well g	goes dry	during	purging:	Ye	s No	?						
Casing vol.	gallons		= [tota	al depth	(feet) –	depth to	water	(feet)] •	[well ID	(inche	$(s)^2] \cdot 0.$	0408			
Time	24-hour	1400	1403	1406	1409	1412	1415	14/18	1421	1424	1427	1430	Ren	narks	
Purge vol.	gallons	1									1		1433	1436	1439
Purge rate	mL/min	130)	130	130	130	130	130	130	130	130	130	130	130	130	130
pН	su	5.81	577/	5.62	5.65		5.78		5,95		1	6,32	6,35	6,41	6.45
Temp.	°C	17,11	17.09			16,56		16,66		1	17,22	17,33			
Spec. cond.	μS/cm	609	611	615	616		620	621	622	624	622	623	624	624	626
D.O.	mg/L	3,13	2,50	3,51		2.10	2,19	2,23		2.06	2.16	2.13	2,04	1.59	2.05
ORP	mV	83/	29.5	66,0	62.7	54,4	200	7		1	29,5	24.8		V7.5	15,0
Turbidity	NTU	125	0.85		1,35	0.92	0.86	1		1	1,06		0.83	9	0.79
Color/tint		Clerk	-						-		1,00		.10		->
Odor		Marie	***************************************			-	- Angelow Lands of the	-			The Real Property lies and the least lies and the lies and the least lies and the least lies and the lies and t			1	
			•	-		•	•			•	1		***************************************	<u></u>	3
Sample Data		TD -	1 ~		"."	•			Γ						***************************************
Sample I	-	Date		me	# Cont	ainers		ltered				Remark	S		
121116		1/30//4		45	2			<u> </u>				**			
176120	d /	130/16	15	25		_		0	Eg Bu	DAK			****		
											- ····				
Sampler's Na	me (print)			10	,			Samo	ler Signa	ture	40	1	1		
Sumplet 5 Na	me (huut)	10,0	4/12/		Mar			Samp	ici bigili	itule.	Mile	Lu			حي

Groundwater Sampling Record PPES – EPA Sampling Program

Project Numbe Site Description Weether:	r: 14590	-1469-0	201					119	Sample	r. M					
		1107	001			Site ID: Date: /		18	Sample	r Organ		FIL	N		
	on														3.33.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.
Weather:	0/0				Air Ten	np (°F):	3フ				Wind:	NE	34		
Site type:						Well cas	ing ma	terial:	Well d	iameter	***************************************		nches	2	Well
✓ Monitoring✓ Production			xtraction of the contraction of	on Well		PVC Steel Steel Teel Steel Teel Steel Teel Steel Steel Teel Steel Ste					TOO	-			locked?
☐ Irrigation V			pring	5	1	☐ Iron	3			epth fro			eet		Yes
Other:						☐ Othe	r:		TOC b	elow/ab	ove grou	nd fo	eet		No
Damages/repai	rs needed	: Nort	Ve.												
		105/6							····				·		· · · · · · · · · · · · · · · · · · ·
Water Level I														.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Measuring poin Mark/notch		tion:	7	Water lev	el mete	r: Hero	n Dippe	er-T S	lope Wa	ter Leve	l Indica	tor O	ther:	colon's	1
☐ North rim o				Pre-purg		re-purge		During		Purge	1	After		Rema	rks
Other:		- NOVE		initial		nfirmati	on	purging		end	san	npling			
Time	24-hc	our		1417		1225		1228		315	1	338			
Depth to Water		DI /DAT:	DI	24,14	$ \sqrt{3}$	4/1		24.11		24.11	2	4.11			40-1
Product		PL/DNA	PL												
Prod. thickness feet															
Field Data															
Field data mete							Pum	p descri	ption:				descrip		
☐ Hydrolab M☐ Hydrolab D				tte 2020 2100P T				eristalti		ed / port	ohlo)	☐ Dis	posable	e polyet	hylene
Other: 1/5			Other:		ui viaiii	eter		ubmers		ea / port			posable posable	e Teflon e PVC	l
	feet	**	Well	goes dry	during	purging:	Yes	s Mg/					1		
Casing vol.	gallons		= [tot	al depth	(feet) –	depth to	water ([feet)] •	[well ID	(inches) ²] • 0.0	408			
Time	24-hour	1230	1233	1236	1239	1242	1245	1244	1251	1254	1257	1300	Re	emarks	1309
Purge vol.	gallons									,	/ 54.5	7	1303	1306	1
Purge rate	mL/min	120	120	120	120	120	120	120	120	120	126	120	120	120	120
	su	5.84	5.74	5.69	5168	5.69	5.76	5.82	5791	6.11	6.14		6,30	6.38	6.45
	°C	17.31	17.37	17.13	17,27	17,23			1	10.00	17,49	1	17189	1	18,04
	μS/cm	573	572	575	5773	575	574	576	576	578	579	578	580	7	5-31
	mg/L		0.57	0.59	056	0.60	056	0.57		0.50	0.49	0.48	0.44	0.47	0.44
	mV	69.4	66.3	65,1	608	48.4	41.5	36.4	29,1	19,5	17,3	11.7	0,6	-2.5	3,7
	NTU	2.13	1.28	1.44	1.04	1,60	1,27	0.85	1.13	1.00	1,27	0.98	1.38	b96	130
Color/tint		Clear													
Odor		nanh	-				The second second		<u></u>						
Sample Data													1		
Sample ID)	Date	Т	ime	# Cont	ainers	# Fi	ltered				Remark	KS		
111/119		/30/19	1 130	20		Q	1	,							
MU 200		130/19	13	25	0	2	6	7	Dydh	inte					
T															
	ne (print):			10%	, ,			Com	lor Cia-	atura.	THE	1	, ,	125	



Groundwater Level Data Sheet

Project Nar	ne:		Pro	ject Number:			Investiga	tor:	· · · · · · · · · · · · · · · · · · ·		
Plum Point l	Energy Statio	n		90-1766-001					7.		Page Z of Z
			D.T.					//	rec		
Weather Co				suring Device:							
PIC	48		5	clonist 10	1						
			332								
				Depth to							
Well ID	Date	Tie		Water (feet				ъ	/D :		
Well ID	Date	7 11	ше					Dam	ages/Repairs		
				below TOC)						, ,	
			<u> </u>			Damaged we	-11	Пъ	LEGG		
MW-1	11/10					Damaged bo			maged TOC naged lock		Lacks visibility Lacks access
-1-11	7//2/8	10,5	7/	10/2	Ō	Damaged eq			kept vegetation		See gw sample record
				7			ell pad/casing		maged TOC		Lacks visibility
MW-2				* 1. 1.1.2		Damaged bo			naged lock		Lacks access
		101		10:49		Damaged eq			kept vegetation		See gw sample record
A FYYY O'D	- 10 miles					Damaged we	ell pad/casing		naged TOC		Lacks visibility
MW-3R	o pagami	101	11	1001		Damaged bo			naged lock		Lacks access
		104	/	10.81		Damaged eq			kept vegetation		See gw sample record
MW-4R2	of the state of th				님		ell pad/casing		maged TOC		Lacks visibility
1V1 VV -41X2	MM V gog (year	100	26	8,40		Damaged bo			naged lock		Lacks access
***		100	<u>Le</u>	8140		Damaged eq			kept vegetation		See gw sample record
MW-5	W. Carlo					Damaged bo			naged TOC naged lock		Lacks visibility
1,1,, 5	gpcointil Ri	917	,	8,87		Damaged eq			kept vegetation		Lacks access See gw sample record
	West State			<u> </u>		Damaged we			naged TOC	占	Lacks visibility
MW-6	Manage		2			Damaged bo			naged lock		Lacks visionity Lacks access
	Nicovania.	90	<i>99</i>	9.04		Damaged eq			kept vegetation		See gw sample record
	T Shares (Side					Damaged we			naged TOC		Lacks visibility
MW-7	Service of the servic	10	<i>i</i>	2		Damaged bo	llards		naged lock		Lacks access
	PCC PARTY NAME OF PARTY NAME O	91	<u> </u>	11.48	ᆜ	Damaged eq			kept vegetation		See gw sample record
MW-8						Damaged we			naged TOC		Lacks visibility
1AT AA -Q	S. Cap.	90	29	10-12		Damaged bo			naged lock		Lacks access
	100	10	2	16:10-	\exists	Damaged eq Damaged we			kept vegetation	무	See gw sample record
MW-10R	svarvu:					Damaged we Damaged bo		_	naged TOC naged lock		Lacks visibility
11211 1011	No. of	94		7.60		Damaged eq			kept vegetation	H	Lacks access See gw sample record
						Damaged we			naged TOC		Lacks visibility
MW-11R	Walifolia v	0.	and	C's		Damaged bo			naged lock		Lacks visionity Lacks access
	T. Pepper	925	,	8,37		Damaged eq	uipment		kept vegetation		See gw sample record
NATIVI 40D	Para Carlo					Damaged we	ell pad/casing		naged TOC		Lacks visibility
MW-13R	- Secretary	Perce		י אינו					naged lock		Lacks access
		856	?	1040	무	Damaged eq			kept vegetation		See gw sample record
MW-15	r, arbanys				H	Damaged we			naged TOC	님	Lacks visibility
141 44 -12	and the state of t	850	,	2.40		Damaged bo Damaged eq			naged lock kept vegetation		Lacks access
	200	000		7 70		Damaged eq			naged TOC		See gw sample record Lacks visibility
MW-16	10 VA 25.2 VA			1 266		Damaged bo			naged TOC naged lock	7	Lacks visionity Lacks access
	CHECO SAN	105	5	11.08		Damaged eq	1	_	kept vegetation		See gw sample record
						Damaged we		Principle .	naged TOC		Lacks visibility
MW-17	Amilynaci	,		6		Damaged bo		☐ Dam	naged lock		Lacks access
		1003	•	9.34		Damaged eq		Un-l	kept vegetation		See gw sample record
MW 10	PT-America					Damaged we		,	naged TOC		Lacks visibility
MW-18	ETHE STORY	1018	·/	2,47		Damaged bo			aged lock		Lacks access
	11	1018		3171	片	Damaged eq			kept vegetation	早	See gw sample record
MW-19	V					Damaged bo			naged TOC naged lock		Lacks visibility
	,	104	18	1401	_	Damaged equ			rent vegetation		Lacks access

					(irou	ınd	water	Sam	pling	Rec	ord					
Facility:	Plui	m Point	t Ene	rgy Stat	ion		S	ite ID:	MW	-101	Samp	oler: Micha	el Clay	yton			
Project Numb	er:	R1	4590)-1766-(001		D	ate:			Samp	oler Organiz	zation:				
Program (AD		PA):		EPA (CCR			4/1	2/201	8	FTN	Associates	, Ltd.				
		· ·					ı										
Site Descripti	ion					ı											
Weather:		clea	ar			Air 7		(°F):				Ţ	Wind:				
Site type:	337 11	_	- -	, ,.	337 1	1		Vell casi		terial:	Well	diameter			inches	2	Well
Monitorin Production		F	_	xtraction orehole		1	<u>•</u>	☑ PVC ☐ Steel			Total	l depth from	TOC		feet		locked?
☐ Irrigation			=	oring				Iron				-					Yes No
Other:								Other	r:		TOC	below/abo	ve grou	nd	feet		□ NO
Damages/repa	irs need	ed: non	ne														
Water Level	Data																
Measuring po				W	ater le	vel m	eter:	ПНе	ron Di	ipper-T	☐ Slo	ope Water I	Level In	idica	tor 🗹 O	ther: So	olonist 101
Mark/noto				I	Pre-pu	rge	P	re-purge	,	During		Purge		After			
Other: initial confirmation purging end sampling Rer													Rem	arks			
Time	24-	-hour			105	1		0805		0813		0842		0853			
Depth to Wate	er fee	t			10.1			9.84		9.84		9.84	_	9.84			
Product		IAPL/D	NAF	PL													
Prod. thicknes																	
L									<u> </u>								
Field Data									1				ı	- ··			
Field data met			П	LaMot	te 202	0 Tur	hidir	neter		np descrij Peristaltio		Subme			er descri _] Disposat		thylene
✓ YSI 556	103			Hach 2					_	Bladder:			131010		Disposat		
Other:				Other:					<u> </u>	Bladder:	portal	ole			Disposat		
Purge depth	feet			Well go	oes dr	y duri	ing p	urging:		Yes [☑ No						
Casing vol.	gallons	3		= [total	l deptl	n (feet	t) – c	lepth to	water	(feet)] •	[well	ID (inches)	²]•0.0	408			
Time	24-hou	ır 08	810	0815	0820	08	825	0830	0835	0840]	Remarks	
Purge vol.	gallons	3															
Purge rate	mL/mi	n 2	210	210	210	2	10	210	210	210							
pН	su	6	5.5	6.4	6.4	6	5.4	6.5	6.5	6.4							
Temp.	°C	10	6.3	16.3	16.5	5 10	6.5	16.6	16.6	16.7							
Spec. cond.	μS/cm	6	684	687	690	6	91	691	691	692							
D.O.	mg/L	2	2.7	2.2	1.9	1	.9	1.7	1.6	1.6							
ORP	mV	49	9.0	34.5	20.9) 12	2.6	4.1	-1.6	-3.6							
Turbidity	NTU	5	5.5	5.1	4.1	5	5.3	3.4	3.2	2.7							
Color/tint		cle	ean	clean	clea	n clo	ean	clean	clear	clean							
Odor		no	one	none	none	e no	one	none	none	none							
Sample Data Sample I		De	ate	т;	me	# 6	Conto	iners	# 1	Filtered				Rem	orlea		
						# 0		illicis	# 1		<u> </u>			Kem	iai KS		
MW-10		4/12/			50		2			0							
MW-20	1	4/12/	/2018	09	15					0							
Sampler's Nar	me (nrin	t):		ì	Aichae	el Cla	vton			Samnl	ler Sig	gnature:		Trai	nscribed	by HLF	
r	. /1	1.		1,			,			Р.	- ~- 2	, - •			J-1-10 G G	- ,	

Groundwater Sampling Record

Facility:	Pl	um Po	oint Ene	rgy Sta	tion		S	ite ID:	M	W-102		Samp	ler: Mich	ael C	layton			
Project Number	er:		R14590)-1766-	001		D	ate:				Samp	ler Organi	zatio	n:			
Program (ADI	EQ or	EPA)	:	EPA (CCR			4/1	1/20	018		FTN	Associates	s, Ltd				
Site Descripti	on																	
Weather:	OII	part	ly cloud	У		Air T	emp	o (°F):			62	2		Wind	l:	south	at 16 m	ph
Site type:		1					V		ng r	naterial:		Well	diameter			inches	2	Well
Monitorin Production			_	xtractio orehole		11	6	PVC Steel			-			ТО	<u> </u>	feet	+ -	locked?
Irrigation				pring			ŀ	Iron			-		depth fron					Yes
Other:		1 1						Other	r:			TOC	below/abo	ve gi	ound	feet		□ No
Damages/repa	ırs nee	ded:	none															
Water Level		4 *		1								7 ~1			- 11			
Measuring poi			on:	W	ater le	evel m	eter:	Не	ron .	Dipper-T	L	Slo	pe Water I	Leve	Indica	tor 🗹 O	ther: So	lonist 101
☐ North rim					Pre-pu initi			re-purge nfirmatio		Durin	_		Purge		After		Rem	arks
Other:	1.						cor		n	purgir	_		end		samplii	_		
Time		4-hou	ır		101			1200		1212			1236		1250			
Depth to Wate		eet	. /D.)	\ T	10.4	19		10.19		10.19	9		10.19		10.19)		
Product			L/DNAI	?L										-				
Prod. thicknes	S I	eet																
Field Data																		
Field data met				T 14	. 200	10 T 1	. 1.			ımp desci				.,		er descrij		u1 1
☐ YSI Pro P	lus			LaMot Hach 2					-	Peristal Bladder			Submerted	ersib		Disposab Disposab		
Other:				Other:						Bladder						Disposab		
Purge depth	feet			Well g	oes di	y durii	ng p	urging:		Yes	ŀ	☑ No						
Casing vol.	gallo	ns		= [tota	l dept	h (feet)) – c	lepth to	wate	er (feet)]	• [well I	D (inches)) ²]•	0.0408			
Time	24-h	our	1205	1210	121	5 12	20	1225	12	30						J	Remarks	
Purge vol.	gallo	ns																
Purge rate	mL/n	nin	200	200	200			200	20									
pН	su		6.4	6.4	6.3			6.3	6.									
Temp.	°C		17.1	17.0	17.0		7.0	17.0	17									
Spec. cond.	μS/cı		726	726	728			729	72									
D.O.	mg/L		1.6	1.4	1.4		.3	1.2	1.									
ORP	mV		47.2	32.1	10.:			-6.5	-12									
Turbidity	NTU		3.0	4.2	4.0	-		1.7	2.									
Color/tint			clear	clear	clea			clear	cle									
Odor			none	none	non	e no	ne	none	no	ne								
Sample Data																		
Sample I	D		Date	Ti	me	# C	onta	iners	#	Filtered					Rem	narks		
MW-102	2	4,	/11/2018	3 12	40		2			0		High	winds blo	wing	landfil	l dust.		
MW-202	2	4,	/11/2018	3 12	.45		2			0		Dupli	cate					
Commlan's N-		int).		1	Æ: "1.	al C1-				Carr	., 1	on Circ	a a transce		т		h III P	
Sampler's Nar	ne (pr	int):		<u>l</u>	viicha	el Clay	ton			Sam	рI	er Sigi	nature:		I ra	nscribed	by HLF	

				G	<u>round</u>	water	Sam	pling	<u>Kecor</u>	<u>d</u>					
Facility:	Plur	n Point Ene	rgy Stat	tion	S	ite ID:	MW-	-103	Sample	: Micha	el Clay	ton			
Project Number	er:	R14590)-1766-	001	Ι	Date:			Sample	Organiza	ation:				
Program (ADI	EQ or EI	PA):	EPA (CCR		4/1	1/2018	3	FTN A	ssociates,	Ltd.				
-															
Site Descripti						(0.5)			-	1,,					
Weather:	j	partly cloud	y	1	Air Tem	,		70)	V	Vind:		south a	t 14 m	ph
Site type: Monitorin	a Well	ПБ	xtractio	n Well		Well casi ☑ PVC	ng mat	terial:	Well di	ameter			inches	2	Well
Production			orehole			Steel			Total de	epth from	TOC		feet		locked? Ves
Irrigation	Well	\square S	pring			Iron				elow/abov		nd	feet		□ Yes
Other: Damages/repa	ira naad	ad: nono				Other	r:		100 00	iow/auov	e groui	iiu	icci		
Damages/repa	iis need	eu. none													
Water Level															
Measuring poi			W	ater lev	el meter	: He	ron Dij	pper-T	Slope	Water L	evel In	dicato	or 🗹 Oth	er: So	olonist #2
Mark/notch on TOC North rim of TOC Other: Nark/notch on TOC Pre-purge Pre-purge During Purge After sampling Purge end sampling														arke	
Other:				initial	co	nfirmatio	on	purging	5	end	san	npling	3	Item	ui K5
Time	24-	hour		1041		1450		1507		1538	1	1549			
Depth to Water	er fee	t		10.81		10.83		10.83		10.83	1	0.83			
Product	LN	APL/DNAI	PL												
Prod. thicknes	s fee	t													
Field Data Field data met	erc.						Pum	p descri	ntion:		1	Raile	descript	ion:	
SI Pro P			LaMot	te 2020	Turbidi	meter		eristaltic		Subme			isposable		thylene
YSI 556				2100P T	urbidim	eter			dedicate	d		□ D	isposable	Teflo	
Other:	I a .	<u> </u>	Other:						portable			D	isposable	PVC	
Purge depth	feet				during p				✓ No	<i>(</i> : 1 \ \2	1 0 0	100			
Casing vol.	gallons		_		` 	-		1		(inches) ²] • 0.04	408			
Time	24-hou		1505	1510	1515	1520	1525	1530	1535				Re	marks	
Purge vol.	gallons														
Purge rate	mL/mii			280		280	280	-	280						
pH	su	6.6	6.4	6.3	6.2	6.2	6.2	6.3	6.2						
Temp.	°C	17.9	17.7	17.7	17.5	17.7	17.8	17.5	17.6						
Spec. cond.	μS/cm	765	765	765	766	765	766	766	766						
D.O.	mg/L	1.4	0.9	0.8	0.7	0.7	0.6	0.7	0.7						
ORP	mV	50.7	30.1	21.9	8.3	-10.7	-15.2	-22.3	-24.9						
Turbidity	NTU	1.0	0.9	1.0	1.2	1.5	0.9	1.3	1.1						
Color/tint		clear	clear	clear	clear	clear	clear	clear	clear						
Odor		none	none	none	none	none	none	none	none						
Sample Data															
Sample I	D	Date	Ti	me	# Cont	ainers	# F:	iltered]	Rema	rks		
MW-10		4/11/2018		45	2			0	1						
		1	10	-			+	-							
							1								
			ı				1		1						
Sampler's Nar	me (prin	t):	N	Michael	Clayton			Sampl	er Signa	ture:		Trans	scribed by	y HLF	

				(rourر	ıdwate	r Sa	ampl	lıng	Rε	ecord					
Facility:	Plu	m Point En	ergy Sta	tion		Site ID:	N	/W-10	08	Sa	ampler: Mich	nael C	Claytor	1		
Project Numb	er:	R1459	0-1766-	001		Date:				Sa	ampler Organ	izatio	n:			
Program (ADI		PA):	EPA	CCR		4	/10/2	2018		F	TN Associate	es, Lto	d.			
		·				1										
Site Descripti	on				•											
Weather:		cloudy			Air Te	mp (°F):			5:	5		Wine	d:	northw	vest at 11	mph
Site type:						Well ca		mater	rial:	W	ell diameter			inches	2	Well
Monitorin Production			Extraction Borehole		l	PV Ste				т.	atal danth fra	ТС)C	Co.o.t	_	locked?
Irrigation		=	pring	7		Iron					otal depth fro			feet		Yes
Other:			r 0			Oth				T	OC below/abo	ove g	round	feet		☐ No
Damages/repa	irs need	ed: none														
Water Level	Data															
Measuring po		ription:	V	/ater le	vel me	er	Ieron	Dipp	er-T	П	Slope Water	Leve	1 Indic	ator 🗸 (Other: S	olonist 101
✓ Mark/note	h on TO	OC				Pre-pur		1	Ouring				Afte			oromst 101
North rim	Pre-pu initia	•	Purge end		sampl		Ren	narks								
Other:	24	1				confirma			urging	-						
Time		-hour		0903		1415			1427		1448		145			
Depth to Wate			DI	10.1	2	10.13			10.13		10.13		10.1	.3		
Product		IAPL/DNA	PL													
Prod. thicknes	s fee	et														
Field Data																
Field data met	ers:							ump o			on:		Bai	ler descr		
YSI Pro P	lus					dimeter	•	Per			Subm	nersib	ole 🔲		ble poly	
YSI 556 Other:			Other:	2100P	Turbidi	meter	ŀ		dder:		dicated		H		ble Teflo ble PVC	
Purge depth	feet		_	nes dr	v durin	g purging	<u> L</u>	Dia		•	No			Disposa	DIC I VC	·
Casing vol.	gallons	,									ell ID (inches) ² 1 •	0 0408	2		
Time	24-hou		1425	1430				445	(Ct)] -	LWC	l liches	7 1 -	0.0400		Remarks	n
			1423	1430	J 143	3 1440	12	443		+		-			Kemark	S
Purge vol.	gallons mL/mi		190	190	190) 190	1	.90		+						
Purge rate			6.7	6.5			_			+		-				
рН	su °C	6.9				_		5.5		+						
Temp.		16.3	16.3 948	16.6 954				6.3		+						
Spec. cond.	μS/cm		1				_			+						
D.O. ORP	mg/L mV	4.8	3.2	2.4		-	-	1.9		+		+	-			
		110.7	88.0	60.8				9.0		+		+	-			
Turbidity	NTU	2.5	2.8	2.4			_	1.9		-						
Color/tint		clear	clear	clea	-		_	lear		_		-				
Odor		none	none	none	e non	e none	no	one								
Sample Data																
Sample I	D	Date	Ti	ime	# Co	ntainers		# Filt	ered				Rei	marks		
MW-10		4/10/201		155	20	2		0		+						
1,1,, 10	_	1, 10, 201	<u> </u>					- 0								
				+						+						
										<u> </u>						
Sampler's Nat	ne (prin	t):]	Michae	el Clayt	on			Sampl	ler	Signature:		Tr	anscribed	by HLF	7

					(ìroun	dv	vater	Sam	pling	k	Record						
Facility:	Plu	ım Po	oint Ene	rgy Sta	tion		Sit	te ID:	MW	-113	S	Sampler: M	ichae	el Clay	ton			
Project Number			R14590				Da	ite:				Sampler Orga						
Program (ADI		EPA):	:	EPA	CCR			4/1	0/2018	3		FTN Associa	ates,	Ltd.				
											-							
Site Descripti	on																	
Weather:		С	loudy			Air Te				5.	5		W	/ind:		south	at 13 m	ph
Site type:	337 11			, ,.	337 11		W	ell casi	ng mat	terial:	١	Well diamete	er			inches	2	Well
Monitorin Production			_	xtractio orehole			<u>~</u>	PVC Steel			,	Total depth f	rom	TOC		feet		locked?
Irrigation				pring	,			Iron			-	•						Yes
Other:								Other	:		ľ	TOC below/a	ıbov	e groui	nd	feet		□ No
Damages/repa	irs need	ded:	none															
Water Level	Data																	
Measuring poi			on:	W	ater le	vel met	er:	Hei	ron Di	pper-T		Slope Wat	er L	evel In	dicat	or 🗹 Ot	her: So	lonist 101
														n	1			
Other:	01 100	_			initia					purging	g	end		san	nplin	ıg	Rem	arks
Time	24	l-hou	ır		0856			1325		1333		1402)	1	408			
Depth to Wate	er fe	et			10.40)		10.40		10.40		10.42	2	1	0.42			
Product	Lì	NAP	L/DNAl	PL														
Prod. thicknes	s fe	et																
	l l					I.			ı			l .		1		ı		
Field Data Field data met									D			4:		11	Daila	er descrip	4:	
YSI Pro P			П	LaMot	te 2020) Turbi	dim	eter		p descrij Peristaltion		uon. Sul	omei			Disposab		thvlene
☑ YSI 556				Hach 2								edicated]		Disposab	le Teflo	
Other:	1			Other:					•	Bladder:	•				I	Disposab!	le PVC	
Purge depth	feet					during	_					No	. 2					
Casing vol.	gallon										Ē	well ID (inch	es) ²] • 0.04	408			
Time	24-ho		1330	1335	1340	134:	5	1350	1355	1400	١					R	temarks	
Purge vol.	gallon																	
Purge rate	mL/m	in	220	220		_	-+	220	220	_								
рН	su		6.8	6.6	6.5	6.4		6.4	6.4	6.4								
Temp.	°C		16.2	16.2	16.2		-	16.1	16.1	16.2	-							
Spec. cond.	μS/cm	1	591	590	590	589	-	589	587	587								
D.O.	mg/L		3.7	2.8	2.8	2.7	-	2.8	2.8	2.8								
ORP	mV		87.0	76.4	60.4			37.8	33.6	30.2								
Turbidity	NTU		6.5	3.6	4.2	5.5	-+	4.1	0.9	1.9								
Color/tint			clear	clear	clear		-	clear	clear	clear	\dashv							
Odor			none	none	none	none	e	none	none	none								
Sample Data																		
Sample I	D		Date	Ti	me	# Co	ntai	ners	# F	iltered]	Rema	arks		
MW-11		4/	/10/2018		110		2			0	+							
		 			-					-	t							
											\dagger							
		1		1					ı		1							
Sampler's Nar	ne (prii	nt):]	Michae	l Clayto	on			Samp	le	r Signature:			Tran	scribed l	by HLF	

					G	round	lwater	Sam	pling	Recor	ď					
Facility:	Pl	um Po	oint Ene	ergy Sta	tion		Site ID:	MW	-115	Sample	r: Micl	hael Clay	ton			
Project Number				0-1766-			Date:				r Organ					
Program (ADI		EPA):	•	EPA	CCR		4/]	0/2018	8	FTN A	ssociate	es, Ltd.				
						<u> </u>										
Site Descripti	on															
Weather:		part	ly cloud	ly		Air Ten	np (°F):		5.	3		Wind:		north a	ıt 11 m _]	ph
Site type:							Well casi		terial:	Well di	ameter		ir	nches	2	Well
Monitorin Production				xtractio orehole			PVC					тос				locked?
☐ Irrigation		Ĺ		pring	;		☐ Steel ☐ Iron			1 otai d	eptn iro	m TOC		eet		✓ Yes
Other:	,, сп			Prg			Othe	r:		TOC b	elow/ab	ove grou	nd fe	eet		☐ No
Damages/repa	irs nee	eded:	none													
Water Level	Doto															
Measuring poi		criptio	on.	V	ater les	el mete	r:	ron Di	pper-T	□ Slop	e Water	I evel In	dicator	· 🔽 Oth	er. So	lonist 101
✓ Mark/note				-											101. 30	1011181 101
North rim	of TO	C			Pre-pur initial		Pre-purge onfirmation		During purging	·	Purge end		After npling		Rema	arks
Other:	1_							<i>J</i> 11		5						
Time		4-hou	ır		0850		1150		1213		1309		1318			
Depth to Wate		eet			9.40		9.41		9.41		9.41	9	9.41			
Product			L/DNA	PL												
Prod. thicknes	s f	eet														
Field Data																
Field data met	ers:							Pum	p descri	ntion.			Bailer o	descript	ion.	
☐ YSI Pro P				LaMot	te 2020	Turbid	imeter		Peristalti		Subn	nersible		sposable		thylene
YSI 556					2100P T	urbidin	neter		Bladder:					sposable		n
Other:	10			Other:				_	Bladder:	•			D19	sposable	e PVC	
Purge depth	feet						purging:			☑ No	· •	.2	100			
Casing vol.	gallo						depth to		, ,,	_	ì	7 -	408			
Time	24-h		1205	1210	1215	1220	1225	1230	1235	1240	1245	1250		Re	emarks	
Purge vol.	gallo															
Purge rate	mL/n	nin	200	200	-	_		200								
pН	su		6.4	6.2	6.0	6.0	6.1	6.1	6.1	6.2	6.2	6.2				
Temp.	°C		15.8	15.9	15.6	16.0	15.7	15.8	15.7	15.7	15.7	15.8				
Spec. cond.	μS/c1	m	643	642	646	646	649	646	647	647	647	647				
D.O.	mg/L	,	2.5	2.3	1.7	1.5	1.5	1.4	1.4	1.3	1.3	1.3				
ORP	mV		127.5	109.1	66.6	41.8	40.7	24.8	19.8	17.0	11.4	8.0				
Turbidity	NTU	-	1.9	5.9	3.4	1.2	1.1	2.3	2.7	3.3	2.3	1.9				
Color/tint			clear	clear	clear	clear	clear	clear	clear	clear	clear	clear				
Odor			none	none	none	none	none	none	none	none	none	none				
Sample Data		1						T		1						
Sample I			Date	Tı	me	# Con	tainers	# F	iltered				Remarl	ks		
MW-11	5									(contin	ued on j	page 2 of	f 2)			
									-				_			
Sampler's Nai	me (pr	ınt):		l	Michael	Clayto	n		Samp	ler Signa	iture:		Transc	cribed by	y HLF	

					(irou	ındv	water	Sai	mplıng	;]	Record						
Facility:	Plu	m Po	oint Ene	ergy Sta	tion		Si	ite ID:	M	W-115		Sampler: Mi	chae	l Clay	ton			
Project Number				0-1766-			D	ate:			_	Sampler Orga						
Program (ADI		PA):		EPA	CCR			4/10	0/20	018		FTN Associa	ites, l	Ltd.				
							ı											
Site Descripti	on					1												
Weather:		partl	y cloud	ly		Air T		(°F):			53	3	W	ind:		north a	ıt 11 m	ph
Site type:	- 337 - 11			·	337 - 1	1	W	Vell casin	ng n	naterial:		Well diamete	r			inches	2	Well
Monitorin Production				Extraction Borehole		1		PVC Steel			f	Total depth fi	om '	TOC		feet		locked?
☐ Irrigation				pring				Iron			-	-						Yes No
Other:								Other	:			TOC below/a	bove	groun	nd	feet		LI NO
Damages/repa	ırs need	led: 1	none															
Water Level	Data																	
Measuring poi			n:	W	Vater le	evel m	eter:	Her	on l	Dipper-T		Slope Water	er Le	vel Inc	dicato	or 🗹 Oth	ner: So	lonist 101
													•	A	fter		D	- ul
Other:	01 100				initi	al	con	firmatio	n	purgin	ıg	end		san	npling	g	Rema	aiks
Time	24	-hou	r		085	0		1150		1213		1309		1	318			
Depth to Wate	er fee	et			9.4)		9.41		9.41		9.41		9	.41			
Product	LN	IAPI	L/DNA	PL														
Prod. thicknes	s fee	et																
	•											<u>'</u>		•		•		
Field Data Field data met	org:								Dı	ımp descr	·ir	ntion:		I	Paila	r descript	ion:	
YSI Pro P				LaMot	tte 202	0 Turl	bidin	neter		Peristalt			mer			isposable		thylene
YSI 556			V	Hach 2		Turbi	dime	ter				dedicated			D	isposable	e Teflo	
Other:	I a	1		Other:					<u> </u>	Bladder:	_				D	isposable	e PVC	
Purge depth	feet							urging:	L		Ξ	No No	.2 -					
Casing vol.	gallons			_			:) – d	lepth to v	vate	er (feet)] •	<u> </u>	well ID (inch	es) ²]	• 0.04	108			
Time	24-hou		1255	1300	130	5										Re	emarks	
Purge vol.	gallons																	
Purge rate	mL/mi	n	200	200														
рН	su		6.2	6.3	6.3													
Temp.	°C		15.7	15.8	15.9													
Spec. cond.	μS/cm		647	647	647													
D.O.	mg/L		1.3	1.4	1.3													
ORP	mV		6.0	0.7	-0.9													
Turbidity	NTU		0.9	2.1	0.7													
Color/tint			clear	clear	clea													
Odor			none	none	non	e												
Sample Data																		
Sample I	D		Date	Ti	ime	# C	Conta	iners	#	Filtered				F	Rema	rks		
MW-11:		4/	10/201		310		2			0								
					-													
		<u> </u>		ı					1			<u> </u>						
Sampler's Nar	ne (prin	t):]	Micha	el Clav	yton			Samp	ole	er Signature:			Tran	scribed b	y HLF	

				G	round	water	Sam	npling	<u> </u>	ecord					
Facility:	Plur	n Point Ene	rgy Stat	tion	5	Site ID:	MW	7-116	S	ampler: Mich	nael Cla	yton			
Project Number	er:	R14590)-1766-	001	I	Date:			S	ampler Organi	zation:				
Program (ADI	EQ or EI	PA):	EPA (CCR		4/1	1/201	8	F	FTN Associate	s, Ltd.				
-					<u> </u>				•						
Site Descripti					· · · · · ·	(077)					**** 1				
Weather:	1	partly cloud	У	1	Air Tem				8		Wind:		south a	at 14 m	ph
Site type: Monitorin	a Well	ПБ	xtractio	n Well		Well casi ☑ PVC		aterial:	V	Vell diameter			inches	2	Well
Production			orehole			Steel			Т	otal depth from	m TOC		feet		locked?
Irrigation	Well	\square S	pring]	Iron			-	OC below/abo			feet		Yes No
Other: Damages/repa	ira maada	.d				Other	r:		1	OC DEIOW/auc	ove gro	and	leet		
Damages/repa	iis neede	a. none													
Water Level															
Measuring poi			W	ater lev	el meter	: He	ron D	ipper-T		Slope Water	Level I	ndica	tor 🗹 Otl	ner: So	lonist 101
Mark/note North rim]]	Pre-pur		re-purge		During	_	Purge		After		Rem	arks
Other:	01100			initial	co	nfirmatio	on	purging	g	end	sa	mplii	ng	Kem	arks
Time	24-	hour		1059		1355		1407		1426		1446			
Depth to Wate	er feet	t		11.08		10.83		10.83		10.83		10.83	3		
Product	LN	APL/DNAI	PL												
Prod. thicknes	s feet	t													
Field Data Field data met	erc.						Pun	np descri	inti	ion:		Rail	er descrip	tion:	
SI Pro P			LaMot	te 2020	Turbidi	meter		Peristalti		Subm	ersible		Disposabl		thylene
YSI 556		~		2100P T	`urbidim	eter		Bladder:					Disposabl	e Teflo	
Other:		<u> </u>	Other:		, .		•	Bladder:	-				Disposabl	e PVC	
Purge depth	feet				during p					No	27.0	2.400			
Casing vol.	gallons		_		` 			· -	LW	vell ID (inches))2] • 0.0	J408			
Time	24-hour		1405	1410	1415	1420	1425	5					R	emarks	
Purge vol.	gallons														
Purge rate	mL/mir				_	-	240								
pH	su	6.4	6.4	6.3	6.4	6.4	6.4								
Temp.	°C	17.6	17.6	17.6	17.6	17.6	17.6								
Spec. cond.	μS/cm	760	764	766	767	768	768	-	-						
D.O.	mg/L	1.7	1.6	1.6	1.5	1.5	1.5	_							
ORP	mV	31.7	21.9	9.0	-4.5	-9.9	-12.7		\downarrow			-			
Turbidity	NTU	0.8	1.9	1.7	2.1	1.3	0.9								
Color/tint		clear	clear	clear	clear	clear	clear								
Odor		none	none	none	none	none	none	9							
Sample Data															
Sample I	D	Date	Ti	me	# Cont	ainers	# F	Filtered	T			Rem	arks		
MW-11		4/11/2018		40	2			0	+						
			+	-			+	-	\dagger						
							1								
			ı												
Sampler's Nar	ne (print	:):	N	Michael	Claytor	l		Samp	ler	Signature:		Trai	nscribed b	y HLF	

					(Grou	nd	water	Sam	pling	Reco	d					
Facility:	Plui	m Point E	nergy	y Stat	ion		S	ite ID:	MW	-117	Sample	r: Mich	ael Clay	ton			
Project Numb	er:	R145	90-1	766-0	001		D	ate:			Sample	r Organi	zation:				
Program (ADI	EQ or E	PA):	E	EPA (CCR			4/1	1/2013	8	FTN A	ssociates	s, Ltd.				
Site Descripti	ion																
Weather:		partly clo	ıdv			Air T	`emr	o (°F):		5:	5		Wind:		south a	at 11 m	nh
Site type:		purity cro	ady			1111 1		Vell casi	ng ma				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Monitorin					n Wel	1	•	PVC			well a	iameter			inches	2	Well locked?
Production				ehole			١Ę	Steel			Total d	epth fron	n TOC		feet		✓ Yes
Irrigation Other:	Well		Sprii	ng			╢	∐ Iron ☐ Other			TOC b	elow/abo	ve groui	nd	feet		☐ No
Damages/repa	irs need	ed: none							•					ļ			
Water Level	Data																
Measuring po	int descr			Wa	ater le	vel m	eter:	: Hei	ron Di	pper-T	Slop	e Water l	Level In	dicate	or 🔽 Otl	ner: So	lonist 101
Mark/note					Pre-pu			re-purge		During		Purge		After	\overline{T}		
North rim Other:	of TOC			1	initia			ic parge ifirmatio		purging		end		nplin	g	Rem	arks
Time	24.	-hour			100	3		1045		1057		1141	1	152	_		
Depth to Water					9.34			9.19		9.19		9.19	_	9.19			
Product		IAPL/DN	APL		7.5			7.17		7.17		7.17		,,1)			
Prod. thicknes																	
	1	<u> </u>															
Field Data									1_								
Field data met		Г	Пι	aMott	e 202	0 Turl	hidir	meter		p descri Peristalti		Subm			r descript Disposable		thulana
YSI 556	ius	•	_			Turbio			_	Bladder:					Disposable		
Other:			<u> O</u> 1	ther:					E	Bladder:	portable	;			Disposabl		
Purge depth	feet		_					urging:		_	✓ No						
Casing vol.	gallons	3	=	[total	deptl	ı (feet) – c	lepth to	water ((feet)] •	[well ID	(inches)	²]•0.04	408			
Time	24-hou	ır 1050) 1	055	1100) 11	05	1110	1115	1120	1125	1130	1135		R	emarks	
Purge vol.	gallons	S															
Purge rate	mL/mi	n 200	2	200	200	20	00	200	200	200	200	200	200				
pН	su	6.7	(6.5	6.4	6	.3	6.3	6.4	6.4	6.4	6.4	6.4				
Temp.	°C	17.2	1	16.8	16.8	3 17	7.0	17.1	17.0	17.1	17.2	17.2	17.2				
Spec. cond.	μS/cm	483	4	485	485	48	84	483	483	484	484	485	486				
D.O.	mg/L	7.5		1.6	1.4		.2	1.0	1.1	1.0	1.0	1.0	1.0				
ORP	mV	7.5		29.6	-30.3		9.3	-34.8	-32.7	-36.0	-37.3	-39.0	-40.8				
Turbidity	NTU	7.7		2.2	2.9		.4 ear	5.1	6.3	6.4	1.6	3.1	2.4				
	Color/tint clear clear							clear	clear	clear	clear	clear	clear				
Odor	Odor none none none								none	none	none	none	none				
Sample Data																	
Sample I	D	Date		Tir	me	# C	onta	ainers	# F	iltered]	Rema	arks		
MW-11	7	4/11/20	18								(contin	ued on p	age 2 of	`2)			
												1					
Sampler's Na	me (prin	t):		N	/lichae	el Clay	yton.	_	_	Samp	ler Signa	ature:		Tran	scribed b	y HLF	

				(Grou	ındy	water (Sar	npling	ŀ	Record					
Facility:	Plun	n Point Ene	rgy St	ation		Si	ite ID:	ΜV	W-117	9	Sampler: Mic	hael (Clayton			
Project Number		R14590				D	ate:			_	Sampler Organ					
Program (ADI		PA):	EPA	CCR			4/1	1/20	18		FTN Associate	es, Lto	d.			
						1										
Site Descripti	on															
Weather:	p	artly cloud	у		Air 7	Гетр	(°F):		5	5		Win	d:	south	at 11 m	ph
Site type:						V	Vell casir	ng m	naterial:	-	Well diameter			inches	2	Well
Monitorin Production			xtracti orehol	on We	ll	<u> </u>	PVC Steel			١.	Total depth fro	T.C)C	feet		locked?
☐ Irrigation			pring	C		ᆙ	Iron			H	•					✓ Yes
Other:							Other	:		ľ	TOC below/ab	ove g	round	feet		☐ No
Damages/repa	irs neede	ed: none														
Water Level	Data															
Measuring poi		ption:	1	Water l	evel m	eter:	Her	on I	Dipper-T	Γ	Slope Water	Leve	l Indic	ator 🗸 O	ther: So	olonist 101
Mark/note		C		Pre-pi			re-purge		During		Purge		Afte			
☐ North rim ☐ Other:	of TOC			initi			ic-puige ifirmatio		purging	_	end		sampl		Rem	arks
Time	24-1	hour		100	2		1045		1057	_	1141		115			
Depth to Water				9.3			9.19	-	9.19		9.19		9.19			
Product		APL/DNAI	οī	9.5	-		9.19		9.19		7.17		9.13	,		
			L					-								
110d. tillekiles	od. thickness feet															
Field Data																
Field data met				200					mp descri					ler descri		.1 1
☐ YSI Pro P ✓ YSI 556	lus			otte 202 2100P					Peristalti Bladder:			nersib		Disposab Disposab		
Other:			Other		Turbi	diffic	ici	H	Bladder:				ᄩ	Disposat		11
Purge depth	feet				y duri	ng p	urging:			-	No					
Casing vol.	gallons				•			vate	r (feet)] •	[1	well ID (inches	s) ²] •	0.0408			
Time	24-hour	1140					1		/,	_					Remarks	
Purge vol.	gallons															
Purge rate	mL/min	1 200														
pН	su	6.4														
Temp.	°C	17.2														
Spec. cond.	μS/cm	486														
D.O.	mg/L	1.0														
ORP	mV	-40.9														
Turbidity	NTU	1.8														
Color/tint		clear														
Odor																
		I	Į.									 	I			
Sample Data			-	1				1								
Sample I		Date		ime	# (iners	#	Filtered	1			Rer	narks		
MW-11	7	4/11/2018	3 1	150		2			0							
G 1 2 2 7	, .			3.61.1	1 ~:					1	g: .				1	
Sampler's Nai	ne (prınt		el Cla	yton			Samp	le	er Signature:		Tra	anscribed	by HLF			

I					Jrour	awate	er Sa	amp	ning	K	ecora					
Facility:	Plun	n Point Ene	rgy Sta	tion		Site ID	: N	ИW-	118	S	ampler: Micha	el Clay	ton			
Project Number	er:	R14590)-1766-	001		Date:				S	ampler Organiza	ation:				
Program (ADI	EQ or EI	PA):	EPA (CCR		4	1/11/2	2018		F	FTN Associates,	Ltd.				
Site Descripti											Ţ					
Weather:	I	partly cloud	У		Air Te	mp (°F):			6	6	V	Vind:		south	at 14 m	ph
Site type:	XX 7 11			XX7 11		Well ca		mate	erial:	V	Well diameter			inches	2	Well
Monitorin Production			xtractio orehole		l	PV Ste				Т	Total depth from	TOC		feet		locked?
Irrigation			pring			☐ Iro				-	-		_			✓ Yes
Other:						Otl	ner:			Т	OC below/abov	e grou	nd	feet		☐ No
Damages/repa	irs neede	ed: none														
Water Level	Data															
Measuring poi	int descri		W	ater le	vel me	er: 🔲 I	Heron	n Dip	per-T		Slope Water L	evel In	dicat	or 🔽 Ot	her: So	lonist 101
Mark/note				Pre-pu		Pre-pur		1	During		Purge		After	$\overline{}$		
☐ North rim ☐ Other:	of TOC			initia		confirma			purging	•	end		nplin		Rem	arks
Time	24	hour		1010	0	1200		_		_	1226		_			
Depth to Water				1018 8.47		1300 8.29			1313 8.29		1336 8.29	-	347 3.29			
Product		APL/DNAI	DΙ	0.47	'	0.29			0.29		6.29	(3.29			
Prod. thicknes			L													
1 Tod. tillekiles	5 100	<u>. </u>														
Field Data																
Field data met									descri					er descrip		
☐ YSI Pro P ✓ YSI 556	lus		LaMot Hach 2			dimeter		_	eristaltio		Submer	rsible		Disposabl Disposabl		
YSI 556 Other:			Other:	1001	Turbia	meter	l		ladder:					Disposabl		11
Purge depth	feet			oes dr	v durin	g purging	<u> </u>			•	No			p		
Casing vol.	gallons										vell ID (inches) ²	1 • 0.0	408			
Time	24-hour		1310	1315	 			330	1335	Ŧ	()]	Ī	R	emarks	
Purge vol.	gallons		1310	1510	7 132	132	, 1,	330	1330							
Purge rate	mL/mir		200	200	200	200	2	200	200							
pH	su	6.0	5.8	5.7	5.7	_	_	5.8	5.8							
Temp.	°C	16.4	16.4	16.5			_	6.4	16.5							
Spec. cond.	μS/cm	432	432	430	_		_	129	429							
D.O.	mg/L	2.2	1.8	1.6			_	1.4	1.4	+						
ORP	mV	-5.6	-3.4	0.4	-4.:	-		9.7	-11.7							
Turbidity	NTU	3.0	1.0	5.1	3.7	_	_	0.7	1.3	+						
Color/tint		clear	clear	clear		_	_	lear	clear	\dagger						
Odor		none	none			+	one	none	+							
	1	none	1	1	1	1	1		1 2		1		1			
Sample Data																
Sample I		Date	Ti	me	# Co	ntainers		# Fi	ltered]	Rem	arks		
MW-11	8	4/11/2018	3 13	345		2			0							
									1	_						
Sampler's Nai	ne (print	t) :	N	Michae	el Clayt	on			Sampl	ler	r Signature:		Trar	iscribed b	y HLF	

				(Grou	ınd	water	San	pling	F	Record						
Facility:	Plur	n Point Ene	ergy Stat	tion		S	ite ID:	MW	7-119		Sampler:	Michae	el Clayt	ton			
Project Number			0-1766-			D	ate:				Sampler O						
Program (ADI		PA):	EPA (CCR			4/1	1/201	8		FTN Asso	ociates,	Ltd.				
						1				<u> </u>							
Site Descripti	ion																
Weather:]	partly cloud	ly		Air T	emp	o (°F):		6	60		W	/ind:		south a	t 14 m	ph
Site type:							Vell casii	ng ma	iterial:	,	Well diam	eter			inches	2	Well
Monitorin Production			xtractio orehole		l	<u> </u>	=			١,	T-4-1-14	1. C	TOC				locked?
Irrigation			pring			╢				L	Total dept	n irom	100		feet		✓ Yes
Other:		~	r8				Other	:		,	TOC below	w/abov	e groun	nd	feet		☐ No
Damages/repa	irs need	ed: none															
Water Level	Data																
Measuring poi		iption:	W	ater le	evel m	eter:	Her	on D	ipper-T	Г	Slope W	Vater La	evel Inc	licate	or 🔽 Oth	er: So	lonist 101
✓ Mark/note	ch on TC)C														. 50	1011131 101
North rim	of TOC			Pre-pu initia			re-purge nfirmatio		During purging	_		ırge nd		fter opling	σ	Rema	arks
Other:	124	1				001				5					ь		
Time		-hour		104			1555		1608			526	+	638			
Depth to Water				14.0	01		13.78		13.78		13	3.78	13	3.78			
Product		APL/DNA	PL														
Prod. thicknes	s fee	t															
Field Data																	
Field data met	ters:							Pun	np descri	ip	tion:		F	Baile	r descript	ion:	
YSI Pro P	lus		LaMot						Peristalti	ic		Submei	sible		isposable		
YSI 556			Hach 2	2100P	Turbio	dime	eter				ledicated		ļ		Disposable		n
Other:	feet		Other:	000 dr		na n	urging:		Bladder: Yes	-	No			L	oisposable	PVC	
Purge depth Casing vol.	gallons				•						well ID (in	nahag) ²	1 - 0 04	100			
			_	_	_				<u> </u>	L,		iches)	J - 0.04	100	D .	1	
Time	24-hou		1605	1610	0 16	515	1620	1625	<u> </u>						Re	marks	
Purge vol.	gallons		2.00	2.60			260	2.60									
Purge rate	mL/mi		260	260		60	260	260									
pH	su	6.9	6.5	6.4	_	.4	6.4	6.4									
Temp.	°C	18.0	17.7	17.8		7.8	17.9	18.0									
Spec. cond.	μS/cm		536	533		32	525	524									
D.O.	mg/L	5.7	2.2	1.6		.4	1.1	1.1									
ORP	mV	-11.4	-7.8	-7.8		0.1	-19.9	-22.2	2								
Turbidity	NTU	3.3	2.7 clear	2.6	1	.9	1.4	0.9									
Color/tint	Color/tint clear					ear	clear	clea	r								
Odor		none	none	none	e no	ne	none	none	•								
Commis Data																	
Sample Data Sample I	D	Date	Ti	me	# C	onto	iners	# 1	Filtered	ı			Е	Rema	rke		
MW-11					# C		1111013	# 1		+			r	CIII	ико		
IVI W - 1 1	7	4/11/201	0 16	535		2		1	0	+							
								1		+							
Sampler's Nar	me (nrin	t).	N	Michae	el Clav	vton			Samn	le	er Signatur	.е.	,	Tran	scribed b	HIF	
Louinpier o rial	TITAL CHILL	· / ·	1,	***********	UI (UI(II)	4 LO11					Uigiiuiui	· -		TIGHT	JULIUCU II	v 1 1 1 / 1	



Groundwater Level Data Sheet

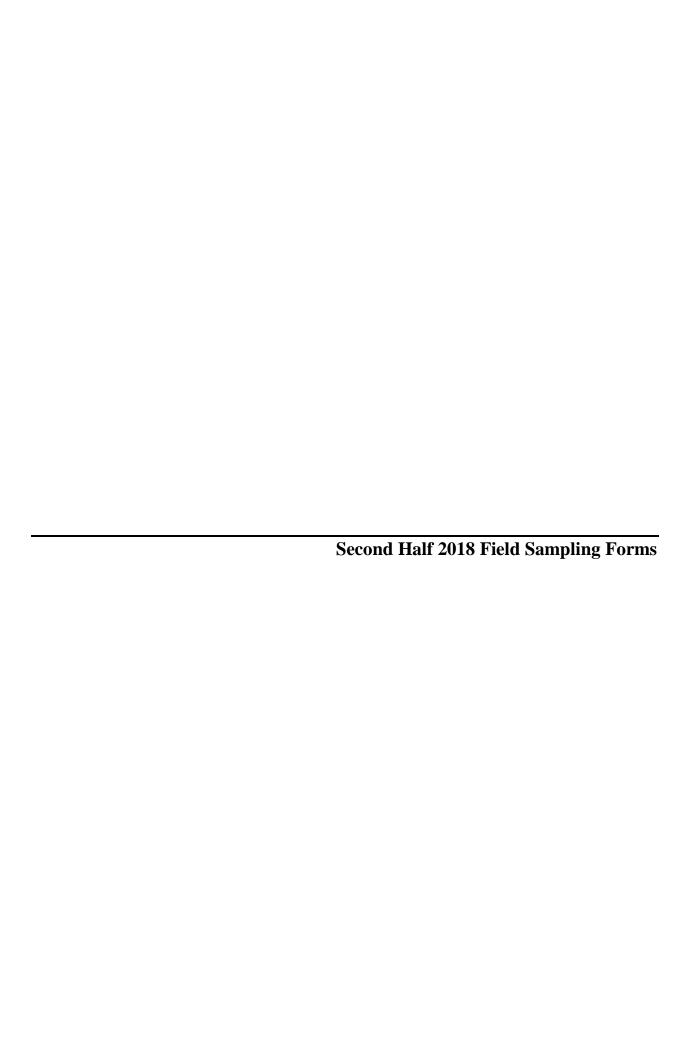
Plum Point		tation		ect Number: 90-1766-001		Micha	el Charton	Page 2 of 1
Weather Co	enditions 75%	o Humidity	Mea	suring Device:				
		/						
Well ID	Date	Ti	me	Depth to Water (feet below TOC)			Damages/Repairs	
	- 5.1		2 1 7	171.5	Пр	-tr - 1/ · I	П р 1700	T - 1 1-9-104
MW-1	7/9/6	1018 9	13	14.23	Damaged by Damaged by Damaged ex		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-2	1	//	18	15.18	Damaged w Damaged bo Damaged ed		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-3R		113		14.75	☐ Damaged w ☐ Damaged be ☐ Damaged ec		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-4R2			59	11.25		rell pad/casing ollards	☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-5			20)	ANTE INWELL		ell pad/casing ollards	☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-6		103	3/	12.84	Damaged be	quipment	☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-7		. 10	15	16.78	Damaged be	quipment	Damaged TOC Damaged lock Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-8		GS	0	16.39	Damaged be		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-10R		103	Ģ	11.50	Damaged be	quipment	☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-11R		100	16	12.63	☐ Damaged be ☐ Damaged ex		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-13R		95	8	15.60	☐ Damaged be☐ Damaged ex		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-15		100	\$	14,60	Damaged w Damaged be Damaged ed		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-16		1/2	5	15.48	☐ Damaged w ☐ Damaged be ☐ Damaged ee		☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-17		104		13.66		ell pad/casing ollards	☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-18		//4		12.50		ell pad/casing ollards	☐ Damaged TOC ☐ Damaged lock ☐ Un-kept vegetation	Lacks visibility Lacks access See gw sample record
MW-19			17	18.04		ell pad/casing ollards	Damaged TOC Damaged lock Un-kept vegetation	Lacks visibility Lacks access See gw sample record

