

Chemical Analysis Report

NW-DIST-2020-01-23-02

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

Event Description: **Perdido Run**
Request ID: **RQ-2020-01-20-22**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Colin Wright, Program Administrator

Date Certified: 18-FEB-2020 09:35

A handwritten signature in black ink, appearing to read "Colin Wright", is written over a light blue rectangular 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Bridge Creek (Tidal Portion)

Collection Date/Time: 01/22/2020 10:39

Field ID: G5NW0129

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151211	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P377645	
	EPA 300.0 Rev. 2.1	Bromide	0.68		mg Br/L	P379016	
		Chloride	210		mg Cl/L	P378043	
		Sulfate	31		mg SO4/L	P378046	
	SM 2120 B-2011	Color (true)	91		PCU	P377638	
	SM 2320 B-2011	Total Alkalinity	5.6		mg CaCO3/L	P377765	
	SM 2540 C-2011	TDS	388		mg/L	P378245	
	SM 2540 D-2011	TSS	2	U	mg/L	P377863	
	SM 4500 F-C-2011	Fluoride	0.038	I	mg F/L	P377768	
2151212	EPA 350.1 Rev. 2.0	Ammonia-N	0.054		mg N/L	P378016	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P378168	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P378076	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P377682	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P377836	
2151213	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P377648	
2151227	EPA 8321B	2,4-D	0.0045	I	ug/L	P377677	
		Acesulfame K**	0.10	U	ug/L	P377652	
		AMPA**	0.10	U	ug/L	P377652	
		Sucralose**	0.18		ug/L	P377652	MS
		Acetaminophen**	0.0080	U	ug/L	P377677	
		Acetamiprid**	0.0020	U	ug/L	P377677	
		Endothall**	0.25	U	ug/L	P377652	MS
		Glufosinate**	0.10	U	ug/L	P377652	
		Glyphosate**	0.10	U	ug/L	P377652	
		Afidopyropen**	0.0020	UJ	ug/L	P377677	
		Bentazon	0.0013	I	ug/L	P377677	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P377677	
		Carbamazepine**	8.0E-04	U	ug/L	P377677	
		Clothianidin**	0.0020	U	ug/L	P377677	
		Dinotefuran**	0.0020	U	ug/L	P377677	
		Diuron	0.0020	U	ug/L	P377677	
		Fenuron	0.016	U	ug/L	P377677	
		Fluridone**	8.0E-04	U	ug/L	P377677	
		Imazapyr**	0.0040	U	ug/L	P377677	
		Hydrocodone**	0.0020	U	ug/L	P377677	
		Ibuprofen**	0.020	U	ug/L	P377677	
		Imidacloprid	0.029		ug/L	P377677	
		Linuron	0.0040	U	ug/L	P377677	
		Mandestrobin**	0.0020	UJ	ug/L	P377677	
		MCP	0.0020	U	ug/L	P377677	
		Naproxen**	0.0080	U	ug/L	P377677	
		Primidone**	0.0040	U	ug/L	P377677	
		Pyraclostrobin**	0.0020	U	ug/L	P377677	

Field ID: G5NW0129

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151227	EPA 8321B	Thiamethoxam**	0.0020	U	ug/L	P377677	
		Tolfenpyrad**	0.0020	U	ug/L	P377677	
		Triclopyr**	0.0040	U	ug/L	P377677	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

Sample Location: Weekly Bayou

Collection Date/Time: 01/22/2020 12:29

Field ID: G4NW0495

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151214	EPA 180.1 Rev. 2.0	Turbidity	7.6		NTU	P377645	
	EPA 300.0 Rev. 2.1	Bromide	32		mg Br/L	P378843	
		Chloride	9.8E+03		mg Cl/L	P378043	
		Sulfate	1.4E+03		mg SO4/L	P378046	
	SM 2120 B-2011	Color (true)	16		PCU	P377638	
	SM 2320 B-2011	Total Alkalinity	64		mg CaCO3/L	P377766	
	SM 2540 C-2011	TDS	1.54E+04		mg/L	P378246	
	SM 2540 D-2011	TSS	19		mg/L	P377865	
	SM 4500 F-C-2011	Fluoride	0.64		mg F/L	P377769	
2151216	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P378016	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P378168	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P378076	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P377682	
	SM 5310 B-2011	Organic Carbon	4.3		mg C/L	P377830	
2151218	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P377648	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bayou Garcon

