

Chemical Analysis Report

NE-DIST-2017-05-31-02

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

Event Description: **LSJR Downtown Salt**
Request ID: **RQ-2017-05-22-08**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 23-JUN-2017 12:20

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: 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: PUNCHEON BR. @ GATE PKWY N

Collection Date/Time: 05/30/2017 08:50

Field ID: G2NE0875 05252017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902459	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P326053	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P326780	
		Sulfate	31		mg SO4/L	P326782	
	SM 2120 B	Color (true)	95		PCU	P326044	
	SM 2320 B-97	Total Alkalinity	35		mg CaCO3/L	P326247	
	SM 2540 C-97	TDS	189		mg/L	P326286	
	SM 2540 D-97	TSS	2	I	mg/L	P326611	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P326250	RPD
1902460	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P326128	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P326059	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P326152	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P326066	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P326080	
1902461	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P326040	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: ORTEGA R BR @ TIMUQUANA RD

Collection Date/Time: 05/30/2017 10:45

Field ID: G2NE0086 05252017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902447	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P326052	
	SM 2320 B-97	Total Alkalinity	65	A	mg CaCO3/L	P326144	
	SM 2540 D-97	TSS	6	I	mg/L	P326612	
	SM 4500 F-C-97	Fluoride	0.34		mg F/L	P326145	
1902451	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P326133	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P326058	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326088	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P326063	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P326080	
1902455	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P326039	

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: ORTEGA R BR @ TIMUQUANA RD

Collection Date/Time: 05/30/2017 10:45

Field ID: G2NE0086 05252017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902472	EPA 8321B	Sucralose**	0.68		ug/L	P326155	
	USGS O-2060-01	2,4-D	0.017		ug/L	P325956	
		Diuron	0.017		ug/L	P325956	
		Fenuron	0.0040	U	ug/L	P325956	
		Imidacloprid	0.023		ug/L	P325956	MS

Field ID: G2NE0086 05252017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902472	USGS O-2060-01	Bentazon	0.0026	I	ug/L	P325956	MS
		Linuron	0.0040	U	ug/L	P325956	
		Acetaminophen**	0.0080	U	ug/L	P325956	
		MCPD	0.0020	U	ug/L	P325956	
		Carbamazepine**	0.0017		ug/L	P325956	
		Triclopyr**	0.0040	U	ug/L	P325956	
		Primidone**	0.0040	U	ug/L	P325956	
		Fluridone**	0.013		ug/L	P325956	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for fenuron and fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: BIG FISHWEIR CR. @ HERSCHEL ST.

Collection Date/Time: 05/30/2017 11:10

Field ID: G2NE0146 05252017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902448	EPA 180.1 Rev. 2.0	Turbidity	8.3	A	NTU	P326053	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P326144	
	SM 2540 D-97	TSS	11		mg/L	P326615	
	SM 4500 F-C-97	Fluoride	0.41		mg F/L	P326145	
1902452	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P326133	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P326060	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P326088	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P326065	
	SM 5310 B-00	Organic Carbon	9.4		mg C/L	P326080	
1902456	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.12		mg P/L	P326039	
	dissolved						

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: POTTSBURG CR. @ BEACH BLVD.

Collection Date/Time: 05/30/2017 11:50

Field ID: G2NE0823 05252017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902449	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P326053	
	SM 2320 B-97	Total Alkalinity	74		mg CaCO3/L	P326247	
	SM 2540 D-97	TSS	8	I	mg/L	P326612	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P326250	RPD
1902453	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P326128	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P326059	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P326152	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P326066	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P326080	
1902457	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.11		mg P/L	P326040	
	dissolved						

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: GOODBYS CREEK @ SANCHEZ RD.