				UI	ouna	water	Samp	nng r	Cecord	1					
Facility: Plum	Point I	Energy Stati	on			Site ID:	MWI	02	Sample	r: M	cho.				
Project Numb	er: 145	90-1766-0	001			Date: 7	_		Sample	r Organi	ization:	FTM	,		
Site Descript	ion				A ' 00	(OTT)	0.1				337' 1				
Weather:	/_				Air Tem		91				Wind:	Cs.	lm_		
Site type: Monitorin	n Wall	Пг	xtractio	n Wall		Well cas PVC		erial:	Well di	ameter		i	nches	2	
☐ Production			orehole			Steel		- 1	Total d	epth fro	m TOC		feet		locked?
☐ Irrigation			pring			□ Iron		-				_			No No
Other:						☐ Other	r:		TOC be	elow/abo	ove grou	ina 1	feet		140
Damages/repa	airs need	ied:													
		341													
Water Level	Data														
Measuring po			V	Vater lev	el mete	r: Hero	n Dippe	r-T S	lope Wa	ter Leve	l Indica	tor C	Other:	Solik	6/01
Mark/note				Pre-purg	re F	re-purge	,	During	T T	Purge	1100	After			
☐ North rim ☐ Other:	of TOC			initial		nfirmatio		purging		end		npling		R	emarks
Time	24	l-hour	-	me		1320		11/2/	- .	Unl	+-,	(110			
Depth to Water		_	_	1118				15,25		401 5.31		5.31			
Product	_	NAPL/DNA	ΡΙ	15.18		15.18		11,2		313/	/-	1131			
Prod. thicknes	_			=					_						
											_!,				
Field data me Hydrolab Hydrolab Other:	MiniSo DataSo	nde 🗷	Hach 2 Other:	te 2020 100P To	urbidim		□ B □ S	ubmers	c (dedicate	ed / porta	able)	□ Di	descrip sposabl sposabl sposabl	le po le Te	lyethylene flon
Casing vol.	gallon	s				depth to			[well ID	(inches	$)^{2}$] • 0.0)408			
Time	24-ho	ur 132	1328	/33/	/334	/337	1340	1343	1341	1349	1200	1353	/ R	lema	rks
Purge vol.	gallon	120	///	1251	1557	1301	7540	1545	12/6	1391	155.4	1252	135		1359
Purge rate	mL/m		110	110	110	116	110	110	1/0	110	110	110	110		110
рН	su	- 1.6.86	110	6,04	/32				6.61		6168	-			6,67
Temp.	°C	21.48		21.41		21.26		22.19		23,29					2345
Spec. cond.	μS/cm		802	801	802	803	801	798	799	799	100	801	80		804
D.O.	mg/L	7.38		4.40	3,58			2.57		2111	2.04	1.93	1,9	- 1	1.97
ORP	mV	141.1		145.9			116.9	109.5			96.5				53.8
Turbidity	NTU	2.18	2,12		2.10	2,57		2.55	3.02		2,06	2.95			2,99
Color/tint		Clear		2,00	3.70	-	4.76	1,77	3102	3101	2,00	A117	7.7/		7
Odor		None	_		-							-	\dashv	_	j
		72071			*-	-		1,,							
Sample Data			1 -				1	_	i						
Sample I	D	Date	_	me	# Cont	ainers		ltered				Remar	'KS		
MW 102		7/9/14		05	1		1								
MUZA		7/9/18	14.	10	Z		-	*	Dugh	CATE					
					_										
Sampler's Na	me (nri	nt)·		-/-				Samp	ler Signa	ature		/	1-	1	0

Groundwater Sampling Record Sampler: MCL Facility: Plum Point Energy Station Site ID: MW 116 Project Number: 14590-1766-001 Date: 7/9/6 Sampler Organization: PIN Site Description Weather: Cloud V Air Temp (°F): 91 Wind: CSFD 4 Well casing material: Site type: 2 Well diameter inches Well Monitoring Well ☐ Extraction Well N PVC locked? ☐ Production Well ☐ Borehole ☐ Steel Total depth from TOC feet YES) ☐ Iron ☐ Irrigation Well ☐ Spring TOC below/above ground feet ☐ Other: ☐ Other: Damages/repairs needed: Water Level Data Slope Water Level Indicator Other: Solins 101 Measuring point description: Water level meter: Heron Dipper-T Mark/notch on TOC After Pre-purge Pre-purge During Purge ☐ North rim of TOC Remarks confirmation initial purging end sampling ☐ Other: 1125 Time 24-hour 1440 1457 1558 1542 Depth to Water feet 15.48 15.48 15.48 15,48 15.48 Product LNAPL/DNAPL Prod. thickness feet Field Data Field data meters: Pump description: Bailer description: ☐ Hydrolab MiniSonde ☐ LaMotte 2020 Turbidimeter ■ Peristaltic ☐ Disposable polyethylene ☐ Hydrolab DataSonde Nach 2100P Turbidimeter ■ ☐ Bladder (dedicated / portable) ☐ Disposable Teflon Other: VI S56 ☐ Submersible ☐ Disposable PVC ☐ Other: Purge depth feet Well goes dry during purging: Yes NO Casing vol. gallons = [total depth (feet) – depth to water (feet)] • [well ID (inches)²] • 0.0408 1520 Time 24-hour Remarks Purge vol. gallons Purge rate mL/min 120 1211 120 120 120 120 120 120 120 120 pН 649 Su 6.02 6,52 6.15 5,69 6.35 6.52 6,57 °C Temp. 22,54 23.11 21.63 23,33 23,84 21.78 22,24 23,01 Spec. cond. μS/cm 824 824 826 833 828 827 828 827 D.O. mg/L 2.76 2.42 J.J. 2.30 2.28 2.04 2.01 1.89 4.38 3,34 ORP mV 1543 199.8 198.0 172,9 145.6 137.0 137.4 121.7 117.3 114.8 **Turbidity** NTU 1.60 6.14 5,02 208 3.99 2.39 3.51 3.17 Color/tint CHAR Odor None

Sample Data Sample ID Date Time # Containers # Filtered Remarks 1/1/16 محلامه 0 104201 1550 14/20 1701203 Sampler's Name (print): Mr child Classifion Sampler Signature:

					(3rou	ndv	water	Sam	pling	Reco	'd					
Facility:	Plur	m Point E	Energ	gy Stat	tion		Si	ite ID:	MW	-118	Sample	r: Micha	el Clay	ton			
Project Numb	er:	R14:	590-	1766-0	001		D	ate:			Sample	r Organiz	ation:				
Program (ADI	EQ or El	PA):		EPA (CCR			7/1	0/201	8	FTN A	ssociates,	Ltd.				
Site Descripti	on																
Weather:		cloudy	y			Air T	emp	(°F):		8′	7	V	Vind:		C	alm	
Site type:							W	Vell casi	ng ma	terial:	Well d	iameter			inches	2	Well
Monitorin				traction		l	<u></u>	_									locked?
Production Irrigation		H		rehole ring			IJ⊨	☐ Steel☐ Iron			I otal d	epth from	100		feet		✓ Yes
Other:							ĮĒ	Othe	r:		TOC b	elow/abov	e grou	nd	feet		□ No
Damages/repa	irs need	ed: none	;														
Water Level		rintion:		1337	7-41-	1	4		D	Tr. 1	C1	- XV-4 I	1 T	11: - 4			1: +101
Mark/note				-		vel me				ipper-T		e Water L			or 🗾 Oti	ner: So	olinst 101
North rim				I	Pre-pu initia	_		re-purge ifirmatio		During purging		Purge end		After nplin		Rem	arks
Other:	104					-	COII)11		5				g		
Time		-hour			1142			1000		1022		1047	-	1058			
Depth to Wate			LADI	r	12.5	-		12.55	,	12.55	0 7	12.55	-	2.55			
Product Prod. thickness		APL/DN	IAPI	L	7/9/20	018	//	10/2018	5	7/10/201	.8 /	/10/2018	//1	0/201	18		
Prod. thicknes	s lee	:L															
Field Data																	
Field data met		г	— т	LaMot	ta 202	0 Turb	idin	natar		np descrij Peristaltio		Subme			er descrip Disposabl		thulana
YSI 556	ius	_ [-		Hach 2						Bladder:			181016		Disposabl Disposabl		
Other:				Other:					∐∏ I	Bladder:	portable	;			Disposabl		
Purge depth	feet						-	urging:		_	✓ No						
Casing vol.	gallons	3	=	= [tota	l deptl	ı (feet)	– d	lepth to	water	(feet)] •	[well ID	(inches) ²] • 0.0	408			
Time	24-hou	r 100)5	1010	1013	5 102	20	1025	1030	1035	1040	1045			R	emarks	
Purge vol.	gallons	3															
Purge rate	mL/mi		_	130	130			130	130	_	130	130					
pН	su	5.6	_	6.0	6.3	6.		6.3	6.4	6.4	6.5	6.5					
Temp.	°C	20.		21.1	21.1	_		21.34	21.	21.8	22.0	22.1					
Spec. cond.	μS/cm			477	478			474	475	476	476	477					
D.O.	mg/L	5.1	_	4.5	4.2	_		4.1	4.0	3.9	3.9	3.8					
ORP	mV	185		156.3	138.			137.4	131.1		-	+					
Turbidity	NTU	5.1		4.1 clear	3.0	-		1.3	1.7	1.2	1.3	1.2					
Color/tint	clea			clear	clear		clear	clear									
Odor		non	none	none	e noi	ne	none	none	none	none	none						
Sample Data					1						_						
Sample I	D	Date	e	Ti	me	# C	onta	iners	# F	Filtered			-	Rema	arks		
MW-11	8	7/10/20	018	10	50		0			0	pH onl	y					
Sampler's Nar	me (prin	t):		N	Michae	el Clay	ton			Sampl	er Signa	ature:		Tran	scribed b	y HLF	





Groundwater Level Data Sheet

Project Nar	ne:		Proj	ect Number:			Investiga	tor	•			
Plum Point l	Energy Station	n	1459	90-1766-001			M	100	_4		Page	_ of
Weather Co	onditions:		Mea	suring Device:						Ť		
Cloudy	/RAIN			solinsi 101								
C/00(1)	IMIM			Summer col	-					1		
								_		-		
				Depth to				_				
Well ID	Date	Tir	me	Water (feet				J	Damages/Repairs			
				below TOC)	_							
						D 1	11 17 .		D 1500			***
MW-1				, ,	╽╏	Damaged wo					Lacks visib	
141 44 -1	9/24/18	13	50	15.88	╽ᡖ	Damaged eq			2		See gw sam	
	110			73.00	ā	Damaged we		Ē			Lacks visib	
MW-2	1	•	11	,		Damaged bo					Lacks acces	
		19.84				Damaged eq					See gw sam	
		#B2000 /7.357					ell pad/casing		Damaged TOC		Lacks visib	
MW-3R	1336 19.09					Damaged bo					Lacks acces	
		13	16	17,09	븯	Damaged eq			Oli Mept regetation		See gw sam	-
NAME ADO					빔	_	ell pad/casing	밤	Damaged TOC	片	Lacks visib	
MW-4R2	1	132	9	16,72		Damaged bo		ㅂ			Lacks acces	
		100		1011	님	Damaged eq	ell pad/casing	H	Damaged TOC	H	See gw san Lacks visib	
MW-5	1 1				ᆸ	Damaged bo					Lacks acces	
141 44 -2				Ancinvell		Damaged eq					See gw sam	
			-	NUIZ III VIGI			ell pad/casing				Lacks visib	
MW-6						Damaged bo				_	Lacks acces	
		12	43	18.5-4		Damaged eq					See gw san	ple record
						Damaged we	ell pad/casing		g		Lacks visib	oility
MW-7						Damaged bo				\Box	Lacks acces	
		12	36	21.63		Damaged eq		빌			See gw san	
B #XX 0					ᄖ		ell pad/casing	ᄖ		片	Lacks visib	
MW-8		123	i i	20.22		Damaged bo			Ü		Lacks acces	
		120	_	Alliau	븜	Damaged eq	ell pad/casing	H	Oil Rept regetation		See gw san Lacks visib	
MW-10R	16	Ľ	5			Damaged bo		lΗ			Lacks visio	•
141 44 -101X		lat	A	16.13		Damaged eq			0		See gw sam	
		1.50.4		7.1.2			ell pad/casing		Damaged TOC	-	Lacks visib	
MW-11R						Damaged bo	ollards				Lacks acces	
		124	18	17.62		Damaged eq	uipment				See gw sam	nple record
						Damaged w	ell pad/casing				Lacks visib	- 1
MW-13R	1 1	11	1 7		닏			밀			Lacks acces	
		1h	73	20.55	닏	Damaged eq					See gw san	
MW-15						_	ell pad/casing		Damaged TOC Damaged lock		Lacks visib	· 1
IVI VV -15		12	15	19.26	H	Damaged bo		b			See gw sam	
		1.00	1 5	1700			ell pad/casing	Ē		Ī	Lacks visib	
MW-16	1					Damaged bo					Lacks acces	•
112 11 10		13	16	2014		Damaged eq			. ~		See gw sam	
							ell pad/casing		Damaged TOC		Lacks visib	
MW-17			02			Damaged bo			Ü		Lacks acces	
		M.		18.82	Щ	Damaged eq			on mept regerment		See gw san	
3.6337.40							ell pad/casing				Lacks visib	•
MW-18		13	22	171	닏	Damaged bo		님			Lacks acces	
		130	χ. σ	17.51		Damaged eq		H			See gw sam	
MW-19						Damaged bo	ell pad/casing				Lacks visib	
141 44 -17	V	134	2	21,42		Damaged ed			Un-kept vegetation		See gw san	
				and the second		200		4-	1 10	_	9	

				G	round	<u>water</u>	Sam	pling	<u>Kecor</u>	d					
Facility:	Plur	n Point Ene	rgy Stat	ion	S	ite ID:	MW	-101	Sample	r: Michae	el Clay	ton			
Project Number			0-1766-0			Date:			Sample	r Organiza	ation:				
Program (ADI	EQ or El	PA):	EPA (CCR		9/2	26/2018	8	FTN A	ssociates,	Ltd.				
-															
Site Descripti	on				·	(OE)				1,,,	7. 1				
Weather:		overcast			Air Tem			70)	W	/ind:		north a	t 13 m	ph
Site type: Monitorin	σ Well	ПБ	xtractio	n Well		Vell casi ☑ PVC		terial:	Well di	ameter		iı	nches	2	Well
Production			orehole			Steel			Total de	epth from	TOC	f	eet		locked?
Irrigation	Well	\square S	pring			Iron				elow/abov		nd f	eet		✓ Yes
Other: Damages/repa	ira naad	ad: none			<u> </u>	_ Other	r:		100 00	low/abov	c groun	iiu ii			
Damages/repa	iis need	eu. Hone													
Water Level			1												
Measuring point description: Water level meter: Heron Dipper-T Slope Water Level Indicator Other: Solinst Mark/notch on TOC													olinst 101		
North rim			1	Pre-pur		re-purge		During	l l	Purge		After		Rem	arks
Other:				initial	col	nfirmatio	on	purging	;	end	sar	npling		TCIII	w1 110
Time	24-	hour		1350		1315		1327		1356	1	1410			
Depth to Water	er fee	t		15.88		17.46		17.45		17.45	1	7.45			
Product	LN	APL/DNAI	PL 9	9/24/20	18 9	/26/2018	3 9	9/26/201	8 9/	26/2018	9/2	6/2018	3		
Prod. thicknes	s fee	t													
Et LID (
Field Data Field data met	ers:						Pum	p descrip	otion.		1	Bailer	descript	ion.	
SI Pro P			LaMot	te 2020	Turbidi	meter		Peristaltic		Subme			sposable		thylene
YSI 556				100P T	urbidim	eter		Bladder:		d			sposable		n
Other:	l c .		Other:	1	1 '	•		Bladder:				D ₁	sposable	PVC	
Purge depth	feet				during p				✓ No	(:1\ ²	1 00	400			
Casing vol.	gallons		_		<u> </u>					(inches) ²] • 0.04	408 T			
Time	24-hou		1325	1330	1335	1340	1345	1350	1355				Re	marks	
Purge vol.	gallons		100	100	100	100	100	100	100						
Purge rate	mL/mii			190		190	190		190						
рН	su	6.9	6.3	6.1	6.6	6.7	6.7	6.8	6.8						
Temp.	°C	18.6	18.4	18.4	18.8	18.9	19.0	_	18.8						
Spec. cond.	μS/cm	657	656	657	657	658	658	659	657						
D.O.	mg/L	1.0	0.6	0.4	0.4	0.4	0.4	0.4	0.3						
ORP	mV	97.1	132.6	135.0		96.7	93.1	87.4	87.8						
Turbidity	NTU	4.8	6.8	4.0	2.4	3.5	2.7	2.9	2.3						
Color/tint		clear	clear	clear	clear	clear	clear		clear						
Odor		none	none	none	none	none	none	none	none						
Sample Data															
Sample I	D	Date	Ti	me	# Conta	ainers	# F	iltered]	Remar	·ks		
MW-10		9/26/2018		05	2			0							
Sampler's Nar	ne (prin	t):	N	Michael	Clayton			Sampl	er Signa	ture:		Trans	cribed by	y HLF	

					Grou	ınd	water	San	npling	Reco	rd						
Facility:	Plui	m Point En	ergy Sta	ation		S	ite ID:	MW	V-102	Sampl	er: Micl	nael C	layton	ļ			
Project Numb	er:	R1459	0-1766	-001		Г	ate:			Sampl	er Organ	izatioı	1:				
Program (AD	EQ or El	PA):	EPA	CCR			9/2	27/201	18	FTN.	Associate	es, Ltd					
Site Descripti	on																
Weather:		cloudy			Air	Гетр	o (°F):		5	9		Wind	:	nor	th at 12	2 m	ph
Site type:					-		Vell casi	ng ma	aterial:	Well (liameter			inches		2	Well
Monitorin			Extracti		:11	•	PVC						_		, ,		locked?
Production Irrigation		=	Borehol Spring	e		╽╞	Steel Iron			Total	depth fro	m TO	С	feet			✓ Yes
Other:	****	L,	pring				Othe	r:		TOC 1	elow/ab	ove gr	ound	feet			☐ No
Damages/repa	irs need	ed: none				•											
Water Level		:	1.										- 11		0.1		
Measuring po				Nater I	evel m				ipper-T			Level			Other:	Sc	olinst 101
☐ North rim				Pre-p			re-purge		During		Purge		Afte		R	em:	arks
Other:				init	ıaı	cor	nfirmatio	on	purging	3	end		sampli	ing			
Time		-hour		13			1020		1033		1113		1128				
Depth to Water				19.			19.73		19.73		19.74		19.7				
Product		IAPL/DNA	.PL	9/24/2	2018	9,	/27/2018	3	9/27/201	18	9/27/2018	8 9	9/27/20	018			
Prod. thicknes	s fee	t															
Field Data																	
Field data met		_	1 7 3 7	20	3 0 T	1 · 1·	,		np descri			.1 .		ler desci			.1 1
YSI Pro P YSI 556	lus	V			20 Tur Turbi			_	Peristalti Bladder:		Subn	nersibl		Disposa Disposa			
Other:			Other		1 4101	W 11111	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Bladder:					Disposa			
Purge depth	feet		Well	goes d	ry duri	ing p	urging:] Yes [✓ No							
Casing vol.	gallons	3	= [tot	al dep	th (fee	t) – c	lepth to	water	(feet)] •	[well II	(inches	(a) ²]•(0.0408				
Time	24-hou	r 1030	1035	104	10 10	045	1050	105:	5 1100	1105	5 1110				Rema	rks	
Purge vol.	gallons	3															
Purge rate	mL/mi	n 150	150	15	0 1	50	150	150	150	150	150						
pН	su	6.6	6.1	6	3 6	5.3	6.4	6.5	6.5	6.5	6.5						
Temp.	°C	18.5	18.4	18.	.5 1	8.3	18.4	18.4	4 18.3	18.4	18.4						
Spec. cond.	μS/cm	644	645	64	5 6	45	644	644	644	643	642						
D.O.	mg/L	4.0	0.7	0.3		0.6	0.5	0.5		0.5	0.4						
ORP	mV	134.0	_	_		30.5	124.5	120.			_						
Turbidity	NTU	2.4	2.4	1.9		2.3	1.8	1.8		1.9	2.1						
Color/tint		cle	ar cl	ear	clear	clea	r clear	clea	clear								
Odor	none	ne no	one	none	none	e none	none	none									
Sample Data																	
Sample I	D	Date	Т	ime	# (Conta	ainers	#]	Filtered				Ren	narks			
MW-10	2	9/27/201	8 1	125		2			0								
Sampler's Na	ne (prin	t):		Micha	el Cla	yton			Samp	ler Sigr	ature:		Tra	anscribe	d by H	LF	

					(iroun	dwatei	r Sai	mpl	ing	Recoi	<u>'d</u>					
Facility:	Plu	m Point E	nergy	Stat	ion		Site ID:	M	W-10)3	Sample	r: Micha	el Clay	ton			
Project Numb	er:	R145	90-1	766-0	001		Date:				Sample	r Organiz	ation:				
Program (AD	EQ or E	PA):	Е	PA (CCR		9/	/26/20	018		FTN A	ssociates	Ltd.				
Site Descripti	ion																
Weather:		overcas	t			Air Tei	np (°F):			67	7	1	Vind:		north a	at 17 m	ph
Site type:					•		Well cas		nateri	ial:	Well d	ameter			inches	2	Well
Monitorin Production			Extra Bore		n Well		PVO Stee						тос			1 -	locked?
Irrigation		H	Sprir				☐ Iron			•		epth from			feet		✓ Yes
Other:			1	-			Oth	er:			TOC b	elow/abov	e grou	nd	feet		□ No
Damages/repa	irs need	ed: none															
Water Level Measuring po		intion:		1337	- 4 1	14	🗆 11		D:	T. [- XV-4 T	1 T	114	🗔 👊		1: +101
Mark/note						vel met			Dippe						or 🗾 Oti	ier: So	olinst 101
North rim				P	Pre-pur initia		Pre-purg			Ouring urging		Purge end		After nplin	σ.	Rem	arks
Other:	104	1				-		1011			,			-	g		
Time		-hour			1336		1200			1217		1246	-	1259			
Depth to Wate			A DI		19.09		18.95	0		18.95	0 0	18.95	-	8.95	1.0		
Product Prod. thickness		IAPL/DN	APL	9	9/24/20	018	9/26/201	.8	9/2	26/201	8 9	/26/2018	9/2	6/201	18		
Flou. uncknes	55 100	;ı															
Field Data																	
Field data met		г	Тι	Mott	ta 2020) Turbio	limatar			descrip istaltic		Subme			r descrip Disposabl		thulana
YSI 556	ius	•	_			Furbidii			_		dedicate		181010		Disposabl		
Other:			Ot	her:					Blac	dder: j	portable	;			Disposabl		
Purge depth	feet		_				purging				✓ No						
Casing vol.	gallons	3	=	[total	depth	(feet) -	depth to	wate	er (fee	et)] • [[well ID	(inches) ²] • 0.0	408			
Time	24-hou	ır 1210) 12	215	1220	122:	1230	12.	35	1240	1245				R	emarks	
Purge vol.	gallons	3															
Purge rate	mL/mi	-	_	80	180	180			30	180	180						
pН	su	6.5		5.3	6.4	6.5	6.5	6.		6.5	6.6						
Temp.	°C	18.4		8.6	18.7	18.8		19		19.3	19.4						
Spec. cond.	μS/cm	-		05	705	706	-	70		704	705						
D.O.	mg/L	0.8).8	0.7	0.5	0.4	0.		0.3	0.3						
ORP	mV	67.1		6.6	72.3	66.5	_	65		65.0	64.8						
Turbidity	NTU	21.8		2.0	1.2 clear	1.7	1.2 clear	1.		1.4	1.3						
								cle		clear	clear						
Odor		non	one	none	none	none	noi	ne	none	none							
Sample Data											1						
Sample I	D	Date		Tir	me	# Co	ntainers	#	# Filte	ered				Rema	arks		
MW-10	3	9/26/20	18	12:	55		2		0								
Sampler's Na	me (prin	t):		N	Aichae	l Clayto	on		5	Sampl	er Signa	ature:		Tran	scribed b	y HLF	

Facility: Plum Point Energy Station Site ID: MW-108 Sampler: Michael Clayton																				
Facility:	Plu	m Poi	int Ene	rgy Sta	tion		S	ite ID:	MW	V-108	Sampler: Michael Clayton									
Project Numb	er:	F	R14590)-1766-	001		D	ate:			Sampler Organization:									
Program (AD	EQ or E	PA):		EPA	CCR			9/2	25/201	18	FTN Associates, Ltd.									
Site Descripti	ion																			
Weather:		clo	oudy			Air T	emp	o (°F):		8	4		W	ind:		southv	vest at	13	mph	
Site type:							V	Vell casi		aterial:	Well	diameter				inches	,	2	Well	
Monitorin Production			xtractio orehole	11	<u>•</u>	☑ PVC ☐ Steel						TOC feet					locked?			
Irrigation	orenoie	;		ᅡ	Iron		Total depth from								Yes					
Other:								Othe	r:		TOC	below/al	oove	groui	nd	feet			☐ No	
Damages/repa	irs need	led: n	none																	
Western Level Deste																				
Water Level Data Measuring point description: Water level meter: ☐ Heron Dipper-T ☐ Slope Water Level Indicator ✔ Other: Solinst 101																				
Mark/note			n:													or 🗹 (Other:	So	olinst 101	
North rim					Pre-pı	_		re-purge nfirmatio		During		Purge			After	Remarks			arks	
Other:	1				initi		COI)11	purging	3	end			nplin					
Time		-hour			123	-		1300		1308		1342			356					
Depth to Water		feet			20.22			20.15		20.15		20.15		20.15						
Product	LNAPL/DNAPL			L !	9/24/2018			/25/2018	3	9/25/201	18	9/25/20	18	9/25/20		18				
Prod. thickness feet																				
Field Data																				
Field data meters: ☐ YSI Pro Plus ☐ LaMotte 2020 Turbidimeter ☐ Pump description: ☐ Pump description: ☐ Submersible ☐ Disposable polyethylene														4la - 1 a a						
✓ YSI 556	dime		_	Peristaiti Bladder:			mers	sible [)isposa)isposa										
Other:				Other:						Bladder:]		Disposa				
Purge depth	feet			Well g	oes di	y durii	ng p	urging:		Yes [☑ No									
Casing vol.	gallons	S		= [tota	ıl dept	h (feet))-c	lepth to	water	(feet)] •	[well I	D (inche	$(s)^2$	• 0.04	408					
Time	24-hou	ır	1305	1310	131	5 13	20	1325	1330	0 1335	134	0					Rema	rks		
Purge vol.	gallons	S																		
Purge rate	mL/mi	n	175	175	17:	5 17	75	175	175	175	175	;								
pН	su		6.1	6.2	6.3	6.	.5	6.6	6.7	6.7	6.7									
Temp.	°C		23.2	22.4	22.	4 22	2.8	22.7	23.5		22.9)								
Spec. cond.	μS/cm		910	888	88			866	864	_	867	_								
D.O.	mg/L		0.9	0.6	0.4		.4	0.4	0.3		0.4									
ORP	mV		167.2	162.9	143		7.3	122.5	114.		107.	_								
Turbidity	NTU		4.5	4.9	2.7	_		3.0	3.8		1.9	-								
Color/tint			clear	clear	clea			clear	clea	+										
Odor			none	none	non	e no	ne	none	none	e none	non	e								
Sample Data																				
Sample I	D	I	Date	Ti	me	# C	onta	niners	#]	Filtered]	Rema	arks				
MW-10	8	9/2	25/2018	3 13	350		2			0										
Sampler's Na	me (prin	nt):		1	Micha	el Clay	/ton			Samp	ler Sig	nature:			Tran	scribed	l by H	LF		

	Facility: Plum Point Energy Station Site ID: MW-113 Sampler: Michael Clayton																			
Facility:	I	Plum P	oint Ene	rgy Sta	ion		Site ID:	N	MW-	113	Sampler: Michael Clayton									
Project Number			R14590				Date:				Sampler Organization:									
Program (ADI		r EPA)	:	EPA (CCR		9	/25/2	2018		FTN Associates, Ltd.									
										<u> </u>										
Site Descripti	on																			
Weather:		part	ly cloud	y		Air Te	mp (°F):			79)		Wind:	Wind:		south at 10 mph				
Site type:	***	11		, ,.	337 11		Well ca		mate	erial:	Well di	ameter		i	nches	2	Well			
Monitorin Production				xtractio orehole			PV				Total d	epth fro	m TOC	1	feet		locked?			
☐ Irrigation				pring			Iron					-		-			Yes No			
Other:							Oth	er:			100 00	elow/abo	ove grou	ind 1	feet					
Damages/repa	ırs ne	eeded:	none																	
Water Level Data																				
Measuring poi			on:	W	ater le	vel met	er: 🔲 H	[eror	n Dip	per-T [e Water	Level Ir	ndicato	r 🗹 Oth	er: So	er: Solinst 101			
✓ Mark/note North rim]	Pre-pur	ge	Pre-pur	ge		During		Purge		After		orlea				
Other:	01 1	00			initia	1 0	onfirmat	ion		purging		end	sa	mpling	ng Remarks					
Time		24-hou	ır		1223		1125			1133		1242		1254						
Depth to Wate	er	feet			20.55	20.45			20.45		20.45		20.45							
Product		LNAP	L/DNAI	PL 9	9/24/20	18	9/25/20	9/25/2018 9			8 9/25/2018		3 9/2	9/25/2018						
Prod. thicknes	S	feet																		
Field Data Field data meters: Pump description: Bailer description:																				
YSI Pro P				LaMot	te 2020) Turbi	dimeter			eristaltic		Subm			isposable		thylene			
YSI 556		100P	Γurbidi	meter	اِ			dedicate			□ D:	isposable	e Teflo							
Other:				Other:							portable			D:	isposable	PVC				
Purge depth	feet			·			purging		<u> </u>		No No	<i>(</i> : 1 :	27.00	100						
Casing vol.	gall			_		<u> </u>	- depth to		<u> </u>		_	ì		408						
Time		nour	1130	1135	1140	114:	5 1150	1	155	1200	1205	1210	1215		Re	emarks				
Purge vol.	gall			120	120	120	120		120	120	120									
Purge rate		/min	130	130	130		_	_	130	130	130	130	130							
pН	su		6.4	5.9	6.0	6.0	_		6.5	6.6	6.4	6.5	6.6							
Temp.	°C		20.9	21.3	20.6		_	_	20.8	20.4	20.5	20.5	20.7							
Spec. cond.	μS/		571	571	571	570	_	_	570	571	569	568	569							
D.O.	mg/		2.4	1.7	1.3	0.9			0.8	0.8	0.8	0.8	0.8							
ORP	mV		158.4	175.6	161.5		_	_	17.5	111.0	114.9	107.2	103.7							
Turbidity	NT	U	6.8	2.5	0.9	2.8	-	+-	1.4	1.3	0.7	1.2	1.9							
Color/tint			clear	clear	clear			-	lear	clear	clear	clear	clear							
Odor			none	none	none	non	e none	n	one	none	none	none	none							
Sample Data																				
Sample I	D		Date	Ti	me	# Co	ntainers		# Fi	ltered				Remai	rks					
MW-11:	3							İ			see pag	e 2 of 2								
								1												
				ı				1			•									
Sampler's Nar	me (r	rint).		N	Aichae	l Clayte	nn .			Sampl	er Siona	ture:		Trans	cribed b	v HI F				

	Facility: Plum Point Energy Station Site ID: MW-113 Sampler: Michael Clayton																		
Facility:	Plu	m Point Er	ergy St	ation		S	ite ID:	MW-	-113	Sampler: Michael Clayton									
Project Number	er:	R145	90-1766	-001		Г	ate:			S	ampler Organiza	tion:							
Program (ADI	EQ or E	PA):	EPA	CCR			9/25	5/2018	3	FTN Associates, Ltd.									
Site Description																			
Weather:		partly clou	dy		Air	Гетр	o (°F):		7	9	W	ind:	soutl	south at 10 mph					
Site type:							Vell casin	g mat	terial:	V	Vell diameter		inches	2	Well				
Monitorin Production		Extracti Borehol		:11		PVC Steel			Т	Catal danth from	TOC	feet		locked?					
Irrigation			enole Steel Iron						\vdash	otal depth from		_		✓ Yes					
Other:			-r 0				Other:			T	OC below/above	e ground	feet		☐ No				
Damages/repa	irs need	ed: none																	
Water Level Data																			
Water Level Data Measuring point description: Water level meter: ☐ Heron Dipper-T ☐ Slope Water Level Indicator ✔ Other: Solinst														olinst 101					
✓ Mark/note	ch on TO	OC	<u> </u>					011 201	During			Afte		Simst 101					
North rim	of TOC			Pre-p			re-purge nfirmation	1	purging	_	Purge end	sampl		Remarks					
Other:	24	1				•01				<i>></i>		1		J					
Time		-hour		122			1125		1133		1242	125							
Depth to Water			DI	20.55			20.45		20.45		20.45	20.4							
Product		IAPL/DNA	APL	9/24/2	2018	9,	/25/2018	9/25/20	18	9/25/2018	9/25/2	.018							
Prod. thickness feet																			
Field Data																			
Field data meters: Pump description: Bailer description:																			
☐ YSI Pro Plus ☐ LaMotte 2020 Turbidimeter ☐ Peristaltic ☐ Submersible ☐ Disposable polyethylene																			
YSI 556 Other:		<u></u>] Hach] Other		Turbi	dime	eter		Bladder: Bladder:		edicated		Disposal Disposal		n				
Purge depth	feet				ru dur	ina n	urging:			_	No		Disposai	JIE PVC					
Casing vol.	gallons	,			•							1 • 0 0409	2						
				total depth (feet) – depth to wa 225 1230 1235 1240					1661)] -	LW	l liches)	j - 0.040a	Remarks						
Time	24-hou		1225	123	30 1.	235	1240							кетагкѕ					
Purge vol.	gallons		120	1.0	0 1	20	120												
Purge rate	mL/mi					30	130												
рН	su	6.6	6.7	6.		5.7	6.7												
Temp.	°C	20.6	20.5			8.0	20.8												
Spec. cond.	μS/cm	-	568	56		68	567												
D.O.	mg/L	0.8	0.8	0.		8.0	0.9												
ORP	mV	99.3	98.5			4.4	90.1												
Turbidity	NTU	0.8	1.5	1.		1.4	0.8												
Color/tint		clear	clear	cle	ar cl	ear	clear												
Odor		none	none	noi	ne ne	one	none												
Sample Data																			
Sample Data Sample I	D	Date	Т	ime	# (onto	ainers	# F	iltered	T		D _O 1	marks						
MW-11					# (111013	πſ		1		IXC	iiai KS						
IVI W - 1 1	J	9/25/20	10 1	250		2			0	+									
										+									
Sampler's Nar	ne (nrin	t)·		Mich	nel Cla	uton			Samn	ler	· Signature:	Т≁	anscribed	hy HI E					
Sumplet 5 Mai	The Chim	· · / ·		14110110	ioi Cia	y wii			Samp	101	orginature.	11	ansented	oy HLI					

	Facility: Plum Point Energy Station Site ID: MW-115 Sampler: Michael Clayton																			
Facility:	Plu	m Point Eı	nergy	Stat	ion		Site	ID:	MW-	115	Sampl	er: Mic	hael	Clayt	ton					
Project Numb	er:	R145	90-17	766-0	001		Date	e:			Sampler Organization:									
Program (AD		PA):	El	PA C	CCR			9/25	5/2018	}	FTN Associates, Ltd.									
		<u> </u>																		
Site Descripti	on												1							
Weather:		partly clou	ıdy			Air Te					74 Wine					south a	t 11 mph			
Site type:	XX 7 11		Б.	,.	XX 7 11			l casin	ng mat	erial:	Well	diameter			i	inches	2	Well		
Monitorin Production	ictior hole	n Well		PVC Steel				Total	depth fro	m T	OC	4	feet		locked?					
Irrigation			Sprin				=	Iron				-						✓ Yes		
Other:								Other:			TOC	below/ab	ove	groun	id 1	feet		☐ No		
Damages/repa	Damages/repairs needed: none; please weed-eat.																			
Water Level Data																				
Measuring po				Wa	ater lev	vel met	er:	Her	on Dip	pper-T	Slo	pe Water	r Lev	el Inc	licato	or 🗹 Oth	er: So	olinst 101		
Mark/noto				P	re-pur	ge	Pre-1	purge		During		Purge		A	fter	r Remarks				
North rim Other:	01 100	,			initia			mation	n	purging		end			pling	g	arks			
Time	24	-hour			1215		10	030		1042		1114		1	119)				
Depth to Water		feet			19.26			0.15		19.15		19.15			9.15					
Product		LNAPL/DNAPL						/2018	Ç	9/25/201	8	9/25/201	8	9/25/2018		8				
Prod. thicknes										,										
FIOU. UIICKIIESS IEEU																				
Field Data									-					1-						
Field data meters: ☐ YSI Pro Plus ☐ LaMotte 2020 Turbidimeter ☐ Pump description: ☐ Pump description: ☐ Submersible ☐ Disposable polyethyle													thulono							
✓ YSI 556	ius	2100P Turbidimeter Bladder								110151			isposable							
Other:			Oth						В	ladder:	portabl	e				isposable				
Purge depth	feet		We	ell go	oes dry	during	purg	ging:		Yes [✓ No									
Casing vol.	gallons	S	= [total	depth	(feet)	- dept	th to v	vater (feet)] •	[well I	D (inches	$(s)^2$	0.04	804					
Time	24-hou	r 1040	10)45	1050	105	5 1	100	1105	1110	1113	3				Re	emarks			
Purge vol.	gallons	3																		
Purge rate	mL/mi	n 140	14	40	140	140	1	140	140	140	140									
pН	su	5.9	6	5.1	6.5	6.7	6	5.7	6.7	6.7	6.7									
Temp.	°C	21.2	21	1.7	22.4	22.5	5 2	2.3	22.1	21.9	21.8	3								
Spec. cond.	μS/cm	692	69	94	696	700	7	700	703	704	701									
D.O.	mg/L	3.1	3	1.1	2.4	2.4	2	2.3	2.4	2.4	2.4									
ORP	mV	191.	17	8.8	147.2	134.	9 12	29.6	126.3	125.2	124	3								
Turbidity	NTU	1.4	1	.2	1.2	1.1	1	1.4	1.1	0.8	1.1									
Color/tint		clear	cle	ear	clear	clea	r cl	lear	clear	clear	clea	r								
Odor		none	nc	one	none	non	e no	one	none	none	none	e								
~ -		•					•	•			•		•							
Sample Data	D	D /	1	т.		// C	, .		// 17:	1, 1				Г		1				
Sample I		Date	1.0	Tir		# Co		ers	# F1	iltered	<u> </u>			k	Remai	rks				
MW-11	5	9/25/20	18	11	15		2			0										
Sampler's Nar	ne (nrin	t)·		N.	Michael	l Clayto	nn .			Sampl	er Sign	nature.		,	Tranc	scribed b	v HI E			
Loumbier o Mai	(him	· /·		⊥V.	monac.	. Ciayu	/11			Samp	DIGI	iaiai C.			1 1 al 13	orioca U	y IILLI			

Facility: Plum Point Energy Station Site ID: MW-116 Sampler: Michael Clayton																		
Facility:	Plun	n Point Ene	rgy Stat	ion	5	Site ID:	MW	-116	Sample	:: Mich	ael Clay	ton						
Project Number	er:	R14590)-1766-(001	I	Date:			Sampler Organization:									
Program (ADI	EQ or EP	PA):	EPA (CCR		9/2	26/2018	3	FTN Associates, Ltd.									
					<u> </u>													
Site Descripti	on																	
Weather:		overcast			Air Tem			73	Wind:				north at 9 mph					
Site type:	~ Wall	П г.	utro oti o	n Wall		Well casi		terial:	Well dia	ameter		in	ches	2	Well			
Monitorin Production			xtraction orehole			☑ PVC ☐ Steel			Total de	epth fror	n TOC	fe	et		locked?			
☐ Irrigation		=	pring]	Iron				-					Yes No			
Other:		•				Othe	r:		TOC be	low/abo	ve groui	nd fe	et		LI NO			
Damages/repa	ırs neede	ed: none																
Water Level Data																		
Measuring poi			W	ater lev	el meter	: 🗌 Не	ron Di	pper-T [Slope	Water	Level In	dicator	✓ Oth	er: So	olinst 101			
Mark/note North rim		C]	Pre-pur	ge F	re-purge		During		Purge	A	After	Remarks					
Other:	01 100			initial	co	nfirmatio	on	purging		end	san	npling	g Remarks					
Time	24-	hour		1316		1415		1422		1506	1	523						
Depth to Wate	r feet			20.14		20.00		20.00		20.00	2	0.00						
Product	LN.	APL/DNAI	PL 9	9/24/20	18 9	/26/2018	3 9	9/26/201	8 9/26/2018		9/20	9/26/2018						
Prod. thicknes	s feet																	
Field Data Field data meters: Pump description: Bailer description:																		
Field data meters: YSI Pro Plus LaMotte 2020 Turbidimeter Pump description: Bailer description: Disposable polyethylen													thylene					
✓ YSI 556		<u>~</u>		100P T	urbidim	eter		Bladder:		d			posable		n			
Other:			Other:						portable Disposable PVC No									
Purge depth	feet				during p				[well ID (inches) ²] • 0.0408									
Casing vol.	gallons	1	_		<u> </u>			1	1			408 T						
Time	24-hour	1420	1425	1430	1435	1440	1445	1450	1455	1500	1505		Re	marks				
Purge vol.	gallons	100	100	100	100	100	100	100	100	100	400							
Purge rate	mL/min		180	180	180	180	180	180	180	180	180							
pH	su	6.7	6.0	6.2	6.5	6.5	6.5	6.5	6.6	6.6	6.6							
Temp.	°C	19.7	19.3	19.3	19.3	19.5	19.5	19.6	19.9	19.7	19.5							
Spec. cond.	μS/cm	689	704	713	725	726	728	728	726	732	732							
D.O.	mg/L	2.5	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9							
ORP	mV	122.8	146.8	131.0		110.3	108.8	_	105.8	103.7	103.2							
Turbidity Color/tint	NTU	4.2	1.9	1.5	1.2	1.2	1.4	0.9	1.1	1.3	1.5							
		clear	clear	clear		clear	clear		clear	clear	clear							
Odor		none	none	none	none	none	none	none	none	none	none	1						
Sample Data																		
Sample I	D	Date	Ti	me	# Cont	ainers	# F	iltered]	Remark	S					
MW-11	6	9/26/2018	3 15	15	2			0										
MW-116 D	UP	9/26/2018	3 15	20	2			0										
				1			1	_										
Sampler's Nar	ne (print):	N	Aichael	Claytor	l		Sampl	er Signa	ture:		Transc	ribed by	y HLF				

					(ìroun	dwate	r Sa	amp	oling	Recor	d					
Facility:	Plui	m Point	Ener	gy Stat	ion		Site ID	: N	MW-	117	Sample	r: Mich	ael Clay	ton			
Project Number				-1766-(Date:				Sample						
Program (ADI		PA):		EPA (CCR		Ģ	9/27/2	2018		FTN A	ssociate	s, Ltd.				
										I							
Site Descripti	ion																
Weather:	cl	oudy/lig	ht ra	in		Air Te	mp (°F):			62	2		Wind:	n	orth-nor	theast at	9 mph
Site type:			_				Well ca		mate	erial:	Well di	ameter			inches	2	Well
Monitorin Production			-	traction rehole	n Well		PV Ste				T . 1 1	41 C	тос				locked?
Irrigation		 	=	ring			III Ste				1 otai d	epth fro	m TOC		feet		✓ Yes
Other:	,, 011		_ ~P	5			Otl				TOC be	elow/abo	ove grou	nd	feet		☐ No
Damages/repa	irs need	ed: none	e														
Water Level	Data																
Measuring poi		ription:		W	ater le	vel met	er	Teror	n Din	per-T	Slope	Water	Level In	dicat	tor 🔽 O	ther S	olinst 101
✓ Mark/note	ch on TC	OC		-					T					After			omist 101
North rim	of TOC			1	re-pui initia		Pre-pur onfirma			During purging		Purge end		mplin		Rem	arks
Other:	24	-hour		-							<u>'</u>			_	-5		
Time					1302		1205			1213		1256		1307			
Depth to Wate			TAD	T 0	18.82		18.50			18.50	0 0	18.50		8.50			
Product		IAPL/Di	NAP.	L 9	/24/20	018	9/27/20	18	9	/27/201	8 9	27/2018	9/2	7/20	18		
Prod. thicknes	s fee	et															
Field Data																	
Field data met										descrip					er descrip		
YSI Pro P	lus						dimeter		_	eristaltio	_	Subm	ersible		Disposab		
YSI 556 Other:				Hach 2 Other:	100P	l urbidi	meter	 -			dedicate portable	d			Disposab Disposab		n
Purge depth	feet		=		es dry	during	gpurging	,. L			No No			<u> </u>	Disposao	101 10	
Casing vol.	gallons	2							_			(inches	$()^2$] • 0.0	408			
Time	24-hou			1215	1220				235	1240	1245	1250	1255	T	T.	Remarks	
Purge vol.	gallons		10	1213	1220	122	1230	, 1	233	1240	1243	1230	1233		1	Ciliai Ks	
Purge rate	mL/mi		50	160	160	160	160	1	160	160	160	160	160				
pH	su su	6.		5.8	6.7	6.3		_	6.4	6.4	6.4	6.4	6.4				
Temp.	°C	18		18.3	18.7	_		_	18.8	18.8	18.9	18.9	18.5				
Spec. cond.	μS/cm		_	488	486	485			485	483	483	483	484				
D.O.	•		_	2.4	2.3	2.1		_	2.0	1.9	1.9	1.9	2.0				
ORP	mg/L mV	5.						_		-			-				
		150		179.8	152.2	_			28.5	124.9	122.6	121.7	120.1				
Turbidity NTU 1.8 3.8 1.1 1.2 2.5 2.3 5.0 2.8 3.8 2.2 Color/tint clear cl																	
					clear	_		_			clear	clear	clear				
Odor		no	ne	none	none	non	e none	n	one	none	none	none	none				
Sample Data																	
Sample I	D	Dat	te	Tiı	ne	# Co	ntainers		# Fi	ltered				Rem	arks		
MW-11		9/27/2		_			2			0							
					-												
		<u> </u>						ı			<u> </u>						
Sampler's Naı	me (prin	it):		N	Iichae	l Clayte	on			Sampl	er Signa	ture:		Trar	nscribed	by HLF	

				U	rouna	water	Sam	piing .	Kecor	a					
Facility: Plum Point Energy Station Site ID: MW-118 Sampler: Michael Clayton Project Number: R14590-1766-001 Date: Sampler Organization:															
Project Numb	er:	R14590)-1766-(001	Γ	ate:			Sample	Organiz	zation:				
Program (ADI		PA):	EPA (CCR		9/2	27/2018	3	FTN A	ssociates	, Ltd.				
					<u> </u>			l			-				
Site Descripti	on														
Weather:	partly	cloudy, lig	ht rain	1	Air Temp	o (°F):		64	4	1	Wind:		north :	at 9 mp	h
Site type:				•	V	Vell casi	ng ma	terial:	Well di	ameter		inc	ches	2	Well
Monitorin	g Well		xtractio	n Well	[PVC									locked?
Production			orehole			Steel			Total de	epth fron	n TOC	fee	et		✓ Yes
☐ Irrigation ☐ Other:	well	□ 5	pring			∐ Iron ☐ Othe	r·		TOC be	low/abo	ve grour	nd fee	et		☐ No
Damages/repa	irs neede	ed: none				_ other									
Water Level															
Measuring point description: Water level meter: Heron Dipper-T Slope Water Level Indicator Other: Solinst 101											olinst 101				
✓ Mark/notch on TOC Pre-purge Pre-purge During Purge After North rim of TOC Pre-purge Pre-purge Pre-purge Purge After										orke					
Other: North rim of IOC The parts T											arks				
Time 24-hour 1322 1330 1339 1422 1433															
Time 24-nour 1322 1330 1339 1422 1433															
1															
Product LNAPL/DNAPL 9/24/2018 9/27/2018 9/27/2018 9/27/2018 9/27/2018 Prod. thickness feet															
Field Data															
Field data met								p descrip		_		Bailer d			
YSI Pro P	lus				Turbidii			eristaltid Bladder:			ersible				thylene
YSI 556 Other:			Other:	100P I	urbidime	eter		Bladder:		u			posable posable		n
Purge depth	feet			nes dry	during p	urging.			No No				posaore	<i>31 VC</i>	
Casing vol.	gallons				$\frac{\text{Garms p}}{\text{(feet)} - \alpha}$					(inches)	² 1 • 0 0 ²	408			
Time	24-hour	1335	1340	1345	1350	1355	1400		1410	1415	1420		Re	emarks	
Purge vol.	gallons	1555	15 10	15 15	1550	1300	1100	1105	1110	1115	1120				
Purge rate	mL/min	n 125	125	125	125	125	125	125	125	125	125				
			5.6	6.0	6.1	6.2	6.3	-	1		6.3				
рН	su °C	5.8			+			6.3	6.3	6.3					
Temp.		17.6	17.7	17.8	17.9	17.9	18.0	18.1	18.0	18.0	17.9				
Spec. cond.	μS/cm	445	444	443	443	443	443	443	442	444	443				
D.O.	mg/L	3.3	2.4	2.5	2.2	2.2	2.0	1.9	1.9	1.9	1.9				
ORP	mV	171.6	176.4	150.6	146.5	141.7	137.9		134.8	134.0	133.7				
Turbidity NTU 1.6 4.1 2.6 2.0 1.1 1.9 1.5 1.4 1.1 1.0															
Color/tint		clear	clear	clear	clear	clear	clear	clear	clear	clear	clear				
Odor		none	none	none	none	none	none	none	none	none	none				
C															
Sample Data Sample I	D	Date	Ti	me	# Conta	ainers	# E	iltered			1	Remark	· c		
			_				π 1		<u> </u>			Ciliai K	.5		
MW-11	0	9/27/2018		30	2			0							
EB-2	+	9/27/2018	5 15	05	2		-	0							
Commission N	ma (:	١.	•	Æ al. 1	Classi			C 1	on Cir.	tune:		Т		[11] P	
Sampler's Na	me (print	<i>)</i> :	N	/iichael	Clayton			Sampl	er Signa	ture:		Transcr	ribed b	y HLF	

				(Groun	dwater	San	npling	Recor	d					
Facility:	Plun	n Point Ene	rgy Stat	tion		Site ID:	MW	V-119	Sample	r: Micha	el Clay	ton			
Project Number	er:	R14590)-1766-(001		Date:			Sample	r Organiz	ation:				
Program (ADI	EQ or EI	PA):	EPA (CCR		9/2	27/201	18	FTN A	ssociates,	Ltd.				
Site Descripti	on														
Weather:		rain/overcas	st		Air Ten	np (°F):		50	6	V	Vind:		north a	at 9 mp	h
Site type:						Well cas	ing ma	aterial:	Well di	ameter		ir	nches	2	Well
Monitorin		_	xtractio			PVC					TO C				locked?
☐ Production☐ Irrigation		=	orehole pring			Steel Iron	l		Total d	epth from	TOC	16	eet		✓ Yes
Other:	VV 011	⊃ ₁	711118			Othe	er:		TOC be	elow/abov	e groui	nd fe	eet		☐ No
Damages/repa	irs neede	ed: none													
Water Level															
	Measuring point description: Water level meter: Heron Dipper-T Slope Water Level Indicator Other: Solinst 101 Mark/notch on TOC												olinst 101		
North rim			I	Pre-pu		Pre-purg		During		Purge		After		Rem	arks
Other: initial confirmation purging end sampling															
Time	24-	hour		1342	2	0900		0918		0947	0	959			
Depth to Water feet 21.42 21.43 21.43 21.43 21.43															
Product	Product LNAPL/DNAPL 9/24/2018 9/27/2018 9/27/2018 9/27/2018 9/27/2018														
Prod. thicknes	Prod. thickness feet 9/24/2018 9/27/2018 9/27/2018 9/27/2018														
Field Data															
Field data met								np descri					descripti		
☐ YSI Pro P	lus				0 Turbid Turbidin		_	Peristaltion Bladder:	_	Subme	rsible		sposable sposable		
Other:			Other:	1001	i ui oiuii.	iletei		Bladder:					sposable		11
Purge depth	feet		Well go	oes dry	during	purging:			✓ No				*		
Casing vol.	gallons		= [total	l depth	(feet) -	depth to	water	(feet)] •	[well ID	(inches) ²] • 0.04	408			
Time	24-hour	r 0910	0915	0920	0925	0930	0935	5 0940	0945				Re	marks	
Purge vol.	gallons														
Purge rate	mL/mir	n 190	190	190	190	190	190	190	190						
рН	su	6.7	6.7	6.7	6.7	6.6	6.7	6.7	6.7						
Temp.	°C	19.3	18.9	19.0	19.0	19.0	19.1	1 19.1	19.2						
Spec. cond.	μS/cm	591	588	586	575	569	567	7 564	562						
D.O.	mg/L	1.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4						
ORP	mV	166.5	154.8	152.3	3 145.1	139.6	137.0	0 132.1	128.5						
Turbidity	NTU	2.4	1.8	1.9	1.5	1.4	1.2	1.7	1.3						
Color/tint	Color/tint clear clear clear clear clear clear clear clear clear														
Odor		none	none	none	none	none	none	e none	none						
Sample Data															
Sample I	D	Date	Ti	me	# Con	tainers	# I	Filtered]	Remar	ks		
MW-119		9/27/2018	_	55		2		0							
	I														
Sampler's Nar	ne (print	t):	N	Michae	l Clayto	n		Sampl	ler Signa	iture:		Transo	cribed by	y HLF	



