

Water Quality Assessment Report (Revision 2) Miami River Basin Miami, Florida

PREPARED FOR:

MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES DIVISION OF ENVIRONMENTAL RESOURCES MANAGEMENT (DERM) WATER MANAGEMENT Overtown Transit Village 701 N.W. 1st Court 5th Floor Miami, FL 33136

PREPARED BY:

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July 13, 2021

MIAMI-DADE COUNTY DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES
DIVISION OF ENVIRONMENTAL RESOURCES MANAGEMENT (DERM)
WATER MANAGEMENT DIVISION
701 N.W. 1st Court; 5th Floor
MIAMI, Florida 33136

SUBJECT: WATER QUALITY ASSESSMENT REPORT (REVISION 2)

MIAMI RIVER BASIN

MIAMI, FLORIDA

Wood Project Number: 6783-20-3235

Dear Mr. Mario Lopez:

Wood Environment & Infrastructure Solutions, Inc. (Wood) submits the following Water Quality Assessment report for the Miami Dade County Water Management Task Four Assignment for the Miami River Basin located in Miami, Florida. The purpose of the Water Quality Assessment in and along the Miami River Basin is to obtain representative water samples for laboratory analysis and identify possible sources of pollution, which contribute to high concentrations of bacteriological parameters or other parameters of concern in the surface waters of the Miami River Basin.

SITE DESCRIPTION

The site includes approximately 1.8 miles of various water structures and surface water locations in a northwest to southeast direction located along the Miami River Basin in Miami, Florida. The sampling locations are located in mixed-use neighborhoods including residential and commercial areas. **Figure 1** illustrates the sampling locations and sample identifications.

WATER QUALITY SAMPLING

On October 22nd and 23rd, 2020, Wood staff collected 15 water samples for the Miami River Basin project. The sampling order began at the downstream locations and proceeded to the upstream locations. This sampling protocol was guided by the directional flow of the Miami River and to ensure that representative water samples were obtained.

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Water samples were collected within 48 hours of a rain event and at low tide, when possible. The sample locations are illustrated in **Figure 1**. Water quality sampling was performed pursuant to the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOP) for Field Activities (DEP-SOP-001/01) dated January 2017. Samples were collected from the extendable grab sampler and transferred to the appropriate sample containers, sealed, and immediately stored in an ice-filled cooler and delivered within the appropriate hold time under chain-of-custody to Pace Analytical Services LLC, a State of Florida certified laboratory, for analysis.

During the collection of the water samples, field parameters were obtained including, pH, temperature, specific conductance, turbidity, Oxidation-Reduction Potential (ORP), and dissolved oxygen. Each sampling location was inspected for possible potential sources, which may contribute to high concentrations of bacteriological and nutrient pollution. **Attachment A** details the following:

Field Observations

- Sampling Point and Station ID;
- Updated Global Positioning System (GPS) coordinates;
- Field parameters;
- Field observations such as, condition of outfalls, direction of water flow, when possible, and potential sources of contaminants, i.e trash debris, wildlife, dumpsters, markets, etc.

Analytical Results

- Sampling Point and Station ID;
- Updated GPS coordinates;
- Bacteriological Analytical Results (E.Coli and Entero);
- Nutrient Analytical Results (Ammonia-N, Nitrate-Nitrite, Total N, Orthophoshate, and Total P);
- Field observations such as, condition of outfalls, direction of water flow, when possible, and potential sources of contaminants, i.e trash debris, wildlife, dumpsters, markets, etc;
- Review and comments including comparison to water quality standards;
- Recommendations for priority of additional sampling;
- Level of E. Coli, Entero, Total Nitrogen, and Total Phosphorous concentrations.

A photo log of various sampling locations is included in **Attachment B.** Daily equipment calibration logs are illustrated in **Attachment C.**

An explanation for each location can be found in **Attachment A.**

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The water samples were submitted for laboratory analysis of bacteriological parameters, Escherichia Coli by Method SM 9223B and Enterococci by Method Enterolet/Quantitray. The analysis of nutrient parameters included, Nitrogen, Ammonia by EPA Method 350.1, Total Kjeldahl Nitrogen by EPA Method 351.2, Nitrogen, Nitrite, and Nitrate by EPA Method 353.2, Orthophosphate as P by EPA Method 365.1, and Phosphorous by EPA Method 365.4.

WATER ANALYTICAL RESULTS

A summary of the water analytical results is presented in **Tables 1 and 2.** The surface water analytical results were compared to the applicable criteria specified in 62-302, and in Chapter 24-42 as specified for ammonia. Given the sample locations, the numeric nutrient criteria for the Southern North Biscayne Bay was used to evaluate nutrient results. The nitrogen criteria for Southern North Biscayne Bay is 290 ug/L, and the phosphorous criteria is 10 ug/L. The following is a summary of the laboratory analytical results:

Bacteriological Parameters:

- E.Coli: Ranged from 8 Most Probable Number per milliliter (MPN/100mL) to 4,490 MPN/100mL.
 Nine locations exhibited E.coli concentrations below 410 MPN/100mL, 5 locations exhibited E.coli concentrations between 410 MPN/100mL and 2,050 MPN/100mL, and 1 location exhibited a concentration above 2,050 MPN/100mL; MRSS1-2 (4,490 MPN/100mL).
- *Enterococci*: Ranged from 63 MPN/100mL to 17,300 MPN/100mL. One location exhibited Enterococci below 130 MPN/100mL, 12 locations exhibited Enterococci concentrations between 130 MPN/100mL and 10,000 MPN/100mL, and 2 locations exhibited concentrations above 10,000 MPN/100mL; including: MRSS1-2 (17,300) and MRSS1-6 (14,100).

Nutrient Parameters:

- Nitrogen, Ammonia: Ranged from 35 U microgram per liter (ug/L) to 1,600 ug/L. Ten locations exhibited Nitrogen Ammonia below the Chapter 24-42 criteria of 500 ug/L, four locations exhibited Nitrogen Ammonia between 500 ug/L and 1,000 ug/L, and 1 location exhibited a concentration above 1,000 ug/L; MRSS1-8 (1,600 ug/L).
- Nitrogen, NO2 plus NO3: Ranged from 33 U ug/L to 500 ug/L, with a median value of 150ug/L. Nitrogen Kjeldahl Total: Ranged from 290 ug/L to 1,600 ug/L, with a median value of 770 ug/L. Total Nitrogen (the sum of Nitrogen, NO2 plus NO3 and Nitrogen Kjeldahl Total) ranged from 480 ug/L to 1617 ug/L. Therefore, all sampling locations exhibited a total nitrogen concentration that exceeded the criteria of 290 ug/L specified as the numeric nutrient criteria for the Southern North Biscayne Bay. One sample location exhibited a Total Nitrogen concentration between 290 ug/L and 580 ug/L, thirteen sampling locations exhibited a Total Nitrogen concentration between 580 ug/L and 1,450 ug/L, and one sample location exhibited a Total Nitrogen concentration above 1,450 ug/L (MRSS1-8 [Manhole] 1,617 ug/L).

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- Orthophosphate as P: Ranged from 3.8 U ug/L to 98 ug/L. Five locations exhibited Orthophosphate as P below10 ug/L, 8 locations exhibited Orthophosphate as P between 10 ug/L and 50 ug/L, and 2 locations exhibited concentrations equal to or above 50 ug/L, including: MRSS1-8 (98) and MRSS1-12 (52).
- Phosphorus, Total: Ranged from 50 U ug/L to 591 ug/L. Five locations exhibited Phosphorus,
 Total below or equal to 50 ug/L, 7 locations exhibited Phosphorous, Total between 50 ug/L and
 100 ug/L, and 3 locations exhibited concentrations above 100 ug/L; including: MRSS1-7 (160),
 MRSS1-8 (120) and MRSS1-12 (591).

The laboratory bacteria and nutrient analytical results and chain of custody forms are included in **Attachment D and Attachment E.**

CONCLUSIONS

High, Medium, and Low priorities were designated for each sample locations based on the E. Coli and enterococci concentration levels specified in the scope of work. The maximum level of the primary parameters (E.Coli and enterococci) was used to designate the priority for the sample locations. Additionally, the Total Nitrogen and Orthophosphorous concentrations were characterized by level to provide a secondary basis of water quality characterization. The factor of the water quality standard of 1, 2, 5, 10, 20, and 50 that corresponds to Levels 1-7 for E. Coli was applied to the water quality standards for TN and TP to characterize the levels for nutrient concentrations. Since the method detection limit for Total Phosphorous was 50 ug/L and 3.8 ug/L for Orthophosphorous, Orthophosphorous was used to characterize the phosphorous concentration at the sample locations.

Surface water sample locations were assigned High, Medium, and Low priorities for the E. Coli and enterococci levels 3, 2, and 1, respectively. Stormwater structure sample locations were assigned High, Medium, and Low priorities for E. Coli and enterococci levels above 5, 4 or 5, and 3 or below, respectively.

High Priority Sample Locations:

- MRSS1-1 (Surface Water)
 - Results: E.Coli, (8 MPN/100mL), Enterococci, (331 MPN/100mL), Nitrogen, Ammonia, (181 ug/L), Nitrogen, NO2 plus NO3, (220 ug/L), Nitrogen Kjeldahl, Total, (920 ug/L), Orthophosphate as P, (4.3 ug/L), and Phosphorus, Total (as P), (50 U ug/L).
 - o <u>Observations:</u> Sample area appeared in good condition. Cargo ship located to NW of sample site. Iguanas present at time of sampling.
- MRSS1-2 (Manhole)
 - o <u>Results</u>: E.Coli, (4,490 MPN/100mL), Enterococci, (17,300 MPN/100mL), Nitrogen, Ammonia, (35 U ug/L), Nitrogen, NO2 plus NO3, (260 ug/L), Nitrogen Kjeldahl, Total, (380 Lug/L), Orthophosphate as P, (18 ug/L), and Phosphorus, Total (as P), (65 Lug/L).

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Observations: Thick foam/soapy appearance on surface of water. Pipes fully submerged. Very slight trash debris in MH. Sample area located near Gasolina Orion-gas station. Observed excessive trash and poor conditions to the south of the gas stations. Small flower market located to the east of the gas station property.

MRSS1-3 (Surface Water)

- o <u>Results</u>: E.Coli, (524 MPN/100mL), Enterococci, (350 MPN/100mL), Nitrogen, Ammonia, (650 ug/L), Nitrogen, NO2 plus NO3, (170 ug/L), Nitrogen Kjeldahl, Total, (990 ug/L), Orthophosphate as P, (5.7 ug/L), and Phosphorus, Total (as P), (50 U ug/L).
- Observations: Excessive oil sheen on surface of water. Large Cargo ship located directly to the south of the sample location. Smell of petroleum in vicinity NW of sample site. Observed Run Off from an adjoining property located approximately 0.3 miles upstream of sample site. Observed along north side of MR.

MRSS1-5 (Surface Water)

- Results: E.Coli, (852 MPN/100mL), Enterococci, (512 MPN/100mL), Nitrogen, Ammonia, (670 ug/L), Nitrogen, NO2 plus NO3, (150 ug/L), Nitrogen Kjeldahl, Total, (1000 ug/L), Orthophosphate as P, (3.8 U ug/L), and Phosphorus, Total (as P), (50 U ug/L).
- Observations: Fully submerged outfall, submerged by approximately 2' of water. Cloudy white discharge coming out of outfall at time of sampling. Vessels in vicinity of sample area. Observed run off from the rear of a property located on the south side of MR approximately 370 feet from sample site. Property appeared to be Kings Brothers Metal Recycling, junkyard property.

• MRSS1-6 (Catch Basin)

- Results: E.Coli, (240 MPN/100mL), Enterococci, (14,100 MPN/100mL), Nitrogen, Ammonia,
 (35 U ug/L), Nitrogen, NO2 plus NO3, (38 I ug/L), Nitrogen Kjeldahl, Total,
 (770 ug/L), Orthophosphate as P, (13 ug/L), and Phosphorus, Total (as P), (56 I ug/L).
- o <u>Observations:</u> Fully submerged pipes. Foamy substance on top of water. Slight trash debris. Scrap metal facility to the North, boat yard to the south. Unkempt surrounding area.

MRSS1-9 (Surface Water)

- Results: E.Coli, (168 MPN/100mL), Enterococci, (332 MPN/100mL), Nitrogen, Ammonia, (320 ug/L), Nitrogen, NO2 plus NO3, (150 ug/L), Nitrogen Kjeldahl, Total, (600 ug/L), Orthophosphate as P, (19 ug/L), and Phosphorus, Total (as P), (50 U ug/L).
- Observations: Partially submerged outfall. Outfall submerged approximately halfway of the 3' discharge point. Algae was observed inside of the pipe. Surface of water appeared with small floating particles. Vessels in direct vicinity of sample area.
- MRSS1-11 (Surface Water)

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- Results: E.Coli, (794 MPN/100mL), Enterococci, (1,300 MPN/100mL), Nitrogen, Ammonia, (330 ug/L), Nitrogen, NO2 plus NO3, (150 ug/L), Nitrogen Kjeldahl, Total, (540 ug/L), Orthophosphate as P, (31 ug/L), and Phosphorus, Total (as P), (50 U ug/L).
- Observations: Could not locate visible discharge point. Sampled from area closest to proposed coordinates. Observed excessive trash along the northern bank of MR. Pool of trash located downstream of MR, approximately 400' southeast of sampling point. Trash observed stagnant between large vessel and docking wall. Observed small white particles descending from Ferrous Processing & Trading Co Miami. White particles covered water surface. Strong odor coming from processing plant.
- MRSS1-14 (Surface Water)
 - Results: E.Coli, (410 MPN/100mL), Enterococci, (300 MPN/100mL), Nitrogen, Ammonia, (740 ug/L), Nitrogen, NO2 plus NO3, (150 ug/L), Nitrogen Kjeldahl, Total, (1,100 ug/L), Orthophosphate as P, (4.1 ug/L), and Phosphorus, Total (as P), (50 U ug/L).
 - Observations: Sampled from side of fence area. SFWMD on site at time of sampling. Slight vegetation observed in water. Iguanas in area. Excessive trash debris observed stagnant along western curtains and water structures, excessive trash along the banks of MR.
- MRSS1-15 (Surface Water)
 - Results: E.Coli, (300 MPN/100mL), Enterococci, (305 MPN/100mL), Nitrogen, Ammonia, (830 ug/L), Nitrogen, NO2 plus NO3, (150 ug/L), Nitrogen Kjeldahl, Total, (1,200 ug/L), Orthophosphate as P, (3.8 U ug/L), and Phosphorus, Total (as P), (50 U ug/L).
 - Observations: Sampled from downstream side of bridge. Slight trash debris observed in water and in surrouding vicinity. Homeless area located on west side of bridge, excessive trash in this area. Palacio Motel Inn to the North, Dmotors holiday to the South. Mobilgas station NW of sample area.

RECOMMENDATIONS

Wood recommends additional sampling at the high priority locations (**Figure 2**). Recommendations to perform upstream source tracking is warranted at stormwater structures that have exhibited high priority results for previous sampling events.

