



ARKANSAS
Department of Environmental Quality

WATER DIVISION INSPECTION REPORT

AFIN: 04-00106	PERMIT #: AR0020273	DATE: 10/2/2015
COUNTY: 04 Benton	PDS #: 087325	MEDIA: WN
GPS LAT: N36.19285 LONG: W-94.56321 LOCATION: Entrance		

FACILITY INFORMATION

NAME:
City of Siloam Springs POTW

LOCATION:
975 Anderson

CITY:
Siloam Springs

RESPONSIBLE OFFICIAL

NAME / TITLE:
Tom Myers / Wastewater Superintendent

COMPANY:
City of Siloam Springs

MAILING ADDRESS:
P.O. Box 80

CITY, STATE, ZIP:
Siloam Springs AR 72761

PHONE & EXT. / FAX:
479-524-5623 / 479-524-4653

EMAIL:
tmyers@siloamsprings.com

CONTACTED DURING INSPECTION: **Yes**

INSPECTION INFORMATION

FACILITY TYPE: 1 - Municipal	INSPECTOR ID#: 14939 S - State		
FACILITY EVALUATION RATING: ***	INSPECTION TYPE: Reconnaissance		
DATE(S): 10/2/2015	ENTRY TIME: 10:55	EXIT TIME: 12:20	PERMIT EFFECTIVE DATE: 10/1/2007
			PERMIT EXPIRATION DATE: 9/30/2012

FAYETTEVILLE SHALE RELATED: **N**

FAYETTEVILLE SHALE VIOLATIONS: **N**

INSPECTION PARTICIPANTS

NAME/TITLE/PHONE/FAX/EMAIL/ETC.:
Tom Myers/City of Siloam Springs Wastewater Superintendent

AREA EVALUATIONS

(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Applicable/Evaluated)

**	PERMIT	**	FLOW MEASUREMENT	**	STORMWATER
**	RECORDS/REPORTS	**	LABORATORY	**	FACILITY SITE REVIEW
**	OPERATION & MAINTENANCE	**	EFFLUENT/RECEIVING WATER	**	SELF-MONITORING PROGRAM
**	SAMPLING	**	SLUDGE HANDLING/DISPOSAL	**	PRETREATMENT
**	OTHER:				

General Comments

The upset that was documented during site visits conducted on September 29 and 30, 2015, was still occurring on October 2, 2015. The wastewater was light gray in color at the City's permitted outfall (Outfall 001) and where Outfall 001 discharges into Sager Creek. Sager Creek was clear upstream of Outfall 001. Dissolved Oxygen (D.O.) and pH analyses were conducted by Inspector Matt Holden in Sager Creek upstream of Outfall 001, at Outfall 001, at Outfall 001 as the effluent entered Sager Creek, and at ARK0005. The results are noted below.

Sager Creek - Upstream of Outfall 001

Parameter	Sampling/Analysis Time	Analysis Result	Temperature-C°
D.O.	11:24	10.60 mg/L	15.9
pH	11:25	7.81 s.u.	15.8

Outfall 001

Parameter	Sampling/Analysis Time	Analysis Result	Temperature-C°
D.O.	11:04	8.45 mg/L	24.3
D.O. Duplicate	11:06	8.36 mg/L	24.0
pH	11:04	7.83 s.u.	23.9
pH Duplicate	11:06	7.86 s.u.	23.9

Outfall 001 as effluent entered Sager Creek

Parameter	Sampling/Analysis Time	Analysis Result	Temperature-C°
D.O.	11:39	8.56 mg/L	23.1
pH	11:39	8.03 s.u.	22.5

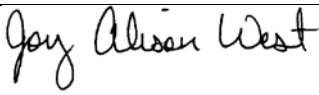

ARK0005

Parameter	Sampling/Analysis Time	Analysis Result	Temperature-C°
D.O.	12:11	4.98 mg/L	18.7
pH	12:12	7.65 s.u.	18.7

Additional samples were, also, collected by Matt Holden at the above referenced locations for the following parameters: chlorides, sulfates, ammonia, TDS, TSS, total metals, and dissolved metals. Samples were relinquished to Tate Wentz, ADEQ Ecologist Coordinator, at 15:01 and delivered to ADEQ headquarters for analysis on October 2, 2015.

Summary of Findings

See inspection dated September 30, 2015.

INSPECTOR'S SIGNATURE: 	-Alison West	DATE: 10-15-2015
SUPERVISOR'S SIGNATURE: 	Jason Bolenbaugh	DATE: 10/16/2015

Water Division Photographic Evidence Sheet

Location:	City of Siloam Springs POTW				
Photographer:	Alison West	Date:	10-2-2015	Time:	11:48
Witness:	Matt Holden	Photo #:	1		
Description:	IMG_8052. BNR treatment recovering from upset. Note brown color of wastewater in BNR.				