Groundwater Level Data Sheet

Project Nar Plum Point	ne: Energy Statio	n		ect Number: 00-1766-001		Investiga				Page Z of 2
Weather Co	onditions:		Mea	suring Device:			- (-	
		110	11200	,						
(Taudy)	L'est Rocal	93		Soling 101	 				_	
Well ID	Date	Tiı	me	Depth to Water (feet below TOC)			D	amages/Repairs		
MW-1	11-19-18	/3	09	14.21	Damaged bo Damaged eq	ollards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-2		123	2	15.19	Damaged bo Damaged eq			Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-3R		130		15.09		ell pad/casing bllards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-4R2		123		12.37	Damaged we Damaged bo	ell pad/casing ollards		Damaged TOC Damaged lock		Lacks visibility Lacks access
MW-5		115		13,30	Damaged eq Damaged bo Damaged eq	ell pad/casing ollards		Un-kept vegetation Damaged TOC Damaged lock Un-kept vegetation		See gw sample record Lacks visibility Lacks access
MW-6		120		13.63		ell pad/casing ollards		Damaged TOC Damaged lock Un-kept vegetation		See gw sample record Lacks visibility Lacks access See gw sample record
MW-7		115		16.41		ell pad/casing ollards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-8		115		14.95		ell pad/casing ollards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-10R		121		11,60		ell pad/casing bllards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-11R		/2/		12,64		ell pad/casing ollards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-13R		114		15.06		ell pad/casing bllards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-15		//3		13.83		ell pad/casing ollards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-16		124		15,66		ell pad/casing bllards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-17		12)		13.82		ell pad/casing ollards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-18		124		12.77		ell pad/casing		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record
MW-19	V	1303		18.20		ell pad/casing bllards		Damaged TOC Damaged lock Un-kept vegetation		Lacks visibility Lacks access See gw sample record

Groundwater Sampling Record

D 1114 P.		Г.,	Ct. ·		- 1	OTAL TE			_	<u> </u>	1				
Project Number: R14590-1766-001						Site ID:	MW			Samp		16-6			
Project Nun	Site Description Weather: Claudy					Date: //	1-19=	18		Samp	oler Orga	nization	: FTN		
Site Descri	ption														
Weather: (2) audy					Air Tem			Wi	nd: N	Was	2			
Site type:	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			44		Well cas	sing ma	aterial:		II diam			inches	2	Well
■ Monitor □ Producti			Extractio Borehole			¶ PVC □ Steel			Tot	al deni	h from T	roc	feet	1	locked?
Dewater			Spring			Iron			100	ai depi	II II OIII	100	leet	-	(F)
Other:	υ		1 0			☐ Other	:		TO	C belo	w/above	ground	feet		No
Damages/re	pairs nee	ded:											1		-
Water Leve	el Data														
Measuring p		ription:		Water	level m	eter:	Geot	ech/Kec	k 10)' 🔲	Geotec	h/Keck 2	200'		
								☐ Other:							
□ North rim of TOC □ Other: Pre-purge Pre-purge During Purge After Remarks									narks						
initial confirmation purging end sampling															
Date mm/dd/yy //-/9-/8															
Time 24-hour 12-26/24 15-36 15-58 16-12 Depth to Water feet 12-36/24 15-36 12-36/24 13-42															
Depth to Water feet 13.82 13.82 13.82 13.82 13.82															
Product/ Th	ickness I	feet	DNAPL												
Field Data															
Field data m								ump des		ion:			ailer desc		
☐ YSI ProP ☑ YSI MPS						dimeter idimeter		Perista		adianta	d/portab			ible polyo ible Teflo	
Other:	330		Oth		ic ruib	idililetei		Subme			u portao			ible PVC	
Purge depth	feet		Well g	oes dry	during	purging				_					
Casing vol.	gallons							-	< [in	ternal (liameter	of well	(inches)	$^{2} \times 0.040$	08
Time	24-hour	1525	i -		_	1545	_	_	_					Rem	
Purge vol.	gallons			7.5.2.5	7,7 7	10 12	,	7535	1						
Purge rate	mL/min	90	90	90	90	90	90	90							
рН	su		6.61												
Temp,	°C	17,67				17.32	11 10								
Sp. Cond.	μS/cm	384	385		383		384								
D.O.	mg/L	6,32				0.77									
ORP	mV	30,6	27.1	27.4											
Turbidity	NTU	4.87			1,06										
Color/tint	1.02 3.02							->							
Odor Non								->							
Sample Data															
	nple ID		Date		Time	# Cont	ainers	# Filte	red			R	emarks		
1741-1	ソフ	İ	11-19-	18 1	600	ı		6							
1 4					<i>U</i> 1/										
								1					,		
Sampler's N	lame (pri	nt):		, ,				Sampl	er Si	ignatur	e:	//	10	-	

Groundwater Sampling Record

Facility: Pl	um Point	Energy	Station		7	Site ID:	Mi	1,0,	1	Sample	r: M	<i>c.(.</i> ;			
	Project Number: R14590-1766-001 Site Description					Date: /	1-50-	10				nization	: FTN		
Weather:						Air Tem	ıp (°F):	45	Win	d: NA	10/6	D 12			
Site type:	/					Well cas				diamete		72	inches	2	Well
☐ Monitor☐ Producti			Extractio Borehole		.	PVC Steel		- 1	_	_		2000			locked?
Dewater			Spring			☐ Iron	l	-	Tota	depth f	rom 1	00	feet		Yes
☐ Other:			-r <i>6</i>			☐ Other	r:		TOC	below/a	above	ground	feet		No
Damages/re	pairs nee	ded:						1							1
Water Leve															
Measuring p Mark/not				Wate	r level r	neter: [ch/Keck Dipper			eotech olinst	/Keck 2	00' ☐ Other:		
☐ North rim				Pre-	purge	Pre-pu		Durir		Pur		Aft			
Other:					itial	confirm		purgii		en		samp		Rema	arks
Date		mm/dd	/уу	11-1	9-18	11-20	7-18-					\rightarrow			
Time		24-hou	r	/3	05	135	0	1402		1431	/	145	3-		
Depth to Wa		feet		18	20	18.2	0	18,20	,	18,0	0	18,2	0	*	t.e.
Product/ Thickness LNAPL/DNAPL feet LNAPL/DNAPL															
Field Data															
Field data m YSI ProP YSI MPS Other:	Plus 5556		☐ HF ☐ Oth	Scient er:	ific Turi	oidimeter oidimeter	r 🔲	Imp des Perista Bladde Subme	ltic er (dec	licated/p	oortab	le) 🗆	niler descr Disposab Disposab Disposab	ole polyet ole Teflor	
Purge depth Casing vol.	feet gallons	-				purging		(No	199.74	(#) e-		C 11		0.040	0
Time	24-hour		1	_	-	TO THE REAL PROPERTY.	1		-	-	meter	or well ([inches]]2		
Purge vol.	gallons	1355	1400	1405	14/0	1415	1420	1425	143	0	-	-		Rema	rks
Purge rate	mL/min	160	11.	Mr.	160	11.5	144	110			-				
pH	su	6.76	6.80	6,80	6.80	6.79	160	160	160		+				
Temp.	°C	18,92				18.36									
Sp. Cond.	μS/cm	430	430	-	427						_				
D.O.	mg/L	2.21	0.57	-		1		0,42							
ORP	mV	80.1	77.6		77.4	-		1	74,						
Turbidity	NTU	1.42		0.61	0,64	11		0.47							
Color/tint		Clear				-			7						
Odor		Nonk							1->						
Sample Da	ta														
San	nple ID		Date		Time	# Cont	tainers	# Filter	red			R	emarks		
MM	119		11-20-1	8	1435	2		0							
	119 L				440	2		0							
EPA	EB	Z	11-20-1	8/	455	2		0							
Sampler's N	ampler's Name (print): 24 index! Claryfor							Sample	er Sig	nature:	ps/	ulse.	0	9	7

Groundwater Sampling Record

Facility: Plum Point Energy Station Project Number: R14590-1766-001					Site ID:	D: MU / C Sampler: MCC $/2 - 18 - 18$ Sampler Organization: FTN									
Project Nur	nber: R1	4590-	-1766-00)1		Date: /	2-18-	-18		Sar	npler Org	anization	: FTN		
Site Descri	ption														
Weather:	Clean					Air Ten			Wir	nd:	ESEQ	6			*
Site type: Monitor			Extractio			Well cas		aterial:			ameter		inches	2	Well
☐ Product ☐ Dewate			Borehole			☐ Stee	I		Tota	al de	epth from	TOC	feet		Yes
☐ Other:			Spring			☐ Iron☐ Other	r:		TOO	C be	low/above	ground	feet	+	No
Damages/re	epairs nee	ded:													
Water Lev															
Measuring p Mark/not				Water	level n	neter:					Geotec				
□ North rin				Pre-r	ourge	Pre-pi		n Dippe Duri			Solinst	101 L	Other:		
☐ Other:					tial	confirm		purgi	_		Purge end	samp		Rem	arks
Date		mm/dd	l/yy			12-18-	18-					-	7		
Time		24-hou	ır			114	-	1200	2		1222	129	47		
Depth to Wa	ater	feet				14.7		14,7		1	14,72	14			
Product/ Th	ickness	LNAPI feet	/DNAPL					7 777			717	191	~		
Field Data															
Field data m ☐ YSI ProF ☑ YSI MPS ☐ Other:	lus			Scienti		idimeter oidimeter	r E	ump des Perista Bladde Subme	altic er (de	dica	ited/portab	ole)	Disposa	cription: ble polye ble Teflo ble PVC	thylene n
Purge depth	feet		Well g	oes dry	during	purging	: Yes	No							707-1119/8-11
Casing vol.	gallons		= [tota	l depth	(feet) –	depth to			× [inte	erna	l diameter	of well	(inches)]	$^{2} \times 0.040$	8
Time	24-hour	1145		1155	1200		1210	1215						Rema	
Purge vol.	gallons						1		1/2						
Purge rate	mL/min	200	200	200	200	200	200	200	20	0					
рН	su	7.02	7,03		6.78	6.75	6.74	6.16	617.						
Temp.	°C	18,88		Secretary March	18,56		Les.	The second second							
Sp. Cond.	μS/cm	507	507	517	544	563	594	616	621	7					
D.O.	mg/L	1.22	0.72	0,53	0,43	0,40	6,38	0.38	013	8					
ORP	mV	66.4	50.3	4318	423	42,2	42,8		43						
Turbidity	NTU	2.01	1,67	2,26	223	1,57	1,86	1,41	1.1	2					
Color/tint		Clear	2-					-							
Odor		Monte						_	+>						
Sample Da	ta														
San	nple ID		Date		Time	# Cont	ainers	# Filte	ered			R	emarks		
MWI	118		12-18-18	/ /	225	3		0							
	119 D	UP	12-18-18	3 KW - U	230	3		0							
Sampler's N			27 4 110					Sampl	ler Sig	gnat	ure:		1.1.		-1



Laboratory Reports





ANALYTICAL REPORT

February 26, 2018



Plum Point Services Co., LLC

Sample Delivery Group: L966927

Samples Received: 02/01/2018

Project Number: 14590-1469-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approach of the laboratory, Where applicable, sampling conducted by SSCIs performed per guidance provided in laboratory standard operating procedures 060302, 060303, and 060304.



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			Collected by	Collected date/time	Received date/time
MW-119 L966927-01 GW			Michael Clayton	01/30/18 13:20	02/01/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1069019	1	02/04/18 09:21	02/04/18 09:41	BS
Wet Chemistry by Method 9056A	WG1068995	1	02/01/18 20:32	02/01/18 20:32	DR
Wet Chemistry by Method 9056A	WG1069383	1	02/02/18 17:12	02/02/18 17:12	MAJ
Metals (ICP) by Method 6010B	WG1068900	1	02/01/18 11:40	02/01/18 16:15	ST
			Collected by	Collected date/time	Received date/time
MW-200 L966927-02 GW			Michael Clayton	01/30/18 13:25	02/01/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1069019	1	02/04/18 09:21	02/04/18 09:41	BS
Wet Chemistry by Method 9056A	WG1068995	1	02/01/18 20:47	02/01/18 20:47	DR
Wet Chemistry by Method 9056A	WG1069383	5	02/02/18 17:32	02/02/18 17:32	MAJ
Metals (ICP) by Method 6010B	WG1068900	1	02/01/18 11:40	02/01/18 17:12	ST
			Collected by	Collected date/time	Received date/time
MW-116 L966927-03 GW			Michael Clayton	01/30/18 14:45	02/01/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Wet Chemistry by Method 9056A	WG1068995	1	02/01/18 21:59	02/01/18 21:59	DR
			Collected by	Collected date/time	Received date/time
MW-202 L966927-04 GW			Michael Clayton	01/30/18 15:25	02/01/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1069019	1	02/04/18 09:21	02/04/18 09:41	BS
Wet Chemistry by Method 9056A	WG1068995	1	02/01/18 22:13	02/01/18 22:13	DR
14 . 1 (100) 1 14 .1 100400					

WG1068900



















Metals (ICP) by Method 6010B

02/01/18 11:40

02/01/18 17:27

ST

















All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley

Technical Service Representative

ONE LAB. NATIONWIDE.

Collected date/time: 01/30/18 13:20

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	380000		2820	10000	1	02/04/2018 09:41	WG1069019

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2070		51.9	1000	1	02/02/2018 17:12	WG1069383
Fluoride	259		9.90	100	1	02/01/2018 20:32	WG1068995
Sulfate	35500		77.4	5000	1	02/01/2018 20:32	WG1068995



Ss

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	80.5	<u>J</u>	12.6	200	1	02/01/2018 16:15	WG1068900
Calcium	99300		46.3	1000	1	02/01/2018 16:15	WG1068900











ONE LAB. NATIONWIDE.

Collected date/time: 01/30/18 13:25

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	424000		2820	10000	1	02/04/2018 09:41	WG1069019

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	4890		51.9	1000	1	02/01/2018 20:47	WG1068995
Fluoride	208		9.90	100	1	02/01/2018 20:47	WG1068995
Sulfate	87300		387	25000	5	02/02/2018 17:32	WG1069383



Ss

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	102	J	12.6	200	1	02/01/2018 17:12	WG1068900
Calcium	108000		46.3	1000	1	02/01/2018 17:12	WG1068900











MW-116

SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

Collected date/time: 01/30/18 14:45

L966927

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Sulfate	35500		77.4	5000	1	02/01/2018 21:59	WG1068995



















ONE LAB. NATIONWIDE.

Collected date/time: 01/30/18 15:25

L966927

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	U		2820	10000	1	02/04/2018 09:41	WG1069019

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	U		51.9	1000	1	02/01/2018 22:13	WG1068995
Fluoride	U		9.90	100	1	02/01/2018 22:13	WG1068995
Sulfate	288	J	77.4	5000	1	02/01/2018 22:13	WG1068995



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	29.3	J	12.6	200	1	02/01/2018 17:27	WG1068900
Calcium	U		46.3	1000	1	02/01/2018 17:27	WG1068900











ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L966927-01,02,04

Method Blank (MB)

(MB) R3284022-1 02/04	/18 09:41			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000







[†]Cn

L966864-01 Original Sample (OS) • Duplicate (DUP)

(OS) L966864-01 02/04/18 09:41 • (DUP) R3284022-4 02/04/18 09:41

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	19600000	19400000	1	1.02		5









(LCS) R3284022-2 02/04/18 09:41 • (LCSD) R3284022-3 02/04/18 09:41

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8550000	8580000	97.2	97.5	85.0-115			0.350	5







ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L966927-01,02,03,04

Method Blank (MB)

Sulfate

(MB) R3283517-1 02/	/01/18 11:31			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100

5000







L966648-02 Original Sample (OS) • Duplicate (DUP)

(OS) L966648-02 02/01/18 16:56 • (DUP) R3283517-4 02/01/18 17:10

U

(00) 20000 10 02 02/01/	10 10:00 (201)	110200017	02/01/10 1/	.10		
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	3760	3540	1	6.09		15
Fluoride	700	687	1	1.83		15
Sulfate	ND	2070	1	0		15





L966927-02 Original Sample (OS) • Duplicate (DUP)

(OS) L966927-02 02/01/18 20:47 • (DUP) R3283517-7 02/01/18 21:01

(00) 2000027 02 02/01/1	0 20.17 (001)	110200017 7 0	22/01/10 2	1.01		
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	4890	4790	1	2.18		15
Fluoride	208	239	1	13.7		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

77.4

(LCS) P3283517-2 02/01/18 11:46 • (LCSD) P3283517-3 02/01/18 12:00

(LCS) R3283517-2 02/01/1	18 11:46 • (LCSD)	R3283517-3	02/01/18 12:00							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	40000	39900	100	99.6	80-120			0.379	15
Fluoride	8000	8030	8020	100	100	80-120			0.0985	15
Sulfate	40000	40600	40500	102	101	80-120			0.427	15

L966648-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

/OST | 966648 02 02/01/18 16:56 - (MS) P3283517 5 02/01/18 17:25 - (MS) P3283517 6 02/01/18 17:29

(03) 1900046-02 02/01/1	0 10.00 • (IVIS) A	(3263317-3 02	/01/16 17.25 • (M3D) K3Z0331	7-6 02/01/16 1.	7.59						
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	3760	55900	55500	104	104	1	80-120			0.661	15
Fluoride	5000	700	5800	5800	102	102	1	80-120			0.141	15

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L966927-01,02,03,04

L966648-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L966648-02 02/01/18 16:56 • (MS) R3283517-5 02/01/18 17:25 • (MSD) R3283517-6 02/01/18 17:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfato	50000	ND	53800	53600	103	103	1	80 ₋ 120			0.414	15

Ср





L966927-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L966927-02 02/01/18 20:47 • (MS) R3283517-8 02/01/18 21:15

(00) 2000027 02 027077	0 2 0 (.02000 0 02	, , , , , , , ,				
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Chloride	50000	4890	56100	102	1	80-120	
Fluoride	5000	208	5320	102	1	80-120	













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ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L966927-01,02

Method Blank (MB)

(MB) R3283782-1 02/02	/18 11:52			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Sulfate	U		77.4	5000









(OS) L966664-01 02/02/18 15:33 • (DUP) R3283782-4 02/02/18 15:43

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	3460	3460	1	0		15
Sulfate	ND	4530	1	0		15











(OS) L967097-04 02/02/18 18:32 • (DUP) R3283782-7 02/02/18 19:01

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	ND	0.000	1	0		15
Sulfate	ND	0.000	1	0		15





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3283782-2 02/02/18 12:02 • (LCSD) R3283782-3 02/02/18 12:12

(LC3) K3203702-2 02/0	2/10 12.02 • (LCC	D) N3203702	5 02/02/10 12	.12							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Chloride	40000	38800	39000	97	98	80-120			1	15	
Sulfate	40000	39200	39300	98	98	80-120			0	15	

L966664-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L966664-01 02/02/18 15:33 • (MS) R3283782-5 02/02/18 15:53 • (MSD) R3283782-6 02/02/18 16:03

(03) 1900004-01 02/02/	10 13.33 • (1013) 1	.3203/02-3 02	2/02/10 13.33 •	(IVI3D) K32037	02-0 02/02/10	3 10.03						
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	3460	53900	56000	101	105	1	80-120			4	15
Sulfate	50000	ND	55200	55100	102	101	1	80-120			0	15

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L966927-01,02

L967097-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L96/09/-04 02/02/1	8 18:32 • (MS) F	(3283782-8 0.	2/02/18 19:11				
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Chloride	50000	ND	47900	96	1	80-120	
Sulfate	50000	ND	49200	98	1	80-120	



















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ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

10000

L966927-01,02,04

Method Blank (MB)

Calcium

(MB) R3283504-1 02/01/1	8 16:05			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3283504-2 02/01/18 16:08 • (LCSD) R3283504-3 02/01/18 16:11										
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	942	947	94.2	94.7	80-120			0.601	20

0.644

20

80-120





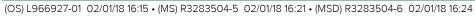


L966927-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

9710

96.5

97.1



9650

(OS) L300327-01 02/01/10 10.13 • (MIS) R3203304-3 02/01/10 10.21 • (MISD) R3203304-0 02/01/10 10.24													
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%	
Boron	1000	80.5	1060	1040	97.5	95.7	1	75-125			1.65	20	
Calcium	10000	00300	102000	107000	63.3	70.3	1	75 125			0.465	20	











Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

Method Detection Limit.
Not detected at the Reporting Limit (or MDL where applicable).
Reported Detection Limit.
Recovery.
Relative Percent Difference.
Sample Delivery Group.
Not detected at the Reporting Limit (or MDL where applicable).
The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The identification of the analyte is acceptable; the reported value is an estimate.























ACCREDITATIONS & LOCATIONS



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

otate / teerealtations	
Alabama	40660
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ¹	90010
Kentucky ²	16
Louisiana	Al30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05

TN-03-2002-34
2975
TN002
TN00003
11742
Env375
DW21704
41
R-140
CL0069
9915
TN200002
68-02979
221
84004
n/a
2006
T 104704245-07-TX
LAB0152
6157585858
VT2006
109
C1915
233
9980939910
A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC	100789
DOD	1461.01
USDA	S-67674

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



















				Billing Info	rmation:		Th			A	nalysis / 0	Container	Preservat	ive		Chain of Custody	Pageof
Plum Point Services Co., LLC 2739 SCR 623 Osceola, AR 72370					Accounts Payable P.O. Box 567 Osceola, AR 72370											*	ESC ontaining of Passager
Report to: Joe Hossley					oe.hossley@nr , hlf@ftn-assoc	g.com, dld@ftn- .com	1									12065 Lebanon Rd Mount Juliet, TN 3 Phone: 615-758-56	58
Project Description: Plum Point Energy \$	Station	n		AD	City/State Collected:			NO3	Pres							Phone: 800-767-58 Fax: 615-758-5859	III PARK
Phone: 870-815-1248 Fax:	100	Project 90-1469			NAESOAR	PLUMPOINT		250mHDPE-HNO3	DPE-No	loPres						L# 966	B078
Collected by (print):		Facility ID	#		P.O. #			50mll	HIWO	DPE-N						Acctnum: NA	
Collected by (signature): Rush? (Lab MUST Be Same Day Five 0 Next Day S Day		Day	Quote #	lesults Needed	No.	Calcium	F, SO4, TDS 250mlHDPE-NoPres	SULFATE 250mlHDPE-NoPres					Template: T131993 Prelogin: P636382 TSR: 134 - Mark W. Beasley P8: 36 1-24-18		16382 rk W. Beasley		
Sample ID	Com	p/Grab	Matrix *	Depth	Date	Time	Cntrs	Boron,	CI, F,	SULF						Shipped Via: F	Sample # (lab only)
MW-119	G	46	GW		1/30/	18 1320	2	X	X								- 0(
MW-200		1	GW			1325	2	X	X								- 02
MW-202			GW			1525	2	X	Х								
121/116		1	GW			1445	2	X	X	-							- 93
MW-119		<i>V</i>	GW		V	1320	2	X	X	X							
* Matrix: Remarks: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay				1				pH Flow		Temp		COC Sea COC Sig Bottles	Sample Receipt 1 Present/Intac ned/Accurate: arrive intact: bottles used:	- An - 1			
WW - WasteWater DW - Drinking Water OT - Other			rned via: edExCo	urier		Tracking # 42	69	92	ol	640	7	4			Suffici VOA Zer	ent volume sent If Applica o Headspace:	bleY
Relinquished by : (Signature)		-	Date: //30	118	Time:	Received by: (Sig	2				Trip Blan	ik Receive	TBR	ТМеоН		ation Correct/C	
Relinquished by : (Signature)			Date:		Time;	Received by: (Sig	nature)				Temp:	mic	Bottles Ro	celved:	If preservation required by Login: Date/Time		
Relinquished by : (Signature)		*	Date:		Time:	Received for lab	by: (Sign	ature)	261		Date:	118	Time:	5	Hold:		Condition: NC / OK



ANALYTICAL REPORT April 23, 2018



Plum Point Services Co., LLC

Sample Delivery Group: L985645

Samples Received: 04/13/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley

Technical Service Representative Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Cp: Cover Page	1				
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Ss: Sample Summary	3				
Cn: Case Narrative	5				
Sr: Sample Results	6				
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MW-102 L985645-02	7				
MW-103 L985645-03	8				
MW-108 L985645-04	9				
MW-113 L985645-05	10				
MW-115 L985645-06	11				
MW-116 L985645-07	12				
MW-117 L985645-08	13				
MW-118 L985645-09	14				
MW-119 L985645-10	15				
MW-201 L985645-11	16				
MW-202 L985645-12	17				
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Wet Chemistry by Method 9056A	22				
Metals (ICP) by Method 6010B	27				
GI: Glossary of Terms					
Al: Accreditations & Locations					

Sc: Sample Chain of Custody



















PAGE:

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Received date/time

SAMPLE SUMMARY

Collected by

ONE L	ΛD	NIATI		
CHALL	_AD.	IVAII	OINVV	

Collected date/time

MW-101 L985645-01 GW			Michael Clayton	04/12/18 08:50	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098882	1	04/17/18 17:08	04/17/18 17:33	MMF
Wet Chemistry by Method 9056A	WG1098060	1	04/14/18 21:32	04/14/18 21:32	DR
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:04	CCE
			Collected by	Collected date/time	Received date/tim
MW-102 L985645-02 GW			Michael Clayton	04/11/18 12:40	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098576	1	04/16/18 14:37	04/16/18 15:03	BS
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 16:39	04/15/18 16:39	MAJ
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:37	CCE
			Collected by	Collected date/time	Received date/tim
MW-103 L985645-03 GW			Michael Clayton	04/11/18 15:45	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098576	1	04/16/18 14:37	04/16/18 15:03	BS
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 16:52	04/15/18 16:52	MAJ
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:40	CCE
			Collected by	Collected date/time	Received date/time
MW-108 L985645-04 GW			Michael Clayton	04/10/18 14:55	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098342	1	04/15/18 09:41	04/15/18 10:04	BS
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 17:41	04/15/18 17:41	MAJ
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:43	CCE
			Collected by	Collected date/time	Received date/tim
MW-113 L985645-05 GW			Michael Clayton	04/10/18 14:10	04/13/18 08:45





















MW-115 L985645-06 GW

Gravimetric Analysis by Method 2540 C-2011

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

Method

Method	Batch		Preparation	Analysis	Analyst	
			date/time	date/time		
Gravimetric Analysis by Method 2540 C-2011	WG1098342	1	04/15/18 09:41	04/15/18 10:04	BS	
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 18:31	04/15/18 18:31	MAJ	
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:50	CCE	

Batch

WG1098342

WG1098064

WG1098051

Dilution

1

1

Preparation

04/15/18 09:41

04/15/18 18:19

04/17/18 08:02

Collected by

Michael Clayton

date/time

Analysis

date/time

04/15/18 10:04

04/15/18 18:19

04/17/18 11:47

04/10/18 13:10

Collected date/time

Analyst

BS

MAJ

CCE

Received date/time

04/13/18 08:45

CAMDIFCIIMMADV

SAMPLE SUMM	ARY	ON	E LAB. NATIO
	Collected by	Collected date/time	Received date/
	Michael Clayton	04/11/18 14:40	04/13/19 08:45









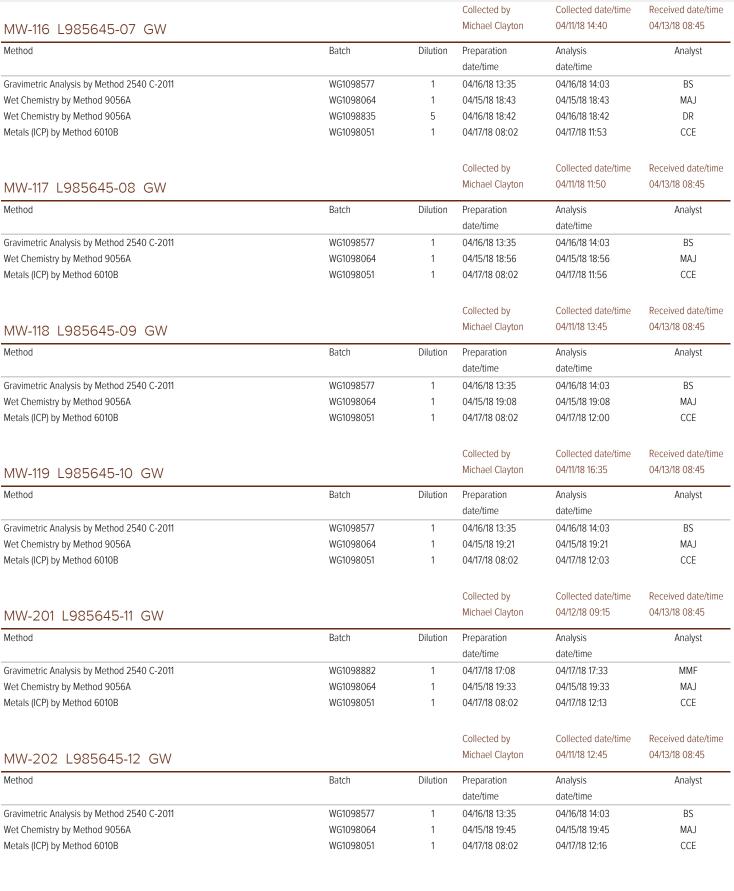












All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.















Technical Service Representative

ONE LAB. NATIONWIDE.

Collected date/time: 04/12/18 08:50

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	420000		2820	10000	1	04/17/2018 17:33	WG1098882

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2750		51.9	1000	1	04/14/2018 21:32	WG1098060
Fluoride	307		9.90	100	1	04/14/2018 21:32	WG1098060
Sulfate	17400		77.4	5000	1	04/14/2018 21:32	WG1098060



Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	84.0	J	12.6	200	1	04/17/2018 11:04	WG1098051
Calcium	121000	V	46.3	1000	1	04/17/2018 11:04	WG1098051



Cn









ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 12:40

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	472000		2820	10000	1	04/16/2018 15:03	WG1098576

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1770		51.9	1000	1	04/15/2018 16:39	WG1098064
Fluoride	206		9.90	100	1	04/15/2018 16:39	WG1098064
Sulfate	46700		77.4	5000	1	04/15/2018 16:39	WG1098064



Ss



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	144	J	12.6	200	1	04/17/2018 11:37	WG1098051
Calcium	136000		46.3	1000	1	04/17/2018 11:37	WG1098051









ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 15:45

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	468000		2820	10000	1	04/16/2018 15:03	WG1098576

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3240		51.9	1000	1	04/15/2018 16:52	WG1098064
Fluoride	163		9.90	100	1	04/15/2018 16:52	WG1098064
Sulfate	80600		77.4	5000	1	04/15/2018 16:52	WG1098064



³Ss

Cn

[°]Qc









	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	122	<u>J</u>	12.6	200	1	04/17/2018 11:40	WG1098051
Calcium	128000		46.3	1000	1	04/17/2018 11:40	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/10/18 14:55

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	582000		2820	10000	1	04/15/2018 10:04	WG1098342

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3030		51.9	1000	1	04/15/2018 17:41	WG1098064
Fluoride	177		9.90	100	1	04/15/2018 17:41	WG1098064
Sulfate	44500		77.4	5000	1	04/15/2018 17:41	WG1098064



Ss

Cn











	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	171	J	12.6	200	1	04/17/2018 11:43	WG1098051
Calcium	183000		46.3	1000	1	04/17/2018 11:43	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/10/18 14:10

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	340000		2820	10000	1	04/15/2018 10:04	WG1098342

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2940		51.9	1000	1	04/15/2018 18:19	WG1098064
Fluoride	56.2	J	9.90	100	1	04/15/2018 18:19	WG1098064
Sulfate	10100		77.4	5000	1	04/15/2018 18:19	WG1098064



Ss

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	89.9	<u>J</u>	12.6	200	1	04/17/2018 11:47	WG1098051
Calcium	92000		46.3	1000	1	04/17/2018 11:47	WG1098051











ONE LAB. NATIONWIDE.

Collected date/time: 04/10/18 13:10

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	368000		2820	10000	1	04/15/2018 10:04	WG1098342

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1340		51.9	1000	1	04/15/2018 18:31	WG1098064
Fluoride	209		9.90	100	1	04/15/2018 18:31	WG1098064
Sulfate	5810		77.4	5000	1	04/15/2018 18:31	WG1098064



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	66.6	<u>J</u>	12.6	200	1	04/17/2018 11:50	WG1098051
Calcium	111000		46.3	1000	1	04/17/2018 11:50	WG1098051













ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 14:40

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	511000		2820	10000	1	04/16/2018 14:03	WG1098577

²Tc

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	4900		51.9	1000	1	04/15/2018 18:43	WG1098064
Fluoride	166		9.90	100	1	04/15/2018 18:43	WG1098064
Sulfate	113000		387	25000	5	04/16/2018 18:42	WG1098835



Ss

Sulfate 113000 387

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	111	J	12.6	200	1	04/17/2018 11:53	WG1098051
Calcium	135000		46.3	1000	1	04/17/2018 11:53	WG1098051











ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 11:50

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	290000		2820	10000	1	04/16/2018 14:03	WG1098577





















Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1570		51.9	1000	1	04/15/2018 18:56	WG1098064
Fluoride	124		9.90	100	1	04/15/2018 18:56	WG1098064
Sulfate	7280		77.4	5000	1	04/15/2018 18:56	WG1098064



	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	95.2	<u>J</u>	12.6	200	1	04/17/2018 11:56	WG1098051
Calcium	82500		46.3	1000	1	04/17/2018 11:56	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 13:45

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	257000		2820	10000	1	04/16/2018 14:03	WG1098577

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1360		51.9	1000	1	04/15/2018 19:08	WG1098064
Fluoride	157		9.90	100	1	04/15/2018 19:08	WG1098064
Sulfate	15200		77.4	5000	1	04/15/2018 19:08	WG1098064



Cn

Ss















	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	94.9	<u>J</u>	12.6	200	1	04/17/2018 12:00	WG1098051
Calcium	71800		46.3	1000	1	04/17/2018 12:00	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 16:35

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	315000		2820	10000	1	04/16/2018 14:03	WG1098577





Ss

⁴ Cn
•













Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2150		51.9	1000	1	04/15/2018 19:21	WG1098064
Fluoride	230		9.90	100	1	04/15/2018 19:21	WG1098064
Sulfate	31100		77.4	5000	1	04/15/2018 19:21	WG1098064

Gl
⁸ Al



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	95.0	J	12.6	200	1	04/17/2018 12:03	WG1098051
Calcium	85900		46.3	1000	1	04/17/2018 12:03	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/12/18 09:15

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	U		2820	10000	1	04/17/2018 17:33	WG1098882

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	U		51.9	1000	1	04/15/2018 19:33	WG1098064
Fluoride	U		9.90	100	1	04/15/2018 19:33	WG1098064
Sulfate	U		77.4	5000	1	04/15/2018 19:33	WG1098064



Ss



	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	45.4	<u>J</u>	12.6	200	1	04/17/2018 12:13	WG1098051
Calcium	U		46.3	1000	1	04/17/2018 12:13	WG1098051









ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 12:45

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	464000		2820	10000	1	04/16/2018 14:03	WG1098577

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3250		51.9	1000	1	04/15/2018 19:45	WG1098064
Fluoride	163		9.90	100	1	04/15/2018 19:45	WG1098064
Sulfate	80700		77.4	5000	1	04/15/2018 19:45	WG1098064





	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	110	J	12.6	200	1	04/17/2018 12:16	WG1098051
Calcium	128000		46.3	1000	1	04/17/2018 12:16	WG1098051









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Gravimetric Analysis by Method 2540 C-2011

L985645-04,05,06

Method Blank (MB)

(MB) R3302170-1 04/15/	18 10:04			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000







[†]Cn

L985623-02 Original Sample (OS) • Duplicate (DUP)

(OS) L985623-02 04/15/18 10:04 • (DUP) R3302170-4 04/15/18 10:04

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	1060000	1070000	1	1.31		5





⁶Qc



(LCS) R3302170-2 04/15/18 10:04 • (LCSD) R3302170-3 04/15/18 10:04

(,	Spike Amount	•	LCSD Result		LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8530000	8530000	96.9	96.9	85.0-115			0.000	5







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Gravimetric Analysis by Method 2540 C-2011

L985645-02,03

Method Blank (MB)

(MB) R3302591-1 04/16/18 15:03 MB Result MB RDL MB Qualifier MB MDL Analyte ug/l ug/l ug/l U Dissolved Solids 2820 10000









(OS) L985623-09 04/16/18 15:03 • (DUP) R3302591-4 04/16/18 15:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	812000	830000	1	2.19		5









(LCS) R3302591-2 04/16/18 15:03 • (LCSD) R3302591-3 04/16/18 15:03

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8620000	8600000	98.0	97.7	85.0-115			0.232	5







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Gravimetric Analysis by Method 2540 C-2011

L985645-07,08,09,10,12

Method Blank (MB)

(MB) R3302586-1 04/16/	18 14:03			
	MB Result	MB Qualifier	MB MDL	MB RDI
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000









(OS) L985645-07 04/16/18 14:03 • (DUP) R3302586-4 04/16/18 14:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	511000	505000	1	1.18		5



[†]Cn







(LCS) R3302586-2 04/16/18 14:03 • (LCSD) R3302586-3 04/16/18 14:03

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8530000	8620000	96.9	98.0	85.0-115			1.05	5





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Gravimetric Analysis by Method 2540 C-2011

L985645-01,11

Method Blank (MB)

(MB) R3302951-1 04/17/18	17:33			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000









(OS) L985683-15 04/17/18 17:33 • (DUP) R3302951-4 04/17/18 17:33

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	4110000	4090000	1	0 488		5









(LCS) R3302951-2 04/17/18 17:33 • (LCSD) R3302951-3 04/17/18 17:33

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Dissolved Solids	8800000	8580000	8550000	97.5	97.2	85.0-115			0.350	5	





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Wet Chemistry by Method 9056A

L985645-01

Method Blank (MB)

Fluoride

Sulfate

(MB) R3301929-1 0	04/14/18 07:25			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000

100

5000







L985623-06 Original Sample (OS) • Duplicate (DUP)

(OS) L985623-06 04/14/18 18:01 • (DUP) R3301929-7 04/14/18 18:38

U

· /	, ,					
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	13400	13500	1	0.591		15
Fluoride	501	502	1	0.179		15
Sulfate	18000	18000	1	0.414		15









⁸Al

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

9.90

77.4

(LCS) R3301929-2 04/14/18 07:37 • (LCSD) R3301929-3 04/14/18 07:49

(LCS) K3301929-2 0	4/14/10 U7.3/ • (LC3L	J) K3301323-	3 04/14/16 07.4	9							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	l
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Chloride	40000	39800	39700	99.5	99.4	80.0-120			0.150	15	
Fluoride	8000	8080	8080	101	101	80.0-120			0.0891	15	
Sulfate	40000	39900	39800	99.7	99.5	80.0-120			0.200	15	

⁹Sc

L985577-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L985577-03 04/14/18 15:32 • (MS) R3301929-5 04/14/18 16:22 • (MSD) R3301929-6 04/14/18 16:34

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	ND	49700	51000	99.2	102	1	80.0-120			2.69	15
Fluoride	5000	ND	5180	5260	104	105	1	80.0-120			1.53	15
Sulfate	50000	ND	50200	50400	100	101	1	80.0-120			0.532	15

L985623-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L985623-06 04/14/18 18:01 • (MS) I	R3301929-8 04/14/18 18:51
---	---------------------------

(03) 1983023-00 04/14/1	0 10.01 • (IVIS) KS	3301323-6 04/	14/10 10.51			
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits
Analyte	ug/l	ug/l	ug/l	%		%
Chloride	50000	13400	63500	100	1	80.0-120
Fluoride	5000	501	5530	101	1	80.0-120

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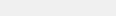
Wet Chemistry by Method 9056A

L985645-01

L985623-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L985623-06	04/14/18 18:01 • (MS) R3	3301929-8 04/	14/18 18:51	
	Spike Amount	Original Result	MS Result	

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	18000	66800	97.6	1	80.0-120	





















ONE LAB. NATIONWIDE.

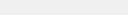
Wet Chemistry by Method 9056A

L985645-02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3302169-1 04/15/18 11:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000





L985403-01 Original Sample (OS) • Duplicate (DUP)

(OS) L985403-01 04/15/18 14:47 • (DUP) R3302169-4 04/15/18 15:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	28300	28400	1	0.417		15
Fluoride	993	1000	1	0.702		15
Sulfate	29100	29100	1	0.0450		15





L985645-03 Original Sample (OS) • Duplicate (DUP)

(OS) L985645-03 04/15/18 16:52 • (DUP) R3302169-6 04/15/18 17:04

(00) 2000 10 00 0 11 101	.0 .0.02 (20.)		0 17 107 10 17			
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	3240	3220	1	0.567		15
Fluoride	163	163	1	0.307		15
Sulfate	80600	80600	1	0.00347		15

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3302169-2 04/15/1	18 11:38 • (LCSD)) R3302169-3	04/15/18 11:50								
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Chloride	40000	38900	38900	97.3	97.1	80.0-120			0.164	15	
Fluoride	8000	7830	7820	97.8	97.8	80.0-120			0.0805	15	
Sulfate	40000	39800	39900	99.5	99.8	80.0-120			0.317	15	

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L985645-02,03,04,05,06,07,08,09,10,11,12

L985403-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L985403-01 04/15/18 14:47 • (MS) R3302169-5 04/15/18 15:12

. ,	, ,					
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits
Analyte	ug/l	ug/l	ug/l	%		%
Chloride	50000	28300	83000	109	1	80.0-120
Fluoride	5000	993	6200	104	1	80.0-120
Sulfate	50000	29100	78300	98.3	1	80.0-120





L985645-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L985645-03 04/15/18 16:52 • (MS) R3302169-7 04/15/18 17:16 • (MSD) R3302169-8 04/15/18 17:29

(/			,	,								
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	3240	59800	53700	113	101	1	80.0-120			10.9	15
Fluoride	5000	163	5460	5360	106	104	1	80.0-120			1.79	15
Sulfate	50000	80600	126000	125000	90.4	89.6	1	80.0-120	Е	Е	0.325	15













ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L985645-07

Method Blank (MB)

(MB) R3302303-1 04/16/18	3 15:30			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000







L984110-01 Original Sample (OS) • Duplicate (DUP)

(OS) L984110-01 04/16/18 17:15 • (DUP) R3302303-4 04/16/18 17:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Sulfate	U	0.000	1	0.000		15



Cn







(OS) L986001-02 04/16/18 19:57 • (DUP) R3302303-6 04/16/18 20:09

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits	
Analyte	ug/l	ug/l		%		%	
Sulfate	28100	28100	1	0.0324		15	







(LCS) R3302303-2 04/16/18 15:43 • (LCSD) R3302303-3 04/16/18 15:55

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	40000	40000	100	100	80.0-120			0.160	15

L984110-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L984110-01 04/16/18 17:15 • (MS) R3302303-5 04/16/18 17:40

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits
Analyte	ug/l	ug/l	ug/l	%		%
Sulfate	50000	U	49200	98.4	1	80.0-120

L986001-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L986001-02 04/16/18 19:57 • (MS) R3302303-7 04/16/18 20:22 • (MSD) R3302303-8 04/16/18 20:59

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	28100	78000	77700	99.7	99.2	1	80.0-120			0.364	15

ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L985645-01,02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3302459-1 04/17/1	(MB) R3302459-1 04/17/18 10:55								
	MB Result	MB Qualifier	MB MDL	MB RDL					
Analyte	ug/l		ug/l	ug/l					
Boron	U		12.6	200					
Calcium	U		46.3	1000					







Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3302459-2 04/1//	.CS) R3302459-2 04/1//18 10:58 • (LCSD) R3302459-3 04/1//18 11:01										
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Boron	1000	988	1010	98.8	101	80.0-120			1.78	20	
Calcium	10000	10100	10200	101	102	80.0-120			1.02	20	



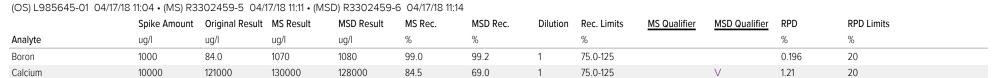
[†]Cn





⁷Gl

L985645-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)







GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

, to bre viations and	a Definitions
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries













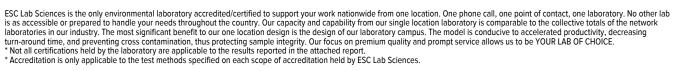






ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



















			Billing Info	illing Information:			Analysis / Container / Preservative						Chain of Custody Page of						
Plum Point Services C	o., LLC		Accounts Payable P.O. Box 567 Osceola, AR 72370			Pres Chix		3			l de		*	ESC					
Osceola, AR 72370	Osceola, AR 72370			, AK /23/U	AR 72570								LAN S	CILENCE					
			hristopher.Lussier@nrg.com, dld@ftn- , hlf@ftn-assoc.com									12065 Lebanon R Mount Juliet, TN	I DESSE						
Project Description: Plum Point Energy Station			City/State Collected:	Cook per	S	Pres						Phone: 615-758-5 Phone: 800-767-5 Fax: 615-758-585	859 100170						
Phone: 870-815-1248 Fax:	14590-176			Lab Project #			250mlHDPE-NoPres	HNO3						5645 G127					
Collected by (print): MELIAL Classics	Site/Facility II	D#		P.O. #	P.O. #			DPE					Acctnum: NA						
Collected by (signature):		Lab MUST Be	The state of the s	Quote #			TDS 250	250mlH					Template:T1	34757					
finmediately Packed on Ice N_ Y	Next Da Two Da Three D	y10 0	iy (Rad Only) Pay (Rad Only)	Date Results Needed		n N		(Rad Only) Date Results Needed		A STATE OF THE PARTY OF THE PAR	504,	B, Ca					Prelogin: P647803 TSR: 134 - Mark W. Beasle PB: 76 4-5-(2)		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Cl, F,	Total					Shipped Via: I	FedEX Standard					
MW-101	Grub	GW		4/12/18	850	2	X	X					1 2 3 5	-11					
MW-102	1	GW		4/11/18	1240	2	X	X					100	12					
MW-103		GW		4/11/14	1545	2	X	X	100	1 × 0			1 100	103					
MW-108		GW		4/10/18	1455	2	X	Х						100					
MW-113		GW	7.5	4/10/14	14/1)	2	X	X				100	P LUMBER	15					
MW-115		GW	136	and Ivi	130	2	X	X						-06					
MW-116		GW	1	4/11/10	1440	2	X	х	8					107					
MW-117	4	GW		4/1/10	1150	2	X	X						-03					
MW-118	383	GW		4/11/18	1345	2	X	X					. 2	29					
MW-119	1	GW	110	1/11/14	162	2	X	X			33			10					
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:			111110	1702				рН	Temp		COC Seal	mpls Receipt C Present/Intact d/Accurate: rrive intact:	heckidst					
DW - Drinking Water OT - Other	Samples retur UPS Fe	ned via: dEx Cou	ırler	Ti	racking # 43	61	6	930	0175	Other _		Correct b	ottles used: t volume sent: If Applicat						
Relinquished by : (5ignature) Date:		118	Time: Ri	eceived by: (Signa			No.	Trip Blank R		Меон	VOA Zero Headspace: Preservation Correct/Checked:								
Relinquished by : (Signature)		Date:	1	Time: Received by: (Signature)					Temp: 2,52	9 Bottles I		If preservati	on required by Lo	gin: Date/Time					
Relinquished by : (Signature)		Date:	100	Time: Received, for lab by: (Sig			ure)				Hold:		Condition: NCF / ON						

			Billing Information:		ing Information:				Analysis / Container / Preservative					Chain of Custody Page of								
Plum Point Services C	o., LLC	P.O. Box 567		P.O. Box 567		P.O. Box 567		Box 567			2000 Biological (1900 Biologica) (1900 Biologica) (1900 Biologica) (1900 Biologica) (1900 Biologica) (1900 Biologica) (1900 Biologica) (1900 Biologica) (1900 B				2						*E	ESC
Osceola, AR 72370		120											L-A-B S-C	# Unterliery of Personne								
				Christopher.Lussier@nrg.com, dld@ftn- m, hlf@ftn-assoc.com										12055 Lebanon Rd Mount Juliet, TN 371 Phone: 615-758-585								
Project Description: Plum Point Energy Station			City/State Collected:	Seeds A	and An								Phone: 800-767-585 Fax: 615-758-5859									
Phone: 870-815-1248 Fax:	14590-1766			Lab Project #	-PLUMPOINT		250mlHDPE-NoPres	HNO3						L# 985	845							
Collected by (print):	Site/Facility ID # Rush? (Lab MUST Be Notified) Same DayFive Day			P.O. #			OmlHE	iii						Acctnum: NAE	SOAR							
Collected by (signature):				Quote #			TDS 25	250mlHDP	E.	1				Prelogin: P64	7803							
Immediately Packed on Ice NY	Two Day	Next Day 5 Day (Rad Only) Date Results Needed Two Day 10 Day (Rad Only) Three Day of		Only) Date Results Needed id Only)		504,	B, Ca							1-5-13								
Sample ID	Comp/Grab	Matrix *	Depth	Date	Date Time		CI, F,	Total						Shipped Via: Fe	Sample # (lab only)							
MW-201	GRAG	GW		4/12/18	1 915	2	Х	х					187	1 10.56	11							
MW-202	1	GW		4/11/18	1245	2	X	X	- 2					145 a	12							
		GW				2	X	X														
	ton he	GW				2	X	X					100									
		GW	-			2	X	X					13									
					4 3 4	1						-		127								
		100	35/0	F 11	13.						WEET.			100								
	33.		15.20	1	0.00			14						1								
	1				E-1			13					10	and a								
		18.5		1000	3 1875			-23														
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:						Control of the contro						Sample Receipt Checklat COC Seal Present/Intact: MP Y N COC Signed/Accurate: N Bottles arrive intact: N									
WW - WasteWater DW - Drinking Water DT - Other					361	6	930	0175	Oth	ner	Sofficient volume sent: If Applicable			le Y N								
Relinquished by : (Signature) Date:		111	Time: /230	Received by: (Sign	ature)	系			Trip Blank Received: Yes / No HCL / MeoH			VOA Zero Headspace: Preservation Correct/Checked: X N										
Relinquished by : (Signature)		Date:		Time:	Received by: (Sign.	ature)		Y I	Z.K.	°C Bo	TBR ttles Received	If pre	eservatio	on required by Log	tin: Date/Time							
Relinquished by : (Signature) Date: Time: Received for lab by				y: (Signa	Date: 1/13/18 Time: Hold: 845						Condition: NCF / Ox											



ANALYTICAL REPORT April 26, 2018



Plum Point Services Co., LLC

Sample Delivery Group: L988208 Samples Received: 04/13/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley

Technical Service Representative Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1					
Tc: Table of Contents	2					
Ss: Sample Summary	3					
Cn: Case Narrative	4					
Sr: Sample Results	5					
MW-102 L988208-01	5					
MW-116 L988208-02	6					
Qc: Quality Control Summary	7					
Metals (ICP) by Method 6010B	7					
GI: Glossary of Terms						
Al: Accreditations & Locations						
Sc: Sample Chain of Custody 10						





















			Collected by	Collected date/time	Received date/time
MW-102 L988208-01 GW			Michael Clayton	04/11/18 12:40	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1102638	1	04/25/18 08:35	04/26/18 04:06	TRB
			Collected by	Collected date/time	Received date/time
MW-116 L988208-02 GW			Michael Clayton	04/11/18 14:40	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1102638	1	04/25/18 08:35	04/26/18 04:09	TRB





















All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.















Mark W. Beasley

Technical Service Representative

MW-102

SAMPLE RESULTS - 01 L988208

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 12:40

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	136000		46.3	1000	1	04/26/2018 04:06	WG1102638



















MW-116

SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 14:40

L988208

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	137000		46.3	1000	1	04/26/2018 04:09	WG1102638



















ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L988208-01,02

Method Blank (MB)

(MB) R3304763-1 04/26/18 03:09 MB Result MB MDL MB RDL MB Qualifier Analyte ug/l ug/l ug/l U 46.3 Calcium 1000









(LCS) R3304/63-2	04/26/18 03:12 • (LCSI	D) R3304/63-3	04/26/18 03:	15
	Spiko Amount	LCS Posult	LCSD Posult	ıc

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Calcium	10000	9750	9770	97 5	97 7	80 0-120			0 192	20	



[†]Cn













Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
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Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.















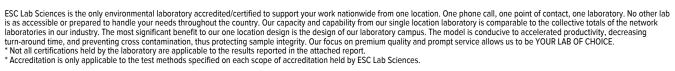






ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



















Plum Point Services	Co IIIC		Dining in	formation:		H	18	UF. COSE	Analysis	Cont	ainer / Fre	SECURIO	-	1		7	0
273.9 SCR 623 P.O. Box		ets Payable ex 567 a, AR 72370	567			2							Name of Court	ESC	9		
associon,			Christopher L n, hlf@ftn-ass	hristopher Lussier@nrg.com, dld@ftn- hlf@ftn-assoc.com									0	Off Education	comment Part	-	
Project Description: Plum Point Energy Station		City/State Collected	OS-of pr		les.							AND PARTY OF	nort fullet, TN driv: 615-718 (one: 600-767-6		1000		
Phone: 870-815-1248 Client Project # 14590-1766-001			Lab Project NAESOA		250miHDPE-Nopres	NO3						La	La 49	1695 1695			
Collected by (print): Mit HALL Close	Site/Facility 8	D #		P.O. 8		MIHDP	250m/HDPE-HNO3						Tal		G127 L98820	8	
Collected by (signature):		Lab MUST Be uy five I		Quote #			5 250	Omil						100	riplate T1	VAESOAR	1
Inmediately Packed on Ice N v	Next Da Two Da Three D	9 5 Day 2 10 Day		Date	Results Needed	No.	SO4, TDS	8, Ca 25			279					k W. Beasley	1
Sample IO	Comp/Grab	Matrix *	Depth	Date	Time	Cetra	14.	Total B						PB:	73 poed Viu. F	4-5-18 edEX Standari	
MW-101	Grub	GW		4/12/	8 850	2	X	X	1	N. L					Primaria -	Sample & Date or age	
MW-102		GW		4/11/10	1340	2	X	X								-et	1
MW-103		GW	8 37	Mala	1000	2	X	X					100	9		42	1.
W-108		GW		4/10/12	1455	2	X	X	1		200					123	Ŀ
W-113		GW	11	4/10/10	1125	2	X	X								-24	r
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/W-116		GW	11 11	4/11/11	1440	1000		X					-		ISE S	-1/6	L
NW-117	200	GW		41118	1440	2	X	X					11/2			-07	1-0
/W-118	18	GW		Think	1150	2	X	X	100-10							-05	
NW-119	V	GW		111118	1345	2	X	X	1000	188		11/20		1	- 67	-09	-
Matric Soil AIR - Air F - Filter	Remarks:		75 8	111118	1/63	2	Х	X	6.2		AL-O	100		3 60		10	
W - Groundwater 8 - Bloassay W - WasteWater									рН		Temp		£19/9/20/12/05/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6/6/	Present	A THE ROLL OF THE PARTY.	1	
W - Drinking Water F - Other	Samples return UPSFed		-		Tracking # 436 / 6930				Flow Other			COC Signed Accurate; Bottles arrive intact; Coreect bottles used; Mythicient values sent;			1		
illinquished by : (Signature)	2	Date:	18 To	23/	Received by: (Signati	urie)	01	000	Trip Black R	eculus	HOSE	igi Meori	VOA Zezu	Headspac tion Core	on Line Line		
		Im	ne l	Received by (Signation				Temp: 2,52	9	Bottlet Re	4	If preserva	tion require	ed by Login	Date/Time		
		Date	Tin		Received for Jeb by:	Signature	86		4/13/1	8	Time:	5	Hold:			Condition NCF / Oy	

Andy Vann

From: Mark Beasley

Sent: Tuesday, April 24, 2018 1:23 PM

To: Login; Sample Storage
Subject: L985645 *NAESOAR* relog

Relog L985645-02 & -07 for CAICP. Log as EX due 4/27.