Based on the field observations made during the sampling activities, maintenance of the following structures is recommended: MRSS1-4 and MRSS1-7 (**Figure 1**). Additionally, an apparent illicit connection is present to the southeast of MRSS1-10, from what appears to be a hose that enters Miami River. A photo of the connection (Photo#62 and 63) is provided in **Attachment B**.

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Chief Engineer

If you require additional information, please contact Ashok Aitharaju at (305) 818-8478 or ashok.aitharaju@woodplc.com.

Sincerely,

WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC.

Stephen Hanks, P.E. Senior Engineer

Ashok K. Aitharaju Project Manager

Enclosures: Tables, Figures, Attachments A-E

Distributions: Addressee (1 with pdf)

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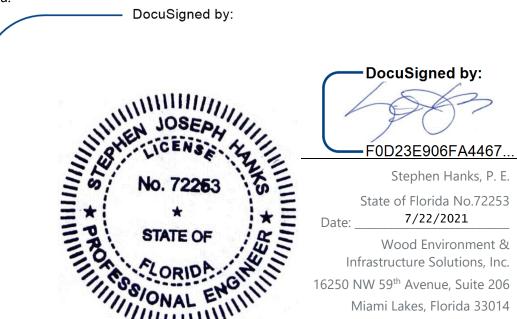
CERTIFICATION OF PROFESSIONAL ENGINEER

WATER QUALITY ASSESSMENT REPORT MIAMI RIVER BASIN MIAMI, FLORIDA

WOOD PROJECT NUMBER 6783-20-3235.04

JULY 13, 2021

I, Stephen Hanks, P.E. No. 72253, certify that I currently hold an active license in the state of Florida and am competent through education or experience to provide a professional judgement that components of the *Water Quality Assessment Report* are in general accordance with the requirements set forth in Chapter 24 of the Miami-Dade County Code. I further certify that, this report was prepared under my responsible charge and that Wood Environment & Infrastructure Solutions, Inc. holds an active certificate of authorization (State of Florida # 5392) to provide environmental consulting and engineering services in the State of Florida.



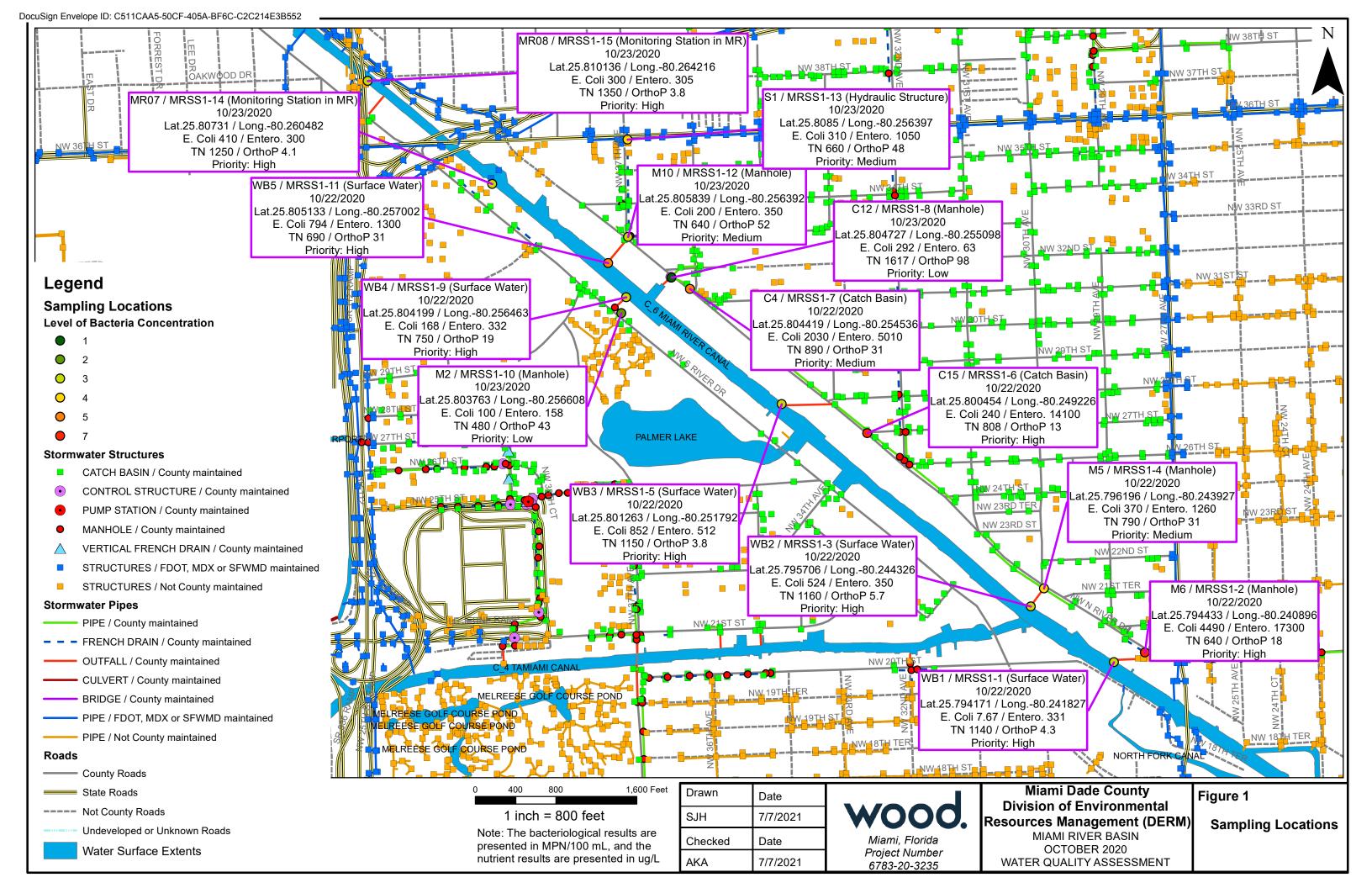
This item has been digitally signed and sealed by Stephen Hanks, Florida PE 72253, using a digital signature on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

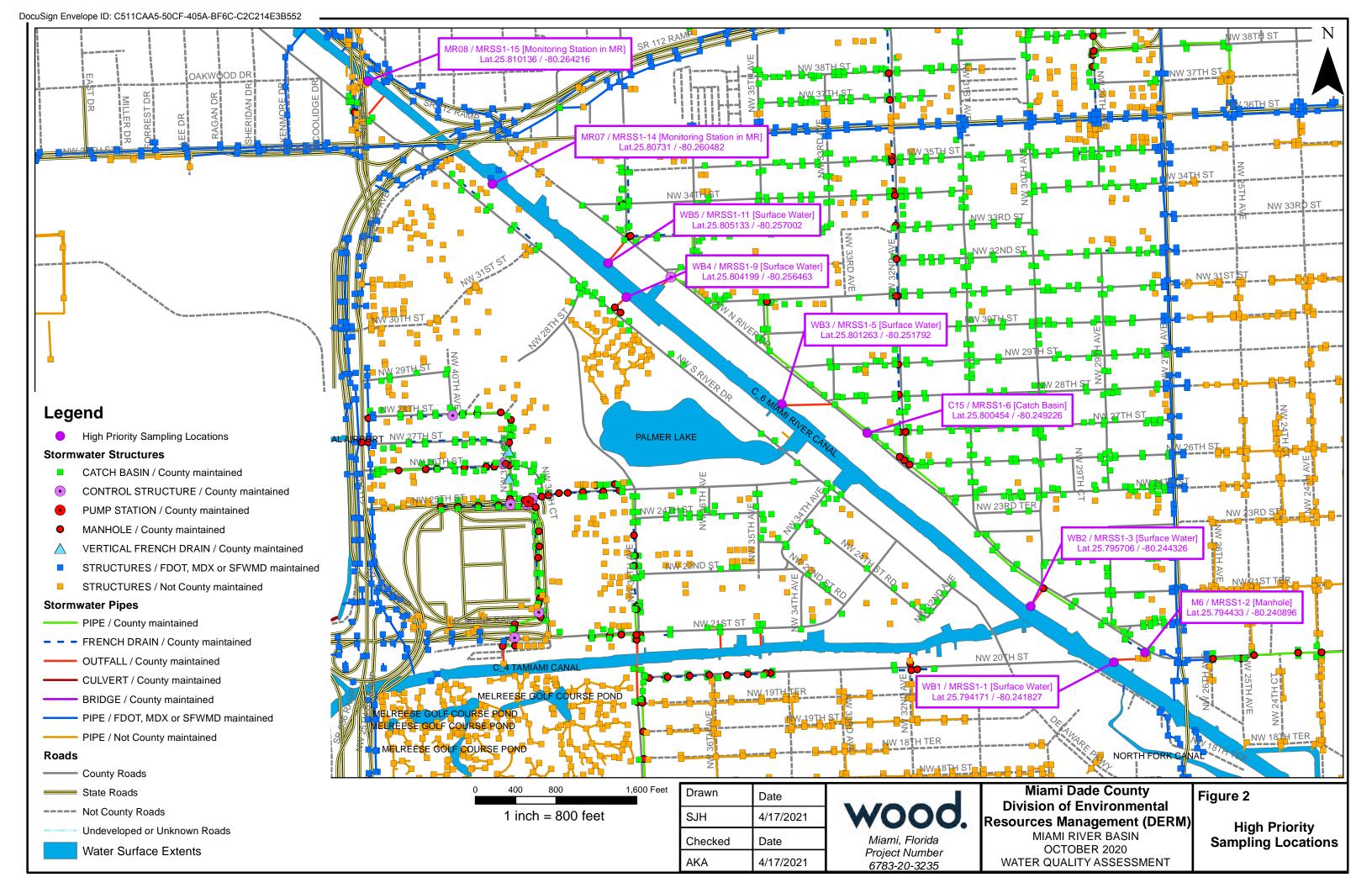
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Water Quality Assessment Report

MDC Miami RIver Basin

FIGURES







TABLES

Table 1 MDC Miami River Stormwater Analytical Summary Wood Project# 6783-20-3235

	Sample		E.coli	Enterococci
Location	Point	Date	(MPN/100mL)	(MPN/100mL)
MRSS1-1	WB1	10/22/2020	331	181
MRSS1-2	M6	10/22/2020	4490	17300
MRSS1-3	WB2	10/22/2020	524	350
MRSS1-4	M5	10/22/2020	370	1260
MRSS1-5	WB3	10/22/2020	852	512
MRSS1-6	C15	10/22/2020	240	14100
MRSS1-7	C4	10/22/2020	2030	5010
MRSS1-8	C12	10/23/2020	292	63.0
MRSS1-9	WB4	10/22/2020	168	332
MRSS1-10	M2	10/23/2020	100	158
MRSS1-11	WB5	10/22/2020	794	1300
MRSS1-12	M10	10/23/2020	200	350
MRSS1-13	S1	10/23/2020	310	1050
MRSS1-14	MR07	10/23/2020	410	231
MRSS1-15	MR08	10/23/2020	300	305

Notes:

U - Compound was analyzed but not detected above MDL MDL - Method Detection Limit

Table 2 MDC Miami River Stormwater Analytical Summary Wood Project# 6783-20-3235

	Sample		Nitrogen, Ammonia	Nitrogen, Kjeldahl, Total	Nitrogen, NO2 plus NO3	Total Nitrogen*	Orthophosphate as P	Phosphorus, Total (as P)
Location	Point	Date	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MRSS1-1	WB1	10/22/2020	480	920	220	1140	4.3	50 U
MRSS1-2	M6	10/22/2020	35 U	380 I	260	640	18	65 I
MRSS1-3	WB2	10/22/2020	650	990	170	1160	5.7	50 U
MRSS1-4	M5	10/22/2020	41 I	290 I	500	790	31	50 U
MRSS1-5	WB3	10/22/2020	670	1000	150	1150	3.8 U	50 U
MRSS1-6	C15	10/22/2020	35 U	770	38 I	808	13	56 I
MRSS1-7	C4	10/22/2020	180	820	70	890	31	160
MRSS1-8	C12	10/23/2020	1600	1600	33 U	1617	98	120
MRSS1-9	WB4	10/22/2020	320	600	150	750	19	50 U
MRSS1-10	M2	10/23/2020	59	320 I	160	480	43	55 I
MRSS1-11	WB5	10/22/2020	330	540	150	690	31	50 U
MRSS1-12	M10	10/23/2020	400	510	130	640	52	59 I
MRSS1-13	S1	10/23/2020	140	330 I	330	660	48	58 I
MRSS1-14	MR07	10/23/2020	740	1100	150	1250	4.1	50 U
MRSS1-15	MR08	10/23/2020	830	1200	150	1350	3.8 U	50 U

Notes:

- U Compound was analyzed but not detected above MDL
- I Compound was observed between the MDL and the PQL

MDL - Method Detection Limit

PQL - Practical Quantification Limit

^{* -} Total Nitrogen is the summation of NO3+NO2 and Total Kjeldahl Nitrogen

ATTACHMENT A

FIELD OBSERVATION & ANALYTICAL RESULTS DATABASES

Project 6783-20-3235

Miami River Storm Sewer System Field Measurements for Cycle 1 (October 2020) Wood Project# 6783-20-3235

No	. Sampling Point	Station	Layer	Maintained By	TTRRSS	Location & Comments	Proposed Longitude	Proposed Latitude	Actual Longitude	Actual Latitude	Ph	Temp (C)	Conductivity (US/CM)	ORP	%DO	D.O. (MG/L)	Turbidity (NTU)	Observations	Potential Sources of Contamination
1	WB1	MRSS1-1	Surface Water	County Outfall	534128	WB1 is a discharge point from a County major outfall. It is along the northern edge of MR, at the approximate intersection of NW 20 Street and NW 29 Avenue.	-80.241891	25.794232	-80.241827	25.794171	7.67	25.95	508	-56.6	87.2	7.08	3.41	Sample area appeared in good condition. Cargo ship located to NW of sample site. Iguanas present at time of sampling.	Iguanas and vessels located in the vicinity.
2	M6	MRSS1-2	Manhole	County	534128	M6 is immediately south of NW North River Drive and it is the first manhole (MH) along the French Drain from the northwest. It is west of NW 27 Avenue. There is a MH M1 located immediately southeast of M6. Ensure that samples are collected only from M6 since it is connected to the outfall to the river.	-80.240896	25.794433	-80.240896	25.794433	7.33	27.25	483	-44	40	3.15	12.3	Thick foam/soapy appearance on surface of water. Pipes fully submerged. Very slight trash debris in MH. Sample area located near Gasolina Orion-gas station. Observed excessive trash and poor conditions to the south of the gas stations. Small flower market located to the east of the gas station property.	Pollution from nearby gas station and junkyard property to the south.
3	WB2	MRSS1-3	Surface Water	County Outfall	534128	WB2 is a discharge point from a County major outfall along the northern edge of MR. It is south of NW North River Drive and it is slightly west of an approximate extension of NW 30 Avenue.	-80.244328	25.795704	-80.244326	25.795706	7.55	27.2	868	-138.1	36.1	2.87	2.81	Excessive oil sheen on surface of water. Large Cargo ship located directly to the south of the sample location. Smell of petroleum in vicinity NW of sample site. Observed Run Off from an adjoining property located approximately 0.3 miles upstream of sample site. Observed along north side of MR.	Pollution form vessels located in vicinity. Junkyard located to the north of the sample site.
4	M5	MRSS1-4	Manhole	County	534128	M5 is in the immediate south of NW North River Drive, and slightly east of NW 30 Avenue.	-80.243937	25.796185	-80.2439267	25.7961955	7.21	26.63	379	-56	33	2.66	8.63	of sampling. Excessive trash debris in MH. Five Star Complete Auto Paint loctaed directly to the South. Metal	Trash debris. General vicinity appeared unkempt. MH within an industrial use area.
5	WB3	MRSS1-5	Surface Water	County Outfall	534128	WB3 is a discharge point from a County major outfall on the northen edge of MR and south of NW North River Drive. It is west of NW 33 Avenue.	-80.251669	25.801227	-80.251792	25.801263	7.59	25.97	448	-45.6	33	2.68	2.9		from a junkyard property in close proximity to Kings Brothers Metal Recycling.
6	C15	MRSS1-6	Catch Basin	County	534128	C15 is a Catch Basin (CB) located on the intersection of NW North River Drive and NW 27 Street on the northern side.	-80.249238	25.800528	-80.249226	25.800454	8.06	25.58	213	-31	52	4.3	15	Fully submerged pipes. Foamy	Unkempt surrounding area. Trash debris from adjoining properties.