Collection Date/Time: 05/30/2017 12:25

Field ID: G2NE0601 05252017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1902450	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P326053	
	SM 2320 B-97	Total Alkalinity	100		mg CaCO3/L	P326247	
	SM 2540 D-97	TSS	3	IA	mg/L	P326613	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P326250	RPD
1902454	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P326133	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P326060	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P326088	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P326065	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P326080	
1902458	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.060		mg P/L	P326039	

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P326052

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P326053

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326780

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326782

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P326128

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P326133

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326058

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326059

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326060

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326152

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326063

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326065

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326066

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326039

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: P326040

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

Reference Method: EPA 8321B
Batch ID: P326155

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P326044

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P326144

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

Reference Method: SM 2320 B-97
Batch ID: P326247

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

Reference Method: SM 2540 C-97
Batch ID: P326286

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326611

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326612

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326613

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P326615

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P326145

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
 Batch ID: P326250

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P326080

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

Reference Method: USGS O-2060-01
 Batch ID: P325956

Component	Result	Code	Units
2,4-D	8.0E-04	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	0.0040	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	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 300.0 Rev. 2.1
 Batch ID: P326780

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326782

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	92.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326128

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326133

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326058

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326059

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326152

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326063

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326065

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.7		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326066

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326040

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

Reference Method: EPA 8321B
Batch ID: P326155

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	49.0		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P326144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P326247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P326145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.2		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P326250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P326080

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P325956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 140
Acetaminophen	119		P	40 - 140
Bentazon	71.6		P	40 - 140
Carbamazepine	127		P	40 - 140
Diuron	129		P	40 - 140
Fenuron	111		P	40 - 140
Fluridone	127		P	40 - 140
Imidacloprid	110		P	40 - 160
Linuron	117		P	40 - 140
MCPP	101		P	40 - 140
Primidone	112		P	40 - 140
Triclopyr	101		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901806	Chloride	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902365	Ammonia-N	106	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902451	Ammonia-N	95.8	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902330	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902401	Kjeldahl Nitrogen	98.0	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902483	Kjeldahl Nitrogen	100	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902452	NO2NO3-N	105	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902453	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326063

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902273	Total-P	99.4	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326065

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902484	Total-P	96.4	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902502	Total-P	96.6	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902334	O-Phosphate-P	98.1	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902391	O-Phosphate-P	95.5	93.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P326155

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902433	Sucralose	108	93.0	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P326145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902447	Fluoride	95.7	91.7	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P326250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902522	Fluoride	98.8	103	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P326080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901839	Organic Carbon	92.7	92.6	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P325956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901733	2,4-D	98.6	131	P/P	40 - 140
1901733	Acetaminophen	119	126	P/P	40 - 140
1901733	Bentazon	36.8	41.0	F/P	40 - 140
1901733	Carbamazepine	76.8	92.0	P/P	40 - 140
1901733	Diuron	62.4	74.0	P/P	40 - 140
1901733	Imidacloprid	144	177	P/F	40 - 160
1901733	Linuron	91.0	104	P/P	40 - 140
1901733	MCP	72.0	75.4	P/P	40 - 140
1901733	Primidone	79.2	94.4	P/P	40 - 140
1901733	Triclopyr	84.8	85.8	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902363	Turbidity	2.97	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902448	Turbidity	2.05	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901806	Chloride	2.85	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901806	Sulfate	2.75	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902365	Ammonia-N	1.00	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902451	Ammonia-N	8.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902330	Kjeldahl Nitrogen	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902401	Kjeldahl Nitrogen	0.212	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902483	Kjeldahl Nitrogen	1.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902452	NO2NO3-N	1.15	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902453	NO2NO3-N	0.325	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326063

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902273	Total-P	1.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902484	Total-P	2.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902502	Total-P	0.714	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902334	O-Phosphate-P	1.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902391	O-Phosphate-P	2.33	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P326155

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902433	Sucralose	14.9	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P326044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902387	Color (true)	0.826	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P326144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902447	Total Alkalinity	0.0426	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P326247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902522	Total Alkalinity	0.332	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P326286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902499	TDS	1.96	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P326145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902447	Fluoride	2.90	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P326250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902522	Fluoride	3.32	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P326080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901839	Organic Carbon	0.0851	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P325956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901733	2,4-D	2.71	Spike	P	0 - 30
1901733	Acetaminophen	5.38	Spike	P	0 - 30
1901733	Bentazon	4.39	Spike	P	0 - 30
1901733	Carbamazepine	18.0	Spike	P	0 - 30
1901733	Diuron	14.1	Spike	P	0 - 30
1901733	Fenuron	4.58	Spike	P	0 - 30
1901733	Fluridone	10.3	Spike	P	0 - 30
1901733	Imidacloprid	15.9	Spike	P	0 - 30
1901733	Linuron	12.9	Spike	P	0 - 30
1901733	MCP	4.61	Spike	P	0 - 30
1901733	Primidone	17.5	Spike	P	0 - 30
1901733	Triclopyr	1.17	Spike	P	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: 1902472
Field Sample ID: G2NE0086 05252017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	148	P	40 - 150
USGS O-2060-01	2,4-D-d3	94.8	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	125	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	97.0	P	30 - 160
USGS O-2060-01	Diuron-d6	82.8	P	30 - 160
USGS O-2060-01	Primidone-d5	110	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76783
Included Lab Sample IDs: 1902455, 1902456, 1902457, 1902458, 1902461

