Fresno Analytical Laboratory
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Fresno, CA 93706
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A3I2246
11/08/2013
Invoice: A325860

Anne Littlejohn
Central Valley RWQCB
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

RE: Report for A3I2246 Evaluation WQ in Ag Dominated Water Bodies

Dear Anne Littlejohn,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/27/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an “as received” basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Stephane Maupas, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Stephane Maupas , at (800) 877-8310 or (559) 497-2888 x212.

Case Narrative

Project and Report Details		Invoice Details	
Client:	Central Valley RWQCB	**Invoice To:**	Central Valley RWQCB
Report To:	Anne Littlejohn	**Invoice Attn:**	Joseph McGahan
Project #:	Evaluation WQ in Ag Dominated Water Bodies	**Project PO#:**	11-123-555
Received:	9/27/2013 - 08:00		
Report Due:	10/11/2013		

Sample Receipt Conditions

Cooler: Cooler #2
Temperature on Receipt ºC: 0.5

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Cooler: Default Cooler
Temperature on Receipt ºC: 3.1

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Cooler: New Cooler- VOA
Temperature on Receipt ºC: 1.3

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

B1.0	Analyte present in method blank above reporting limit.
B1.3	Analyte detected in associated method blank. Reanalysis was not attempted because the reported result was >10x that found in the blank. Sample result may be, in part, attributable to ambient laboratory background.
B2.2	Analyte detected in associated method blank below the reporting limit. Sample result may be attributable to ambient laboratory background.
B2.3	Analyte detected in associated method blank below the reporting limit. Sample result may be, in part, attributable to ambient laboratory background.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT04	Holding time exceeded. Sample analysis performed past holding time.
J	Estimated value
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.1	Matrix spike recovery exceeds upper control limit. Reported results for parent matrix may be biased high due to matrix interferences
MS1.2	Matrix spike recovery exceeds lower control limit. Reported results for parent matrix may be biased low due to matrix interferences
MS2.1	MS/MSD RPD exceeds control limit. Reportable results in parent sample may have some degree of variability, higher than that inherent in the method.

Report Distribution

Recipient(s)	Report Format
Anne Littlejohn	Final.rpt

Certificate of Analysis

Sample ID: A3I2246-01
Sampled By: Anne Littlejohn
Sample Description: AWL130926-04

Sample Date - Time: 09/26/13 - 08:05
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**0.038**	0.029	0.10	mg/L	1	A311778	10/07/13	10/08/13	J
Chloride	EPA 300.0	**1.7**	0.45	1.0	mg/L	1	A311470	09/30/13	09/30/13	B2.3
Conductivity @ 25C	SM 2510 B	**110**		1.0	umhos/cm	1	A311393	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.034**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.2, J
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/03/13	10/03/13	
Sulfate as SO4	EPA 300.0	**2.6**	0.38	2.0	mg/L	1	A311470	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**82**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**210**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**2.6**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	J
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**0.59**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**0.58**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**16**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**11**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**0.68**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**0.91**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**49**		0.41	mg/L					
Iron	EPA 200.8 DRC	**230**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**15**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.27**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**5.2**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**19**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.49**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**1.2**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**4.1**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**2.4**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-02
Sampled By: Anne Littlejohn
Sample Description: AWL130926-05

Sample Date - Time: 09/26/13 - 09:17
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**0.074**	0.029	0.10	mg/L	1	A311778	10/07/13	10/08/13	J
Chloride	EPA 300.0	**3.5**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**290**		1.0	umhos/cm	1	A311393	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.075**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.2, J
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/03/13	10/03/13	
Sulfate as SO4	EPA 300.0	**6.7**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**190**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**680**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	ND	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**3.3**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**2.4**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**71**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	**0.029**	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	J
Calcium	EPA 200.7	**27**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**2.0**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**1.7**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**130**		0.41	mg/L					
Iron	EPA 200.8 DRC	**780**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**19**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.34**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**16**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**390**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**100**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**3.8**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**11**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**6.3**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-03
Sampled By: Anne Littlejohn
Sample Description: AWL130926-06

Sample Date - Time: 09/26/13 - 09:35
Matrix: Waste Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**13**	0.029	0.10	mg/L	1	A311779	10/07/13	10/08/13	
Chloride	EPA 300.0	**92**	0.89	2.0	mg/L	2	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**880**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.10**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.3
Perchlorate	EPA 314.0	ND	7.4	20	ug/L	10	A311924	10/09/13	10/09/13	DL1.0
Sulfate as SO4	EPA 300.0	**36**	0.76	4.0	mg/L	2	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**510**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**13**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**7.3**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**2.9**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**3.1**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**70**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**37**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**1.3**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**1.3**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**210**		0.41	mg/L					
Iron	EPA 200.8 DRC	**53**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B2.3
Iron - Dissolved (1)	EPA 200.8 DRC	**35**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.082**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	J
Magnesium	EPA 200.7	**28**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**17**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**14**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**1.4**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**81**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**2.9**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Organics

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS										
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	0.090	0.50	ug/L	1	A311456	09/30/13	09/30/13	

Certificate of Analysis

Sample ID: A3I2246-03
Sampled By: Anne Littlejohn
Sample Description: AWL130926-06

Sample Date - Time: 09/26/13 - 09:35
Matrix: Waste Water
Sample Type: Grab

Organics

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS										
1,1,1-Trichloroethane	EPA 8260B	ND	0.046	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	0.056	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 8260B	ND	0.099	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,1,2-Trichloroethane	EPA 8260B	ND	0.12	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,1-Dichloroethane	EPA 8260B	ND	0.065	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,1-Dichloroethene	EPA 8260B	ND	0.067	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,1-Dichloropropene	EPA 8260B	ND	0.078	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,2,3-Trichlorobenzene	EPA 8260B	ND	0.17	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,2,3-Trichloropropane	EPA 8260B	ND	0.073	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,2,4-Trichlorobenzene	EPA 8260B	ND	0.18	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,2,4-Trimethylbenzene	EPA 8260B	ND	0.093	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	0.17	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,2-Dichlorobenzene	EPA 8260B	ND	0.054	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,2-Dichloroethane	EPA 8260B	ND	0.098	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,2-Dichloropropane	EPA 8260B	ND	0.060	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,3,5-Trimethylbenzene	EPA 8260B	ND	0.085	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,3-Dichlorobenzene	EPA 8260B	ND	0.059	0.50	ug/L	1	A311456	09/30/13	09/30/13	
1,3-Dichloropropane	EPA 8260B	ND	0.13	5.0	ug/L	1	A311456	09/30/13	09/30/13	
1,4-Dichlorobenzene	EPA 8260B	ND	0.094	0.50	ug/L	1	A311456	09/30/13	09/30/13	
2,2-Dichloropropane	EPA 8260B	ND	0.077	5.0	ug/L	1	A311456	09/30/13	09/30/13	
2-Butanone	EPA 8260B	**0.67**	0.36	20	ug/L	1	A311456	09/30/13	09/30/13	J
2-Chlorotoluene	EPA 8260B	ND	0.060	5.0	ug/L	1	A311456	09/30/13	09/30/13	
2-Hexanone	EPA 8260B	ND	0.34	20	ug/L	1	A311456	09/30/13	09/30/13	
4-Chlorotoluene	EPA 8260B	ND	0.067	5.0	ug/L	1	A311456	09/30/13	09/30/13	
4-Methyl-2-pentanone	EPA 8260B	**0.87**	0.72	20	ug/L	1	A311456	09/30/13	09/30/13	J
Acetone	EPA 8260B	**8.0**	1.4	20	ug/L	1	A311456	09/30/13	09/30/13	J
Benzene	EPA 8260B	ND	0.065	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Bromobenzene	EPA 8260B	ND	0.061	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Bromochloromethane	EPA 8260B	**0.18**	0.065	5.0	ug/L	1	A311456	09/30/13	09/30/13	J
Bromodichloromethane	EPA 8260B	ND	0.067	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Bromoform	EPA 8260B	ND	0.14	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Bromomethane	EPA 8260B	ND	0.44	1.0	ug/L	1	A311456	09/30/13	09/30/13	
Carbon disulfide	EPA 8260B	**2.5**	2.2	50	ug/L	1	A311456	09/30/13	09/30/13	J
Carbon Tetrachloride	EPA 8260B	ND	0.082	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Chlorobenzene	EPA 8260B	ND	0.10	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Chloroethane	EPA 8260B	ND	0.062	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Chloroform	EPA 8260B	**1.0**	0.077	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Chloromethane	EPA 8260B	ND	0.080	0.50	ug/L	1	A311456	09/30/13	09/30/13	
cis-1,2-Dichloroethene	EPA 8260B	ND	0.043	0.50	ug/L	1	A311456	09/30/13	09/30/13	
cis-1,3-Dichloropropene	EPA 8260B	ND	0.061	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Dibromochloromethane	EPA 8260B	ND	0.16	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Dibromochloropropane (DBCP)	EPA 8260B	ND	0.11	5.0	ug/L	1	A311456	09/30/13	09/30/13	

