

Chemical Analysis Report

SE-DIST-2016-01-14-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

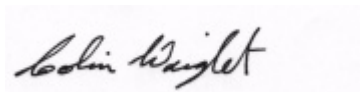
Event Description: **SMP_Orange Run**
Request ID: **RQ-2016-01-11-45**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 10-FEB-2016 11:23

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: C-2 Canal Vicinity of Red Rd, South Miami 3293 Collection Date/Time: 01/13/2016 11:25

Field ID: 28040399-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762938	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	52		mg Cl/L	P297433	
		Sulfate	3.6		mg SO4/L	P297438	
	SM 2120 B	Color (true)	43		PCU	P297089	
	SM 2320 B-97	Total Alkalinity	207		mg CaCO3/L	P297212	
	SM 2540 C-97	TDS	325		mg/L	P297564	
	SM 2540 D-97	TSS	2	U	mg/L	P297504	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P297206	
1762945	EPA 350.1 Rev. 2.0	Ammonia-N	0.32		mg N/L	P297606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P297275	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P297339	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P297426	
1762952	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
1762977	EPA 200.7 Rev. 4.4	Calcium	74.0		mg/L	P297236	
		Iron	380		ug/L	P297236	
		Magnesium	7.31		mg/L	P297236	
		Potassium	2.5		mg/L	P297236	
		Sodium	31.9		mg/L	P297236	
		Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	1.09		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.12	I	ug/L	P297865	
		Copper	0.23	I	ug/L	P297865	
		Lead	0.18	I	ug/L	P297236	
		Nickel	0.25		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Sample Location: CD-05

Collection Date/Time: 01/13/2016 12:15

Field ID: G4SECD05-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762939	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P297433	
		Sulfate	16		mg SO4/L	P297438	
	SM 2120 B	Color (true)	5.3	I	PCU	P297089	
	SM 2320 B-97	Total Alkalinity	179		mg CaCO3/L	P297212	
	SM 2540 C-97	TDS	270	A	mg/L	P297564	
	SM 2540 D-97	TSS	2	U	mg/L	P297504	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P297206	
1762946	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P297606	

Field ID: G4SECD05-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762946	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P297276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P297339	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P297426	
1762953	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
1762978	EPA 200.7 Rev. 4.4	Calcium	74.1		mg/L	P297236	
		Iron	30	U	ug/L	P297236	
		Magnesium	3.81		mg/L	P297236	
		Potassium	3.5		mg/L	P297236	
		Sodium	18.6		mg/L	P297236	
		Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	0.99		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.062	I	ug/L	P297236	
		Copper	0.58		ug/L	P297236	
		Lead	0.11	I	ug/L	P297236	
		Nickel	0.39		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Sample Location: C-102 @ SW 248th St 3300

Collection Date/Time: 01/13/2016 12:55

Field ID: G4SE0064-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762940	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P297433	
		Sulfate	38		mg SO4/L	P297438	
		Color (true)	2.5	U	PCU	P297089	
	SM 2320 B-97	Total Alkalinity	238		mg CaCO3/L	P297212	
	SM 2540 C-97	TDS	371		mg/L	P297564	
	SM 2540 D-97	TSS	2	I	mg/L	P297504	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P297206	
1762947	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P297606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P297276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	5.7		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P297339	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P297426	
1762954	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
1762979	EPA 200.7 Rev. 4.4	Calcium	103		mg/L	P297236	
		Iron	30	U	ug/L	P297236	
		Magnesium	5.40		mg/L	P297236	
		Potassium	11.7		mg/L	P297236	
		Sodium	18.5		mg/L	P297236	

Field ID: G4SE0064-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762979	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	0.64		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.053	I	ug/L	P297236	
		Copper	0.68		ug/L	P297236	
		Lead	0.050	U	ug/L	P297236	
		Nickel	1.43		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Sample Location: C-103 N SW 288 ST & SW 142 AV 3302