Collection Date/Time: 01/22/2020 12:56

Field ID: G5NW0152

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2151215	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P377645	
	EPA 300.0 Rev. 2.1	Bromide	34		mg Br/L	P378843	
		Chloride	1.0E+04		mg Cl/L	P378043	
		Sulfate	1.4E+03		mg SO4/L	P378046	
	SM 2120 B-2011	Color (true)	19		PCU	P377638	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P377766	
	SM 2540 C-2011	TDS	1.80E+04		mg/L	P378246	
	SM 2540 D-2011	TSS	6	IA	mg/L	P377865	
	SM 4500 F-C-2011	Fluoride	0.63		mg F/L	P377769	
2151217	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P378016	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P378168	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P378076	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P377682	
	SM 5310 B-2011	Organic Carbon	4.6		mg C/L	P377830	
2151219	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P377648	

Ref. Method and Comment:

SM 2540 D-2011: 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: P377645

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378043

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378046

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378843

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379016

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378016

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378168

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378076

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377682

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377648

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

Reference Method: EPA 8321B
Batch ID: P377652

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P377677

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B-2011
Batch ID: P377638

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P377765

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-2011
Batch ID: P377766

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P378245

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P378246

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P377863

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P377865

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P377768

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P377769

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P377830

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P377836

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378043

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378046

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378843

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379016

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378016

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378168

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378076

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377682

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377648

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P377652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	131		P	40 - 150
AMPA	104		P	40 - 150
Endothall	82.9		P	40 - 150
Glufosinate	74.4		P	40 - 150
Glyphosate	69.0		P	40 - 140
Sucralose	82.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P377677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.8		P	30 - 160
Acetaminophen	73.6		P	30 - 160
Acetamiprid	82.6		P	30 - 160
Afidopyropen	85.3		P	30 - 160
Bentazon	80.1		P	30 - 160
Benzovindiflupyr	87.1		P	30 - 160
Carbamazepine	98.4		P	30 - 160
Clothianidin	77.8		P	30 - 160
Dinotefuran	93.1		P	30 - 160
Diuron	77.5		P	30 - 160
Fenuron	102		P	30 - 160
Fluridone	92.4		P	30 - 160
Hydrocodone	83.2		P	30 - 160
Ibuprofen	81.9		P	30 - 160
Imazapyr	100		P	30 - 160
Imidacloprid	90.5		P	30 - 160
Linuron	80.0		P	30 - 160
Mandestrobin	91.2		P	30 - 160
MCPP	103		P	30 - 160
Naproxen	78.3		P	30 - 160
Primidone	76.8		P	30 - 160
Pyraclostrobin	98.8		P	30 - 160
Thiamethoxam	88.1		P	30 - 160
Tolfenpyrad	69.8		P	30 - 160
Triclopyr	76.7		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P377638

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

Reference Method: SM 2320 B-2011
Batch ID: P377765

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P377766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P377768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P377769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P377830

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P377836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378043

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151149	Chloride	100		P	90 - 110
2151244	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151149	Sulfate	99.5		P	90 - 110
2151244	Sulfate	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378843

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151911	Bromide	98.7	98.1	P/P	90 - 110
2152919	Bromide	97.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151211	Bromide	96.1	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152281	Ammonia-N	96.6	97.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151511	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151196	NO2NO3-N	99.4	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377682

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149952	Total-P	99.9	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151197	O-Phosphate-P	93.0	95.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P377652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2150765	Acesulfame K	51.1	51.4	P/P	40 - 150
2150765	AMPA	45.3	47.1	P/P	40 - 150
2150765	Endothall	146	185	P/F	40 - 150
2150765	Glufosinate	62.2	59.5	P/P	40 - 150
2150765	Glyphosate	73.4	68.9	P/P	40 - 140
2150765	Sucralose	15.9	16.3	F/F	40 - 150