Certificate of Analysis

Sample ID: A3I2246-03
Sampled By: Anne Littlejohn
Sample Description: AWL130926-06

Sample Date - Time: 09/26/13 - 09:35
Matrix: Waste Water
Sample Type: Grab

Organics

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS										
Dibromomethane	EPA 8260B	ND	0.084	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Dichlorodifluoromethane	EPA 8260B	ND	0.074	1.0	ug/L	1	A311456	09/30/13	09/30/13	
Dichloromethane	EPA 8260B	ND	0.13	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Ethylbenzene	EPA 8260B	ND	0.090	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Hexachlorobutadiene	EPA 8260B	ND	0.13	5.0	ug/L	1	A311456	09/30/13	09/30/13	
Hexachloroethane	EPA 8260B	ND	0.70	50	ug/L	1	A311456	09/30/13	09/30/13	
Iodomethane	EPA 8260B	ND	1.3	50	ug/L	1	A311456	09/30/13	09/30/13	
Isopropylbenzene	EPA 8260B	ND	0.057	5.0	ug/L	1	A311456	09/30/13	09/30/13	
m,p-Xylenes	EPA 8260B	**0.26**	0.22	0.50	ug/L	1	A311456	09/30/13	09/30/13	J
Methyl-t-butyl ether	EPA 8260B	ND	0.10	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Naphthalene	EPA 8260B	ND	0.12	5.0	ug/L	1	A311456	09/30/13	09/30/13	
n-Butylbenzene	EPA 8260B	ND	0.080	5.0	ug/L	1	A311456	09/30/13	09/30/13	
n-Propylbenzene	EPA 8260B	ND	0.069	5.0	ug/L	1	A311456	09/30/13	09/30/13	
o-Xylene	EPA 8260B	ND	0.092	0.50	ug/L	1	A311456	09/30/13	09/30/13	
p-Isopropyltoluene	EPA 8260B	ND	0.062	5.0	ug/L	1	A311456	09/30/13	09/30/13	
sec-Butylbenzene	EPA 8260B	ND	0.095	5.0	ug/L	1	A311456	09/30/13	09/30/13	
Styrene	EPA 8260B	ND	0.067	5.0	ug/L	1	A311456	09/30/13	09/30/13	
tert-Butylbenzene	EPA 8260B	ND	0.084	5.0	ug/L	1	A311456	09/30/13	09/30/13	
Tetrachloroethene (PCE)	EPA 8260B	ND	0.10	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Toluene	EPA 8260B	ND	0.090	0.50	ug/L	1	A311456	09/30/13	09/30/13	
trans-1,2-Dichloroethene	EPA 8260B	ND	0.059	0.50	ug/L	1	A311456	09/30/13	09/30/13	
trans-1,3-Dichloropropene	EPA 8260B	ND	0.16	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Trichloroethene (TCE)	EPA 8260B	ND	0.057	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Trichlorofluoromethane	EPA 8260B	ND	0.092	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Vinyl Chloride	EPA 8260B	ND	0.062	0.50	ug/L	1	A311456	09/30/13	09/30/13	
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	110 %		*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 8260B	100 %		*Acceptable range: 70-130 %*						
Surrogate: Toluene-d8	EPA 8260B	98 %		*Acceptable range: 70-130 %*						
Total Xylenes, EPA 8260B		ND		0.50	ug/L					

Certificate of Analysis

Sample ID: A3I2246-04
Sampled By: Anne Littlejohn
Sample Description: AWL130926-07

Sample Date - Time: 09/26/13 - 09:55
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**3.0**	0.029	0.10	mg/L	1	A311779	10/07/13	10/08/13	
Chloride	EPA 300.0	**25**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**440**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.079**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.2, J
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/03/13	10/03/13	
Sulfate as SO4	EPA 300.0	**14**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**270**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**460**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	ND	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**2.8**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**2.6**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**71**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**30**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**1.7**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**1.6**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**150**		0.41	mg/L					
Iron	EPA 200.8 DRC	**590**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**22**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.23**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**19**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**300**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**220**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**3.2**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**28**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**2.5**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Organics

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS										
1,1,1,2-Tetrachloroethane	EPA 8260B	ND	0.090	0.50	ug/L	1	A311616	10/03/13	10/04/13	

Certificate of Analysis

Sample ID: A3I2246-04
Sampled By: Anne Littlejohn
Sample Description: AWL130926-07

