

Chemical Analysis Report

SE-DIST-2017-08-30-01

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

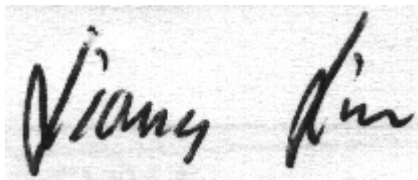
Event Description: **SMP-G1 Okeechobee Run**
Request ID: **RQ-2017-08-28-32**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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2199 South Rock Road
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-SEP-2017 11:32

A handwritten signature in black ink, appearing to read "Liang Lin", 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, Nutrients and Pesticides.

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: Otter Creek @ 441

Collection Date/Time: 08/29/2017 10:00

Field ID: G1SE0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926224	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	130		mg Cl/L	P331239	
		Sulfate	40		mg SO4/L	P331233	
	SM 2120 B	Color (true)	210		PCU	P331084	
	SM 2320 B-97	Total Alkalinity	96		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	484		mg/L	P331342	
	SM 2540 D-97	TSS	10	I	mg/L	P331531	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P331743	
1926225	EPA 350.1 Rev. 2.0	Ammonia-N	1.1		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.2		mg N/L	P331102	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.58		mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.51		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	33		mg C/L	P331245	
1926226	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.40		mg P/L	P331074	
1926271	EPA 8321B	Sucralose**	0.035	I	ug/L	P331506	MS
	USGS O-2060-01	2,4-D	0.0020	UJ	ug/L	P331018	SUR
		Diuron	8.0E-04	U	ug/L	P331018	
		Fenuron	0.0080	U	ug/L	P331018	
		Imidacloprid	8.0E-04	U	ug/L	P331018	
		Bentazon	8.0E-04	UJ	ug/L	P331018	MS, SUR
		Linuron	0.0040	U	ug/L	P331018	MS
		Acetaminophen**	0.0080	U	ug/L	P331018	
		MCP	0.0020	UJ	ug/L	P331018	SUR
		Carbamazepine**	4.0E-04	U	ug/L	P331018	
		Triclopyr**	0.0040	UJ	ug/L	P331018	RPD
		Primidone**	0.0040	U	ug/L	P331018	
		Fluridone**	4.0E-04	U	ug/L	P331018	MS

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. 2,4-D-d3 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

Sample Location: Popash Slough @ SR-70

Collection Date/Time: 08/29/2017 10:30

Field ID: G1SE0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926203	EPA 180.1 Rev. 2.0	Turbidity	2.1	A	NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	50		mg Cl/L	P331239	
		Sulfate	7.6		mg SO4/L	P331233	
	SM 2120 B	Color (true)	780		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	47		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	262	A	mg/L	P331341	
	SM 2540 D-97	TSS	3	IA	mg/L	P331530	

Field ID: G1SE0017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926203	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P331743	
1926204	EPA 350.1 Rev. 2.0	Ammonia-N	0.054		mg N/L	P331168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.7		mg N/L	P331101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.56		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	41		mg C/L	P331245	
1926205	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.45		mg P/L	P331073	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Taylor Creek @ SR 70

Collection Date/Time: 08/29/2017 10:45

Field ID: G1SE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926215	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	42		mg Cl/L	P331239	
		Sulfate	20		mg SO4/L	P331233	
	SM 2120 B	Color (true)	190		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	288		mg/L	P331341	
	SM 2540 D-97	TSS	8	I	mg/L	P331530	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P331743	
1926218	EPA 350.1 Rev. 2.0	Ammonia-N	0.39		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.3		mg N/L	P331101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.37		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P331245	
1926221	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.20		mg P/L	P331073	
1926268	EPA 8321B	Sucralose**	0.050		ug/L	P331679	
	USGS O-2060-01	2,4-D	0.53	J	ug/L	P331018	SUR
		Diuron	0.0029	I	ug/L	P331018	
		Fenuron	0.0080	U	ug/L	P331018	
		Imidacloprid	0.015		ug/L	P331018	
		Bentazon	8.0E-04	UJ	ug/L	P331018	MS, SUR
		Linuron	0.0040	U	ug/L	P331018	MS
		Acetaminophen**	0.0080	U	ug/L	P331018	
		MCP	0.0020	UJ	ug/L	P331018	SUR
		Carbamazepine**	9.8E-04	I	ug/L	P331018	
		Triclopyr**	0.0040	UJ	ug/L	P331018	RPD
		Primidone**	0.0040	U	ug/L	P331018	
		Fluridone**	4.0E-04	U	ug/L	P331018	MS
1926272	EPA 200.7 Rev. 4.4	Calcium	54.8		mg/L	P331134	
		Iron	850		ug/L	P331134	
		Magnesium	5.74		mg/L	P331134	
		Potassium	5.7		mg/L	P331134	