Miami River Storm Sewer System Field Measurements for Cycle 1 (October 2020) Wood Project# 6783-20-3235

N	Samplir Point	Station	Layer	Maintained By	S Location & Comments	Proposed Longitude	Proposed Latitude	Actual Longitude	Actual Latitude	Ph	Temp (C)	Conductivity (US/CM)	ORP	%DO	D.O. (MG/L)	Turbidity (NTU)	Observations	Potential Sources of Contamination
7	C4	MRSS1-7	Catch Basin	County 5342	C4 is the only CB in the north of NW North River Drive and west of NW 36 Avenue. C4 is immediately north of NW North River Drive.	-80.254621	25.804542	-80.254536	25.804419	7.24	25.18	176	-34.2	40.4	3.32	50.5	Excessive trash debris. Pipes full submerged. Dandy Sand located to the north, junkyard located to the south, tire center located to the east, and cargo container yard located to the northwest.	Trash debris located inside MH and general surrounding in poor condition.
8	C12	MRSS1-8	Manhole	County 534:	C12 is a county manhole located directly southwest of C13.	-80.25422	25.805022	-80.255098	25.804727	6.71	28.19	584	-91	11.1	0.86	5.71	Slight trash debris. Pipes fully submerged. Dandy Sand located to the SE, Maritime Agency located to the West, Antillean located to the East.	No obvious sources of pollution at time of sampling. General area unkempt.
Š	WB4	MRSS1-9	Surface Water	County Outfall 534:	WB4 is a discharge point from a County outfall discharge point located along the south edge of MR and north of NW South River Drive. It is east of NW 28 Steet.	-80.256463	25.804199	-80.256463	25.804199	7.57	17.9	630	-116	17.9	1.42	2.25	Partially submerged outfall. Outfall submerged approximately halfway of the 3' discharge point. Algae was observed inside of the pipe. Surface of water appeared with small floating particles. Vessels in direct vicinity of sample area.	Vessels in surrounding area.
1) M2	MRSS1-10	Manhole	County 5342	M2 is located immediately north of NW South River Drive and south of MR. It is on the approximate extension of NW 37 Avenue from the north. There is a MH M3, northwest of this MH. M3 is the beginning of a County outfall.	-80.256628	25.803766	-80.2566085	25.803763	7.16	27.41	471	-63.9	21.4	1.69	8.23	Pipe direction appeared going to the south and west direction. Water flowing south. Slight organic odor. Bricks and concrete debris observed. Water clear, bottom of structure visible. Observed a water hose discharging from BettyK Liner property, visible floody in surrounding area.	No obvious sources of contaminants, except for Betty K Liner discharging water from property.
1	WB5	MRSS1-11	Surface Water	County Outfall 534:	WB5 is a discharge point from a County major outfall along the northern edge of MR, and it is south of NW North River Drive. It will be slightly to the west if you extend NW 37 Avenue.	-80.256978	25.805179	-80.257002	25.805133	7.55	29.33	304	-206.6	27.6	2.09	9.12	Could not locate visible discharge point. Sampled from area closest to proposed coordinates. Observed excessive trash along the northern bank of MR. Pool of trash located downstream of MR, approximately 400' southeast of sampling point. Trash observed	strong odor), vessels in the vicinity.

Miami River Storm Sewer System Field Measurements for Cycle 1 (October 2020) Wood Project# 6783-20-3235

No.	Sampling Point	Station	Layer	Maintained By	TTRRSS	Location & Comments	Proposed Longitude	Proposed Latitude	Actual Longitude	Actual Latitude	Ph	Temp (C)	Conductivity (US/CM)	ORP	%DO	D.O. (MG/L)	Turbidity (NTU)	Observations	Potential Sources of Contamination
12	M10	MRSS1-12	Manhole	County	534128	M10 is in the northeast corner of NW 37 Avenue and NW 33 Street. A pipe for a major outfall begins at this MH. There is a manhole just east of M10. Ensure that the samples are collected from M10 since it is connected to the outfall.	-80.256366	25.805838	-80.256392	25.805839	7.2	27.23	525	-127	14.3	1.13		Pipes fully submerged. No debris observed in or around the surrounding area of MH.	No obvious sources of contaminants observed at the time of sampling.
13	S1	MRSS1-13	Hydraulic Structure	FDOT discharging to County MS4	534128	S1 is in the southeast corner of NW 36 Street and NW 37 Avenue.	-80.256407	25.808506	-80.256397	25.8085	7.13	26.26	340	-61	30.1	2.4		Water flowing west towards MR. No visible trash debris in structure. MH directly east of structure contained various trash debris. Excessive amounts of trash debris observed in and around the eastern and western french drains located at the south side of the intersection of NW 36th St and NW 37th Ave. Casino located to the SW, Pinnacle Plaza located to the east, Auto shop located to the NW. Various trash debris located around bus stop area. Sampled from side of fence	Trash debris observed around bust stop area.
14	MR07	MRSS1-14	Monitoring Station in MR	Bayrun Monitoring Station	534128	MR07 is along MR and south of NW North River Drive. It is between NW 36 Street andNW 34 Street. It is approximately west of NW 38 Avenue.	-80.260177	25.807279	-80.2604823	25.8073103	7.01	26.27	489	-66.9	22.6	1.81	2.45	area. SFWMD on site at time of sampling. Slight vegetation observed in water. Iguanas in area. Excessive trash debris observed stagnant along western curtains and water structures, excessive trash	Excessive iguanas in area. Trash debris likely flowing from upstream getting stuck in water structures and pushed on the outerbanks of MR.
15	MR08	MRSS1-15	Monitoring Station in MR	Bayrun Monitoring Station	534128	MR08 is on the east of the intersection of NW 42 Avenue and Miami River. Collect samples from the NW 42 Avenue Bridge on the downstream side of the MR. Document the correct Latitude and Longitude of the collection site.	-80.264131	25.810207	-80.264216	25.810136	NA	NA	NA	NA	NA	NA	NA	Sampled from downstream side of bridge. Slight trash debris observed in water and in surrouding vicinity. Homeless area located on west side of bridge, excessive trash in this area. Palacio Motel Inn to the North, Dmotors holiday to the South. Mobil-gas station NW of sample area.	

No.	Sampling Point	Station	Layer	Actual Longitude	Actual Latitude	Date Sampled	E.Coli MPN/100mL	Enterococci MPN/100mL	Ammonia Nitrogen (ug/L)	Nitrate Nitrite (ug/L)	Total Kjeldahl Nitrogen (TKN) (ug/L)	Total Nitrogen (ug/L)	Orthophosphate (ug/L)	Total Phosphorous (ug/L)		otential Sources of Contamination	Review & Comments	Recommendat ions	Structure Type	SW Priority	MH Priority	Max Level Bacteria	Max Level Nutrients		intero Level	l level l	OrthoP Level
1	WB1	MRSS1-1	Surface Water	-80.241827	25.794171	10/22/2020	7.67	331	181	220	920	1140	4.3	50 U		nas and vessels ted in the vicinity.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen that exceeded the numeric nutrient criteria of 290 ug/L for the south segment of North Biscayne Bay.	High	sw	High	Medium	3	3	1	3	3	1
2	M6	MRSS1-2	Manhole	-80.240896	25.794433	10/22/2020	4490	17300	35 U	260	380 I	640	18	65 1	_	station and yard property to	All regulated parameters were above the applicable surface water quality standards, with the exception of Ammonia.	High	мн	High	High	7	3	5	7	3	2
3	WB2	MRSS1-3	Surface Water	-80.244326	25.795706	10/22/2020	524	350	650	170	990	1160	5.7	50 U	petroleum in vicinity NW of sample site. Observed Run Off from an adjoining	ution from vessels ted in vicinity. yard located to the h of the sample	All regulated parameters were above the applicable surface water quality standards, with the exception of Orthophosphorous.	High	sw	High	Medium	3	3	2	3	3	1
4	M5	MRSS1-4	Manhole	-80.2439267	25.7961955	10/22/2020	370	1260	41	500	290 I	790	31	50 U	Five Star Complete Auto Paint loctaed unker	h debris. General ity appeared empt. MH within an strial use area.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and Orthophosphate that exceeded the respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay.	Medium	МН	High	Medium	4	3	1	4	3	3
5	WB3	MRSS1-5	Surface Water	-80.251792	25.801263	10/22/2020	852	512	670	150	1000	1150	3.8 U	50 U	Fully submerged outfall, submerged by approximately 2' of water. Cloudy white discharge coming out of outfall at time of sampling. Vessels in vicinity of sample area. Observed run off from the rear of a property located on the south side of MR coming approximately 370 feet from sample site. Property appeared to be Kings Brothers Metal Recycling, junkyard property.	erty located to the hwest of sample . Appeared to be ing from a junkyard	All regulated parameters were above the applicable surface water quality standards, with the exception of Orthophosphorous	High	SW	High	Medium	3	3	3	3	3	1
6	C15	MRSS1-6	Catch Basin	-80.249226	25.800454	10/22/2020	240	14100	35 U	381	770	808	13	561	metal facility to the North, hoat yard to	empt surrounding . Trash debris from ining properties.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and Orthophosphate that exceeded the respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay.	High	МН	NA	High	7	3	1	7	3	2
7	C4	MRSS1-7	Catch Basin	-80.254536	25.804419	10/22/2020	2030	5010	180	70	820	890	31	160	north, junkyard located to the south, tire surro	h debris located le MH and general ounding in poor dition.	All regulated parameters were above the applicable surface water quality standards, with the exception of Ammonia.	Medium	МН	High	Medium	5	3	3	5	3	3
8	C12	MRSS1-8	Manhole	-80.255098	25.804727	10/23/2020	292	63	1600	33 U	1600	1617	98	120	1	ution at time of pling. General area	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and Orthophosphate that exceeded the respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay, and Ammonia which exceeds the Chapter 24-42 criteria of 500 ug/L.	Low	МН	Low	Low	1	4	1	1	4	4
9	WB4	MRSS1-9	Surface Water	-80.256463	25.804199	10/22/2020	168	332	320	150	600	750	19	50 U	Partially submerged outfall. Outfall submerged approximately halfway of the 3' discharge point. Algae was observed vesse inside of the pipe. Surface of water area. Vessels in direct vicinity of sample area.	els in surrounding	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and Orthophosphate that exceeded the respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay.	High	SW	High	Medium	3	3	1	3	3	2

No.	Sampling Point	Station	Layer	Actual Longitude	Actual Latitude	Date Sampled	E.Coli MPN/100mL	Enterococci MPN/100mL	Ammonia Nitrogen (ug/L)	Nitrate Nitrite (ug/L)	Total Kjeldahl Nitrogen (TKN) (ug/L)	Total Nitrogen (ug/L)	Orthophosphate (ug/L)	Total Phosphorous (ug/L)	Field Observations Potential Sources of Contamination	Review & Comments	Recommendat ions	Structure Type	SW Priority	MH Priority	Max Level Bacteria	Max Level Nutrients	E.coli Level	Entero Level	NIEVELL	rthoP Level
10	M2	MRSS1-10	Manhole	-80.2566085	25.803763	10/23/2020	100	158	59	160	320 I	480	43	55 I	Pipe direction appeared going to the south and west direction. Water flowing south. Slight organic odor. Bricks and concrete debris observed. Water clear, bottom of structure visible. Observed a water hose discharging from Bettyk Liner property, visible floody in surrounding area. No obvious sources of contaminants, except for Betty K Liner discharging water from property.	exception of Total Nitrogen and Orthophosphate that exceeded the	Low	МН	Medium	Low	2	3	1	2	2	3
11	WB5	MRSS1-11	Surface Water	-80.257002	25.805133	10/22/2020	794	1300	330	150	540	690	31	50 U	Could not locate visible discharge point. Sampled from area closest to proposed coordinates. Observed excessive trash along the northern bank of MR. Pool of trash located downstream of MR, approximately 400' southeast of sampling point. Trash observed stagnant between large vessel and docking wall. Observed small white particles descending from Ferrous Processing & Trading Co Miami. White particles covered water surface. Strong odor coming from processing plant.	applicable surface water quality standards, with the exception of Ammonia.	High	SW	High	Medium	5	3	2	5	3	3
12	M10	MRSS1-12	Manhole	-80.256392	25.805839	10/23/2020	200	350	400	130	510	640	52	591	observed in or around the surrounding contaminants observed	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and d Orthophosphate that exceeded the g. respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay.	Medium	МН	High	Medium	3	4	1	3	3	4
13	S1	MRSS1-13	Hydraulic Structure	-80.256397	25.8085	10/23/2020	310	1050	140	330	330 I	660	48	581	Water flowing west towards MR. No visible trash debris in structure. MH directly east of structure contained various trash debris. Excessive amounts of trash debris observed in and around the eastern and western french drains located at the south side of the intersection of NW 36th St and NW 37th Ave. Casino located to the SW, Pinnacle Plaza located to the east, Auto shop located to the NW. Various trash debris located around bus stop area.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and Orthophosphate that exceeded the respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay.	Medium	МН	High	Medium	4	3	1	4	3	3
14	MR07	MRSS1-14	Monitoring Station in MR	-80.2604823	25.8073103	10/23/2020	410	300	740	150	1100	1250	4.1		Sampled from side of fence area. SFWMD on site at time of sampling. Slight vegetation observed in water. Iguanas in area. Trash debris likel flowing from upstream getting structure stagnant along western curtains and water structures, excessive trash along the banks of MR.	All regulated parameters were above the applicable surface water quality standards,	High	sw	High	Medium	3	3	2	3	3	1
15	MR08	MRSS1-15	Monitoring Station in MR	-80.264216	25.810136	10/23/2020	300	305	830	150	1200	1350	3.8 U	50 U	Sampled from downstream side of bridge. Slight trash debris observed in water and in surrouding vicinity. Homeless area located on west side of bridge, excessive trash in this area. Palacio Motel Inn to the North, Dmotors holiday to the South. Mobil-gas station NW of sample area.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen that exceeded the numeric nutrient criteria of 290 ug/L for the south segment of North Biscayne Bay, and Ammonia which exceeds the Chapter 24-42 criteria of 500 ug/L	High	sw	High	Medium	3	3	1	3	3	1