Photographer:	Alison West	Date:	10-2-2015	Time:	11:52
Witness:	Matt Holden	Photo #:	2		
Description:	IMG_8058. Turbidity in final clarifier.				



Water Division Photographic Evidence Sheet

Location:	City of Siloam Springs POTW				
Photographer:	Alison West	Date:	10-2-2015	Time:	
Witness:	Matt Holden	Photo #:	3		
Description:	IMG_8456. Chlorination/dechlorination basin.				



Photographer:	Alison West	Date:	10-2-2015	Time:	
Witness:	Matt Holden	Photo #:	4		
Description:	IMG_8457. Chlorination/dechlorination basin discharging into Outfall 001.				



Water Division Photographic Evidence Sheet

Location:	City of Siloam Springs POTW				
Photographer:	Alison West	Date:	10-2-2015	Time:	
Witness:	Matt Holden	Photo #:	5		
Description:	IMG_8458. Chlorination/dechlorination basin discharging into Outfall 001.				



Photographer:	Alison West	Date:	10-2-2015	Time:	11:48
Witness:	Matt Holden	Photo #:	6		
Description:	IMG_8051. Turbid effluent discharging from Outfall 001 into Sager Creek. Water upstream of Outfall 001 is clear.				



Water Division Photographic Evidence Sheet

Location: **City of Siloam Springs POTW**
Photographer: **Alison West** Date: **10-2-2015** Time: **11:38**
Witness: **Matt Holden** Photo #: **7**
Description: **IMG_8042. Outfall 001 discharge.**



Photographer: **Alison West** Date: **10-2-2015** Time: **11:47**
Witness: **Matt Holden** Photo #: **8**
Description: **IMG_8049. Turbid effluent discharging from Outfall 001 into Sager Creek. Water upstream of Outfall 001 is clear.**



Water Division Photographic Evidence Sheet

Location:	City of Siloam Springs POTW				
Photographer:	Alison West	Date:	10-2-2015	Time:	11:47
Witness:	Matt Holden	Photo #:	9		
Description:	IMG_8050. Turbid effluent discharging from Outfall 001 into Sager Creek. Water upstream of Outfall 001 is clear.				



Photographer:	Alison West	Date:	10-2-2015	Time:	12:04
Witness:	Matt Holden	Photo #:	10		
Description:	IMG_8060. Sager Creek downstream of Outfall 001 at ARK0005.				



Water Division Photographic Evidence Sheet

Location:	City of Siloam Springs POTW				
Photographer:	Alison West	Date:	10-2-2015	Time:	12:04
Witness:	Matt Holden	Photo #:	11		
Description:	IMG_8061. Sager Creek downstream of Outfall 001 at ARK0005. Note accumulation of solids.				



Photographer:	Alison West	Date:	10-2-2015	Time:	12:05
Witness:	Matt Holden	Photo #:	12		
Description:	IMG_8064. Sager Creek downstream of Outfall 001 at ARK0005.				





5301 Northshore Drive
North Little Rock, AR 72118
Telephone: 501-682-0744

Client Report For: City of Siloam Springs 2015 2602-2604

Attention:

Client Address:

, AR

Report Date: October 12, 2015

LAB ID: AR15OCT05-01

Comment:

Approved By: _____

Date: October 12, 2015

Client: All Sites
Lab ID: 2015-2602

Client Sample ID: Sager Creek - US of 001
Collection Date: 10/2/2015 11:14:00 AM
Matrix: Water

Analyses

Ammonia as Nitrogen	SM 4500-NH3 H (20th)	Batch: 15100905 Run: 1		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u> <u>Unit</u>
Ammonia as N	<0.03	0.03	0.03	mg/L
Dilution Factor	1			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	10/8/2015 10:20:01 AM			

Anions by Ion Chromatography	EPA 300.0	Batch: 15100910 Run: 1		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u> <u>Unit</u>
Fluoride	<0.05	0.05	0.009	mg/L
Bromide	<0.1	0.1	0.01	mg/L
Chloride	13.2	0.2	0.07	mg/L
Sulfate	9.11	0.2	0.04	mg/L
Dilution Factor	1			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	10/08/15 09:45			

Nitrate and Nitrite	SM 4500-NO3 I (20th)	Batch: 15100907 Run: 1		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u> <u>Unit</u>
Nitrate/Nitrite as N	2.39	0.03	0.03	mg/L
Dilution Factor	1			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	10/8/2015 10:20:01 AM			

Orthophosphate as Phosphorus	SM 4500-P G (20th)	Batch: 15100906 Run: 1		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u> <u>Unit</u>
Orthophosphate as P	0.037	0.02	0.02	mg/L
Dilution Factor	1			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	10/8/2015 10:20:01 AM			

Total Dissolved Solids	EPA 160.1	Batch: 15100913 Run: 1		
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u> <u>Unit</u>
Total Dissolved Solids	185	5.0	5.0	mg/L