Collection Date/Time: 01/13/2016 13:25

Field ID: 28040279-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762941	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P297434	
		Sulfate	37		mg SO4/L	P297439	
	SM 2120 B	Color (true)	2.5	U	PCU	P297089	
	SM 2320 B-97	Total Alkalinity	208		mg CaCO3/L	P297212	
	SM 2540 C-97	TDS	347		mg/L	P297564	
	SM 2540 D-97	TSS	2	U	mg/L	P297504	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P297206	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P297606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P297276	
1762948	EPA 353.2 Rev. 2.0	NO2NO3-N	3.2		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P297340	
	SM 5310 B-00	Organic Carbon	2.1		mg C/L	P297426	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
	EPA 200.7 Rev. 4.4	Calcium	94.5		mg/L	P297236	
1762980		Iron	30	U	ug/L	P297236	
		Magnesium	4.94		mg/L	P297236	
		Potassium	10.7		mg/L	P297236	
		Sodium	21.6		mg/L	P297236	
		Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	1.17		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.050	U	ug/L	P297236	
		Copper	0.81		ug/L	P297236	
		Lead	0.050	U	ug/L	P297236	
		Nickel	1.18		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Field ID: 28040279-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Sample Location: MowryCan(C-103) @ 152 Av 3302

Collection Date/Time: 01/13/2016 13:48

Field ID: 28040084-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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1762942	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P297434	
		Sulfate	37		mg SO4/L	P297439	
	SM 2120 B	Color (true)	2.5	U	PCU	P297089	
	SM 2320 B-97	Total Alkalinity	218		mg CaCO3/L	P297212	
	SM 2540 C-97	TDS	323		mg/L	P297564	
	SM 2540 D-97	TSS	2	U	mg/L	P297504	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P297206	
1762949	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P297606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P297276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.4		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P297340	
	SM 5310 B-00	Organic Carbon	2.0		mg C/L	P297426	
1762956	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
1762981	EPA 200.7 Rev. 4.4	Calcium	96.7		mg/L	P297236	
		Iron	30	U	ug/L	P297236	
		Magnesium	4.89		mg/L	P297236	
		Potassium	10.5		mg/L	P297236	
		Sodium	21.5		mg/L	P297236	
		Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	1.18		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.058	I	ug/L	P297236	
		Copper	0.82		ug/L	P297236	
		Lead	0.050	U	ug/L	P297236	
		Nickel	1.13		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Sample Location: FC-15

Collection Date/Time: 01/13/2016 15:03

Field ID: G4SEFC15-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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1762943	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P297434	
		Sulfate	19		mg SO4/L	P297439	

Field ID: G4SEFC15-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762943	SM 2120 B	Color (true)	4.2	I	PCU	P297089	
	SM 2320 B-97	Total Alkalinity	199		mg CaCO3/L	P297212	
	SM 2540 C-97	TDS	293		mg/L	P297564	
	SM 2540 D-97	TSS	2	U	mg/L	P297504	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P297206	
1762950	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P297606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P297276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.49		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P297340	
	SM 5310 B-00	Organic Carbon	2.9		mg C/L	P297426	
1762957	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
1762982	EPA 200.7 Rev. 4.4	Calcium	79.6		mg/L	P297236	
		Iron	30	U	ug/L	P297236	
		Magnesium	4.94		mg/L	P297236	
		Potassium	6.8		mg/L	P297236	
		Sodium	23.9		mg/L	P297236	
		Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	0.76		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.050	U	ug/L	P297236	
		Copper	0.48		ug/L	P297236	
		Lead	0.074	I	ug/L	P297236	
		Nickel	0.76		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Sample Location: FC-09

Collection Date/Time: 01/13/2016 14:40

Field ID: G4SEFC09-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762944	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P297095	
	EPA 300.0 Rev. 2.1	Chloride	44		mg Cl/L	P297434	
		Sulfate	22		mg SO4/L	P297439	
		Color (true)	2.5	U	PCU	P297089	
	SM 2320 B-97	Total Alkalinity	204		mg CaCO3/L	P297213	
	SM 2540 C-97	TDS	311		mg/L	P297564	
	SM 2540 D-97	TSS	2	U	mg/L	P297504	
1762951	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P297207	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P297606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P297276	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.66		mg N/L	P297294	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P297340	
	SM 5310 B-00	Organic Carbon	2.0		mg C/L	P297426	

Field ID: G4SEFC09-01132016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1762958	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P297074	
1762983	EPA 200.7 Rev. 4.4	Calcium	80.0		mg/L	P297236	
		Iron	30	U	ug/L	P297236	
		Magnesium	4.77		mg/L	P297236	
		Potassium	7.2		mg/L	P297236	
		Sodium	26.4		mg/L	P297236	
		Zinc	5.0	U	ug/L	P297236	
	EPA 200.8 Rev. 5.4	Arsenic	0.59		ug/L	P297236	
		Cadmium	0.020	U	ug/L	P297236	
		Chromium	0.050	U	ug/L	P297236	
		Copper	1.05		ug/L	P297236	
		Lead	0.050	U	ug/L	P297236	
		Nickel	0.76		ug/L	P297865	
		Silver	0.0050	U	ug/L	P297236	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The calcium matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P297095