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: A76785
Included Lab Sample IDs: 1902459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.9	104	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A76787
Included Lab Sample IDs: 1902447, 1902448, 1902449, 1902450, 1902459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105
Turbidity	101	102	P/P	95 - 105

Reference Method: SM 5310 B-00
Run ID: A76794
Included Lab Sample IDs: 1902451, 1902452, 1902453, 1902454, 1902460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A76797
Included Lab Sample IDs: 1902451, 1902452, 1902454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76815

Included Lab Sample IDs: 1902451, 1902452, 1902453, 1902454, 1902460

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

Reference Method: SM 2320 B-97

Run ID: A76819

Included Lab Sample IDs: 1902447, 1902448

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

Reference Method: SM 4500 F-C-97

Run ID: A76819

Included Lab Sample IDs: 1902447, 1902448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	95.3	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76822

Included Lab Sample IDs: 1902453, 1902460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76824

Included Lab Sample IDs: 1902451, 1902452, 1902453, 1902454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	103	P/P	90 - 110
Total-P	104	104	P/P	90 - 110
Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76829

Included Lab Sample IDs: 1902460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76869

Included Lab Sample IDs: 1902451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76870

Included Lab Sample IDs: 1902452, 1902453, 1902454, 1902460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76873

Included Lab Sample IDs: 1902449, 1902450, 1902459

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

Reference Method: SM 4500 F-C-97

Run ID: A76873

Included Lab Sample IDs: 1902449, 1902450, 1902459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.0	P/P	90 - 110
Fluoride	99.0	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76878

Included Lab Sample IDs: 1902472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	67.5	87.5	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A76921

Included Lab Sample IDs: 1902472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.8	100	P/P	50 - 150
Acetaminophen	101	112	P/P	60 - 150
Bentazon	114	116	P/P	50 - 150
Carbamazepine	113	112	P/P	60 - 150
Diuron	114	110	P/P	60 - 150
Fenuron	104	105	P/P	60 - 150
Fluridone	122	123	P/P	60 - 160
Imidacloprid	102	110	P/P	60 - 150
Linuron	104	108	P/P	60 - 150
MCP	95.6	94.8	P/P	50 - 150
Primidone	104	101	P/P	60 - 150
Triclopyr	98.0	92.8	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77072

Included Lab Sample IDs: 1902459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.2	92.7	P/P	90 - 110
Sulfate	95.2	99.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

* 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					2.97	
	Turbidity					2.05	
EPA 300.0 Rev. 2.1	Chloride	96.8	96.6			2.85	
	Sulfate	92.5				2.75	
EPA 350.1 Rev. 2.0	Ammonia-N	106	106	105			1.00
	Ammonia-N	104	95.8	105			8.54
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	101	102			1.06
	Kjeldahl Nitrogen	100	98.0	98.3			0.212
	Kjeldahl Nitrogen	97.8	100	102			1.64
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	105	103			1.15
	NO ₂ NO ₃ -N	104	104	104			0.325
EPA 365.1 Rev. 2.0	Total-P	100	99.4	98.0			1.41
	Total-P	96.7	96.4	99.0			2.65
	Total-P	101	96.6	97.4			0.714
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.2	98.1	97.0			1.13
	O-Phosphate-P	98.3	95.5	93.3			2.33
EPA 8321B	Sucralose	49.0	108	93.0			14.9
SM 2120 B	Color (true)					0.826	
SM 2320 B-97	Total Alkalinity	103				0.0426	
	Total Alkalinity	104				0.332	
SM 2540 C-97	TDS					1.96	
SM 4500 F-C-97	Fluoride	93.2	95.7	91.7			2.90
	Fluoride	96.0	98.8	103			3.32
SM 5310 B-00	Organic Carbon	96.1	92.7	92.6			0.0851
USGS O-2060-01	2,4-D	90.0	98.6	131			2.71
	Acetaminophen	119	119	126			5.38
	Bentazon	71.6	36.8	41.0			4.39
	Carbamazepine	127	76.8	92.0			18.0
	Diuron	129	62.4	74.0			14.1
	Fenuron	111					4.58
	Fluridone	127					10.3
	Imidacloprid	110	144	177			15.9
	Linuron	117	91.0	104			12.9
	MCPP	101	72.0	75.4			4.61
	Primidone	112	79.2	94.4			17.5
	Triclopyr	101	84.8	85.8			1.17