Sample Date - Time: 09/26/13 - 09:55
Matrix: Surface Water
Sample Type: Grab

Organics

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS										
1,1,1-Trichloroethane	EPA 8260B	ND	0.046	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,1,2,2-Tetrachloroethane	EPA 8260B	ND	0.056	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 8260B	ND	0.099	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,1,2-Trichloroethane	EPA 8260B	ND	0.12	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,1-Dichloroethane	EPA 8260B	ND	0.065	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,1-Dichloroethene	EPA 8260B	ND	0.067	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,1-Dichloropropene	EPA 8260B	ND	0.078	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,2,3-Trichlorobenzene	EPA 8260B	ND	0.17	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,2,3-Trichloropropane	EPA 8260B	ND	0.073	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,2,4-Trichlorobenzene	EPA 8260B	ND	0.18	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,2,4-Trimethylbenzene	EPA 8260B	ND	0.093	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,2-Dibromoethane (EDB)	EPA 8260B	ND	0.17	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,2-Dichlorobenzene	EPA 8260B	ND	0.054	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,2-Dichloroethane	EPA 8260B	ND	0.098	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,2-Dichloropropane	EPA 8260B	ND	0.060	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,3,5-Trimethylbenzene	EPA 8260B	ND	0.085	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,3-Dichlorobenzene	EPA 8260B	ND	0.059	0.50	ug/L	1	A311616	10/03/13	10/04/13	
1,3-Dichloropropane	EPA 8260B	ND	0.13	5.0	ug/L	1	A311616	10/03/13	10/04/13	
1,4-Dichlorobenzene	EPA 8260B	ND	0.094	0.50	ug/L	1	A311616	10/03/13	10/04/13	
2,2-Dichloropropane	EPA 8260B	ND	0.077	5.0	ug/L	1	A311616	10/03/13	10/04/13	
2-Butanone	EPA 8260B	**0.56**	0.36	20	ug/L	1	A311616	10/03/13	10/04/13	J
2-Chlorotoluene	EPA 8260B	ND	0.060	5.0	ug/L	1	A311616	10/03/13	10/04/13	
2-Hexanone	EPA 8260B	ND	0.34	20	ug/L	1	A311616	10/03/13	10/04/13	
4-Chlorotoluene	EPA 8260B	ND	0.067	5.0	ug/L	1	A311616	10/03/13	10/04/13	
4-Methyl-2-pentanone	EPA 8260B	**1.2**	0.72	20	ug/L	1	A311616	10/03/13	10/04/13	J
Acetone	EPA 8260B	ND	1.4	20	ug/L	1	A311616	10/03/13	10/04/13	
Benzene	EPA 8260B	ND	0.065	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Bromobenzene	EPA 8260B	ND	0.061	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Bromochloromethane	EPA 8260B	ND	0.065	5.0	ug/L	1	A311616	10/03/13	10/04/13	
Bromodichloromethane	EPA 8260B	ND	0.067	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Bromoform	EPA 8260B	ND	0.14	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Bromomethane	EPA 8260B	ND	0.44	1.0	ug/L	1	A311616	10/03/13	10/04/13	
Carbon disulfide	EPA 8260B	ND	2.2	50	ug/L	1	A311616	10/03/13	10/04/13	
Carbon Tetrachloride	EPA 8260B	ND	0.082	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Chlorobenzene	EPA 8260B	ND	0.10	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Chloroethane	EPA 8260B	ND	0.062	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Chloroform	EPA 8260B	**0.26**	0.077	0.50	ug/L	1	A311616	10/03/13	10/04/13	J
Chloromethane	EPA 8260B	ND	0.080	0.50	ug/L	1	A311616	10/03/13	10/04/13	
cis-1,2-Dichloroethene	EPA 8260B	ND	0.043	0.50	ug/L	1	A311616	10/03/13	10/04/13	
cis-1,3-Dichloropropene	EPA 8260B	ND	0.061	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Dibromochloromethane	EPA 8260B	ND	0.16	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Dibromochloropropane (DBCP)	EPA 8260B	ND	0.11	5.0	ug/L	1	A311616	10/03/13	10/04/13	

Certificate of Analysis

Sample ID: A3I2246-04
Sampled By: Anne Littlejohn
Sample Description: AWL130926-07

Sample Date - Time: 09/26/13 - 09:55
Matrix: Surface Water
Sample Type: Grab

Organics

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (Standard List) by GC-MS										
Dibromomethane	EPA 8260B	ND	0.084	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Dichlorodifluoromethane	EPA 8260B	ND	0.074	1.0	ug/L	1	A311616	10/03/13	10/04/13	
Dichloromethane	EPA 8260B	ND	0.13	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Ethylbenzene	EPA 8260B	ND	0.090	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Hexachlorobutadiene	EPA 8260B	ND	0.13	5.0	ug/L	1	A311616	10/03/13	10/04/13	
Hexachloroethane	EPA 8260B	ND	0.70	50	ug/L	1	A311616	10/03/13	10/04/13	
Iodomethane	EPA 8260B	**1.7**	1.3	50	ug/L	1	A311616	10/03/13	10/04/13	J
Isopropylbenzene	EPA 8260B	ND	0.057	5.0	ug/L	1	A311616	10/03/13	10/04/13	
m,p-Xylenes	EPA 8260B	**0.32**	0.22	0.50	ug/L	1	A311616	10/03/13	10/04/13	J
Methyl-t-butyl ether	EPA 8260B	ND	0.10	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Naphthalene	EPA 8260B	ND	0.12	5.0	ug/L	1	A311616	10/03/13	10/04/13	
n-Butylbenzene	EPA 8260B	ND	0.080	5.0	ug/L	1	A311616	10/03/13	10/04/13	
n-Propylbenzene	EPA 8260B	ND	0.069	5.0	ug/L	1	A311616	10/03/13	10/04/13	
o-Xylene	EPA 8260B	**0.17**	0.092	0.50	ug/L	1	A311616	10/03/13	10/04/13	J
p-Isopropyltoluene	EPA 8260B	**0.22**	0.062	5.0	ug/L	1	A311616	10/03/13	10/04/13	J
sec-Butylbenzene	EPA 8260B	ND	0.095	5.0	ug/L	1	A311616	10/03/13	10/04/13	
Styrene	EPA 8260B	ND	0.067	5.0	ug/L	1	A311616	10/03/13	10/04/13	
tert-Butylbenzene	EPA 8260B	ND	0.084	5.0	ug/L	1	A311616	10/03/13	10/04/13	
Tetrachloroethene (PCE)	EPA 8260B	ND	0.10	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Toluene	EPA 8260B	**0.15**	0.090	0.50	ug/L	1	A311616	10/03/13	10/04/13	J
trans-1,2-Dichloroethene	EPA 8260B	ND	0.059	0.50	ug/L	1	A311616	10/03/13	10/04/13	
trans-1,3-Dichloropropene	EPA 8260B	ND	0.16	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Trichloroethene (TCE)	EPA 8260B	ND	0.057	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Trichlorofluoromethane	EPA 8260B	ND	0.092	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Vinyl Chloride	EPA 8260B	ND	0.062	0.50	ug/L	1	A311616	10/03/13	10/04/13	
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	99 %		*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 8260B	102 %		*Acceptable range: 70-130 %*						
Surrogate: Toluene-d8	EPA 8260B	97 %		*Acceptable range: 70-130 %*						
Total Xylenes, EPA 8260B		ND		0.50	ug/L					

Certificate of Analysis

Sample ID: A3I2246-05
Sampled By: Anne Littlejohn
Sample Description: AWL130926-08

Sample Date - Time: 09/26/13 - 10:30
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**0.033**	0.029	0.10	mg/L	1	A311779	10/07/13	10/08/13	J
Chloride	EPA 300.0	**4.9**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**270**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.098**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.2, J
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/03/13	10/03/13	
Sulfate as SO4	EPA 300.0	**8.2**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**170**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**180**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**2.4**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	J
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**2.0**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**1.9**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**82**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**25**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**0.60**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**1.2**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**120**		0.41	mg/L					
Iron	EPA 200.8 DRC	**380**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**58**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.11**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**14**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**44**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**3.3**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**2.1**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**12**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**1.8**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-06
Sampled By: Anne Littlejohn
Sample Description: AWL130926-09