Mark Beasley
 National Account Manager

ESC Lab Sciences-a subsidiary of Pace Analytical 12065 Lebanon Road | Mt. Juliet, TN 37122 615.773.9672 | Cell 615.330.1602 mbeasley@esclabsciences.com | www.esclabsciences.com

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ANALYTICAL REPORT

Plum Point Services Co., LLC

Sample Delivery Group: L1008375 Samples Received: 07/11/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Olivia Studebaker Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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MW-116 L1008375-02	6
MW-201 L1008375-03	7
MW-202 L1008375-04	8
Qc: Quality Control Summary	9
Metals (ICPMS) by Method 6020	9
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Al: Accreditations & Locations	11
Sc: Sample Chain of Custody	12























			Collected by	Collected date/time	Received date/time
MW-102 L1008375-01 GW			Michael Clayton	07/09/18 14:05	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 22:56	LD
			Collected by	Collected date/time	Received date/time
MW-116 L1008375-02 GW			Michael Clayton	07/09/18 15:45	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 23:26	LD
			Collected by	Collected date/time	Received date/time
MW-201 L1008375-03 GW			Michael Clayton	07/09/18 15:50	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 23:31	LD
			Collected by	Collected date/time	Received date/time
MW-202 L1008375-04 GW			Michael Clayton	07/09/18 14:10	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 22:28	LD





















All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Ss













Olivia Studebaker Project Manager

SAMPLE RESULTS - 01 L1008375

ONE LAB. NATIONWIDE.

Collected date/time: 07/09/18 14:05

Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	124000		46.0	1000	1	07/12/2018 22:56	WG1136769



















SAMPLE RESULTS - 02 L1008375

ONE LAB. NATIONWIDE.



	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	125000		46.0	1000	1	07/12/2018 23:26	WG1136769



















SAMPLE RESULTS - 03 L1008375

ONE LAB. NATIONWIDE.

Collected date/time: 07/09/18 15:50

Metals	(ICPMS)	by Method	6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>	
Analyte	ug/l		ug/l	ug/l		date / time		
Calcium	127000		46.0	1000	1	07/12/2018 23:31	WG1136769	



















SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

L1008375

Metals (ICPMS) by Method 6020

Collected date/time: 07/09/18 14:10

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch	
Analyte	ug/l		ug/l	ug/l		date / time		
Calcium	124000	V	46.0	1000	1	07/12/2018 22:28	WG1136769	



















ONE LAB. NATIONWIDE.

Metals (ICPMS) by Method 6020

L1008375-01,02,03,04

Method Blank (MB)

Calcium

(MB) R3325221-1 07/12/18 22:14								
	MB Result	MB Qualifier	MB MDL	MB RDL				
Analyte	ug/l		ug/l	ug/l				

U



²Tc





46.0

1000

// CC) D222E221.2	07/12/10 22:10	// CCD/ D222E221.2	07/12/10 22:24
(LC3) R3323221-2	0//12/10 22.19 •	(LCSD) R3325221-3	0//12/10 22.24

, ,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Calcium	5000	4880	5120	97.5	102	80.0-120			4.98	20	





L1008375-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1008375-04 07/12/18 22:28 • (MS) R3325221-5 07/12/18 22:37 • (MSD) R3325221-6 07/12/18 22:42

(OS) E1006373-04 O7/12/16 22/26 • (MS) (NS)2522221-3 O7/12/16 22/37 • (MSD) (NS)2523221-0 O7/12/16 22/42												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	5000	124000	127000	127000	63.1	50.9	1	75.0-125	V	V	0.483	20







GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The sample concentration is too high to evaluate accurate spike recoveries.













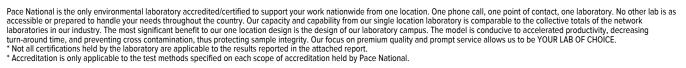






ACCREDITATIONS & LOCATIONS





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Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
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Washington	C847
West Virginia	233
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Wyoming	A2LA

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DOD	1461.01
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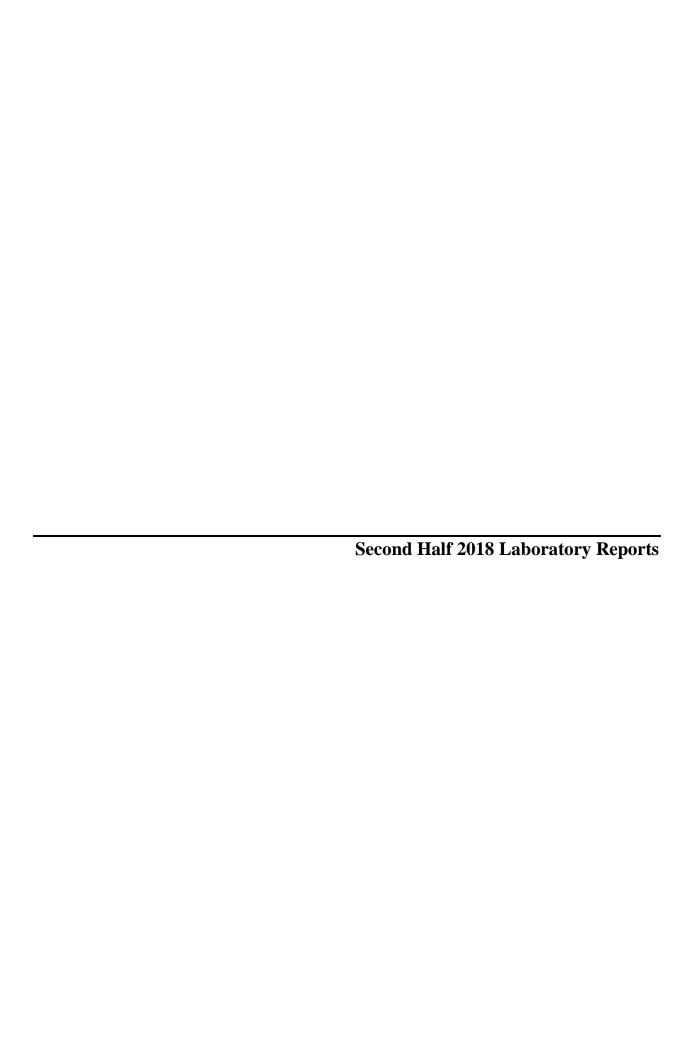








		Billing Information:							Analysis /	Contain	er / Preservat	ve		Chain of Custody	Page
Plum Point Services Co 2739 SCR 623	o., LLC		Accounts rayable			Pres Chk	77							*E	SC
Osceola, AR 72370									70		//				- whitehold frameson
eport to: Chris Lussier				To: Christopher.Lussier@nrg.com, dld@fi c.com, hlf@ftn-assoc.com							AR			12065 Lebanon Rd Mount Juliet, TN 371 Phone: 615-758-585 Phone: 800-767-585	100
oject escription: Plum Point Energy S	tation		7	Collected: OSCROLA AM		n			The state of					Fax: 615-758-5859	回题的新
hone: 870-815-1248 ax:	14590-1766			Lab Project #	Lab Project # NAESOAR-PLUMPOINT P.O. #		NO3							B06	3
collected by (print):	Site/Facility ID	#	1	P.O. #			PE-HNO3							Acctnum: NAE	
ollected by (signature):		ab MUST Be		Quote #			250mlHD							Template: T13	1865
Immediately Packed on Ice N Y	Next Day Two Day Three Day	5 Day	(Rad Only) ay (Rad Only)	Date Res	ults Needed	No. of	Ca						PB: T & W. Beasley Shipped Via: FedEX Ground		18 M
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Ontrs	Total							Remarks	Sample # (lab only)
MW-102	GNAS	GW	9	7/9/18	1405	1	X		11 540					200	-61
MW-116	199	GW	S.	7/9/18	1545	1	X							4 / THE	-02
MW-201	2363	GW		7/9/18	1550	1	X		147		211	100	1801	William	-03
MW-202	V	GW		7/9/18	1410	1	X							-	-OA
	1	GW		Lor Tate		1	X								
					THE S			199-							
					No. of Street, or			- 13							
# b		4596			has 2			197				100			
A 17 /	v model	100			100						. 4				
					19/5										
Matrix: SS - Soil AIR - Air F - Filter SW - Groundwater B - Bloassay	- Soil AIR - Air F - Filter			H			pH		Temp		COC Seal COC Sign Bottles	mple Receipt C Present/Intact ed/Accurate: arrive intact:			
WW - WasteWater OW - Drinking Water OT - Other	Samples setul	rned via: edExCo	urier		racking# 4	49	24	0219	1971	0			Correct bottles used: Sufficient volume sent: If Applicable VOA Zero Headspace:		oleY
Relinquished by : (Signature)	1	Date:	110	Time: F	Received by: (Signa	iture)	1000	A.	Trip Bla	nk Rece	rived: Yes (N HCL)	меон Меон	Preserva	tion Correct/C	ecked: _~ _
Relinquished by : (Signature)		Date:	7.8		Received by: (Signa	ature)	- Contract		Temp	37	C Battles Re		If preserva	tion required by Lo	gin: Date/Time
Relinquished by : (Signature)	1 1	Date:		Time:	Received for lab by		sture)		Date:	1195	8:40	5	Hold:		NCF / OK





ANALYTICAL REPORT

October 08, 2018

Plum Point Services Co., LLC

Sample Delivery Group: L1030036

Samples Received: 09/28/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley Project Manager

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MW-113 L1030036-05	10
MW-115 L1030036-06	11
MW-116 L1030036-07	12
MW-117 L1030036-08	13
MW-118 L1030036-09	14
MW-119 L1030036-10	15
MW-116 DUP L1030036-11	16
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GI: Glossary of Terms	28
Al: Accreditations & Locations	29



















Sc: Sample Chain of Custody

30

Received date/time

SAMPLE SUMMARY

Collected by

ONE	ΙΔΒ	NATION	١
OIVL	LAD.	INATION	٧

Collected date/time

MW-101 L1030036-01 GW			Michael Clayton	09/26/18 14:05	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1174315	1	10/03/18 19:24	10/03/18 19:56	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 10:14	10/03/18 10:14	MAJ
Metals (ICP) by Method 6010B	WG1175467	1	10/03/18 17:25	10/04/18 17:11	ST
			Collected by	Collected date/time	Received date/time
MW-102 L1030036-02 GW			Michael Clayton	09/27/18 11:25	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1175129	1	10/04/18 18:55	10/04/18 19:27	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 10:28	10/03/18 10:28	MAJ
Metals (ICP) by Method 6010B	WG1175467	1	10/03/18 17:25	10/04/18 17:14	ST
			Collected by	Collected date/time	Received date/time
MW-103 L1030036-03 GW			Michael Clayton	09/26/18 12:55	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1174315	1	10/03/18 19:24	10/03/18 19:56	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 10:42	10/03/18 10:42	MAJ
Metals (ICP) by Method 6010B	WG1175467	1	10/03/18 17:25	10/04/18 17:17	ST
			Collected by	Collected date/time	Received date/time
MW-108 L1030036-04 GW			Michael Clayton	09/25/18 13:50	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1173809	1	10/02/18 15:57	10/02/18 16:41	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 10:56	10/03/18 10:56	MAJ
Metals (ICP) by Method 6010B	WG1175467	1	10/03/18 17:25	10/04/18 17:25	ST
			Collected by	Collected date/time	Received date/time
MW-113 L1030036-05 GW			Michael Clayton	09/25/18 12:50	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst

WG1173809

WG1174175

WG1175467

Batch

WG1174254

WG1174175

WG1175467



















Gravimetric Analysis by Method 2540 C-2011

MW-115 L1030036-06 GW

Gravimetric Analysis by Method 2540 C-2011

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

Method

date/time

10/02/18 15:57

10/03/18 11:09

10/03/18 17:25

Collected by

Preparation

10/02/18 17:45

10/03/18 11:23

10/03/18 17:25

date/time

Michael Clayton

1

1

1

Dilution

1

1

1

date/time

10/02/18 16:41

10/03/18 11:09

10/04/18 17:28

09/25/18 11:15

Analysis

date/time

10/02/18 18:17

10/03/18 11:23

10/04/18 17:31

Collected date/time

JER

MAJ

ST

Received date/time

Analyst

JER

MAJ

ST

09/28/18 09:45

Received date/time

Received date/time

Analyst

AJS

MAJ

 ST

Received date/time

Analyst

JER

MAJ

ST

09/28/18 09:45

09/28/18 09:45

Collected date/time

09/26/18 15:20

10/03/18 20:45

10/03/18 13:43

10/04/18 14:55

09/27/18 15:05

10/04/18 17:00

10/03/18 14:52

10/04/18 14:58

Analysis

date/time

Collected date/time

Analysis

date/time

SAMPLE SUMMARY

Collected by

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	LAD.		

Collected date/time

MW-116 L1030036-07 GW			Michael Clayton	09/26/18 15:15	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1174318	1	10/03/18 19:58	10/03/18 20:45	AJS
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 12:05	10/03/18 12:05	MAJ
Metals (ICP) by Method 6010B	WG1175467	1	10/03/18 17:25	10/04/18 17:33	ST
			Collected by	Collected date/time	Received date/time
MW-117 L1030036-08 GW			Michael Clayton	09/27/18 13:05	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1175131	1	10/04/18 17:00	10/04/18 17:00	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 13:01	10/03/18 13:01	MAJ
Metals (ICP) by Method 6010B	WG1173328	1	10/02/18 15:27	10/04/18 14:42	ST
			Collected by	Collected date/time	Received date/time
MW-118 L1030036-09 GW			Michael Clayton	09/27/18 14:30	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1175131	1	10/04/18 17:00	10/04/18 17:00	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 13:15	10/03/18 13:15	MAJ
Metals (ICP) by Method 6010B	WG1173328	1	10/02/18 15:27	10/04/18 14:44	ST
			Collected by	Collected date/time	Received date/time
MW-119 L1030036-10 GW			Michael Clayton	09/27/18 09:55	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1175131	1	10/04/18 17:00	10/04/18 17:00	JER
Wet Chemistry by Method 9056A	WG1174175	1	10/03/18 13:29	10/03/18 13:29	MAJ
Metals (ICP) by Method 6010B	WG1173328	1	10/02/18 15:27	10/04/18 14:47	ST





















Plum Point Services Co., LLC

MW-116 DUP L1030036-11 GW

Gravimetric Analysis by Method 2540 C-2011

Wet Chemistry by Method 9056A

EB-2 L1030036-12 GW

Gravimetric Analysis by Method 2540 C-2011

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

Metals (ICP) by Method 6010B

Method

Method

Batch

WG1174318

WG1174175

WG1173328

Batch

WG1175131

WG1174175

WG1173328

Collected by

Preparation

10/03/18 19:58

10/03/18 13:43

10/02/18 15:27

Collected by

Preparation

10/04/18 17:00

10/03/18 14:52

10/02/18 15:27

date/time

Michael Clayton

date/time

Dilution

1

1

1

Dilution

1

1

1

Michael Clayton

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Ср

















Mark W. Beasley Project Manager

ONE LAB. NATIONWIDE.

Collected date/time: 09/26/18 14:05

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	421000		2820	10000	1	10/03/2018 19:56	WG1174315

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1940		51.9	1000	1	10/03/2018 10:14	WG1174175
Fluoride	290	В	9.90	100	1	10/03/2018 10:14	WG1174175
Sulfate	14600		77.4	5000	1	10/03/2018 10:14	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	98.1	<u>J</u>	12.6	200	1	10/04/2018 17:11	WG1175467
Calcium	115000		46.3	1000	1	10/04/2018 17:11	WG1175467

ONE LAB. NATIONWIDE.

Collected date/time: 09/27/18 11:25

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	453000		2820	10000	1	10/04/2018 19:27	WG1175129

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Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3840		51.9	1000	1	10/03/2018 10:28	WG1174175
Fluoride	183	В	9.90	100	1	10/03/2018 10:28	WG1174175
Sulfate	88600		77.4	5000	1	10/03/2018 10:28	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	121	J	12.6	200	1	10/04/2018 17:14	WG1175467
Calcium	121000		46.3	1000	1	10/04/2018 17:14	WG1175467









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Collected date/time: 09/26/18 12:55

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	440000		2820	10000	1	10/03/2018 19:56	WG1174315

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1360		51.9	1000	1	10/03/2018 10:42	WG1174175
Fluoride	217	В	9.90	100	1	10/03/2018 10:42	WG1174175
Sulfate	32800		77.4	5000	1	10/03/2018 10:42	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	145	J	12.6	200	1	10/04/2018 17:17	WG1175467
Calcium	129000		46.3	1000	1	10/04/2018 17:17	WG1175467

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Collected date/time: 09/25/18 13:50

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	537000		2820	10000	1	10/02/2018 16:41	WG1173809

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3110		51.9	1000	1	10/03/2018 10:56	WG1174175
Fluoride	188	В	9.90	100	1	10/03/2018 10:56	WG1174175
Sulfate	52200		77.4	5000	1	10/03/2018 10:56	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	183	<u>J</u>	12.6	200	1	10/04/2018 17:25	WG1175467
Calcium	163000		46.3	1000	1	10/04/2018 17:25	WG1175467









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Collected date/time: 09/25/18 12:50

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	337000		2820	10000	1	10/02/2018 16:41	WG1173809

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Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2840		51.9	1000	1	10/03/2018 11:09	WG1174175
Fluoride	114	В	9.90	100	1	10/03/2018 11:09	WG1174175
Sulfate	9810		77.4	5000	1	10/03/2018 11:09	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	111	J	12.6	200	1	10/04/2018 17:28	WG1175467
Calcium	90000		46.3	1000	1	10/04/2018 17:28	WG1175467









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Collected date/time: 09/25/18 11:15

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	417000		2820	10000	1	10/02/2018 18:17	WG1174254





















Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1180		51.9	1000	1	10/03/2018 11:23	WG1174175
Fluoride	216	В	9.90	100	1	10/03/2018 11:23	WG1174175
Sulfate	5000	<u>J</u>	77.4	5000	1	10/03/2018 11:23	WG1174175

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	76.4	J	12.6	200	1	10/04/2018 17:31	WG1175467
Calcium	123000		46.3	1000	1	10/04/2018 17:31	WG1175467

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Collected date/time: 09/26/18 15:15

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	500000		2820	10000	1	10/03/2018 20:45	WG1174318

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	4130		51.9	1000	1	10/03/2018 12:05	WG1174175
Fluoride	183	B J6	9.90	100	1	10/03/2018 12:05	WG1174175
Sulfate	97500	<u>J6</u>	77.4	5000	1	10/03/2018 12:05	WG1174175



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	Result	Qualifier	MDL	KDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	4130		51.9	1000	1	10/03/2018 12:05	WG1174175
Fluoride	183	B J6	9.90	100	1	10/03/2018 12:05	WG1174175
Sulfate	97500	<u>J6</u>	77.4	5000	1	10/03/2018 12:05	<u>WG1174175</u>



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	153	J	12.6	200	1	10/04/2018 17:33	WG1175467
Calcium	132000		46.3	1000	1	10/04/2018 17:33	WG1175467









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Collected date/time: 09/27/18 13:05

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	318000		2820	10000	1	10/04/2018 17:00	WG1175131

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1250		51.9	1000	1	10/03/2018 13:01	WG1174175
Fluoride	144	В	9.90	100	1	10/03/2018 13:01	WG1174175
Sulfate	7190		77.4	5000	1	10/03/2018 13:01	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	127	J	12.6	200	1	10/04/2018 14:42	WG1173328
Calcium	89800		46.3	1000	1	10/04/2018 14:42	WG1173328

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Collected date/time: 09/27/18 14:30

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Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	375000		2820	10000	1	10/04/2018 17:00	WG1175131

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Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1330		51.9	1000	1	10/03/2018 13:15	WG1174175
Fluoride	165	В	9.90	100	1	10/03/2018 13:15	WG1174175
Sulfate	17000		77.4	5000	1	10/03/2018 13:15	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	113	<u>J</u>	12.6	200	1	10/04/2018 14:44	WG1173328
Calcium	80600		46.3	1000	1	10/04/2018 14:44	WG1173328











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Collected date/time: 09/27/18 09:55

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	290000		2820	10000	1	10/04/2018 17:00	WG1175131

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2300		51.9	1000	1	10/03/2018 13:29	WG1174175
Fluoride	253	В	9.90	100	1	10/03/2018 13:29	WG1174175
Sulfate	41600		77.4	5000	1	10/03/2018 13:29	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	103	J	12.6	200	1	10/04/2018 14:47	WG1173328
Calcium	99000		46.3	1000	1	10/04/2018 14:47	WG1173328

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Collected date/time: 09/26/18 15:20

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	512000		2820	10000	1	10/03/2018 20:45	WG1174318

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	4140		51.9	1000	1	10/03/2018 13:43	WG1174175
Fluoride	189	В	9.90	100	1	10/03/2018 13:43	WG1174175
Sulfate	98400		77.4	5000	1	10/03/2018 13:43	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	121	J	12.6	200	1	10/04/2018 14:55	WG1173328
Calcium	130000		46.3	1000	1	10/04/2018 14:55	WG1173328

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Collected date/time: 09/27/18 15:05

L1030036

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	U		2820	10000	1	10/04/2018 17:00	WG1175131

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	311	J	51.9	1000	1	10/03/2018 14:52	WG1174175
Fluoride	U		9.90	100	1	10/03/2018 14:52	WG1174175
Sulfate	U		77.4	5000	1	10/03/2018 14:52	WG1174175



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	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	53.3	J	12.6	200	1	10/04/2018 14:58	WG1173328
Calcium	500	<u>J</u>	46.3	1000	1	10/04/2018 14:58	WG1173328

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Gravimetric Analysis by Method 2540 C-2011

L1030036-04,05

Method Blank (MB)

(MB) R3347436-1 10/02/1	8 16:41			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	3000	J	2820	10000







L1030012-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1030012-09 10/02/18 16:41 • (DUP) R3347436-4 10/02/18 16:41

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	653000	677000	1	3.61		5



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(LCS) R3347436-2 10/02/18 16:41 • (LCSD) R3347436-3 10/02/18 16:41

(,	·	•	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8660000	8670000	98.4	98.5	85.0-115			0.115	5







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Gravimetric Analysis by Method 2540 C-2011

L1030036-06

Method Blank (MB)

(MB) R3347430-1 10/02/18 18:17

(2) 1100 17 100 1 1070	2, 10 10.17			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	П		2820	10000







(LCS) R3347430-2 10/02	2/18 18:17 • (LCSE)) R3347430-3	10/02/18 18:17							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Discolved Solids	000000	9740000	8040000	00.3	102	95 O 115			2.26	Ę











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Gravimetric Analysis by Method 2540 C-2011

L1030036-01,03

Method Blank (MB)

(MB) R3347808-1 10/03	/18 19:56			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	П		2820	10000





(OS) L1030012-03 10/03/18 19:56 • (DUP) R3347808-4 10/03/18 19:56

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	396000	401000	1	1.25		5



Ss

⁶Qc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347808-2 10/03/18 19:56 • (LCSD) R3347808-3 10/03/18 19:56

(,	Spike Amount	-	LCSD Result		LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8560000	8530000	97.3	96.9	85.0-115			0.351	5





ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L1030036-07,11

Method Blank (MB)

(MB) R3347801-1 10/03/1	8 20:45			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
	-		9	9







[†]Cn



(OS) L1030003-04 10/03/18 20:45 • (DUP) R3347801-4 10/03/18 20:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	338000	343000	1	1.47		5









(LCS) R3347801-2 10/03/18 20:45 • (LCSD) R3347801-3 10/03/18 20:45

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8580000	8680000	97.5	98.6	85.0-115			1.16	5







ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L1030036-02

Method Blank (MB)

 (MB) R3348180-1
 10/04/18 19:27

 MB Result
 MB Qualifier
 MB MDL
 MB RDL

 Analyte
 ug/l
 ug/l
 ug/l

 Dissolved Solids
 U
 2820
 10000



L1030003-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1030003-02 10/04/18 19:27 • (DUP) R3348180-4 10/04/18 19:27

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	437000	453000	1	3.60		5



Ss

⁶Qc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348180-2 10/04/18 19:27 • (LCSD) R3348180-3 10/04/18 19:27

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8620000	8620000	98.0	98.0	85.0-115			0.000	5





ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L1030036-08,09,10,12

Method Blank (MB)

Dissolved Solids

(MB) R3348179-1 10/04/18 17:00 MB RDL MB Result MB Qualifier MB MDL Analyte ug/l ug/l ug/l









(OS) L1029872-01 10/04/18 17:00 • (DUP) R3348179-4 10/04/18 17:00

3000

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	170000	174000	1	2.33		5

2820

10000









(LCS) R3348179-2 10/04/18 17:00 • (LCSD) R3348179-3 10/04/18 17:00

(,	Spike Amount	•			LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8650000	8640000	98.3	98.2	85.0-115			0.116	5







ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L1030036-01,02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R334/403-1 10/	/03/18 08:50			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	67.7	<u>J</u>	9.90	100
Sulfate	U		77.4	5000







L1030036-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1030036-07 10/03/18 12:05 • (DUP) R3347403-4 10/03/18 12:19

	Original Describ		Dilution	DI ID DDD	DUD Ovalities	DUP RPD
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	4130	3980	1	3.69		15
Fluoride	183	207	1	12.3		15
Sulfate	97500	97500	1	0.00379		15









L1030036-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1030036-11 10/03/18 13:43 • (DUP) R3347403-7 10/03/18 13:56

(03) 21030030 11 10/03/	10 15.45 - (DOI) 1	(33474037	10/03/10 13	.50		
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	4140	4080	1	1.59		15
Fluoride	189	196	1	3.49		15
Sulfate	98400	98200	1	0.134		15

9

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347403-2 10/03/18 09:04 • (LCSD) R3347403-3 10/03/18 09:18

(LCS) R334/403-2 10/03/	18 09:04 • (LCS	D) R334/403-	3 10/03/18 09:	lö						
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	39300	39400	98.2	98.5	80.0-120			0.307	15
Fluoride	8000	8020	8040	100	101	80.0-120			0.298	15
Sulfate	40000	39500	39900	98.7	99.6	80.0-120			0.911	15

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L1030036-01,02,03,04,05,06,07,08,09,10,11,12

L1030036-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030036-07 10/03/18 12:05 • (MS) R3347403-5 10/03/18 12:33 • (MSD) R3347403-6 10/03/18 12:47

(30) 21000000 07 10700110 12.00 (110) 1100 0 10700110 12.00 (110) 1100 0 10700110 12.17												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	4130	44800	45900	81.4	83.5	1	80.0-120			2.30	15
Fluoride	5000	183	4020	4380	76.6	83.9	1	80.0-120	<u>J6</u>		8.66	15
Sulfate	50000	97500	132000	133000	69.4	71.0	1	80.0-120	<u>E J6</u>	<u>E J6</u>	0.607	15









(OS) L1030036-11 10/03/18 13:43 • (MS) R3347403-8 10/03/18 14:10

(03) [1030030-11 10/03/1	0 13.43 • (IVI3) N	3347403-6 10/1	03/10 14.10				
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Chloride	50000	4140	54500	101	1	80.0-120	
Fluoride	5000	189	4940	95.0	1	80.0-120	
Sulfate	50000	98400	141000	84.9	1	80.0-120	Е













ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

ug/l

1000

10000

L1030036-08,09,10,11,12

Method Blank (MB)

Analyte

Calcium

Boron

(MB) R3347817-1 10/04/18 14:24 MB RDL MB Result MB Qualifier MB MDL Analyte ug/l ug/l ug/l Boron U 12.6 200 U 46.3 1000 Calcium

%

80.0-120

80.0-120

%

101

99.5





Cn

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347817-2 10/04/18 14:26 • (LCSD) R3347817-3 10/04/18 14:29 Spike Amount LCS Result LCS Rec. LCSD Rec. LCSD Qualifier LCSD Result Rec. Limits LCS Qualifier

%

98.6

98.1







L1030040-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

ug/l

1010

9950

(OS) L1030040-01 10/04/18 14:31 • (MS) R3347817-5 10/04/18 14:37 • (MSD) R3347817-6 10/04/18 14:39

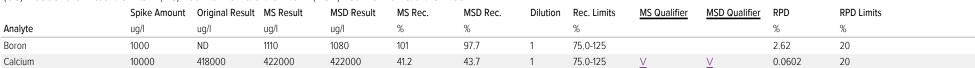
ug/l

986

9810



GI







SDG:

L1030036

RPD

1.96

1.41

RPD Limits

%

20

20

ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L1030036-01,02,03,04,05,06,07

Method Blank (MB)

(MB) R3347811-1 10/04	1/18 16:20			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000







Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347811-2	10/04/18 16:22 • (LCSD) R3347811-3 10/04/18 16:25	
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, ,	, ,									
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	1040	1030	104	103	80.0-120			0.820	20
Calcium	10000	10100	9950	101	99.5	80.0-120			1.34	20











(OS) L1030003-05 10/04/18 16:28 • (MS) R3347811-5 10/04/18 16:33 • (MSD) R3347811-6 10/04/18 16:35

(00) 21000000 00	10/01/10/10.20 (1110)	11.00 17 011 0 107	0 1/10 10.00	(11102) 1100 1701	11 0 10/0 1/10	10.00							
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%	
Boron	1000	109	1150	1140	104	103	1	75.0-125			1.20	20	
Calcium	10000	20800	32700	32700	119	119	1	75 0-125			0.103	20	







GLOSSARY OF TERMS

ONE LAB. NATIONWIDE.

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

Abbic viations and	a Deminions
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

O 11:01	Donate and seat the seat
Qualifier	Description

	·
В	The same analyte is found in the associated blank.
Е	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries



















ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	
A2LA - ISO 17025 5	1461.02	
Canada	1461.01	
EPA-Crypto	TN00003	

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



















			Billing Inf	ormation:		17			Analysis / (Container	/ Preservative		Chain of Custody	Page Lod		
P.O. Box				ts Payable x 567 a, AR 72370	7			77					Pace	Analytical*		
Report to: Chris Lussier	Christopher.Luse n, hif@ftn-assoc	sier@nrg.com, did@ .com	9ftn-							12065 Lebanon Ad Mount Juliet, TN 37						
Project Description: Plum Point Energy	Station			City/State Collected;			res						Phone: 615-758-58; Phone: 800-757-58; Fax: 615-758-5859			
Phone: 870-815-1248	D8075400000000000000000000000000000000000	ent Project # 590-1766-001		Lab Project # NAESOAR-	PLUMPOINT		250mlHDPE-NoPres	HN03					L# 1030			
ollected by (print):	Site/Facility ID #			P.O. #	./i	i	OmlHD	250mlHDPE-HN03					Acctnum: NA			
ollected by (signature):	Sam	Day 10 D		Quote #	esults Needed	No.	SO4, TDS 25	Ca							Template: T134757 Prelogin: P672602 TSR: 134 - Mark W. Bea	
Sample ID	Thre	e Day ab Matrix *	Depth	Date	Time	of Cntrs	LL.	Total B,					The state of the s	edEX Ground		
1W-101	Grab	GW		9/26/18	1405	2	X C	X					Remarks	Sample # (lab only)		
IW-102	ONE	GW	. No.	9/27/18		2	X	X					38.58	02		
IW-103	1 13	GW	THE .	8/26/18		2	X	X	100		-			-03		
IW-108		GW		9/25/18		2	X	X						704		
W-113	100	GW		9/25/18		2	X	X					-	705		
W-115	16	GW		9/25/19		2	X	X								
W-116		GW	100	9/26/18	1515	2	X	X						706		
IW-117		GW	1	9/27/14		2	X	X	195/3					707		
IW-118		GW		9/27/18	The state of the s	2	X	X					78.2	29		
W-119	V	GW	21 1	9/27/14	955	2	Х	X						10		
latrix: Soil AIR - Air F - Filter - Groundwater B - Bioassay V - WasteWater - Drinking Water	Remarks:				RAD SCREE	EN: <0		R/hr	pH _ Flow _		emp	COC Seal COC Signa Bottles	mple Receipt C: Present/Intact ed/Accurate: arrive intact; bottles used:	euklat		
- Other	UPS		rier		Tracking# 44	17	67	3206	13			100 S 100	it volume sent: If Applicab	is -X-		
elinquished by : (Signature) Date: 9/37/14		118	1800	Received by: (Signa		10	3200	Trip Blank Received: Yes No HCL-MeoH			Preservation Correct/Checked:					
elinquished by : (Signature)	1	Date:	1	**************************************	Received by: (Signa	ture)			Temp:	-	Bottles Received:	If preservation required by Login: Date/Time				
elinquished by : (Signature)		Date:		Time:	Received for lab by:	(Signati	ure)		Date: 9/78					Condition: NCF / OK		

			Billing Information:						Analysis /		Chain of Custody	Page of				
Plum Point Services Co., LLC 2739 SCR 623			Accounts Payable P.O. Box 567 Osceola, AR 72370													Analytical*
Osceola, AR 72370															1	
Report to: Chris Lussier				hristopher.Lussie , hlf@ftn-assoc.co	ftn-									12065 Lebanon Rd Mount Juliet, TN 37 Phone: 615-758-583		
Project Description: Plum Point Energy S	Station	3-1		City/State Collected:			Pres								Phone: 800-767-585 Fax: 615-758-5859	■ 302 36
hone: 870-815-1248 ax:	Client Project 14590-1766			Lab Project # NAESOAR-PI	UMPOINT	1	DPE-No	HNO3							L# 103	0036
ollected by (print):	Client Project # Lab Project # NAESOAR-PLUMPOINT Lab Proje		ID#							Acctnum: NAI						
Collected by (signature):	Same Da	ab MUST Be	Day	Quote #			TDS 25								Template:T13 Prelogin: P67	2602
mmediately Packed on Ice N Y	Next Day Two Day Three Day	5 Day 10 D	y (Rad Only) ay (Rad Only)	Date Res	ults Needed	No.	504, 1	B, Ca			933				TSR: 134 - Mar PB:	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	CI, F,	Total							Shipped Via: Fi	Sample # (lab only)
MW-116 DUP		GW		9/26/18	1520	2	Х	X	100							-11
B-2		GW		9/27/18	1505	2	X	X	1 1							-12
	The Real	GW	AT K	1250	100	2	X	X	150		2					
	951	GW	1	100	1	2	X	X								
		GW			120	2	X	X	900					1 3	W- 15	
			KIN			1						-				
2.5	-			3 4		1		198				-				BE MAIN
		7	775			-		1000	0.18		- 10			-		
		P 1/2	1		-2	4			45			-		-		1
	100			Tary		1		25						Carre	To Possier d	hanki la
Matrix: S - Soil AIR - Air F - Filter W - Groundwater B - Bioassay VW - WasteWater	Remarks:			10.50	CO SCREEN: <0.5 mR/hr						COC Se COC Si Bottle	Sample Receipt Checklist COC Seal Present/Intact: MP Y E COC Signed/Accurate: M Sottles arrive intact: M N Torrect bottles used: M				
W - Drinking Water T - Other	Samples retur UPSFe	ned via: dExCo	т.	Tracking #							Sufficient volume sent: If Applicable VOA Zero Headspace: Y N					
		Date:	10	Time: R	eceived by: (Signa	Trip Blank Received: Yes No HCL MeoH					Preservation Correct/Checked:					
Relinquished by : (Signature) Date:			//0		eceived by: (Signa	ture)	- 1		Temp:	°(Bottles Rei	eived:	If preservation required by Login: Date/Time			
Relinquished by : (Signature)	Design the	Date:	-	Time: R	eceived for leb by	(Signa	ture)		Date:	7117	Time:	H	Hold:			Condition: NCF // OK



ANALYTICAL REPORT

October 31, 2018

Plum Point Services Co., LLC

Sample Delivery Group: L1039096

Samples Received: 09/28/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page					
Tc: Table of Contents					
Ss: Sample Summary	3				
Cn: Case Narrative	4				
Sr: Sample Results	5				
MW-115 L1039096-01	5				
MW-116 L1039096-02	6				
MW-117 L1039096-03	7				
Qc: Quality Control Summary	8				
Metals (ICP) by Method 6010B	8				
GI: Glossary of Terms					
Al: Accreditations & Locations					
Sc: Sample Chain of Custody					





















			Collected by	Collected date/time	Received date/time
MW-115 L1039096-01 GW			Michael Clayton	09/25/18 11:15	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1188395	1	10/30/18 13:37	10/30/18 19:48	ST
			Collected by	Collected date/time	Received date/time
MW-116 L1039096-02 GW			Michael Clayton	09/26/18 15:15	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1188395	1	10/30/18 13:37	10/30/18 19:51	ST
			Collected by	Collected date/time	Received date/time
MW-117 L1039096-03 GW			Michael Clayton	09/27/18 13:05	09/28/18 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1188395	1	10/30/18 13:37	10/30/18 19:54	ST





















All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

¹Cp

















Mark W. Beasley Project Manager

PAGE:

MW-115

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 09/25/18 11:15

L1039096

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	121000		46.3	1000	1	10/30/2018 19:48	WG1188395



















MW-116

SAMPLE RESULTS - 02 L1039096

ONE LAB. NATIONWIDE.

Collected date/time: 09/26/18 15:15

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l ug/l			date / time	
Calcium	130000		46.3	1000	1	10/30/2018 19:51	WG1188395



















MW-117

SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

Collected date/time: 09/27/18 13:05

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l ug/l			date / time	
Calcium	89700		46.3	1000	1	10/30/2018 19:54	WG1188395



















ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L1039096-01,02,03

Method Blank (MB)

(MB) R3355367-1 10/30/	18 18:41			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Calcium	U		46.3	1000



²Tc





-		2255272	10/20/10 10:12			1 DOOFFOCT 0	10/20/10 10.10
- (LC2LK:	5333367-2	10/30/18 18:43	•	にてシロ	1 K3333350/-3	10/30/18 18:46

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Calcium	10000	9760	9640	97.6	96.4	80.0-120			1.25	20





⁶Qc



(OS) L1039094-02 10/30/18 18:48 • (MS) R3355367-5 10/30/18 18:53 • (MSD) R3355367-6 10/30/18 18:56

(00) 2.00000 . 02 .0	,00,10 10.10 (1110) .		0,00,10	(52)	0 10,00,10	.0.00						
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Calcium	10000	53600	67400	67400	137	137	1	75.0-125	V	V	0.00416	20







GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The sample concentration is too high to evaluate accurate spike recoveries.





















ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana 1	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 14	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA
· · ·	

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

DATE/TIME:

10/31/18 13:06

PAGE:

10 of 12

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



















¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

		A CONTRACTOR OF THE PROPERTY O			ing information:			10	Contract of	Analysis	Analysis / Container / Preservative					Chain of Custody Page / of			
Plum Point Services (2739 SCR 623 Osceola, AR 72370	Co., L	LC		P.O. Bo	ts Payable ix 567 a, AR 72370		Pives Chk			77							10) ce Analytical	
Report to: Chris Lussier		1 6		Email To:	Christopher.Lussier@nrg.com, dld@f m, hlf@ftn-assoc.com			ı	res						12065 Lehanor Mount Juliet, T				
Project Description: Plum Point Energy	Station				City/State Collected:			165							Phone: 815-718-1858 Phone: 800-787-5858 Fac: 615-758-5859				
Phone: 870-815-1248 Fax:		Client Project # 14590-1766-001		Lab Project # NAESOAR-PLUMPOINT			PE-NoPres	HNO3						The second second second	3003to	10/20/2			
Collected by (print):	Site/F	acility II)#		P.O. #			SomiHDPE	DPE							L	G142 L1039096		
Collected by (signature)	PR	Rush? (Lab MUST Be Notified) Same Day Five Day		Quote #			TDS 250	250mlHDPE-						1	Template:T134757 Prelogin: P672602				
Immediately Packed on ice N Y	Ē	Next Da Two Day Three D	10 0	(Rad Only) ry (Rad Only)	Date	Results Needed	No.	504, T	B, Ca							The second second	lark W. Beasley	ı	
Sample ID	Comp	o/Grab	Matrix *	Depth	Date	Time	Time Cotts	-1000000	Total						137	-	FedEX Groun	manual .	
MW-101	GN	oh.	GW	135	9/26/18	1405	2	X	X							Remarks	fample # (lub or	100	
MW-102			GW		9/27/18	27 T. F. S. L.	2	X	X	1				100		1 1 1 1 1	701		
MW-103			GW	3/4	9/26/12		2	X	X	1					-	-	702		
MW-108	138	-	GW	8	9/25/		2	X	X		100					1000	03		
MW-113		100	GW		9/25/1		2	X	X			14000	53			-	TOA		
MW-115		1.3	GW		9/25/	The second secon	2	X	X			5.466		-		100 A 100 A	-25	-0	
MW-116			GW	5 107	9/21/1	1 10-10	2	X	X								7060		
MW-117			GW	2941	9/27/1	/ /305	2	X	X	705		Jak .	87			1000	77	-07	
MW-118	1		GW		9/27/1	THE RESERVE TO SERVE	2	X	X	40.57		04.4		100			78	-0	
MW-119	100	V	GW	7	9/27/18		2	X	X					100	29.0		-04	- 3	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Rema	rks:				RAD SCRE	pH Flow	pH Temp					Eample Receipt Checklet COC Seal Present/intwot: NP N COC Signed/Accurate: NP N Buttles arrive intact: N						
DW - Drinking Water OT - Other	Samp)	E Fe	ned via: dExCou	iler		Tracking # CL (47	1.7	72 N	V 140 10070C		Other				volume gen		N N	
Relinquished by: (Signature)	2		Date: 9/27	115	1800	Received by: (Sign		42	3206	Address of the second second	k Reci		Mech	Press	Sero He	sadepace:	41	EN DE	
Relinquished by : (Signature)			Dates		Time:	Received by: (Signature)				Temp:					if preservation required by Login: Date/Time				
Relinquished by : (Signature)			Date:		Time:	Received for light	2000	ture)		Date	7/K	Time:	At-	Hold:			Condition:	5	

Andy Vann

From: Mark Beasley

Sent: Tuesday, October 30, 2018 8:28 AM

To: Login; Sample Storage
Subject: L1030036 *FTNLRAR* relog

Relog L1030036-06, -07, & -08 for CAICP. Log as EX due 11/1.

Thanks Mark

From: Heather Ferguson [mailto:hlf@ftn-assoc.com]

Sent: Monday, October 29, 2018 5:03 PM

To: Mark Beasley Cc: Dana Derrington

Subject: FW: Pace National Report for 14590-1766-001 Plum Point Energy Station L1030036

Importance: High

Good afternoon Mark,

If it's still possible, could you ask the lab to verify/re-run the following samples from the attached SDG to confirm their values?

 Calcium (mg/l)
 MW-115

 Calcium (mg/l)
 MW-116

 Calcium (mg/l)
 MW-117

Thanks so much!

Heather



Heather Ferguson FTN Associates, Ltd. 3 Innwood Circle, Suite 220 № Little Rock, AR 72211

hlf@ftn-assoc.com

(501) 225-7779 ★ fax (501) 225-6738 http://www.ftn-assoc.com



ANALYTICAL REPORT

December 03, 2018

Plum Point Services Co., LLC

Sample Delivery Group: L1046668 Samples Received: 11/21/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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MW-119 DUP L1046668-02	6
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			0.11	0.11	5
			Collected by	Collected date/time	Received date/time
MW-119 L1046668-01 GW			Michael Clayton	11/20/18 14:35	11/21/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1201703	1	11/27/18 16:33	11/27/18 17:18	AJS
Wet Chemistry by Method 9056A	WG1200815	1	11/24/18 18:50	11/24/18 18:50	MAJ
Metals (ICP) by Method 6010B	WG1200420	1	11/24/18 10:44	11/24/18 18:00	WBD
			Collected by	Collected date/time	Received date/time
MW-119 DUP L1046668-02 GW			Michael Clayton	11/20/18 14:40	11/21/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1201705	1	11/27/18 17:21	11/27/18 17:57	AEC
Wet Chemistry by Method 9056A	WG1200815	1	11/24/18 19:07	11/24/18 19:07	MAJ
Metals (ICP) by Method 6010B	WG1200420	1	11/24/18 10:44	11/24/18 18:10	WBD
			Collected by	Collected date/time	Received date/time
EPA EB-1 L1046668-03 GW			Michael Clayton	11/20/18 14:55	11/21/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1201705	1	11/27/18 17:21	11/27/18 17:57	AEC
Wet Chemistry by Method 9056A	WG1200815	1	11/24/18 19:23	11/24/18 19:23	MAJ
Metals (ICP) by Method 6010B	WG1200420	1	11/24/18 10:44	11/24/18 18:13	WBD
			Collected by	Collected date/time	Received date/time
MW-117 L1046668-04 GW			Michael Clayton	11/19/18 16:00	11/21/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Cronimatria Analysis by Mathad 2540 C 2011	WC1200407	1			A IC
Gravimetric Analysis by Method 2540 C-2011	WG1200497	1	11/26/18 16:10	11/26/18 16:36	AJS

WG1200420



















WBD

11/24/18 18:15

Metals (ICP) by Method 6010B

1 11/24/18 10:44



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



















Mark W. Beasley Project Manager

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 11/20/18 14:35

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	343000		2820	10000	1	11/27/2018 17:18	WG1201703



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1960		51.9	1000	1	11/24/2018 18:50	WG1200815
Fluoride	271		9.90	100	1	11/24/2018 18:50	WG1200815
Sulfate	33000		77.4	5000	1	11/24/2018 18:50	WG1200815





	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	82.6	<u>J</u>	12.6	200	1	11/24/2018 18:00	WG1200420
Calcium	94000	01	46.3	1000	1	11/24/2018 18:00	WG1200420







MW-119 DUP

SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 11/20/18 14:40

L1046668

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	340000	<u>J4</u>	2820	10000	1	11/27/2018 17:57	WG1201705

²To

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1910		51.9	1000	1	11/24/2018 19:07	WG1200815
Fluoride	273		9.90	100	1	11/24/2018 19:07	WG1200815
Sulfate	32700		77.4	5000	1	11/24/2018 19:07	WG1200815



⁴Cn

Ss

⁵Sr

Sr









	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	86.6	J	12.6	200	1	11/24/2018 18:10	WG1200420
Calcium	95700		46.3	1000	1	11/24/2018 18:10	WG1200420

SAMPLE RESULTS - 03

ONE LAB. NATIONWIDE.

Collected date/time: 11/20/18 14:55

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	U	<u>J4</u>	2820	10000	1	11/27/2018 17:57	WG1201705



Sample Narrative:

L1046668-03 WG1201705: results confirm

Ss

Cn

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	U		51.9	1000	1	11/24/2018 19:23	WG1200815
Fluoride	U		9.90	100	1	11/24/2018 19:23	WG1200815
Sulfate	U		77.4	5000	1	11/24/2018 19:23	WG1200815



Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	41.6	<u>J</u>	12.6	200	1	11/24/2018 18:13	WG1200420
Calcium	U		46.3	1000	1	11/24/2018 18:13	WG1200420





СQс





7 of 17

Analyte

Calcium

SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

Collected date/time: 11/19/18 16:00

Metals (ICP) by Method 6010B

L1046668

Dilution

Analysis

date / time

11/24/2018 18:15

Batch

WG1200420

Gravimetric Analysis by Method 2540 C-2011

Result

85700

ug/l

Qualifier

MDL

ug/l

46.3

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	288000		2820	10000	1	11/26/2018 16:36	WG1200497

RDL

ug/l

1000























ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L1046668-04

Method Blank (MB)

(MB) R3363353-1 11/26/1	3 16:36			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	3000	1	2820	10000







[†]Cn



(OS) L	046668-04	11/26/18 16:36 •	(DUP	R3363353-3	11/26/18 16:36

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	288000	289000	1	0.347		5





Laboratory Control Sample (LCS)

(LCS) R3363353-2	11/26/18	16:36
------	--------------	----------	-------

(LCS) KSSOSSSS-2 11/20/16	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifie
Analyte	ug/l	ug/l	%	%	
Dissolved Solids	8800000	8770000	99.7	85.0-115	





ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L1046668-01

Method Blank (MB)

(MB) R3363971-1 11/27/18	17:18			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000









(05)	11046649-01	11/27/18 17:18 •	(DI ID	D3363071_3	11/27/18 17:18
\cup	1 1040049-01	11/2//10 1/.10 •	ロロト) K33033/1-3	11/2//10 17.10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	2920000	2950000	1	1.19		5









(LCS) R3363971-2 11/27/18 17:18







ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L1046668-02,03

Method Blank (MB)

(MB) R3363750-4 11/27/18 17:57 MB RDL MB Result MB Qualifier MB MDL Analyte ug/l ug/l ug/l Dissolved Solids U 2820 10000







(OS) L1046749-06 11/27/18 17:57 • (DUP) R3363750-3 11/27/18 17:57

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	1100000	1230000	1	10.8	J3	5







OS: results confirm



Laboratory Control Sample (LCS)

(LCS) R3363750-2 11/27/18 17:57

(===)						
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	
Analyte	ug/l	ug/l	%	%		
Dissolved Solids	880000	6230000	70.8	85 O-115		

Sc

Sample Narrative:

LCS: results confirm

12/03/18 18:22

11 of 17

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L1046668-01,02,03

Method Blank (MB)

(MB) R3363092-1 1	1/24/18 05:01			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000







L1046667-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1046667-01 11/24/18 17:45 • (DUP) R3363092-3 11/24/18 18:01

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	14600	14600	1	0.233		15
Fluoride	30.9	30.5	1	1.30	<u>J</u>	15
Sulfate	12700	12700	1	0.540		15







L1046708-11 Original Sample (OS) • Duplicate (DUP)

(OS) | 1046708-11 11/24/18 22:24 • (DLIP) R3363092-5 11/24/18 22:40

(00) 21040700 11 11/24/10	22.24 - (001)1	(3303032 3	11/2-7/10/22	0		
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	51800	51600	1	0.339		15
Fluoride	155	153	1	1.49		15
Sulfate	51200	49500	1	3.31		15

Sc

Laboratory Control Sample (LCS)

(I_CS) P3363092-2_11/24/18_05:17

(LCS) R3363092-2 11/	1/24/18 05.1/				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	ug/l	ug/l	%	%	
Chloride	40000	39100	97.8	80.0-120	
Fluoride	8000	7930	99.1	80.0-120	
Sulfate	40000	39300	98.1	80.0-120	

12/03/18 18:22

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 9056A

L1046668-01,02,03

L1046689-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1046689-01 11/24/18 20:29 • (MS) R3363092-4 11/24/18 20:45

	•							
		Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Ana	lyte	ug/l	ug/l	ug/l	%		%	
Fluc	oride	5000	1120	6350	104	1	80.0-120	
Sulf	ate	50000	U	48300	96.6	1	80.0-120	







[†]Cn



(OS) L1046721-08 11/25/18 00:19 • (MS) R3363092-6 11/25/18 00:35 • (MSD) R3363092-7 11/25/18 00:52

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	2370	52800	52700	101	101	1	80.0-120			0.0764	15
Fluoride	5000	ND	4920	4970	98.4	99.4	1	80.0-120			1.02	15
Sulfate	50000	ND	53000	53200	100	101	1	80.0-120			0.274	15













ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

10000

L1046668-01,02,03,04

Method Blank (MB)

Calcium

(MB) R3362636-1 11/24/18	(MB) R3362636-1 11/24/18 17:52							
	MB Result	MB Qualifier	MB MDL	MB RDL				
Analyte	ug/l		ug/l	ug/l				
Boron	U		12.6	200				
Calcium	U		46.3	1000				





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3362636-2 11/24/18 17:55 • (LCSD) R3362636-3 11/24/18 17:57										
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	1020	1000	102	100	80.0-120			1.43	20

80.0-120

0.592

20



[†]Cn





L1046668-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

9850

99.1

98.5



9910

(03) 11046666-01	11/24/10 10.00 • (IVIS) R	3302030-3 11/	24/10 10.05 •	(IVISD) K33020	30-0 11/24/16	10.07							
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%	
Boron	1000	82.6	1080	1100	99.9	101	1	75.0-125			1.47	20	
Calcium	10000	04000	104000	104000	96.4	102	1	75 N 125			0.406	20	







GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

Abbic viations and	a Deminions
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
-----------	-------------

	· · · · · · · · · · · · · · · · · · ·
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate



















ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	
A2LA - ISO 17025 5	1461.02	
Canada	1461.01	
EPA-Crypto	TN00003	

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



















The state of the s			Billing Infon	mation:		T			An	alysis / Co	ntainer / Pre	servative	-		Chain of Custody	Page of
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NW-119	Grab	GW		11-20-18	1435	2		X		X					17500	-02
IW-119 DUP	11	GW		11-20-18	1440	2		X		X			-		-	-03
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ANALYTICAL REPORT

December 24, 2018

Plum Point Services Co., LLC

Sample Delivery Group: L1054671 Samples Received: 12/19/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Dana Derrington

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1
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Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
MW-119 L1054671-01	5
MW-119 DUP L1054671-02	6
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Metals (ICP) by Method 6010B	8
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GI: Glossary of Terms	11
Al: Accreditations & Locations	12
Sc: Sample Chain of Custody	13























			Collected by	Collected date/time	Received date/time
MW-119 L1054671-01 GW			Michael Clayton	12/18/18 12:25	12/19/18 09:15
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Mercury by Method 7470A	WG1213623	1	12/20/18 10:02	12/20/18 19:47	TCT
Metals (ICP) by Method 6010B	WG1213747	1	12/20/18 15:46	12/22/18 09:55	WBD
Metals (ICPMS) by Method 6020	WG1213773	1	12/20/18 10:16	12/20/18 21:08	LD
			Collected by	Collected date/time	Received date/time
MW-119 DUP L1054671-02 GW			Michael Clayton	12/18/18 12:30	12/19/18 09:15
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Mercury by Method 7470A	WG1213623	1	12/20/18 10:02	12/20/18 19:55	TCT
Metals (ICP) by Method 6010B	WG1213747	1	12/20/18 15:46	12/22/18 09:58	WBD
Metals (ICPMS) by Method 6020	WG1213773	1	12/20/18 10:16	12/20/18 21:12	LD



















All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Ср

















Mark W. Beasley Project Manager Analyte

Lithium

Molybdenum

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 12/18/18 12:25

Metals (ICP) by Method 6010B

Result

ug/l

24.6

U

Qualifier

MDL

ug/l

5.30

1.60

Mercury by Method 7470A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.0490	0.200	1	12/20/2018 19:47	WG1213623

Dilution

1

Analysis

date / time

12/22/2018 09:55

12/22/2018 09:55

Batch

WG1213747

WG1213747

RDL

ug/l

15.0

5.00

Ss





















Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Patch	
		Qualifier			Dilution	•	<u>Batch</u>	
Analyte	ug/l		ug/l	ug/l		date / time		
Antimony	U		0.754	2.00	1	12/20/2018 21:08	WG1213773	
Arsenic	0.485	<u>J</u>	0.250	2.00	1	12/20/2018 21:08	WG1213773	
Barium	179		0.360	5.00	1	12/20/2018 21:08	WG1213773	
Beryllium	U		0.120	2.00	1	12/20/2018 21:08	WG1213773	
Cadmium	U		0.160	1.00	1	12/20/2018 21:08	WG1213773	
Chromium	U		0.540	2.00	1	12/20/2018 21:08	WG1213773	
Cobalt	1.67	<u>J</u>	0.260	2.00	1	12/20/2018 21:08	WG1213773	
Lead	U		0.240	2.00	1	12/20/2018 21:08	WG1213773	
Selenium	0.520	<u>J</u>	0.380	2.00	1	12/20/2018 21:08	WG1213773	
Thallium	U		0.190	2.00	1	12/20/2018 21:08	WG1213773	

SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 12/18/18 12:30

Mercury by Method 7470A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l	ug/l ug/l		ug/l		date / time	
Mercury	U		0.0490	0.200	1	12/20/2018 19:55	WG1213623

Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Lithium	24.8		5.30	15.0	1	12/22/2018 09:58	WG1213747
Molybdenum	U		1.60	5.00	1	12/22/2018 09:58	WG1213747



Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Antimony	U		0.754	2.00	1	12/20/2018 21:12	WG1213773
Arsenic	0.487	<u>J</u>	0.250	2.00	1	12/20/2018 21:12	WG1213773
Barium	178		0.360	5.00	1	12/20/2018 21:12	WG1213773
Beryllium	U		0.120	2.00	1	12/20/2018 21:12	WG1213773
Cadmium	0.169	<u>J</u>	0.160	1.00	1	12/20/2018 21:12	WG1213773
Chromium	U		0.540	2.00	1	12/20/2018 21:12	WG1213773
Cobalt	1.65	<u>J</u>	0.260	2.00	1	12/20/2018 21:12	WG1213773
Lead	0.894	ВJ	0.240	2.00	1	12/20/2018 21:12	WG1213773
Selenium	0.453	<u>J</u>	0.380	2.00	1	12/20/2018 21:12	WG1213773
Thallium	U		0.190	2.00	1	12/20/2018 21:12	WG1213773



³Ss













Mercury by Method 7470A

L1054671-01,02

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3370227-1 12/20/	18 18:56			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Mercury	Ш		0.0490	0.200



Ss

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3370227-2 12/20/	18 18:59 • (LCSI	D) R3370227-3	3 12/20/18 19:0	1						
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Mercury	3 00	3.00	3 03	100	101	80 0-120			1.01	20







(OS) I 1054625-01 12/20/18 19:03 • (MS) R3370227-4 12/20/18 19:06 • (MSD) R3370227-5 12/20/18 19:08

(00) 2100 1020 01 1	Spike Amount	Original Result		MSD Result	MS Rec.	MSD Rec.	Dilutio	n Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Mercury	3.00	0.206	3.07	3.16	95.3	98.4	1	75.0-125			2.94	20







ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L1054671-01,02

Method Blank (MB)

(MB) R3370770-1 12/22/1	8 09:20			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Lithium	U		5.30	15.0
Molybdenum	U		1.60	5.00





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3370770-2 12/22/1	8 09:23 • (LCSI	D) R33/0//0-3	3 12/22/18 09:2	25						
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Lithium	1000	961	998	96.1	99.8	80.0-120			3.75	20
Molybdenum	1000	1010	1020	101	102	80.0-120			1.17	20



[†]Cn









ONE LAB. NATIONWIDE.