Field ID: G1SE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926272	EPA 200.7 Rev. 4.4	Sodium	27.2		mg/L	P331134	
		Zinc	5.0	U	ug/L	P331134	
	EPA 200.8 Rev. 5.4	Arsenic	1.43		ug/L	P331134	
		Cadmium	0.020	U	ug/L	P331134	
		Chromium	0.63	I	ug/L	P331134	
		Copper	0.86		ug/L	P331134	
		Lead	0.41		ug/L	P331134	
		Nickel	0.84		ug/L	P331134	
		Silver	0.010	U	ug/L	P331134	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. 2,4-D-d3 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Taylor Creek @ SR 70

Collection Date/Time: 08/29/2017 10:55

Field ID: G1SE0011_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926216	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P331239	
		Sulfate	19		mg SO4/L	P331233	
		Color (true)	190		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	289		mg/L	P331342	
	SM 2540 D-97	TSS	8	I	mg/L	P331531	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P331743	
1926219	EPA 350.1 Rev. 2.0	Ammonia-N	0.38		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P331101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P331245	
1926222	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.21		mg P/L	P331073	
1926269	EPA 8321B	Sucralose**	0.053		ug/L	P331679	
	USGS O-2060-01	2,4-D	0.51	J	ug/L	P331018	SUR
		Diuron	0.0027	I	ug/L	P331018	
		Fenuron	0.0080	U	ug/L	P331018	
		Imidacloprid	0.015		ug/L	P331018	
		Bentazon	8.0E-04	UJ	ug/L	P331018	MS, SUR
		Linuron	0.0040	U	ug/L	P331018	MS
		Acetaminophen**	0.0080	U	ug/L	P331018	
		MCP	0.0020	UJ	ug/L	P331018	SUR
		Carbamazepine**	9.9E-04	I	ug/L	P331018	
		Triclopyr**	0.0040	UJ	ug/L	P331018	RPD

Field ID: G1SE0011_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926269	USGS O-2060-01	Primidone**	0.0040	U	ug/L	P331018	
		Fluridone**	4.0E-04	U	ug/L	P331018	MS
1926273	EPA 200.7 Rev. 4.4	Calcium	53.1		mg/L	P331134	
		Iron	830		ug/L	P331134	
		Magnesium	5.58		mg/L	P331134	
		Potassium	5.5		mg/L	P331134	
		Sodium	26.6		mg/L	P331134	
		Zinc	5.0	U	ug/L	P331134	
		Arsenic	1.39		ug/L	P331134	
		Cadmium	0.020	U	ug/L	P331134	
	EPA 200.8 Rev. 5.4	Chromium	0.63	I	ug/L	P331134	
		Copper	0.99		ug/L	P331134	
		Lead	0.43		ug/L	P331134	
		Nickel	0.84		ug/L	P331134	
		Silver	0.010	U	ug/L	P331134	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. 2,4-D-d3 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Mosavito Creek @ SR 710