Miami River Storm Sewer System Sampling Results for Cycle 1 (October 2020) Wood Project# 6783-20-3235

No.	Sampling Point	Station	Layer	Actual Longitude	Actual Latitude	E.Coli MPN/100mL	Enterococci MPN/100mL	Ammonia Nitrogen (ug/L)	Nitrate Nitrite (ug/L)	Total Kjeldahl Nitrogen (TKN) (ug/L)	Orthophosphate (ug/L)	Total Phosphorous (ug/L)	Field Observations	Potential Sources of Contamination	Review & Comments	Recommenda tions	E.coli Level	Entero Level	TN Level	OrthoP Level
13	S1	MRSS1-13	Hydraulic Structure	-80.256397	25.8085	310	1050	140	330	330 I	48	58 I	Idrains located at the south side of the	Frash debris observed around bust stop area.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen and Orthophosphate that exceeded the respective numeric nutrient criteria of 290 ug/L and 10 ug/L for the south segment of North Biscayne Bay.	Medium	1	4	2	3
14	MR07	MRSS1-14	Monitoring Station in MR	-80.2604823	25.8073103	410	300	740	150	1100	4.1	50 U	area. Excessive trash debris observed stagnant along western curtains and water structures, excessive trash along	area. Trash debris likely lowing from upstream	All regulated parameters were above the applicable surface water quality standards, with the exception of Ammonia and Orthophosphorous.	High	2	3	3	1
15	MR08	MRSS1-15	Monitoring Station in MR	-80.264216	25.810136	300	305	830	150	1200	3.8 U	50 U		Trash from surrounding properties.	All parameters were below the applicable surface water quality standards with the exception of Total Nitrogen that exceeded the numeric nutrient criteria of 290 ug/L for the south segment of North Biscayne Bay.	High	1	3	3	1

ATTACHMENT B

Рното Log

				APPEND	IX 1 – Sample	Photo and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
1	WB1	MRSS1-1	Surface Water	25.794171	-80.241827	WB1 is a discharge point from a County major outfall. It is along the northern edge of MR, at the approximate intersection of NW 20 Street and NW 29 Avenue.
No.	•	No. from nera	Picture Date	Description of	Photo	Comments (Observations made at the Site)
1	,	#1	10/22/2020	Area of sample southeast.	taken. Photo facing	Sample area appeared in good condition. Cargo ship located to NW of sample site. Iguanas and vessels located in the vicinity.
2	#	2		Sampling area.		
3	#	3		View of sample northwest.	area facing	
4	#	2 4		Facing south fro	om sample area.	
5	#	5			proximately 200- west from sample	

				APPEND	IX 1 – Sample	Photo and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
2	M6	MRSS1-2	Manhole	25.794433	-80.240896	M6 is immediately south of NW North River Drive and it is the first manhole (MH) along the French Drain from the northwest. It is west of NW 27 Avenue. There is a MH M1 located immediately southeast of M6. Ensure that samples are collected only from M6 since it is connected to the outfall to the river.
No.	1	 No. from nera	Picture Date	Description of	Photo	Comments (Observations made at the Site)
1	#:	38	10/22/2020	View inside stru	ucture	Thick foam/soapy appearance on surface of water. Pipes fully submerged. Very slight trash debris in MH. Sample area located near Gasolina Orion-gas station. Observed excessive trash and poor conditions to the south of the gas stations. Small flower market located to the east of the gas station property.
2	#3	39		1	structure, facing Miami Gas property.	
3	#4	40		100000000000000000000000000000000000000		
4	#4	41		View of Westar	gas statio located imately 20 feet from	

				APPEN	IDIX 1 – Sample Photo a	and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
5	#	<u> </u> 42		to the rear o	bus trash debris located f Westar gas station at properties to the	
6	#	43		drum and va	ew of trash filled poly rious trash near o the south of Westar	
7	#	44		I I	nant water and algae ong rear property line os station	
8	#	45		and algae ob Westar and v	ew of stagnant water of exerved along rear of exarious trash debris on perties to the south.	

	***			APPEND	IX 1 – Sample	Photo and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
3	WB2	MRSS1-3	Surface Water	25.795706	-80.244326	WB2 is a discharge point from a County major outfall along the northern edge of MR. It is south of NW North River Drive and it is slightly west of an approximate
No.	1	No. from nera	Picture Date	Description of I	Photo	Comments (Observations made at the Site)
1	#	1 6	5 10/22/2020 \s	View of samplir shipment items	ng area and various	Excessive oil sheen on surface of water. Large Cargo ship located directly to the south of the sample location. Smell of petroleum in vicinity NW of sample site. Observed Run Off from an adjoining property located approximately 0.3 miles upstream of sample site. Observed along north side of MR.
2	#	‡ 7		View of cargo a from sampling a	pproximately 5 feet area.	
3	#	‡ 8		View of oil shee within 5 feet of	n on water surface sampling area.	
4	#	‡ 9		View of propert	ies to the South	
5	#	#10 View of pr	View of propert	ies to the South		
6	#	11		Facing South		

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
7	#12			View of various debris located along northern properties of MR.						
8	#13			View unsolicited run off from a northern property located approximately 0.3 miles upstream from sample site.		Water appeared from a large hose coming off of property line into the MR. Approximate location of run of: Latitude 25.798407 Longitude: -80.248094				
9	#14			Additional view of run off fro property located along northern side of MR.						

				APPEND	IX 1 – Sample	Photo and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
4	M5	MRSS1-4	Manhole	25.7961955	-80.2439267	M5 is in the immediate south of NW North River Drive, and slightly east of NW 30 Avenue.
No.	No. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)
1	#46		10/22/2020	View of sampling area.		Pipes fully submerged at time of sampling. Excessive trash debris in MH. Five Star Complete Auto Paint located directly to the South. Metal shop and Auto center loctaed to the North. General trash debris in area.
2	#47			View of excessive trash debris inside of structure		
3	#48			Facing North		
4	#49			Facing northwest		
5	#50			Additional view of northwest		

				APPEND	IX 1 – Sample	Photo and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
5	WB3	MRSS1-5	Surface Water	25.801263	-80.251792	WB3 is a discharge point from a County major outfall on the northen edge of MR and south of NW North River Drive. It is west of NW 33 Avenue.
No.		No. from nera	Picture Date	Description of Photo		Comments (Observations made at the Site)
1	#15		10/22/2020	View of sampling area.		Fully submerged outfall, submerged by approximately 2' of water. Cloudy white discharge coming out of outfall at time of sampling. Vessels in vicinity of sample area. Observed run off from the rear of a property located on the south side of MR approximately 370 feet from sample site. Property appeared to be Kings Brothers Metal Recycling, junkyard property.
2	#16			View of property to the South		
3	#17			Additional view to the south.		
4	#18			View unsolicited run off from a southern property located approximately 370 feet upstream from sample site.		Water appeared to be coming from a large hose off of property line into the MR. Approximate location of run of: Latitude 25.801586 Longitude: -80.252851
5	#19			Additional view of run off		
6	#20			Additional view of run off		Water observed excessively cloudy due to run off.

			-	APPENDI	X 1 – Sample P	hoto and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
6	C15	MRSS1-6	Catch Basin	25.800454	-80.249226	C15 is a Catch Basin (CB) located on the intersection of NW North River Drive and NW 27 Street on the northern side.
No.	D. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)
1	#51		10/22/2020			Fully submerged pipes. Foamy substance on top of water. Slight trash debris inside structure. Scrap metal facility to the North, boat yard to the south. Unkempt surrounding area.
2	#52			View of northern and southern properties.		
3	#53			Additional view of structure		View of slight trash debris surrounding structure
4	#54			View of substance on water surface of structure		Slight foamy appearance on surface water inside structure
5	#55			Facing South		View of pile of various trash debris located on southern side of NW N River Drive in vicinity of sampling area.
6	#56				Additional trash pile of various trash debris located on southern side of NW N River Drive in vicinity of sampling area.	

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
7	C4	MRSS1-7	Catch Basin	25.804419	-80.254536	C4 is the only CB in the north of NW North River Drive and west of NW 36 Avenue. C4 is immediately north of NW North River Drive.				
No.	lo. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)				
1	#57		10/22/2020	View of open structure		Excessive trash debris. Pipes full submerged. Dandy Sand located to the north, junkyard located to the south, tire center located to the east, and cargo container yard located to the northwest.				
2	#58			Additonal view of open structure		View of structure facing east				
3	#59			Existing conditions inside the structure		Excessive trash debris inside structure.				

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
8	C12	MRSS1-8	Manhole	25.804727	-80.255098	C12 is a county manhole located directly southwest of C13.				
No.	No. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)				
1	#89		10/23/2020	Facing West		Slight trash debris. Pipes fully submerged. Dandy Sand located to the SE, Maritime Agency located to the West, Antillean located to the East. No obvious sources of pollution at time of sampling. General area unkempt.				
2	#90			Facing Northwest						
3	#91			Fcaing Northeast						
4	#92			View inside structure						

	APPENDIX 1 – Sample Photo and Comment Log Form										
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020					
9	WB4	MRSS1-9	Surface Water	25.804199	-80.256463	WB4 is a discharge point from a County outfall discharge point located along the south edge of MR and north of NW South River Drive. It is east of NW 28 Steet.					
No.	lo. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)					
1	#21		10/22/2020	Distant view of sampling area and adjoining properties		Partially submerged outfall. Outfall submerged approximately halfway of the 3' discharge point. Algae was observed inside of the pipe. Surface of water appeared with small floating particles. Vessels in direct vicinity of sample area. Additional pipe observed approximately 10 feet upstream of sampling point.					
2	#22			Additional distant view of sampling area and adjoining properties							
3	#23			View of property to the east of sample area property.							
4	#24			View of sample area and adjacent property							
5	#25			View of partially submerged discharge point							
6	#26			Additional view submerged disc	•						

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
7	#27			View of structure with sample ID						
8	#28			View of structure and algae within structure						
9	#29		View of second structure observed approximately 10 feet upstream of sample structure. Structure observed slightly bent inward.							
10	#30		Additional view of secondary structure.		·					

				APPEND	IX 1 – Sample	Photo and Comment Log Form
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020
10	M2	MRSS1-10	Manhole	25.803763	-80.2566085	M2 is located immediately north of NW South River Drive and south of MR. It is on the approximate extension of NW 37 Avenue from the north. There is a MH M3, northwest of this MH. M3 is the beginning of a County outfall.
No.	lo. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)
1	#62		10/23/2020	View of adjoining property near sample site (Betty K Liner)		Pipe direction appeared going to the south and west direction. Water flowing south. Slight organic odor. Bricks and concrete debris observed. Water clear, bottom of structure visible. Observed a water hose discharging from BettyK Liner property, visible floody in surrounding area.
2	#63			View of unsolicited run off from Betty K Liner property		View of water discharging from property onto street
3	#64			View of open structure		
4	#65			Additional view of open structure		

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
11	WB5	MRSS1-11	Surface Water	25.805133	-80.257002	WB5 is a discharge point from a County major outfall along the northern edge of MR, and it is south of NW North River Drive. It will be slightly to the west if you extend NW 37 Avenue.				
No.	Io. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)				
1	#31		10/22/2020	north.		Could not locate visible discharge point. Sampled from area closest to proposed coordinates. Observed excessive trash along the northern bank of MR. Pool of trash located downstream of MR, approximately 400' southeast of sampling point. Trash observed stagnant between large vessel and docking wall. Observed small white particles descending from Ferrous Processing & Trading Co Miami. White particles covered water surface. Strong odor coming from processing plant.				
2	#32			View of sample area and trash debris located in vicinity						
3	#33			View of trash debris located upstream in vicinity of sample area.						
4	#34			View of debris on surface near adjacent property		Styrofoam debris observed on surface of water near sampling area. Styrofoam observed along northern portion of property (Ferrous Proccessing Plant) and throughout nearby surface water of MR.				
5	#35			Additional view of styrofoam on Ferrous Processing property		View of styrofoam observed along Ferrous Processing property				

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
6	#36			View of excessive trash debris observed on surface water approximately 400 feet downstream on the northern side of MR		Excessive pool of trash				
7	#37		Additional view of pool of trash on surface water		Excessive pool of trash					

	APPENDIX 1 – Sample Photo and Comment Log Form										
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020					
12	M10	MRSS1-12	Manhole	25.805839	-80.256392	M10 is in the northeast corner of NW 37 Avenue and NW 33 Street. A pipe for a major outfall begins at this MH. There is a manhole just east of M10. Ensure that the samples are collected from M10 since it is connected to the outfall.					
No.	o. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)					
1	#67		10/23/2020	View of open structire facing south		Pipes fully submerged. No debris observed in or around the surrounding area of MH.					
2	#68			View of structure faing North							
3	#69			View of structure facing west							
4	#70			Facing East							

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
13	S1	MRSS1-13	Hydraulic Structure	25.8085	-80.256397	S1 is in the southeast corner of NW 36 Street and NW 37 Avenue.				
No.	Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)				
1	#71		10/23/2020	View of intersection of sampling area. View facing north.		Water flowing west towards MR. No visible trash debris in structure. MH directly east of structure contained various trash debris. Excessive amounts of trash debris observed in and around the eastern and western french drains located at the south side of the intersection of NW 36th St and NW 37th Ave. Casino located to the SW, Pinnacle Plaza located to the east, Auto shop located to the NW. Various trash debris located around bus stop area.				
2	#72			View of S1 and neighboring structure.						
3	#73			View of open structure						
4	#74			Facing North						
5	#75			View of Pinnacel Plaza located to the southeast of the structure						
6	#76		1	led french drain south, on the east f NW 37th Ave.	View of trash filled french drain.					