Sample Date - Time: 09/26/13 - 10:50
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**0.046**	0.029	0.10	mg/L	1	A311881	10/08/13	10/09/13	J
Chloride	EPA 300.0	**2.7**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**190**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.058**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.2, J
Perchlorate	EPA 314.0	ND	7.4	20	ug/L	10	A311924	10/09/13	10/09/13	DL1.0
Sulfate as SO4	EPA 300.0	**5.2**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**120**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**510**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**4.9**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	J
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**2.3**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**2.3**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**43**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**17**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**1.6**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**1.5**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**84**		0.41	mg/L					
Iron	EPA 200.8 DRC	**580**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**24**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.26**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**10**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**51**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.84**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**2.3**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**6.9**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**2.7**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-07
Sampled By: Anne Littlejohn
Sample Description: AWL130926-10

Sample Date - Time: 09/26/13 - 13:45
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**0.16**	0.029	0.10	mg/L	1	A311779	10/07/13	10/08/13	
Chloride	EPA 300.0	**11**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**300**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.093**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.2, J
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/04/13	10/04/13	
Sulfate as SO4	EPA 300.0	**4.5**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**200**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**790**	5.9	10	ug/L	2	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	ND	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.68	1.0	ug/L	2	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**5.2**	0.082	0.20	ug/L	2	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**4.5**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**75**	0.65	2.0	ug/L	2	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.71	1.0	ug/L	2	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.050	0.50	ug/L	2	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**24**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**2.2**	0.35	1.0	ug/L	2	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**2.4**	0.66	1.0	ug/L	2	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**120**		0.41	mg/L					
Iron	EPA 200.8 DRC	**1500**	1.2	20	ug/L	2	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**78**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.46**	0.068	0.20	ug/L	2	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**15**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**430**	0.066	2.0	ug/L	2	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**25**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**4.9**	0.10	2.0	ug/L	2	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.29	2.0	ug/L	2	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.40	0.50	ug/L	2	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**17**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.42	2.0	ug/L	2	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**3.9**	0.91	2.0	ug/L	2	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-08
Sampled By: Anne Littlejohn
Sample Description: AWL130926-14

Sample Date - Time: 09/26/13 - 05:30
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	ND	0.029	0.10	mg/L	1	A311881	10/08/13	10/09/13	

Certificate of Analysis

Sample ID: A3I2246-09
Sampled By: Anne Littlejohn
Sample Description: AWL130926-15

Sample Date - Time: 09/26/13 - 09:35
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	SM 4500-NH3 G	**0.10**	0.029	0.10	mg/L	1	A311881	10/08/13	10/09/13	

Certificate of Analysis

Sample ID: A3I2246-10
Sampled By: Anne Littlejohn
Sample Description: AWL130926-16

Sample Date - Time: 09/26/13 - 11:40
Matrix: Waste Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chloride	EPA 300.0	**59**	0.89	2.0	mg/L	2	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**710**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.12**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.3
Nitrate as N	EPA 300.0	**19**	0.18	0.44	mg/L	2	A311481	09/30/13 20:57	09/30/13	HT04
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/04/13	10/04/13	
Sulfate as SO4	EPA 300.0	**36**	0.76	4.0	mg/L	2	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**450**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**31**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**8.2**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	**0.51**	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**25**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**27**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**14**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**31**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**0.55**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**3.4**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**200**		0.41	mg/L					
Iron	EPA 200.8 DRC	**32**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B2.3
Iron - Dissolved (1)	EPA 200.8 DRC	**23**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	ND	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**30**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**0.93**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	J
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.66**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**2.1**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	**0.23**	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	J
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**60**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**19**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-11
Sampled By: Anne Littlejohn
Sample Description: AWL130926-17

Sample Date - Time: 09/26/13 - 11:50
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chloride	EPA 300.0	**59**	0.89	2.0	mg/L	2	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**720**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.12**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.3
Nitrate as N	EPA 300.0	**19**	0.18	0.44	mg/L	2	A311481	09/30/13 20:48	09/30/13	HT04
Perchlorate	EPA 314.0	ND	7.4	20	ug/L	10	A311924	10/09/13	10/09/13	DL1.0
Sulfate as SO4	EPA 300.0	**36**	0.76	4.0	mg/L	2	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**450**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**160**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**6.9**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	**0.57**	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**28**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**28**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**16**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**31**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**0.89**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**3.8**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**200**		0.41	mg/L					
Iron	EPA 200.8 DRC	**160**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**20**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.085**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	J
Magnesium	EPA 200.7	**29**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**3.4**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.56**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**2.4**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	**0.19**	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	J
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**60**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**19**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-12
Sampled By: Anne Littlejohn
Sample Description: AWL130926-18

Sample Date - Time: 09/26/13 - 12:05
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chloride	EPA 300.0	**59**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**720**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.12**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.3
Nitrate as N	EPA 300.0	**19**	0.090	0.22	mg/L	1	A311481	09/30/13 21:24	09/30/13	HT04
Perchlorate	EPA 314.0	ND	7.4	20	ug/L	10	A311924	10/09/13	10/09/13	DL1.0
Sulfate as SO4	EPA 300.0	**37**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**460**		5.0	mg/L	1	A311575	10/02/13	10/07/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**150**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**7.1**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	**0.58**	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**27**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**28**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**17**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**31**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**0.91**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**3.8**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**200**		0.41	mg/L					
Iron	EPA 200.8 DRC	**160**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**18**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.081**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	J
Magnesium	EPA 200.7	**30**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**3.7**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.87**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**2.3**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	**0.19**	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	J
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**61**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**18**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-13
Sampled By: Anne Littlejohn
Sample Description: AWL130926-19

Sample Date - Time: 09/26/13 - 14:04
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chloride	EPA 300.0	**10**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**310**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.10**	0.015	0.10	mg/L	1	A311440	09/30/13	09/30/13	B2.3
Nitrate as N	EPA 300.0	**0.24**	0.090	0.22	mg/L	1	A311481	09/30/13 22:27	09/30/13	HT04
Perchlorate	EPA 314.0	ND	0.74	2.0	ug/L	1	A311679	10/04/13	10/04/13	
Sulfate as SO4	EPA 300.0	**4.3**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**210**		5.0	mg/L	1	A311576	10/02/13	10/08/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**590**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	ND	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**5.3**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**4.1**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**73**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**25**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**1.6**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**2.1**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**130**		0.41	mg/L					
Iron	EPA 200.8 DRC	**1100**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**54**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.34**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**16**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**180**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**1.0**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**4.1**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**17**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**2.6**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-14
Sampled By: Anne Littlejohn
Sample Description: AWL130926-20

Sample Date - Time: 09/26/13 - 14:22
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chloride	EPA 300.0	**4.7**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**200**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.055**	0.015	0.10	mg/L	1	A311440	10/01/13	10/01/13	B2.2, J
Nitrate as N	EPA 300.0	**0.32**	0.090	0.22	mg/L	1	A311481	09/30/13 22:45	09/30/13	HT04
Perchlorate	EPA 314.0	ND	7.4	20	ug/L	10	A311924	10/09/13	10/09/13	DL1.0
Sulfate as SO4	EPA 300.0	**4.6**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**140**		5.0	mg/L	1	A311576	10/02/13	10/08/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**640**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**8.0**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**13**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**13**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**41**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**16**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**1.7**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**2.1**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**82**		0.41	mg/L					
Iron	EPA 200.8 DRC	**680**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**39**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.33**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**10**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**49**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.83**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**2.2**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	**0.15**	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	J
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**12**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**4.3**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Certificate of Analysis

