

Chemical Analysis Report

NW-DIST-2018-06-19-02

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

Event Description: **Bayou Chico BMAP Source Blank**
Request ID: **RQ-2018-05-14-17**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
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Attn: Cheryl Bunch

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 13-JUL-2018 13:35

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Equipment Blank

Collection Date/Time: 06/18/2018 10:00

Field ID: EB

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001882	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P347147	
2001883	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P347386	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P347863	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P347364	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P347411	
2001905	EPA 8321B	2,4-D	0.0020	U	ug/L	P346981	
		Sucralose**	0.010	U	ug/L	P347114	
		Bentazon	8.0E-04	U	ug/L	P346981	
		MCP	0.0020	U	ug/L	P346981	
		Triclopyr**	0.0040	U	ug/L	P346981	
		Imidacloprid	0.0020	U	ug/L	P346981	
		Diuron	0.0020	U	ug/L	P346981	
		Pyraclostrobin**	0.0020	U	ug/L	P346981	
		Primidone**	0.0040	U	ug/L	P346981	
		Linuron	0.0040	U	ug/L	P346981	
		Acetaminophen**	0.0080	U	ug/L	P346981	
		Fenuron	0.016	U	ug/L	P346981	
		Imazapyr**	0.0040	U	ug/L	P346981	
		Carbamazepine**	4.0E-04	U	ug/L	P346981	
		Fluridone**	4.0E-04	U	ug/L	P346981	
		Hydrocodone**	8.0E-04	U	ug/L	P346981	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

EPA 8321B: MS recoveries are not available due to high concentration in the spiked sample.

Sample Location: Pensacola Bay at Sanders Beach

Collection Date/Time: 06/18/2018 10:10

Field ID: 33020J10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001874	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P347146	
2001875	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P347351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P347862	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P347453	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P347356	MS

Sample Location: Bayou Chico at Mandalay Drive

Collection Date/Time: 06/18/2018 10:40

Field ID: 33020JD4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001876	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P347146	
2001878	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P347351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P347862	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32		mg N/L	P347453	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P347357	MS

Sample Location: Jones Creek at Old Corry Road

Collection Date/Time: 06/18/2018 11:05

Field ID: 33020118

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001877	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P347146	
2001879	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P347351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	I	mg N/L	P347862	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P347453	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P347357	MS

Sample Location: Jackson Creek at Old Corry Road

Collection Date/Time: 06/18/2018 11:25

Field ID: 33020221

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001870	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P347146	
2001872	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P347386	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21	J	mg N/L	P347821	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P347368	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P347411	
2001903	EPA 8321B	2,4-D	0.0020	U	ug/L	P346981	
		Sucralose**	1.5		ug/L	P347114	
		Bentazon	8.8E-04	I	ug/L	P346981	
		MCP	0.0020	U	ug/L	P346981	
		Triclopyr**	0.0040	U	ug/L	P346981	
		Imidacloprid	0.055		ug/L	P346981	
		Diuron	0.0052	I	ug/L	P346981	
		Pyraclostrobin**	0.0020	U	ug/L	P346981	
		Primidone**	0.0040	U	ug/L	P346981	
		Linuron	0.0040	U	ug/L	P346981	
		Acetaminophen**	0.0080	U	ug/L	P346981	
		Fenuron	0.016	U	ug/L	P346981	
		Imazapyr**	0.0078	I	ug/L	P346981	
		Carbamazepine**	0.035		ug/L	P346981	
		Fluridone**	4.0E-04	U	ug/L	P346981	
		Hydrocodone**	8.0E-04	U	ug/L	P346981	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Refer to the narrative for an explanation of QC Codes.

EPA 8321B: Insufficient sample to perform matrix spikes.

EPA 8321B: MS recoveries are not available due to high concentration in the spiked sample.