Collection Date/Time: 08/29/2017 11:10

Field ID: G1SE0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926212	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P331239	
		Sulfate	89		mg SO4/L	P331233	
		Color (true)	120		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	46	A	mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	414		mg/L	P331341	
	SM 2540 D-97	TSS	2	I	mg/L	P331530	
	SM 4500 F-C-97	Fluoride	0.080	I	mg F/L	P331743	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P331102	
1926213	EPA 353.2 Rev. 2.0	NO2NO3-N	0.34		mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P331245	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P331073	
	EPA 8321B	Sucralose**	0.067	I	ug/L	P331506	MS
1926267	USGS O-2060-01	2,4-D	0.0020	UJ	ug/L	P331018	SUR
		Diuron	8.0E-04	U	ug/L	P331018	
		Fenuron	0.0080	U	ug/L	P331018	
		Imidacloprid	8.0E-04	U	ug/L	P331018	

Field ID: G1SE0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926267	USGS O-2060-01	Bentazon	0.0010	IJ	ug/L	P331018	MS, SUR
		Linuron	0.0040	U	ug/L	P331018	MS
		Acetaminophen**	0.0080	U	ug/L	P331018	
		MCPD	0.0020	UJ	ug/L	P331018	SUR
		Carbamazepine**	4.0E-04	U	ug/L	P331018	
		Triclopyr**	0.0040	UJ	ug/L	P331018	RPD
		Primidone**	0.0040	U	ug/L	P331018	
		Fluridone**	4.0E-04	U	ug/L	P331018	MS

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MDL elevated due to matrix interference.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. 2,4-D-d3 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

Sample Location: Nubbin Slough

Collection Date/Time: 08/29/2017 11:30

Field ID: G1SE0004

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926206	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P331239	
		Sulfate	15		mg SO4/L	P331233	
	SM 2120 B	Color (true)	250		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	43		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	214		mg/L	P331341	
	SM 2540 D-97	TSS	7	I	mg/L	P331530	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P331743	
1926208	EPA 350.1 Rev. 2.0	Ammonia-N	0.41		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.3		mg N/L	P331101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P331245	
1926210	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.095		mg P/L	P331073	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Hary Creek

Collection Date/Time: 08/29/2017 11:50

Field ID: G1SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926217	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P331239	
		Sulfate	25		mg SO4/L	P331233	
	SM 2120 B	Color (true)	400		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	66		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	410	A	mg/L	P331342	

Field ID: G1SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926217	SM 2540 D-97	TSS	4	IA	mg/L	P331531	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P331743	
1926220	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.2		mg N/L	P331102	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.40		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P331245	
1926223	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P331073	
1926270	EPA 8321B	Sucralose**	0.020	U	ug/L	P331506	MS
	USGS O-2060-01	2,4-D	0.12	J	ug/L	P331018	SUR
		Diuron	8.0E-04	U	ug/L	P331018	
		Fenuron	0.0080	U	ug/L	P331018	
		Imidacloprid	8.0E-04	U	ug/L	P331018	
		Bentazon	8.0E-04	UJ	ug/L	P331018	MS, SUR
		Linuron	0.0040	U	ug/L	P331018	MS
		Acetaminophen**	0.0080	U	ug/L	P331018	
		MCP	0.0020	UJ	ug/L	P331018	SUR
		Carbamazepine**	4.0E-04	U	ug/L	P331018	
		Triclopyr**	0.0040	UJ	ug/L	P331018	RPD
		Primidone**	0.0040	U	ug/L	P331018	
		Fluridone**	4.0E-04	U	ug/L	P331018	MS
1926274	EPA 200.7 Rev. 4.4	Calcium	34.7		mg/L	P331134	
		Iron	1.04E+03		ug/L	P331134	
		Magnesium	12.0		mg/L	P331134	
		Potassium	5.7		mg/L	P331134	
		Sodium	76.1		mg/L	P331134	
		Zinc	5.0	U	ug/L	P331134	
	EPA 200.8 Rev. 5.4	Arsenic	1.50		ug/L	P331134	
		Cadmium	0.020	U	ug/L	P331134	
		Chromium	1.1	I	ug/L	P331134	
		Copper	0.33	I	ug/L	P331134	
		Lead	0.15	I	ug/L	P331134	
		Nickel	0.42	I	ug/L	P331134	
		Silver	0.010	U	ug/L	P331134	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MDL elevated due to matrix interference.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. 2,4-D-d3 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Lettuce Creek @ Hwy 710