	APPENDIX 1 – Sample Photo and Comment Log Form								
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020			
7	#77			Additional view fo trash filled french drain					
8	#78			Additional view fo trash filled french drain					

	APPENDIX 1 – Sample Photo and Comment Log Form									
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020				
14	MR07	MRSS1-14	Monitoring Station in MR	25.8073103	-80.2604823	MR07 is along MR and south of NW North River Drive. It is between NW 36 Street andNW 34 Street. It is approximately west of NW 38 Avenue.				
No.	Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)				
1	#79		10/23/2020	Distant view of sampling area and surrounding water structure. Facing East		Sampled from side of fence area. SFWMD on site at time of sampling. Slight vegetation observed in water. Iguanas in area. Excessive trash debris observed stagnant along western curtains and water structures, excessive trash along the banks of MR.				
2	#80			View of MR facing west						
3	#81			View of trash debris located along river banks approximately 350ft west of sampling area						
4	#82			View of trash debris located around water buoy's.		Excessive trash debris located around water buoys, approximately 300 feet from sample area				
5	#83			View of excessive trash debris along water structure near sampling area						
6	#84			View of sample	area, facing east					

	APPENDIX 1 – Sample Photo and Comment Log Form										
Site No.	Sampling Point	Structure Name	Type of Structure	Latitude	Longitude	Sampling Location for Miami River Cycle 1 on October 22-23, 2020					
15	MR08	MRSS1-15	Monitoring Station in MR	25.810136	-80.264216	MR08 is on the east of the intersection of NW 42 Avenue and Miami River. Collect samples from the NW 42 Avenue Bridge on the downstream side of the MR. Document the correct Latitude and Longitude of the collection site.					
No.	o. Picture No. from Camera		Picture Date	Description of Photo		Comments (Observations made at the Site)					
			Date								
1	#85		10/23/2020	View of sample area facing north		Sampled from downstream side of bridge. Slight trash debris observed in water and in surrouding vicinity. Homeless area located on west side of bridge, excessive trash in this area. Palacio Motel Inn to the North, Dmotors holiday to the South. Mobil-gas station NW of sample area.					
2	#86			View of MR from sampling area facing northeast							
3	#87			View of MR facing east from sample area (off of bridge)							
4	#88				ea. Homeless area rea. Facing west e Rd						





Photograph 1: Sampling point: WB1 Station: MRSS1-1 Surface Water 10/22/20



Photograph 2: Sampling point: WB1 Station: MRSS1-1 Surface Water 10/22/20





Photograph 3: Sampling point: WB1 Station: MRSS1-1 Surface Water 10/22/20



Photograph 4: Sampling point: WB1 Station: MRSS1-1 Surface Water 10/22/20

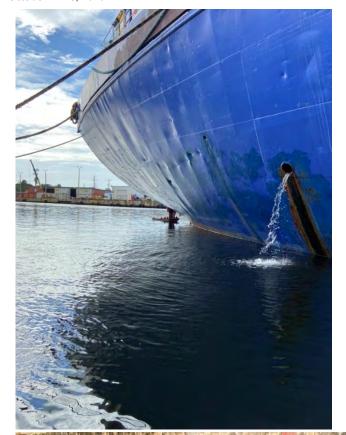


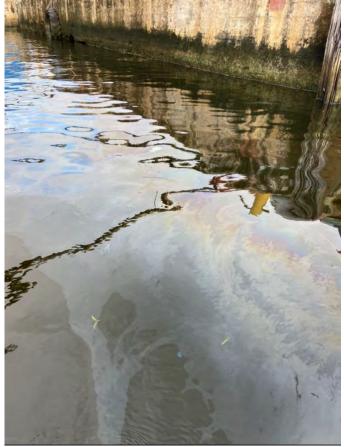


Photograph 5:Sampling point: WB1
Station: MRSS1-1
Surface Water
10/22/20



Photograph 6: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20







Photograph 7: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20

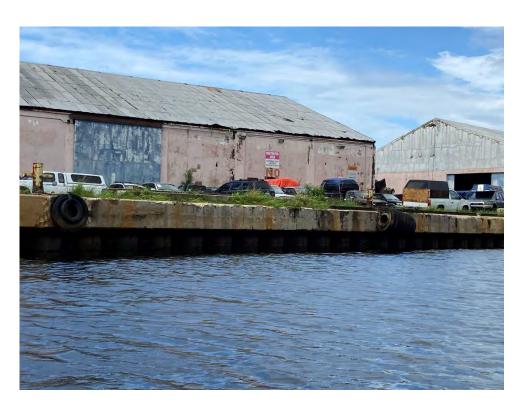
Photograph 8:Sampling point: WB2
Station: MRSS1-3
Surface Water

10/22/20





Photograph 9: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20



Photograph 10: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20

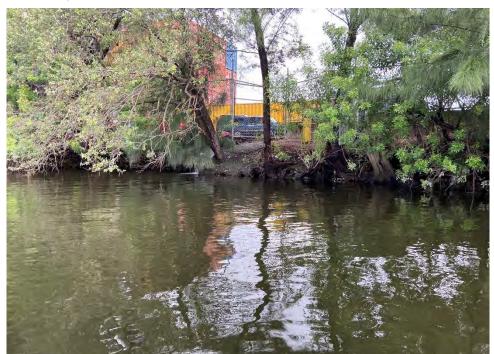




Photograph 11: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20



Photograph 12: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20





Photograph 13:Sampling point: WB2
Station: MRSS1-3
Surface Water
10/22/20



Photograph 14: Sampling point: WB2 Station: MRSS1-3 Surface Water 10/22/20





Photograph 15:Sampling point: WB3
Station: MRSS1-5
Surface Water
10/22/20



Photograph 16: Sampling point: WB3 Station: MRSS1-5 Surface Water 10/22/20





Photograph 17: Sampling point: WB3 Station: MRSS1-5 Surface Water 10/22/20



Photograph 18:Sampling point: WB3
Station: MRSS1-5
Surface Water
10/22/20





Photograph 19:Sampling point: WB3
Station: MRSS1-5
Surface Water
10/22/20



Photograph 20: Sampling point: WB3 Station: MRSS1-5 Surface Water 10/22/20





Photograph 21: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20



Photograph 22: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20





Photograph 23: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20



Photograph 24: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20

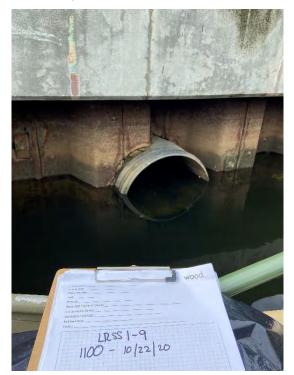




Photograph 25: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20



Photograph 26: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20







Photograph 27: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20

Photograph 28: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20

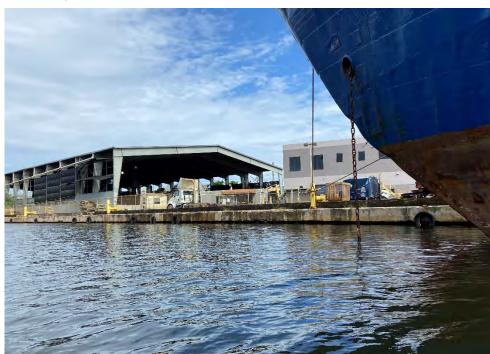






Photograph 29: Sampling point: WB4 Station: MRSS1-9 Surface Water 10/22/20

Photograph 30:Sampling point: WB4
Station: MRSS1-9
Surface Water
10/22/20





Photograph 31: Sampling point: WB5 Station: MRSS1-11 Surface Water 10/22/20



Photograph 32:Sampling point: WB5
Station: MRSS1-11
Surface Water
10/22/20

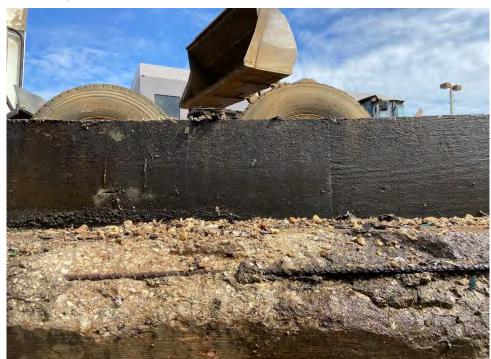




Photograph 33:Sampling point: WB5
Station: MRSS1-11
Surface Water
10/22/20

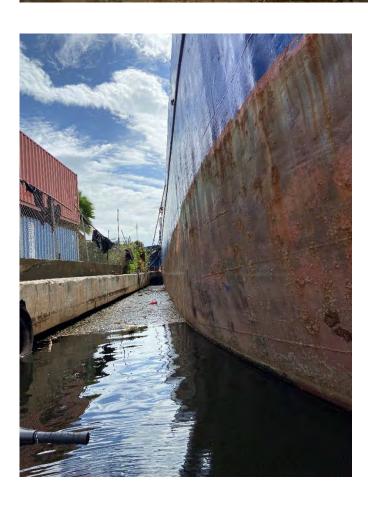


Photograph 34: Sampling point: WB5 Station: MRSS1-11 Surface Water 10/22/20





Photograph 35: Sampling point: WB5 Station: MRSS1-11 Surface Water 10/22/20



Photograph 36:Sampling point: WB5
Station: MRSS1-11
Surface Water
10/22/20





Photograph 37:Sampling point: WB5
Station: MRSS1-11
Surface Water
10/22/20



Photograph 38:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20







Photograph 39: Sampling point: M6 Station: MRSS1-2 Surface Water 10/22/20

Photograph 40:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20





Photograph 41:

Sampling point: M6 Station: MRSS1-2 Surface Water 10/22/20



Photograph 42: Sampling point: M6 Station: MRSS1-2 Surface Water 10/22/20





Photograph 43:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20



Photograph 44:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20





Photograph 45:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20

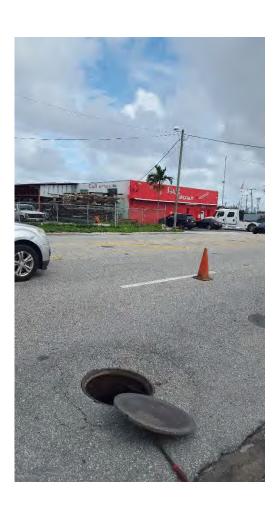


Photograph 46:Sampling point: M5
Station: MRSS1-4
Surface Water
10/22/20





Photograph 47: Sampling point: M5 Station: MRSS1-4 Surface Water 10/22/20



Photograph 48:Sampling point: M5
Station: MRSS1-4
Surface Water
10/22/20







Photograph 49:Sampling point: M6
Station: MRSS1-2
Surface Water

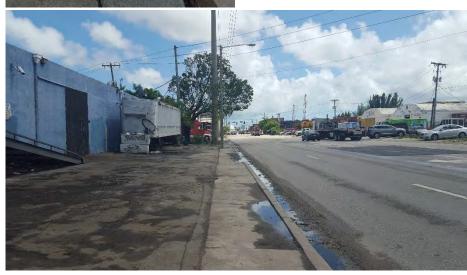
10/22/20

Photograph 50: Sampling point: M6 Station: MRSS1-2 Surface Water 10/22/20





Photograph 51:Sampling point: C15
Station: MRSS1-6
Surface Water
10/22/20



Photograph 52: Sampling point: C15 Station: MRSS1-6 Surface Water 10/22/20





Photograph 53:Sampling point: C15
Station: MRSS1-6
Surface Water
10/22/20



Photograph 54:Sampling point: C15
Station: MRSS1-6
Surface Water
10/22/20





Photograph 55:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20



Photograph 56:Sampling point: M6
Station: MRSS1-2
Surface Water
10/22/20







Photograph 57: Sampling point: C4 Station: MRSS1-7 Surface Water 10/22/20

Photograph 58:Sampling point: C4
Station: MRSS1-7

Surface Water 10/22/20







Photograph 59: Sampling point: C4 Station: MRSS1-7 Surface Water 10/22/20

Photograph 60: Sampling point: C4 Station: MRSS1-7 Surface Water 10/22/20





Photograph 61: Sampling point: C4 Station: MRSS1-7 Surface Water 10/22/20



Photograph 62: Sampling point: M2 Station: MRSS1-10 Surface Water 10/22/20





Photograph 63:Sampling point: M2
Station: MRSS1-10
Surface Water
10/22/20



Photograph 64: Sampling point: M2 Station: MRSS1-10 Surface Water 10/22/20



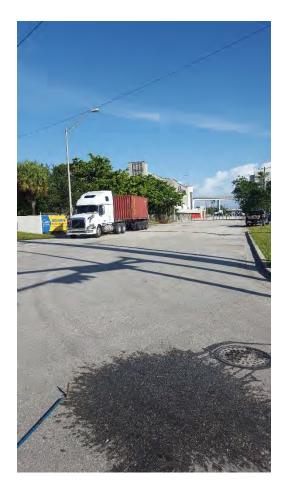




Photograph 65: Sampling point: M2 Station: MRSS1-10 Surface Water 10/22/20

Photograph 66: Sampling point: M2 Station: MRSS1-10 Surface Water 10/22/20







Photograph 67: Sampling point: M10

Station: MRSS1-12 Surface Water 10/23/20

Photograph 68:

Sampling point: M10 Station: MRSS1-12 Surface Water 10/23/20





Photograph 69:

Sampling point: M10 Station: MRSS1-12 Surface Water 10/23/20



Photograph 70: Sampling point: M10 Station: MRSS1-12 Surface Water 10/23/20





Photograph 71: Sampling point: S1 Station: MRSS1-13 Surface Water 10/23/20



Photograph 72: Sampling point: S1 Station: MRSS1-13 Surface Water 10/23/20







Photograph 73: Sampling point: S1 Station: MRSS1-13 Surface Water 10/23/20

Photograph 74: Sampling point: S1 Station: MRSS1-13 Surface Water 10/23/20







Photograph 75: Sampling point: S1 Station: MRSS1-13 Surface Water

10/23/20

Photograph 76:Sampling point: S1
Station: MRSS1-13
Surface Water

10/23/20





Photograph 77: Sampling point: S1 Station: MRSS1-13 Surface Water 10/23/20



Photograph 78: Sampling point: S1 Station: MRSS1-13 Surface Water 10/23/20





Photograph 79: Sampling point: MR07 Station: MRSS1-14 Surface Water 10/23/20



Photograph 80: Sampling point: MR07 Station: MRSS1-14 Surface Water 10/23/20





Photograph 81:Sampling point: MR07
Station: MRSS1-14
Surface Water
10/23/20



Photograph 82: Sampling point: MR07 Station: MRSS1-14 Surface Water 10/23/20





Photograph 83: Sampling point: MR07 Station: MRSS1-14 Surface Water 10/23/20



Photograph 84: Sampling point: MR07 Station: MRSS1-14 Surface Water 10/23/20





Photograph 85:Sampling point: MR08
Station: MRSS1-15
Surface Water
10/23/20



Photograph 86: Sampling point: MR08 Station: MRSS1-15 Surface Water 10/23/20





Photograph 87: Sampling point: MR08 Station: MRSS1-15 Surface Water 10/23/20



Photograph 88:Sampling point: MR08
Station: MRSS1-15
Surface Water
10/23/20





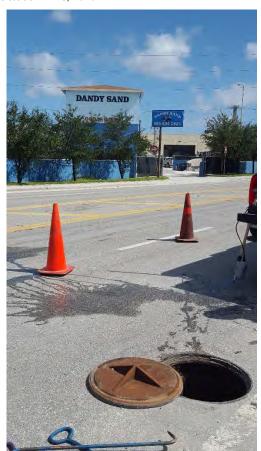


Photograph 89:

Sampling point: C12 Station: MRSS1-8 Surface Water 10/23/20

Photograph 90:Sampling point: C12

Station: MRSS1-8 Surface Water 10/23/20





Photograph 91: Sampling point: C12 Station: MRSS1-8 Surface Water 10/23/20



Photograph 92: Sampling point: C12 Station: MRSS1-8 Surface Water 10/23/20

ATTACHMENT C CALIBRATION LOGS

Project 6783-20-3235

DEP-SOP-001/01 FT 1000 General Field Testing and Measurement

INSTRUM				NSTRUMEI	NT CALI	BRATION R INSTRUM		1
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(yy/mm/dd)	(hr.min)	(A, B, C)	VALUE	RESPONSE	% DEV	(YES, NO)	(INIT, CONT)	INITIALS
20/10/22	8,06	A	10.0	10.0	-	465	INIT	Km
20/10/22	8:08	B	7.0	7.0_	-	yes	INIT	TAN)
20/10/22	8:10	C	4.0	4.0_	-	yes	INIT	MY)
30/10/23	1535	A	10.0	10.0	-	yes	INIT	km
	1537	B	7.0	7.0	-	1 yes	WIT	tom
20/10/2	1538	C	4.0	4.0	-	yes	INIT	\$m
20/10/23	821	A	10.0	10.0	_	yes	INIT	Em
20/10/23		B	7.0	7.0	-	ves	IWIT	km
20/10/23	· =	C	4.0	4.0	(1=5)	yes	INIT	pm
20/10/23	1324	A	10-0	10.6		ves	INIT	ian
	1325	В	7.0	7.0	-	Ves	INIT	RM
20/10/23	1327	C	4.0	4.0	=	yes	INIT	Km
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Revision Date: February 1, 2004

DEP-SOP-001/01 FT 1000 General Field Testing and Measurement

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Stand Stand	ard B	100.1.	Am	bient +	Hir_			
DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
	8:14	A	1.413	1.413	-	yes	INIT	KM
V 1	1816	3	100.1	100-1.	-	ves	INIT	km
1	1540	A	1.413	1.413	-	yes	INIT	km
A	41641	B	100.1.	100.1.		Yes	INIT	Km
20/10/23	824	A	1.413	1.413		ves	INIT	m
20 10 23	828	B	100.1	100.1.	-	Yes	INIT	tom
	3 1329	+	1.413	1.413	-	yes	INIT	bm
1	1331	B	100.1.	100.1.	-	yes	INIT	Km
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Revision Date: February 1, 2004

DEP-SOP-001/01 FT 1000 General Field Testing and Measurement

INSTRUM	Form	n FD 9000 AKE/MOD	-8: FIEL	D INSTRUME	NT CAL			2
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values, and	the date I	he standards	were prep	ndards used for c ared or purchase	alibr a tion, d]	the origin of the	standards, the	standard
	ard A			EXP: 12/2	1 6	1#: 201	180164B	
Stand	ard B_	1.0	ITU 1	EXP: 02/				
Stand	ard C_I	10.0	1	EXP: 05/2	22 U	ot#: 20	32-0111	
DATE (yy/mm/dd)	TIME (hcmin)	STD (A, B, C)	STD	INSTRUMENT RESPONSE	S DEV	CALIBRATED (YES, NO)	TYPE	SAMPLER
	800	A	0.0	0.0	_	yes	(INIT, CONT)	tm
20/10/22	804	В	1.0	1.0	_	ves	IWIT	KM
20/10/22	805	C.	10.0	10.0	_	4-68	INIT	km
- 11 11	1630	A	0.0	0. D	_	ves .	INIT	PW.
	1532	B	1.0	1.0	_	ves	IWIT	km
. 10	1634	C	10.0	10.0	-	ves	INIT	KM
listes					7.72	400	1771	1011
20/10/22	815	A	0.0	0.0	1	ves	INIT	KM
20/10/23	817	В	1.0	1.0	_	ives	INIT	tm
20/10/23	819	C	10.0	10.D	-	ves	INIT	km
20/10/23	1320	A	0.0	0.0		yes	INIT	KM
20/10/23	1321	В	1.0	1.0	-	462	INIT	KM
20/10/23	1322	C	10.0	10.0		Yes	INIT	KM
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					* ***			

ATTACHMENT D

BACTERIA LABORATORY ANALYTICAL RESULTS AND CHAIN OF CUSTODY FORMS

(954)582-4300



October 28, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: MDC Storm Sewer

Pace Project No.: 35586988

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - South Florida

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke

Christin Parelle

christina.raschke@pacelabs.com (954)582-4300

Project Manager

Enclosures



Pace Analytical www.pacelabs.com

Pace Analytical Services, LLC 3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

CERTIFICATIONS

Project: MDC Storm Sewer

Pace Project No.: 35586988

Pace Analytical Services South Florida

3610 Park Central Blvd N, Pompano Beach, FL 33064

Florida Certification #: E86240

REPORT OF LABORATORY ANALYSIS



SAMPLE SUMMARY

Project: MDC Storm Sewer

Pace Project No.: 35586988

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
35586988001	MRSS1-2	Water	10/22/20 13:45	10/22/20 17:30	
35586988002	MRSS1-4	Water	10/22/20 14:30	10/22/20 17:30	
35586988003	MRSS1-6	Water	10/22/20 14:50	10/22/20 17:30	
35586988004	MRSS1-7	Water	10/22/20 15:25	10/22/20 17:30	

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

Project: MDC Storm Sewer

Pace Project No.: 35586988

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35586988001	MRSS1-2	9223B/Quanti-Tray	OT1	2	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586988002	MRSS1-4	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586988003	MRSS1-6	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586988004	MRSS1-7	9223B/Quanti-Tray	OT1	2	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF

PASI-SF = Pace Analytical Services - South Florida



SUMMARY OF DETECTION

Project: MDC Storm Sewer

Pace Project No.: 35586988

Lab Sample ID	Client Sample ID	Desuit	11.2	Dament Line	A a b a -d	0
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35586988001	MRSS1-2					
9223B/Quanti-Tray	Total Coliforms	>48392	MPN/100mL	20.0	10/23/20 13:53	EI
9223B/Quanti-Tray	E.coli	4490	MPN/100mL	20.0	10/23/20 13:53	
Enterolert/Quanti-Tray	Enterococci	17300	MPN/100mL	10.0	10/23/20 18:55	
35586988002	MRSS1-4					
9223B/Quanti-Tray	E.coli	370	MPN/100mL	20.0	10/23/20 13:53	
Enterolert/Quanti-Tray	Enterococci	1260	MPN/100mL	10.0	10/23/20 18:55	
35586988003	MRSS1-6					
9223B/Quanti-Tray	E.coli	240	MPN/100mL	20.0	10/23/20 13:53	
Enterolert/Quanti-Tray	Enterococci	14100	MPN/100mL	10.0	10/23/20 18:55	
35586988004	MRSS1-7					
9223B/Quanti-Tray	Total Coliforms	>48392	MPN/100mL	20.0	10/23/20 13:53	EI
9223B/Quanti-Tray	E.coli	2030	MPN/100mL	20.0	10/23/20 13:53	
Enterolert/Quanti-Tray	Enterococci	5010	MPN/100mL	10.0	10/23/20 18:55	

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS

Project: MDC Storm Sewer

Pace Project No.: 35586988

Date: 10/28/2020 07:31 PM

Sample: MRSS1-2	Lab ID:	35586988001	Collecte	ed: 10/22/20	0 13:45	Received: 10/	22/20 17:30 Ma	trix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	,			, ,	tion Me	ethod: 9223B/Quai	nti-Tray		
	Pace Ana	alytical Services	- South Flo	orida					
Total Coliforms	>48392	MPN/100mL	20.0	20.0	20	10/22/20 18:25	10/23/20 13:53		EI
E.coli	4490	MPN/100mL	20.0	20.0	20	10/22/20 18:25	10/23/20 13:53		
Enterolert/Quanti-Tray	Analytica	l Method: Enter	olert/Quant	i-Tray Prep	aration	Method: Enterole	rt/Quanti-Tray		
	Pace Ana	alytical Services	- South Flo	orida					
Enterococci	17300	MPN/100mL	10.0	10.0	10	10/22/20 18:25	10/23/20 18:55		



35586988

ANALYTICAL RESULTS

Project: MDC Storm Sewer

Pace Project No.:

Enterococci

Date: 10/28/2020 07:31 PM

Sample: MRSS1-4 Lab ID: 35586988002 Collected: 10/22/20 14:30 Received: 10/22/20 17:30 Matrix: Water

1260 MPN/100mL

Results Units PQL MDL DF **Parameters** Prepared Analyzed CAS No. Qual Colilert/Quanti-Tray MPN Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray Pace Analytical Services - South Florida E.coli 370 MPN/100mL 20.0 20.0 20 10/22/20 18:25 10/23/20 13:53 Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray **Enterolert/Quanti-Tray** Pace Analytical Services - South Florida

10.0

10

10/22/20 18:25 10/23/20 18:55

10.0



ANALYTICAL RESULTS

Project: MDC Storm Sewer

Pace Project No.: 35586988

Date: 10/28/2020 07:31 PM

Sample: MRSS1-6	Lab ID:	35586988003	Collecte	d: 10/22/2	0 14:50	Received: 10/	22/20 17:30 Ma	trix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	•	al Method: 9223B alytical Services		,	tion Me	ethod: 9223B/Quar	nti-Tray		
E.coli	240	MPN/100mL	20.0	20.0	20	10/22/20 18:25	10/23/20 13:53		
Enterolert/Quanti-Tray	•	al Method: Enterd alytical Services			aration	Method: Enterole	rt/Quanti-Tray		
Enterococci	14100	MPN/100mL	10.0	10.0	10	10/22/20 18:25	10/23/20 18:55		



ANALYTICAL RESULTS

Project: MDC Storm Sewer

Pace Project No.: 35586988

Date: 10/28/2020 07:31 PM

Sample: MRSS1-7	Lab ID:	35586988004	Collecte	ed: 10/22/20	15:25	Received: 10/	22/20 17:30 Mat	rix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	Analytica	l Method: 9223E	3/Quanti-Tr	ay Prepara	ion Me	ethod: 9223B/Qua	nti-Tray		
	Pace Ana	alytical Services	- South Flo	orida					
Total Coliforms	>48392	MPN/100mL	20.0	20.0	20	10/22/20 18:25	10/23/20 13:53		EI
E.coli	2030	MPN/100mL	20.0	20.0	20	10/22/20 18:25	10/23/20 13:53		
Enterolert/Quanti-Tray	Analytica	l Method: Enterd	olert/Quant	i-Tray Prepa	aration	Method: Enterole	rt/Quanti-Tray		
	Pace Ana	alytical Services	- South Flo	orida					
Enterococci	5010	MPN/100mL	10.0	10.0	10	10/22/20 18:25	10/23/20 18:55		



QUALITY CONTROL DATA

Colilert MPN

Project: MDC Storm Sewer

Pace Project No.: 35586988

QC Batch Method:

Date: 10/28/2020 07:31 PM

QC Batch: 677337 Analysis Method: 9223B/Quanti-Tray

Laboratory: Pace Analytical Services - South Florida

Associated Lab Samples: 35586988001, 35586988002, 35586988003, 35586988004

METHOD BLANK: 3684435 Matrix: Water

9223B/Quanti-Tray

Associated Lab Samples: 35586988001, 35586988002, 35586988003, 35586988004 Blank Reporting

Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
E.coli	MPN/100mL	1.0 U	1.0	1.0	10/23/20 13:53	
Total Coliforms	MPN/100mL	1.0 U	1.0	1.0	10/23/20 13:53	

Analysis Description:

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: MDC Storm Sewer

Pace Project No.: 35586988

Date: 10/28/2020 07:31 PM

QC Batch: 677332 Analysis Method: Enterolert/Quanti-Tray

QC Batch Method: Enterolert/Quanti-Tray Analysis Description: **Enterolert MPN**

Laboratory: Pace Analytical Services - South Florida

35586988001, 35586988002, 35586988003, 35586988004 Associated Lab Samples:

METHOD BLANK: 3684431 Matrix: Water

Associated Lab Samples: 35586988001, 35586988002, 35586988003, 35586988004

> Blank Reporting

MDL Qualifiers Parameter Units Result Limit Analyzed Enterococci MPN/100mL 1.0 U 1.0 1.0 10/23/20 18:55

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

(954)582-4300



QUALIFIERS

Project: MDC Storm Sewer

Pace Project No.: 35586988

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/28/2020 07:31 PM

- U Compound was analyzed for but not detected.
- EI Reported value should be considered a minimum estimate since it is the maximum reportable number for this method based on the sample volume used. The true value is likely greater than the value reported.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MDC Storm Sewer

Pace Project No.: 35586988

Date: 10/28/2020 07:31 PM

Pace Analytical

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35586988001	MRSS1-2	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586988002	MRSS1-4	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586988003	MRSS1-6	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586988004	MRSS1-7	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586988001	MRSS1-2	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586988002	MRSS1-4	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586988003	MRSS1-6	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586988004	MRSS1-7	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336

MO#:35586988

:HAIN-OF-CUSTODY / Analytical Request Document is Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Page		od E&I S NW 158th Street			Company Name	à							
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Project # Proj	Phone: (954)		Project Name: MDC Storm Sewel		Pace Project Ma		raschke@pac	elabs com,			State / Loca	tion	
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Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018
French Lanenston	Document No.:	Issuing Authority:
1	F-FL-C-007 rev. 13	Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #	0#:35586	988	Date and Initials of person: Examining gontents:
Project Manager: PM:	CTR Due Da	ite: 10/29/20	Label:
	ENT: 36-MACTEC	te: 10/29/20	Deliver:
	THOILC		pH:
Thermometer Used: 1.3MZ	Date: \D VU1	0	30 Initials:
State of Origin: K	For V	W projects, all containers ve	erified to ≤6 °C
cooler#1 Temp.*CWX. & 7 (Visual) 0 0	(Correction Factor)	(Actual)	Samples on ice, cooling process has begu
ooler #2 Temp.°C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begu
ooler #3 Temp. C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begu
ooler #4 Temp.°C(Visual)	(Correction Factor) _	(Actual)	Samples on ice, cooling process has begu
ooler #5 Temp.°C(Visual)			Samples on ice, cooling process has begu
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elinquished Signature & Sampler Name COC	Yes □ No □N/	A	
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orrect Containers Used	Yes 🗆 No 🗆 N/		
ontainers Intact	ØYes, □ No □N/		
ample Labels match COC (sample IDs & date/time llection)			
containers needing acid/base preservation have b	peen		Preservation Information:
lecked I Containers needing preservation are found to be i	□Yes □ No ☑N/. in	/ Fieserval	lve:
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eadspace in VOA Vials? (>6mm):	□Yes □ No □N/		
ip Blank Present:	□Yes □ No □√N/.	A	
ient Notification/ Resolution: Person Contacted:		Date/Time:	
omments/ Resolution (use back for additio	onal comments):		

(954)582-4300



October 28, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: MDC Storm Sewer

Pace Project No.: 35586989

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - South Florida

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke

Christin Parelle

christina.raschke@pacelabs.com (954)582-4300

Project Manager

Enclosures



DocuSign Envelope ID: C511CAA5-50CF-40

Pace Analytical

www.pacelabs.com

Pace Analytical Services, LLC 3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

CERTIFICATIONS

Project: MDC Storm Sewer

Pace Project No.: 35586989

Pace Analytical Services South Florida

3610 Park Central Blvd N, Pompano Beach, FL 33064 Florida Certification #: E86240



SAMPLE SUMMARY

Project: MDC Storm Sewer

Pace Project No.: 35586989

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
35586989001	MRSS1-1	Water	10/22/20 09:20	10/22/20 16:30	
35586989002	MRSS1-3	Water	10/22/20 09:50	10/22/20 16:30	
35586989003	MRSS1-5	Water	10/22/20 10:30	10/22/20 16:30	
35586989004	MRSS1-9	Water	10/22/20 11:00	10/22/20 16:30	
35586989005	MRSS1-11	Water	10/22/20 11:30	10/22/20 16:30	