Sample ID: A3I2246-15
Sampled By: Anne Littlejohn
Sample Description: AWL130926-21

Sample Date - Time: 09/26/13 - 14:33
Matrix: Surface Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chloride	EPA 300.0	**6.4**	0.45	1.0	mg/L	1	A311481	09/30/13	09/30/13	
Conductivity @ 25C	SM 2510 B	**250**		1.0	umhos/cm	1	A311415	09/28/13	09/28/13	
Fluoride	EPA 300.0	**0.071**	0.015	0.10	mg/L	1	A311440	10/01/13	10/01/13	B2.2, J
Nitrate as N	EPA 300.0	**0.30**	0.090	0.22	mg/L	1	A311481	09/30/13 22:54	09/30/13	HT04
Perchlorate	EPA 314.0	ND	7.4	20	ug/L	10	A311924	10/09/13	10/09/13	DL1.0
Sulfate as SO4	EPA 300.0	**4.5**	0.38	2.0	mg/L	1	A311481	09/30/13	09/30/13	
Total Dissolved Solids	SM 2540C	**160**		5.0	mg/L	1	A311576	10/02/13	10/08/13	

Metals

Analyte	Method	Result	MDL	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.8 DRC	**710**	2.9	5.0	ug/L	1	A311639	10/03/13	10/31/13	
Aluminum - Dissolved (1)	EPA 200.8 DRC	**5.0**	2.3	5.0	ug/L	1	A311732	10/04/13	10/31/13	
Antimony	EPA 200.8 DRC	ND	0.34	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Arsenic	EPA 200.8 DRC	**11**	0.041	0.10	ug/L	1	A311639	10/03/13	11/04/13	
Arsenic - Dissolved (1)	EPA 200.8 DRC	**9.8**	0.045	0.10	ug/L	1	A311732	10/04/13	11/04/13	
Barium	EPA 200.8 DRC	**54**	0.33	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Beryllium	EPA 200.8 DRC	ND	0.36	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Cadmium	EPA 200.8 DRC	ND	0.025	0.25	ug/L	1	A311639	10/03/13	11/04/13	
Calcium	EPA 200.7	**19**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Chromium	EPA 200.8 DRC	**1.9**	0.17	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Copper	EPA 200.8 DRC	**2.3**	0.33	0.50	ug/L	1	A311639	10/03/13	10/31/13	
Hardness as CaCO3	SM 2340B	**100**		0.41	mg/L					
Iron	EPA 200.8 DRC	**910**	0.61	10	ug/L	1	A311639	10/03/13	10/31/13	B1.3
Iron - Dissolved (1)	EPA 200.8 DRC	**35**	4.5	10	ug/L	1	A311732	10/04/13	10/31/13	
Lead	EPA 200.8 DRC	**0.41**	0.034	0.10	ug/L	1	A311639	10/03/13	10/31/13	
Magnesium	EPA 200.7	**13**	0.046	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Manganese	EPA 200.8 DRC	**120**	0.033	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Manganese - Dissolved (1)	EPA 200.8 DRC	**0.67**	0.45	1.0	ug/L	1	A311732	10/04/13	10/31/13	J
Mercury	EPA 200.8	ND	0.091	0.20	ug/L	1	A311463	10/01/13	10/08/13	
Nickel	EPA 200.8 DRC	**3.1**	0.050	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Selenium	EPA 200.8 DRC	ND	0.14	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Silver	EPA 200.8 DRC	ND	0.20	0.25	ug/L	1	A311639	10/03/13	10/31/13	
Sodium	EPA 200.7	**14**	0.45	1.0	mg/L	1	A311463	10/01/13	10/05/13	
Thallium	EPA 200.8 DRC	ND	0.21	1.0	ug/L	1	A311639	10/03/13	10/31/13	
Zinc	EPA 200.8 DRC	**3.1**	0.45	1.0	ug/L	1	A311639	10/03/13	10/31/13	

Metals Quality Control Report

Analyte	Result	MDL	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control												
Batch: A311463											Prepared: 10/01/2013	
Prep Method: EPA 200.2											Analyst: NRE	
Matrix Spike (A311463-MS3), Source: A3I2246-01												
Calcium	21	0.046	0.10	mg/L	10	11	98	70-130			10/05/13	
Magnesium	15	0.046	0.10	mg/L	10	5.2	94	70-130			10/05/13	
Sodium	14	0.45	1.0	mg/L	10	4.1	97	70-130			10/05/13	
Matrix Spike (A311463-MS4), Source: A3I2246-13												
Calcium	35	0.046	0.10	mg/L	10	25	99	70-130			10/05/13	
Magnesium	25	0.046	0.10	mg/L	10	16	93	70-130			10/05/13	
Sodium	26	0.45	1.0	mg/L	10	17	97	70-130			10/05/13	
Matrix Spike Dup (A311463-MSD3), Source: A3I2246-01												
Calcium	20	0.046	0.10	mg/L	10	11	93	70-130	2	20	10/05/13	
Magnesium	14	0.046	0.10	mg/L	10	5.2	92	70-130	2	20	10/05/13	
Sodium	14	0.45	1.0	mg/L	10	4.1	94	70-130	2	20	10/05/13	
Matrix Spike Dup (A311463-MSD4), Source: A3I2246-13												
Calcium	34	0.046	0.10	mg/L	10	25	91	70-130	2	20	10/05/13	
Magnesium	25	0.046	0.10	mg/L	10	16	89	70-130	2	20	10/05/13	
Sodium	26	0.45	1.0	mg/L	10	17	92	70-130	2	20	10/05/13	
EPA 200.8 DRC - Quality Control												
Batch: A311639											Prepared: 10/03/2013	
Prep Method: EPA 200.2 DRC											Analyst: PSK	
Blank (A311639-BLK3)												
Aluminum	ND	2.9	5.0	ug/L							10/31/13	
Antimony	ND	0.34	0.50	ug/L							10/31/13	
Arsenic	ND	0.041	0.10	ug/L							10/31/13	
Barium	ND	0.33	1.0	ug/L							10/31/13	
Beryllium	ND	0.36	0.50	ug/L							10/31/13	
Chromium	ND	0.17	0.50	ug/L							10/31/13	
Copper	ND	0.33	0.50	ug/L							10/31/13	
Iron	6.1	0.61	10	ug/L							10/31/13	B1.0, J
Lead	ND	0.034	0.10	ug/L							10/31/13	
Manganese	0.036	0.033	1.0	ug/L							10/31/13	J
Nickel	ND	0.050	1.0	ug/L							10/31/13	
Selenium	ND	0.14	1.0	ug/L							10/31/13	
Silver	ND	0.20	0.25	ug/L							10/31/13	
Thallium	ND	0.21	1.0	ug/L							10/31/13	
Zinc	0.55	0.45	1.0	ug/L							10/31/13	J
Blank (A311639-BLK4)												
Arsenic	ND	0.041	0.10	ug/L							11/04/13	
Cadmium	ND	0.025	0.25	ug/L							11/04/13	
Blank Spike (A311639-BS3)												