Sample Location: Jones Creek Upstream of New Warrington Rd Collection Date/Time: 06/18/2018 12:10

Field ID: 33020117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001871	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P347146	
2001873	EPA 350.1 Rev. 2.0	Ammonia-N	0.087		mg N/L	P347386	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P347863	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P347368	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P347411	
2001904	EPA 8321B	2,4-D	0.015		ug/L	P346981	
		Sucralose**	0.95		ug/L	P347114	
		Bentazon	8.0E-04	U	ug/L	P346981	
		MCP	0.0020	U	ug/L	P346981	
		Triclopyr**	0.0040	U	ug/L	P346981	
		Imidacloprid	0.0088		ug/L	P346981	
		Diuron	0.0075	I	ug/L	P346981	
		Pyraclostrobin**	0.0020	U	ug/L	P346981	
		Primidone**	0.0040	U	ug/L	P346981	
		Linuron	0.0040	U	ug/L	P346981	
		Acetaminophen**	0.0080	UJ	ug/L	P346981	SUR
		Fenuron	0.016	U	ug/L	P346981	
		Imazapyr**	0.0040	U	ug/L	P346981	
		Carbamazepine**	6.2E-04	I	ug/L	P346981	
		Fluridone**	4.0E-04	U	ug/L	P346981	
		Hydrocodone**	8.0E-04	U	ug/L	P346981	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Insufficient sample to perform matrix spikes.

EPA 8321B: MS recoveries are not available due to high concentration in the spiked sample.

Sample Location: Bayou Chico at Navy Blvd Bridge

Collection Date/Time: 06/18/2018 13:40

Field ID: 33020JE20

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001866	EPA 180.1 Rev. 2.0	Turbidity	1.6	A	NTU	P347146	
2001868	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P347351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P347862	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.0		mg N/L	P347453	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P347356	MS
2001901	EPA 8321B	2,4-D	0.0052	I	ug/L	P346981	
		Sucralose**	0.60		ug/L	P347114	
		Bentazon	8.0E-04	U	ug/L	P346981	
		MCP	0.0020	U	ug/L	P346981	
		Triclopyr**	0.0040	U	ug/L	P346981	
		Imidacloprid	0.018		ug/L	P346981	
		Diuron	0.011		ug/L	P346981	
		Pyraclostrobin**	0.0020	U	ug/L	P346981	
		Primidone**	0.0040	U	ug/L	P346981	
		Linuron	0.0040	U	ug/L	P346981	
		Acetaminophen**	0.0080	U	ug/L	P346981	
		Fenuron	0.016	U	ug/L	P346981	
		Imazapyr**	0.0050	I	ug/L	P346981	
		Carbamazepine**	0.0077		ug/L	P346981	
		Fluridone**	4.0E-04	U	ug/L	P346981	
		Hydrocodone**	8.0E-04	U	ug/L	P346981	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

EPA 8321B: MS recoveries are not available due to high concentration in the spiked sample.

Sample Location: Bayou Chico at W St. Bridge

Collection Date/Time: 06/18/2018 14:00

Field ID: 33020JF1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001867	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P347146	
2001869	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P347385	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P347862	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.84		mg N/L	P347368	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P347322	
2001902	EPA 8321B	2,4-D	0.0039	I	ug/L	P346981	
		Sucralose**	0.38		ug/L	P347114	
		Bentazon	8.0E-04	U	ug/L	P346981	
		MCP	0.0020	U	ug/L	P346981	
		Triclopyr**	0.0040	U	ug/L	P346981	
		Imidacloprid	0.055		ug/L	P346981	
		Diuron	0.0034	I	ug/L	P346981	
		Pyraclostrobin**	0.0020	U	ug/L	P346981	
		Primidone**	0.0062	I	ug/L	P346981	
		Linuron	0.0040	U	ug/L	P346981	
		Acetaminophen**	0.0080	U	ug/L	P346981	
		Fenuron	0.016	U	ug/L	P346981	
		Imazapyr**	0.0052	I	ug/L	P346981	
		Carbamazepine**	0.0074		ug/L	P346981	
		Fluridone**	4.0E-04	U	ug/L	P346981	
		Hydrocodone**	8.0E-04	U	ug/L	P346981	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

EPA 8321B: MS recoveries are not available due to high concentration in the spiked sample.