Reference Method: EPA 8321B
 Batch ID: P377677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151184	2,4-D	120	101	P/P	30 - 160
2151184	Acetaminophen	87.9	76.0	P/P	30 - 160
2151184	Acetamiprid	92.7	86.4	P/P	30 - 160
2151184	Afidopyropen	102	92.1	P/P	30 - 160
2151184	Bentazon	49.3	48.2	P/P	30 - 160
2151184	Benzovindiflupyr	94.6	85.3	P/P	30 - 160
2151184	Carbamazepine	95.5	84.0	P/P	30 - 160
2151184	Clothianidin	87.4	84.6	P/P	30 - 160
2151184	Dinotefuran	120	102	P/P	30 - 160
2151184	Diuron	72.0	59.2	P/P	30 - 160
2151184	Fenuron	100	90.9	P/P	30 - 160
2151184	Fluridone	95.8	84.6	P/P	30 - 160
2151184	Hydrocodone	110	96.3	P/P	30 - 160
2151184	Ibuprofen	61.2	70.9	P/P	30 - 160
2151184	Imazapyr	112	103	P/P	30 - 160
2151184	Imidacloprid	146	132	P/P	30 - 160
2151184	Linuron	76.2	60.3	P/P	30 - 160
2151184	Mandestrobin	95.6	84.0	P/P	30 - 160
2151184	MCP	117	106	P/P	30 - 160
2151184	Naproxen	65.8	76.3	P/P	30 - 160
2151184	Primidone	109	93.1	P/P	30 - 160
2151184	Pyraclostrobin	105	94.0	P/P	30 - 160
2151184	Thiamethoxam	126	117	P/P	30 - 160
2151184	Tolfenpyrad	81.5	68.5	P/P	30 - 160
2151184	Triclopyr	110	88.2	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
 Batch ID: P377768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151043	Fluoride	98.6	98.6	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
 Batch ID: P377769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151215	Fluoride	97.0	98.3	P/P	89 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P377830

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151217	Organic Carbon	89.7	89.1	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P377836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2151410	Organic Carbon	98.6	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P377645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151195	Turbidity	13.2	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151149	Chloride	0.722	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151149	Sulfate	0.936	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151911	Bromide	0.320	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151211	Bromide	1.79	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152281	Ammonia-N	0.912	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151511	Kjeldahl Nitrogen	2.45	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151196	NO2NO3-N	0.475	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149952	Total-P	0.628	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151197	O-Phosphate-P	1.61	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P377652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2150765	Acesulfame K	0.560	Spike	P	0 - 30
2150765	AMPA	3.95	Spike	P	0 - 30
2150765	Endothall	23.3	Spike	P	0 - 30
2150765	Glufosinate	4.41	Spike	P	0 - 30
2150765	Glyphosate	6.35	Spike	P	0 - 30
2150765	Sucralose	2.24	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P377677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151184	2,4-D	17.2	Spike	P	0 - 30
2151184	Acetaminophen	14.4	Spike	P	0 - 30
2151184	Acetamiprid	7.04	Spike	P	0 - 30
2151184	Afidopyropen	10.6	Spike	P	0 - 30
2151184	Bentazon	2.15	Spike	P	0 - 30
2151184	Benzovindiflupyr	10.4	Spike	P	0 - 30
2151184	Carbamazepine	12.8	Spike	P	0 - 30
2151184	Clothianidin	3.36	Spike	P	0 - 30
2151184	Dinotefuran	16.1	Spike	P	0 - 30
2151184	Diuron	19.5	Spike	P	0 - 30
2151184	Fenuron	9.68	Spike	P	0 - 30
2151184	Fluridone	12.4	Spike	P	0 - 30
2151184	Hydrocodone	13.5	Spike	P	0 - 30
2151184	Ibuprofen	14.7	Spike	P	0 - 30
2151184	Imazapyr	8.31	Spike	P	0 - 30
2151184	Imidacloprid	10.0	Spike	P	0 - 30
2151184	Linuron	23.3	Spike	P	0 - 30
2151184	Mandestrobin	13.0	Spike	P	0 - 30
2151184	MCPP	9.78	Spike	P	0 - 30
2151184	Naproxen	14.8	Spike	P	0 - 30
2151184	Primidone	15.7	Spike	P	0 - 30
2151184	Pyraclostrobin	11.0	Spike	P	0 - 30
2151184	Thiamethoxam	7.01	Spike	P	0 - 30
2151184	Tolfenpyrad	17.3	Spike	P	0 - 30
2151184	Triclopyr	21.9	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P377638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151414	Color (true)	1.76	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P377765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151043	Total Alkalinity	0.451	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P377766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151244	Total Alkalinity	0.0269	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P378245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151433	TDS	0.317	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P378246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151466	TDS	2.48	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P377768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151043	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
Batch ID: P377769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151215	Fluoride	0.972	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P377830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151217	Organic Carbon	0.534	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P377836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2151410	Organic Carbon	0.642	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2151227