Collection Date/Time: 08/29/2017 12:00

Field ID: G1SE0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926207	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P331069	
	EPA 300.0 Rev. 2.1	Chloride	57		mg Cl/L	P331239	
		Sulfate	12		mg SO4/L	P331233	
	SM 2120 B	Color (true)	390		PCU	P331083	
	SM 2320 B-97	Total Alkalinity	90		mg CaCO3/L	P331521	
	SM 2540 C-97	TDS	287		mg/L	P331341	
	SM 2540 D-97	TSS	4	I	mg/L	P331530	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P331743	
1926209	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P331198	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P331102	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P331117	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P331129	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P331245	
1926211	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.19		mg P/L	P331073	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P331069

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P331134

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: P331134

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331233

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331239

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331168

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331198

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331101

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331102

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331117

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331129

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331073

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331074

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

Reference Method: EPA 8321B
Batch ID: P331506

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P331679

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P331083

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P331084

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P331521

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

Reference Method: SM 2540 C-97
Batch ID: P331341

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P331342

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P331530

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P331531

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P331743

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P331245

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

Reference Method: USGS O-2060-01
 Batch ID: P331018

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P331134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	96.1		P	85 - 115
Sodium	101		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P331134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	105		P	85 - 115
Cadmium	101		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	97.9		P	85 - 115
Copper	100		P	85 - 115
Lead	99.7		P	85 - 115
Nickel	102		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331233

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	92.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331168

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331198

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331101

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: P331102

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331129

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331129

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331074

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

Reference Method: EPA 8321B
Batch ID: P331506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P331679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	101		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P331521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P331743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P331245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P331018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.6		P	40 - 150
Acetaminophen	120		P	30 - 150
Bentazon	43.3		P	40 - 150
Carbamazepine	117		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P331018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	93.7		P	40 - 150
Fenuron	95.3		P	40 - 150
Fluridone	85.0		P	40 - 150
Imidacloprid	96.8		P	40 - 160
Linuron	79.2		P	40 - 150
MCPP	111		P	40 - 150
Primidone	105		P	40 - 150
Triclopyr	106		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923909	Iron	108		P	80 - 120
1923909	Magnesium	104		P	80 - 120
1923909	Potassium	98.7		P	80 - 120
1923909	Sodium	97.6		P	80 - 120
1923909	Zinc	106		P	80 - 120
1926383	Calcium	104		P	80 - 120
1926383	Iron	110	109	P/P	80 - 120
1926383	Magnesium	105		P	80 - 120
1926383	Potassium	98.7	96.5	P/P	80 - 120
1926383	Sodium	102	101	P/P	80 - 120
1926383	Zinc	105	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923909	Arsenic	110		P	80 - 120
1923909	Cadmium	102		P	80 - 120
1923909	Chromium	92.7		P	80 - 120
1923909	Copper	97.5		P	80 - 120
1923909	Lead	103		P	80 - 120
1923909	Nickel	99.5		P	80 - 120
1923909	Silver	101		P	80 - 120
1926383	Arsenic	104	104	P/P	80 - 120
1926383	Cadmium	102	103	P/P	80 - 120
1926383	Chromium	97.1	98.0	P/P	80 - 120
1926383	Copper	95.4	94.9	P/P	80 - 120
1926383	Lead	100	100	P/P	80 - 120
1926383	Nickel	96.7	96.2	P/P	80 - 120
1926383	Silver	102	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331233