SAMPLE ANALYTE COUNT

Project: MDC Storm Sewer

Pace Project No.: 35586989

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35586989001	MRSS1-1	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586989002	MRSS1-3	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586989003	MRSS1-5	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586989004	MRSS1-9	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF
35586989005	MRSS1-11	9223B/Quanti-Tray	OT1	1	PASI-SF
		Enterolert/Quanti-Tray	OT1	1	PASI-SF

PASI-SF = Pace Analytical Services - South Florida



3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

SUMMARY OF DETECTION

Project: MDC Storm Sewer

Pace Project No.: 35586989

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35586989001	MRSS1-1	-				
9223B/Quanti-Tray Enterolert/Quanti-Tray	E.coli Enterococci	331 181	MPN/100mL MPN/100mL	10.0 10.0	10/23/20 13:53 10/23/20 18:55	
35586989002	MRSS1-3					
9223B/Quanti-Tray Enterolert/Quanti-Tray	E.coli Enterococci	524 350	MPN/100mL MPN/100mL	20.0 10.0	10/23/20 13:53 10/23/20 18:55	
35586989003	MRSS1-5					
9223B/Quanti-Tray Enterolert/Quanti-Tray	E.coli Enterococci	852 512	MPN/100mL MPN/100mL	20.0 10.0	10/23/20 13:53 10/23/20 18:55	
35586989004	MRSS1-9					
9223B/Quanti-Tray Enterolert/Quanti-Tray	E.coli Enterococci	168 332	MPN/100mL MPN/100mL	20.0 10.0	10/23/20 13:53 10/23/20 18:55	
35586989005	MRSS1-11					
9223B/Quanti-Tray Enterolert/Quanti-Tray	E.coli Enterococci	794 1300	MPN/100mL MPN/100mL	20.0 10.0	10/23/20 13:53 10/23/20 18:55	



ANALYTICAL RESULTS

Project:

MDC Storm Sewer

Pace Project No.:

35586989

Sami	ile:	MRSS1-1
Jann	JIE.	MII (2 2 1 - 1

Lab ID: 35586989001

Units

Results

Collected: 10/22/20 09:20

Received: 10/22/20 16:30

Matrix: Water

CAS No.

Qual

Parameters Colilert/Quanti-Tray MPN

MDL Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray

Pace Analytical Services - South Florida

E.coli

331 MPN/100mL

10.0 10

DF

10/22/20 17:14 10/23/20 13:53

Prepared

Analyzed

Enterolert/Quanti-Tray

Date: 10/28/2020 07:23 PM

Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray

Pace Analytical Services - South Florida

181 MPN/100mL Enterococci

10.0

10.0

PQL

10.0

10 10/22/20 17:15 10/23/20 18:55



35586989

ANALYTICAL RESULTS

Project: MDC Storm Sewer

Pace Project No.:

Date: 10/28/2020 07:23 PM

Sample: MRSS1-3 Lab ID: 35586989002 Collected: 10/22/20 09:50 Received: 10/22/20 16:30 Matrix: Water

Results Units PQL MDL DF **Parameters** Prepared Analyzed CAS No. Qual Colilert/Quanti-Tray MPN Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray Pace Analytical Services - South Florida E.coli 524 MPN/100mL 20.0 20.0 20 10/22/20 17:40 10/23/20 13:53 Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray **Enterolert/Quanti-Tray** Pace Analytical Services - South Florida 350 MPN/100mL Enterococci 10.0 10.0 10 10/22/20 17:40 10/23/20 18:55



ANALYTICAL RESULTS

Project:

MDC Storm Sewer

Pace Project No.:

35586989

Sample: MRSS1-5

Lab ID: 35586989003

Collected: 10/22/20 10:30

Received: 10/22/20 16:30

Matrix: Water

Parameters

Results

Units PQL MDL

DF

Prepared

Analyzed

CAS No. Qual

Colilert/Quanti-Tray MPN

Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray

Pace Analytical Services - South Florida

E.coli

Enterococci

852 MPN/100mL

512 MPN/100mL

20.0

20.0 20 10/22/20 17:40 10/23/20 13:53

Enterolert/Quanti-Tray

Date: 10/28/2020 07:23 PM

Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray Pace Analytical Services - South Florida

10.0

10 10/22/20 17:40 10/23/20 18:55



ANALYTICAL RESULTS

Project:

MDC Storm Sewer

Pace Project No.:

35586989

Lab ID: 35586989004

332 MPN/100mL

Units

Results

Collected: 10/22/20 11:00

MDL

Received: 10/22/20 16:30

Matrix: Water

CAS No.

Qual

Colilert/Quanti-Tray MPN

Parameters

Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray

Pace Analytical Services - South Florida

E.coli

Enterococci

168 MPN/100mL 20.0

PQL

20.0

20

DF

10/22/20 17:40 10/23/20 13:53

Prepared

Analyzed

Enterolert/Quanti-Tray

Date: 10/28/2020 07:23 PM

Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray Pace Analytical Services - South Florida

10.0

10.0

10 10/22/20 17:40 10/23/20 18:55



ANALYTICAL RESULTS

Project: MDC Storm Sewer

35586989

Pace Project No.:

Date: 10/28/2020 07:23 PM

Sample: MRSS1-11 Lab ID: 35586989005 Collected: 10/22/20 11:30 Received: 10/22/20 16:30 Matrix: Water

Results Units PQL MDL DF **Parameters** Prepared Analyzed CAS No. Qual Colilert/Quanti-Tray MPN Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray Pace Analytical Services - South Florida E.coli 794 MPN/100mL 20.0 20.0 20 10/22/20 17:40 10/23/20 13:53 Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray **Enterolert/Quanti-Tray** Pace Analytical Services - South Florida 1300 MPN/100mL Enterococci 10.0 10 10/22/20 17:40 10/23/20 18:55



QUALITY CONTROL DATA

Project: MDC Storm Sewer

Pace Project No.: 35586989

Date: 10/28/2020 07:23 PM

QC Batch: 677337 Analysis Method: 9223B/Quanti-Tray

QC Batch Method: 9223B/Quanti-Tray Analysis Description: Colilert MPN Laboratory: Pace Analytical Services - South Florida

35586989001, 35586989002, 35586989003, 35586989004, 35586989005Associated Lab Samples:

METHOD BLANK: 3684435 Matrix: Water

Associated Lab Samples: 35586989001, 35586989002, 35586989003, 35586989004, 35586989005

> Blank Reporting

MDL Qualifiers Parameter Units Result Limit Analyzed E.coli MPN/100mL 1.0 U 1.0 1.0 10/23/20 13:53

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: MDC Storm Sewer

Pace Project No.: 35586989

Date: 10/28/2020 07:23 PM

QC Batch: 677332 Analysis Method: Enterolert/Quanti-Tray

QC Batch Method: Enterolert/Quanti-Tray Analysis Description: **Enterolert MPN**

> Laboratory: Pace Analytical Services - South Florida

35586989001, 35586989002, 35586989003, 35586989004, 35586989005 Associated Lab Samples:

METHOD BLANK: 3684431 Matrix: Water

Associated Lab Samples: 35586989001, 35586989002, 35586989003, 35586989004, 35586989005

> Blank Reporting

MDL Qualifiers Parameter Units Result Limit Analyzed Enterococci MPN/100mL 1.0 U 1.0 1.0 10/23/20 18:55

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Pompano Beach, FL 33064

(954)582-4300



QUALIFIERS

Project: MDC Storm Sewer

Pace Project No.: 35586989

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/28/2020 07:23 PM

U Compound was analyzed for but not detected.



Project: MDC Storm Sewer

Pace Project No.: 35586989

Date: 10/28/2020 07:23 PM

Pace Analytical

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35586989001	MRSS1-1	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586989002	MRSS1-3	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586989003	MRSS1-5	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586989004	MRSS1-9	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586989005	MRSS1-11	9223B/Quanti-Tray	677337	9223B/Quanti-Tray	677339
35586989001	MRSS1-1	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586989002	MRSS1-3	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586989003	MRSS1-5	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586989004	MRSS1-9	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336
35586989005	MRSS1-11	Enterolert/Quanti-Tray	677332	Enterolert/Quanti-Tray	677336

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MATERIA MATERI		
Project Name: MDC Storm Sewer Maker Dry Notes and Sewer Project Name Proceed Project Name Proced Project Name Project Na	Regu	Regulatory Agency
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Call Carroll Act March	102 16	7.
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: K-P C- M C C	O Ui d	no bevi Vbc te

Page Anglistical	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018
Pace Analytical	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR) Date and Initials of person: Project # Examining eqntents:_ Due Date: 10/28/20 **Project Manager:** Label: L CLIENT: 36-MACTEC Deliver: Client: Time: 16:30 Thermometer Used: State of Origin: For WV projects, all containers verified to ≤6 °C (Correction Factor) 9 - t Cooler #1 Temp.*C 9 + (Visual) (Actual) Samples on ice, cooling process has begun Cooler #2 Temp.°C_____ (Visual) _(Correction Factor) ___ (Actual) Samples on ice, cooling process has begun Cooler #3 Temp.°C____ (Visual) (Correction Factor) Samples on ice, cooling process has begun _(Visual) _____(Correction Factor) ___ (Actual) Cooler #4 Temp.°C____ Samples on ice, cooling process has begun Cooler #5 Temp. °C _____(Visual) _____(Correction Factor) _____(Actual) Samples on ice, cooling process has begun Cooler #6 Temp. C_____(Visual) _____(Correction Factor) _____(Actual) Samples on ice, cooling process has begun ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial Ø Pace Other_ Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other ☐ Sender ☐ Third Party ☐ Credit Card □ Unknown □ Recipient Billing: Tracking # DNO Custody Seal on Cooler/Box Present: Seals intact: Yes No Ice: Wet Blue Dry None None Packing Material: Bubble Wrap Bubble Bags Other Shorted Time: 1630 Shorted Date: 10122120 Samples shorted to lab (If Yes, complete) Comments: Chain of Custody Present YZYes □ No □N/A Yes □ No □N/A Chain of Custody Filled Out Relinquished Signature & Sampler Name COC ØYes □ No □N/A ÉPYes □ No □N/A Samples Arrived within Hold Time □Yes 📮 No □N/A Rush TAT requested on COC □ No □N/A ☑Yes Sufficient Volume ☐Yes ☐ No ☐N/A Correct Containers Used Containers Intact Sample Labels match COC (sample IDs & date/time of ŹYes □ No □N/A collection) All containers needing acid/base preservation have been Preservation Information: □ No □N/A □Yes checked. Preservative: All Containers needing preservation are found to be in Lot #/Trace #: □ No □N/A compliance with EPA recommendation: □Yes Date: Exceptions: VOA, Coliform, TOC, O&G, Carbamates Initials: □Yes □ No □N/A Headspace in VOA Vials? (>6mm): Trip Blank Present: □Yes □ No □N/A Client Notification/ Resolution: Person Contacted: Date/Time: Comments/ Resolution (use back for additional comments): Date:_ Project Manager Review:

(954)582-4300



October 30, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: Miami River

Pace Project No.: 35587314

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - South Florida

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke christina.raschke@pacelabs.com

Christin Parelie

(954)582-4300 Project Manager

Enclosures



Pace Analytical www.pacelabs.com

Pace Analytical Services, LLC 3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

CERTIFICATIONS

Project: Miami River
Pace Project No.: 35587314

Pace Analytical Services South Florida

3610 Park Central Blvd N, Pompano Beach, FL 33064

Florida Certification #: E86240



SAMPLE SUMMARY

Project: Miami River Pace Project No.: 35587314

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
35587314001	MRSS1-8	Water	10/23/20 13:15	10/23/20 18:10	



SAMPLE ANALYTE COUNT

Project: Miami River Pace Project No.: 35587314

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35587314001	MRSS1-8	9223B/Quanti-Tray	ANM	1	PASI-SF
		Enterolert/Quanti-Tray	ANM	1	PASI-SF

PASI-SF = Pace Analytical Services - South Florida



SUMMARY OF DETECTION

Project: Miami River
Pace Project No.: 35587314

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35587314001	MRSS1-8					
9223B/Quanti-Tray Enterolert/Quanti-Tray	E.coli Enterococci	292 63.0	MPN/100mL MPN/100mL	10.0 10.0	10/24/20 14:35 10/24/20 18:42	



ANALYTICAL RESULTS

Project: Miami River 35587314 Pace Project No.:

Date: 10/30/2020 02:54 PM

Pace Project No.: 35567514	1-1-10-0	5507044004	0-111-	1 40/00/0	0.40.45	Desciond 400	00/00 40 40 - N4-	(a) - 10/- (a)	
Sample: MRSS1-8	Lab ID: 3	35587314001	Collecte	d: 10/23/2	0 13:15	Received: 10/	23/20 18:10 Ma	trix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	,	Method: 9223B tical Services		, ,	tion Me	thod: 9223B/Quar	nti-Tray		
E.coli	292 M	PN/100mL	10.0	10.0	10	10/23/20 18:32	10/24/20 14:35		
Enterolert/Quanti-Tray	•	Method: Enterd		, ,	aration	Method: Enterole	rt/Quanti-Tray		
Enterococci	63.0 M	PN/100mL	10.0	10.0	10	10/23/20 18:29	10/24/20 18:42		



QUALITY CONTROL DATA

Project:

Miami River

Pace Project No.:

35587314

QC Batch:

QC Batch Method:

677375

9223B/Quanti-Tray

Analysis Method:

9223B/Quanti-Tray

Analysis Description:

Colilert MPN

Laboratory:

Pace Analytical Services - South Florida

Associated Lab Samples:

METHOD BLANK: 3684551

35587314001

Matrix: Water

Associated Lab Samples:

Date: 10/30/2020 02:54 PM

mples: 35587314001

Blank Reporting

Parameter

Units

Result

Limit

1.0

MDL Analyzed

Qualifiers

E.coli

MPN/100mL

1.0 U

1.0 10/24/20 14:35

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Qualifiers



QUALITY CONTROL DATA

Project: Miami River

Pace Project No.: 35587314

QC Batch: 677665 QC Batch Method: Enterolert/Quanti-Tray Analysis Method: Analysis Description: Enterolert/Quanti-Tray

Enterolert MPN

Laboratory:

Pace Analytical Services - South Florida

35587314001 Associated Lab Samples:

METHOD BLANK: 3686483

Date: 10/30/2020 02:54 PM

Matrix: Water

Associated Lab Samples: 35587314001

> Blank Reporting Limit MDL Parameter Units Result Analyzed

Enterococci MPN/100mL 1.0 U 1.0 1.0 10/24/20 18:42

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

QUALIFIERS

Project: Miami River Pace Project No.: 35587314

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/30/2020 02:54 PM

U Compound was analyzed for but not detected.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Miami River Pace Project No.: 35587314

