

Chemical Analysis Report

SW-DIST-2023-11-15-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **SMP:: Run 13**
Request ID: **RQ-2023-11-06-46**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

For additional information please contact
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 05-DEC-2023 11:21



NON-CONFORMANCE REPORT INCLUDED

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: MCDONALD BRANCH AT THOMPSON RD

Collection Date/Time: 11/14/2023 09:30

Field ID: G2SW0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451688	EPA 8321B	2,4-D	0.0020	U	ug/L	P437880	
		Acesulfame K	0.10	U	ug/L	P437799	
		2,4,5-T	0.0040	U	ug/L	P437880	
		AMPA	0.10	U	ug/L	P437799	
		Acetaminophen	0.0080	U	ug/L	P437880	
		Acetamiprid	0.0020	U	ug/L	P437880	
		Endothall	0.25	U	ug/L	P437799	
		Glufosinate	0.10	U	ug/L	P437799	
		Glyphosate	0.10	U	ug/L	P437799	
		Afidopyropen	0.0020	U	ug/L	P437880	
		Sucralose	0.21		ug/L	P437799	
		Bentazon	8.0E-04	U	ug/L	P437880	MS
		Benzovindiflupyr	0.0020	U	ug/L	P437880	
		Carbamazepine	8.0E-04	U	ug/L	P437880	
		Clothianidin	0.0020	U	ug/L	P437880	
		Dinotefuran	0.0020	U	ug/L	P437880	
		Diuron	0.0020	U	ug/L	P437880	
		Fenuron	0.032	U	ug/L	P437880	
		Fluridone	0.0036		ug/L	P437880	
		Imazapyr	0.0040	U	ug/L	P437880	
		Hydrocodone	0.0020	U	ug/L	P437880	
		Ibuprofen	0.080	U	ug/L	P437880	
		Imidacloprid	0.0020	U	ug/L	P437880	
		Linuron	0.0040	U	ug/L	P437880	
		Mandestrobin	0.0020	U	ug/L	P437880	
		MCPP	0.0020	U	ug/L	P437880	
		Naproxen	0.0080	U	ug/L	P437880	
		Primidone	0.0040	U	ug/L	P437880	
		Pyraclostrobin	0.0020	U	ug/L	P437880	
		Silvex	0.0040	U	ug/L	P437880	
		Thiamethoxam	0.0020	U	ug/L	P437880	
		Tolfenpyrad	0.0020	U	ug/L	P437880	
		Triclopyr	0.0040	U	ug/L	P437880	

Ref. Method and Comment:

EPA 8321B: The matrix spike and LCS recoveries for afidopyropen could not be evaluated due to laboratory technical difficulties.

**Sample Location: ALAFIA RIVER S PRONG WEST BRANCH AT
 KEYSVILLE RD**

Collection Date/Time: 11/14/2023 10:00

Field ID: G2SW0160

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451672	DEP SOP: NU-094-1	Color (true)	27	A	PCU	P437808	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	26	A	mg Cl/L	P438316	
		Sulfate	44	A	mg SO4/L	P438319	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	138		mg/L	P438344	
	SM 2540 D-2015	TSS	4	I	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.36		mg F/L	P438018	
2451675	EPA 350.1 Rev. 2.0	Ammonia-N	0.040		mg N/L	P438431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P438035	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.0		mg N/L	P438097	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P438118	
	SM 5310 B-2011	Organic Carbon	4.9		mg C/L	P438145	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: MOCCASSIN CREEK AT CR 39

Collection Date/Time: 11/14/2023 10:35

Field ID: G2SW0161

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451673	DEP SOP: NU-094-1	Color (true)	47		PCU	P437808	
	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P438316	
		Sulfate	74		mg SO4/L	P438319	
	SM 2320 B-2011	Total Alkalinity	77		mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	253		mg/L	P438344	
	SM 2540 D-2015	TSS	3	I	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.35		mg F/L	P438018	
2451676	EPA 350.1 Rev. 2.0	Ammonia-N	0.027	Y	mg N/L	P438431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0	Y	mg N/L	P438035	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32	Y	mg N/L	P438097	
	EPA 365.1 Rev. 2.0	Total-P	0.15	Y	mg P/L	P438119	
	SM 5310 B-2011	Organic Carbon	9.5	Y	mg C/L	P438145	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-2011: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Sample Location: FISHHAWK CREEK AT HA SITE