Analyzed By	Katy Hattenhauer
Analysis Date/Time	10/8/2015 9:00

Total Suspended Solids

EPA 160.2

Batch: 15100912 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Total Suspended Solids	<1.0	1.0	1.0		mg/L
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

Client: All Sites
Lab ID: 2015-2603

Client Sample ID: 001 entering Sager Creek

Collection Date: 10/2/2015 11:30:00 AM

Matrix: Water

Analyses

Ammonia as Nitrogen	SM 4500-NH3 H (20th)	Batch: 15100905 Run: 1			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Ammonia as N	3.29	0.15	0.03		mg/L
Dilution Factor	5				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:19:15 PM				

Anions by Ion Chromatography	EPA 300.0	Batch: 15100910 Run: 1			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Fluoride	0.68	0.05	0.009		mg/L
Bromide	<0.1	0.1	0.01		mg/L
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 10:00				

Anions by Ion Chromatography	EPA 300.0	Batch: 15100910 Run: 2			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Chloride	115	1	0.07		mg/L
Sulfate	108	1	0.04		mg/L
Dilution Factor	5				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/09/15 08:56				

Nitrate and Nitrite	SM 4500-NO3 I (20th)	Batch: 15100907 Run: 1			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Nitrate/Nitrite as N	<0.15	0.15	0.03		mg/L
Dilution Factor	5				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:19:15 PM				

Orthophosphate as Phosphorus	SM 4500-P G (20th)	Batch: 15100906 Run: 1			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Orthophosphate as P	0.162	0.1	0.02		mg/L
Dilution Factor	5				
Analyzed By	Patrick Rawhouser				

Analysis Date/Time 10/8/2015 12:19:15 PM

Total Dissolved Solids

EPA 160.1

Batch: 15100913 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Total Dissolved Solids	607	5.0	5.0		mg/L
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

Total Suspended Solids

EPA 160.2

Batch: 15100912 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Total Suspended Solids	18.0	1.0	1.0		mg/L
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

Client: All Sites
Lab ID: 2015-2604

Client Sample ID: ARK0005
Collection Date: 10/2/2015 12:08:00 PM

Matrix: Water

Analyses

<i>Ammonia as Nitrogen</i>	<i>SM 4500-NH3 H (20th)</i>	<i>Batch: 15100905 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Ammonia as N	1.11	0.03	0.03		mg/L
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:23:08 AM				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 15100910 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Fluoride	0.32	0.05	0.009		mg/L
Bromide	<0.1	0.1	0.01		mg/L
Sulfate	38.3	0.2	0.04		mg/L
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 10:07				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 15100910 Run: 2</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Chloride	54.0	1	0.07		mg/L
Dilution Factor	5				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/09/15 09:03				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 15100910 Run: 3</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Fluoride		0.05	0.009		mg/L
Bromide		0.1	0.01		mg/L
Chloride		0.2	0.07		mg/L
Sulfate		0.2	0.04		mg/L
Dilution Factor	1				
Analyzed By					
Analysis Date/Time					

<i>Nitrate and Nitrite</i>	<i>SM 4500-NO3 I (20th)</i>	<i>Batch: 15100907 Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>

Nitrate/Nitrite as N	0.485	0.03	0.03	mg/L
Dilution Factor	1			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	10/8/2015 10:23:08 AM			

Orthophosphate as Phosphorus

SM 4500-P G (20th)

Batch: 15100906 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Orthophosphate as P	0.348	0.02	0.02		mg/L
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:23:08 AM				

Total Dissolved Solids

EPA 160.1

Batch: 15100913 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Total Dissolved Solids	392	5.0	5.0		mg/L
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

Total Suspended Solids

EPA 160.2

Batch: 15100912 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Total Suspended Solids	1.5	1.0	1.0		mg/L
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

Client: All Sites
Lab ID: 2015-2602

Client Sample ID: Sager Creek - US of 001
Collection Date: 10/2/2015 11:14:00 AM
Matrix: Water

Analyses

Dissolved Metals by EPA 200.8

EPA 200.8

Batch: 15100901 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	<20	20	20		ug/L
Antimony	<5	5	1.0		ug/L
Arsenic	<0.5	0.5	0.2		ug/L
Barium	77.6	2	0.4		ug/L
Beryllium	<0.1	0.1	0.04		ug/L
Boron	14.2	5	2.0		ug/L
Cadmium	<0.1	0.1	0.05		ug/L
Calcium	51.6	0.03	0.03		mg/L
Chromium	<0.5	0.5	0.05		ug/L
Cobalt	<0.5	0.5	0.05		ug/L
Copper	0.50	0.5	0.2		ug/L
Iron	<20	20	5.0		ug/L
Lead	<0.3	0.3	0.02		ug/L
Magnesium	2.76	0.02	0.01		mg/L
Manganese	2.97	0.3	0.07		ug/L
Nickel	<0.5	0.5	0.15		ug/L
Potassium	2.84	0.02	0.01		mg/L
Selenium	<1	1	0.2		ug/L
Silicon Dioxide	6.59	0.05	0.01		mg/L
Silver	<0.5	0.5	0.02		ug/L
Sodium	11.2	0.02	0.01		mg/L
Thallium	<0.5	0.5	0.005		ug/L
Vanadium	<0.5	0.5	0.3		ug/L
Zinc	1.97	1	0.3		ug/L
Hardness	140	1	1.0		mg/L
Dilution Factor	1				
Analyzed By	Robert Graddy				
Analysis Date/Time	Oct 6 2015 2:36PM				