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1902447, 1902448, 1902449, 1902450, 1902459
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1902459
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1902459

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1902451, 1902452, 1902453, 1902454, 1902460
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1902451, 1902452, 1902453, 1902454, 1902460
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1902451, 1902452, 1902453, 1902454, 1902460
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1902451, 1902452, 1902453, 1902454, 1902460
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1902455, 1902456, 1902457, 1902458, 1902461
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1902472
SM 2120 B / E31780	True Color measured at 450 nm	1902459
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1902447, 1902448, 1902449, 1902450, 1902459
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1902447, 1902448, 1902449, 1902450, 1902459
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1902447, 1902448, 1902449, 1902450, 1902459
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1902447, 1902448, 1902449, 1902450, 1902459
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1902451, 1902452, 1902453, 1902454, 1902460
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1902472
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1902472

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	05/31/2017			05/31/2017 17:24	Sima Feizi	1902447, 1902448, 1902449, 1902450, 1902459
EPA 300.0 Rev. 2.1	05/31/2017			06/13/2017	Julia Storbeck	1902459
EPA 350.1 Rev. 2.0	05/31/2017			06/01/2017	Julie Michelle Frank	1902451, 1902452, 1902453, 1902454, 1902460
EPA 351.2 Rev. 2.0	05/31/2017	06/01/2017	Adrian Shelby	06/05/2017	Joseph Suarez	1902451, 1902452, 1902453, 1902454, 1902460
EPA 353.2 Rev. 2.0	05/31/2017			06/01/2017	Beverly Y. Sanders	1902451, 1902452, 1902454
	05/31/2017			06/02/2017	Beverly Y. Sanders	1902453, 1902460
EPA 365.1 Rev. 2.0	05/31/2017	06/01/2017	Adrian Shelby	06/02/2017	Lipi Saha	1902451, 1902452, 1902453, 1902454, 1902460
EPA 365.1 Rev. 2.0 dissolved	05/31/2017			05/31/2017 14:22	Lipi Saha	1902455
	05/31/2017			05/31/2017 14:23	Lipi Saha	1902456
	05/31/2017			05/31/2017 14:28	Lipi Saha	1902458
	05/31/2017			05/31/2017 14:35	Lipi Saha	1902457
	05/31/2017			05/31/2017 14:36	Lipi Saha	1902461
EPA 8321B	05/31/2017	06/05/2017	Mohammad Ghaffari	06/05/2017	Mohammad Ghaffari	1902472
SM 2120 B	05/31/2017			05/31/2017 16:01	Tanya Welborn	1902459
SM 2320 B-97	05/31/2017			06/01/2017	Dale L. Simmons	1902447, 1902448
	05/31/2017			06/03/2017	Dale L. Simmons	1902449, 1902450, 1902459
SM 2540 C-97	05/31/2017			06/02/2017	Yijie Li	1902459
SM 2540 D-97	05/31/2017			06/02/2017	Yijie Li	1902447, 1902448, 1902449, 1902450, 1902459
SM 4500 F-C-97	05/31/2017			06/01/2017	Dale L. Simmons	1902447, 1902448
	05/31/2017			06/03/2017	Dale L. Simmons	1902449, 1902450, 1902459
SM 5310 B-00	05/31/2017			05/31/2017	Julie Michelle Frank	1902451, 1902452, 1902453, 1902454, 1902460
USGS O-2060-01	05/31/2017	05/31/2017	Hoor Shaik	06/02/2017	Juyoung Kim	1902472