Metals Quality Control Report

EPA 200.8 DRC - Quality Control

Batch: A311639 Prepared: 10/03/2013

Prep Method: EPA 200.2 DRC Analyst: PSK

Analyte	Result	MDL	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank Spike (A311639-BS3)												
Aluminum	46	2.9	5.0	ug/L	50		92	85-115			10/31/13	
Antimony	49	0.34	0.50	ug/L	50		97	85-115			10/31/13	
Barium	48	0.33	1.0	ug/L	50		95	85-115			10/31/13	
Beryllium	50	0.36	0.50	ug/L	50		99	85-115			10/31/13	
Chromium	46	0.17	0.50	ug/L	50		92	85-115			10/31/13	
Copper	46	0.33	0.50	ug/L	50		91	85-115			10/31/13	
Iron	54	0.61	10	ug/L	50		107	85-115			10/31/13	
Lead	47	0.034	0.10	ug/L	50		93	85-115			10/31/13	
Manganese	45	0.033	1.0	ug/L	50		91	85-115			10/31/13	
Nickel	44	0.050	1.0	ug/L	50		89	85-115			10/31/13	
Selenium	45	0.14	1.0	ug/L	50		90	85-115			10/31/13	
Silver	46	0.20	0.25	ug/L	50		93	85-115			10/31/13	
Thallium	47	0.21	1.0	ug/L	50		94	85-115			10/31/13	
Zinc	46	0.45	1.0	ug/L	50		91	85-115			10/31/13	
Blank Spike (A311639-BS4)												
Arsenic	47	0.041	0.10	ug/L	50		93	85-115			11/04/13	
Cadmium	48	0.025	0.25	ug/L	50		97	85-115			11/04/13	
Blank Spike Dup (A311639-BSD3)												
Aluminum	47	2.9	5.0	ug/L	50		95	85-115	3	20	10/31/13	
Antimony	50	0.34	0.50	ug/L	50		99	85-115	2	20	10/31/13	
Barium	49	0.33	1.0	ug/L	50		98	85-115	3	20	10/31/13	
Beryllium	51	0.36	0.50	ug/L	50		103	85-115	3	20	10/31/13	
Chromium	47	0.17	0.50	ug/L	50		95	85-115	3	20	10/31/13	
Copper	47	0.33	0.50	ug/L	50		94	85-115	3	20	10/31/13	
Iron	55	0.61	10	ug/L	50		110	85-115	2	20	10/31/13	
Lead	48	0.034	0.10	ug/L	50		96	85-115	3	20	10/31/13	
Manganese	47	0.033	1.0	ug/L	50		93	85-115	3	20	10/31/13	
Nickel	46	0.050	1.0	ug/L	50		91	85-115	3	20	10/31/13	
Selenium	46	0.14	1.0	ug/L	50		92	85-115	3	20	10/31/13	
Silver	47	0.20	0.25	ug/L	50		95	85-115	2	20	10/31/13	
Thallium	49	0.21	1.0	ug/L	50		97	85-115	3	20	10/31/13	
Zinc	47	0.45	1.0	ug/L	50		94	85-115	2	20	10/31/13	
Blank Spike Dup (A311639-BSD4)												
Arsenic	48	0.041	0.10	ug/L	50		96	85-115	3	20	11/04/13	
Cadmium	50	0.025	0.25	ug/L	50		99	85-115	3	20	11/04/13	
Matrix Spike (A311639-MS3), Source: A3I2246-02												
Aluminum	570	2.9	5.0	ug/L	50	680	NR	70-130			10/09/13	MS1.1 ***Low***
Antimony	50	0.34	0.50	ug/L	50	ND	100	70-130			10/09/13	
Barium	120	0.33	1.0	ug/L	50	71	101	70-130			10/09/13	
Beryllium	47	0.36	0.50	ug/L	50	ND	94	70-130			10/09/13	
Chromium	51	0.17	0.50	ug/L	50	2.0	99	70-130			10/09/13	
Copper	48	0.33	0.50	ug/L	50	1.7	93	70-130			10/09/13	

Metals Quality Control Report

EPA 200.8 DRC - Quality Control

Batch: A311639 Prepared: 10/03/2013

Prep Method: EPA 200.2 DRC Analyst: PSK

Analyte	Result	MDL	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Matrix Spike (A311639-MS3), Source: A3I2246-02												
Iron	790	0.61	10	ug/L	50	780	10	70-130			10/09/13	MS1.1 ***Low***
Lead	52	0.034	0.10	ug/L	50	0.34	102	70-130			10/09/13	
Manganese	2.3	0.033	1.0	ug/L	50	390	NR	70-130			10/09/13	MS1.2 ***Low***
Nickel	52	0.050	1.0	ug/L	50	3.8	96	70-130			10/09/13	
Selenium	48	0.14	1.0	ug/L	50	ND	97	70-130			10/09/13	
Silver	48	0.20	0.25	ug/L	50	ND	97	70-130			10/09/13	
Thallium	52	0.21	1.0	ug/L	50	ND	103	70-130			10/09/13	
Zinc	47	0.45	1.0	ug/L	50	6.3	81	70-130			10/09/13	
Matrix Spike (A311639-MS4), Source: A3I2246-10												
Aluminum	99	2.9	5.0	ug/L	50	31	137	70-130			10/09/13	MS1.1 ***High***
Antimony	52	0.34	0.50	ug/L	50	0.51	102	70-130			10/09/13	
Barium	64	0.33	1.0	ug/L	50	14	99	70-130			10/09/13	
Beryllium	52	0.36	0.50	ug/L	50	ND	104	70-130			10/09/13	
Chromium	57	0.17	0.50	ug/L	50	0.55	113	70-130			10/09/13	
Copper	51	0.33	0.50	ug/L	50	3.4	96	70-130			10/09/13	
Iron	91	0.61	10	ug/L	50	32	119	70-130			10/09/13	
Lead	54	0.034	0.10	ug/L	50	ND	108	70-130			10/09/13	
Manganese	54	0.033	1.0	ug/L	50	0.93	107	70-130			10/09/13	
Nickel	54	0.050	1.0	ug/L	50	2.1	103	70-130			10/09/13	
Selenium	53	0.14	1.0	ug/L	50	0.23	106	70-130			10/09/13	
Silver	46	0.20	0.25	ug/L	50	ND	93	70-130			10/09/13	
Thallium	54	0.21	1.0	ug/L	50	ND	108	70-130			10/09/13	
Zinc	65	0.45	1.0	ug/L	50	19	93	70-130			10/09/13	
Matrix Spike (A311639-MS7), Source: A3I2246-02RE1												
Arsenic	51	0.041	0.10	ug/L	50	3.3	95	70-130			11/04/13	
Cadmium	50	0.025	0.25	ug/L	50	0.029	99	70-130			11/04/13	
Matrix Spike (A311639-MS8), Source: A3I2246-10RE1												
Arsenic	74	0.041	0.10	ug/L	50	25	99	70-130			11/04/13	
Cadmium	47	0.025	0.25	ug/L	50	ND	93	70-130			11/04/13	
Matrix Spike Dup (A311639-MSD3), Source: A3I2246-02												
Aluminum	600	2.9	5.0	ug/L	50	680	NR	70-130	5	20	10/09/13	MS1.1 ***Low***
Antimony	49	0.34	0.50	ug/L	50	ND	98	70-130	2	20	10/09/13	
Barium	120	0.33	1.0	ug/L	50	71	92	70-130	4	20	10/09/13	
Beryllium	47	0.36	0.50	ug/L	50	ND	95	70-130	1	20	10/09/13	
Chromium	52	0.17	0.50	ug/L	50	2.0	99	70-130	0	20	10/09/13	
Copper	48	0.33	0.50	ug/L	50	1.7	92	70-130	1	20	10/09/13	
Iron	800	0.61	10	ug/L	50	780	30	70-130	1	20	10/09/13	MS1.1 ***Low***
Lead	50	0.034	0.10	ug/L	50	0.34	100	70-130	3	20	10/09/13	
Manganese	2.3	0.033	1.0	ug/L	50	390	NR	70-130	0	20	10/09/13	MS1.2 ***Low***
Nickel	51	0.050	1.0	ug/L	50	3.8	95	70-130	1	20	10/09/13	
Selenium	48	0.14	1.0	ug/L	50	ND	97	70-130	0	20	10/09/13	
Silver	47	0.20	0.25	ug/L	50	ND	94	70-130	2	20	10/09/13	