Field Sample ID: G5NW0129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.1	P	30 - 160
EPA 8321B	Diuron-d6	51.1	P	30 - 160
EPA 8321B	Endothall-d6	72.5	P	30 - 160
EPA 8321B	Endothall-d6	72.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	35.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	35.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.6	P	30 - 160
EPA 8321B	Primidone-d5	91.3	P	30 - 160
EPA 8321B	Sucralose-d6	39.6	P	30 - 160
EPA 8321B	Sucralose-d6	39.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97076

Included Lab Sample IDs: 2151213, 2151218, 2151219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.3	97.5	P/P	90 - 110
O-Phosphate-P	98.4	98.3	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A97077

Included Lab Sample IDs: 2151211, 2151214, 2151215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	99.7	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97078

Included Lab Sample IDs: 2151211, 2151214, 2151215

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

Reference Method: EPA 8321B

Run ID: A97116

Included Lab Sample IDs: 2151227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.6	85.3	P/P	60 - 160
Endothall	107	105	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A97134

Included Lab Sample IDs: 2151211, 2151214, 2151215

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-2011

Run ID: A97134

Included Lab Sample IDs: 2151211, 2151214, 2151215

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: A97137

Included Lab Sample IDs: 2151227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	119	121	P/P	60 - 160
Glufosinate	80.2	65.1	P/P	60 - 160
Glyphosate	68.9	73.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A97157

Included Lab Sample IDs: 2151216, 2151217

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

Reference Method: SM 5310 B-2011

Run ID: A97159

Included Lab Sample IDs: 2151212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.7	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97170

Included Lab Sample IDs: 2151211, 2151214, 2151215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	99.9	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97171

Included Lab Sample IDs: 2151212, 2151216, 2151217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	108	106	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97178

Included Lab Sample IDs: 2151227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	79.6	92.7	P/P	50 - 150
Acetaminophen	84.7	81.4	P/P	60 - 160
Acetamiprid	89.1	103	P/P	50 - 150
Afidopyropen	110	107	P/P	50 - 150
Bentazon	92.5	88.9	P/P	50 - 160
Benzovindiflupyr	118	115	P/P	50 - 150
Carbamazepine	100	95.1	P/P	60 - 150
Clothianidin	105	84.6	P/P	60 - 150
Dinotefuran	83.1	98.6	P/P	50 - 150
Diuron	96.8	97.3	P/P	60 - 150
Fenuron	111	111	P/P	60 - 150
Fluridone	111	118	P/P	60 - 160
Hydrocodone	104	97.3	P/P	60 - 150
Ibuprofen	81.5	88.6	P/P	50 - 160
Imazapyr	97.6	108	P/P	50 - 150
Imidacloprid	99.6	95.3	P/P	60 - 150
Linuron	112	106	P/P	60 - 150
Mandestrobin	109	107	P/P	50 - 150
MCPP	101	108	P/P	50 - 150
Naproxen	86.5	124	P/P	50 - 160
Primidone	102	101	P/P	60 - 150
Pyraclostrobin	125	124	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97178