Total Metals by EPA 200.8

EPA 200.8

Batch: 15100903 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	<20	20	20		ug/L
Antimony	<10	10	5		ug/L
Arsenic	<1	1	0.5		ug/L
Barium	76.2	10	2.0		ug/L
Beryllium	<0.5	0.5	0.1		ug/L
Boron	<25	25	5.0		ug/L

Cadmium	<1	1	0.3	ug/L
Calcium	48.0	0.04	0.04	mg/L
Chromium	<1	1	0.3	ug/L
Cobalt	<1	1	0.5	ug/L
Copper	<1	1	0.5	ug/L
Iron	<20	20	10.0	ug/L
Lead	<1	1	0.1	ug/L
Magnesium	2.74	0.1	0.1	mg/L
Manganese	4.04	1	0.2	ug/L
Nickel	<2.5	2.5	0.5	ug/L
Potassium	2.60	1	0.05	mg/L
Selenium	<2	2	0.5	ug/L
Silver	<5	5	1.0	ug/L
Sodium	11.1	0.04	0.02	mg/L
Thallium	<2.5	2.5	0.05	ug/L
Vanadium	<2.5	2.5	1.0	ug/L
Zinc	<3	3	2.0	ug/L
Dilution Factor	1			
Analyzed By	Robert Graddy			
Analysis Date/Time	Oct 8 2015 11:54AM			
Prep By				
Prep Date/Time				

Client: All Sites
Lab ID: 2015-2603

Client Sample ID: 001 entering Sage Creek

Collection Date: 10/2/2015 11:30:00 AM

Matrix: Water

Analyses

Dissolved Metals by EPA 200.8

EPA 200.8

Batch: 15100901 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	112	20	20		ug/L
Antimony	<5	5	1.0		ug/L
Arsenic	<0.5	0.5	0.2		ug/L
Barium	24.9	2	0.4		ug/L
Beryllium	<0.1	0.1	0.04		ug/L
Boron	110	5	2.0		ug/L
Cadmium	<0.1	0.1	0.05		ug/L
Calcium	57.1	0.03	0.03		mg/L
Chromium	<0.5	0.5	0.05		ug/L
Cobalt	<0.5	0.5	0.05		ug/L
Copper	0.86	0.5	0.2		ug/L
Iron	127	20	5.0		ug/L
Lead	<0.3	0.3	0.02		ug/L
Magnesium	16.6	0.02	0.01		mg/L
Manganese	71.6	0.3	0.07		ug/L
Nickel	2.04	0.5	0.15		ug/L
Potassium	22.4	0.02	0.01		mg/L
Selenium	<1	1	0.2		ug/L
Silicon Dioxide	7.67	0.05	0.01		mg/L
Silver	<0.5	0.5	0.02		ug/L
Sodium	84.1	0.02	0.01		mg/L
Thallium	<0.5	0.5	0.005		ug/L
Vanadium	0.99	0.5	0.3		ug/L
Zinc	12.1	1	0.3		ug/L
Hardness	211	1	1.0		mg/L
Dilution Factor	1				
Analyzed By	Robert Graddy				
Analysis Date/Time	Oct 6 2015 3:28PM				

Total Metals by EPA 200.8

EPA 200.8

Batch: 15100903 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	273	20	20		ug/L
Antimony	<10	10	5		ug/L
Arsenic	<1	1	0.5		ug/L
Barium	25.2	10	2.0		ug/L
Beryllium	<0.5	0.5	0.1		ug/L
Boron	114	25	5.0		ug/L

Cadmium	<1	1	0.3	ug/L
Calcium	63.9	0.04	0.04	mg/L
Chromium	<1	1	0.3	ug/L
Cobalt	<1	1	0.5	ug/L
Copper	1.83	1	0.5	ug/L
Iron	281	20	10.0	ug/L
Lead	<1	1	0.1	ug/L
Magnesium	17.9	0.1	0.1	mg/L
Manganese	71.7	1	0.2	ug/L
Nickel	<2.5	2.5	0.5	ug/L
Potassium	24.5	1	0.05	mg/L
Selenium	<2	2	0.5	ug/L
Silver	<5	5	1.0	ug/L
Sodium	100	0.04	0.02	mg/L
Thallium	<2.5	2.5	0.05	ug/L
Vanadium	<2.5	2.5	1.0	ug/L
Zinc	13.7	3	2.0	ug/L
Dilution Factor	1			
Analyzed By	Robert Graddy			
Analysis Date/Time	Oct 9 2015 2:08PM			
Prep By				
Prep Date/Time				