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926235	Sulfate	93.7		P	90 - 110
1926283	Sulfate	92.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926235	Chloride	96.1		P	90 - 110
1926283	Chloride	92.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926155	Ammonia-N	97.4	96.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926213	Ammonia-N	97.0	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926155	Kjeldahl Nitrogen	104	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926208	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926155	Total-P	100	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926156	O-Phosphate-P	95.7	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926243	O-Phosphate-P	97.1	99.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P331506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1928742	Sucralose	38.7	64.2	F/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P331679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929018	Sucralose	66.4	66.7	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P331743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926212	Fluoride	96.5	96.5	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P331245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926155	Organic Carbon	107	99.8	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P331018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925991	2,4-D	96.6	88.7	P/P	40 - 150
1925991	Acetaminophen	91.2	86.8	P/P	30 - 150
1925991	Bentazon	20.2	17.9	F/F	40 - 150
1925991	Carbamazepine	90.4	84.6	P/P	40 - 150
1925991	Diuron	44.2	42.0	P/P	40 - 150
1925991	Fenuron	65.1	68.6	P/P	40 - 150
1925991	Fluridone	17.9	13.2	F/F	40 - 150
1925991	Linuron	37.9	35.7	F/F	40 - 150
1925991	MCP	101	80.8	P/P	40 - 150
1925991	Primidone	91.2	91.6	P/P	40 - 150
1925991	Triclopyr	84.8	61.1	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P331069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926203	Turbidity	2.33	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P331134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926383	Calcium	1.39	Spike	P	0 - 20
1926383	Iron	0.653	Spike	P	0 - 20
1926383	Magnesium	0.466	Spike	P	0 - 20
1926383	Potassium	1.92	Spike	P	0 - 20
1926383	Sodium	0.788	Spike	P	0 - 20
1926383	Zinc	1.38	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926383	Arsenic	0.291	Spike	P	0 - 20
1926383	Cadmium	1.14	Spike	P	0 - 20
1926383	Chromium	0.956	Spike	P	0 - 20
1926383	Copper	0.534	Spike	P	0 - 20
1926383	Lead	0.0946	Spike	P	0 - 20
1926383	Nickel	0.441	Spike	P	0 - 20
1926383	Silver	0.787	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926283	Sulfate	7.22	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926283	Chloride	5.96	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926155	Ammonia-N	0.823	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926213	Ammonia-N	0.188	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926155	Kjeldahl Nitrogen	4.85	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926209	Kjeldahl Nitrogen	2.66	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926208	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926155	Total-P	2.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926156	O-Phosphate-P	2.29	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926243	O-Phosphate-P	2.24	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P331506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1928742	Sucralose	22.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P331679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929018	Sucralose	0.192	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P331083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926154	Color (true)	2.63	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P331084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926235	Color (true)	0.896	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P331521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926212	Total Alkalinity	0.492	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P331341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926203	TDS	4.58	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P331342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926217	TDS	2.20	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P331743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926212	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P331245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926155	Organic Carbon	5.72	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P331018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925991	2,4-D	8.27	Spike	P	0 - 30
1925991	Acetaminophen	4.43	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P331018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925991	Bentazon	11.5	Spike	P	0 - 30
1925991	Carbamazepine	6.60	Spike	P	0 - 30
1925991	Diuron	2.85	Spike	P	0 - 30
1925991	Fenuron	5.31	Spike	P	0 - 30
1925991	Fluridone	29.7	Spike	P	0 - 30
1925991	Imidacloprid	4.74	Spike	P	0 - 30
1925991	Linuron	5.90	Spike	P	0 - 30
1925991	MCP	22.3	Spike	P	0 - 30
1925991	Primidone	0.525	Spike	P	0 - 30
1925991	Triclopyr	32.4	Spike	F	0 - 30

* 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 Surrogates

Lab Sample ID: 1926267
Field Sample ID: G1SE0014

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	128	P	30 - 160
EPA 8321B	Carbamazepine-d10	117	P	30 - 160
EPA 8321B	Diuron-d6	70.6	P	30 - 160
EPA 8321B	Primidone-d5	100	P	30 - 160
EPA 8321B	Sucralose-d6	70.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	163	F	40 - 160
USGS O-2060-01	Acetaminophen-d4	128	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	117	P	30 - 160
USGS O-2060-01	Diuron-d6	70.6	P	30 - 160
USGS O-2060-01	Primidone-d5	100	P	30 - 160
USGS O-2060-01	Sucralose-d6	70.1	P	40 - 160