Collection Date/Time: 11/14/2023 11:15

Field ID: G2SW0144

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451687	EPA 8321B	2,4-D	0.0020	U	ug/L	P437880	
		Acesulfame K	0.10	U	ug/L	P437799	
		2,4,5-T	0.0040	U	ug/L	P437880	
		AMPA	7.0		ug/L	P437799	
		Acetaminophen	0.0080	U	ug/L	P437880	
		Acetamiprid	0.0020	U	ug/L	P437880	
		Endothall	0.25	U	ug/L	P437799	
		Glufosinate	0.10	U	ug/L	P437799	
		Glyphosate	10		ug/L	P437799	
		Afidopyropen	0.0020	U	ug/L	P437880	
		Sucralose	0.45		ug/L	P437799	
		Bentazon	8.0E-04	U	ug/L	P437880	MS
		Benzovindiflupyr	0.0020	U	ug/L	P437880	
		Carbamazepine	8.0E-04	U	ug/L	P437880	
		Clothianidin	2.3		ug/L	P437880	
		Dinotefuran	0.0020	U	ug/L	P437880	
		Diuron	0.0020	U	ug/L	P437880	
		Fenuron	0.032	U	ug/L	P437880	
		Fluridone	8.0E-04	U	ug/L	P437880	
		Imazapyr	0.012	I	ug/L	P437880	
		Hydrocodone	0.0020	U	ug/L	P437880	
		Ibuprofen	0.080	U	ug/L	P437880	
		Imidacloprid	0.086		ug/L	P437880	
		Linuron	0.0040	U	ug/L	P437880	
		Mandestrobin	0.0020	U	ug/L	P437880	
		MCPP	0.0020	U	ug/L	P437880	
		Naproxen	0.0080	U	ug/L	P437880	
		Primidone	0.0040	U	ug/L	P437880	
		Pyraclostrobin	0.054		ug/L	P437880	
		Silvex	0.0040	U	ug/L	P437880	
		Thiamethoxam	0.0020	U	ug/L	P437880	
		Tolfenpyrad	0.0020	U	ug/L	P437880	
		Triclopyr	0.0040	U	ug/L	P437880	

Ref. Method and Comment:

EPA 8321B: The matrix spike and LCS recoveries for afidopyropen could not be evaluated due to laboratory technical difficulties.

Sample Location: HOWARD PRAIRIE BRANCH AT GRANGE HALL Collection Date/Time: 11/14/2023 12:00

Field ID: G2SW0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451674	DEP SOP: NU-094-1	Color (true)	120		PCU	P437808	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P438316	
		Sulfate	39		mg SO4/L	P438319	
	SM 2320 B-2011	Total Alkalinity	71		mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	183		mg/L	P438344	
	SM 2540 D-2015	TSS	3	I	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.58		mg F/L	P438018	
2451677	EPA 350.1 Rev. 2.0	Ammonia-N	0.050		mg N/L	P438431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P438035	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P438097	
	EPA 365.1 Rev. 2.0	Total-P	0.48		mg P/L	P438119	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P438145	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 10167

Event(s)

SW-DIST-2023-11-15-01

Job(s)

TLH-2023-11-15-66

Sample(s)

2451676

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: H2SO4 Lot# SA3013020 | Expiration Date: 01/25/2024

Data will be qualified as appropriate.

Authorized by/Date: Kyle Klug 11/28/2023

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P437808

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437852

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438316

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438319

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438431

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438035

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438097

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438119

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P437799

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: P437880

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P438014

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

Reference Method: SM 2540 C-2015

Batch ID: P438344

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P438340

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P438145

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P437808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437852