Sample Location: Jackson Creek at New Warrington Road

Collection Date/Time: 06/18/2018 12:00

Field ID: 33020222

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001880	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P347146	
2001881	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P347386	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P347863	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.7		mg N/L	P347364	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P347411	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347146

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347147

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347351

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347385

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347386

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347821

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347862

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347863

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347364

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347368

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347453

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347322

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347356

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347357

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347411

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

Reference Method: EPA 8321B
Batch ID: P346981

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P347114

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347351

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347385

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347386

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347821

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347863

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347364

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347368

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347453

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P347322

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P347356

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P347357

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: P347411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.0		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P346981

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	76.0	87.4	P/P	40 - 150
Acetaminophen	93.2	95.3	P/P	30 - 150
Bentazon	83.3	88.9	P/P	30 - 150
Carbamazepine	90.2	93.1	P/P	40 - 150
Diuron	85.2	85.4	P/P	40 - 150
Fenuron	102	106	P/P	40 - 150
Fluridone	88.7	89.4	P/P	40 - 150
Hydrocodone	93.5	93.8	P/P	40 - 150
Imazapyr	87.9	90.6	P/P	40 - 150
Imidacloprid	98.6	101	P/P	40 - 160
Linuron	66.0	66.3	P/P	40 - 150
MCPP	101	107	P/P	40 - 150
Primidone	90.8	95.4	P/P	40 - 150
Pyraclostrobin	80.3	82.8	P/P	40 - 150
Triclopyr	95.0	101	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P347114

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	79.2		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001574	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001697	Ammonia-N	98.3	95.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001872	Ammonia-N	97.9	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001872	Kjeldahl Nitrogen	99.6	112	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001879	Kjeldahl Nitrogen	95.1	94.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347863

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001873	Kjeldahl Nitrogen	94.3	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001942	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001873	NO2NO3-N	99.4	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001810	NO2NO3-N	102	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001869	Total-P	97.6	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001812	Total-P	87.6	89.9	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001893	Total-P	85.4	88.4	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001881	Total-P	93.9	92.9	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001866	Turbidity	0.623	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001937	Turbidity	1.70	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001574	Ammonia-N	0.146	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001697	Ammonia-N	3.14	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001872	Ammonia-N	0.0477	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001872	Kjeldahl Nitrogen	9.94	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001879	Kjeldahl Nitrogen	0.686	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001873	Kjeldahl Nitrogen	0.809	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001942	NO2NO3-N	0.985	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001873	NO2NO3-N	0.349	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001810	NO2NO3-N	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001869	Total-P	0.273	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001812	Total-P	2.36	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001893	Total-P	3.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001881	Total-P	1.00	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P346981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	14.0	LCS	P	0 - 30
LFB	Acetaminophen	2.14	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P346981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Bentazon	6.49	LCS	P	0 - 30
LFB	Carbamazepine	3.18	LCS	P	0 - 30
LFB	Diuron	0.178	LCS	P	0 - 30
LFB	Fenuron	3.12	LCS	P	0 - 30
LFB	Fluridone	0.762	LCS	P	0 - 30
LFB	Hydrocodone	0.316	LCS	P	0 - 30
LFB	Imazapyr	3.12	LCS	P	0 - 30
LFB	Imidacloprid	1.94	LCS	P	0 - 30
LFB	Linuron	0.344	LCS	P	0 - 30
LFB	MCP	5.82	LCS	P	0 - 30
LFB	Primidone	4.95	LCS	P	0 - 30
LFB	Pyraclostrobin	3.03	LCS	P	0 - 30
LFB	Triclopyr	5.70	LCS	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P347114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001676	Sucralose	19.8	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: 2001901
Field Sample ID: 33020JE20

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	137	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.6	P	30 - 160
EPA 8321B	Diuron-d6	63.9	P	30 - 160
EPA 8321B	Primidone-d5	92.1	P	30 - 160
EPA 8321B	Sucralose-d6	67.4	P	40 - 160

