

Biological Analysis Report

NE-DIST-2022-09-08-01

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

Event Description: **GTM NERR-Guana River SMP-7 site&blank**
Request ID: **RQ-2022-09-05-22**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
GTM NERR
505 Guana River Rd.
Ponte Vedra Beach, FL 32082
Attn: Nikki Dix

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Certified by: Sarah Menz, Environmental Administrator

Date Certified: 29-SEP-2022 15:11

A handwritten signature in black ink, appearing to be 'Sarah Menz', with a long, sweeping horizontal stroke extending to the right.

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: Chlorophyll/Grain Size/BOD and Microbiology.

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: DEPGR3

Collection Date/Time: 09/07/2022 08:03

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354993	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.2		ug/L	P419797	
		Phaeophytin-a	1.8	U	ug/L	P419797	
		Chlorophyll-a, Uncorrected	6.0		ug/L	P419797	
2355000	Enterolert/QT	Enterococci-Quanti-Tray	10.0	UQ	MPN/100 mL	P419418	
2355007	SM 9222 D	Fecal Coliforms-Membrane Filter	6	BQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Laboratory duplicate result is 10.0 U for Enterococci. Precision data is unavailable due to the small amount of analyte in this QC sample.

SM 9222 D: Laboratory duplicate result is 5 B. Precision data for this duplicate is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: DEPGR2

Collection Date/Time: 09/07/2022 08:17

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354994	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.8		ug/L	P419797	
		Phaeophytin-a	1.2	I	ug/L	P419797	
		Chlorophyll-a, Uncorrected	5.7		ug/L	P419797	
2355001	Enterolert/QT	Enterococci-Quanti-Tray	10.0	UQ	MPN/100 mL	P419418	
2355008	SM 9222 D	Fecal Coliforms-Membrane Filter	10	BQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: DEPGR1

Collection Date/Time: 09/07/2022 08:42

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354995	SM 10200 H (mod.)	Chlorophyll-a, Corrected	15		ug/L	P419877	
		Phaeophytin-a	3.1	I	ug/L	P419877	
		Chlorophyll-a, Uncorrected	17		ug/L	P419877	
2355002	Enterolert/QT	Enterococci-Quanti-Tray	20.0	Q	MPN/100 mL	P419418	
2355009	SM 9222 D	Fecal Coliforms-Membrane Filter	30	BQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: DEPGL4

Collection Date/Time: 09/07/2022 09:55

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354996	SM 10200 H (mod.)	Chlorophyll-a, Corrected	28		ug/L	P419877	
		Phaeophytin-a	3.2	U	ug/L	P419877	
		Chlorophyll-a, Uncorrected	29		ug/L	P419877	

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2355003	Enterolert/QT	Enterococci-Quanti-Tray	10.0	UQ	MPN/100 mL	P419418	
2355010	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: DEPGL3

Collection Date/Time: 09/07/2022 10:15

Field ID: GTMLMNUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354997	SM 10200 H (mod.)	Chlorophyll-a, Corrected	37		ug/L	P419877	
		Phaeophytin-a	5.2	U	ug/L	P419877	
		Chlorophyll-a, Uncorrected	38		ug/L	P419877	
2355004	Enterolert/QT	Enterococci-Quanti-Tray	20.0	Q	MPN/100 mL	P419418	
2355011	SM 9222 D	Fecal Coliforms-Membrane Filter	3	BQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: DEPGL2

Collection Date/Time: 09/07/2022 10:35

Field ID: GTMGL2NUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354998	SM 10200 H (mod.)	Chlorophyll-a, Corrected	38		ug/L	P419877	
		Phaeophytin-a	7.6		ug/L	P419877	
		Chlorophyll-a, Uncorrected	44		ug/L	P419877	
2355005	Enterolert/QT	Enterococci-Quanti-Tray	73.0	Q	MPN/100 mL	P419418	
2355012	SM 9222 D	Fecal Coliforms-Membrane Filter	730	BQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: DEPGL1

Collection Date/Time: 09/07/2022 11:10

Field ID: GTMGL1NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2354999	SM 10200 H (mod.)	Chlorophyll-a, Corrected	17		ug/L	P419877	
		Phaeophytin-a	1.8	I	ug/L	P419877	
		Chlorophyll-a, Uncorrected	18		ug/L	P419877	
2355006	Enterolert/QT	Enterococci-Quanti-Tray	35.9	Q	MPN/100 mL	P419418	
2355013	SM 9222 D	Fecal Coliforms-Membrane Filter	160	BQ	cfu/100 mL	P419954	

Ref. Method and Comment:

SM 10200 H (mod.): Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.

SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Quality Assurance Report Method Blank Results

Reference Method: Enterolert/QT
Batch ID: P419418

Component	Result	Code	Units
Enterococci-Quanti-Tray	1.0	U	MPN/100 mL

Reference Method: SM 10200 H (mod.)
Batch ID: P419797

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L
Phaeophytin-a	0.90	U	ug/L

Reference Method: SM 10200 H (mod.)
Batch ID: P419877

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L
Phaeophytin-a	0.90	U	ug/L

Reference Method: SM 9222 D
Batch ID: P419954

Component	Result	Code	Units
Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P419797

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	95.2		P	84 - 116

Reference Method: SM 10200 H (mod.)
Batch ID: P419877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	97.1		P	84 - 116

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P419797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2354827	Chlorophyll-a, Corrected	2.16	Sample	P	0 - 25
2354827	Chlorophyll-a, Uncorrected	3.30	Sample	P	0 - 25

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P419877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2355045	Chlorophyll-a, Corrected	7.03	Sample	P	0 - 25
2355045	Chlorophyll-a, Uncorrected	13.1	Sample	P	0 - 25

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	95.2			2.16	
	Chlorophyll-a, Corrected	97.1			7.03	
	Chlorophyll-a, Uncorrected				3.30	
	Chlorophyll-a, Uncorrected				13.1	

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2355000, 2355001, 2355002, 2355003, 2355004, 2355005, 2355006
SM 10200 H (mod.)	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2354993, 2354994, 2354995, 2354996, 2354997, 2354998, 2354999
SM 9222 D	Fecal coliforms by membrane filter method - non-chlorinated water systems	2355007, 2355008, 2355009, 2355010, 2355011, 2355012, 2355013

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	09/08/2022	09/08/2022 14:36	Callie Williams	09/09/2022 15:27	Jillian G Hanley	2355000, 2355001, 2355002, 2355003, 2355004, 2355005, 2355006
SM 10200 H (mod.)	09/08/2022	09/08/2022 14:48	Megan Higbee	09/19/2022 10:23	Tynan A Branch	2354993, 2354994
	09/08/2022	09/08/2022 14:48	Megan Higbee	09/19/2022 11:42	Tynan A Branch	2354995, 2354996, 2354997, 2354998, 2354999
SM 9222 D	09/08/2022	09/08/2022 15:21	Austin Nolan	09/09/2022 13:44	Jillian G Hanley	2355007, 2355008, 2355009, 2355010, 2355011
	09/08/2022	09/08/2022 15:39	Austin Nolan	09/09/2022 13:44	Jillian G Hanley	2355012, 2355013