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438316

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438319

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438431

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438119

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P437799

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	109		P	40 - 150
AMPA	104		P	40 - 160
Endothall	108		P	40 - 160
Glufosinate	100		P	40 - 160
Glyphosate	101		P	40 - 160
Sucralose	99.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P437880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150
2,4,5-T	91.0		P	40 - 150
Acetaminophen	95.2		P	30 - 150
Acetamiprid	95.8		P	40 - 150
Bentazon	66.4		P	30 - 150
Benzovindiflupyr	92.8		P	40 - 150
Carbamazepine	76.6		P	40 - 150
Clothianidin	97.7		P	40 - 150
Dinotefuran	99.6		P	40 - 150
Diuron	70.8		P	40 - 150
Fenuron	93.2		P	40 - 150
Fluridone	88.6		P	40 - 150
Hydrocodone	112		P	40 - 150
Ibuprofen	65.0		P	40 - 150
Imazapyr	91.6		P	40 - 150
Imidacloprid	94.8		P	40 - 150
Linuron	76.6		P	40 - 150
Mandestrobin	101		P	40 - 150
MCPP	96.4		P	40 - 150
Naproxen	60.7		P	40 - 150
Primidone	92.3		P	40 - 150
Pyraclostrobin	93.9		P	40 - 150
Silvex	87.1		P	40 - 150
Thiamethoxam	93.1		P	40 - 150
Tolfenpyrad	62.6		P	30 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P438014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P438344

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.0		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P438340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	107		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P438145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451672	Chloride	101		P	90 - 110
2451803	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451672	Sulfate	101		P	90 - 110
2451803	Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451675	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451677	Kjeldahl Nitrogen	106	92.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451634	NO2NO3-N	99.3	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451620	Total-P	105	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451700	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P437799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451421	Acesulfame K	121	124	P/P	40 - 150
2451421	AMPA	97.9	97.4	P/P	40 - 160
2451421	Endothall	108	102	P/P	40 - 160
2451421	Glufosinate	98.7	99.3	P/P	40 - 160
2451421	Glyphosate	101	93.1	P/P	40 - 160
2451421	Sucralose	94.0	95.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P437880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451421	2,4-D	89.5	103	P/P	40 - 150
2451421	2,4,5-T	84.6	89.0	P/P	40 - 150
2451421	Acetaminophen	108	106	P/P	30 - 150
2451421	Acetamiprid	44.1	41.6	P/P	40 - 150
2451421	Bentazon	23.3	24.0	F/F	30 - 150
2451421	Benzovindiflupyr	79.4	84.4	P/P	40 - 150
2451421	Carbamazepine	56.7	58.3	P/P	40 - 150
2451421	Clothianidin	76.0	81.0	P/P	40 - 150
2451421	Dinotefuran	67.7	70.7	P/P	40 - 150
2451421	Diuron	54.3	56.2	P/P	40 - 150
2451421	Fenuron	50.7	52.3	P/P	40 - 150
2451421	Fluridone	65.6	70.7	P/P	40 - 150
2451421	Hydrocodone	73.0	78.8	P/P	40 - 150
2451421	Ibuprofen	53.8	54.7	P/P	40 - 150
2451421	Imazapyr	87.4	90.6	P/P	40 - 150
2451421	Imidacloprid	101	106	P/P	40 - 150
2451421	Linuron	63.1	62.4	P/P	40 - 150
2451421	Mandestrobin	83.0	84.7	P/P	40 - 150
2451421	MCCP	83.5	90.4	P/P	40 - 150
2451421	Naproxen	79.7	70.7	P/P	40 - 150
2451421	Primidone	76.2	73.7	P/P	40 - 150
2451421	Pyraclostrobin	84.6	90.3	P/P	40 - 150
2451421	Silvex	88.6	90.1	P/P	40 - 150
2451421	Thiamethoxam	77.0	82.2	P/P	40 - 150
2451421	Tolfenpyrad	52.9	54.2	P/P	30 - 150
2451421	Triclopyr	82.5	87.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P438018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451614	Fluoride	102	102	P/P	94 - 106