Metals Quality Control Report

Analyte	Result	MDL	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 DRC - Quality Control												
Batch: A311639											Prepared: 10/03/2013	
Prep Method: EPA 200.2 DRC											Analyst: PSK	
Matrix Spike Dup (A311639-MSD3), Source: A3I2246-02												
Thallium	51	0.21	1.0	ug/L	50	ND	101	70-130	2	20	10/09/13	
Zinc	46	0.45	1.0	ug/L	50	6.3	80	70-130	1	20	10/09/13	
Matrix Spike Dup (A311639-MSD4), Source: A3I2246-10												
Aluminum	100	2.9	5.0	ug/L	50	31	145	70-130	4	20	10/09/13	MS1.1 ***High***
Antimony	52	0.34	0.50	ug/L	50	0.51	103	70-130	1	20	10/09/13	
Barium	64	0.33	1.0	ug/L	50	14	100	70-130	1	20	10/09/13	
Beryllium	53	0.36	0.50	ug/L	50	ND	105	70-130	1	20	10/09/13	
Chromium	57	0.17	0.50	ug/L	50	0.55	114	70-130	1	20	10/09/13	
Copper	52	0.33	0.50	ug/L	50	3.4	96	70-130	1	20	10/09/13	
Iron	94	0.61	10	ug/L	50	32	124	70-130	3	20	10/09/13	
Lead	55	0.034	0.10	ug/L	50	ND	110	70-130	2	20	10/09/13	
Manganese	55	0.033	1.0	ug/L	50	0.93	107	70-130	1	20	10/09/13	
Nickel	55	0.050	1.0	ug/L	50	2.1	105	70-130	2	20	10/09/13	
Selenium	53	0.14	1.0	ug/L	50	0.23	106	70-130	0	20	10/09/13	
Silver	47	0.20	0.25	ug/L	50	ND	95	70-130	2	20	10/09/13	
Thallium	54	0.21	1.0	ug/L	50	ND	109	70-130	1	20	10/09/13	
Zinc	66	0.45	1.0	ug/L	50	19	96	70-130	2	20	10/09/13	
Matrix Spike Dup (A311639-MSD7), Source: A3I2246-02RE1												
Arsenic	49	0.041	0.10	ug/L	50	3.3	91	70-130	5	20	11/04/13	
Cadmium	48	0.025	0.25	ug/L	50	0.029	96	70-130	4	20	11/04/13	
Matrix Spike Dup (A311639-MSD8), Source: A3I2246-10RE1												
Arsenic	77	0.041	0.10	ug/L	50	25	105	70-130	4	20	11/04/13	
Cadmium	48	0.025	0.25	ug/L	50	ND	96	70-130	3	20	11/04/13	
EPA 200.8 DRC - Quality Control												
Batch: A311732											Prepared: 10/04/2013	
Prep Method: EPA 200.2 DRC - Filtration											Analyst: PSK	
Blank (A311732-BLK3)												
Aluminum - Dissolved (1)	2.5	2.3	5.0	ug/L							10/31/13	J
Iron - Dissolved (1)	6.2	4.5	10	ug/L							10/31/13	J
Manganese - Dissolved (1)	ND	0.45	1.0	ug/L							10/31/13	
Blank (A311732-BLK4)												
Arsenic - Dissolved (1)	ND	0.045	0.10	ug/L							11/04/13	
Blank Spike (A311732-BS3)												
Aluminum - Dissolved (1)	49	2.3	5.0	ug/L	50		97	85-115			10/31/13	
Iron - Dissolved (1)	55	4.5	10	ug/L	50		110	85-115			10/31/13	
Manganese - Dissolved (1)	47	0.45	1.0	ug/L	50		94	85-115			10/31/13	
Blank Spike (A311732-BS4)												
Arsenic - Dissolved (1)	46	0.045	0.10	ug/L	50		92	85-115			11/04/13	

Metals Quality Control Report

EPA 200.8 DRC - Quality Control

Batch: A311732 Prepared: 10/04/2013

Prep Method: EPA 200.2 DRC - Filtration Analyst: PSK

Analyte	Result	MDL	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank Spike Dup (A311732-BSD3)												
Aluminum - Dissolved (1)	49	2.3	5.0	ug/L	50		98	85-115	0	20	10/31/13	
Iron - Dissolved (1)	54	4.5	10	ug/L	50		109	85-115	1	20	10/31/13	
Manganese - Dissolved (1)	47	0.45	1.0	ug/L	50		94	85-115	0	20	10/31/13	
Blank Spike Dup (A311732-BSD4)												
Arsenic - Dissolved (1)	46	0.045	0.10	ug/L	50		92	85-115	0	20	11/04/13	
Matrix Spike (A311732-MS3), Source: A3I2246-01												
Aluminum - Dissolved (1)	54	2.3	5.0	ug/L	50	2.6	103	70-130			10/09/13	
Iron - Dissolved (1)	180	4.5	10	ug/L	50	15	326	70-130			10/09/13	MS1.0 ***High***
Manganese - Dissolved (1)	52	0.45	1.0	ug/L	50	0.49	103	70-130			10/09/13	
Matrix Spike (A311732-MS4), Source: A3I2246-13												
Aluminum - Dissolved (1)	60	2.3	5.0	ug/L	50	ND	120	70-130			10/09/13	
Iron - Dissolved (1)	110	4.5	10	ug/L	50	54	119	70-130			10/09/13	
Manganese - Dissolved (1)	54	0.45	1.0	ug/L	50	1.0	105	70-130			10/09/13	
Matrix Spike (A311732-MS7), Source: A3I2246-01RE1												
Arsenic - Dissolved (1)	48	0.045	0.10	ug/L	50	0.58	95	70-130			11/04/13	
Matrix Spike (A311732-MS8), Source: A3I2246-13RE1												
Arsenic - Dissolved (1)	52	0.045	0.10	ug/L	50	4.1	96	70-130			11/04/13	
Matrix Spike Dup (A311732-MSD3), Source: A3I2246-01												
Aluminum - Dissolved (1)	53	2.3	5.0	ug/L	50	2.6	100	70-130	3	20	10/09/13	
Iron - Dissolved (1)	64	4.5	10	ug/L	50	15	97	70-130	95	20	10/09/13	MS2.1
Manganese - Dissolved (1)	50	0.45	1.0	ug/L	50	0.49	99	70-130	4	20	10/09/13	
Matrix Spike Dup (A311732-MSD4), Source: A3I2246-13												
Aluminum - Dissolved (1)	60	2.3	5.0	ug/L	50	ND	120	70-130	1	20	10/09/13	
Iron - Dissolved (1)	120	4.5	10	ug/L	50	54	129	70-130	5	20	10/09/13	
Manganese - Dissolved (1)	54	0.45	1.0	ug/L	50	1.0	106	70-130	1	20	10/09/13	
Matrix Spike Dup (A311732-MSD7), Source: A3I2246-01RE1												
Arsenic - Dissolved (1)	47	0.045	0.10	ug/L	50	0.58	93	70-130	2	20	11/04/13	
Matrix Spike Dup (A311732-MSD8), Source: A3I2246-13RE1												
Arsenic - Dissolved (1)	52	0.045	0.10	ug/L	50	4.1	97	70-130	1	20	11/04/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