Included Lab Sample IDs: 2151227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thiamethoxam	101	94.2	P/P	50 - 150
Tolfenpyrad	133	128	P/P	60 - 150
Triclopyr	93.9	98.4	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97221

Included Lab Sample IDs: 2151212, 2151216, 2151217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97243

Included Lab Sample IDs: 2151212, 2151216, 2151217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	100	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97273

Included Lab Sample IDs: 2151227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	82.3	83.2	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97298

Included Lab Sample IDs: 2151212, 2151216, 2151217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	99.5	P/P	90 - 110
Kjeldahl Nitrogen	97.9	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97501

Included Lab Sample IDs: 2151211, 2151214, 2151215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	102	101	P/P	90 - 110
Bromide	99.0	101	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						13.2	
EPA 300.0 Rev. 2.1	Bromide	102	98.7	98.1	97.4			0.320
	Bromide	104	96.1	98.0				1.79
	Chloride	101	100	101			0.722	
	Sulfate	102	99.5	99.1			0.936	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	96.6	97.9				0.912
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4	101	104				2.45
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.4	99.9				0.475
EPA 365.1 Rev. 2.0	Total-P	104	99.9	101				0.628
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	93.0	95.1				1.61
EPA 8321B	2,4-D	99.8	120	101				17.2
	Acesulfame K	131	51.1	51.4				0.560
	Acetaminophen	73.6	76.0	87.9				14.4
	Acetamiprid	82.6	86.4	92.7				7.04
	Afidopyropen	85.3	92.1	102				10.6
	AMPA	104	47.1	45.3				3.95
	Bentazon	80.1	49.3	48.2				2.15
	Benzovindiflupyr	87.1	85.3	94.6				10.4
	Carbamazepine	98.4	84.0	95.5				12.8
	Clothianidin	77.8	84.6	87.4				3.36
	Dinotefuran	93.1	102	120				16.1
	Diuron	77.5	59.2	72.0				19.5
	Endothall	82.9	146	185				23.3
	Fenuron	102	90.9	100				9.68
	Fluridone	92.4	84.6	95.8				12.4
	Glufosinate	74.4	62.2	59.5				4.41
	Glyphosate	69.0	73.4	68.9				6.35
	Hydrocodone	83.2	96.3	110				13.5
	Ibuprofen	81.9	61.2	70.9				14.7
	Imazapyr	100	112	103				8.31
	Imidacloprid	90.5	132	146				10.0
	Linuron	80.0	60.3	76.2				23.3
	Mandestrobin	91.2	84.0	95.6				13.0
	MCPP	103	117	106				9.78
	Naproxen	78.3	65.8	76.3				14.8
	Primidone	76.8	93.1	109				15.7
	Pyraclostrobin	98.8	94.0	105				11.0
	Sucralose	82.3	15.9	16.3				2.24
	Thiamethoxam	88.1	117	126				7.01
	Tolfenpyrad	69.8	68.5	81.5				17.3
	Triclopyr	76.7	110	88.2				21.9
SM 2120 B-2011	Color (true)	103					1.76	
SM 2320 B-2011	Total Alkalinity	102					0.451	
	Total Alkalinity	104					0.0269	
SM 2540 C-2011	TDS						0.317	
	TDS						2.48	
SM 4500 F-C-2011	Fluoride	97.0	98.6	98.6				0.0
	Fluoride	97.0	97.0	98.3				0.972
SM 5310 B-2011	Organic Carbon	101	89.7	89.1				0.534
	Organic Carbon	96.4	97.8	98.6				0.642

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2151211, 2151214, 2151215
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2151211, 2151214, 2151215
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2151211, 2151214, 2151215
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2151211, 2151214, 2151215
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2151212, 2151216, 2151217
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2151212, 2151216, 2151217
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2151212, 2151216, 2151217
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2151212, 2151216, 2151217
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2151213, 2151218, 2151219
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2151227
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2151227
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2151211, 2151214, 2151215
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2151211, 2151214, 2151215
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2151211, 2151214, 2151215
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2151211, 2151214, 2151215
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2151211, 2151214, 2151215
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2151212, 2151216, 2151217