Lab Sample ID: 2001902
Field Sample ID: 33020JF1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.1	P	30 - 160
EPA 8321B	Diuron-d6	66.6	P	30 - 160
EPA 8321B	Primidone-d5	87.5	P	30 - 160
EPA 8321B	Sucralose-d6	73.8	P	40 - 160

Lab Sample ID: 2001903
Field Sample ID: 33020221

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.0	P	30 - 160
EPA 8321B	Diuron-d6	73.7	P	30 - 160
EPA 8321B	Primidone-d5	97.2	P	30 - 160
EPA 8321B	Sucralose-d6	80.6	P	40 - 160

Lab Sample ID: 2001904
Field Sample ID: 33020117

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	4.87	F	30 - 160
EPA 8321B	Carbamazepine-d10	67.0	P	30 - 160
EPA 8321B	Diuron-d6	60.5	P	30 - 160
EPA 8321B	Primidone-d5	53.6	P	30 - 160
EPA 8321B	Sucralose-d6	72.5	P	40 - 160

Lab Sample ID: 2001905
Field Sample ID: EB

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.3	P	30 - 160
EPA 8321B	Diuron-d6	76.0	P	30 - 160
EPA 8321B	Primidone-d5	80.6	P	30 - 160
EPA 8321B	Sucralose-d6	116	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A84684

Included Lab Sample IDs: 2001866, 2001867, 2001870, 2001871, 2001874, 2001876, 2001877, 2001880, 2001882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105
Turbidity	99.5	98.5	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A84777

Included Lab Sample IDs: 2001868, 2001875, 2001878, 2001879

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A84781

Included Lab Sample IDs: 2001869, 2001872, 2001873, 2001881, 2001883

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A84788

Included Lab Sample IDs: 2001869, 2001872, 2001873, 2001881, 2001883

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A84811

Included Lab Sample IDs: 2001868, 2001875, 2001878, 2001879

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A84826

Included Lab Sample IDs: 2001901, 2001902, 2001903, 2001904, 2001905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	70.3	105	P/P	60 - 160
Sucralose	74.0	68.3	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84929

Included Lab Sample IDs: 2001868, 2001869, 2001875, 2001878, 2001879

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.8	P/P	90 - 110
Total-P	99.8	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84934

Included Lab Sample IDs: 2001872, 2001873, 2001881, 2001883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A84988

Included Lab Sample IDs: 2001901, 2001902, 2001903, 2001904, 2001905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	103	P/P	50 - 150
2,4-D	108	102	P/P	50 - 150
Acetaminophen	122	122	P/P	60 - 160
Acetaminophen	122	124	P/P	60 - 160
Bentazon	134	135	P/P	50 - 150
Bentazon	142	134	P/P	50 - 150
Carbamazepine	106	110	P/P	60 - 160
Carbamazepine	110	109	P/P	60 - 160
Diuron	112	113	P/P	60 - 150
Diuron	113	109	P/P	60 - 150
Fenuron	105	106	P/P	60 - 150
Fenuron	106	108	P/P	60 - 150
Fluridone	105	106	P/P	60 - 160
Fluridone	107	105	P/P	60 - 160
Hydrocodone	105	107	P/P	60 - 150
Hydrocodone	106	105	P/P	60 - 150
Imazapyr	100	93.5	P/P	50 - 150
Imazapyr	93.7	100	P/P	50 - 150
Imidacloprid	95.9	98.4	P/P	60 - 150
Imidacloprid	98.4	102	P/P	60 - 150
Linuron	104	100	P/P	60 - 150
Linuron	98.9	104	P/P	60 - 150
MCP	116	122	P/P	50 - 150
MCP	122	124	P/P	50 - 150
Primidone	80.1	91.1	P/P	60 - 150
Primidone	87.7	80.1	P/P	60 - 150
Pyraclostrobin	109	109	P/P	60 - 150
Pyraclostrobin	109	106	P/P	60 - 150
Triclopyr	111	113	P/P	50 - 160
Triclopyr	117	111	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85016