A3I2246

Central Valley RWQCB

centr4730

09272013

Turnaround: Standard

Due Date: 10/11/2013

Printed: 9/27/2013 3:36:55PM

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09/27/2013
10

*Required Fields

Temp: 3.1, 0.5

Company/Client Name*: Central Valley Regional Water Quality Control Board	Report Attention*: Anne Littlejohn Additional cc's:	Invoice To*: Joseph C. McGahan PO#: 11-123-555	Phone*: 916-464-4840 Fax*: E-mail*: alittlejohn@waterboards.ca.gov; jmcgahan@summerseng.com
Address*: 11020 Sun Center Dr #200	City*: Rancho Cordova	State*: CA	Zip*: 95670
Project: Eval WQ in Ag Dominated Water Bodies	Project #:		
Reporting Options: ☒ Trace (J-Flag) ☐ Swamp ☐ EDD Type:	How would you like your completed results sent?: ☒ E-Mail ☐ Fax ☐ Mail		
Sampler Name (Printed/Signature)*:	TAT* **Surcharge ☒ Standard - 10 Business Days ☐ **Rush: Date Needed		

Regulatory Carbon Copies: CDPH ☐ ☐ Fresno Co; Merced Co ☐ ☐ Tulare Co; Madera Co ☐ ☐ Other:

Regulatory Compliance: ☐ EDT to California DPH; System Number*:; ☐ Geotracker #:

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Na, TDS, Perchlorate, Chloride	Sulfate, Hardness, Total: Sb, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se	Total: Ag, Tl, Fluoride, Zn, Hg	Total and Dissolved: Al, As, Fe, Mn	Nitrate as Nitrogen	VOC: 8260	Ammonia as Nitrogen		
1	AWL130926 - 04	9/26/13	08:05	SW		X	X	X	X			X		
2	AWL130926 - 05	9/26/13	9:17	SW		X	X	X	X			X		
3	AWL130926 - 06	9/26/13	9:35	WW		X	X	X	X		X	X		
4	AWL130926 - 07	9/26/13	9:55	SW		X	X	X	X		X	X		
5	AWL130926 - 08	9/26/13	10:30	SW		X	X	X	X			X		
6	AWL130926 - 09	9/26/13	10:59	SW		X	X	X	X			X		
7	AWL130926 - 10	9/26/13	13:45	SW		X	X	X	X			X		
8	AWL130926 - 14	9/26/13	05:30	SW								X		
9	AWL130926 - 15	9/26/13	9:35	SW								X		
10	AWL130926 - 16	9/26/13	11:40	WW		X	X	X	X	X				
11	AWL130926 - 17	9/26/13	11:50	SW		X	X	X	X	X				
12	AWL130926 - 18	9/26/13	12:05	SW		X	X	X	X	X				
13	AWL130926 - 19	9/26/13	14:04	SW		X	X	X	X	X				
14	AWL130926 - 20	9/26/13	14:22	SW		X	X	X	X	X				

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
	CVRWQCB	9/26/13	16:14		BSK
	BSK	9/26/13	16:14		

Received for Lab by: (Signature and Printed Name) BSK 9/27/13 0800

Payment Received at Delivery: Date: Amount: PIA#: Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier:

Cooling Method: Wet Blue None

Custody Seal: Y N

Chilling Process Begun: Y N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

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10

*Required Fields

Temp:

Company/Client Name*: Central Valley Regional Water Quality Control Board	Report Attention*: Anne Littlejohn Additional cc's:	Invoice To*: Joseph C. McGahan PO#: 11-123-555	Phone*: 916-464-4840 Fax*: E-mail*: alittlejohn@waterboards.ca.gov; jmcgahan@summerseng.com
Address*: 11020 Sun Center Dr #200	City*: Rancho Cordova	State*: CA	Zip*: 95670
Project: Eval WQ in Ag Dominated Water Bodies	Project #:		

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: _____

Reporting Options: ☒ Trace (J-Flag) ☐ Swamp ☐ EDD Type: _____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: _____ ☐ Geotracker #: _____

Sampler Name (Printed/Signature)*: Anne Littlejohn

TAT* **Surcharge: ☒ Standard - 10 Business Days ☐ **Rush: Date Needed _____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Na, Nitrate, TDS, Perchlorate, Chloride	Sulfate, Hardness, Total: Sb, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se	Total: Ag, Tl, Fluoride, Zn, Hg	Total and Dissolved: Al, As, Fe, Mn
1	AWL130926 - 21	9/26/13	14:33	SW		X	X	X	X

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Anne Littlejohn	CVRWQCB	9/26/13	16:15	[illegible]	BSK
[illegible]	BSK	9/26/13	1614		
Received for Lab by: (Signature and Printed Name) [illegible]	BSK	9/26/13	[illegible]	Payment Received at Delivery: Date:	Check / Cash Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____ Custody Seal: Y / N

Cooling Method: Wet Blue None Chilling Process Begun: Y / N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C 2.1, 0.5	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: Stephanie By/Time: 9/27 1112	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-2	3-4	5-7	8	9	10-15
Bacti $Na_2S_2O_3$	—	—						
None (P) White Cap	—	—	IC	IC	IC		IC	IC
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N						
HNO_3 (P) Red Cap	—	—	IB	IB	IB		IB	IB
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	IA	IA	IA	IA	IA	
NaOH (P) Green Cap	Cl, pH ≥12	Y N						
NaOH + ZnAc (P)	pH ≥ 9	Y N						
Dissolved Oxygen 300ml (g)	—	—						
None (AG) 608/8081/6082, 625, 632/8321, 8151, 8270	—	—						
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—						
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—						
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—						
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N						
NH_4Cl (AG) Purple Label 552	—	—						
EDA (AG) Brown Label DBPs	—	—						
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—						
HCL (CG) 524.2 BTEX,Gas, MTBE, 8260/624	—	—		3V				
Buffer pH 4 (CG)	—	—						
None (CG)	—	—						
H_3PO_4 (CG) Salmon Label	—	—						
Other:								
Asbestos 1Liter Plastic w/ Foil	—	—						
Low Level Hg / Metals Double Baggie	—	—						
Bottled Water	—	—						
Clear Glass Jar: 250 / 500 / 1 Liter	—	—						
Soil Tube Brass / Steel / Plastic	—	—						
Tedlar Bag / Plastic Bag	—	—						

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Michael S - BSK Sac - Miss VOA's 2 ID-07 will send in 09/30/13 y

#9 = ID-#15 Rec. all bottles only NH4 Reg. y

Labeled by: @1335 Labels checked by: DRW @ 1341 RUSH Paged by: _____ @ _____