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P297236

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P297236

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Silver	0.0050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297865

Component	Result	Code	Units
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Nickel	0.050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297433

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297434

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297438

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297439

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P297606

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297275

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297276

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P297294

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297339

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297340

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P297074

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B
Batch ID: P297089

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P297212

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-97
Batch ID: P297213

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97
Batch ID: P297564

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P297504

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P297206

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P297207

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P297426

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P297236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	101		P	85 - 115
Magnesium	99.6		P	85 - 115
Potassium	111		P	85 - 115
Sodium	100		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	94.8		P	85 - 115
Cadmium	92.4		P	85 - 115
Chromium	90.8		P	85 - 115
Copper	90.2		P	85 - 115
Lead	88.7		P	85 - 115
Silver	93.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	93.0		P	85 - 115
Copper	92.3		P	85 - 115
Nickel	97.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P297606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297275

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P297294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297339

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	105		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P297074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	100		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P297212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	95 - 105

Reference Method: SM 2320 B-97
Batch ID: P297213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P297206

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	94 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P297207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	94 - 108

Reference Method: SM 5310 B-00
Batch ID: P297426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P297236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762825	Calcium	97.2		P	80 - 120
1762825	Iron	97.5	98.8	P/P	80 - 120
1762825	Magnesium	96.1		P	80 - 120
1762825	Potassium	105	108	P/P	80 - 120
1762825	Sodium	98.8		P	80 - 120
1762825	Zinc	97.7	98.0	P/P	80 - 120
1762983	Iron	100		P	80 - 120
1762983	Magnesium	98.7		P	80 - 120
1762983	Potassium	104		P	80 - 120
1762983	Sodium	96.9		P	80 - 120
1762983	Zinc	100		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762825	Arsenic	94.6	93.8	P/P	80 - 120
1762825	Cadmium	96.3	95.0	P/P	80 - 120
1762825	Chromium	91.7	91.6	P/P	80 - 120
1762825	Copper	92.2	88.2	P/P	80 - 120
1762825	Lead	89.8	89.6	P/P	80 - 120
1762825	Silver	95.6	95.7	P/P	80 - 120
1762983	Arsenic	99.1		P	80 - 120
1762983	Cadmium	99.3		P	80 - 120
1762983	Chromium	97.7		P	80 - 120
1762983	Copper	91.1		P	80 - 120
1762983	Lead	92.8		P	80 - 120
1762983	Silver	98.6		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762982	Chromium	92.2	91.3	P/P	80 - 120
1762982	Copper	88.4	87.9	P/P	80 - 120
1762982	Nickel	91.9	91.5	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762732	Chloride	106		P	90 - 110
1762819	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1763021	Chloride	106		P	90 - 110
1763063	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762686	Sulfate	97.0		P	90 - 110
1762687	Sulfate	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1763021	Sulfate	99.7		P	90 - 110
1763063	Sulfate	97.9		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P297606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762949	Ammonia-N	99.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762846	Kjeldahl Nitrogen	105	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762946	Kjeldahl Nitrogen	97.3	98.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P297294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762945	NO2NO3-N	95.4	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762860	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762948	Total-P	105	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P297074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762953	O-Phosphate-P	100	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P297206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762843	Fluoride	96.0	97.2	P/P	94 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P297207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1763021	Fluoride	96.5	97.1	P/P	94 - 107

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P297426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1762820	Organic Carbon	96.8	91.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P297095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762931	Turbidity	4.33	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P297236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762825	Calcium	0.382	Spike	P	0 - 20
1762825	Iron	1.17	Spike	P	0 - 20
1762825	Magnesium	0.935	Spike	P	0 - 20
1762825	Potassium	1.84	Spike	P	0 - 20
1762825	Sodium	0.405	Spike	P	0 - 20
1762825	Zinc	0.356	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762825	Arsenic	0.815	Spike	P	0 - 20
1762825	Cadmium	1.38	Spike	P	0 - 20
1762825	Chromium	0.0881	Spike	P	0 - 20
1762825	Copper	4.09	Spike	P	0 - 20
1762825	Lead	0.157	Spike	P	0 - 20
1762825	Silver	0.139	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P297865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762982	Chromium	0.926	Spike	P	0 - 20
1762982	Copper	0.579	Spike	P	0 - 20
1762982	Nickel	0.387	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762732	Chloride	0.325	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1763021	Chloride	0.257	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762686	Sulfate	0.0804	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P297439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1763021	Sulfate	0.0141	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P297606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762949	Ammonia-N	0.633	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762846	Kjeldahl Nitrogen	6.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P297276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762946	Kjeldahl Nitrogen	0.755	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P297294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762945	NO2NO3-N	0.380	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762860	Total-P	0.878	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P297340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762948	Total-P	2.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P297074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762953	O-Phosphate-P	1.49	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P297089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762932	Color (true)	0.597	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P297212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762843	Total Alkalinity	0.873	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P297213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1763021	Total Alkalinity	0.0710	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P297564