Included Lab Sample IDs: 2001868, 2001869, 2001872, 2001873, 2001875, 2001878, 2001879, 2001881, 2001883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.1	P/P	90 - 110
Kjeldahl Nitrogen	101	102	P/P	90 - 110
Kjeldahl Nitrogen	95.1	95.1	P/P	90 - 110
Kjeldahl Nitrogen	96.7	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						0.623	
	Turbidity						1.70	
EPA 350.1 Rev. 2.0	Ammonia-N	101		103	103			0.146
	Ammonia-N	96.3		98.3	95.1			3.14
	Ammonia-N	97.0		97.9	98.0			0.0477
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.9		99.6	112			9.94
	Kjeldahl Nitrogen	99.7		95.1	94.4			0.686
	Kjeldahl Nitrogen	102		94.3	95.4			0.809
EPA 353.2 Rev. 2.0	NO2NO3-N	100		101	102			0.985
	NO2NO3-N	100		99.4	100			0.349
	NO2NO3-N	102		102	104			1.46
EPA 365.1 Rev. 2.0	Total-P	96.4		97.6	97.8			0.273
	Total-P	98.1		87.6	89.9			2.36
	Total-P	100		85.4	88.4			3.41
	Total-P	95.0		93.9	92.9			1.00
EPA 8321B	2,4-D	76.0	87.4			14.0		
	Acetaminophen	95.3	93.2			2.14		
	Bentazon	83.3	88.9			6.49		
	Carbamazepine	93.1	90.2			3.18		
	Diuron	85.2	85.4			0.178		
	Fenuron	106	102			3.12		
	Fluridone	88.7	89.4			0.762		
	Hydrocodone	93.8	93.5			0.316		
	Imazapyr	87.9	90.6			3.12		
	Imidacloprid	101	98.6			1.94		
	Linuron	66.0	66.3			0.344		
	MCPP	101	107			5.82		
	Primidone	95.4	90.8			4.95		
	Pyraclostrobin	80.3	82.8			3.03		
	Sucralose	79.2						19.8
	Triclopyr	95.0	101			5.70		

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2001866, 2001867, 2001870, 2001871, 2001874, 2001876, 2001877, 2001880, 2001882
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2001868, 2001869, 2001872, 2001873, 2001875, 2001878, 2001879, 2001881, 2001883
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2001868, 2001869, 2001872, 2001873, 2001875, 2001878, 2001879, 2001881, 2001883
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2001868, 2001869, 2001872, 2001873, 2001875, 2001878, 2001879, 2001881, 2001883
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2001868, 2001869, 2001872, 2001873, 2001875, 2001878, 2001879, 2001881, 2001883
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2001901, 2001902, 2001903, 2001904, 2001905
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2001901, 2001902, 2001903, 2001904, 2001905

