Chemical Analysis Report

WQAP-2017-09-21-01

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

Event Description: **Wilson Lake_LVI**
Request ID: **RQ-2017-09-18-57**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
Attn: Judy Ashton

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

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 11-OCT-2017 14:47

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 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: Lake Wilson **Collection Date/Time: 09/20/2017 11:30**

Field ID: G1SW0075 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1930643	EPA 180.1 Rev. 2.0	Turbidity	3.4	A	NTU	P332016	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P332154	
		Sulfate	4.4		mg SO4/L	P332156	
	SM 2120 B	Color (true)	47		PCU	P332023	
	SM 2320 B-97	Total Alkalinity	44		mg CaCO3/L	P332129	
	SM 2540 C-97	TDS	73		mg/L	P332769	
	SM 2540 D-97	TSS	6	I	mg/L	P332222	
	SM 4500 F-C-97	Fluoride	0.060	I	mg F/L	P332291	
1930644	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P332335	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P332292	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P332457	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P332232	
	SM 5310 B-00	Organic Carbon	7.4		mg C/L	P332239	
1930645	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P332056	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P332016

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332154

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332156

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332335

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332292

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332457

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332232

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332056

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

Reference Method: SM 2120 B
Batch ID: P332023

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P332129

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

Reference Method: SM 2540 C-97
Batch ID: P332769

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P332222

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P332291

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P332239

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332154

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	94.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332156

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	93.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332335

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332292

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332457

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.8		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P332129

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P332291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P332239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930588	Chloride	97.2		P	90 - 110
1930643	Chloride	97.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332156

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930588	Sulfate	96.8		P	90 - 110
1930643	Sulfate	95.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930591	Ammonia-N	102	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930652	Kjeldahl Nitrogen	97.1	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930668	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930644	Total-P	93.7	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930655	O-Phosphate-P	94.4	95.3	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P332291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931180	Fluoride	95.9	96.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P332239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930644	Organic Carbon	95.2	97.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P332016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930643	Turbidity	1.77	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930588	Chloride	1.28	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332156

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930588	Sulfate	1.84	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930591	Ammonia-N	2.61	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930652	Kjeldahl Nitrogen	1.84	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930668	NO2NO3-N	0.579	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930644	Total-P	5.08	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930655	O-Phosphate-P	0.774	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P332023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930589	Color (true)	0.370	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P332129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930384	Total Alkalinity	0.314	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P332769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930529	TDS	2.56	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P332222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930529	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P332291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931180	Fluoride	0.483	Spike	P	0 - 3.0

Quality Assurance Report
Precision

Reference Method: SM 5310 B-00
Batch ID: P332239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930644	Organic Carbon	1.50	Spike	P	0 - 20

* 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
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A78987
Included Lab Sample IDs: 1930643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	102	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79066
Included Lab Sample IDs: 1930643

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

Reference Method: SM 2120 B
Run ID: A79069
Included Lab Sample IDs: 1930643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	106	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A79079
Included Lab Sample IDs: 1930645

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

Reference Method: SM 2320 B-97
Run ID: A79117
Included Lab Sample IDs: 1930643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.9	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A79154
Included Lab Sample IDs: 1930644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	96.8	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A79173
Included Lab Sample IDs: 1930643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A79185
Included Lab Sample IDs: 1930644

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A79196
Included Lab Sample IDs: 1930644

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A79224
Included Lab Sample IDs: 1930644

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A79237
Included Lab Sample IDs: 1930644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	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					1.77	
EPA 300.0 Rev. 2.1	Chloride	94.5	97.2	97.4		1.28	
	Sulfate	93.0	96.8	95.8		1.84	
EPA 350.1 Rev. 2.0	Ammonia-N	102	102	99.3			2.61
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.3	97.1	99.8			1.84
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102				0.579
EPA 365.1 Rev. 2.0	Total-P	98.2	93.7	99.4			5.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	94.4	95.3			0.774
SM 2120 B	Color (true)					0.370	
SM 2320 B-97	Total Alkalinity	101				0.314	
SM 2540 C-97	TDS					2.56	

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
SM 2540 D-97	TSS					0.0	
SM 4500 F-C-97	Fluoride	96.1	95.9	96.5			0.483
SM 5310 B-00	Organic Carbon	98.8	95.2	97.2			1.50

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1930643
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1930643
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1930643
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1930644
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1930644
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1930644
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1930644
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1930645
SM 2120 B / E31780	True Color measured at 450 nm	1930643
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1930643
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1930643
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1930643
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1930643
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1930644

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	09/21/2017			09/21/2017 15:31	DeAsia Armster	1930643
EPA 300.0 Rev. 2.1	09/21/2017			09/22/2017	Julia Storbeck	1930643
EPA 350.1 Rev. 2.0	09/21/2017			09/26/2017	Sofia Elnemr	1930644
EPA 351.2 Rev. 2.0	09/21/2017	09/27/2017	Adrian Shelby	09/28/2017	Joseph Suarez	1930644
EPA 353.2 Rev. 2.0	09/21/2017			09/29/2017	Beverly Y. Sanders	1930644
EPA 365.1 Rev. 2.0	09/21/2017	09/26/2017	Sima Feizi	09/27/2017	Lipi Saha	1930644
EPA 365.1 Rev. 2.0 dissolved	09/21/2017			09/21/2017 19:49	Megan Treadwell	1930645
SM 2120 B	09/21/2017			09/21/2017 15:57	Julia Storbeck	1930643
SM 2320 B-97	09/21/2017			09/23/2017	Dale L. Simmons	1930643
SM 2540 C-97	09/21/2017			09/25/2017	DeAsia Armster	1930643
SM 2540 D-97	09/21/2017			09/25/2017	DeAsia Armster	1930643
SM 4500 F-C-97	09/21/2017			09/26/2017	Dale L. Simmons	1930643
SM 5310 B-00	09/21/2017			09/25/2017	Ping Hua	1930644