Client: All Sites
Lab ID: 2015-2604

Client Sample ID: ARK0005
Collection Date: 10/2/2015 12:08:00 PM
Matrix: Water

Analyses

Dissolved Metals by EPA 200.8

EPA 200.8

Batch: 15100901 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	149	20	20		ug/L
Antimony	<5	5	1.0		ug/L
Arsenic	1.8	0.5	0.2		ug/L
Barium	94.8	2	0.4		ug/L
Beryllium	<0.1	0.1	0.04		ug/L
Boron	47.0	5	2.0		ug/L
Cadmium	<0.1	0.1	0.05		ug/L
Calcium	66.9	0.03	0.03		mg/L
Chromium	<0.5	0.5	0.05		ug/L
Cobalt	2.36	0.5	0.05		ug/L
Copper	<0.5	0.5	0.2		ug/L
Iron	298	20	5.0		ug/L
Lead	<0.3	0.3	0.02		ug/L
Magnesium	10.3	0.02	0.01		mg/L
Manganese	1150	0.3	0.07		ug/L
Nickel	3.32	0.5	0.15		ug/L
Potassium	13.1	0.02	0.01		mg/L
Selenium	<1	1	0.2		ug/L
Silicon Dioxide	8.98	0.05	0.01		mg/L
Silver	<0.5	0.5	0.02		ug/L
Sodium	41.8	0.02	0.01		mg/L
Thallium	<0.5	0.5	0.005		ug/L
Vanadium	1.21	0.5	0.3		ug/L
Zinc	4.39	1	0.3		ug/L
Hardness	209	1	1.0		mg/L
Dilution Factor	1				
Analyzed By	Robert Graddy				
Analysis Date/Time	Oct 6 2015 3:43PM				

Total Metals by EPA 200.8

EPA 200.8

Batch: 15100903 Run: 2

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Manganese	1270	10	0.2		ug/L
Dilution Factor	10				
Analyzed By	Robert Graddy				
Analysis Date/Time	Oct 8 2015 1:08PM				
Prep By					
Prep Date/Time					

Total Metals by EPA 200.8

EPA 200.8

Batch: 15100903 Run: 1

	<u>Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Qual</u>	<u>Unit</u>
Aluminum	35.5	20	20		ug/L
Antimony	<10	10	5		ug/L
Arsenic	1.8	1	0.5		ug/L
Barium	94.0	10	2.0		ug/L
Beryllium	<0.5	0.5	0.1		ug/L
Boron	45.4	25	5.0		ug/L
Cadmium	<1	1	0.3		ug/L
Calcium	59.8	0.04	0.04		mg/L
Chromium	<1	1	0.3		ug/L
Cobalt	2.44	1	0.5		ug/L
Copper	<1	1	0.5		ug/L
Iron	417	20	10.0		ug/L
Lead	<1	1	0.1		ug/L
Magnesium	10.5	0.1	0.1		mg/L
Nickel	3.32	2.5	0.5		ug/L
Potassium	11.6	1	0.05		mg/L
Selenium	<2	2	0.5		ug/L
Silver	<5	5	1.0		ug/L
Sodium	43.2	0.04	0.02		mg/L
Thallium	<2.5	2.5	0.05		ug/L
Vanadium	<2.5	2.5	1.0		ug/L
Zinc	<3	3	2.0		ug/L
Dilution Factor	1				
Analyzed By	Robert Graddy				
Analysis Date/Time	Oct 8 2015 1:00PM				
Prep By					
Prep Date/Time					

Analytical Quality Control Results Report

Batch: 15100912	TSS - water
<i>Sager Creek - US of 001</i>	<i>LIMS ID: 2015-2602</i>

Solids, Total Suspended - water DUP

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Suspended Solids	<1 mg/L	1	1		
Total Suspended Solids (RPD)	0 %				0 - 20
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

MB	LIMS ID: 15100912-MB-01
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Solids, Total Suspended - water MB

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Suspended Solids	<1 mg/L	1	1		
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

LCS	LIMS ID: 15100912-LCS-01
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Solids, Total Suspended - water LCS

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Suspended Solids (% Recovery)	98.5 %			90 - 110	
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

MB	LIMS ID: 15100912-MB-02
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Solids, Total Suspended - water MB

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Suspended Solids	<1 mg/L	1	1		
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

LCS	LIMS ID: 15100912-LCS-02
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Solids, Total Suspended - water LCS

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Suspended Solids (% Recovery)	99.0 %			90 - 110	
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

MB **LIMS ID: 15100912-MB-03**

Solids, Total Suspended - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Suspended Solids	<1 mg/L	1	1		
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