Reference Method: SM 5310 B-2011

Batch ID: P438145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451619	Organic Carbon	95.3	95.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451672	Color (true)	0.207	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451498	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451672	Chloride	0.161	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451672	Sulfate	0.316	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451675	Ammonia-N	0.549	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451677	Kjeldahl Nitrogen	8.86	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451634	NO2NO3-N	1.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451620	Total-P	0.515	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451700	Total-P	0.917	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P437799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451421	Acesulfame K	1.98	Spike	P	0 - 30
2451421	AMPA	0.489	Spike	P	0 - 30
2451421	Endothall	5.95	Spike	P	0 - 30
2451421	Glufosinate	0.549	Spike	P	0 - 30
2451421	Glyphosate	7.98	Spike	P	0 - 30
2451421	Sucralose	1.26	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P437880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451421	2,4-D	13.8	Spike	P	0 - 30
2451421	2,4,5-T	5.15	Spike	P	0 - 30
2451421	Acetaminophen	2.31	Spike	P	0 - 30
2451421	Acetamiprid	5.73	Spike	P	0 - 30
2451421	Bentazon	2.98	Spike	P	0 - 30
2451421	Benzovindiflupyr	6.13	Spike	P	0 - 30
2451421	Carbamazepine	2.70	Spike	P	0 - 30
2451421	Clothianidin	6.39	Spike	P	0 - 30
2451421	Dinotefuran	4.43	Spike	P	0 - 30
2451421	Diuron	3.43	Spike	P	0 - 30
2451421	Fenuron	3.13	Spike	P	0 - 30
2451421	Fluridone	7.45	Spike	P	0 - 30
2451421	Hydrocodone	7.64	Spike	P	0 - 30
2451421	Ibuprofen	1.77	Spike	P	0 - 30
2451421	Imazapyr	3.10	Spike	P	0 - 30
2451421	Imidacloprid	4.86	Spike	P	0 - 30
2451421	Linuron	1.04	Spike	P	0 - 30
2451421	Mandestrobin	2.10	Spike	P	0 - 30
2451421	MCPP	7.95	Spike	P	0 - 30
2451421	Naproxen	11.9	Spike	P	0 - 30
2451421	Primidone	3.35	Spike	P	0 - 30
2451421	Pyraclostrobin	6.58	Spike	P	0 - 30
2451421	Silvex	1.73	Spike	P	0 - 30
2451421	Thiamethoxam	6.55	Spike	P	0 - 30
2451421	Tolfenpyrad	2.43	Spike	P	0 - 30
2451421	Triclopyr	5.52	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P438014

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

Reference Method: SM 2320 B-2011
Batch ID: P438014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451614	Total Alkalinity	1.72	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451565	TDS	2.12	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451614	Fluoride	0.484	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P438145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451619	Organic Carbon	0.262	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2451687

Field Sample ID: G2SW0144

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	51.7	P	30 - 160
EPA 8321B	Diuron-d6	50.0	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.2	P	30 - 160
EPA 8321B	Primidone-d5	56.2	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	30 - 160

Lab Sample ID: 2451688

Field Sample ID: G2SW0093

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.5	P	30 - 160
EPA 8321B	Diuron-d6	64.9	P	30 - 160
EPA 8321B	Endothall-d6	97.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.2	P	30 - 160
EPA 8321B	Primidone-d5	83.3	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122732

Included Lab Sample IDs: 2451672, 2451673, 2451674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122747

Included Lab Sample IDs: 2451672, 2451673, 2451674

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

Reference Method: EPA 8321B

Run ID: A122799

Included Lab Sample IDs: 2451687, 2451688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.8	102	P/P	60 - 160
Endothall	110	102	P/P	60 - 160
Glufosinate	101	87.1	P/P	60 - 160
Glyphosate	101	95.6	P/P	60 - 160
Glyphosate	98.4	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A122812

Included Lab Sample IDs: 2451687, 2451688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	132	P/P	60 - 160
Sucralose	117	125	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A122815

Included Lab Sample IDs: 2451672, 2451673, 2451674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	96.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122815

Included Lab Sample IDs: 2451672, 2451673, 2451674

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122849

Included Lab Sample IDs: 2451675, 2451676, 2451677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A122873

Included Lab Sample IDs: 2451675, 2451676, 2451677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122886

Included Lab Sample IDs: 2451675

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.9	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122899

Included Lab Sample IDs: 2451675, 2451676, 2451677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	95.3	P/P	90 - 110
Kjeldahl Nitrogen	97.4	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122909

Included Lab Sample IDs: 2451676, 2451677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.9	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122934