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	01/23/2020			01/23/2020 16:14	Samantha Davila	2151211, 2151214, 2151215
EPA 300.0 Rev. 2.1	01/23/2020			01/30/2020 05:45	Lipi Saha	2151211
	01/23/2020			01/30/2020 05:57	Lipi Saha	2151214
	01/23/2020			01/30/2020 06:09	Lipi Saha	2151215
	01/23/2020			02/11/2020 22:44	Elliott Rodriguez	2151214
	01/23/2020			02/11/2020 23:01	Elliott Rodriguez	2151215
	01/23/2020			02/14/2020 14:47	Elliott Rodriguez	2151211
EPA 350.1 Rev. 2.0	01/23/2020			01/30/2020 13:06	Ping Hua	2151212
	01/23/2020			01/30/2020 13:08	Ping Hua	2151216
	01/23/2020			01/30/2020 13:09	Ping Hua	2151217
EPA 351.2 Rev. 2.0	01/23/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 10:15	Jhamieka S. Greenwood	2151212
	01/23/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 10:16	Jhamieka S. Greenwood	2151216
	01/23/2020	02/03/2020 11:45	Jhamieka S. Greenwood	02/04/2020 10:21	Jhamieka S. Greenwood	2151217
EPA 353.2 Rev. 2.0	01/23/2020			01/31/2020 09:27	Beverly Y. Sanders	2151212
	01/23/2020			01/31/2020 09:28	Beverly Y. Sanders	2151216
	01/23/2020			01/31/2020 09:29	Beverly Y. Sanders	2151217
EPA 365.1 Rev. 2.0	01/23/2020	01/24/2020 13:35	Yen Ta	01/29/2020 13:52	Benjamin T. Nordmann	2151212
	01/23/2020	01/24/2020 13:35	Yen Ta	01/29/2020 13:53	Benjamin T. Nordmann	2151216
	01/23/2020	01/24/2020 13:35	Yen Ta	01/29/2020 13:54	Benjamin T. Nordmann	2151217
EPA 365.1 Rev. 2.0 dissolved	01/23/2020			01/23/2020 16:15	Carlos Miranda	2151213
	01/23/2020			01/23/2020 16:16	Carlos Miranda	2151218
	01/23/2020			01/23/2020 16:21	Carlos Miranda	2151219
EPA 8321B	01/23/2020	01/24/2020 10:30	Rebecca Ware	01/24/2020 18:05	Rebecca Ware	2151227
	01/23/2020	01/24/2020 10:30	Rebecca Ware	01/27/2020 14:02	Rebecca Ware	2151227
	01/23/2020	01/24/2020 10:30	Rebecca Ware	01/29/2020 21:30	Rebecca Ware	2151227
	01/23/2020	01/27/2020 09:00	Hoor Shaik	01/29/2020 18:38	Juyoung Kim	2151227
SM 2120 B-2011	01/23/2020			01/23/2020 16:27	Madeline Funaro	2151211
	01/23/2020			01/23/2020 16:28	Madeline Funaro	2151214, 2151215
SM 2320 B-2011	01/23/2020			01/28/2020 04:33	Dale L. Simmons	2151211
	01/23/2020			01/28/2020 09:14	Dale L. Simmons	2151215
	01/23/2020			01/28/2020 09:25	Dale L. Simmons	2151214
SM 2540 C-2011	01/23/2020			01/27/2020 16:10	Sima Feizi	2151211, 2151214, 2151215
SM 2540 D-2011	01/23/2020			01/27/2020 16:10	Sima Feizi	2151211, 2151214, 2151215
SM 4500 F-C-2011	01/23/2020			01/28/2020 04:33	Dale L. Simmons	2151211
	01/23/2020			01/28/2020 05:34	Dale L. Simmons	2151215
	01/23/2020			01/28/2020 07:00	Dale L. Simmons	2151214
SM 5310 B-2011	01/23/2020			01/28/2020 10:12	Madeline Funaro	2151217
	01/23/2020			01/28/2020 11:02	Madeline Funaro	2151212
	01/23/2020			01/28/2020 11:03	Madeline Funaro	2151216