LCS **LIMS ID: 15100912-LCS-03**

Solids, Total Suspended - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Suspended Solids (% Recovery)	101 %			90 - 110	
Analyzed By	Chad Carrington				
Analysis Date/Time	10/8/2015 7:30				

Analytical Quality Control Results Report

Batch: 15100913	TDS - water
Sager Creek - US of 001	LIMS ID: 2015-2602

Solids, Total Dissolved - water DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Dissolved Solids	188 mg/L	5	5		
Total Dissolved Solids (RPD)	2 %				0 - 20
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

MB	LIMS ID: 15100913-MB-01
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Solids, Total Dissolved - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Dissolved Solids	<5.0 mg/L	5	5		
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

LCS	LIMS ID: 15100913-LCS-01
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Solids, Total Dissolved - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Dissolved Solids (% Recovery)	98 %			90 - 110	
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

MB	LIMS ID: 15100913-MB-02
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Solids, Total Dissolved - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Dissolved Solids	<5.0 mg/L	5	5		
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

LCS	LIMS ID: 15100913-LCS-02
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Solids, Total Dissolved - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Total Dissolved Solids (% Recovery)	96 %			90 - 110	
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

MB	LIMS ID: 15100913-MB-03
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Solids, Total Dissolved - water MB

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Dissolved Solids	<5.0 mg/L	5	5		
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

LCS	LIMS ID: 15100913-LCS-03
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Solids, Total Dissolved - water LCS

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Total Dissolved Solids (% Recovery)	98 %			90 - 110	
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/8/2015 9:00				

Analytical Quality Control Results Report

Batch: 15100905	Lachat - Ammonia (water)
<i>Sager Creek - US of 001</i>	<i>LIMS ID: 2015-2602</i>

Ammonia as N - water DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N	<0.03 mg/L	0.03	0.03		
Ammonia as N (RPD)	48.3 %				0 - 20
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:21:03 AM				

MB	LIMS ID: 15100905-MB-01
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Ammonia as N - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N	<0.03 mg/L	0.03	0.03		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:17:55 AM				

LCS	LIMS ID: 15100905-LCS-01
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Ammonia as N - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N (% Recovery)	105 %			80 - 120	
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:18:58 AM				

MB	LIMS ID: 15100905-MB-02
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Ammonia as N - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N	<0.03 mg/L	0.03	0.03		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 11:10:18 AM				

LCS	LIMS ID: 15100905-LCS-02
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Ammonia as N - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N (% Recovery)	102 %			80 - 120	

Dilution Factor	1
Analyzed By	Patrick Rawhouser
Analysis Date/Time	10/8/2015 11:11:22 AM

MB	LIMS ID: 15100905-MB-03
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Ammonia as N - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N	<0.03 mg/L	0.03	0.03		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:02:34 PM				

LCS	LIMS ID: 15100905-LCS-03
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Ammonia as N - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Ammonia as N (% Recovery)	102 %			80 - 120	
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:03:36 PM				

Analytical Quality Control Results Report

Batch: 15100906	Lachat - OP (water)
<i>Sager Creek - US of 001</i>	<i>LIMS ID: 2015-2602</i>

Orthophosphate as P - water DUP

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Orthophosphate as P	0.038 mg/L	0.02	0.02		
Orthophosphate as P (RPD)	1.6 %				0 - 20
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:21:03 AM				

MB	LIMS ID: 15100906-MB-01
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Orthophosphate as P - water MB

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Orthophosphate as P	<0.02 mg/L	0.02	0.02		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:17:55 AM				

LCS	LIMS ID: 15100906-LCS-01
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Orthophosphate as P - water LCS

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Orthophosphate as P (% Recovery)	116 %			80 - 120	
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:18:58 AM				

MB	LIMS ID: 15100906-MB-02
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Orthophosphate as P - water MB

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Orthophosphate as P	<0.02 mg/L	0.02	0.02		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 11:10:18 AM				

LCS	LIMS ID: 15100906-LCS-02
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Orthophosphate as P - water LCS

Run: 1

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Orthophosphate as P (% Recovery)	102 %			80 - 120	

Dilution Factor 1
Analyzed By Patrick Rawhouser
Analysis Date/Time 10/8/2015
11:11:22 AM

MB **LIMS ID: 15100906-MB-03**

Orthophosphate as P - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Orthophosphate as P	<0.02 mg/L	0.02	0.02		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:02:34 PM				

LCS **LIMS ID: 15100906-LCS-03**

Orthophosphate as P - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Orthophosphate as P (% Recovery)	105 %			80 - 120	
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:03:36 PM				

Analytical Quality Control Results Report

Batch: 15100907	Lachat - NO3+NO2 (water)
Sager Creek - US of 001	LIMS ID: 2015-2602

Nitrate and Nitrite - water DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N	2.4 mg/L	0.03	0.03		
Nitrate/Nitrite as N (RPD)	0.4 %				0 - 20
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:21:03 AM				