Metals (ICPMS) by Method 6020

U

L1054671-01,02

Method Blank (MB)

Thallium

(MB) R3370221-1 12/2	0/18 20:00			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Antimony	U		0.754	2.00
Arsenic	U		0.250	2.00
Barium	U		0.360	5.00
Beryllium	U		0.120	2.00
Cadmium	U		0.160	1.00
Chromium	U		0.540	2.00
Cobalt	U		0.260	2.00
Lead	0.961	<u>J</u>	0.240	2.00
Selenium	U		0.380	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

0.190

2.00

(LCS) R3370221-2	12/20/18 20:05 • (LCS	D) R3370221-	-3 12/20/18 20:0	09							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier RF	PD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%		%		%	
Antimony	50.0	49.6	48.9	99.2	97.8	80.0-120		1.3	38	20	
Arsenic	50.0	50.4	51.1	101	102	80.0-120		1.2	27	20	
Barium	50.0	47.5	46.9	95.0	93.9	80.0-120		1.1	6	20	
Beryllium	50.0	47.4	46.6	94.8	93.1	80.0-120		1.7	'8	20	
Cadmium	50.0	51.8	52.7	104	105	80.0-120		1.6	67	20	
Chromium	50.0	53.0	52.2	106	104	80.0-120		1.5	56	20	
Cobalt	50.0	54.2	53.1	108	106	80.0-120		2.0	06	20	
Lead	50.0	52.1	51.4	104	103	80.0-120		1.2	27	20	
Selenium	50.0	51.5	53.4	103	107	80.0-120		3.5	58	20	
Thallium	E0.0	52 A	52.1	105	104	80 0 120		0.1	636	20	

L1054785-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1054785-02 12/20/18 20:13 • (MS) R3370221-5 12/20/18 20:22 • (MSD) R3370221-6 12/20/18 20:26												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Antimony	50.0	ND	48.6	48.8	97.2	97.6	1	75.0-125			0.359	20
Arsenic	50.0	3.64	51.7	54.3	96.1	101	1	75.0-125			4.91	20
Barium	50.0	20.7	64.5	67.1	87.5	92.8	1	75.0-125			3.98	20
Beryllium	50.0	ND	46.3	46.0	91.4	90.7	1	75.0-125			0.698	20
Cadmium	50.0	ND	53.6	52.1	106	103	1	75.0-125			2.74	20
Chromium	50.0	5.00	56.3	56.5	103	103	1	75.0-125			0.228	20
Cobalt	50.0	5.96	59.0	58.9	106	106	1	75.0-125			0.123	20

ACCOUNT:
Plum Point Services Co., LLC

PROJECT: 14590-1766-001

SDG: L1054671 DATE/TIME: 12/24/18 09:09

PAGE: 9 of 13

Ср

²Tc













Analyte

Selenium

Thallium

Lead

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

Metals (ICPMS) by Method 6020

ug/l

50.0

50.0

50.0

L1054671-01,02

75.0-125

MSD Rec. %

104

104

106

L1054785-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

ug/l

57.8

49.2

52.4

MSD Result

ug/l

57.3

52.1

52.8

MS Rec.

%

105

98.5

105

(OS) L1054785-02 12/20/18 20:13 • (MS) R3370221-5 12/20/18 20:22 • (MSD) R3370221-6 12/20/18 20:26

Spike Amount Original Result MS Result

5.18

ND

ND

Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	2
	%			%	%	~·
1	75.0-125			0.863	20	느
1	75 0-125			5.65	20	3

0.799

20



















GLOSSARY OF TERMS

ONE LAB. NATIONWIDE.

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

Abbreviations and	
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	L	escri)	рí	tio	n
-----------	---	--------	----	-----	---

	1
В	The same analyte is found in the associated blank.
1	The identification of the analyte is acceptable; the reported value is an estimate





















ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



















							1		Ana	alysis / Contain	er / Preserva	tive		Chain of Custody	Pageof	
			Accounts Payable P.O. Box 567 Osceola, AR 72370				2	2						12065 Lebanon Rd	nalytical* ar for Texting & Innovation	
eport to:			Email To: Ch assoc.com,	hristopher.Lussier@ , hlf@ftn-assoc.com	@nrg.com, dld& 1	Pftn-		03					夢	Mount Juliet, TN 3717 Phone: 615-758-5858 Phone: 800-767-5859	15 - Control 15	
hris Lussier	ation		A TOWNS TO STORY	City/State Collected:		1		NH PF						L# 105467	国艺种种等	
Phone: 870-815-1248	Client Project # 14590-1766-	-001		Lab Project # NAESOAR-PLUMPOINT			103	1L-HDPE-Add HNO3						1166		
Collected by (print):	Site/Facility ID #	*		P.O. #			250,nlHDPE-MNO3							Acctnum: NAE Template:T14	3853	
Collected by (signature):	Rush? (La		Day	Quote #			J.mIHD	8COM						Prelogin: P68	rk W. Beasley	
Immediately Packed on Ice N Y	Next Day Two Day Three Da	5 Day	y (Rad Only) Day (Rad Only)		ults Needed	No.	als 250	RA-226/228COMB			15 A			-	edEX Ground	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Ž							Remarks	Sample # (lab only)	
MW-119	GRAS	GW	Tat	12-18-18	All the second second	3	1000								02	
MW-119 DUP	2	GW		12-18-18	All the second second	3	0.00			22:						
	4 45	GW		1 - 4		3	100.00	X				C.P.C.				
		GW				3		×								
	7 200														4	
		ALL S										114				
					Sh. F. F.		1						D 5	Sample Receipt	Checklist ot: NP	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	Remarks:M ****Log rac	Remarks:Metals = As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl ****Log radiums to a separate SDG****								pH _ Flow _	Temp		Bottles	ned/Accurate: s arrive intact t bottles used: tent volume ser	ti K	
WW - WasteWater DW - Drinking Water OT - Other	Samples retu	urned via: FedExC	ourier			175		5075	5 8	3 G 59 Trip Blank	Trip Blank Received: Yes (No.)			VOA Zero Headspace: Preservation Correct/Checked:		
Relinquished by : (Signature) Date:			KIK	1800	Received by: (S							TBR ttles Received:		(0.3=	y Login: Date/Time	
Relinquished by : (Signature) Relinquished by : (Signature) Date:				Time:	Received for la	ab by: (Sig	- for	e)		230 Date:	Tin	me: 0915	Hold:		Conditio NCF / {	



ANALYTICAL REPORT

January 18, 2019

Plum Point Services Co., LLC

Sample Delivery Group: L1054673 Samples Received: 12/19/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Dana Derrington

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1
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Cn: Case Narrative	4
Sr: Sample Results	5
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MW-119 DUP L1054673-02	6
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Sc: Sample Chain of Custody	11





















			Collected by	Collected date/time	Received date/time
MW-119 L1054673-01 Non-Potable Water			Michael Clayton	12/18/18 12:25	12/19/18 09:15
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Radiochemistry by Method 904	WG1215806	1	12/27/18 09:22	12/31/18 16:20	JMR
Radiochemistry by Method Calculation	WG1223084	1	01/14/19 10:00	01/15/19 17:30	RGT
Radiochemistry by Method SM7500Ra B M	WG1223084	1	01/14/19 10:00	01/15/19 17:30	RGT
			Collected by	Collected date/time	Received date/time
MW-119 DUP L1054673-02 Non-Potable Water			Michael Clayton	12/18/18 12:30	12/19/18 09:15
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Radiochemistry by Method 904	WG1215806	1	12/27/18 09:22	12/31/18 16:20	JMR
Radiochemistry by Method Calculation	WG1223084	1	01/14/19 10:00	01/15/19 17:30	RGT
Radiochemistry by Method SM7500Ra B M	WG1223084	1	01/14/19 10:00	01/15/19 17:30	RGT



















1

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

²Tc















Mark W. Beasley Project Manager

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 12/18/18 12:25

Radiochemistry by Method 904

	Result	Qualifier	Uncertainty	MDA	Analysis Date	<u>Batch</u>	
Analyte	pCi/l		+/-	pCi/l	date / time		
RADIUM-228	0.551		0.345	0.556	12/31/2018 16:20	WG1215806	
(T) Barium	100			30.0-110	12/31/2018 16:20	WG1215806	
(T) Yttrium	100			30.0-110	12/31/2018 16:20	WG1215806	







	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
Analyte	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.00		0.577	0.696	01/15/2019 17:30	WG1223084





Radiochemistry by Method SM7500Ra B M

	Result	Qualifier	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Analyte	pCi/l		+ / -	pCi/I	date / time	
RADIUM-226	0.450		0.232	0.14	01/15/2019 17:30	WG1223084
(T) Barium-133	100			30.0-110	01/15/2019 17:30	WG1223084









MW-119 DUP

SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 12/18/18 12:30

Radiochemistry by Method 904

	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
Analyte	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.181		0.390	0.603	12/31/2018 16:20	WG1215806
(T) Barium	100			30.0-110	12/31/2018 16:20	WG1215806
(T) Yttrium	100			30.0-110	12/31/2018 16:20	WG1215806







	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
Analyte	pCi/I		+ / -	pCi/I	date / time	
Combined Radium	0.380		0.615	0.909	01/15/2019 17:30	WG1223084





Radiochemistry by Method SM7500Ra B M

	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
Analyte	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.200		0.225	0.306	01/15/2019 17:30	WG1223084
(T) Barium-133	100			30.0-110	01/15/2019 17:30	WG1223084









ONE LAB. NATIONWIDE.

Radiochemistry by Method 904

L1054673-01,02

Method Blank (MB)

(MB) R3373311-1	12/31/18 16:20

(IVID) 1(3373311 1 12/31/	10 10.20		
	MB Result	MB Qualifier	MB MDA
Analyte	pCi/l		pCi/l
Radium-228	0.315		0.373
(T) Barium	100		
(T) Yttrium	100		





L1054390-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1054390-01 12/31/18 16:20 • (DUP) R3373311-5 12/31/18 16:20

	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Analyte	pCi/l	pCi/l		%			%	pCi/l
Radium-228	-0.0604	-0.271	1	0.000	0.190		20	3
(T) Barium	100	100						
(T) Yttrium	100	100						









Laboratory Control Sample (LCS)

(LCS) R3373311-2 12/31/18 16:20

(200) 1100700112 12/01/10	0 10.20				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	pCi/I	pCi/l	%	%	
Radium-228	5.00	4.63	92.5	80.0-120	
(T) Barium			100		
(T) Yttrium			100		

Sc

L1055680-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1055680-01 01/0	02/19 13:50 • (MS) F	33/3311-3 12/	31/18 16:20 • (MSD) R33/3311	-4 12/31/18 16	:20							
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
Analyte	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	20.0	0.314	18.7	21.1	91.8	104	1	70.0-130			12.3		20
(T) Barium		92.2			100	100							
(T) Yttrium		100			100	100							

ONE LAB. NATIONWIDE.

Radiochemistry by Method SM7500Ra B M

L1054673-01,02

Method Blank (MB)

(MB) R3376832-1 01/15/19	17:30		
	MB Result	MB Qualifier	MB MDA
Analyte	pCi/I		pCi/l
Radium-226	0.0195		0.0553
(T) Barium-133	94.4		





L1054673-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1054673-01 01/15/19 17:30 • (DUP) R3376832-5 01/15/19 17:30

, ,	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
Analyte	pCi/l	pCi/l		%			%	pCi/l
Radium-226	0.450	0.281	1	46.1	0.465		20	3
(T) Barium-133	100	79.8						







Laboratory Control Sample (LCS)

(LCS) R3376832-2 01/15/19 17:30

(,		LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	pCi/l	pCi/l	%	%	
Radium-226	5.02	4.17	83.1	80.0-120	
(T) Barium-133			100		





L1059269-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1059269-01 01/15/19 17:30 • (MS) R3376832-3 01/15/19 17:30 • (MSD) R3376832-4 01/15/19 17:30

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
Analyte	pCi/l	pCi/l	pCi/l	pCi/I	%	%		%			%		%
Radium-226	20.1	0.315	20.3	20.3	99.6	99.2	1	75.0-125			0.394		20
(T) Barium-133		53.6			77.6	68.6							

GLOSSARY OF TERMS

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The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

Appreviations and	d Definitions
MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.





















PAGE:

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ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.











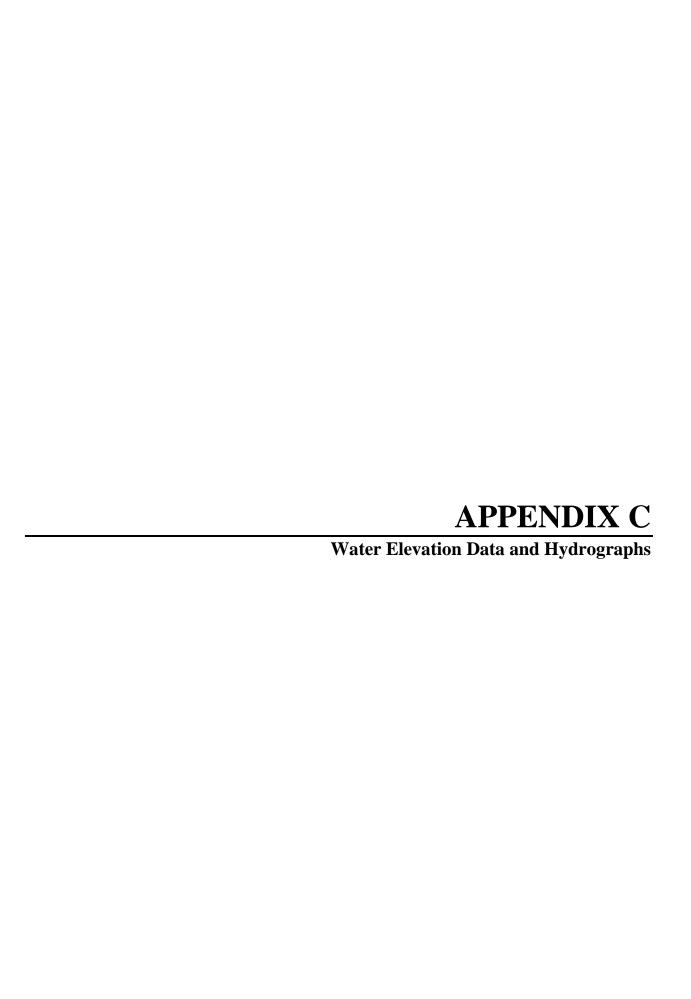








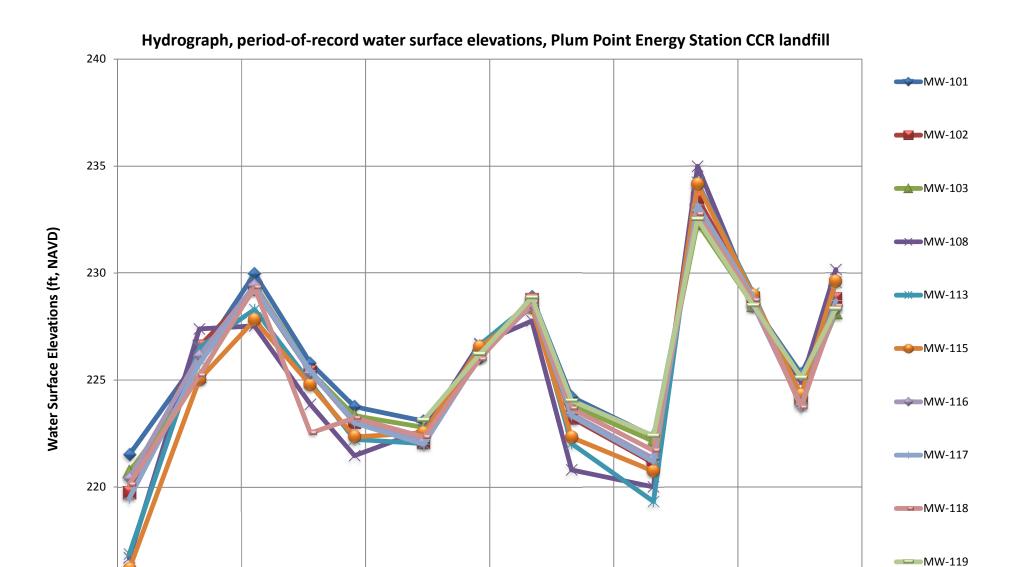
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739 SCR 623 sceola, AR 72370		0	Osceola, A	AR 72370		tn-						7				let, TN 37122	
port to:		E	assoc.com, h	hristopher.Lussier@ hlf@ftn-assoc.com	enrg.com, did@			NO3							Phone: 615-75 Phone: 800- Fax: 615-75	5-758-5858 0-767-5859	
oject	ation			City/State Collected:				H PP								5467	3
hone: 870-815-1248	Client Project # 14590-1766-	001		Lab Project # NAESOAR-PLU	IMPOINT		103	1L-HDPE-Add HNO3							1		-
offected by (print)	Site/Facility ID #	#		P.O.#			PE-HA	m	3969						Templat	m: NAESC	353
Next Day 5 Two Day 1		y Five Da	lay	Quote#	N. N. S. C.		250,nlHDPE-HN03	28COM							TSR: 134	in: P6854	
		5 Day (1 10 Day	(Rad Only) y (Rad Only)		ilts Needed	No.	als 25	RA-226/228COM		ATT.					-	ed Via: Fed	EX Ground
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MW-119	GRAS	GW		12-18-18	1225	3	1000		State of the last				200			1	a
MW-119 DUP	~	GW		12-18-18	1230	3	-		10000	1					21 10	7-7	
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100 Sept. 100 Se		10 E		100		-											
		318/7													AT 12		
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* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay	****Log rac	Metals = As,B adiums to a s	Ba,Be,Cd,C separate S	Co,Cr,Hg,Li,Mo,Pb	b,Sb,Se,TI					pH _ Flow _		Temp		COC Sea	gned/Accur a arrive i t bottles	rate: intact: used: me sent:	7
WW - WasteWater DW - Drinking Water OT - Other	Samples retu	FedEx _ Co	ourier		Tracking# 4	The second second		507	5	8659 Trip Blank	Received	ed: Yes	Mart	VOA Zer	ro Headspa vation Co	Applicab ace:	necked: X
Relinquished by : (Signature)	100	Date:	est	1800						3000	441 °C	TBR Bottles Rec	/-MeaH	ST PATROCKS	THE PARTY OF THE	产的银币	ogin: Date/Time
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Relinquished by : (Signature) Date		Date:		Time;	Received for lat	ab by: (5i	300	(e)		1211	12/19/18 09/5						NCF / {



Historical water levels.

			Water Surfa	ace Elevatio	n (ft, North	American \	/ertical Datu	ım of 1988)		
Date	MW-101	MW-102	MW-103	MW-108	MW-113	MW-115	MW-116	MW-117	MW-118	MW-119
10/7/2015	221.51	219.73	220.71	216.68	216.87	216.17	220.40	219.48	220.12	N/A*
1/28/2016	226.07	226.58	225.16	227.39	226.53	225.03	226.14	225.78	225.22	N/A*
4/26/2016	229.97	229.24	229.48	227.53	228.30	227.80	229.43	229.23	229.33	N/A*
7/25/2016	225.79	225.38	225.41	223.87	224.87	224.78	225.33	225.45	222.53	N/A*
10/4/2016	223.76	223.00	223.33	221.47	222.23	222.34	223.10	222.99	223.23	N/A*
1/24/2017	223.08	222.09	222.79	222.66	222.03	222.54	222.12	222.00	222.34	223.14
4/24/2017	226.04	226.33	226.33	226.71	226.65	226.53	226.07	226.11	225.98	226.22
7/17/2017	228.89	228.74	228.48	227.77	228.65	228.41	228.53	228.77	228.65	228.86
9/19/2017	224.21	223.23	223.82	220.80	222.03	222.32	223.42	223.33	223.67	224.04
1/29/2018	222.35	221.12	222.14	220.01	219.32	220.74	221.33	221.18	221.71	222.39
4/10/2018	232.63	233.50	232.34	234.99	234.23	234.15	232.89	233.19	232.76	232.52
7/9/2018	228.52	228.81	228.50	228.72	229.03	228.95	228.49	228.87	228.73	228.49
9/24/2018	225.29	224.15	224.16	224.89	224.08	224.29	223.83	223.71	223.72	225.11
11/19/2018	228.54	228.80	228.16	230.16	229.57	229.62	228.31	228.71	228.46	228.33

^{*}Monitoring well not installed yet.



5/10/2017

11/26/2017

6/14/2018

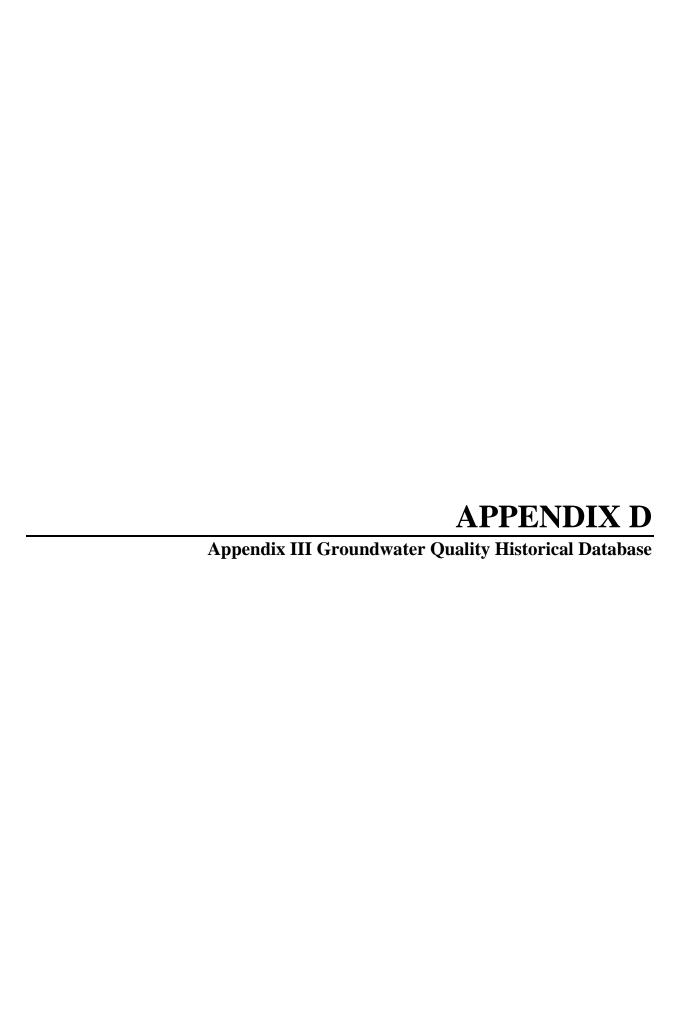
12/31/2018

215

9/18/2015

4/5/2016

10/22/2016



		Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	рН				
Well	Sampling Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(su)				
MW-101	downgradient											
	10/7/2015	0.0858(J)	116	3.02	0.281	12.4	401	6.4				
	1/28/2016	0.114(J)	117	2.74	0.274	11.4	421(B)	6.6				
	4/27/2016	0.105(J)	120	6.61	0.283	19.9	437	6.3				
	7/26/2016	0.0877(J)	115	3.41	0.241	12.8	448(B)	6.6				
	10/6/2016	0.0890(J)	110	1.93	0.267	8.44	387	6.2				
	1/25/2017	0.0681(J)	109	1.67	0.300	11.5	381	6.7				
	4/26/2017	<1.8	80.5	2.14	0.273	9.57	407	6.9				
	7/20/2017	0.0903(BJ)	110	1.98	0.331	13.5	414	6.7				
	9/20/2017	0.0718(J)	153	1.57	0.328	9.68	385	7.0				
	12/11/2017	n/a	120	n/a	n/a	n/a	n/a	6.4				
	4/12/2018	0.0840(BJ)	121	2.75	0.307	17.4	420	6.4				
	9/26/2018	0.0981(BJ)	115	1.94(B)	0.290(B)	14.6	421	6.8				
MW-102	downgradient											
	11/10/2015	0.0818(J)	121	5.53	0.160	82.3	434	6.8				
	1/28/2016	0.125(J)	123	5.33	0.157	85.9	470	6.8				
	4/27/2016	0.135(J)	131	6.32	0.154	103	478	6.7				
	7/26/2016	0.122(J)	122	5.42	0.150	88.1	474(B)	7.7				
	10/6/2016	0.0999(J)	120	5.18	0.158	83.2	458	6.0				
	1/25/2017	0.0938(J)	118	4.50	0.182	88.8	435	5.8				
	4/27/2017	0.120(J)	121	4.85	0.175	91.0	504	6.7				
	7/19/2017	0.108(BJ)	126	4.28	0.207	85.4	461	6.6				
	9/20/2017	0.0536(J)	25.9	4.29	0.194	88.7	454	6.7				
	4/11/2018	0.144(BJ)	136	1.77	0.206	46.7	472	6.3				
	7/9/2018	n/a	124	n/a	n/a	n/a	n/a	6.7				
	9/27/2018	0.121(BJ)	121	3.84	0.183(B)	88.6	453	6.5				
MW-103	downgradient											
	10/7/2015	0.119(J)	168	3.92	0.198	95.0	591	6.5				
	1/28/2016	0.149(J)	153	2.66	0.188	60.1	539(B)	6.3				
	4/27/2016	0.166(J)	147	4.06	0.170	62.0	517	6.5				
	7/26/2016	0.142(J)	148	3.63	0.163	60.9	539(B)	6.3				
	10/6/2016	0.137(J)	152	2.69	0.201	54.5	518	6.3				

B: Analyte was detected in an associated quality control blank.

J: Analyte was detected below the laboratory reporting detection limit; value is an estimate.

		Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	рН					
Well	Sampling Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(su)					
MW-103	1/26/2017	0.138(J)	135	2.82	0.223	52.0	477	6.8					
(cont.)	4/27/2017	0.137(J)	136	2.89	0.200	49.8	513	6.5					
	7/20/2017	0.124(BJ)	136	2.28	0.240	52.2	506	6.6					
	9/20/2017	0.134(J)	141	1.79	0.240	48.2	496	6.6					
	4/11/2018	0.122(BJ)	128	3.24	0.163	80.6	468	6.2					
	9/26/2018	0.145(BJ)	129	1.36(B)	0.217(B)	32.8	440	6.6					
MW-108	upgradient												
	1/28/2016	0.164(J)	166	5.34	0.158	44.4	555	6.7					
	4/28/2016	0.194(J)	178	2.81	0.134	45.2	638(B)	6.6					
	7/26/2016	0.158(J)	144	2.43	0.144	39.3	475(B)	9.8					
	10/6/2016	0.174(J)	158	2.48	0.169	41.4	539	6.2					
	1/26/2017	0.164(J)	154	2.64	0.202	51.6	513	7.0					
	4/25/2017	0.147(J)	151	3.10	0.167	45.7	488	6.8					
	7/18/2017	0.162(J)	167	3.03	0.191	39.4	576	6.7					
	9/19/2017	0.158(J)	170	2.06	0.199	43.8	578	6.7					
	4/10/2018	0.171(BJ)	183	3.03	0.177	44.5	582	6.5					
	9/25/2018	0.183(BJ)	163	3.11	0.188(B)	52.2	537	6.7					
MW-113	upgradient												
	1/28/2016	0.102(J)	84.7	3.61	0.0808(J)	11.0	320(B)	6.6					
	4/28/2016	0.127(J)	72.5	2.05	0.0604(J)	8.99	321(B)	6.9					
	7/26/2016	0.144(J)	69.8	0.856(J)	0.0570(J)	4.97(J)	281(B)	8.1					
	10/5/2016	0.0963(J)	84.7	2.63	0.0827(J)	9.51	323	6.0					
	1/26/2017	0.0891(J)	88.9	5.81	0.0901(J)	13.3	332	7.1					
	4/25/2017	0.0890(J)	87.9	5.49	0.0944(J)	11.8	339	6.9					
	7/18/2017	0.0982(BJ)	82.5	3.96	0.119	10.9	321	6.8					
	9/19/2017	0.0998(J)	84.1	2.19	0.117	9.45	326	6.9					
	4/10/2018	0.0899(BJ)	92.0	2.94	0.0562(J)	10.1	340	6.4					
	9/25/2018	0.111(BJ)	90.0	2.84(B)	0.114(B)	9.81	337	6.7					
MW-115	upgradient												
	11/10/2015	0.0473(J)	109	2.14	0.230	8.23	363	7.0					
	1/28/2016 0.0617(J)		103	7.55	0.201	14.8	376	7.1					
	4/28/2016	0.0863(J)	115	1.83	0.179	5.63	443(B)	6.8					

B: Analyte was detected in an associated quality control blank.

J: Analyte was detected below the laboratory reporting detection limit; value is an estimate.

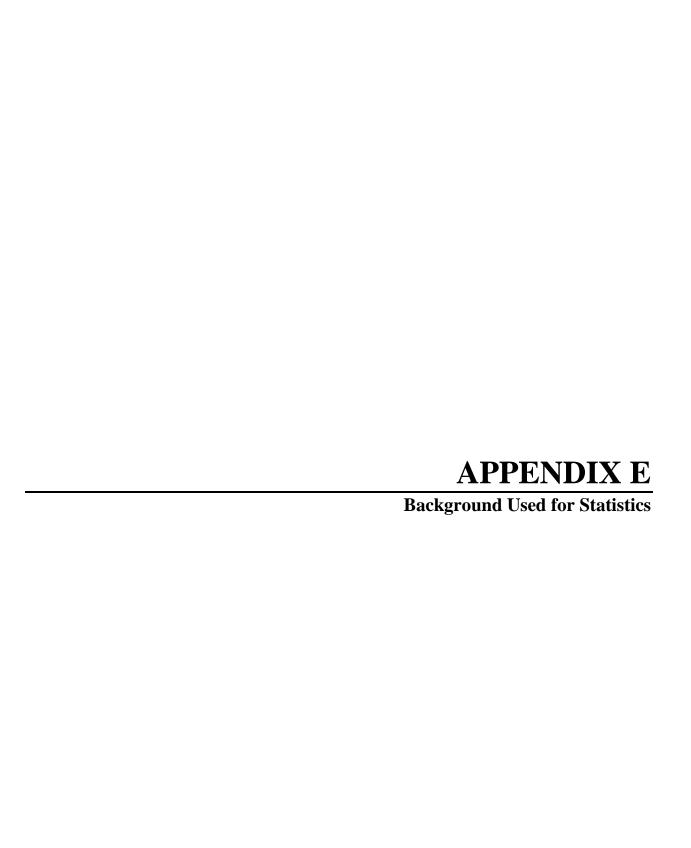
		Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	рН
Well	Sampling Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(su)
MW-115	7/26/2016	0.0604(J)	114	1.22	0.200	4.79(J)	399(B)	9.0
(cont.)	10/5/2016	0.0737(J)	114	1.31	0.218	4.59(J)	446	6.1
	1/27/2017	0.0602(J)	110	1.77	0.244	6.52	406	7.0
	4/25/2017	0.0641(J)	106	2.71	0.203	6.75	385	6.8
	7/18/2017	0.0608(BJ)	105	2.32	0.238	7.10	369	6.6
	9/19/2017	0.0609(J)	116	0.835(J)	0.243	5.37	403	6.8
	4/10/2018	0.0666(BJ)	111	1.34	0.209	5.81	368	6.3
	9/25/2018	0.0764(BJ)	121	1.18(B)	0.216(B)	5.00(J)	417	6.7
MW-116	downgradient							
	10/8/2015	0.108(J)	103	5.84	0.173	45.1	367	6.7
	1/28/2016	0.139(J)	111	5.67	0.165	78.0	426	6.8
	4/28/2016	0.142(J)	106	4.80	0.148	83.5	461(B)	6.6
	7/26/2016	0.115(J)	109	5.20	0.148	81.8	395(B)	6.2
	10/6/2016	0.126(J)	110	4.70	0.172	86.5	443	5.9
	1/25/2017	0.141(J)	118	4.85	0.201	89.2	467	5.9
	4/27/2017	0.137(J)	107	4.25	0.172	95.2	443	6.7
	7/19/2017	0.135(BJ)	111	4.45	0.208	98.4	435	6.5
	9/20/2017	0.132(J)	115	4.16	0.207	94.2	451	6.7
	1/30/2018	n/a	n/a	n/a	n/a	35.5	n/a	6.5
	4/11/2018	0.111(BJ)	137	4.9	0.166	113	511	6.4
	7/9/2018	n/a	125	n/a	n/a	n/a	n/a	6.6
	9/26/2018	0.153(BJ)	130	4.13	0.183(B)	97.5	500	6.6
MW-117	downgradient							
	10/8/2015	0.0733(J)	80.4	1.17	0.0770(J)	5.21	281	6.6
	1/28/2016	0.0960(J)	75.2	1.61	0.126	6.32	271(B)	6.5
	4/27/2016	0.130(J)	76.9	1.30	0.101	6.19	272	6.6
	7/26/2016	0.105(J)	78.2	1.25	0.0971(J)	5.48	271(B)	7.9
	10/5/2016	0.115(J)	85.5	1.53	0.110	5.68	287	5.1
	1/26/2017	0.0970(J)	75.7	1.34	0.120	7.46	268	6.1
	4/25/2017	0.0835(J)	76.7	1.48	0.131	6.55	277	6.6
	7/18/2017	0.102(BJ)	77.6	1.36	0.151	6.56	292	6.4
	9/20/2017	0.106(J)	84.2	0.747(J)	0.144	6.43	280	6.5

B: Analyte was detected in an associated quality control blank.

J: Analyte was detected below the laboratory reporting detection limit; value is an estimate.

		Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	рН	
Well	Sampling Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(su)	
MW-117	4/11/2018	0.0952(BJ)	82.5	1.57	0.124	7.28	290	6.4	
(cont.)	9/27/2018	0.127(BJ)	89.7	1.25(B)	0.144(B)	7.19	318	6.4	
	11/19/2018	n/a	85.7	n/a	n/a	n/a	288	6.6	
MW-118	downgradient								
	10/9/2015	0.0916(J)	75.1	1.08	0.175	12.0	271	6.4	
	1/28/2016	0.121(J)	73.4	1.59	0.175	11.5	269(B)	6.2	
	4/28/2016	0.123(J)	94.1	1.80	0.119	26.7	378(B)	6.2	
	7/26/2016	0.101(J)	85.4	2.13	0.133	26.6	322(B)	8.0	
	10/5/2016	0.103(J)	78.1	1.48	0.157	15.1	294	6.3	
	1/26/2017	0.106(J)	74.7	1.13(B)	0.188	13.4	275	6.1	
	4/26/2017	0.0994(J)	71.1	1.47	0.163	12.2	276	6.3	
	7/20/2017	0.104(BJ)	74.9	1.62	0.172	20.4	313	6.5	
	9/20/2017	0.104(J)	85.1	1.17	0.187	18.5	305	6.5	
	4/11/2018	0.0949(BJ)	71.8	1.36	0.157	15.2	257	5.8	
	7/9/2018	n/a	n/a	n/a	n/a	n/a	n/a	6.5	
	9/27/2018	0.113(BJ)	80.6	1.33(B)	0.165(B)	17.0	375	6.3	
MW-119	downgradient								
	1/25/2017	0.0922(J)	104	2.62	0.255	47.6	409	6.6	
	4/27/2017	0.108(J)	106	2.80	0.198	39.1	403	6.8	
	7/20/2017	0.0936(BJ)	103	6.84	0.256	48.7	432	6.6	
	9/20/2017	0.0798(J)	92.7	2.30	0.289	38.7	338	6.8	
	1/30/2018	0.0805(BJ)	99.3	2.07	0.259	35.5	380	6.4	
	4/11/2018	0.0950(BJ)	85.9	2.15	0.230	31.1	315	6.4	
	9/27/2018	0.103(BJ)	99.0	2.30(B)	0.253(B)	41.6	290	6.7	
	11/20/2018	0.0826(BJ)	94.0	1.96	0.271	33.0	343	6.8	

B: Analyte was detected in an associated quality control blank.



BACKGROUND DATA SETS

This document describes recommended methods and procedures to evaluate the initial eight background values collected in accordance with §257.94(b), the landfill's SAP, and the Unified Guidance. As identified in the Unified Guidance, the term "background" refers to the natural or baseline groundwater quality at a site. Background conditions can range from an uncontaminated aquifer to a historically contaminated site with baseline conditions that are unaffected by recent releases that are actionable under the Resource Conservation and Recovery Act. The terms "background" and "baseline" are used interchangeably herein.

Establishing Background Data Sets

The initial background data were screened using exploratory data analysis to identify potential trends, outliers, and spatial variability. Time-series plots, box-and-whiskers plots, and probability plots were applied to all background data sets to identify potential excursions from normal.

Outliers and Rejected Data in Background Data Sets

The Unified Guidance recommends that background data be screened for potential outliers. However, it also advises that outliers not be removed unless a source of error or reason for the discrepancy can be identified. As advised in the Unified Guidance, select removal of extreme outliers without knowledge of error may be warranted to improve environmental protection, but removal of all outliers can mask real and legitimate changes in background data.

Outlier screening included the application of Dixon's or Tukey's outlier tests to the initial eight values to identify potential outliers for exclusion from the background data set. At this time, no outliers are excluded from the background data sets, primarily due to the limited number of data available and the requirement to have a minimum of 8 to 10 data points for prediction limit analysis. No values have been removed due to independent evidence of error. If warranted in the future, data that are excluded from the historical database based on independent evidence of error or that are suspected of being unrepresentative of groundwater quality due to excessively

high sample turbidity will be flagged with an "R" (for rejected) and will also be excluded from statistical analyses.

Distribution Testing

A parametric prediction limit test requires background data sets to be normally distributed, or mathematically transformed to be normally distributed. Where data cannot be transformed-normal, a non-parametric prediction limit is applied. Background data sets were evaluated using the Shapiro-Wilk test for normality to determine if parametric tests could be appropriately used. Results of the normality tests are shown on the prediction limit plots included in Appendix G. The Mann-Kendall test for trends and Theil-Sen trend line, discussed below, is a non-parametric test, and data evaluated with this test are not required to have a normal distribution.

Seasonality and Autocorrelation

Background data sets were evaluated for the presence of seasonal effects on groundwater quality and autocorrelated data using an ANOVA test and the Rank von Neumann test, respectively. However, the results of the seasonality test were invalid due to violation of the test's requirement of a minimum of three values per season. A requirement of the Rank Von Neumann test is that the data sets be corrected for seasonality prior to evaluating for autocorrelation; therefore the results of the Rank Von Neumann test were also invalid. Data will be re-evaluated for seasonality and autocorrelation when sufficient data are available.

Screening for Trends in Background Data Sets

EPA guidance recommends screening background populations for statistically significant trends, because some tests (such as a prediction limit test) require a stationary statistical distribution for valid results. The presence of statistically significant tends in background data may violate key assumptions of some statistical tests and require an alternate approach to testing the data. If trends are indicated in background populations, testing strategies that either correct for, or are not sensitive to, temporal variation may be required.

Background data sets were screened for statistically significant trends using the Mann-Kendall test and Theil-Sen trend line. At this time, none of the statistically evaluated well-parameter pairs contain statistically significant trends in their respective background data sets.

Prediction Limit Analysis

Each of the statistically evaluated well-parameter pairs is tested using a prediction limit. Background data sets for each well-parameter pair are identified as an attachment to this document.



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Date Ranges

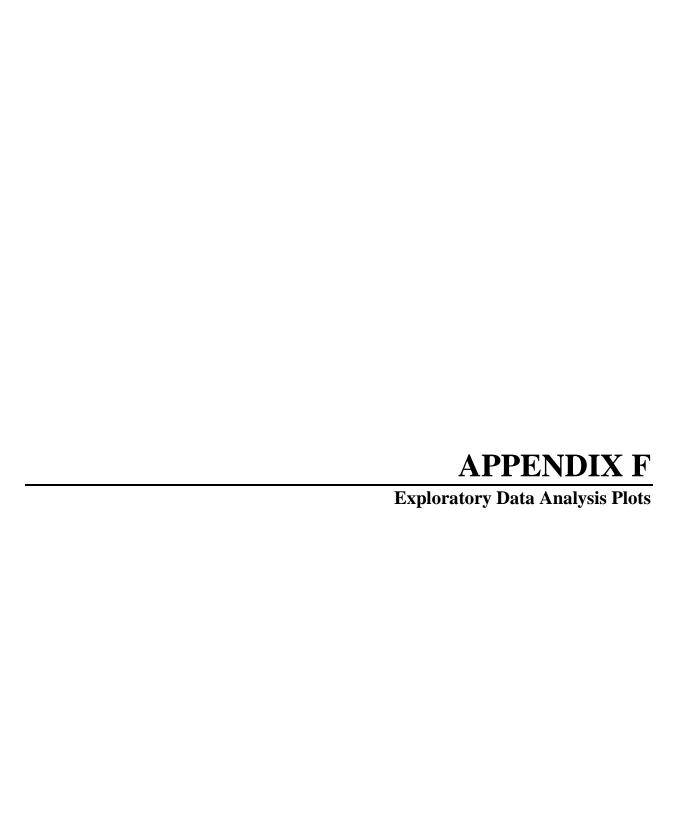
Date: 12/14/2018 1:28 PM

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

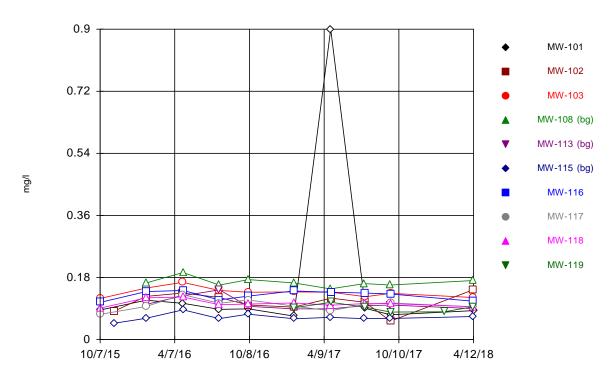
```
Boron (mg/l)
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
       MW-103 background:10/7/2015-7/20/2017
       MW-108 background:10/7/2015-9/20/2017
       MW-113 background:10/7/2015-9/20/2017
       MW-115 background:10/7/2015-7/20/2017
       MW-116 background:10/7/2015-7/20/2017
       MW-117 background:10/7/2015-7/20/2017
       MW-118 background:10/7/2015-7/20/2017
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
       MW-103 background:10/7/2015-7/20/2017
       MW-108 background:10/7/2015-9/20/2017
       MW-113 background:10/7/2015-9/20/2017
       MW-115 background:10/7/2015-7/20/2017
       MW-116 background:10/7/2015-7/20/2017
       MW-117 background:10/7/2015-7/20/2017
       MW-118 background:10/7/2015-7/20/2017
Chloride (mg/l)
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
       MW-103 background:10/7/2015-7/20/2017
       MW-108 background:10/7/2015-9/20/2017
       MW-113 background:10/7/2015-9/20/2017
       MW-115 background:10/7/2015-7/20/2017
       MW-116 background:10/7/2015-7/20/2017
       MW-117 background:10/7/2015-7/20/2017
       MW-118 background:10/7/2015-7/20/2017
Dissolved Solids (mg/l)
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
       MW-103 background:10/7/2015-7/20/2017
       MW-108 background:10/7/2015-9/20/2017
       MW-113 background:10/7/2015-9/20/2017
       MW-115 background:10/7/2015-7/20/2017
       MW-116 background:10/7/2015-7/20/2017
       MW-117 background:10/7/2015-7/20/2017
       MW-118 background:10/7/2015-7/20/2017
Fluoride (mg/l)
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
       MW-103 background:10/7/2015-7/20/2017
       MW-108 background:10/7/2015-9/20/2017
       MW-113 background:10/7/2015-9/20/2017
       MW-115 background:10/7/2015-7/20/2017
       MW-116 background:10/7/2015-7/20/2017
       MW-117 background:10/7/2015-7/20/2017
       MW-118 background:10/7/2015-7/20/2017
pH (su)
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
       MW-103 background:10/7/2015-7/20/2017
       MW-108 background:10/7/2015-9/20/2017
       MW-113 background:10/7/2015-9/20/2017
       MW-115 background:10/7/2015-7/20/2017
       MW-116 background:10/7/2015-7/20/2017
       MW-117 background:10/7/2015-7/20/2017
       MW-118 background:10/7/2015-7/20/2017
Sulfate (mg/l)
       MW-101 background:10/7/2015-7/20/2017
       MW-102 background:10/7/2015-7/20/2017
```

Page 1

32 Sanitas softwa	re licensed to FTN Associates. UG		
		Date Ranges	Page 2
		Date: 12/14/2018 1:28 PM	
	Plum Point Energy Station	Client: Plum Point Services Company, LLC Data: PPES EPA CCR Ru	le Groundwater Database
	MW-103 background:10/7/2015-7/20/2017 MW-108 background:10/7/2015-9/20/2017 MW-113 background:10/7/2015-9/20/2017 MW-115 background:10/7/2015-7/20/2017 MW-116 background:10/7/2015-1/30/2018 MW-117 background:10/7/2015-7/20/2017 MW-118 background:10/7/2015-7/20/2017		





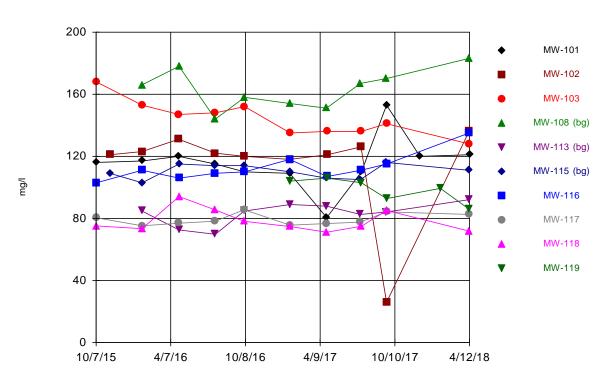


Constituent: Boron Analysis Run 12/10/2018 3:00 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

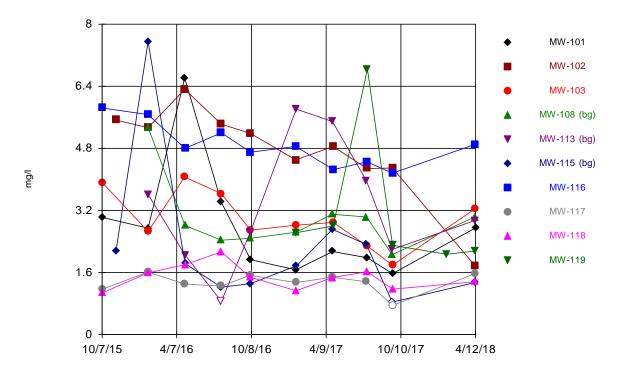
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Time Series



Constituent: Calcium Analysis Run 4/23/2018 4:06 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

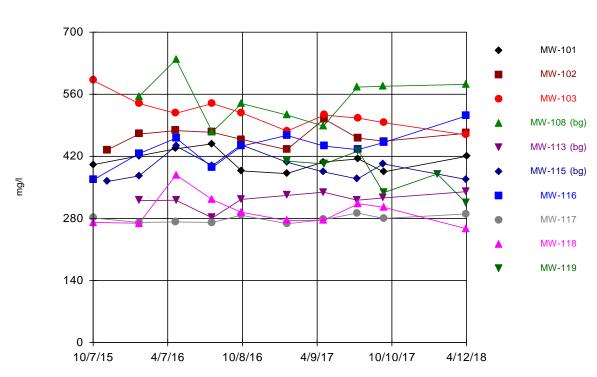


Constituent: Chloride Analysis Run 4/23/2018 4:06 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

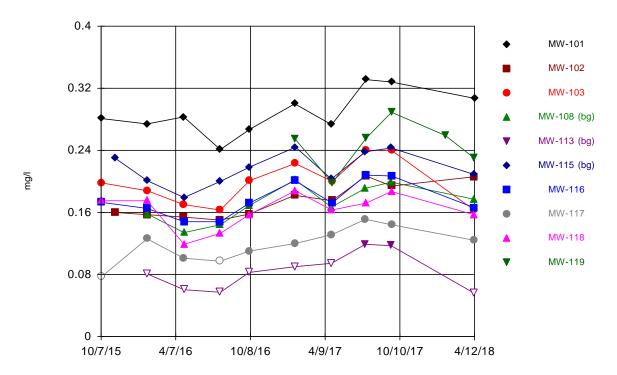
Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Time Series



Constituent: Dissolved Solids Analysis Run 4/23/2018 4:06 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

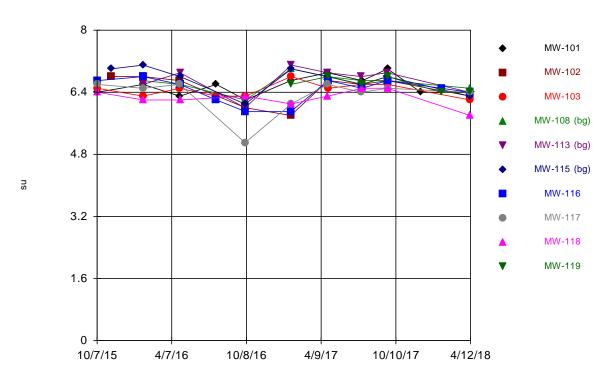


Constituent: Fluoride Analysis Run 4/23/2018 4:06 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

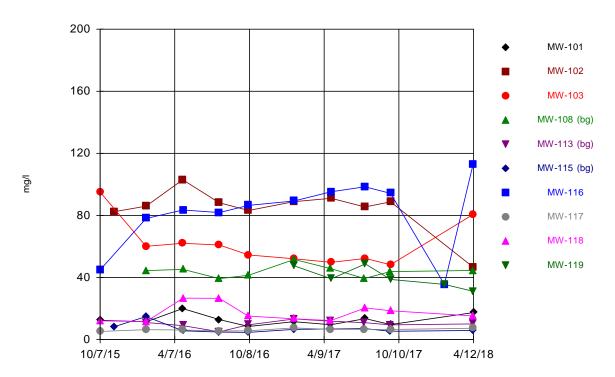
Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Time Series