Lab Sample ID: 1926268
Field Sample ID: G1SE0011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	136	P	30 - 160
EPA 8321B	Carbamazepine-d10	118	P	30 - 160
EPA 8321B	Diuron-d6	70.8	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	63.7	P	40 - 160
EPA 8321B	Sucralose-d6	56.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	182	F	40 - 160
USGS O-2060-01	Acetaminophen-d4	136	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	118	P	30 - 160
USGS O-2060-01	Diuron-d6	70.8	P	30 - 160
USGS O-2060-01	Primidone-d5	106	P	30 - 160
USGS O-2060-01	Sucralose-d6	63.7	P	40 - 160
USGS O-2060-01	Sucralose-d6	56.2	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1926269
Field Sample ID: G1SE0011_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	149	P	30 - 160
EPA 8321B	Carbamazepine-d10	140	P	30 - 160
EPA 8321B	Diuron-d6	85.7	P	30 - 160
EPA 8321B	Primidone-d5	124	P	30 - 160
EPA 8321B	Sucralose-d6	49.1	P	40 - 160
EPA 8321B	Sucralose-d6	49.0	P	40 - 160
USGS O-2060-01	2,4-D-d3	214	F	40 - 160
USGS O-2060-01	Acetaminophen-d4	149	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	140	P	30 - 160
USGS O-2060-01	Diuron-d6	85.7	P	30 - 160
USGS O-2060-01	Primidone-d5	124	P	30 - 160
USGS O-2060-01	Sucralose-d6	49.1	P	40 - 160
USGS O-2060-01	Sucralose-d6	49.0	P	40 - 160

Lab Sample ID: 1926270
Field Sample ID: G1SE0002

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	156	P	30 - 160
EPA 8321B	Carbamazepine-d10	122	P	30 - 160
EPA 8321B	Diuron-d6	70.2	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	62.3	P	40 - 160
USGS O-2060-01	2,4-D-d3	188	F	40 - 160
USGS O-2060-01	Acetaminophen-d4	156	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	122	P	30 - 160
USGS O-2060-01	Diuron-d6	70.2	P	30 - 160
USGS O-2060-01	Primidone-d5	110	P	30 - 160
USGS O-2060-01	Sucralose-d6	62.3	P	40 - 160

Lab Sample ID: 1926271
Field Sample ID: G1SE0007

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	128	P	30 - 160
EPA 8321B	Carbamazepine-d10	123	P	30 - 160
EPA 8321B	Diuron-d6	80.8	P	30 - 160
EPA 8321B	Primidone-d5	98.7	P	30 - 160
EPA 8321B	Sucralose-d6	61.4	P	40 - 160
USGS O-2060-01	2,4-D-d3	183	F	40 - 160
USGS O-2060-01	Acetaminophen-d4	128	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	123	P	30 - 160
USGS O-2060-01	Diuron-d6	80.8	P	30 - 160
USGS O-2060-01	Primidone-d5	98.7	P	30 - 160
USGS O-2060-01	Sucralose-d6	61.4	P	40 - 160

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78711

Included Lab Sample IDs: 1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A78712

Included Lab Sample IDs: 1926205, 1926210, 1926211, 1926214, 1926221, 1926222, 1926223, 1926226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	102	P/P	90 - 110
O-Phosphate-P	102	102	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A78715

Included Lab Sample IDs: 1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	85 - 115
Color (true)	102	101	P/P	85 - 115
Color (true)	99.8	101	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78723

Included Lab Sample IDs: 1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78741

Included Lab Sample IDs: 1926204

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78751

Included Lab Sample IDs: 1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	103	P/P	90 - 110
Total-P	104	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78752

Included Lab Sample IDs: 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.6	P/P	90 - 110
Ammonia-N	99.7	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78762

Included Lab Sample IDs: 1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	106	P/P	90 - 110
Kjeldahl Nitrogen	106	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A78767

Included Lab Sample IDs: 1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	107	P/P	90 - 110
Sulfate	100	105	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A78769

Included Lab Sample IDs: 1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	108	P/P	90 - 110
Organic Carbon	108	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78788

Included Lab Sample IDs: 1926272, 1926273, 1926274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	90 - 110
Iron	104	105	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	96.8	96.7	P/P	90 - 110
Sodium	99.7	99.4	P/P	90 - 110
Zinc	109	106	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A78805