MB	LIMS ID: 15100907-MB-01
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Nitrate and Nitrite - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N	<0.03 mg/L	0.03	0.03		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:17:55 AM				

LCS	LIMS ID: 15100907-LCS-01
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Nitrate and Nitrite - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N (% Recovery)	104 %			80 - 120	
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 10:18:58 AM				

MB	LIMS ID: 15100907-MB-02
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Nitrate and Nitrite - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N	<0.03 mg/L	0.03	0.03		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 11:10:18 AM				

LCS	LIMS ID: 15100907-LCS-02
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Nitrate and Nitrite - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N (% Recovery)	99.2 %			80 - 120	

Dilution Factor	1
Analyzed By	Patrick Rawhouser
Analysis Date/Time	10/8/2015 11:11:22 AM

MB **LIMS ID: 15100907-MB-03**

Nitrate and Nitrite - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N	<0.03 mg/L	0.03	0.03		
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:02:34 PM				

LCS **LIMS ID: 15100907-LCS-03**

Nitrate and Nitrite - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Nitrate/Nitrite as N (% Recovery)	98.7 %			80 - 120	
Dilution Factor	1				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	10/8/2015 12:03:36 PM				

Analytical Quality Control Results Report

Batch: 15100910	Anions - water
Sager Creek - US of 001	LIMS ID: 2015-2602

Anions - water DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Fluoride	<0.05 mg/L	0	0.05		
Fluoride (RPD)	1.1 %				0 - 20
Bromide	<0.1 mg/L	0.01	0.1		
Bromide (RPD)	0 %				0 - 20
Chloride	13.1 mg/L	0.07	0.2		
Chloride (RPD)	0.6 %				0 - 20
Sulfate (RPD)	0.6 %				0 - 20
Sulfate	9.06 mg/L	0.04	0.2		
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 09:52				

MB	LIMS ID: 15100910-MB-01
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Anions - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Fluoride	<0.05 mg/L	0	0.05		
Bromide	<0.1 mg/L	0.01	0.1		
Chloride	<0.2 mg/L	0.07	0.2		
Sulfate	<0.2 mg/L	0.04	0.2		
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 09:30				

LCS	LIMS ID: 15100910-LCS-01
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Anions - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Fluoride (% Recovery)	97.7 %			90 - 110	
Bromide (% Recovery)	87.6 %			90 - 110	
Chloride (% Recovery)	101 %			90 - 110	
Sulfate (% Recovery)	101 %			90 - 110	
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 09:38				

MB	LIMS ID: 15100910-MB-02
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Anions - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
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Fluoride	<0.05 mg/L	0	0.05
Bromide	<0.1 mg/L	0.01	0.1
Chloride	<0.2 mg/L	0.07	0.2
Sulfate	<0.2 mg/L	0.04	0.2
Dilution Factor	1		
Analyzed By	Katy Hattenhauer		
Analysis Date/Time	10/08/15 13:25		

LCS	LIMS ID: 15100910-LCS-02
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Anions - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Fluoride (% Recovery)	96.6 %			90 - 110	
Bromide (% Recovery)	87.4 %			90 - 110	
Chloride (% Recovery)	100 %			90 - 110	
Sulfate (% Recovery)	101 %			90 - 110	
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 13:32				

MB	LIMS ID: 15100910-MB-03
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Anions - water MB

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Fluoride	<0.05 mg/L	0	0.05		
Bromide	<0.1 mg/L	0.01	0.1		
Chloride	<0.2 mg/L	0.07	0.2		
Sulfate	<0.2 mg/L	0.04	0.2		
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 17:27				

LCS	LIMS ID: 15100910-LCS-03
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Anions - water LCS

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Fluoride (% Recovery)	97.2 %			90 - 110	
Bromide (% Recovery)	86.3 %			90 - 110	
Chloride (% Recovery)	100 %			90 - 110	
Sulfate (% Recovery)	101 %			90 - 110	
Dilution Factor	1				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	10/08/15 17:35				