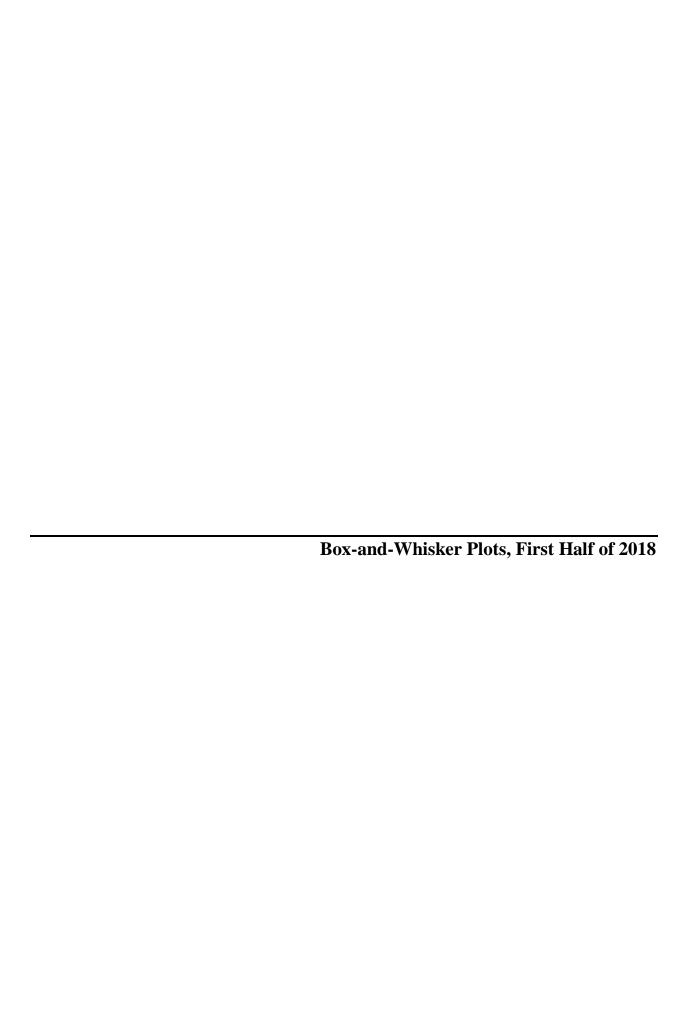
Constituent: pH Analysis Run 4/23/2018 4:06 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

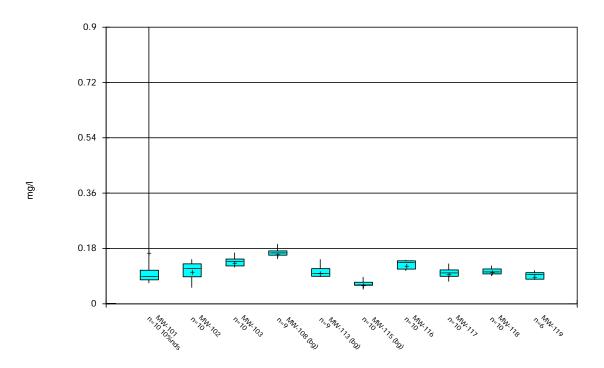


Constituent: Sulfate Analysis Run 4/23/2018 4:06 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database



Box & Whiskers Plot

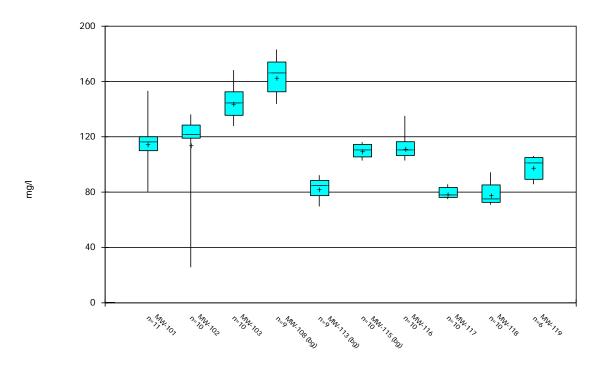


Constituent: Boron Analysis Run 12/10/2018 6:11 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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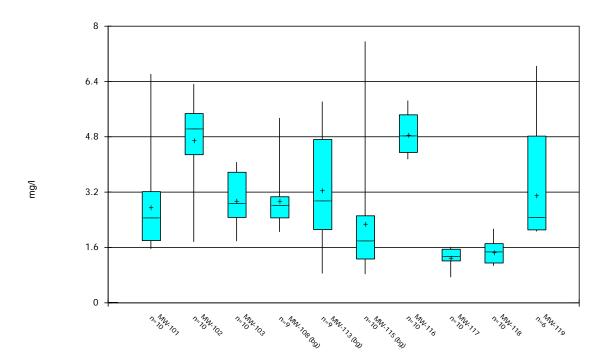
Box & Whiskers Plot



Constituent: Calcium Analysis Run 4/23/2018 4:08 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Box & Whiskers Plot

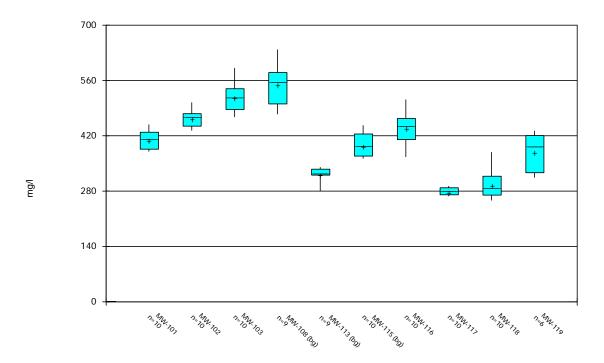


Constituent: Chloride Analysis Run 4/23/2018 4:08 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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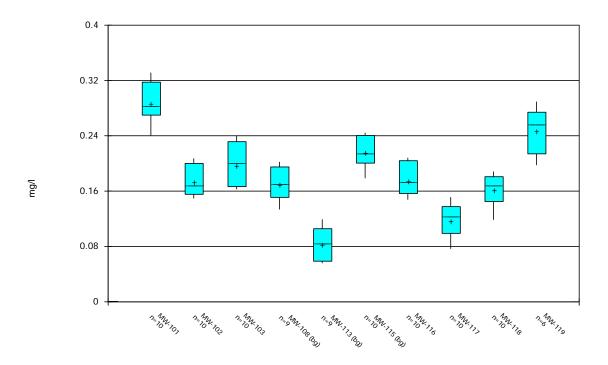
Box & Whiskers Plot



Constituent: Dissolved Solids Analysis Run 4/23/2018 4:08 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Box & Whiskers Plot

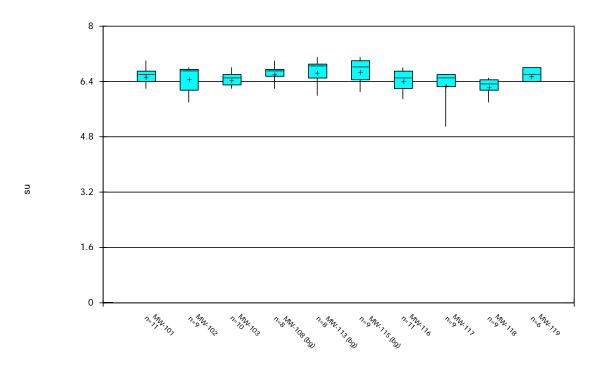


Constituent: Fluoride Analysis Run 4/23/2018 4:08 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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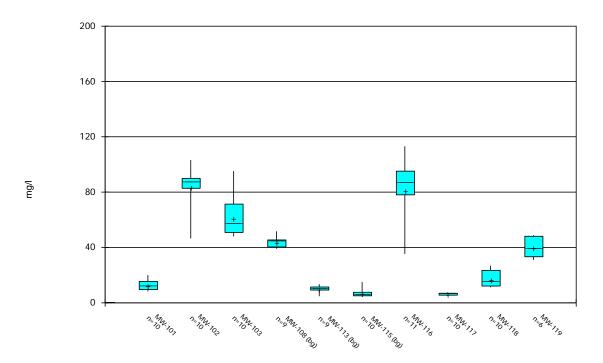
Box & Whiskers Plot



Constituent: pH Analysis Run 4/23/2018 4:09 PM View: 2018-1H Distributional

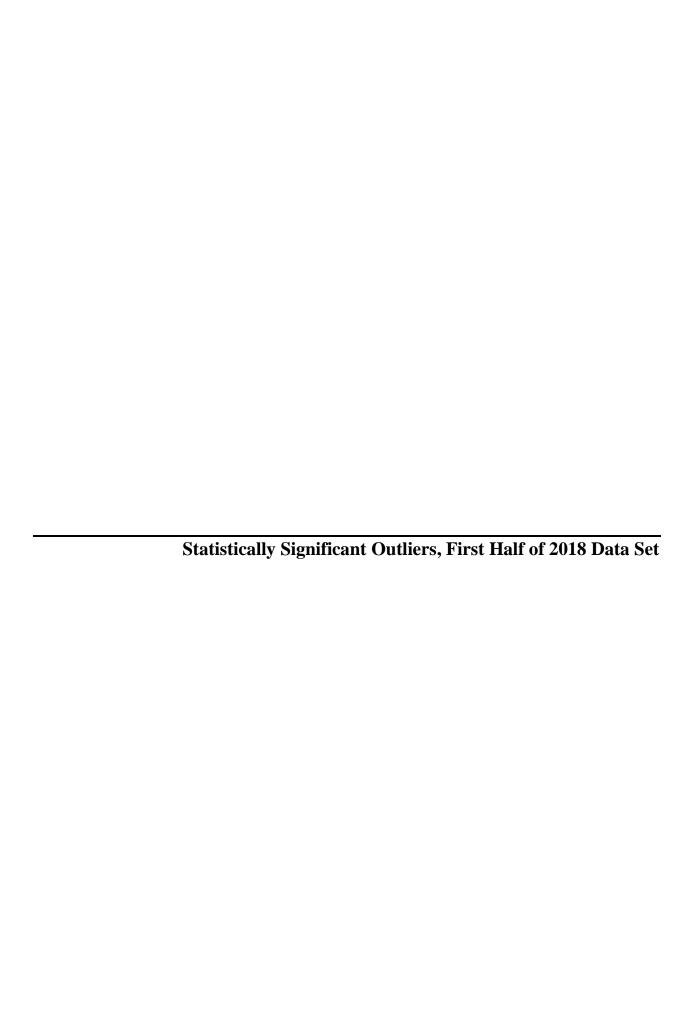
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Box & Whiskers Plot



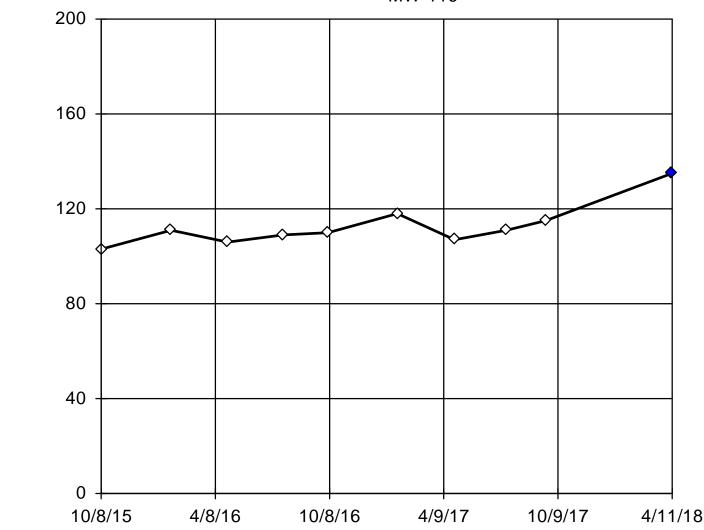
Constituent: Sulfate Analysis Run 4/23/2018 4:09 PM View: 2018-1H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database



Dixon's Outlier Test





n = 10

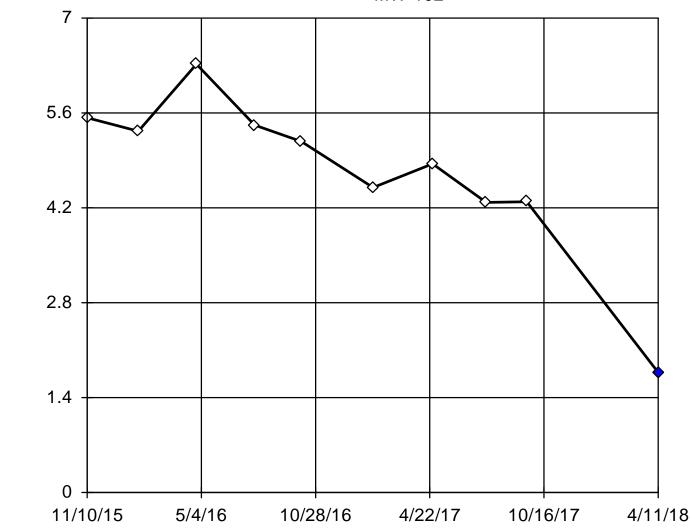
Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 112.5.
Std. Dev. = 8.997.
135: c = 0.5862
tabl = 0.477.
Alpha = 0.05.

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9764 Critical = 0.859 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Calcium Analysis Run 4/23/2018 4:10 PM View: 2018-1H Distributional

Dixon's Outlier Test





n = 10

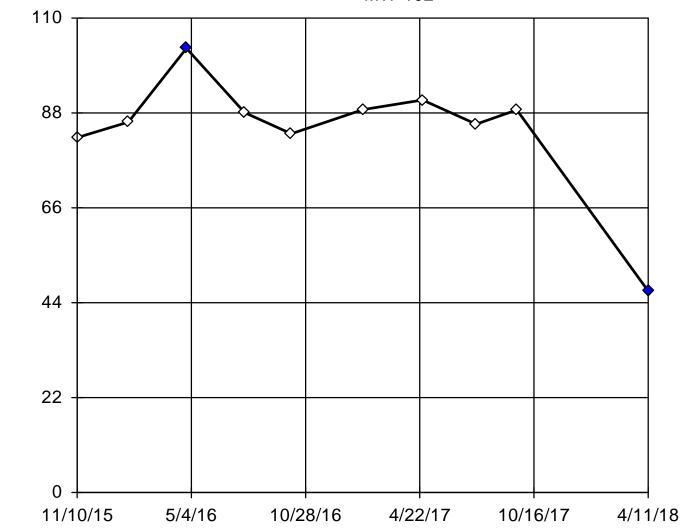
Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 4.747.
Std. Dev. = 1.222.
1.77: c = 0.6676
tabl = 0.477.
Alpha = 0.05.

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9357 Critical = 0.859 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Chloride Analysis Run 4/23/2018 4:10 PM View: 2018-1H Distributional

Dixon's Outlier Test



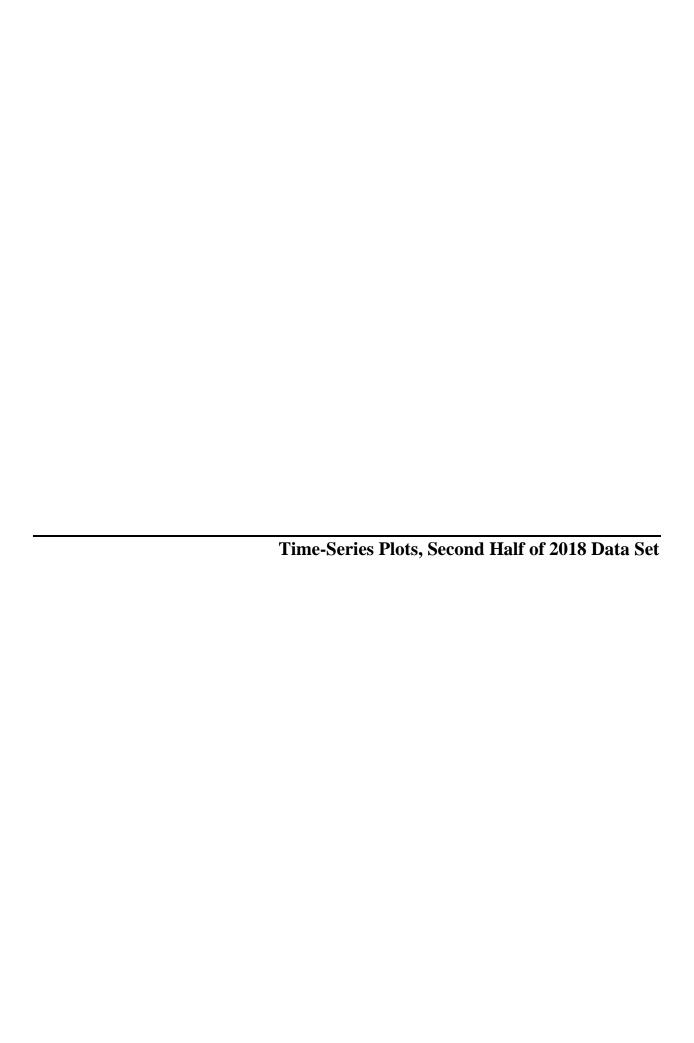


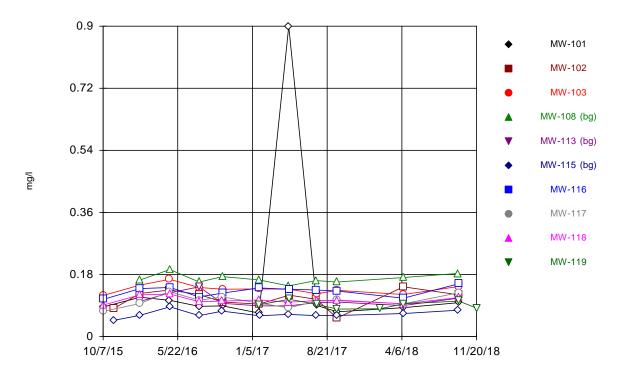
n = 10

Statistical outliers are drawn as solid.
Testing for 1 high and 1 low outliers.
Mean = 84.31.
Std. Dev. = 14.42.
103: c = 0.5797
tabl = 0.477.
46.7: c = 0.8036
tabl = 0.477.
Alpha = 0.05.

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.953 Critical = 0.851 The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Sulfate Analysis Run 4/23/2018 4:11 PM View: 2018-1H Distributional



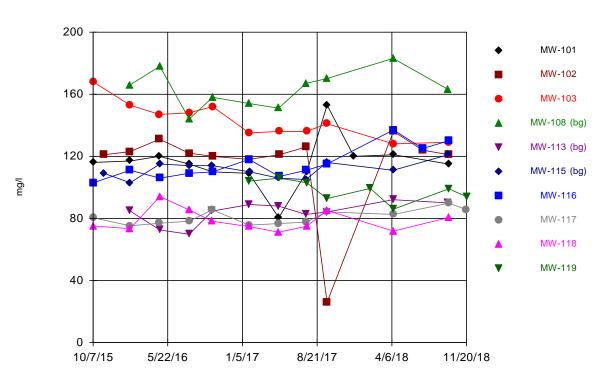


Constituent: Boron Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

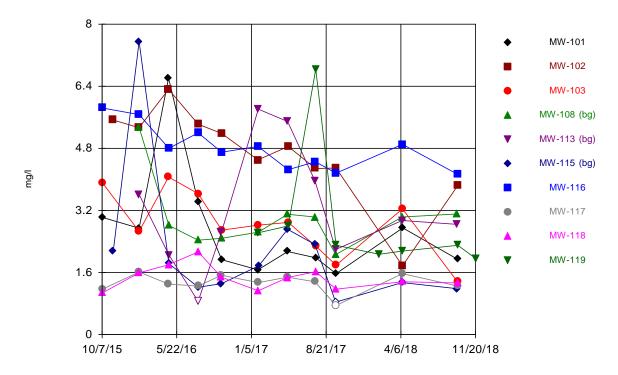
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Time Series



Constituent: Calcium Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

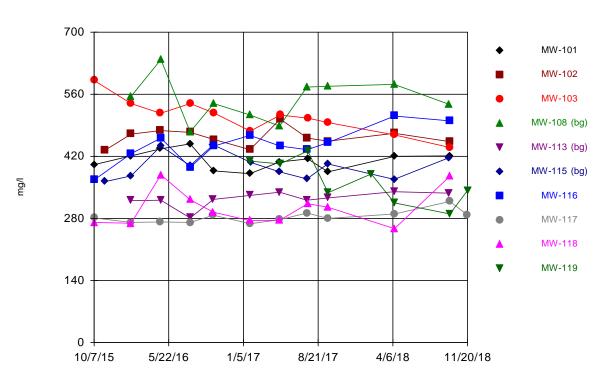


Constituent: Chloride Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

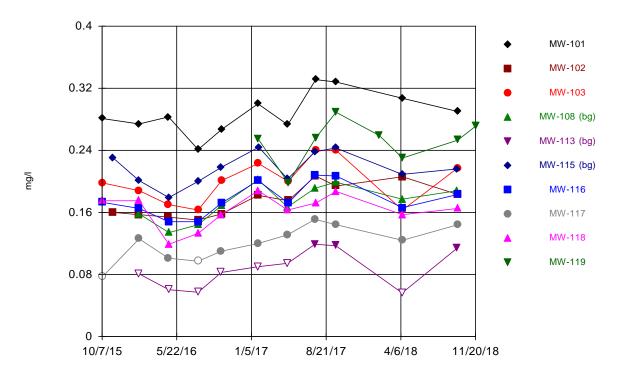
Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Time Series



Constituent: Dissolved Solids Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

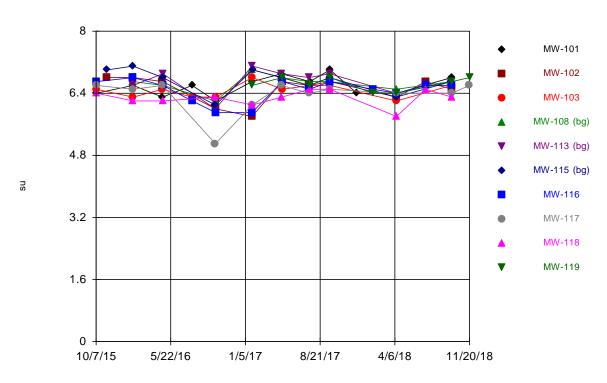


Constituent: Fluoride Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

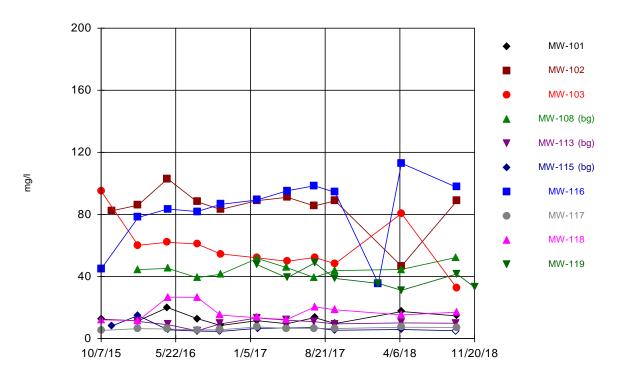
Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Time Series



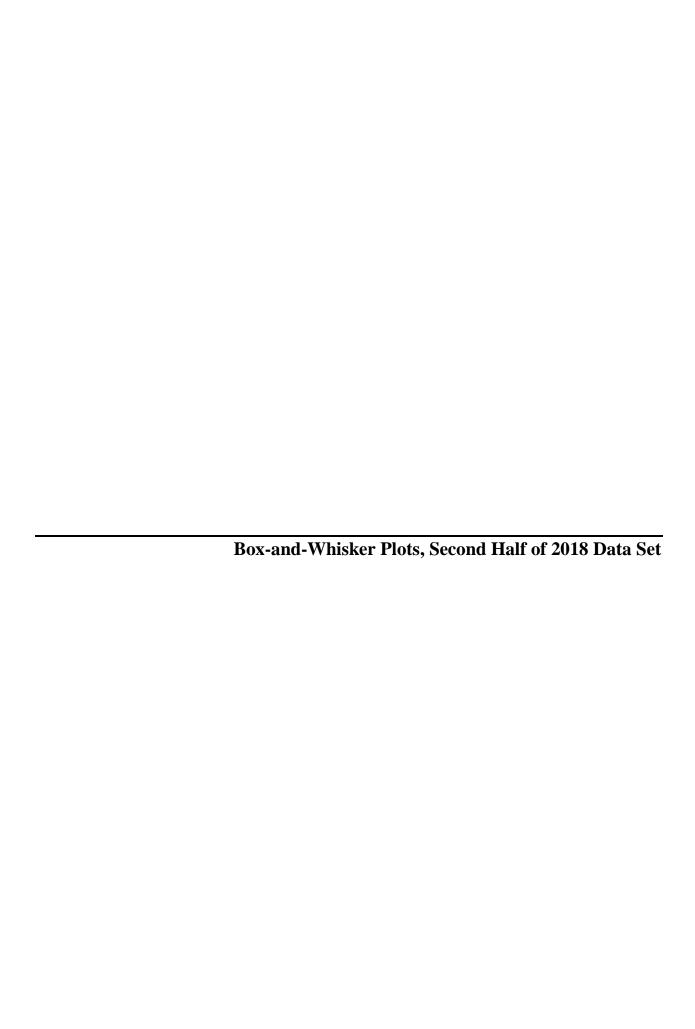
Constituent: pH Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

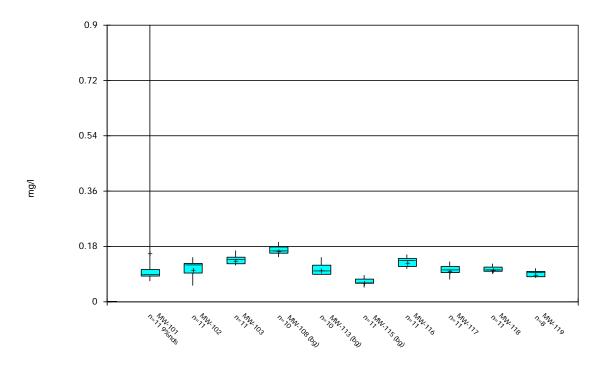


Constituent: Sulfate Analysis Run 12/5/2018 1:47 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database



Box & Whiskers Plot

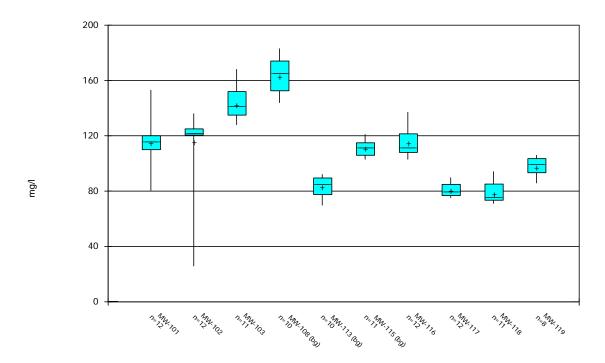


Constituent: Boron Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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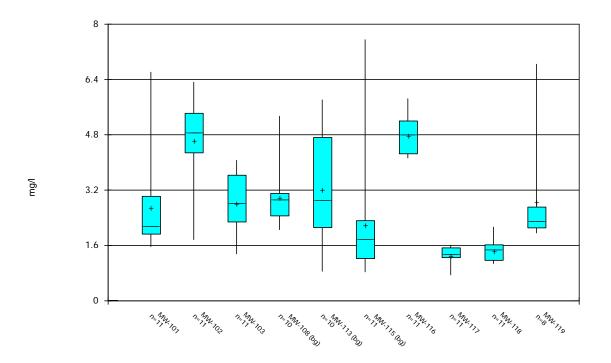
Box & Whiskers Plot



Constituent: Calcium Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Box & Whiskers Plot

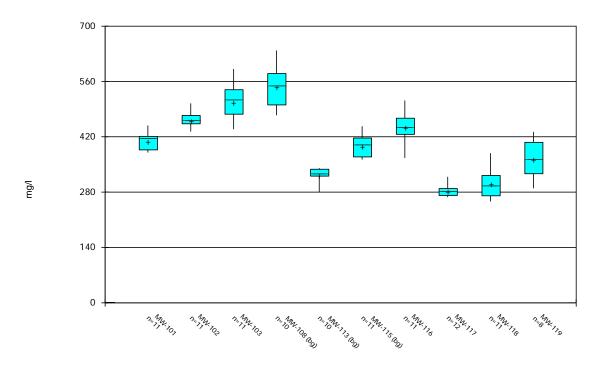


Constituent: Chloride Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

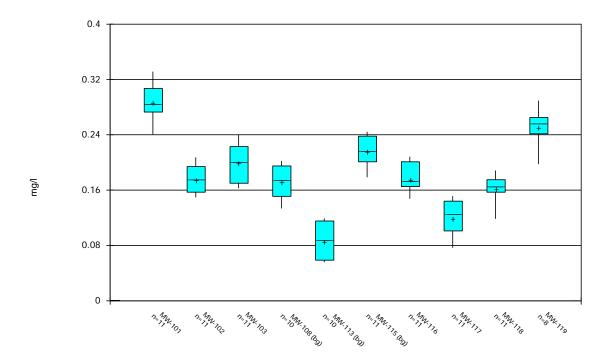
Box & Whiskers Plot



Constituent: Dissolved Solids Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Box & Whiskers Plot

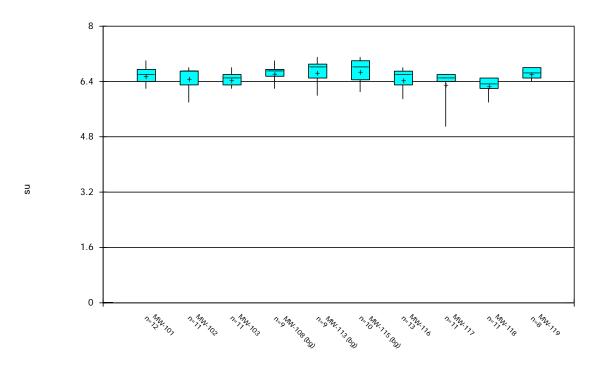


Constituent: Fluoride Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

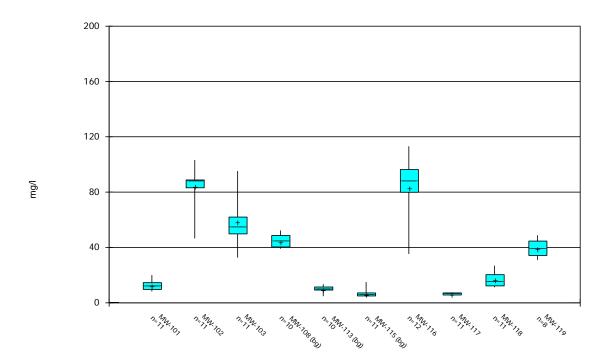
Box & Whiskers Plot



Constituent: pH Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

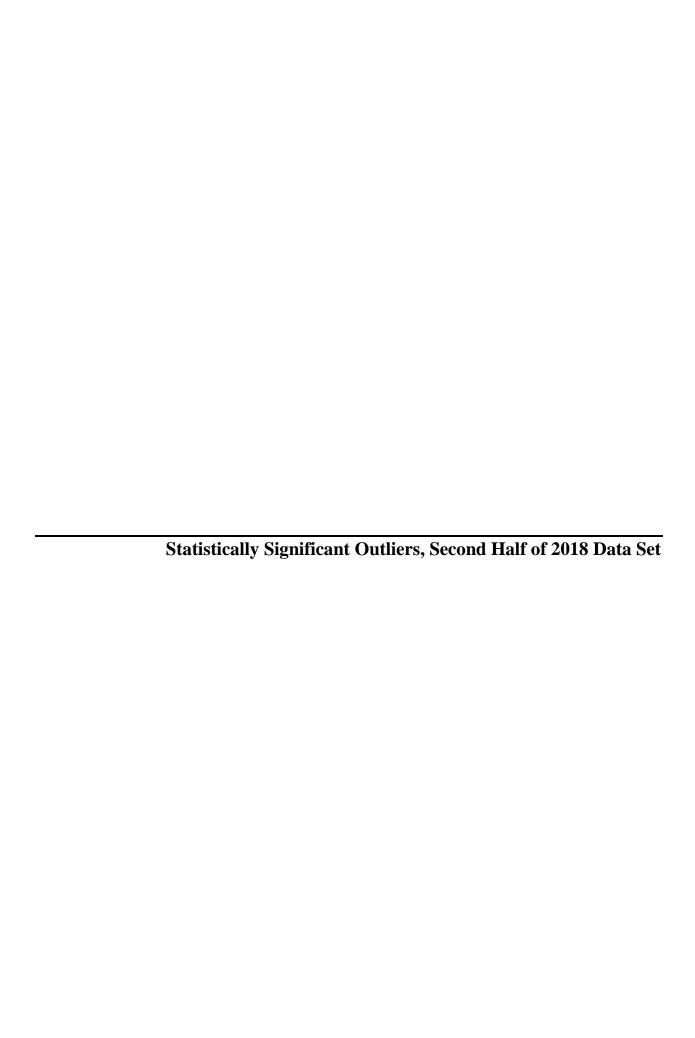
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Box & Whiskers Plot



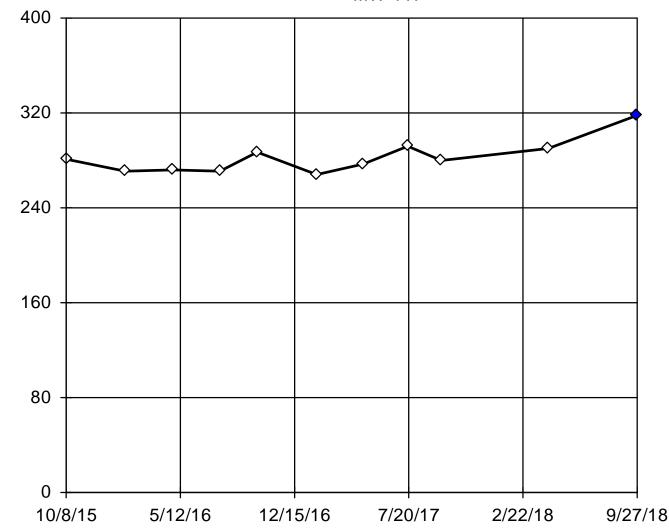
Constituent: Sulfate Analysis Run 12/5/2018 1:48 PM View: 2018-2H Distributional

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database



Dixon's Outlier Test





n = 11

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 282.5.
Std. Dev. = 14.32.
318: c = 0.5957
tabl = 0.576.
Alpha = 0.05.

Normality test used: Shapiro Wilk@alpha = 0.1 Calculated = 0.9211 Critical = 0.869 The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Dissolved Solids Analysis Run 10/8/2018 3:22 PM View: 2018-2H Distributional

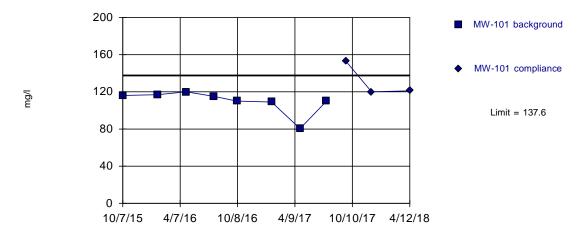


Statistical Evaluation Results



Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=12166, Std. Dev.=2464, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7547, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

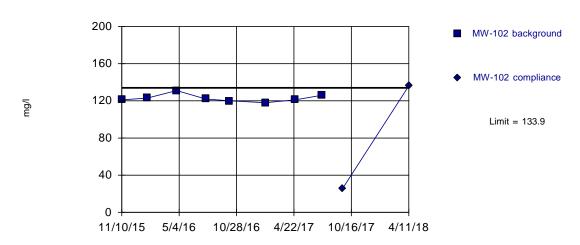
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Exceeds Limit

Prediction Limit

Intrawell Parametric



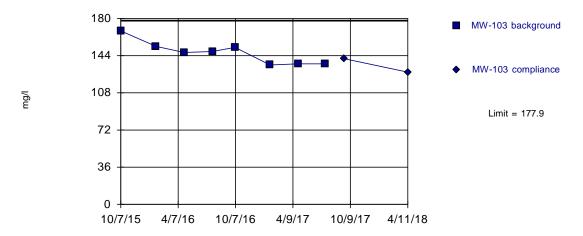
Background Data Summary: Mean=122.8, Std. Dev.=4.062, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8956, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=146.9, Std. Dev.=11.27, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8944, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

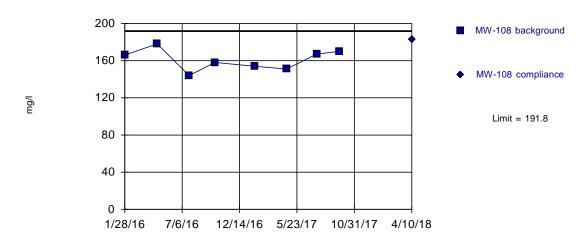
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limit

Prediction Limit

Intrawell Parametric



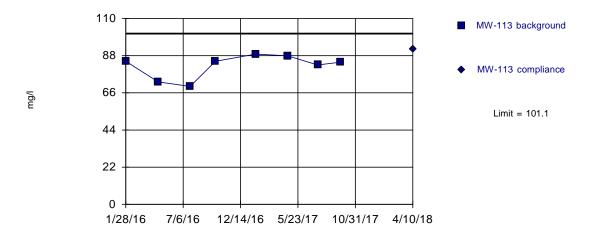
Background Data Summary: Mean=161, Std. Dev.=11.2, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.978, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=81.89, Std. Dev.=6.976, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8334, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

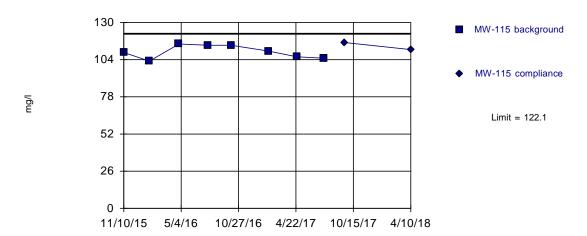
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.5, Std. Dev.=4.567, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9154, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

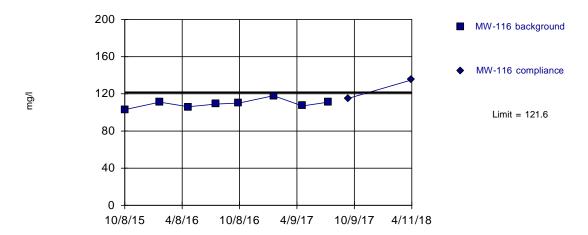
Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.4, Std. Dev.=4.438, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9448, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

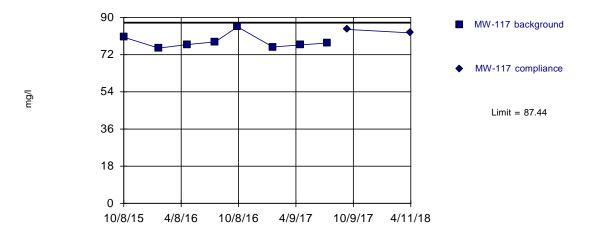
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

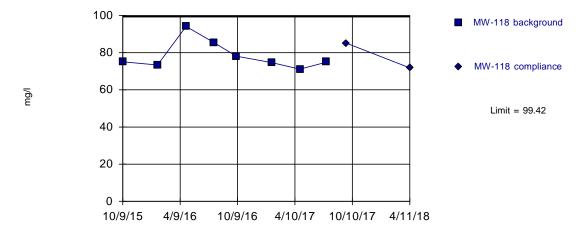


Background Data Summary: Mean=78.28, Std. Dev.=3.33, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8288, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=78.35, Std. Dev.=7.66, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8173, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

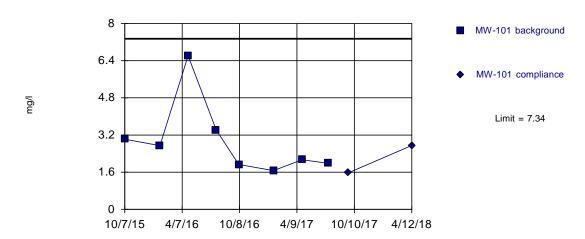
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.938, Std. Dev.=1.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7523, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.176, Std. Dev.=0.6418, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9652, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

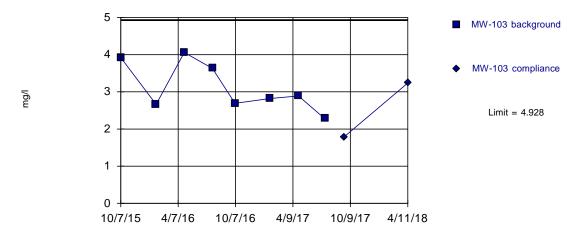
Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Plum Point Energy Station

Within Limit

Prediction Limit

Intrawell Parametric



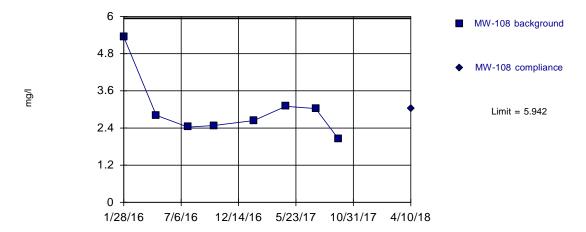
Background Data Summary: Mean=3.119, Std. Dev.=0.6578, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.892, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=1.71, Std. Dev.=0.2644, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7994, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

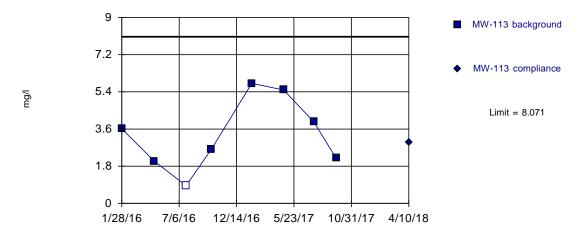
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



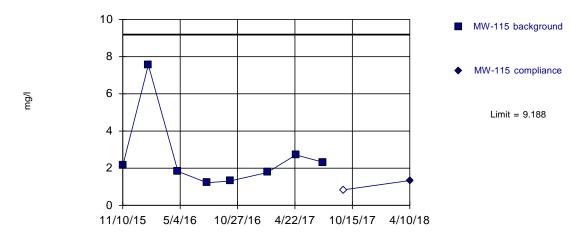
Background Data Summary: Mean=3.325, Std. Dev.=1.725, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9503, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=1.32, Std. Dev.=0.2814, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7839, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

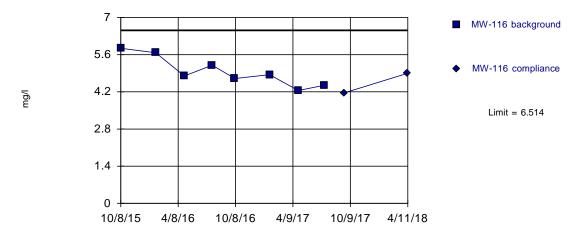
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

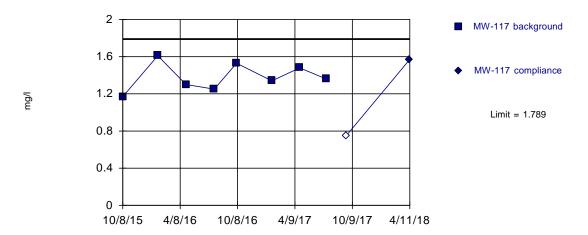


Background Data Summary: Mean=4.97, Std. Dev.=0.5612, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9382, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.38, Std. Dev.=0.1487, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9694, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

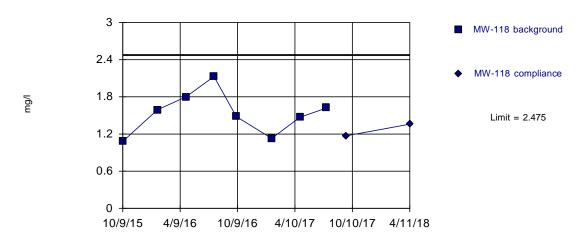
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

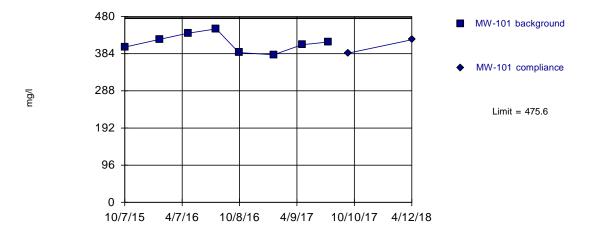


Background Data Summary: Mean=1.538, Std. Dev.=0.3407, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9523, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=412, Std. Dev.=23.11, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.971, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

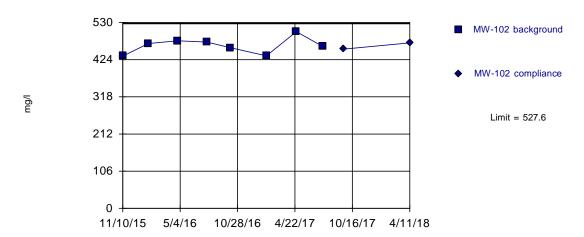
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

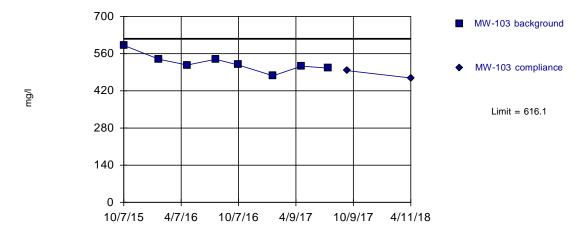
Intrawell Parametric



Background Data Summary: Mean=464.3, Std. Dev.=23.04, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9447, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=525, Std. Dev.=33.1, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9204, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

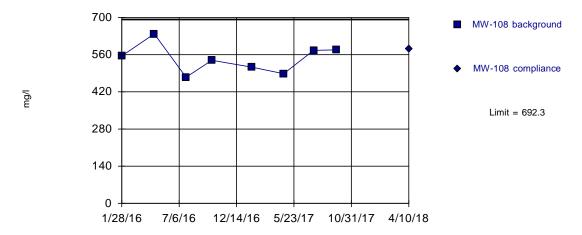
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

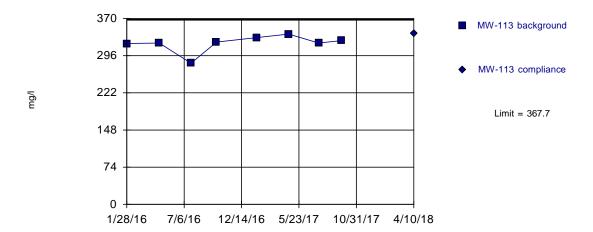
Intrawell Parametric



Background Data Summary: Mean=545.3, Std. Dev.=53.46, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9657, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=320.4, Std. Dev.=17.2, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7677, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

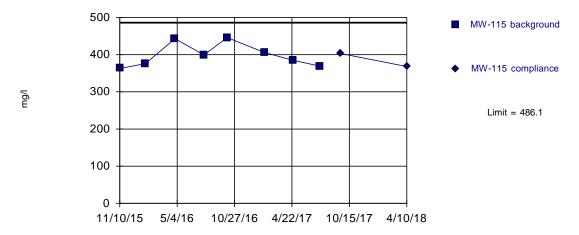
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limit

Prediction Limit

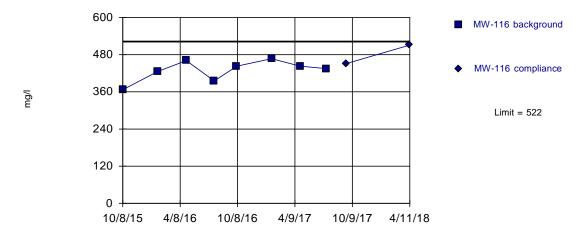
Intrawell Parametric



Background Data Summary: Mean=398.4, Std. Dev.=31.87, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8923, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=429.6, Std. Dev.=33.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9103, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

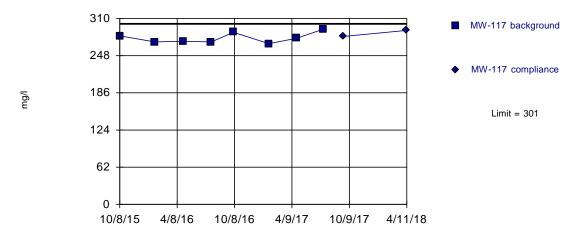
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

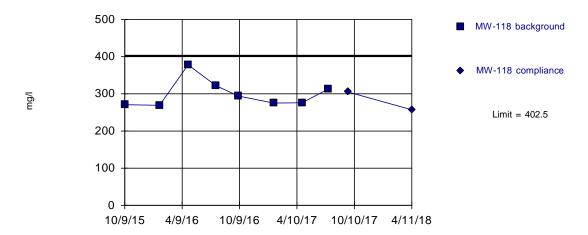
Intrawell Parametric



Background Data Summary: Mean=277.4, Std. Dev.=8.601, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9018, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=299.8, Std. Dev.=37.37, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8238, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

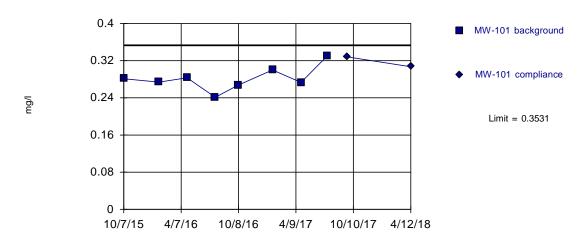
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

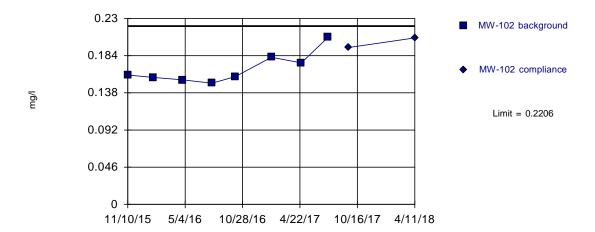
Intrawell Parametric



Background Data Summary: Mean=0.2813, Std. Dev.=0.02611, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9417, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1679, Std. Dev.=0.01916, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8449, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

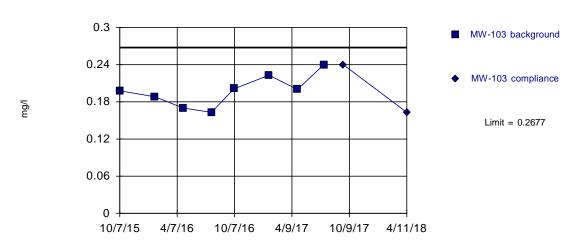
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

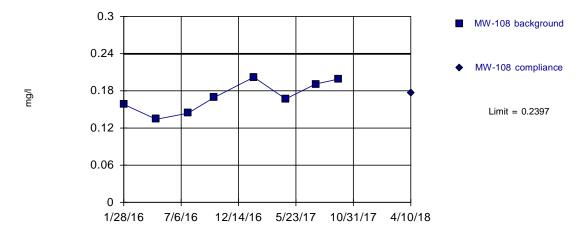
Intrawell Parametric



Background Data Summary: Mean=0.1979, Std. Dev.=0.02539, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9583, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1705, Std. Dev.=0.02516, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9368, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

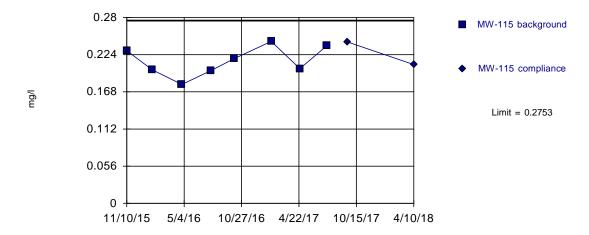
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

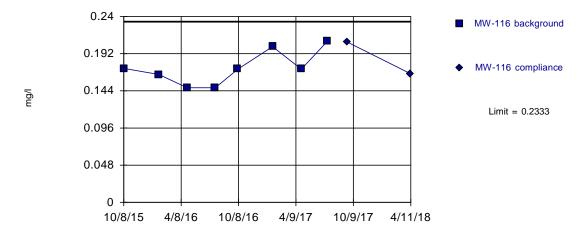
Intrawell Parametric



Background Data Summary: Mean=0.2141, Std. Dev.=0.02223, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9478, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1734, Std. Dev.=0.02179, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8928, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

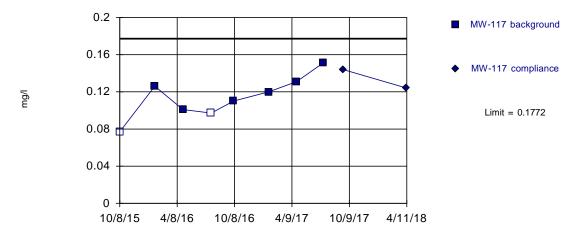
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas $^{\text{m}}$ v.9.5.32 Sanitas software licensed to FTN Associates. UG Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric

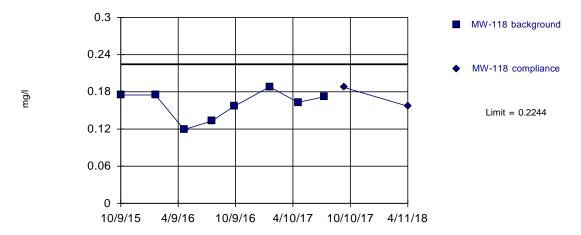


Background Data Summary: Mean=0.1141, Std. Dev.=0.02292, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.993, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1603, Std. Dev.=0.02332, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9051, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

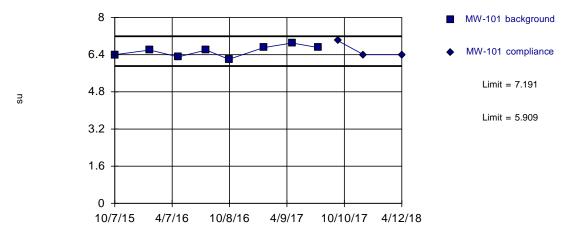
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limits

Prediction Limit

Intrawell Parametric

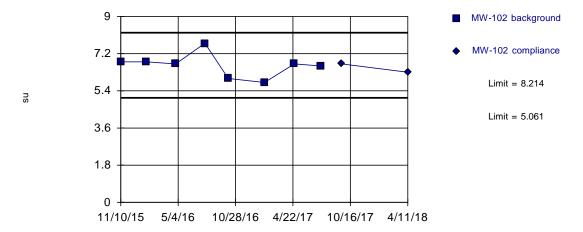


Background Data Summary: Mean=6.55, Std. Dev.=0.233, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9552, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.638, Std. Dev.=0.5731, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8994, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 12/10/2018 6:33 PM View: 2018-1H PL

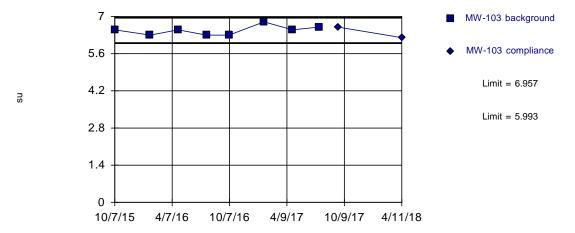
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limits