Included Lab Sample IDs: 2451687, 2451688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.9	97.0	P/P	50 - 150
2,4,5-T	109	101	P/P	50 - 150
Acetaminophen	111	110	P/P	60 - 160
Acetamiprid	109	107	P/P	50 - 150
Afidopyropen	96.9	96.8	P/P	50 - 150
Bentazon	97.8	88.4	P/P	50 - 160
Benzovindiflupyr	105	107	P/P	50 - 150
Carbamazepine	110	106	P/P	60 - 150
Clothianidin	101	105	P/P	60 - 150
Clothianidin	104	108	P/P	60 - 150
Dinotefuran	108	110	P/P	50 - 150
Diuron	117	110	P/P	60 - 160
Fenuron	105	105	P/P	60 - 150
Fluridone	108	107	P/P	60 - 160
Hydrocodone	112	113	P/P	60 - 150
Ibuprofen	84.5	92.2	P/P	50 - 160
Imazapyr	88.0	95.3	P/P	50 - 150
Imidacloprid	96.5	96.8	P/P	60 - 150
Linuron	101	92.1	P/P	60 - 150
Mandestrobin	106	110	P/P	50 - 150
MCPP	107	100	P/P	50 - 150
Naproxen	85.2	71.1	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A122934

Included Lab Sample IDs: 2451687, 2451688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Primidone	97.3	102	P/P	60 - 150
Pyraclostrobin	117	116	P/P	60 - 150
Silvex	102	89.8	P/P	50 - 150
Thiamethoxam	108	108	P/P	50 - 150
Tolfenpyrad	101	99.0	P/P	60 - 150
Triclopyr	104	98.2	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122949

Included Lab Sample IDs: 2451672, 2451673, 2451674

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122988

Included Lab Sample IDs: 2451675, 2451676, 2451677

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.7	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
DEP SOP: NU-094-1	Color (true)	103				0.207
EPA 180.1 Rev. 2.0	Turbidity	104				0.0
EPA 300.0 Rev. 2.1	Chloride	103	101	105		0.161
	Sulfate	104	101	106		0.316
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	101	102		
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.7	106	92.4		0.549
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.3	97.3		8.86
EPA 365.1 Rev. 2.0	Total-P	104	105	106		1.61
	Total-P	104	104	106		0.515
EPA 8321B	2,4-D	105	89.5	103		0.917
	2,4,5-T	91.0	84.6	89.0		13.8
	Acesulfame K	109	121	124		5.15
	Acetaminophen	95.2	106	108		1.98
	Acetamiprid	95.8	44.1	41.6		2.31
	AMPA	104	97.9	97.4		5.73
	Bentazon	66.4	23.3	24.0		0.489
	Benzovindiflupyr	92.8	79.4	84.4		2.98
	Carbamazepine	76.6	56.7	58.3		6.13
	Clothianidin	97.7	76.0	81.0		2.70
	Dinotefuran	99.6	67.7	70.7		6.39
	Diuron	70.8	54.3	56.2		4.43
	Endothall	108	108	102		3.43
	Fenuron	93.2	50.7	52.3		5.95
	Fluridone	88.6	65.6	70.7		3.13
	Glufosinate	100	98.7	99.3		7.45
	Glyphosate	101	101	93.1		0.549
	Hydrocodone	112	73.0	78.8		7.98
	Ibuprofen	65.0	53.8	54.7		7.64
	Imazapyr	91.6	87.4	90.6		1.77
	Imidacloprid	94.8	101	106		3.10
	Linuron	76.6	63.1	62.4		4.86
	Mandestrobin	101	83.0	84.7		1.04
	MCPP	96.4	83.5	90.4		2.10
	Naproxen	60.7	79.7	70.7		7.95
	Primidone	92.3	76.2	73.7		11.9
	Pyraclostrobin	93.9	84.6	90.3		3.35
	Silvex	87.1	88.6	90.1		6.58
	Sucralose	99.0	94.0	95.6		1.73
	Thiamethoxam	93.1	77.0	82.2		1.26
	Tolfenpyrad	62.6	52.9	54.2		6.55
	Triclopyr	105	82.5	87.2		2.43
SM 2320 B-2011	Total Alkalinity	100				5.52
SM 2540 C-2015	TDS	94.0				1.72
SM 2540 D-2015	TSS	107				2.12
SM 4500-F- C-2011	Fluoride	102	102	102		
SM 5310 B-2011	Organic Carbon	94.1	95.3	95.6		0.484
						0.262