Included Lab Sample IDs: 1926267, 1926268, 1926269, 1926270, 1926271

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	123	119	P/P	50 - 150
Acetaminophen	112	125	P/P	60 - 150
Bentazon	69.1	74.5	P/P	50 - 150
Carbamazepine	129	136	P/P	60 - 150
Diuron	118	119	P/P	60 - 150
Fenuron	91.8	108	P/P	60 - 150
Fluridone	106	109	P/P	60 - 160
Imidacloprid	114	110	P/P	60 - 150
Linuron	98.7	102	P/P	60 - 150
MCPP	135	124	P/P	50 - 150
Primidone	106	115	P/P	60 - 150
Triclopyr	127	123	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78818

Included Lab Sample IDs: 1926272, 1926273, 1926274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	104	101	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	99.2	99.8	P/P	90 - 110
Copper	104	100	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Nickel	103	99.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A78870

Included Lab Sample IDs: 1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78913

Included Lab Sample IDs: 1926272, 1926273, 1926274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	93.9	94.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78939

Included Lab Sample IDs: 1926267, 1926270, 1926271

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	119	P/P	60 - 150

Reference Method: SM 4500 F-C-97

Run ID: A78959

Included Lab Sample IDs: 1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A79086

Included Lab Sample IDs: 1926268, 1926269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	128	140	P/P	60 - 150
Sucralose	140	135	P/P	60 - 150

* 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			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						2.33	
EPA 200.7 Rev. 4.4	Calcium	104	104					1.39
	Iron	107	108	110	109			0.653
	Magnesium	103	104	105				0.466
	Potassium	96.1	98.7	98.7	96.5			1.92
	Sodium	101	97.6	102	101			0.788
	Zinc	105	106	105	103			1.38
EPA 200.8 Rev. 5.4	Arsenic	105	110	104	104			0.291
	Cadmium	101	102	102	103			1.14
	Chromium	97.9	92.7	97.1	98.0			0.956
	Copper	100	97.5	95.4	94.9			0.534
	Lead	99.7	103	100	100			0.0946
	Nickel	102	99.5	96.7	96.2			0.441
	Silver	103	101	102	103			0.787
EPA 300.0 Rev. 2.1	Chloride	97.4	92.8	96.1			5.96	
	Sulfate	92.3	92.9	93.7			7.22	
EPA 350.1 Rev. 2.0	Ammonia-N	102	97.4	96.1				0.823
	Ammonia-N	100	97.0	97.4				0.188
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	104	97.9				4.85
	Kjeldahl Nitrogen	103						2.66
EPA 353.2 Rev. 2.0	NO2NO3-N	104	101	102				0.494
EPA 365.1 Rev. 2.0	Total-P	99.0	100	97.8				2.25
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.0	95.7	98.1				2.29
	O-Phosphate-P	103	97.1	99.3				2.24
EPA 8321B	Sucralose	92.2	38.7	64.2				22.0
	Sucralose	101	66.4	66.7				0.192
SM 2120 B	Color (true)						2.63	
	Color (true)						0.896	
SM 2320 B-97	Total Alkalinity	102					0.492	
SM 2540 C-97	TDS						4.58	
	TDS						2.20	
SM 4500 F-C-97	Fluoride	97.8	96.5	96.5				0.0
SM 5310 B-00	Organic Carbon	103	107	99.8				5.72
USGS O-2060-01	2,4-D	95.6	96.6	88.7				8.27
	Acetaminophen	120	91.2	86.8				4.43
	Bentazon	43.3	20.2	17.9				11.5
	Carbamazepine	117	90.4	84.6				6.60
	Diuron	93.7	44.2	42.0				2.85
	Fenuron	95.3	65.1	68.6				5.31
	Fluridone	85.0	17.9	13.2				29.7
	Imidacloprid	96.8						4.74
	Linuron	79.2	37.9	35.7				5.90
	MCPP	111	101	80.8				22.3
	Primidone	105	91.2	91.6				0.525
	Triclopyr	106	84.8	61.1				32.4