Analytical Quality Control Results Report

Batch: 15100903**ICP Metals - water (total)**

Sager Creek - US of 001

LIMS ID: 2015-2602

ICP Metals - water (Total) DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Aluminum	282 ug/L	20	20		
Aluminum (RPD)	184 %				0 - 20
Antimony (RPD)	725 %				0 - 20
Antimony	<10 ug/L	5	10		
Arsenic	<1 ug/L	0.5	1		
Arsenic (RPD)	14.6 %				0 - 20
Barium (RPD)	95.4 %				0 - 20
Barium	27.0 ug/L	2	10		
Beryllium	<0.5 ug/L	0.1	0.5		
Beryllium (RPD)	0 %				0 - 20
Boron (RPD)	158 %				0 - 20
Boron	110 ug/L	5	25		
Cadmium	<1 ug/L	0.3	1		
Cadmium (RPD)	0 %				0 - 20
Calcium (RPD)	17.9 %				0 - 20
Calcium	57.5 mg/L	0.04	0.04		
Chromium	<1 ug/L	0.3	1		
Chromium (RPD)	39.1 %				0 - 20
Cobalt (RPD)	504 %				0 - 20
Cobalt	<1 ug/L	0.5	1		
Copper	1.79 ug/L	0.5	1		
Copper (RPD)	121 %				0 - 20
Iron (RPD)	179 %				0 - 20
Iron	283 ug/L	10	20		
Lead	<1 ug/L	0.1	1		
Lead (RPD)	123 %				0 - 20
Magnesium (RPD)	152 %				0 - 20
Magnesium	20.1 mg/L	0.1	0.1		
Manganese	74 ug/L	0.2	1		
Manganese (RPD)	180 %				0 - 20
Nickel (RPD)	150 %				0 - 20
Nickel	<2.5 ug/L	0.5	2.5		
Potassium	21.9 mg/L	0.05	1		
Potassium (RPD)	158 %				0 - 20
Selenium (RPD)	28.7 %				0 - 20
Selenium	<2 ug/L	0.5	2		
Silver	<5 ug/L	1	5		
Silver (RPD)	0 %				0 - 20
Sodium	104 mg/L	0.02	0.04		
Sodium (RPD)	162 %				0 - 20
Thallium (RPD)	0 %				0 - 20
Thallium	<2.5 ug/L	0.05	2.5		

Vanadium (RPD)	91.3 %			0 - 20
Vanadium	<2.5 ug/L	1	2.5	
Zinc	13.7 ug/L	2	3	
Zinc (RPD)	177 %			0 - 20
Dilution Factor	1			
Analyzed By	Robert Graddy			
Analysis Date/Time	Oct 8 2015 12:08PM			

Analytical Quality Control Results Report

Batch: 15100901	ICP Metals - water (Diss.)
Sager Creek - US of 001	LIMS ID: 2015-2602

ICP Metals - water (Dissolved) DUP

Run: 1

Parameter	Result	DL	RL	Accuracy Control	Precision Control
Aluminum	113 ug/L	20	20		
Aluminum (RPD)	191 %				0 - 20
Antimony (RPD)	0 %				0 - 20
Antimony	<5 ug/L	1	5		
Arsenic	<0.5 ug/L	0.2	0.5		
Arsenic (RPD)	16.1 %				0 - 20
Barium (RPD)	3.1 %				0 - 20
Barium	75.2 ug/L	0.4	2		
Beryllium	<0.1 ug/L	0.04	0.1		
Beryllium (RPD)	0 %				0 - 20
Boron (RPD)	6.2 %				0 - 20
Boron	13.3 ug/L	2	5		
Cadmium	<0.1 ug/L	0.05	0.1		
Cadmium (RPD)	%				0 - 20
Calcium (RPD)	6.7 %				0 - 20
Calcium	55.1 mg/L	0.03	0.03		
Chromium	<0.5 ug/L	0.05	0.5		
Chromium (RPD)	22.2 %				0 - 20
Cobalt (RPD)	5.1 %				0 - 20
Cobalt	<0.5 ug/L	0.05	0.5		
Copper	<0.5 ug/L	0.2	0.5		
Copper (RPD)	4.5 %				0 - 20
Iron (RPD)	10.2 %				0 - 20
Iron	<20 ug/L	5	20		
Lead	<0.3 ug/L	0.02	0.3		
Lead (RPD)	24.0 %				0 - 20
Magnesium (RPD)	18.4 %				0 - 20
Magnesium	2.29 mg/L	0.01	0.02		
Manganese	2.6 ug/L	0.07	0.3		
Manganese (RPD)	11 %				0 - 20
Nickel (RPD)	1.7 %				0 - 20
Nickel	<0.5 ug/L	0.15	0.5		
Potassium	2.95 mg/L	0.01	0.02		
Potassium (RPD)	3.7 %				0 - 20
Selenium (RPD)	4.2 %				0 - 20
Selenium	<1 ug/L	0.2	1		
Silicon Dioxide	7.19 mg/L	0.01	0.05		
Silicon Dioxide (RPD)	8.8 %				0 - 20
Silver (RPD)	0 %				0 - 20
Silver	<0.5 ug/L	0.02	0.5		

Sodium	9.24 mg/L	0.01	0.02	
Sodium (RPD)	19.0 %			0 - 20
Thallium (RPD)	0 %			0 - 20
Thallium	<0.5 ug/L	0	0.5	
Vanadium	0.74 ug/L	0.3	0.5	
Vanadium (RPD)	67.3 %			0 - 20
Zinc (RPD)	47.3 %			0 - 20
Zinc	1.22 ug/L	0.3	1	
Hardness	147 mg/L	1	1	
Hardness (RPD)	5 %			0 - 20
Dilution Factor	1			
Analyzed By	Robert Graddy			
Analysis Date/Time	Oct 6 2015 3:35PM			