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762939	TDS	0.370	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P297206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762843	Fluoride	1.02	Spike	P	0 - 3.7

Reference Method: SM 4500 F-C-97
Batch ID: P297207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1763021	Fluoride	0.489	Spike	P	0 - 3.7

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P297426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1762820	Organic Carbon	4.69	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A67089
Included Lab Sample IDs: 1762952, 1762953, 1762954, 1762955, 1762956, 1762957, 1762958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.2	P/P	90 - 110
O-Phosphate-P	98.3	98.0	P/P	90 - 110
O-Phosphate-P	99.0	98.3	P/P	90 - 110
O-Phosphate-P	99.0	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A67093
Included Lab Sample IDs: 1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A67094
Included Lab Sample IDs: 1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115

Reference Method: SM 4500 F-C-97
Run ID: A67139
Included Lab Sample IDs: 1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A67141
Included Lab Sample IDs: 1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.1	99.8	P/P	90 - 110
Total Alkalinity	99.8	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A67180

Included Lab Sample IDs: 1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	93.5	94.0	P/P	90 - 110
NO2NO3-N	94.5	94.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A67198

Included Lab Sample IDs: 1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	P/P	90 - 110
Kjeldahl Nitrogen	102	101	P/P	90 - 110
Kjeldahl Nitrogen	103	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A67211

Included Lab Sample IDs: 1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	103	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A67212

Included Lab Sample IDs: 1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A67217

Included Lab Sample IDs: 1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	104	P/P	90 - 110
Chloride	104	104	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110
Sulfate	99.7	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A67227

Included Lab Sample IDs: 1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A67236

Included Lab Sample IDs: 1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.3	100	P/P	90 - 110
Iron	98.6	98.7	P/P	90 - 110
Magnesium	98.7	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A67236

Included Lab Sample IDs: 1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	102	102	P/P	90 - 110
Sodium	99.1	98.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A67289

Included Lab Sample IDs: 1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	103	P/P	90 - 110
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A67318

Included Lab Sample IDs: 1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	98.2	P/P	90 - 110
Arsenic	98.2	98.4	P/P	90 - 110
Cadmium	98.8	100	P/P	90 - 110
Cadmium	100	100	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Copper	102	98.3	P/P	90 - 110
Copper	98.3	97.5	P/P	90 - 110
Lead	96.1	96.7	P/P	90 - 110
Lead	97.2	96.1	P/P	90 - 110
Silver	97.8	99.1	P/P	90 - 110
Silver	98.4	97.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A67425

Included Lab Sample IDs: 1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	96.4	97.1	P/P	90 - 110
Copper	99.2	96.8	P/P	90 - 110
Nickel	101	98.1	P/P	90 - 110
Nickel	98.1	98.0	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	MS
				LCS	SMP
EPA 180.1 Rev. 2.0	Turbidity			4.33	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS	SMP	MS		
EPA 200.7 Rev. 4.4	Calcium	101	97.2				0.382
	Iron	101	97.5	98.8	100		1.17
	Magnesium	99.6	96.1	98.7			0.935
	Potassium	111	105	108	104		1.84
	Sodium	100	98.8	96.9			0.405
	Zinc	102	97.7	98.0	100		0.356
EPA 200.8 Rev. 5.4	Arsenic	94.8	94.6	93.8	99.1		0.815
	Cadmium	92.4	96.3	95.0	99.3		1.38
	Chromium	90.8	91.7	91.6	97.7		0.0881
	Chromium	93.0	92.2	91.3			0.926
	Copper	90.2	92.2	88.2	91.1		4.09
	Copper	92.3	88.4	87.9			0.579
	Lead	88.7	89.8	89.6	92.8		0.157
	Nickel	97.0	91.9	91.5			0.387
	Silver	93.1	95.6	95.7	98.6		0.139
EPA 300.0 Rev. 2.1	Chloride	105	106	105		0.325	
	Chloride	103	106	104		0.257	
	Sulfate	99.3	97.0	96.8		0.0804	
	Sulfate	99.6	99.7	97.9		0.0141	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	99.8	101			0.633
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	105	98.5			6.10
	Kjeldahl Nitrogen	96.8	97.3	98.3			0.755
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0	95.4	96.0			0.380
EPA 365.1 Rev. 2.0	Total-P	104	107	106			0.878
	Total-P	105	105	102			2.83
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	100	102			1.49
SM 2120 B	Color (true)					0.597	
SM 2320 B-97	Total Alkalinity	99.1				0.873	
	Total Alkalinity	99.3				0.0710	
SM 2540 C-97	TDS					0.370	
SM 4500 F-C-97	Fluoride	97.0	96.0	97.2			1.02
	Fluoride	97.0	96.5	97.1			0.489
SM 5310 B-00	Organic Carbon	95.0	96.8	91.8			4.69