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	06/19/2018			06/19/2018 16:44	William L. Brown IV	2001866, 2001867, 2001870, 2001871, 2001874, 2001876, 2001877, 2001880, 2001882
EPA 350.1 Rev. 2.0	06/19/2018			06/22/2018 11:49	Ping Hua	2001868
	06/19/2018			06/22/2018 11:50	Ping Hua	2001875
	06/19/2018			06/22/2018 11:52	Ping Hua	2001878
	06/19/2018			06/22/2018 11:54	Ping Hua	2001879
	06/19/2018			06/22/2018 13:01	Julia Storbeck	2001869
	06/19/2018			06/22/2018 13:13	Julia Storbeck	2001872
	06/19/2018			06/22/2018 13:18	Julia Storbeck	2001873
	06/19/2018			06/22/2018 13:19	Julia Storbeck	2001881
	06/19/2018			06/22/2018 13:25	Julia Storbeck	2001883
EPA 351.2 Rev. 2.0	06/19/2018	07/02/2018 09:30	Adrian Shelby	07/03/2018 20:38	Virginia P. Brown	2001872
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 19:17	Virginia P. Brown	2001873
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 19:21	Virginia P. Brown	2001881
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 19:23	Virginia P. Brown	2001883
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 21:03	Virginia P. Brown	2001868
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 21:07	Virginia P. Brown	2001869
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 21:09	Virginia P. Brown	2001875
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 21:11	Virginia P. Brown	2001878
	06/19/2018	07/03/2018 10:40	Adrian Shelby	07/03/2018 21:12	Virginia P. Brown	2001879
EPA 353.2 Rev. 2.0	06/19/2018			06/22/2018 12:30	Lauren Bottorf	2001883
	06/19/2018			06/22/2018 14:05	Lauren Bottorf	2001873
	06/19/2018			06/22/2018 14:07	Lauren Bottorf	2001881
	06/19/2018			06/22/2018 14:17	Lauren Bottorf	2001872
	06/19/2018			06/22/2018 14:18	Lauren Bottorf	2001869
	06/19/2018			06/25/2018 12:36	Lauren Bottorf	2001878
	06/19/2018			06/25/2018 12:38	Lauren Bottorf	2001879
	06/19/2018			06/25/2018 14:08	Lauren Bottorf	2001868
	06/19/2018			06/25/2018 14:13	Lauren Bottorf	2001875
EPA 365.1 Rev. 2.0	06/19/2018	06/22/2018 12:15	Sima Feizi	06/29/2018 10:55	Beverly Y. Sanders	2001869
	06/19/2018	06/22/2018 12:15	Sima Feizi	06/29/2018 11:41	Beverly Y. Sanders	2001868
	06/19/2018	06/22/2018 12:15	Sima Feizi	06/29/2018 11:42	Beverly Y. Sanders	2001875
	06/19/2018	06/22/2018 12:15	Sima Feizi	06/29/2018 11:44	Beverly Y. Sanders	2001878
	06/19/2018	06/22/2018 12:15	Sima Feizi	06/29/2018 11:45	Beverly Y. Sanders	2001879
	06/19/2018	06/25/2018 09:50	Sima Feizi	06/29/2018 13:18	Beverly Y. Sanders	2001872
	06/19/2018	06/25/2018 09:50	Sima Feizi	06/29/2018 13:19	Beverly Y. Sanders	2001873
	06/19/2018	06/25/2018 09:50	Sima Feizi	06/29/2018 13:20	Beverly Y. Sanders	2001881
	06/19/2018	06/25/2018 09:50	Sima Feizi	06/29/2018 13:21	Beverly Y. Sanders	2001883
EPA 8321B	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/02/2018 00:02	Juyoung Kim	2001901

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/02/2018 00:37	Juyoung Kim	2001902
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/02/2018 01:46	Juyoung Kim	2001903
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/02/2018 02:21	Juyoung Kim	2001904
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/02/2018 02:55	Juyoung Kim	2001905
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/03/2018 11:52	Juyoung Kim	2001901
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/03/2018 12:26	Juyoung Kim	2001902
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/03/2018 13:35	Juyoung Kim	2001903
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/03/2018 14:10	Juyoung Kim	2001904
	06/19/2018	06/21/2018 10:00	Hoor Shaik	07/03/2018 14:45	Juyoung Kim	2001905
	06/19/2018	06/25/2018 10:30	Juyoung Kim	06/25/2018 19:34	Mohammad Ghaffari	2001901
	06/19/2018	06/25/2018 10:30	Juyoung Kim	06/25/2018 19:53	Mohammad Ghaffari	2001902
	06/19/2018	06/25/2018 10:30	Juyoung Kim	06/25/2018 20:11	Mohammad Ghaffari	2001903
	06/19/2018	06/25/2018 10:30	Juyoung Kim	06/25/2018 20:49	Mohammad Ghaffari	2001904
	06/19/2018	06/25/2018 10:30	Juyoung Kim	06/26/2018 04:35	Mohammad Ghaffari	2001905