Chemical Analysis Report

NW-DIST-2019-11-05-01

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

Event Description: **Bayou Chico BMAP**
Request ID: **RQ-2019-10-14-20**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 22-NOV-2019 14:01

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 group are included in this report: Nutrients.

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: Pensacola Bay at Sanders Beach **Collection Date/Time: 11/04/2019 10:30**

Field ID: 33020J10 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133580	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P373757	
2133581	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P373983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P374049	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P374112	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P373874	

Sample Location: Bayou Chico at Mandalay Drive **Collection Date/Time: 11/04/2019 11:00**

Field ID: 33020JD4 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133568	EPA 180.1 Rev. 2.0	Turbidity	2.6	A	NTU	P373757	
2133571	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P373983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P374049	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.78		mg N/L	P374034	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P373874	

Sample Location: Jackson Creek @ Old Corry Road **Collection Date/Time: 11/04/2019 11:35**

Field ID: 33020221 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133574	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P373757	
2133577	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P373982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P374050	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.0		mg N/L	P373937	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P373873	

Sample Location: Jackson Creek at New Warrington Road **Collection Date/Time: 11/04/2019 12:00**

Field ID: 33020222 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133575	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P373757	
2133578	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P373982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P374050	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.2		mg N/L	P373937	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P373873	

Sample Location: Jones Creek Upstream of New Warrington Rd **Collection Date/Time: 11/04/2019 12:20**

Field ID: 33020117 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133576	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P373757	
2133579	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P373982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P374050	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P373937	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P373873	

Sample Location: Bayou Chico at Navy Blvd. Bridge **Collection Date/Time: 11/04/2019 13:45**

Field ID: 3302JE20 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133569	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P373757	
2133572	EPA 350.1 Rev. 2.0	Ammonia-N	0.052		mg N/L	P373983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P374049	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.45		mg N/L	P374034	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P373874	

Sample Location: Bayou Chico at W St. Bridge **Collection Date/Time: 11/04/2019 14:05**

Field ID: 33020JF1 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2133570	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P373757	
2133573	EPA 350.1 Rev. 2.0	Ammonia-N	0.083		mg N/L	P373983	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P374049	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.94		mg N/L	P374034	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P373874	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373757

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373982

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373983

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374049

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374050

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374034

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374112

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373873

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
Batch ID: P373874

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373982

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: P373983

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374049

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374112

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373873

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373874

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133737	Ammonia-N	99.9	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133581	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374049

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133528	Kjeldahl Nitrogen	113	105	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133735	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133579	NO2NO3-N	97.9	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133604	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2134950	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133468	Total-P	104	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2133534	Total-P	92.8	94.8	P/P	90 - 110

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133568	Turbidity	14.4	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133737	Ammonia-N	1.45	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133581	Ammonia-N	0.858	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133528	Kjeldahl Nitrogen	6.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133735	Kjeldahl Nitrogen	0.0423	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133579	NO2NO3-N	1.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133604	NO2NO3-N	0.840	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2134950	NO2NO3-N	0.407	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133468	Total-P	3.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2133534	Total-P	2.13	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A95510
Included Lab Sample IDs: 2133568, 2133569, 2133570, 2133574, 2133575, 2133576, 2133580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	97.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A95589
Included Lab Sample IDs: 2133578

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A95595
Included Lab Sample IDs: 2133577, 2133578, 2133579

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A95597
Included Lab Sample IDs: 2133571, 2133572, 2133573, 2133577, 2133579, 2133581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.0	P/P	90 - 110
Total-P	98.0	99.8	P/P	90 - 110
Total-P	99.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A95616
Included Lab Sample IDs: 2133571, 2133572, 2133573, 2133577, 2133578, 2133579, 2133581

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A95643
Included Lab Sample IDs: 2133571, 2133572, 2133573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A95704
Included Lab Sample IDs: 2133581

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A95705
Included Lab Sample IDs: 2133571, 2133572, 2133573, 2133581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A95735
Included Lab Sample IDs: 2133577, 2133578, 2133579

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	102	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	MS
EPA 180.1 Rev. 2.0	Turbidity					14.4	
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.9	101			1.45
	Ammonia-N	100	101	102			0.858
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	113	105			6.33
	Kjeldahl Nitrogen	98.4	106	106			0.0423
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.9	99.4			1.17
	NO2NO3-N	98.5	104	105			0.840
	NO2NO3-N	102	104	103			0.407
EPA 365.1 Rev. 2.0	Total-P	105	104	108			3.28
	Total-P	103	92.8	94.8			2.13

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2133568, 2133569, 2133570, 2133574, 2133575, 2133576, 2133580
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2133571, 2133572, 2133573, 2133577, 2133578, 2133579, 2133581
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2133571, 2133572, 2133573, 2133577, 2133578, 2133579, 2133581
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2133571, 2133572, 2133573, 2133577, 2133578, 2133579, 2133581
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2133571, 2133572, 2133573, 2133577, 2133578, 2133579, 2133581

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	11/05/2019			11/05/2019 17:26	Rosalyn Ballman	2133568, 2133569, 2133570, 2133574, 2133575, 2133576, 2133580
EPA 350.1 Rev. 2.0	11/05/2019			11/06/2019 12:23	Ping Hua	2133577
	11/05/2019			11/06/2019 12:24	Ping Hua	2133578
	11/05/2019			11/06/2019 12:26	Ping Hua	2133579
	11/05/2019			11/06/2019 12:45	Ping Hua	2133581
	11/05/2019			11/06/2019 13:02	Ping Hua	2133571
	11/05/2019			11/06/2019 13:03	Ping Hua	2133572
	11/05/2019			11/06/2019 13:05	Ping Hua	2133573
EPA 351.2 Rev. 2.0	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 14:55	Jhamieka S. Greenwood	2133571
	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 14:56	Jhamieka S. Greenwood	2133572
	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 14:58	Jhamieka S. Greenwood	2133573
	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 15:00	Jhamieka S. Greenwood	2133581
	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 18:58	Jhamieka S. Greenwood	2133577
	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 18:59	Jhamieka S. Greenwood	2133578
	11/05/2019	11/12/2019 13:23	Sima Feizi	11/13/2019 19:01	Jhamieka S. Greenwood	2133579
EPA 353.2 Rev. 2.0	11/05/2019			11/07/2019 11:42	Beverly Y. Sanders	2133579
	11/05/2019			11/07/2019 11:49	Beverly Y. Sanders	2133577
	11/05/2019			11/07/2019 11:50	Beverly Y. Sanders	2133578
	11/05/2019			11/12/2019 10:41	Beverly Y. Sanders	2133571
	11/05/2019			11/12/2019 10:46	Beverly Y. Sanders	2133572
	11/05/2019			11/12/2019 12:45	Beverly Y. Sanders	2133573
	11/05/2019			11/13/2019 10:38	Beverly Y. Sanders	2133581
EPA 365.1 Rev. 2.0	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 12:07	Benjamin T. Nordmann	2133578
	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 14:17	Benjamin T. Nordmann	2133577
	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 14:18	Benjamin T. Nordmann	2133579
	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 14:36	Benjamin T. Nordmann	2133571
	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 14:43	Benjamin T. Nordmann	2133572
	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 14:44	Benjamin T. Nordmann	2133573
	11/05/2019	11/07/2019 14:35	Yen Ta	11/08/2019 14:45	Benjamin T. Nordmann	2133581