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1762952, 1762953, 1762954, 1762955, 1762956, 1762957, 1762958
SM 2120 B / E31780	True Color measured at 450 nm	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	01/14/2016			01/14/2016 15:21	Sima Feizi	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
EPA 200.7 Rev. 4.4	01/14/2016	01/19/2016	Elliott D. Healy	01/21/2016	Joshua Ayres	1762977, 1762978, 1762979, 1762980
	01/14/2016	01/19/2016	Elliott D. Healy	01/22/2016	Joshua Ayres	1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983
EPA 200.8 Rev. 5.4	01/14/2016	01/19/2016	Elliott D. Healy	01/27/2016	Charles J. Peterson	1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983
	01/14/2016	02/01/2016	Michael I. Thompson	02/02/2016	Charles J. Peterson	1762977, 1762978, 1762979, 1762980, 1762981, 1762982, 1762983
EPA 300.0 Rev. 2.1	01/14/2016			01/21/2016	Ping Hua	1762938, 1762939, 1762940
	01/14/2016			01/22/2016	Ping Hua	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
EPA 350.1 Rev. 2.0	01/14/2016			01/26/2016	Diana M. Turner	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 351.2 Rev. 2.0	01/14/2016	01/20/2016	Christopher Armour	01/21/2016	Bryan A. Werth	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 353.2 Rev. 2.0	01/14/2016			01/20/2016	Peter D. Kaus	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 365.1 Rev. 2.0	01/14/2016	01/20/2016	Christopher Armour	01/22/2016	Lipi Saha	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951
EPA 365.1 Rev. 2.0 dissolved	01/14/2016			01/14/2016 12:53	Julia Storbeck	1762953
	01/14/2016			01/14/2016 13:12	Julia Storbeck	1762954
	01/14/2016			01/14/2016 13:17	Julia Storbeck	1762955
	01/14/2016			01/14/2016 13:18	Julia Storbeck	1762956
	01/14/2016			01/14/2016 13:19	Julia Storbeck	1762957, 1762958
	01/14/2016			01/14/2016 13:30	Julia Storbeck	1762952
SM 2120 B	01/14/2016			01/14/2016 15:07	Blanca Fach	1762938
	01/14/2016			01/14/2016 15:08	Blanca Fach	1762939
	01/14/2016			01/14/2016 15:09	Blanca Fach	1762940, 1762941
	01/14/2016			01/14/2016 15:10	Blanca Fach	1762942
	01/14/2016			01/14/2016 15:11	Blanca Fach	1762943
	01/14/2016			01/14/2016 15:12	Blanca Fach	1762944
SM 2320 B-97	01/14/2016			01/15/2016	Dale L. Simmons	1762938, 1762939, 1762940, 1762941, 1762942, 1762943
	01/14/2016			01/16/2016	Dale L. Simmons	1762944
SM 2540 C-97	01/14/2016			01/19/2016	Sima Feizi	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 2540 D-97	01/14/2016			01/19/2016	Sima Feizi	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 4500 F-C-97	01/14/2016			01/15/2016	Dale L. Simmons	1762938, 1762939, 1762940, 1762941, 1762942, 1762943, 1762944
SM 5310 B-00	01/14/2016			01/20/2016	Sofia Elnemr	1762945, 1762946, 1762947, 1762948, 1762949, 1762950, 1762951