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2451672, 2451673, 2451674
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2451672, 2451673, 2451674
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2451672, 2451673, 2451674

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2451672, 2451673, 2451674
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2451675, 2451676, 2451677
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2451675, 2451676, 2451677
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2451675, 2451676, 2451677
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2451675, 2451676, 2451677
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2451687, 2451688
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2451672, 2451673, 2451674
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2451672, 2451673, 2451674
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2451672, 2451673, 2451674
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2451672, 2451673, 2451674
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2451675, 2451676, 2451677

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	11/15/2023			11/15/2023 13:25	Samantha L Bates	2451672
	11/15/2023			11/15/2023 13:26	Samantha L Bates	2451673, 2451674
	11/15/2023			11/15/2023 14:14	Khloe J Berg	2451672
EPA 180.1 Rev. 2.0	11/15/2023			11/15/2023 14:15	Khloe J Berg	2451673
	11/15/2023			11/15/2023 14:16	Khloe J Berg	2451674
	11/15/2023			11/27/2023 20:58	James L Waggerby	2451672
EPA 300.0 Rev. 2.1	11/15/2023			11/27/2023 22:44	James L Waggerby	2451673
	11/15/2023			11/27/2023 22:59	James L Waggerby	2451674
	11/15/2023			12/01/2023 13:30	Khloe J Berg	2451675
EPA 350.1 Rev. 2.0	11/15/2023			12/01/2023 13:31	Khloe J Berg	2451676
	11/15/2023			12/01/2023 13:33	Khloe J Berg	2451677
	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 16:13	Ping Hua	2451675
EPA 351.2 Rev. 2.0	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 16:18	Ping Hua	2451676
	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 16:20	Ping Hua	2451677
	11/15/2023			11/20/2023 12:21	Anna M. Plaviak	2451676
EPA 353.2 Rev. 2.0	11/15/2023			11/20/2023 12:23	Anna M. Plaviak	2451677
	11/15/2023			11/20/2023 13:23	Anna M. Plaviak	2451675
	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 11:27	Chandler E Cox	2451675
EPA 365.1 Rev. 2.0	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:48	Chandler E Cox	2451676
	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:49	Chandler E Cox	2451677
	11/15/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 15:43	Hana Lee	2451687
EPA 8321B	11/15/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 15:57	Hana Lee	2451688
	11/15/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 18:56	Hana Lee	2451687
	11/15/2023	11/16/2023 12:00	Tae K Lee	11/17/2023 09:15	Hana Lee	2451687
	11/15/2023	11/16/2023 12:00	Tae K Lee	11/17/2023 09:29	Hana Lee	2451688
	11/15/2023	11/20/2023 09:00	Hoor Shaik	11/28/2023 17:40	Juyoung Kim	2451687
	11/15/2023	11/20/2023 09:00	Hoor Shaik	11/28/2023 17:58	Juyoung Kim	2451688
	11/15/2023	11/20/2023 09:00	Hoor Shaik	11/29/2023 10:52	Juyoung Kim	2451687
	11/15/2023			11/18/2023 15:45	Adam P Silver	2451672
SM 2320 B-2011	11/15/2023			11/18/2023 15:58	Adam P Silver	2451673
	11/15/2023			11/18/2023 16:10	Adam P Silver	2451674
	11/15/2023			11/20/2023 15:30	Yijie Li	2451672, 2451673, 2451674
SM 2540 C-2015	11/15/2023			11/20/2023 15:30	Yijie Li	2451672, 2451673, 2451674
SM 2540 D-2015	11/15/2023			11/18/2023 15:45	Adam P Silver	2451672
SM 4500-F- C-2011	11/15/2023			11/18/2023 15:58	Adam P Silver	2451673
	11/15/2023			11/18/2023 16:10	Adam P Silver	2451674
	11/15/2023			11/21/2023 23:20	Kenneth H Lee	2451675
SM 5310 B-2011	11/15/2023			11/21/2023 23:33	Kenneth H Lee	2451676
	11/15/2023			11/21/2023 23:47	Kenneth H Lee	2451677