Prediction Limit

Intrawell Parametric

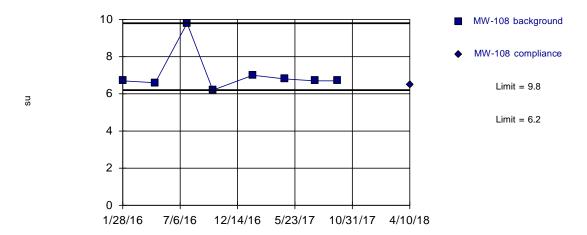


Background Data Summary: Mean=6.475, Std. Dev.=0.1753, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8695, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 12/10/2018 6:33 PM View: 2018-1H PL

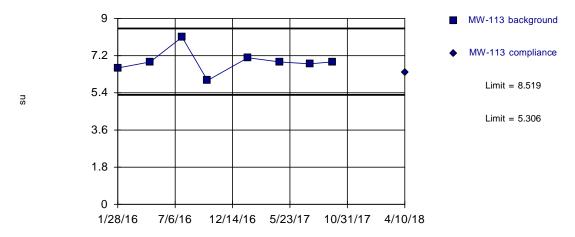
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limits

Prediction Limit

Intrawell Parametric

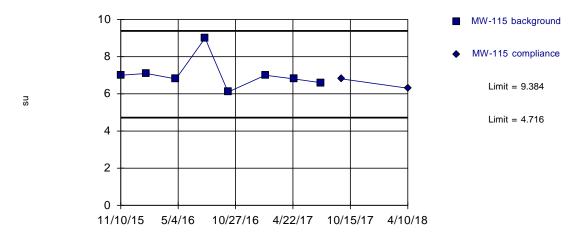


Background Data Summary: Mean=6.913, Std. Dev.=0.5842, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.876, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 12/10/2018 6:33 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.05, Std. Dev.=0.8485, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7617, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 12/10/2018 6:33 PM View: 2018-1H PL

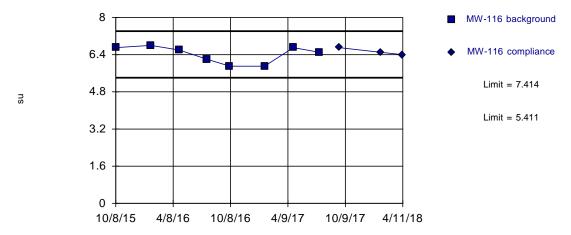
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limits

Prediction Limit

Intrawell Parametric

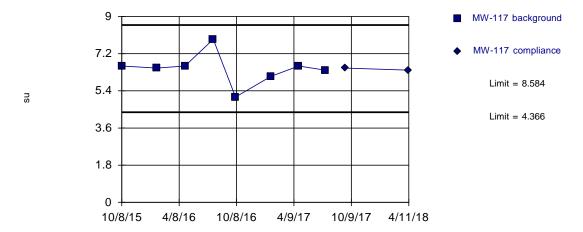


Background Data Summary: Mean=6.413, Std. Dev.=0.3643, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8539, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 4/23/2018 3:59 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.475, Std. Dev.=0.7667, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.871, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 12/10/2018 6:33 PM View: 2018-1H PL

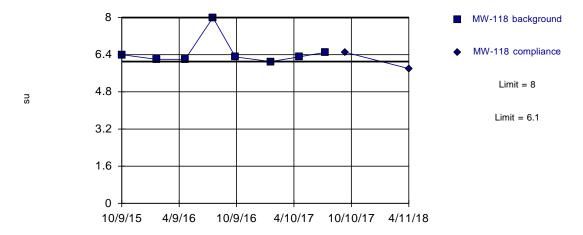
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Exceeds Limits

Prediction Limit

Intrawell Non-parametric

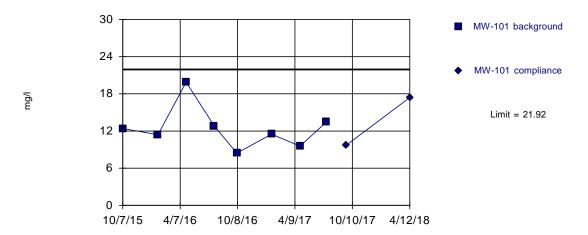


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 12/10/2018 6:33 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=12.44, Std. Dev.=3.446, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8639, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

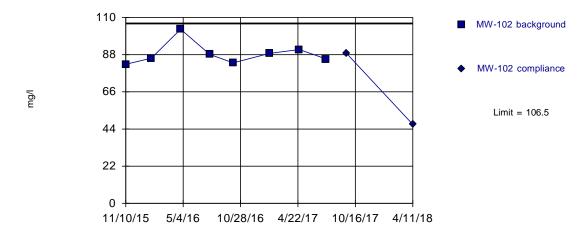
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

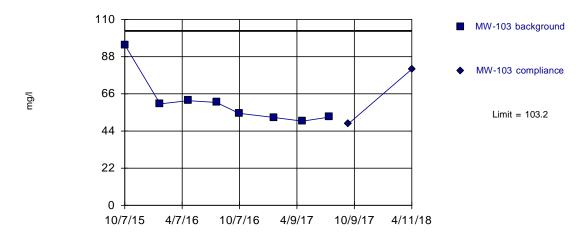


Background Data Summary: Mean=88.46, Std. Dev.=6.543, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8238, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=3.914, Std. Dev.=0.2823, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7518, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

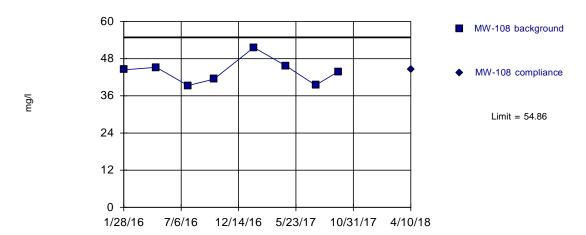
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

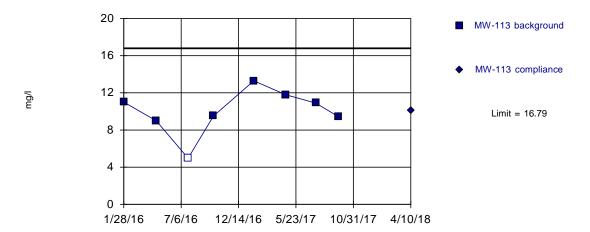
Intrawell Parametric



Background Data Summary: Mean=43.85, Std. Dev.=4.002, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9158, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=9.99, Std. Dev.=2.473, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.921, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

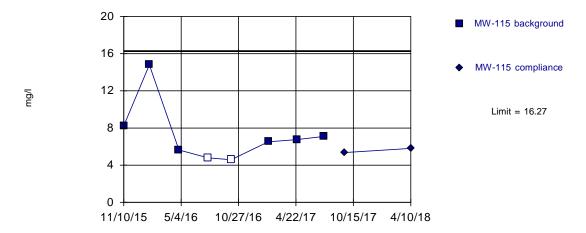
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric

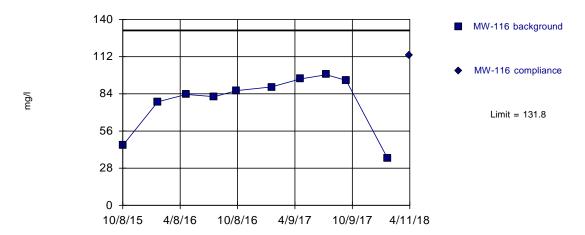


Background Data Summary: Mean=7.301, Std. Dev.=3.262, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7624, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=78.74, Std. Dev.=21.34, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7947, critical = 0.781. Kappa = 2.485 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

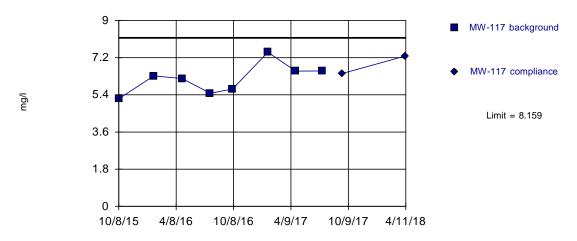
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

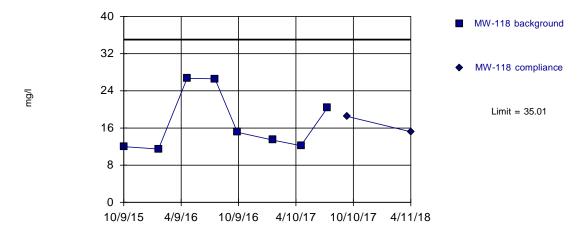


Background Data Summary: Mean=6.181, Std. Dev.=0.7192, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.958, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL

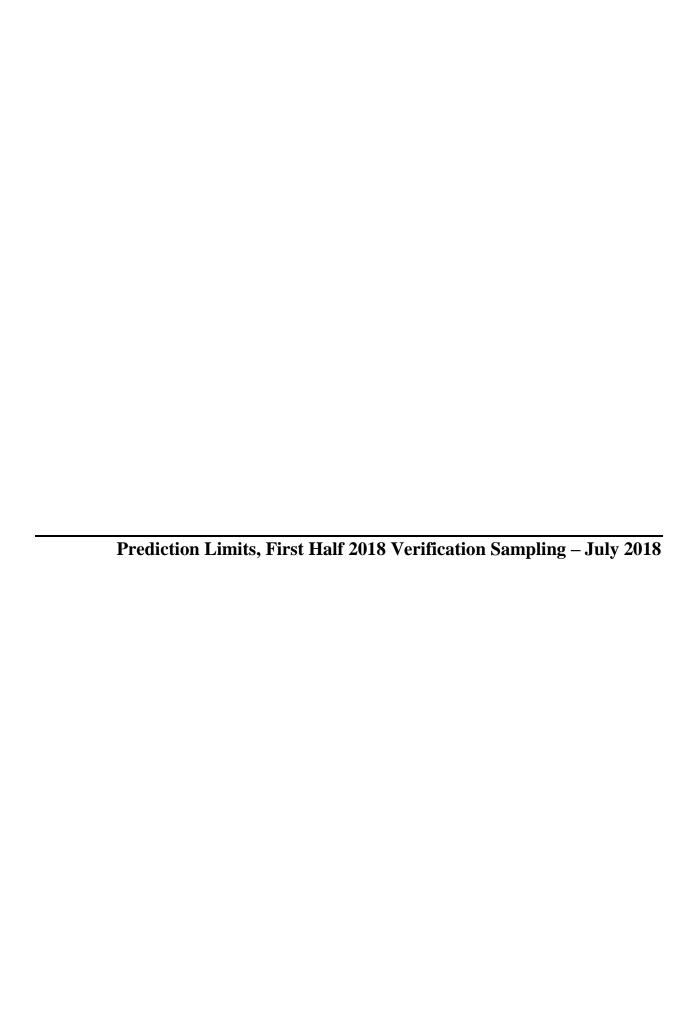
Prediction Limit

Intrawell Parametric



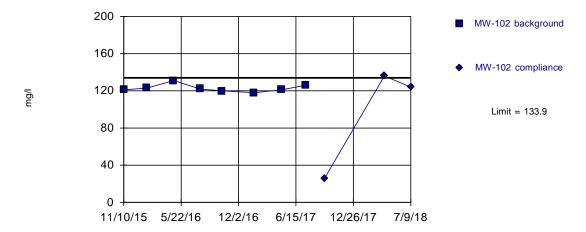
Background Data Summary: Mean=17.24, Std. Dev.=6.461, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8056, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 4/23/2018 4:00 PM View: 2018-1H PL



Prediction Limit

Intrawell Parametric



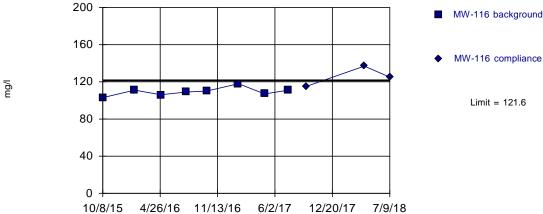
Background Data Summary: Mean=122.8, Std. Dev.=4.062, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8956, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 7/17/2018 3:03 PM View: 2018-1H Verification

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Exceeds Limit Prediction Limit Intrawell Parametric



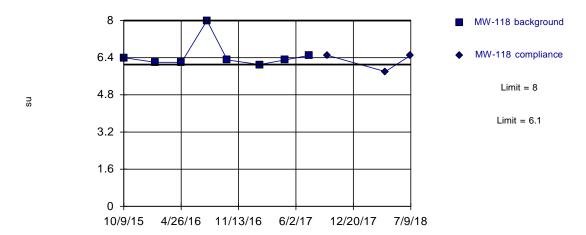
Background Data Summary: Mean=109.4, Std. Dev.=4.438, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9448, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 7/17/2018 3:03 PM View: 2018-1H Verification

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

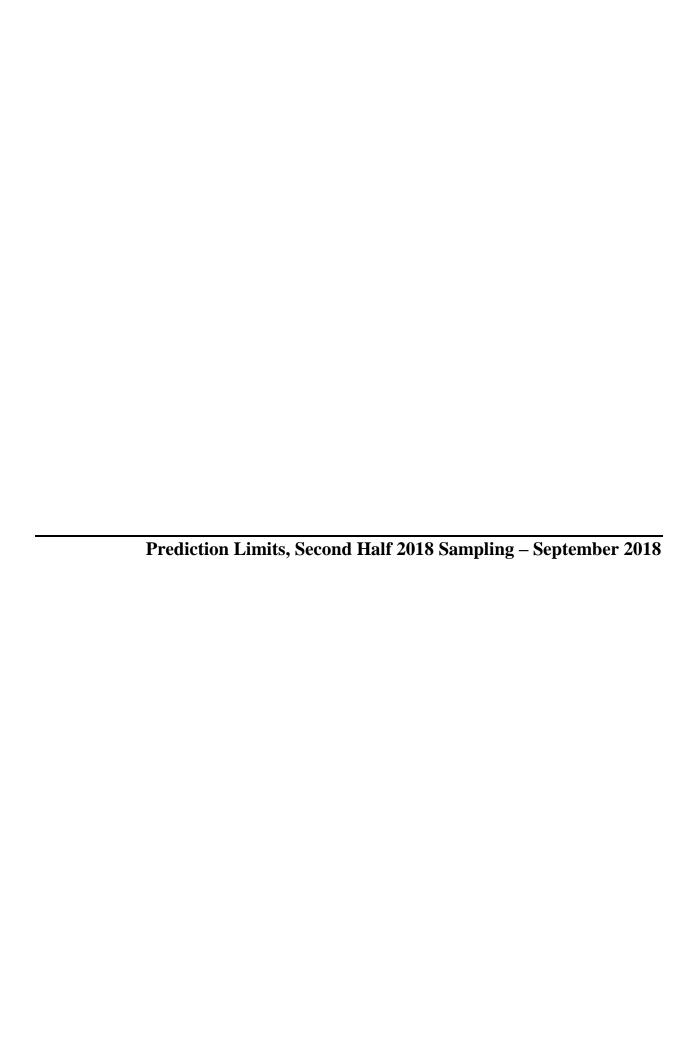
Prediction Limit

Intrawell Non-parametric



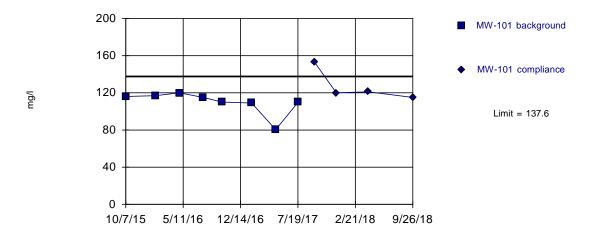
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 12/12/2018 12:19 PM View: 2018-1H Verification



Prediction Limit

Intrawell Parametric



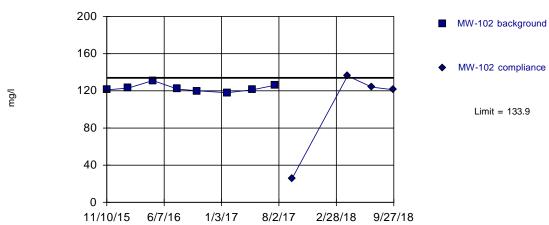
Background Data Summary (based on square transformation): Mean=12166, Std. Dev.=2464, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7547, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/29/2018 4:17 PM View: 2018-2H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit Prediction Limit Intrawell Parametric

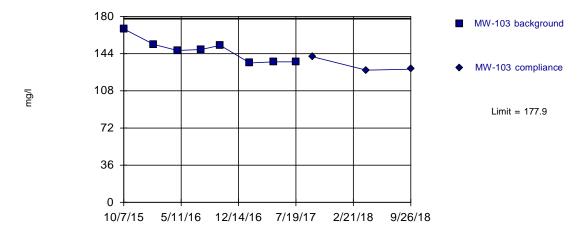


Background Data Summary: Mean=122.8, Std. Dev.=4.062, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8956, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=146.9, Std. Dev.=11.27, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8944, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

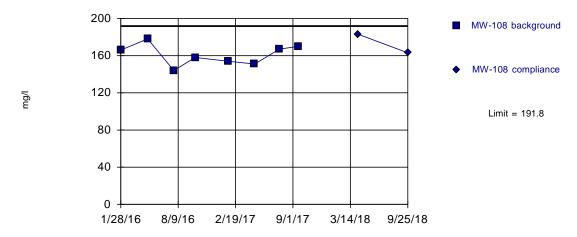
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

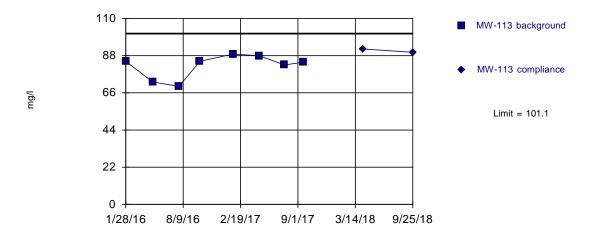
Intrawell Parametric



Background Data Summary: Mean=161, Std. Dev.=11.2, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.978, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=81.89, Std. Dev.=6.976, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8334, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

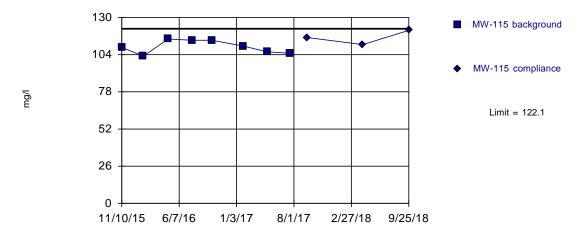
Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Plum Point Energy Station

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.5, Std. Dev.=4.567, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9154, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

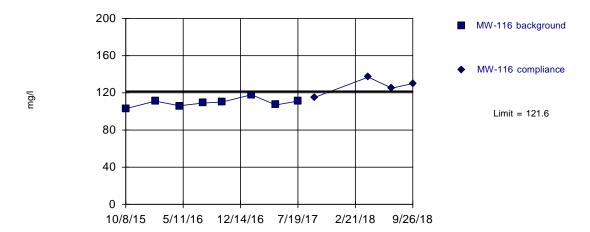
Constituent: Calcium Analysis Run 10/31/2018 2:13 PM View: 2018-2H PL

Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=109.4, Std. Dev.=4.438, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9448, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/31/2018 2:13 PM View: 2018-2H PL

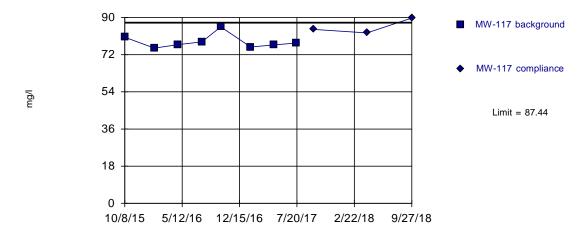
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Exceeds Limit

Prediction Limit

Intrawell Parametric

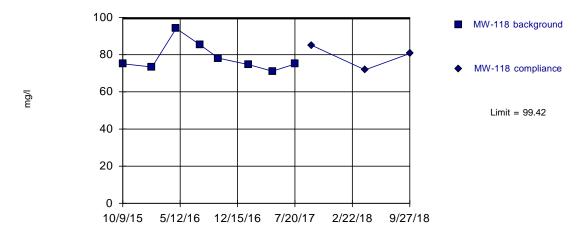


Background Data Summary: Mean=78.28, Std. Dev.=3.33, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8288, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/31/2018 2:14 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=78.35, Std. Dev.=7.66, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8173, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

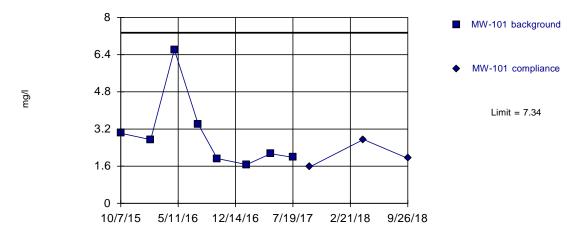
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

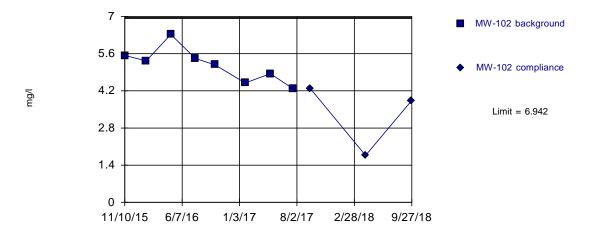
Intrawell Parametric



Background Data Summary: Mean=2.938, Std. Dev.=1.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7523, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.176, Std. Dev.=0.6418, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9652, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

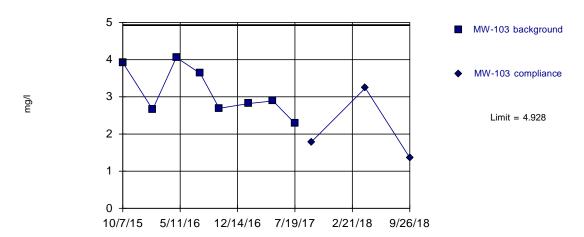
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

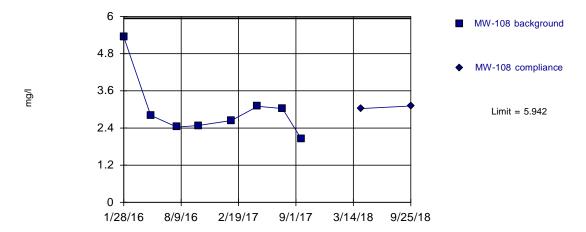
Intrawell Parametric



Background Data Summary: Mean=3.119, Std. Dev.=0.6578, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.892, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=1.71, Std. Dev.=0.2644, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7994, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

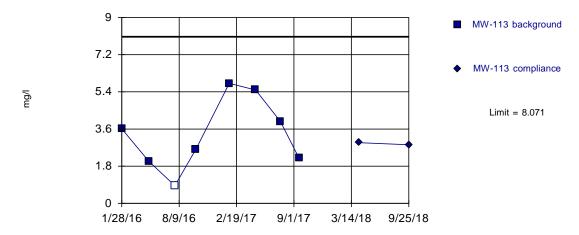
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG Hollow symbols indicate censored values.

Within Limit

Prediction Limit

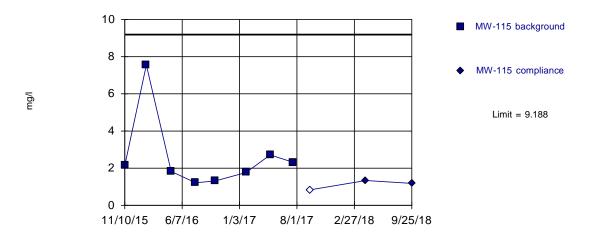
Intrawell Parametric



Background Data Summary: Mean=3.325, Std. Dev.=1.725, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9503, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=1.32, Std. Dev.=0.2814, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7839, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

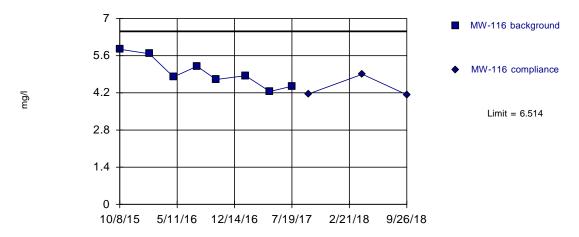
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

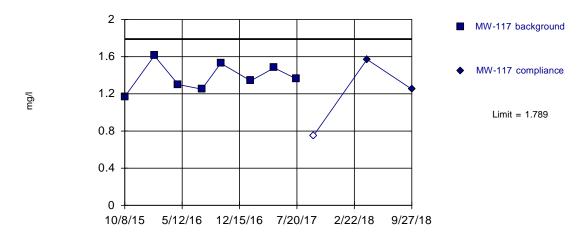
Intrawell Parametric



Background Data Summary: Mean=4.97, Std. Dev.=0.5612, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9382, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.38, Std. Dev.=0.1487, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9694, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

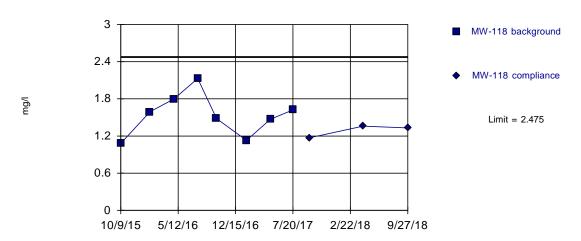
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

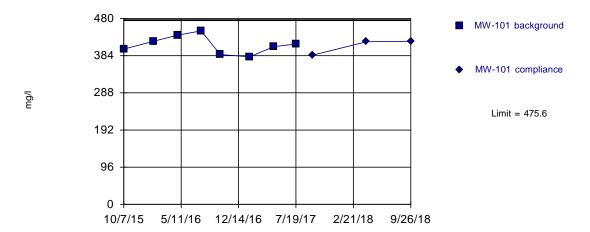


Background Data Summary: Mean=1.538, Std. Dev.=0.3407, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9523, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Chloride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=412, Std. Dev.=23.11, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.971, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

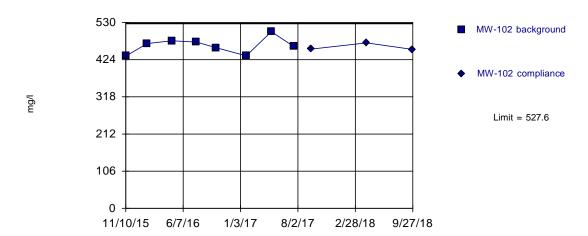
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

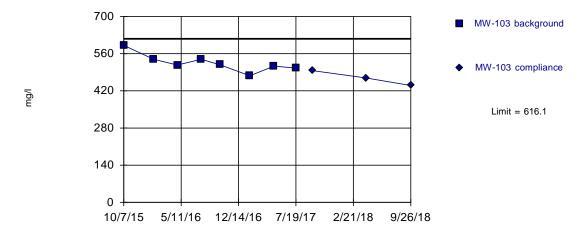
Intrawell Parametric



Background Data Summary: Mean=464.3, Std. Dev.=23.04, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9447, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=525, Std. Dev.=33.1, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9204, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

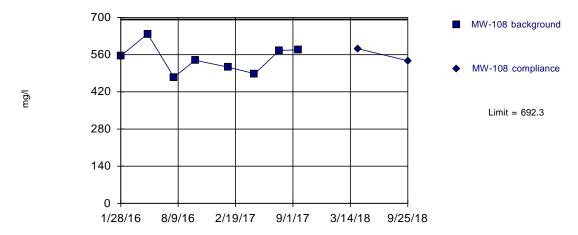
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

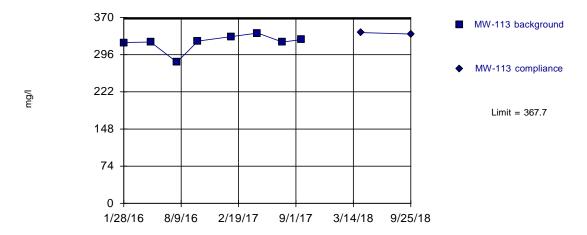
Intrawell Parametric



Background Data Summary: Mean=545.3, Std. Dev.=53.46, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9657, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=320.4, Std. Dev.=17.2, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7677, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

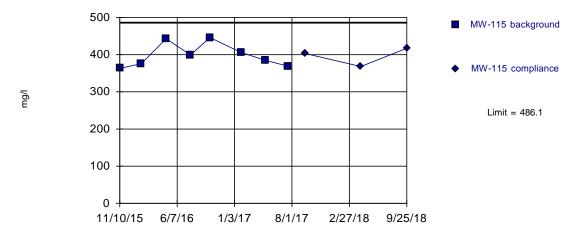
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limit

Prediction Limit

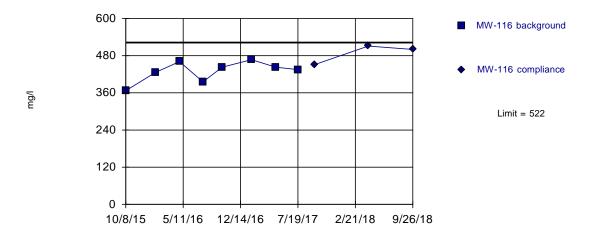
Intrawell Parametric



Background Data Summary: Mean=398.4, Std. Dev.=31.87, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8923, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=429.6, Std. Dev.=33.6, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9103, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

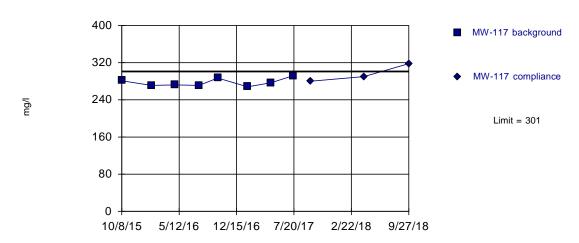
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Exceeds Limit

Prediction Limit

Intrawell Parametric



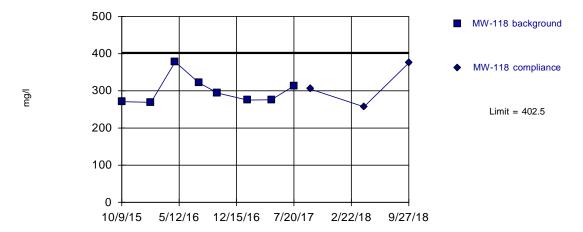
Background Data Summary: Mean=277.4, Std. Dev.=8.601, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9018, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=299.8, Std. Dev.=37.37, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8238, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

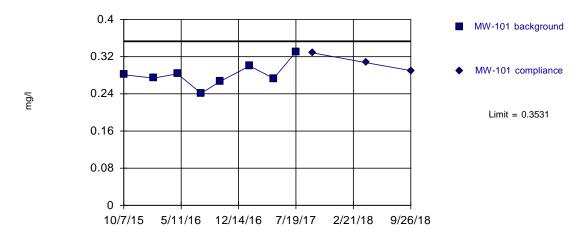
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limit

Prediction Limit

Intrawell Parametric



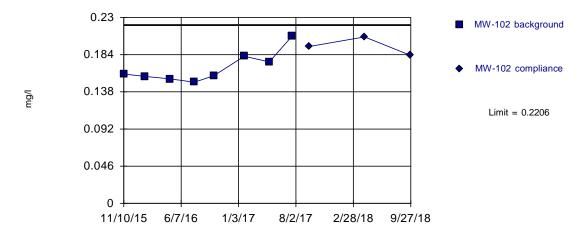
Background Data Summary: Mean=0.2813, Std. Dev.=0.02611, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9417, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1679, Std. Dev.=0.01916, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8449, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

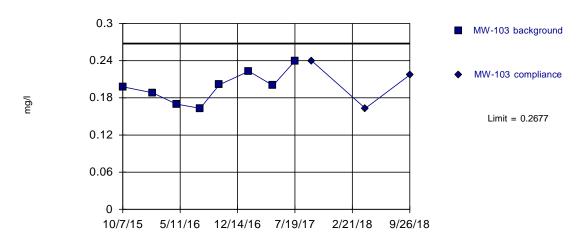
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

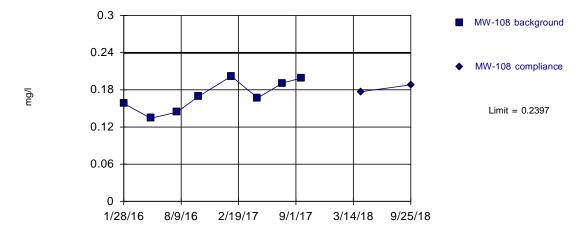


Background Data Summary: Mean=0.1979, Std. Dev.=0.02539, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9583, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1705, Std. Dev.=0.02516, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9368, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

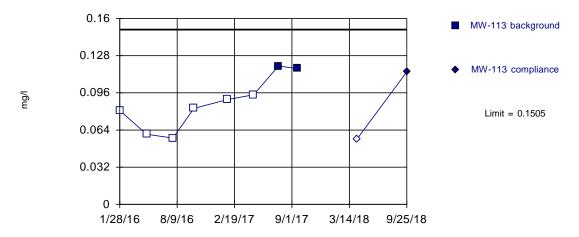
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



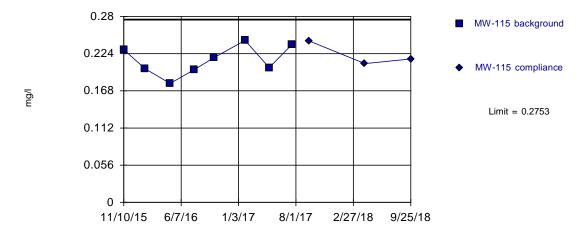
Background Data Summary: Mean=0.08768, Std. Dev.=0.02283, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9287, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2141, Std. Dev.=0.02223, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9478, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

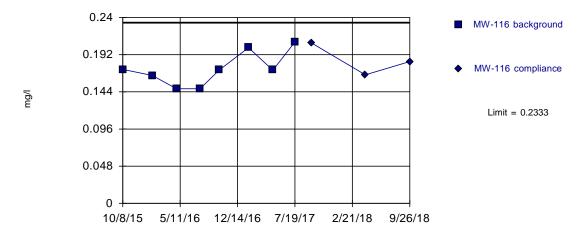
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

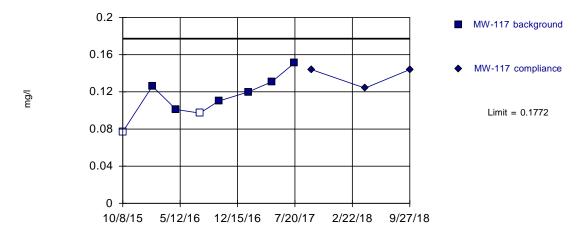


Background Data Summary: Mean=0.1734, Std. Dev.=0.02179, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8928, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1141, Std. Dev.=0.02292, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.993, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

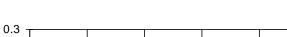
Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

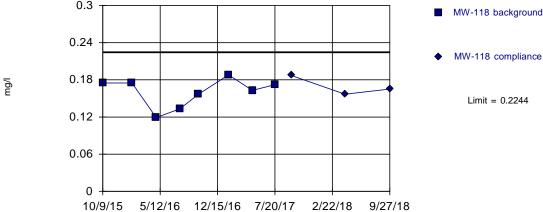
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Intrawell Parametric

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Within Limit Prediction Limit



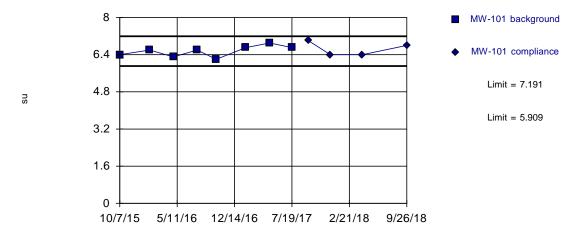


Background Data Summary: Mean=0.1603, Std. Dev.=0.02332, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9051, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Fluoride Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.55, Std. Dev.=0.233, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9552, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

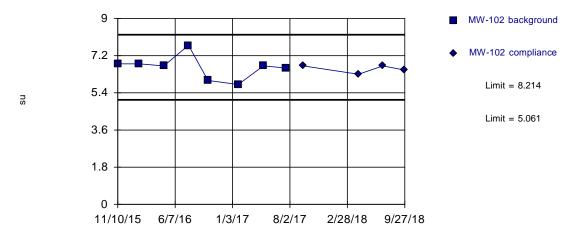
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limits

Prediction Limit

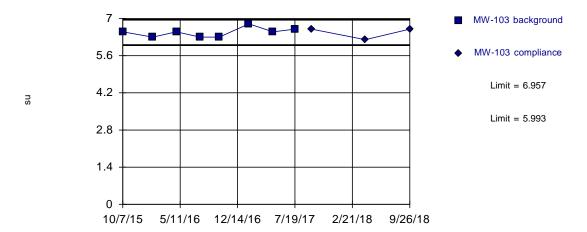
Intrawell Parametric



Background Data Summary: Mean=6.638, Std. Dev.=0.5731, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8994, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.475, Std. Dev.=0.1753, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8695, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

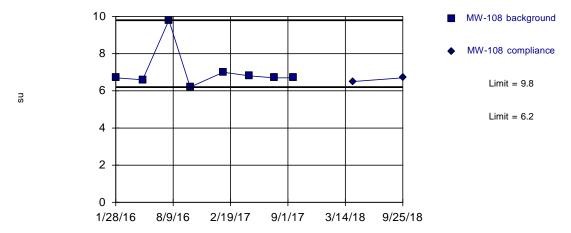
Constituent: pH Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limits

Prediction Limit Intrawell Non-parametric

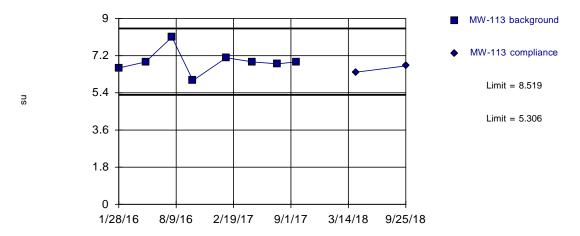


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 12/13/2018 10:53 AM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.913, Std. Dev.=0.5842, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.876, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 12/13/2018 10:53 AM View: 2018-2H PL

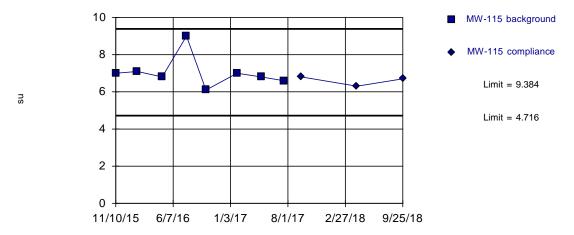
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limits

Prediction Limit

Intrawell Parametric

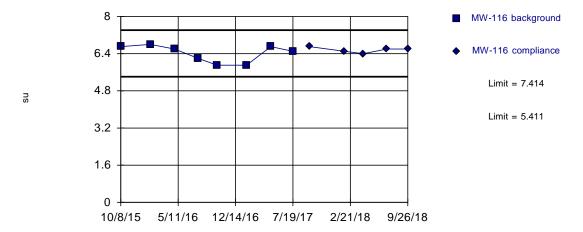


Background Data Summary: Mean=7.05, Std. Dev.=0.8485, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7617, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 12/13/2018 10:53 AM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.413, Std. Dev.=0.3643, n=8. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8539, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: pH Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

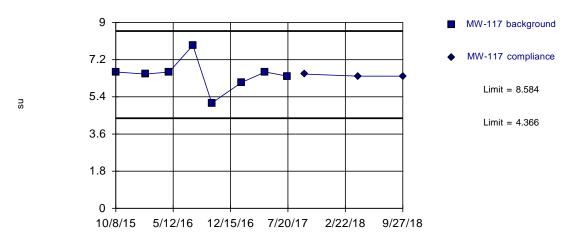
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limits

Prediction Limit

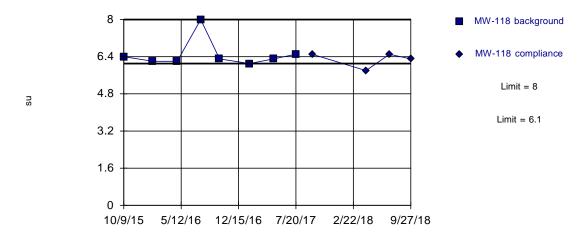
Intrawell Parametric



Background Data Summary: Mean=6.475, Std. Dev.=0.7667, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.871, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 12/13/2018 10:53 AM View: 2018-2H PL

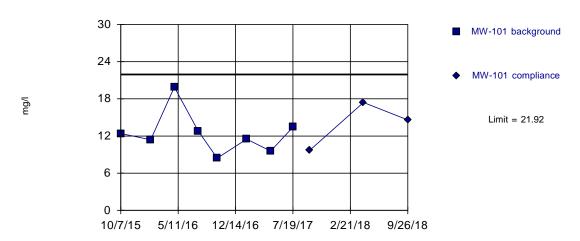
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

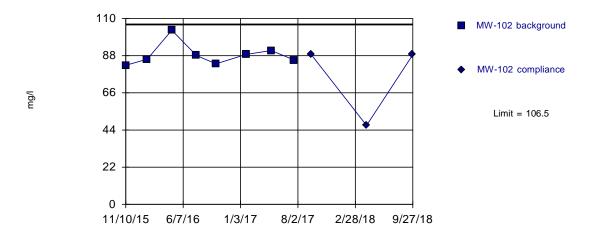


Background Data Summary: Mean=12.44, Std. Dev.=3.446, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8639, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=88.46, Std. Dev.=6.543, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8238, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

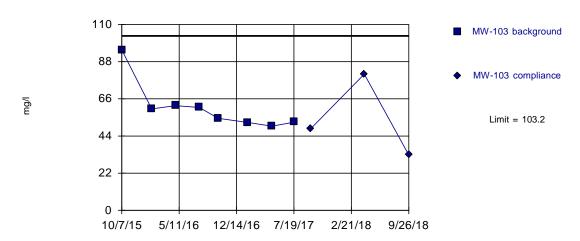
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

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Within Limit

Prediction Limit

Intrawell Parametric

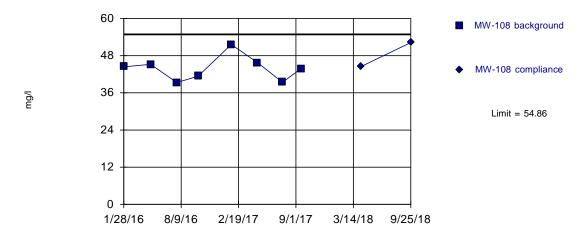


Background Data Summary (based on cube root transformation): Mean=3.914, Std. Dev.=0.2823, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7518, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=43.85, Std. Dev.=4.002, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9158, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

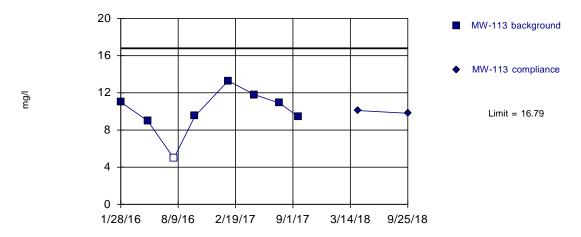
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas $^{\text{m}}$ v.9.5.32 Sanitas software licensed to FTN Associates. UG Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric

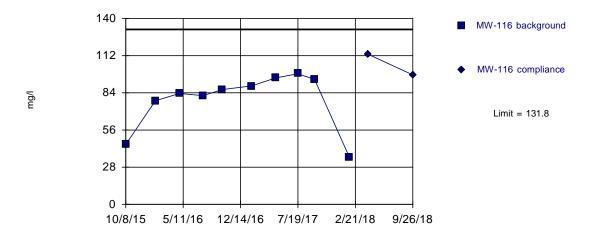


Background Data Summary: Mean=9.99, Std. Dev.=2.473, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.921, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=78.74, Std. Dev.=21.34, n=10. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7947, critical = 0.781. Kappa = 2.485 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

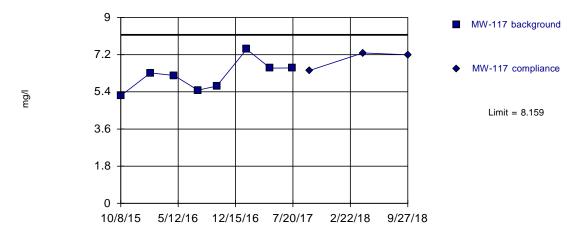
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

Intrawell Parametric

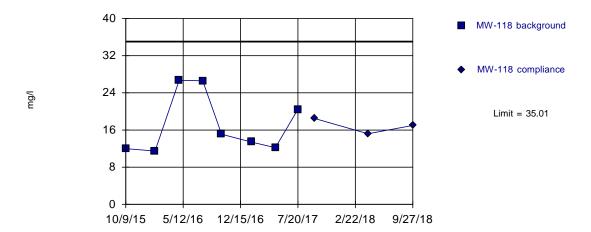


Background Data Summary: Mean=6.181, Std. Dev.=0.7192, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.958, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL

Prediction Limit

Intrawell Parametric



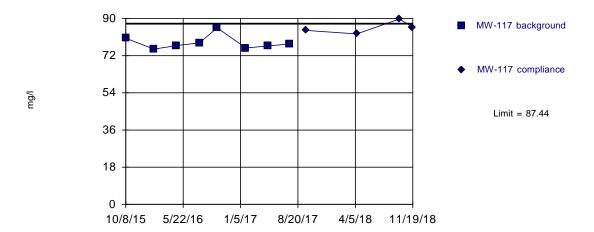
Background Data Summary: Mean=17.24, Std. Dev.=6.461, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8056, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Sulfate Analysis Run 10/29/2018 4:18 PM View: 2018-2H PL



Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=78.28, Std. Dev.=3.33, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8288, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 12/5/2018 11:09 AM View: 2018-2H VER

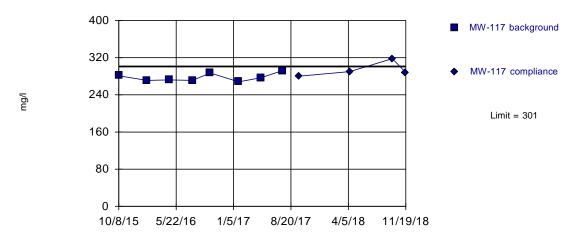
Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Sanitas™ v.9.5.32 Sanitas software licensed to FTN Associates. UG

Within Limit

Prediction Limit

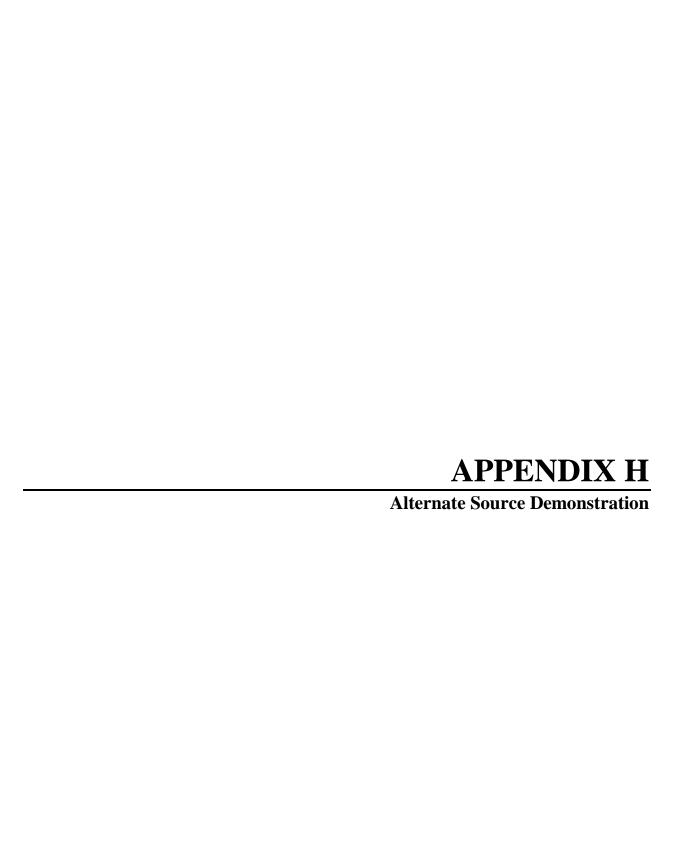
Intrawell Parametric



Background Data Summary: Mean=277.4, Std. Dev.=8.601, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9018, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Dissolved Solids Analysis Run 12/5/2018 11:09 AM View: 2018-2H VER

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database





TECHNICAL MEMORANDUM

DATE: October 9, 2018

TO: Matt Gray

Plum Point Services Company, LLC

FROM: Dana Derrington, PE, PG

FTN Associates, Ltd.

SUBJECT: Alternate Source Demonstration for Statistically Significant Increase

First Half of 2018 Monitoring Period, Plum Point Energy Station Landfill

FTN No. R14590-1766-001

FTN Associates, Ltd. (FTN) has prepared this technical memorandum for the Plum Point Services Company, LLC (PPSC) coal combustion residual (CCR) landfill, which is regulated by the Environmental Protection Agency (EPA) Coal Combustion Residuals Rule, promulgated at Title 40 Code of Federal Regulations (40 CFR) Part 257. The landfill is also regulated by the Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 22 and permitted by the Arkansas Department of Environmental Quality (ADEQ) under Permit No. 0303-S3N-R1.

FTN was contracted to sample groundwater and statistically evaluate the data from the first half of 2018 monitoring event. Based on statistical evaluation of the data, one statistically significant increase (SSI) over background concentrations was identified. Pursuant to §257.94(e)(2), the landfill may demonstrate that a source other than the CCR unit caused the SSI over background levels for a constituent or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. This memorandum, hereafter referred to as an alternate source demonstration (ASD), presents supporting evidence that the SSI was not caused by the CCR landfill.

1.0 BACKGROUND

FTN performed groundwater sampling for the first half 2018 semiannual groundwater monitoring report during April 2018. Sample collection, preservation, shipment, analytical procedures, chain-of-custody (COC) control, and data quality control for this sampling event followed protocol outlined in the landfill's groundwater sampling and analysis plan (GWSAP) (FTN 2017b). Statistical evaluation of the data set followed the most recent EPA guidance (EPA 2009) and the landfill's statistical analysis plan (SAP) (FTN 2017c). An intrawell prediction limit evaluation

Mr. Matt Gray October 9, 2018 Page 2

identified one potential SSI in the data set; calcium at monitoring well MW-116 was measured at level of 135 mg/L, exceeding a calculated limit of 121.6 mg/L. A site map showing the location of this well relative to the CCR landfill is included as Figure 1 (all figures are included in Attachment 1).

At the request of FTN, the contracted third-party laboratory, Pace Analytical of Mount Juliet, Tennessee, re-analyzed the sample from MW-116 to rule out any laboratory-associated error. As shown in Table 1 (Attachment 2), the re-analyzed value was 137 mg/L, comparable to the value initially reported. In the absence of any identified sampling or laboratory errors associated with the data, FTN resampled the well for calcium during July 2018 in accordance with the landfill's formal "1 of 2" retesting plan (FTN 2017c) and GWSAP (FTN 2017b). As shown in Table 1, measured calcium in the July 2018 sample was 125 mg/L, confirming the SSI. These data are also shown on the intrawell prediction limit plot included as Figure 2. The laboratory reports are included in Attachment 3.

2.0 DISCUSSION

A review of landfill leachate data, onsite background groundwater quality, and published literature was performed to determine if the SSI for calcium at MW-116 was indicative of influence from the CCR landfill. Findings from this review are discussed below within the context of groundwater quality at MW-116.

2.1 Comparison to Landfill Leachate

Landfill leachate samples are collected on a semiannual basis, as required by Permit No. 0303-S3N-R1. These data are publically available on the ADEQ website¹. Available data collected between 2011 and 2018 show calcium concentrations in leachate range from 7.6 to 23 mg/L. These data are co-plotted with measured calcium at MW-116 on the time-series graph attached as Figure 3, which shows that calcium levels in leachate are significantly lower than levels measured in groundwater at MW-116. Given the effects of dilution, this comparison demonstrates that the SSI for calcium is not due to leachate migration from the landfill.

2.2 Comparison to Onsite Background Groundwater Quality

Monitoring wells MW-108, MW-113, and MW-115 (Figure 1) are used to monitor onsite background groundwater water quality, as described in the landfill's groundwater monitoring system certification report (FTN 2017a). Calcium data collected at these locations are plotted on the attached time-series graph (Figure 4) and box-and-whiskers diagrams (Figure 5) along with calcium data from MW-116. As is evident from these figures, measured calcium at MW-116 is comparable to onsite background groundwater quality.

¹ https://www.adeq.state.ar.us/sw/permits/facility_data.aspx



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2.3 Comparison to Published Groundwater Quality for the Aquifer

Each landfill monitoring well is screened in the Mississippi River Valley alluvial aquifer, the uppermost aquifer in the vicinity of the landfill (FTN 2017b). The US Geological Survey published a study of groundwater quality of the aquifer, specifically with respect to that of Holocene alluvium and Pleistocene valley train deposits, which are two of the major hydrogeologic units within the aquifer (Gonthier 2003). The landfill is located in Holocene alluvium, as shown on Figure 6. According to this study, the reported respective median and maximum values for measured calcium in wells screened in Holocene alluvium were 77 mg/L and 130 mg/L. These levels are comparable to those measured at MW-116 and at background wells MW-108, MW-113, and MW-115, as shown on Figures 4 and 5.

3.0 CONCLUSIONS

In consideration of the information presented in this memorandum, FTN concludes that the SSI for calcium at MW-116 is not due to the migration of landfill leachate and that groundwater quality at MW-116 falls within the range of what can be expected in terms of natural fluctuations in groundwater quality.

This memorandum serves as the ASD prepared in accordance with §257.94(e)(2) and supports the position that the confirmed SSI identified for calcium at MW-116 was not due to a release from the landfill. Therefore, no further action is required and the landfill will remain in detection monitoring.

If you have questions or comments regarding this memorandum, please do not hesitate to call Dana Derrington, PE, PG, or Heather Ferguson at (501) 225-7779.

DLD/hlf

Attachments

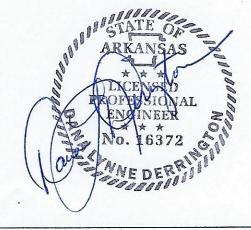
R:\WP_FILES\14590-1766-001\CORRESPONDENCE\2018-10-09 TM-M GRAY EPA CCR 1H2018 ASD\2018-10-09 TM-M GRAY.DO



Mr. Matt Gray October 9, 2018 Page 4

PROFESSIONAL ENGINEER'S CERTIFICATION

With this certification, I certify that I, as a Professional Engineer in the State of Arkansas, am a qualified professional engineer as defined in §257.53 of Title 40 Code of Federal Regulations (40 CFR) Part 257, that this technical memorandum has been prepared under my direction in accordance with generally accepted good engineering practices, that the findings are accurate to the best of my knowledge, and that the alternate source demonstration described herein meets the requirements of §257.94(e)(2) of 40 CFR Part 257.