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1926272, 1926273, 1926274

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1926272, 1926273, 1926274
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1926205, 1926210, 1926211, 1926214, 1926221, 1926222, 1926223, 1926226
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1926267, 1926268, 1926269, 1926270, 1926271
SM 2120 B / E31780	True Color measured at 450 nm	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1926267, 1926268, 1926269, 1926270, 1926271
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1926267, 1926268, 1926269, 1926270, 1926271

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	08/30/2017			08/30/2017 15:25	DeAsia Armster	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
EPA 200.7 Rev. 4.4	08/30/2017	08/31/2017	Elliott D. Healy	09/05/2017	Betina Topolski	1926272, 1926273, 1926274
EPA 200.8 Rev. 5.4	08/30/2017	08/31/2017	Elliott D. Healy	09/06/2017	Nadine Brooks	1926272, 1926273, 1926274
	08/30/2017	08/31/2017	Elliott D. Healy	09/13/2017	Nadine Brooks	1926272, 1926273, 1926274
EPA 300.0 Rev. 2.1	08/30/2017			09/01/2017	Julia Storbeck	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
EPA 350.1 Rev. 2.0	08/30/2017			08/31/2017	Sofia Elnemr	1926204
	08/30/2017			09/01/2017	Sofia Elnemr	1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 351.2 Rev. 2.0	08/30/2017	08/31/2017	Adrian Shelby	09/01/2017	Joseph Suarez	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 353.2 Rev. 2.0	08/30/2017			08/31/2017	Beverly Y. Sanders	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 365.1 Rev. 2.0	08/30/2017	08/31/2017	Sima Feizi	09/01/2017	Lipi Saha	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225
EPA 365.1 Rev. 2.0 dissolved	08/30/2017			08/30/2017 14:29	Megan Treadwell	1926210
	08/30/2017			08/30/2017 14:30	Megan Treadwell	1926211
	08/30/2017			08/30/2017 14:31	Megan Treadwell	1926214
	08/30/2017			08/30/2017 14:36	Megan Treadwell	1926221
	08/30/2017			08/30/2017 14:37	Megan Treadwell	1926222
	08/30/2017			08/30/2017 14:38	Megan Treadwell	1926223
	08/30/2017			08/30/2017 14:39	Megan Treadwell	1926205, 1926226
EPA 8321B	08/30/2017	09/13/2017	Hoor Shaik	09/15/2017	Julie Michelle Frank	1926267, 1926270, 1926271
	08/30/2017	09/19/2017	Hoor Shaik	09/21/2017	Juyoung Kim	1926268, 1926269
SM 2120 B	08/30/2017			08/30/2017 16:08	Tanya Welborn	1926212
	08/30/2017			08/30/2017 16:49	Tanya Welborn	1926203
	08/30/2017			08/30/2017 16:50	Tanya Welborn	1926206, 1926207
	08/30/2017			08/30/2017 16:52	Tanya Welborn	1926215
	08/30/2017			08/30/2017 16:53	Tanya Welborn	1926216, 1926217
	08/30/2017			08/30/2017 16:56	Tanya Welborn	1926224
SM 2320 B-97	08/30/2017			09/06/2017	Dale L. Simmons	1926203, 1926206, 1926207, 1926212, 1926215, 1926216
	08/30/2017			09/07/2017	Dale L. Simmons	1926217, 1926224
SM 2540 C-97	08/30/2017			09/01/2017	Yijie Li	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 2540 D-97	08/30/2017			09/01/2017	Yijie Li	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 4500 F-C-97	08/30/2017			09/15/2017	Dale L. Simmons	1926203, 1926206, 1926207, 1926212, 1926215, 1926216, 1926217, 1926224
SM 5310 B-00	08/30/2017			09/02/2017	Ping Hua	1926204, 1926208, 1926209, 1926213, 1926218, 1926219, 1926220, 1926225

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
USGS O-2060-01	08/30/2017	08/31/2017	Hoor Shaik	09/02/2017	Juyoung Kim	1926267, 1926268
	08/30/2017	08/31/2017	Hoor Shaik	09/03/2017	Juyoung Kim	1926269, 1926270, 1926271