Dana L. Derrington, Arkansas PE #16372

10/09/2018 Date



REFERENCES

- EPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance [EPA 530-R-09-007]. Washington, DC: Office of Resource Conservation and Recovery, Program Implementation and Information Division, US Environmental Protection Agency. March 2009.
- FTN. 2017a. *Groundwater Monitoring Network Evaluation, Plum Point Energy Station Landfill.* Little Rock, AR: FTN Associates, Ltd.
- ——. 2017b. *Groundwater Sampling and Analysis Plan, Plum Point Energy Station Landfill.* Little Rock, AR: FTN Associates, Ltd.
- ———. 2017c. Statistical Analysis Plan, Plum Point Energy Station Landfill. Little Rock, AR: FTN Associates, Ltd.
- Gonthier, G.J. 2003. *Quality of Groundwater in Pleistocene and Holocene Subunits of the Mississippi River Alluvial Aquifer, 1998* [Water-Resources Investigations Report 03-4202]. Jackson, MS: National Water-Quality Assessment Program, US Geological Survey.
- Kresse, T.M., P.D. Hays, K.R. Merriman, J.A. Gillip, D.T. Fugitt, J.L. Spellman,
 A.M. Nottmeier, D.A. Westerman, J.M. Blackstock, and J.L. Battreal. 2014. Aquifers of Arkansas—Protection, Management, and Hydrologic and Geochemical Characteristics of Groundwater Resources in Arkansas [USGS Scientific Investigations Report 2014-5149]. Prepared in cooperation with the Arkansas Natural Resources Commission. Reston, VA: US Geological Survey. 334 pp. doi: http://dx.doi.org/10.3133/sir20145149.





Figures

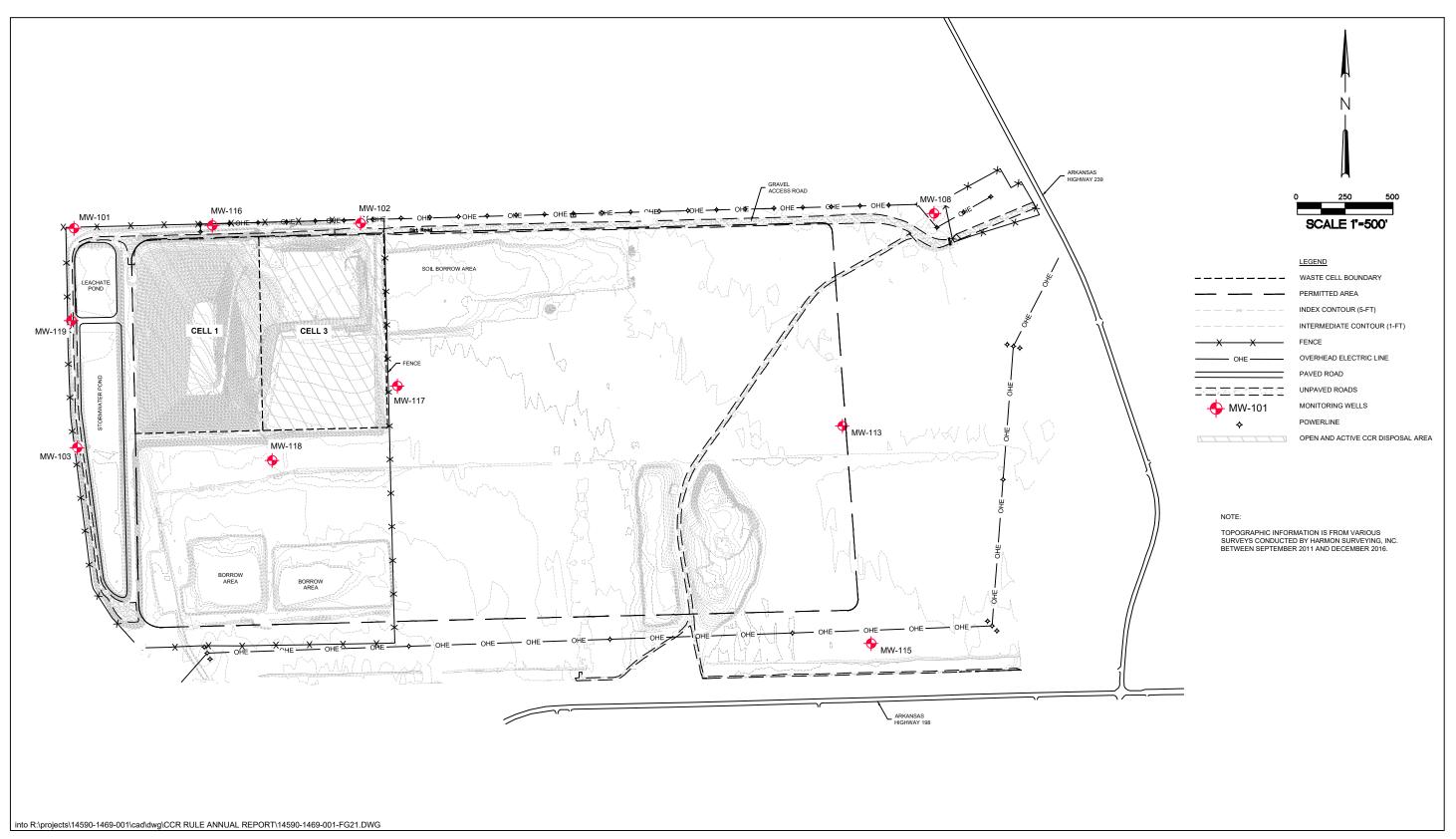
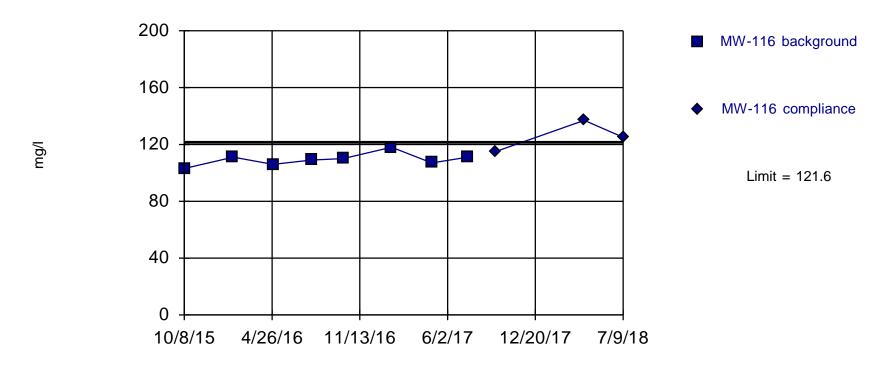


Figure 1. Monitoring well locations, Plum Point Energy Station.

Exceeds Limit

Prediction Limit

Intrawell Parametric



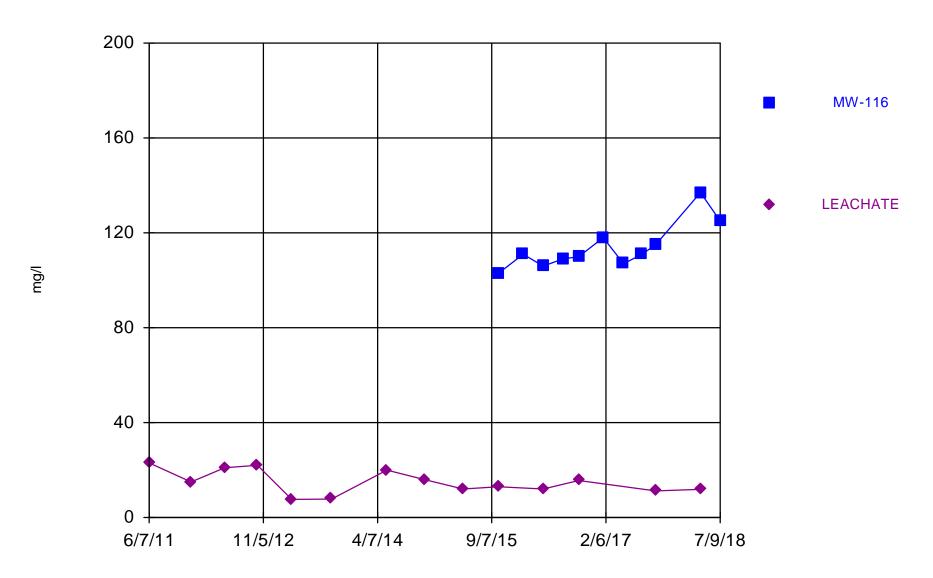
Background Data Summary: Mean=109.4, Std. Dev.=4.438, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9448, critical = 0.749. Kappa = 2.751 (c=6, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001462.

Constituent: Calcium Analysis Run 7/17/2018 3:03 PM View: 2018-1H Verification

Plum Point Energy Station Client: Plum Point Services Company, LLC Data: PPES EPA CCR Rule Groundwater Database

Figure 2. Results of statistical analysis of calcium at MW-116 using prediction limits, first half of 2018.

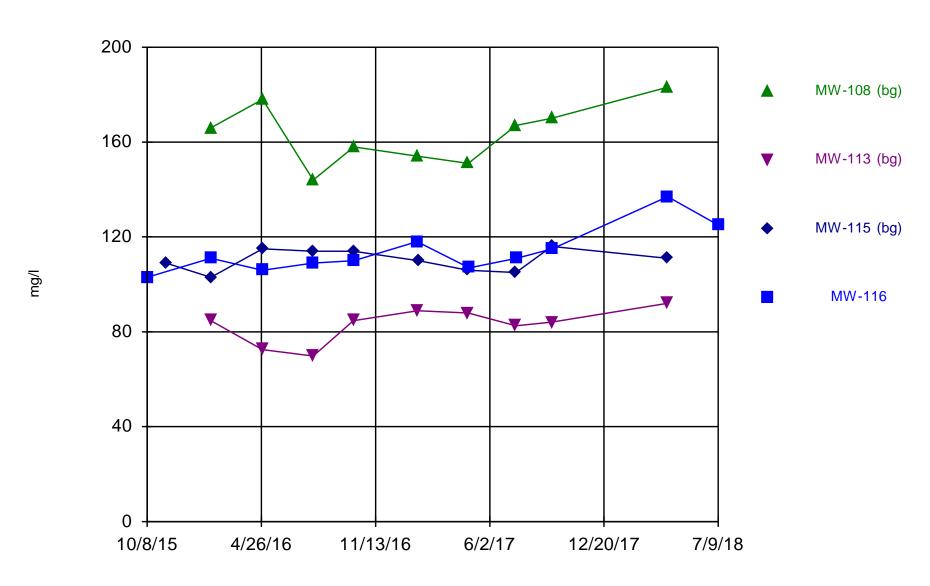
Time Series



Constituent: Calcium Analysis Run 9/28/2018 10:41 AM

Figure 3. Time-series plot comparing measured calcium in landfill leachate to groundwater at MW-116.

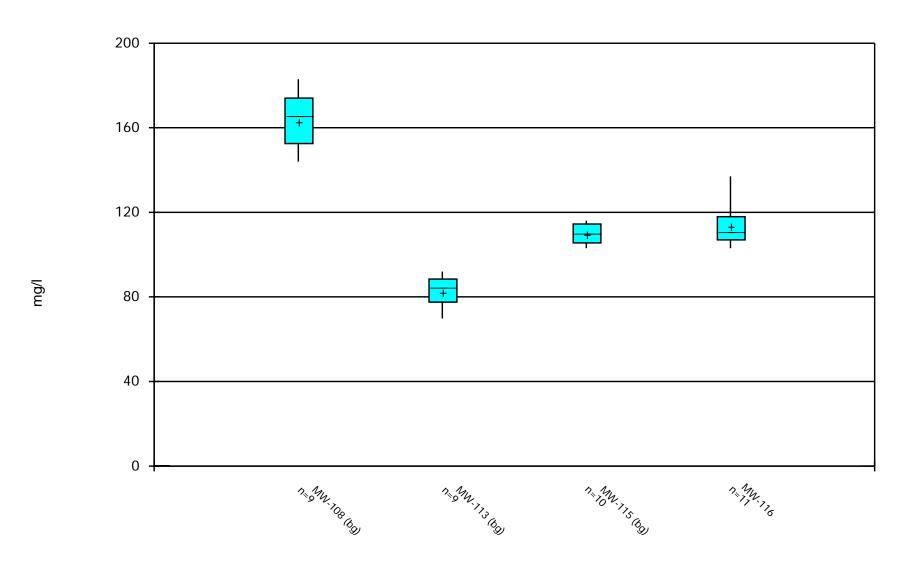
Time Series



Constituent: Calcium Analysis Run 8/24/2018 7:34 AM

Figure 4. Time-series plot comparing measured calcium at MW-116 to onsite background groundwater quality.

Box & Whiskers Plot



Constituent: Calcium Analysis Run 8/24/2018 7:36 AM

Figure 5. Box-and-whiskers diagrams comparing measured calcium at MW-116 to onsite background groundwater quality.

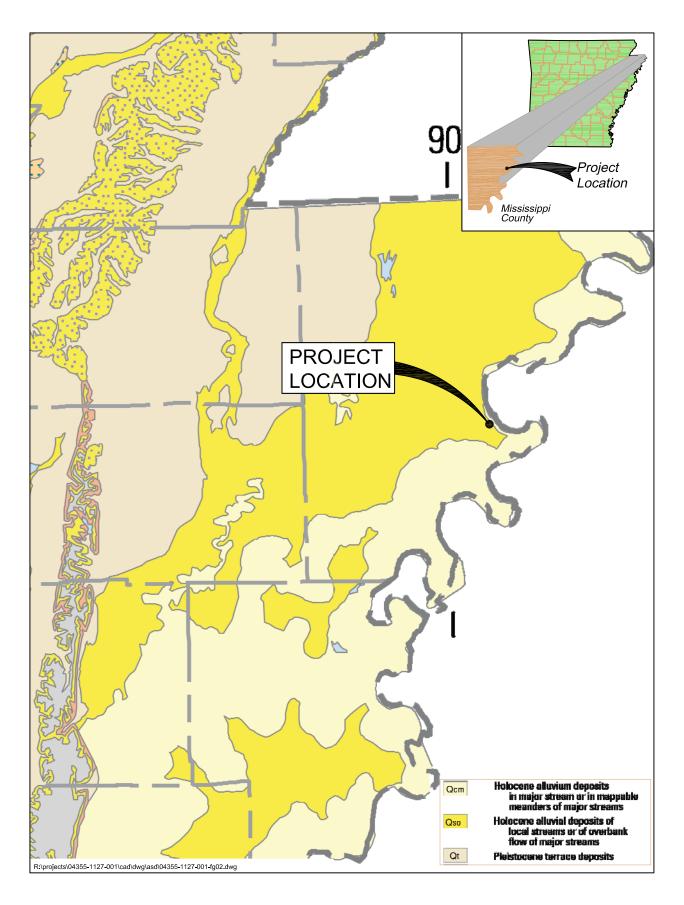


Figure 6. Surface geology of Mississippi County, Arkansas (adapted from Kresse et al. 2014).



Table 1. Summary of statistically significant results and background data.

Well ID	Parameter	Prediction Limit (mg/L)	April 2018 Observation (mg/L)	July 2018 Observation (mg/L)	SSI Confirmed?	Maximum Background Level ^(a) (mg/L)	Maximum Published Level ^(b) (mg/L)
MW-116	Calcium	121.6	135 (initial) 137 (lab re-test)	125	Yes	183 (April 2018)	130

Notes:

- a. Based on historical values at MW-108.
- b. Gonthier, G.J. 2003. Quality of Groundwater in Pleistocene and Holocene Subunits of the Mississippi River Alluvial Aquifer, 1998 [Water-Resources Investigations Report 03-4202]. Jackson, MS: US Geological Survey, National Water-Quality Assessment Program.

ATTACHMENT 3 Laboratory Reports



ANALYTICAL REPORT April 23, 2018



Plum Point Services Co., LLC

Sample Delivery Group: L985645

Samples Received: 04/13/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley

Technical Service Representative Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

30



Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	5	
Sr: Sample Results	6	
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MW-102 L985645-02	7	
MW-103 L985645-03	8	
MW-108 L985645-04	9	
MW-113 L985645-05	10	
MW-115 L985645-06	11	
MW-116 L985645-07	12	
MW-117 L985645-08	13	
MW-118 L985645-09	14	
MW-119 L985645-10	15	
MW-201 L985645-11	16	
MW-202 L985645-12	17	
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Wet Chemistry by Method 9056A		
Metals (ICP) by Method 6010B		
GI: Glossary of Terms	28	
Al: Accreditations & Locations	29	



















PAGE:

2 of 31

Sc: Sample Chain of Custody

Received date/time

SAMPLE SUMMARY

Collected by

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OINE	LAD.	IVATI	ONW

Collected date/time

MW-101 L985645-01 GW			Michael Clayton	04/12/18 08:50	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098882	1	04/17/18 17:08	04/17/18 17:33	MMF
Wet Chemistry by Method 9056A	WG1098060	1	04/14/18 21:32	04/14/18 21:32	DR
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:04	CCE
			Collected by	Collected date/time	Received date/time
MW-102 L985645-02 GW			Michael Clayton	04/11/18 12:40	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098576	1	04/16/18 14:37	04/16/18 15:03	BS
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 16:39	04/15/18 16:39	MAJ
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:37	CCE
			Collected by	Collected date/time	Received date/time
MW-103 L985645-03 GW			Michael Clayton	04/11/18 15:45	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098576	1	04/16/18 14:37	04/16/18 15:03	BS
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 16:52	04/15/18 16:52	MAJ
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:40	CCE
			Collected by	Collected date/time	Received date/time
MW-108 L985645-04 GW			Michael Clayton	04/10/18 14:55	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Gravimetric Analysis by Method 2540 C-2011	WG1098342	1	04/15/18 09:41	04/15/18 10:04	BS
Wet Chemistry by Method 9056A	WG1098064	1	04/15/18 17:41	04/15/18 17:41	MAJ
Metals (ICP) by Method 6010B	WG1098051	1	04/17/18 08:02	04/17/18 11:43	CCE





















Batch

WG1098342

WG1098064

WG1098051

Batch

MW-113 L985645-05 GW

Gravimetric Analysis by Method 2540 C-2011

MW-115 L985645-06 GW

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

Method

Method

Collected by

Preparation

04/15/18 09:41

04/15/18 18:19

04/17/18 08:02

Collected by

Preparation

Michael Clayton

date/time

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1

1

Dilution

Michael Clayton

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04/10/18 14:10

Analysis

date/time

04/15/18 10:04

04/15/18 18:19

04/17/18 11:47

04/10/18 13:10

Analysis

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SAMPLE SUMMA	ARY	ON	E LAB. NATIO
	Collected by	Collected date/time	Received date/
	Michael Clayton	04/11/18 14:40	04/13/19 08:45









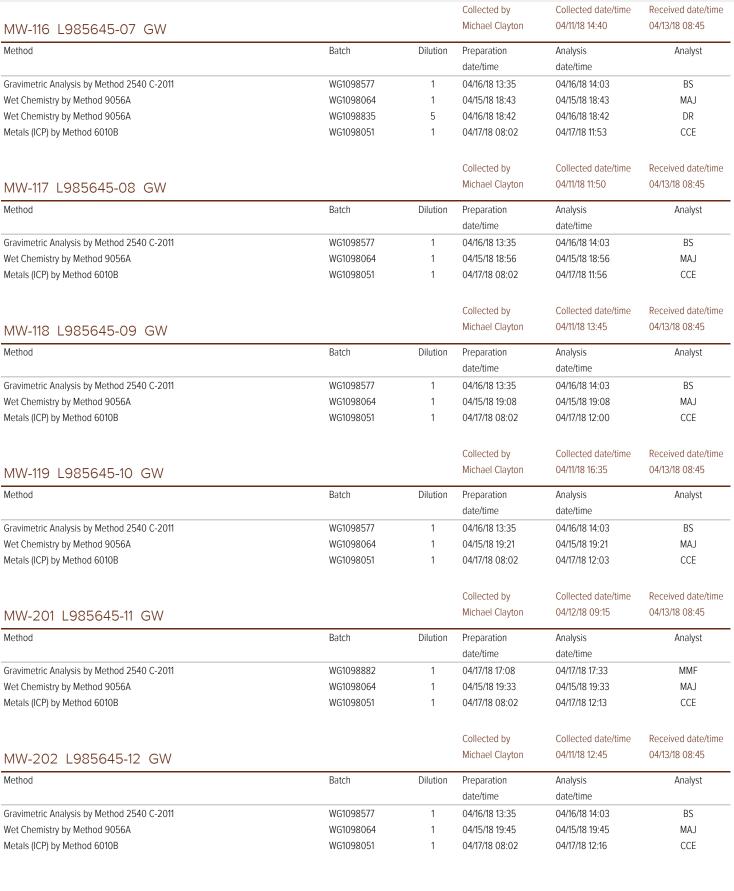












All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.















Technical Service Representative

ONE LAB. NATIONWIDE.

Collected date/time: 04/12/18 08:50

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	420000		2820	10000	1	04/17/2018 17:33	WG1098882

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2750		51.9	1000	1	04/14/2018 21:32	WG1098060
Fluoride	307		9.90	100	1	04/14/2018 21:32	WG1098060
Sulfate	17400		77.4	5000	1	04/14/2018 21:32	WG1098060



Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	84.0	J	12.6	200	1	04/17/2018 11:04	WG1098051
Calcium	121000	V	46.3	1000	1	04/17/2018 11:04	WG1098051



Cn









ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 12:40

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	472000		2820	10000	1	04/16/2018 15:03	WG1098576

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1770		51.9	1000	1	04/15/2018 16:39	WG1098064
Fluoride	206		9.90	100	1	04/15/2018 16:39	WG1098064
Sulfate	46700		77.4	5000	1	04/15/2018 16:39	WG1098064



Ss



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	144	J	12.6	200	1	04/17/2018 11:37	WG1098051
Calcium	136000		46.3	1000	1	04/17/2018 11:37	WG1098051









ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 15:45

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	468000		2820	10000	1	04/16/2018 15:03	WG1098576

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3240		51.9	1000	1	04/15/2018 16:52	WG1098064
Fluoride	163		9.90	100	1	04/15/2018 16:52	WG1098064
Sulfate	80600		77.4	5000	1	04/15/2018 16:52	WG1098064



³Ss

Cn

[°]Qc









	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	122	<u>J</u>	12.6	200	1	04/17/2018 11:40	WG1098051
Calcium	128000		46.3	1000	1	04/17/2018 11:40	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/10/18 14:55

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	582000		2820	10000	1	04/15/2018 10:04	WG1098342

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3030		51.9	1000	1	04/15/2018 17:41	WG1098064
Fluoride	177		9.90	100	1	04/15/2018 17:41	WG1098064
Sulfate	44500		77.4	5000	1	04/15/2018 17:41	WG1098064



Ss

Cn



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	171	<u>J</u>	12.6	200	1	04/17/2018 11:43	WG1098051
Calcium	183000		46.3	1000	1	04/17/2018 11:43	WG1098051









ONE LAB. NATIONWIDE.

Collected date/time: 04/10/18 14:10

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	340000		2820	10000	1	04/15/2018 10:04	WG1098342

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2940		51.9	1000	1	04/15/2018 18:19	WG1098064
Fluoride	56.2	J	9.90	100	1	04/15/2018 18:19	WG1098064
Sulfate	10100		77.4	5000	1	04/15/2018 18:19	WG1098064



Ss

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	89.9	<u>J</u>	12.6	200	1	04/17/2018 11:47	WG1098051
Calcium	92000		46.3	1000	1	04/17/2018 11:47	WG1098051











ONE LAB. NATIONWIDE.

Collected date/time: 04/10/18 13:10

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	368000		2820	10000	1	04/15/2018 10:04	WG1098342

²Tc

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1340		51.9	1000	1	04/15/2018 18:31	WG1098064
Fluoride	209		9.90	100	1	04/15/2018 18:31	WG1098064
Sulfate	5810		77.4	5000	1	04/15/2018 18:31	WG1098064



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	66.6	<u>J</u>	12.6	200	1	04/17/2018 11:50	WG1098051
Calcium	111000		46.3	1000	1	04/17/2018 11:50	WG1098051













ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 14:40

L985645

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	511000		2820	10000	1	04/16/2018 14:03	WG1098577

²Tc

Wet Chemistry by Method 9056A

Metals (ICP) by Method 6010B

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	4900		51.9	1000	1	04/15/2018 18:43	WG1098064
Fluoride	166		9.90	100	1	04/15/2018 18:43	WG1098064
Sulfate	113000		387	25000	5	04/16/2018 18:42	WG1098835



Ss

Sulfate 113000 387

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	111	J	12.6	200	1	04/17/2018 11:53	WG1098051
Calcium	135000		46.3	1000	1	04/17/2018 11:53	WG1098051











ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 11:50

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	290000		2820	10000	1	04/16/2018 14:03	WG1098577





















Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1570		51.9	1000	1	04/15/2018 18:56	WG1098064
Fluoride	124		9.90	100	1	04/15/2018 18:56	WG1098064
Sulfate	7280		77.4	5000	1	04/15/2018 18:56	WG1098064



	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	95.2	<u>J</u>	12.6	200	1	04/17/2018 11:56	WG1098051
Calcium	82500		46.3	1000	1	04/17/2018 11:56	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 13:45

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	257000		2820	10000	1	04/16/2018 14:03	WG1098577

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	1360		51.9	1000	1	04/15/2018 19:08	WG1098064
Fluoride	157		9.90	100	1	04/15/2018 19:08	WG1098064
Sulfate	15200		77.4	5000	1	04/15/2018 19:08	WG1098064



Cn

Ss















	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	94.9	<u>J</u>	12.6	200	1	04/17/2018 12:00	WG1098051
Calcium	71800		46.3	1000	1	04/17/2018 12:00	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 16:35

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	315000		2820	10000	1	04/16/2018 14:03	WG1098577





Ss

⁴ Cn
•













Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	2150		51.9	1000	1	04/15/2018 19:21	WG1098064
Fluoride	230		9.90	100	1	04/15/2018 19:21	WG1098064
Sulfate	31100		77.4	5000	1	04/15/2018 19:21	WG1098064

Gl
⁸ Al



	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	95.0	J	12.6	200	1	04/17/2018 12:03	WG1098051
Calcium	85900		46.3	1000	1	04/17/2018 12:03	WG1098051

ONE LAB. NATIONWIDE.

Collected date/time: 04/12/18 09:15

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	U		2820	10000	1	04/17/2018 17:33	WG1098882

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	U		51.9	1000	1	04/15/2018 19:33	WG1098064
Fluoride	U		9.90	100	1	04/15/2018 19:33	WG1098064
Sulfate	U		77.4	5000	1	04/15/2018 19:33	WG1098064



Ss



	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	45.4	<u>J</u>	12.6	200	1	04/17/2018 12:13	WG1098051
Calcium	U		46.3	1000	1	04/17/2018 12:13	WG1098051









ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 12:45

Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Dissolved Solids	464000		2820	10000	1	04/16/2018 14:03	WG1098577

Wet Chemistry by Method 9056A

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Chloride	3250		51.9	1000	1	04/15/2018 19:45	WG1098064
Fluoride	163		9.90	100	1	04/15/2018 19:45	WG1098064
Sulfate	80700		77.4	5000	1	04/15/2018 19:45	WG1098064





	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Boron	110	J	12.6	200	1	04/17/2018 12:16	WG1098051
Calcium	128000		46.3	1000	1	04/17/2018 12:16	WG1098051









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Gravimetric Analysis by Method 2540 C-2011

L985645-04,05,06

Method Blank (MB)

(MB) R3302170-1 04/15/	18 10:04			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000







[†]Cn

L985623-02 Original Sample (OS) • Duplicate (DUP)

(OS) L985623-02 04/15/18 10:04 • (DUP) R3302170-4 04/15/18 10:04

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	1060000	1070000	1	1.31		5





⁶Qc



(LCS) R3302170-2 04/15/18 10:04 • (LCSD) R3302170-3 04/15/18 10:04

(,	Spike Amount	•	LCSD Result		LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8530000	8530000	96.9	96.9	85.0-115			0.000	5







ONE LAB. NATIONWIDE.

Gravimetric Analysis by Method 2540 C-2011

L985645-02,03

Method Blank (MB)

(MB) R3302591-1 04/16/18 15:03 MB Result MB RDL MB Qualifier MB MDL Analyte ug/l ug/l ug/l U Dissolved Solids 2820 10000









(OS) L985623-09 04/16/18 15:03 • (DUP) R3302591-4 04/16/18 15:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	812000	830000	1	2.19		5









(LCS) R3302591-2 04/16/18 15:03 • (LCSD) R3302591-3 04/16/18 15:03

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8620000	8600000	98.0	97.7	85.0-115			0.232	5







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Gravimetric Analysis by Method 2540 C-2011

L985645-07,08,09,10,12

Method Blank (MB)

(MB) R3302586-1 04/16/	18 14:03			
	MB Result	MB Qualifier	MB MDL	MB RDI
Analyte	ug/l		ug/l	ug/l
Dissolved Solids	U		2820	10000









(OS) L985645-07 04/16/18 14:03 • (DUP) R3302586-4 04/16/18 14:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	511000	505000	1	1.18		5



[†]Cn







(LCS) R3302586-2 04/16/18 14:03 • (LCSD) R3302586-3 04/16/18 14:03

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Dissolved Solids	8800000	8530000	8620000	96.9	98.0	85.0-115			1.05	5





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Gravimetric Analysis by Method 2540 C-2011

L985645-01,11

Method Blank (MB)

(MB) R3302951-1 04/17/18 17:33											
	MB Result	MB Qualifier	MB MDL	MB RDL							
Analyte	ug/l		ug/l	ug/l							
Dissolved Solids	U		2820	10000							









(OS) L985683-15 04/17/18 17:33 • (DUP) R3302951-4 04/17/18 17:33

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Dissolved Solids	4110000	4090000	1	0 488		5









(LCS) R3302951-2 04/17/18 17:33 • (LCSD) R3302951-3 04/17/18 17:33

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Dissolved Solids	8800000	8580000	8550000	97.5	97.2	85.0-115			0.350	5	





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Wet Chemistry by Method 9056A

L985645-01

Method Blank (MB)

Fluoride

Sulfate

(MB) R3301929-1 0	04/14/18 07:25					
	MB Result	MB Qualifier	MB MDL	MB RDL		
Analyte	ug/l		ug/l	ug/l		
Chloride	U		51.9	1000		

100

5000







L985623-06 Original Sample (OS) • Duplicate (DUP)

(OS) L985623-06 04/14/18 18:01 • (DUP) R3301929-7 04/14/18 18:38

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	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	13400	13500	1	0.591		15
Fluoride	501	502	1	0.179		15
Sulfate	18000	18000	1	0.414		15









⁸Al

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

9.90

77.4

(LCS) R3301929-2 04/14/18 07:37 • (LCSD) R3301929-3 04/14/18 07:49

(LCS) K3301929-2 0	4/14/10 U7.3/ • (LC3L	J) K3301323-	3 04/14/16 07.4	9							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	l
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Chloride	40000	39800	39700	99.5	99.4	80.0-120			0.150	15	
Fluoride	8000	8080	8080	101	101	80.0-120			0.0891	15	
Sulfate	40000	39900	39800	99.7	99.5	80.0-120			0.200	15	

⁹Sc

L985577-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L985577-03 04/14/18 15:32 • (MS) R3301929-5 04/14/18 16:22 • (MSD) R3301929-6 04/14/18 16:34

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	ND	49700	51000	99.2	102	1	80.0-120			2.69	15
Fluoride	5000	ND	5180	5260	104	105	1	80.0-120			1.53	15
Sulfate	50000	ND	50200	50400	100	101	1	80.0-120			0.532	15

L985623-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L985623-06 04/14/18 18:01 • (MS) I	R3301929-8 04/14/18 18:51
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(O3) E363023-00 04/14/16 16.01 • (INIS) R3301323-6 04/14/16 16.31												
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits						
Analyte	ug/l	ug/l	ug/l	%		%						
Chloride	50000	13400	63500	100	1	80.0-120						
Fluoride	5000	501	5530	101	1	80.0-120						

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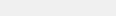
Wet Chemistry by Method 9056A

L985645-01

L985623-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L985623-06	04/14/18 18:01 • (MS) R3	3301929-8 04/	14/18 18:51	
	Spike Amount	Original Result	MS Result	

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	18000	66800	97.6	1	80.0-120	





















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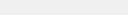
Wet Chemistry by Method 9056A

L985645-02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3302169-1 04/15/18 11:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000





L985403-01 Original Sample (OS) • Duplicate (DUP)

(OS) L985403-01 04/15/18 14:47 • (DUP) R3302169-4 04/15/18 15:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	28300	28400	1	0.417		15
Fluoride	993	1000	1	0.702		15
Sulfate	29100	29100	1	0.0450		15





L985645-03 Original Sample (OS) • Duplicate (DUP)

(OS) L985645-03 04/15/18 16:52 • (DUP) R3302169-6 04/15/18 17:04

(00) 2000 10 00 0 11 101	.0 .0.02 (20.)		0 17 107 10 17			
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Chloride	3240	3220	1	0.567		15
Fluoride	163	163	1	0.307		15
Sulfate	80600	80600	1	0.00347		15

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3302169-2 04/15/1	18 11:38 • (LCSD)) R3302169-3	04/15/18 11:50								
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Chloride	40000	38900	38900	97.3	97.1	80.0-120			0.164	15	
Fluoride	8000	7830	7820	97.8	97.8	80.0-120			0.0805	15	
Sulfate	40000	39800	39900	99.5	99.8	80.0-120			0.317	15	

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Wet Chemistry by Method 9056A

L985645-02,03,04,05,06,07,08,09,10,11,12

L985403-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L985403-01 04/15/18 14:47 • (MS) R3302169-5 04/15/18 15:12

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	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits
Analyte	ug/l	ug/l	ug/l	%		%
Chloride	50000	28300	83000	109	1	80.0-120
Fluoride	5000	993	6200	104	1	80.0-120
Sulfate	50000	29100	78300	98.3	1	80.0-120





L985645-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L985645-03 04/15/18 16:52 • (MS) R3302169-7 04/15/18 17:16 • (MSD) R3302169-8 04/15/18 17:29

(/			,	,								
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Chloride	50000	3240	59800	53700	113	101	1	80.0-120			10.9	15
Fluoride	5000	163	5460	5360	106	104	1	80.0-120			1.79	15
Sulfate	50000	80600	126000	125000	90.4	89.6	1	80.0-120	Е	Е	0.325	15













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Wet Chemistry by Method 9056A

L985645-07

Method Blank (MB)

(MB) R3302303-1 04/16/18	3 15:30			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000







L984110-01 Original Sample (OS) • Duplicate (DUP)

(OS) L984110-01 04/16/18 17:15 • (DUP) R3302303-4 04/16/18 17:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Sulfate	U	0.000	1	0.000		15



Cn







(OS) L986001-02 04/16/18 19:57 • (DUP) R3302303-6 04/16/18 20:09

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits	
Analyte	ug/l	ug/l		%		%	
Sulfate	28100	28100	1	0.0324		15	







(LCS) R3302303-2 04/16/18 15:43 • (LCSD) R3302303-3 04/16/18 15:55

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	40000	40000	100	100	80.0-120			0.160	15

L984110-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L984110-01 04/16/18 17:15 • (MS) R3302303-5 04/16/18 17:40

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits
Analyte	ug/l	ug/l	ug/l	%		%
Sulfate	50000	U	49200	98.4	1	80.0-120

L986001-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L986001-02 04/16/18 19:57 • (MS) R3302303-7 04/16/18 20:22 • (MSD) R3302303-8 04/16/18 20:59

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	28100	78000	77700	99.7	99.2	1	80.0-120			0.364	15

ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L985645-01,02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3302459-1 04/17/1	8 10:55			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000







Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3302459-2 04/1//18 10:58 • (LCSD) R3302459-3 04/1//18 11:01										
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Boron	1000	988	1010	98.8	101	80.0-120			1.78	20
Calcium	10000	10100	10200	101	102	80.0-120			1.02	20



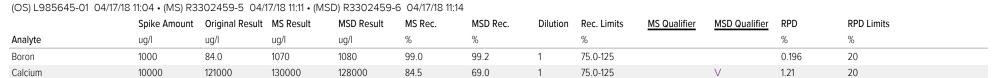
[†]Cn





⁷Gl

L985645-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)







GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

, to bre viations and	a Definitions
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries













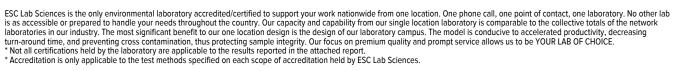






ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



















	11.110000171			g Information:				15.75.30	Analysis / Co	ontainer / Prese	rvative	271750	Chain of Custody Page of Q		
Plum Point Services C	o., LLC	P.O. Box				Pres Chix		3			l de		*	ESC	
Osceola, AR 72370			, AR 72370									LAN S	CILENCE		
Report to: Chris Lussier	Christopher.Lussier@nrg.com, dld@ftn- i, hlf@ftn-assoc.com									12065 Lebanon R Mount Juliet, TN	DESSI				
Project Description: Plum Point Energy S	Station	de la		City/State Collected: OSc-ola A									Phone: 615-758-5 Phone: 800-767-5 Fax: 615-758-585	859 100170	
Phone: 870-815-1248 Fax:	14590-176			Lab Project # NAESOAR-PLUMPOINT			250mlHDPE-NoPres	HNO3						5645 G127	
Collected by (print): MELIAL Classics	Site/Facility II	D#		P.O. #			MIHD	DPE					Acctnum: NA		
Collected by (signature):	Rush? (Lab MUST Be Notified) Same Day Five Day			Quote #				250mlH					Template:T1	34757	
finmediately Packed on Ice N_ Y	Next Da Two Da Three D	y10 0	iy (Rad Only) Pay (Rad Only)	Date Res	Results Needed		SO4, TDS	B, Ca					TSR: 134 - Ma	4-5-(8	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Cntrs	Cl, F,	Total					Shipped Via: I	FedEX Standard		
MW-101	GRAS	GW		4/12/18	850	2	X	X					1 2 3 5	-11	
MW-102	1	GW		4/11/18	1240	2	X	X					100	12	
MW-103		GW		4/11/14	1545	2	X	X	100	1 × 0			1 100	103	
MW-108		GW		4/10/18	1455	2	X	Х						100	
MW-113		GW	7.5	4/10/14	14/1)	2	X	X				100	P LUMBER	15	
MW-115		GW	136	and Ivi	130	2	X	X						-06	
MW-116		GW	1	4/11/10	1440	2	X	х	8					107	
MW-117	4	GW		4/1/10	1150	2	X	X						-03	
MW-118	383	GW		4/11/18	1345	2	X	X					. 2	29	
MW-119	1	GW	110	1/11/14	162	2	X	X			33			10	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater	Remarks:			111110	1702				рН	Temp		COC Seal	mpls Receipt C Present/Intact d/Accurate: rrive intact:	heckidst	
DW - Drinking Water OT - Other	ırler	Tracking # 436 /					0175	Other _		Correct b	ottles used: t volume sent: If Applicat				
Relinquished by : (Signature)	2	Date:	118	Time: Ri	eceived by: (Signa			A P	Trip Blank R		Меон		Headspace: ion Currect/Ch	mecked: Y N	
Relinquished by : (Signature)		Date:	1	Time: Re	eceived by: (Signat	ture)			Temp: 2,52	9 Bottles I		If preservation required by Login: Date/Time			
Relinquished by : (Signature)		Date:	Time: Ri	eceived for lab by:	(Signa)	ure)	9	Pate: 4/13/1	7 Time:	45	Hold:		Condition: NCF / ON		

			Billing Information:				16		Analysis / Co	Analysis / Container / Preservative					Chain of Custody Page of		
Plum Point Services C	P.O. Box			Accounts Payable P.O. Box 567 Osceola, AR 72370				2						*E	ESC		
Osceola, AR 72370			120				193							L-A-B S-C	# Untertainery of Parameters		
Report to: Chris Lussier				Email To: Christopher.Lussier@nrg.com, dld@ftn- assoc.com, hlf@ftn-assoc.com										12055 Lebanon Rd Mount Juliet, TN 371 Phone: 615-758-585			
Project Description: Plum Point Energy S	Station	LA C		City/State Collected:	Seeds A	en	250mlHDPE-NoPres							Phone: 800-767-585 Fax: 615-758-5859			
Phone: 870-815-1248 Fax:	14590-1766			Lab Project #	Lab Project # NAESOAR-PLUMPOINT			HNO3						L# 985	845		
Collected by (print):	Site/Facility ID	P.O. #			P.O. #			iii						Acctnum: NAE	SOAR		
Collected by (signature):	(signature): Rush? (Lab MUST Be Notified) Same Day Five Day Next Day 5 Day (Rad Only) Two Day 10 Day (Rad Only)			Quote #		TDS 25	250mlHDP	E.					Template:T134757 Prelogin: P647803				
Immediately Packed on Ice NY				Date Results Needed			504,	B, Ca							1-5-13		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntri	CI, F,	Total						Shipped Via: Fe	Sample # (lab only)		
MW-201	GRAG	GW		4/12/18	1 915	2	Х	х					187	1 10.56	11		
MW-202	1	GW		4/11/18	1245	2	X	X	- 2					145 a	12		
		GW				2	X	X									
	ton he	GW				2	X	X					100				
		GW	-			2	X	X					13				
					4 3 4	1						-		127			
		100	35/0	F 11	13.						W-1			100			
	33.		15.20	1	0.00			14						1			
	1				E-1			- 3					10	and a			
		18.5		1000	3 1875			-23									
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bloassay WW - WasteWater	Remarks:								pH _	Ter		Sample Receipt Checklet COC Seal Present/Intact: MP Y N COC Signed/Accurate: N Bottles arrive intact: N					
DW - Drinking Water OT - Other	Samples retur UPSFe	ned via: dEx Co	urier		Tracking # 42	930	0175 Other				Correct bottles used:						
Relinquished by : (Signature)	7	Date:	111	Time: /230	Received by: (Sign	ature)	系		Trip Blank I	Received:	Yes / No HCL / Meol TBR	Pres		on Correct/Che	ecked: N		
Relinquished by : (Signature)		Date:		Time:	Received by: (Sign.	ature)		Y I	Z.K.	°C Bo	ttles Received	If pre	If preservation required by Login: Date/T				
Relinquished by : (Signature) Date:			36.9	Time:	Received for lab by	y: (Signa	ture)	861	Date: 4//3//	Date: 4/13/18 Time: 845				Hold: Condition			



ANALYTICAL REPORT April 26, 2018



Plum Point Services Co., LLC

Sample Delivery Group: L988208 Samples Received: 04/13/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Mark W. Beasley

Technical Service Representative Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1					
Tc: Table of Contents	2					
Ss: Sample Summary	3					
Cn: Case Narrative	4					
Sr: Sample Results	5					
MW-102 L988208-01	5					
MW-116 L988208-02	6					
Qc: Quality Control Summary	7					
Metals (ICP) by Method 6010B	7					
GI: Glossary of Terms	8					
Al: Accreditations & Locations	9					
Sc: Sample Chain of Custody						





















			Collected by	Collected date/time	Received date/time
MW-102 L988208-01 GW			Michael Clayton	04/11/18 12:40	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1102638	1	04/25/18 08:35	04/26/18 04:06	TRB
			Collected by	Collected date/time	Received date/time
MW-116 L988208-02 GW			Michael Clayton	04/11/18 14:40	04/13/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1102638	1	04/25/18 08:35	04/26/18 04:09	TRB





















All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.















Mark W. Beasley

Technical Service Representative

MW-102

SAMPLE RESULTS - 01 L988208

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 12:40

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	136000		46.3	1000	1	04/26/2018 04:06	WG1102638



















MW-116

SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 04/11/18 14:40

L988208

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	137000		46.3	1000	1	04/26/2018 04:09	WG1102638



















ONE LAB. NATIONWIDE.

Metals (ICP) by Method 6010B

L988208-01,02

Method Blank (MB)

(MB) R3304763-1 04/26/18 03:09 MB Result MB MDL MB RDL MB Qualifier Analyte ug/l ug/l ug/l U 46.3 Calcium 1000









(LCS) R3304/63-2	04/26/18 03:12 • (LCSI	D) R3304/63-3	04/26/18 03:	15
	Spiko Amount	LCS Posult	LCSD Posult	ıc

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Calcium	10000	9750	9770	97 5	97.7	80 0-120			0 192	20	



[†]Cn













Guide to Reading and Understanding Your Laboratory Report

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RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.















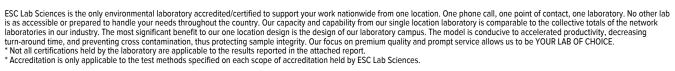






ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky ^{1 6}	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

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Plum Point Services Co., LLC Accounts P.O. Box		Duning and	Billing Information:			Analysis / Container / Freservative						Chain of Custody Page 2 of 2				
		Accounts Payable P.O. Box S67 Osceola, AR 72370				2						and an analysis of the same of	ESC	ds		
Report to: Email To: Christop Chris Lussier assoc.com, http://					ussier@nrg.com, die oc.com	(@ftn-								Total	enteres at 18635	
Project Description: Plum Point Energy	y Station		27	City/State Collected	NIA		(es							Mount Phone	Milet, TN 37122 615-758-5858 800-767-6858	100 X
Phone: 870-815-1248 Fax:		Client Project # 14590-1766-001		Lab Project NAESOA	R-PLUMPOINT		250miHDPE-NoPres	NO3							La 495645	#
Collected by (print): MILLIAN CLOSE	Site/Facility I	D #		P.O. 8	A THE STATE OF		MIHDP	250m/HDPE-HNO3						Tab	G127 L98820	8
Collected by (signature):		Lab MUST Be tay five I		Quote#			5 250	HJm0						10000	m NAESOAR ate T134757	
Inmediately Packed on Ice N y	Next Di Two Di Three C	V 5 Day V 10 Da		Date	Results Needed	No	SO4, TDS	3						TSR: 13	n. P647803 l4 - Mark W. Beasley	
Sample IO	Comp/Grab	Matrix *	Depth	Date	Time	Cotra	112	Total B,					- 100	PB: Shipper	78 4-5-18 I Via FedEX Standar	
MW-101	Grub	GW		4/12/	8 850	2	X	X	1	N. L				Am.		
MW-102	4 1 1	GW	3 110	4/11/10	1340	2	X	X								
MW-103		GW	8 37	Mula	1000	2	X	X						196	12	1
W-108		GW		4/10/12	1455	2	X	X	1						123	ı
W-113		GW	1 1 1	4/10/10	1125	2	X	X						1000	74	r
W-115		GW		Budlo	VIV 1210	2	X	11000			- 18			J. 1878	45	Ĭ
/W-116		GW	1	Mulu	1440	100 H	-	X	- 1				-		-46	L
NW-117	32 57	GW		411	1440	2	X	X	30.5				LUE .		-07	1-0
/W-118		GW		11/11/18	1/50	2	X	X	100-10		- 10		1030		-07	1
NW-119	V	GW		111118	1345	2	X	X	1000	188		123		1 -	-09	1
Matric - Soil AIR - Air F - Filter	Remarks:		78. 8	111118	1/635	2	X	X						3 6.1	14	
W - Groundwater 8 - Bloassay W - WasteWater									рН		Temp		\$10000 LONG \$1.00	- B12 REM BRIDE T-27 DAG	OS CHORN SE	
W - Drinking Water Samples returned via UPS FedEx					Tracking # 43	61	10	Flow Other		Coxence:	COC digned/Accurate: Bottles arrive intact: Coresct bottles used: Ovtficient values sent:		P.			
linquished by : (Signature)	2	Date:	18 /	23/	Received by: (Signatu	me)	01		Trip Black R	ecuius		Mean	VOA Zezu	It Appl Headspace:	imable	100
(inquished by : (Signature)		Date:	Tin		Received by (Signatu				Temp: 2,52	9	Sottler Ker	4	If preservat	ion required b	y Login: Date/Time	
Walter State			Tin		teceived for jub by.	ilgrature	86	7	4/13/1	8	Time:	5	Hold:		Condition NCF / Oy	

Andy Vann

From: Mark Beasley

Sent: Tuesday, April 24, 2018 1:23 PM

To: Login; Sample Storage
Subject: L985645 *NAESOAR* relog

Relog L985645-02 & -07 for CAICP. Log as EX due 4/27.

■ Mark Beasley
 National Account Manager

ESC Lab Sciences-a subsidiary of Pace Analytical 12065 Lebanon Road | Mt. Juliet, TN 37122 615.773.9672 | Cell 615.330.1602 mbeasley@esclabsciences.com | www.esclabsciences.com

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ANALYTICAL REPORT

Plum Point Services Co., LLC

Sample Delivery Group: L1008375 Samples Received: 07/11/2018

Project Number: 14590-1766-001

Description: Plum Point Energy Station

Report To: Chris Lussier

2739 SCR 623

Osceola, AR 72370

Entire Report Reviewed By:

Olivia Studebaker Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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			Collected by	Collected date/time	Received date/time
MW-102 L1008375-01 GW			Michael Clayton	07/09/18 14:05	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 22:56	LD
			Collected by	Collected date/time	Received date/time
MW-116 L1008375-02 GW			Michael Clayton	07/09/18 15:45	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 23:26	LD
			Collected by	Collected date/time	Received date/time
MW-201 L1008375-03 GW			Michael Clayton	07/09/18 15:50	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 23:31	LD
			Collected by	Collected date/time	Received date/time
MW-202 L1008375-04 GW			Michael Clayton	07/09/18 14:10	07/11/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICPMS) by Method 6020	WG1136769	1	07/12/18 13:58	07/12/18 22:28	LD























All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Ss













Olivia Studebaker Project Manager

SAMPLE RESULTS - 01 L1008375

ONE LAB. NATIONWIDE.

Collected date/time: 07/09/18 14:05

Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	124000		46.0	1000	1	07/12/2018 22:56	WG1136769



















SAMPLE RESULTS - 02 L1008375

ONE LAB. NATIONWIDE.



	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	ug/l		ug/l	ug/l		date / time	
Calcium	125000		46.0	1000	1	07/12/2018 23:26	WG1136769



















SAMPLE RESULTS - 03 L1008375

ONE LAB. NATIONWIDE.

Collected date/time: 07/09/18 15:50

Metals	(ICPMS)	by Method	6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis	<u>Batch</u>	
Analyte	ug/l		ug/l	ug/l		date / time		
Calcium	127000		46.0	1000	1	07/12/2018 23:31	WG1136769	



















SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE.

L1008375

Metals (ICPMS) by Method 6020

Collected date/time: 07/09/18 14:10

	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch	
Analyte	ug/l		ug/l	ug/l		date / time		
Calcium	124000	V	46.0	1000	1	07/12/2018 22:28	WG1136769	



















QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

Metals (ICPMS) by Method 6020

L1008375-01,02,03,04

Method Blank (MB)

Calcium

(MB) R3325221-1 07/12/18	3 22:14			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l

U



²Tc





46.0

1000

// CC) D222E221.2	07/12/10 22:10	// CCD/ D222E221.2	07/12/10 22:24
(LC3) R3323221-2	0//12/10 22.19 •	(LCSD) R3325221-3	0//12/10 22.24

, ,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%	
Calcium	5000	4880	5120	97.5	102	80.0-120			4.98	20	





L1008375-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1008375-04 07/12/18 22:28 • (MS) R3325221-5 07/12/18 22:37 • (MSD) R3325221-6 07/12/18 22:42

(03) [1000373-04 07/12/10	(OS) E1000575-04 OTTIZTIO ZZ.ZO • (WS) K35Z5ZZEFS OTTIZTIO ZZ.SO • (WSD) K35Z5ZZEFO OTTIZTIO ZZ.4Z														
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits			
Analyte	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%			
Calcium	5000	124000	127000	127000	63.1	50.9	1	75.0-125	V	V	0.483	20			







GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the resul reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section fo each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The sample concentration is too high to evaluate accurate spike recoveries.



















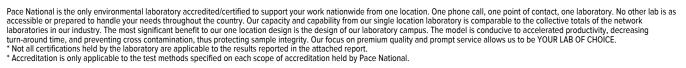




SDG:

ACCREDITATIONS & LOCATIONS





State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky 16	90010
Kentucky ²	16
Louisiana	Al30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LAO00356
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	
A2LA - ISO 17025 5	1461.02	
Canada	1461.01	
EPA-Crypto	TN00003	

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



















Plum Point Services Co., LLC Accounts Payable P.O. Box 567 Osceola, AR 72370								Analysis /	Contain	er / Preservat	ive		Chain of Custody	Page			
					Pres Chk	77							*E	SC			
Osceola, AR 72370									70		// [TAA S		
Report to: Email To: Christopher.Lussi Chris Lussier assoc.com, hlf@ftn-assoc.com					ftn-					10			12065 Lebanon Rd Mount Juliet, TN 371 Phone: 615-758-585 Phone: 800-767-585	Walter and			
Project Description: Plum Point Energy Station			7	City/State Collected: OS	ceola Al	n								Fax: 615-758-5859	回题的新		
hone: 870-815-1248 ax:	14590-1766			Lab Project # NAESOAR-PI			NO3	DPE-HNO3						B06	3		
collected by (print):	Site/Facility ID	#	1	P.O. #		P.O. #				н-энс				Acctnum: NAESOAR			
ollected by (signature):		ab MUST Be	AUST Be Notified) Quote #				Date Results Needed		250mlHD							Template:T13	1865
Immediately Packed on Ice N Y	Next Day Two Day Three Day	5 Day	(Rad Only) sy (Rad Only)	Date Res	Ca										W. Beasley B W edEX Ground		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	Total		-					Remarks	Sample # (lab only)		
MW-102	GNAS	GW	9	7/9/18	1405	1	X		11 540					200	-61		
MW-116	199	GW	S.	7/9/18	1545	1	X							4 / Tab	-02		
MW-201	2363	GW		7/9/18	1550	1	X		147		211	100		Water	-03		
MW-202	V	GW		7/9/18	1410	1	X							100	-OA		
	1	GW		Lor Tate		1	X										
					- A			100									
					No. of Lot												
# b		4596			has 2	1		1				100					
A 19 /	v model	100			100						_ 4						
					19/5												
Matrix: S - Soil AIR - Air F - Filter SW - Groundwater B - Bloassay	S - Soil AIR - Air F - Filter					L			pH		Temp		COC Seal COC Sign Bottles	ample Receipt C Present/Intact ed/Accurate; arrive intact; bottles used;			
WW - WasteWater DW - Drinking Water OT - Other		urier		racking# 4	18# 4492 10214			1971	497U			Sufficie VOA Zero	nt volume sent: <u>If Applicat</u> Headspace:	In Y			
		110	Time: F	Received by: (Signa	iture)	100		Trip Bla	nk Rece	ived: Yes (N HCL, TBR	MeoH	Preservation Correct/Checked:					
Relinquished by : (Signature)			Received by: (Signature)					Temp: C Bottles Received:				If preservation required by Login: Date/Time					
Relinquished by : (Signature)	E 1	Date:		Time:	Super N		sture)		Date:	119	Time:	<	Hold:		NCF / OK		