Date: 10/30/2020 02:54 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35587314001	MRSS1-8	9223B/Quanti-Tray	677375	9223B/Quanti-Tray	677376
35587314001	MRSS1-8	Enterolert/Quanti-Tray	677665	Enterolert/Quanti-Tray	677667

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT, All relevant fields must be completed accurately.

ugacı Samples (N/A) SAMPLE CONDITIONS Cooler ö paleas Regulatory Agency (N/Y) State / Location Received on Residual Chlorine (Y/N) Page: TEMP in C 1505 TIME 00 Requested Analysis Filtered (Y/N) Exp(c.) DATE DATE Signed: christina raschke@pacelabs com ACCEPTED BY I AFFILIATION Enterococci E' COII MbN Analyses Test N/A Methanol Na2S2O3 Preservatives HOBN 5651 ace Project Manager. HCI Invoice Information: HNO3 Company Name: Pace Profile #: 1505 H2SO4 Pace Quote: Address: Лиргезегиед SAMPLER NAME AND SIGNATURE # OF CONTAINERS PRINT Name of SAMPLER: SIGNATURE of SAMPLER: 82(c) SAMPLE TEMP AT COLLECTION 10/23 DATE TIME END DATE COLLECTED 100m RELINQUISHED BY I AFFILIATION 19/23 (315 TIME START Miami River DATE Hav. nequired Project Information: Report To: Ash Aitharaiu SAMPLE TYPE (G=GRAB C=COMP) AOPOA Purchase Order #: MATRIX CODE (see valid codes to left) Project Name: Copy To: CODE DW WT WY SL OL OL AR AR Drinking Water
Water
Waste Water
Product
Sou/Solid
Oil
Wipe
Aur
Cther
Tissue 5587314 ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique G SAMPLE ID Email: ashok aitharaju@woodplc.com 5845 NW 158th Street MRSS (954)695-6796 Required Client Information; Wood E&I Miami Lakes, FL 33014 Requested Due Date Company: Address: Phone: Page 11 of 12 10 = 12 4 40 9 -00 0 3 2 # MHTI

Client Notification/ Resolution: Person Contacted:

Project Manager Review:

Comments/ Resolution (use back for additional comments):

Pace Analytical	Document Name: Sample Condition Upon Receipt Form Document No.: F-FL-C-007 rev. 13	Document Revised, May 30, 2018 Issuing Authority: Pace Florida Quality Office
	Sample Condition Upon Particular (SCI	
Project # Project Manager: Client:	WO#: 35587314 PM: CTR Due Date: 10/30/20 CLIENT: 36-MACTEC	Date and Initials of person: Examining contents: Label: Deliver: pH:
Thermometer Used: <u>1-3</u>	Date: 10/23/20 Time: 1810	Initials: <u>U</u>
State of Origin:	For WV projects, all containers verified	to ≤6 °C
ooler #1 Temp.°C 6 3 (Visual)	(Actual)	Samples on ice, cooling process has begur
ooler #2 Temp.°C(Visual)	(Correction Factor)(Actual)	Samples on ice, cooling process has begun
ooler #3 Temp.°C(Visual)	(Correction Factor)(Actual)	Samples on ice, cooling process has begun
ooler #4 Temp.°C(Visual)	(Correction Factor)(Actual)	Samples on ice, cooling process has begue
ooler #5 Temp.°C(Visual)	(Correction Factor)(Actual)	Samples on ice, cooling process has begun
ooler #6 Temp.°C(Visual)	(Correction Factor)(Actual)	Samples on ice, cooling process has begun
ourier: Fed Ex UF	S USPS Client Commercial Pace	Other
hipping Method: First Overnigh	t 🗆 Priority Overnight 🗖 Standard Overnight 🗀 Ground	☐ International Priority
☐ Otherilling: ☐ Recipient racking #	☐ Sender ☐ Third Party ☐ Credit Card ☐	Unknown
custody Seal on Cooler/Box Present:	Yes ⊠No Seals intact: ☐ Yes ☐ No	Ice: (Wet)Blue Dry None
acking Material: □Bubble Wrap amples shorted to lab (If Yes, comp	☐ Bubble Bags ☐ None ☐ Other	Time: 1810 Qty: 2
	Comments:	

Chain of Custody Present ☑Yes □ No □N/A ☐Yes ☐ No ☐N/A Chain of Custody Filled Out □Yes □ No □N/A Relinquished Signature & Sampler Name COC ✓Yes □ No □N/A Samples Arrived within Hold Time □Yes ☐ No □N/A Rush TAT requested on COC ZYes D No DN/A Sufficient Volume Yes INO IN/A Correct Containers Used Yes ONO ON/A Containers Intact Sample Labels match COC (sample IDs & date/time of ∠Yes □ No □N/A collection) All containers needing acid/base preservation have been Preservation Information: □Yes □ No □N/A checked. Preservative: All Containers needing preservation are found to be in Lot #/Trace # compliance with EPA recommendation: □Yes □ No □M/A Date: Time: Initials: Exceptions: VOA, Coliform, TOC, O&G, Carbamates □Yes □ No ☑N/A Headspace in VOA Vials? (>6mm): □Yes □ No □N/A Trip Blank Present:

Date/Time:

Date:

(954)582-4300



October 29, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: Miami River

Pace Project No.: 35587322

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - South Florida

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke christina.raschke@pacelabs.com (954)582-4300

Christin Parelle

Project Manager

Enclosures



Pace Analytical www.pacelabs.com

Pace Analytical Services, LLC 3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

CERTIFICATIONS

Project: Miami River Pace Project No.: 35587322

Pace Analytical Services South Florida

3610 Park Central Blvd N, Pompano Beach, FL 33064

Florida Certification #: E86240



SAMPLE SUMMARY

Project: Miami River Pace Project No.: 35587322

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35587322001	MRSS1-10	Water	10/23/20 09:00	10/23/20 16:00
35587322002	MRSS1-12	Water	10/23/20 09:40	10/23/20 16:00
35587322003	MRSS1-13	Water	10/23/20 10:00	10/23/20 16:00
35587322004	MRSS1-14	Water	10/23/20 11:00	10/23/20 16:00
35587322005	MRSS1-15	Water	10/23/20 11:20	10/23/20 16:00



SAMPLE ANALYTE COUNT

Project: Miami River Pace Project No.: 35587322

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35587322001	MRSS1-10	9223B/Quanti-Tray	ANM	1	PASI-SF
		Enterolert/Quanti-Tray	ANM	1	PASI-SF
35587322002	MRSS1-12	9223B/Quanti-Tray	ANM	1	PASI-SF
		Enterolert/Quanti-Tray	ANM	1	PASI-SF
35587322003	MRSS1-13	9223B/Quanti-Tray	ANM	1	PASI-SF
		Enterolert/Quanti-Tray	ANM	1	PASI-SF
35587322004	MRSS1-14	9223B/Quanti-Tray	ANM	1	PASI-SF
		Enterolert/Quanti-Tray	ANM	1	PASI-SF
35587322005	MRSS1-15	9223B/Quanti-Tray	ANM	1	PASI-SF
		Enterolert/Quanti-Tray	ANM	1	PASI-SF

PASI-SF = Pace Analytical Services - South Florida



SUMMARY OF DETECTION

Project: Miami River Pace Project No.: 35587322

Pace Analytical
www.pacelabs.com

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35587322001	MRSS1-10		<u> </u>			
9223B/Quanti-Tray	E.coli	100	MPN/100mL	100	10/24/20 14:35	
Enterolert/Quanti-Tray	Enterococci	158	MPN/100mL	10.0	10/24/20 18:42	
35587322002	MRSS1-12					
9223B/Quanti-Tray	E.coli	200	MPN/100mL	100	10/24/20 14:35	
Enterolert/Quanti-Tray	Enterococci	350	MPN/100mL	10.0	10/24/20 18:42	
35587322003	MRSS1-13					
9223B/Quanti-Tray	E.coli	310	MPN/100mL	100	10/24/20 14:35	
Enterolert/Quanti-Tray	Enterococci	1050	MPN/100mL	10.0	10/24/20 18:42	
35587322004	MRSS1-14					
9223B/Quanti-Tray	E.coli	410	MPN/100mL	100	10/24/20 14:35	
Enterolert/Quanti-Tray	Enterococci	231	MPN/100mL	10.0	10/24/20 18:42	
35587322005	MRSS1-15					
9223B/Quanti-Tray	E.coli	300	MPN/100mL	100	10/24/20 14:35	
Enterolert/Quanti-Tray	Enterococci	305	MPN/100mL	10.0	10/24/20 18:42	

Project: Miami River
Pace Project No.: 35587322

Enterococci

Date: 10/29/2020 05:56 PM

Pace Analytical

Sample: MRSS1-10 Lab ID: 35587322001 Collected: 10/23/20 09:00 Received: 10/23/20 16:00 Matrix: Water

158 MPN/100mL

Results Units PQL MDL DF **Parameters** Prepared Analyzed CAS No. Qual Colilert/Quanti-Tray MPN Analytical Method: 9223B/Quanti-Tray Preparation Method: 9223B/Quanti-Tray Pace Analytical Services - South Florida E.coli 100 MPN/100mL 100 100 100 10/23/20 16:42 10/24/20 14:35 Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray **Enterolert/Quanti-Tray** Pace Analytical Services - South Florida

10.0

10

10/23/20 16:51 10/24/20 18:42

10.0

ANALYTICAL RESULTS



ANALYTICAL RESULTS

Project: Miami River
Pace Project No.: 35587322

Date: 10/29/2020 05:56 PM

Sample: MRSS1-12	Lab ID: 355	5 87322002 Col	lected: 10/23/2	20 09:40	Received: 10/	23/20 16:00 Ma	trix: Water			
Parameters	Results	Units PQL	. MDL	DF	Prepared	Analyzed	CAS No.	Qual		
Colilert/Quanti-Tray MPN	,	hod: 9223B/Quar al Services - Sout	, ,	ation Met	hod: 9223B/Quar	nti-Tray				
E.coli	200 MPN	N/100mL	00 100	100	10/23/20 16:42	10/24/20 14:35				
Enterolert/Quanti-Tray	•	Analytical Method: Enterolert/Quanti-Tray Preparation Method: Enterolert/Quanti-Tray Pace Analytical Services - South Florida								
Enterococci	350 MP1	N/100mL 1	0.0 10.0	10	10/23/20 16:51	10/24/20 18:42				



ANALYTICAL RESULTS

Project: Miami River
Pace Project No.: 35587322

Date: 10/29/2020 05:56 PM

race Project No.: 33367322									
Sample: MRSS1-13	Lab ID: 3	35587322003	Collected	: 10/23/20	0 10:00	Received: 10/	23/20 16:00 Ma	trix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	•	Method: 9223B tical Services		'	tion Met	hod: 9223B/Quar	nti-Tray		
E.coli	310 M	IPN/100mL	100	100	100	10/23/20 16:42	10/24/20 14:35		
Enterolert/Quanti-Tray	•	Method: Entero		, ,	aration I	Method: Enterole	rt/Quanti-Tray		
Enterococci	1050 M	IPN/100mL	10.0	10.0	10	10/23/20 16:51	10/24/20 18:42		

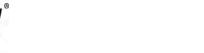


ANALYTICAL RESULTS

Project: Miami River Pace Project No.: 35587322

Date: 10/29/2020 05:56 PM

Sample: MRSS1-14	Lab ID: 35587322	004 Collecte	d: 10/23/2	20 11:00	Received: 10	/23/20 16:00 Ma	trix: Water	
Parameters	Results Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	Analytical Method: 9. Pace Analytical Serv		, ,	ation Me	thod: 9223B/Qua	nti-Tray		
E.coli	410 MPN/100m	L 100	100	100	10/23/20 16:42	10/24/20 14:35		
Enterolert/Quanti-Tray	Analytical Method: E Pace Analytical Serv		, ,	paration	Method: Enterole	rt/Quanti-Tray		
Enterococci	231 MPN/100m	L 10.0	10.0	10	10/23/20 16:51	10/24/20 18:42		



ANALYTICAL RESULTS

Project: Miami River
Pace Project No.: 35587322

Date: 10/29/2020 05:56 PM

Pace Analytical

Sample: MRSS1-15	Lab ID: 3	Lab ID: 35587322005		Collected: 10/23/20 11:20			23/20 16:00 Ma	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Colilert/Quanti-Tray MPN	•	Method: 9223B tical Services			tion Met	thod: 9223B/Quar	nti-Tray		
E.coli	300 M	IPN/100mL	100	100	100	10/23/20 16:42	10/24/20 14:35		
Enterolert/Quanti-Tray	•	Method: Entero		, ,	aration	Method: Enterole	rt/Quanti-Tray		
Enterococci	305 M	IPN/100mL	10.0	10.0	10	10/23/20 16:51	10/24/20 18:42		



QUALITY CONTROL DATA

Project: Miami River Pace Project No.: 35587322

Date: 10/29/2020 05:56 PM

QC Batch: 677369 Analysis Method: 9223B/Quanti-Tray QC Batch Method: 9223B/Quanti-Tray Analysis Description: Colilert MPN

Laboratory: Pace Analytical Services - South Florida

Associated Lab Samples: $35587322001,\, 35587322002,\, 35587322003,\, 35587322004,\, 35587322005$

METHOD BLANK: Matrix: Water

Associated Lab Samples: $35587322001,\, 35587322002,\, 35587322003,\, 35587322004,\, 35587322005$

> Blank Reporting

MDL Qualifiers Parameter Units Result Limit Analyzed E.coli MPN/100mL 1.0 U 1.0 1.0 10/24/20 14:35

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: Miami River Pace Project No.: 35587322

METHOD BLANK: 3686464

Date: 10/29/2020 05:56 PM

QC Batch: 677657 Analysis Method: Enterolert/Quanti-Tray QC Batch Method: Enterolert/Quanti-Tray Analysis Description: **Enterolert MPN**

Laboratory: Pace Analytical Services - South Florida

 $35587322001,\, 35587322002,\, 35587322003,\, 35587322004,\, 35587322005$ Associated Lab Samples:

Associated Lab Samples: $35587322001,\, 35587322002,\, 35587322003,\, 35587322004,\, 35587322005$

> Blank Reporting

MDL Qualifiers Parameter Units Result Limit Analyzed Enterococci MPN/100mL 1.0 U 1.0 1.0 10/24/20 18:42

Matrix: Water

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300

QUALIFIERS

Project: Miami River Pace Project No.: 35587322

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/29/2020 05:56 PM

U Compound was analyzed for but not detected.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Miami River Pace Project No.: 35587322

Date: 10/29/2020 05:56 PM

Pace Analytical

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35587322001	MRSS1-10	9223B/Quanti-Tray	677369	9223B/Quanti-Tray	677370
35587322002	MRSS1-12	9223B/Quanti-Tray	677369	9223B/Quanti-Tray	677370
35587322003	MRSS1-13	9223B/Quanti-Tray	677369	9223B/Quanti-Tray	677370
35587322004	MRSS1-14	9223B/Quanti-Tray	677369	9223B/Quanti-Tray	677370
35587322005	MRSS1-15	9223B/Quanti-Tray	677369	9223B/Quanti-Tray	677370
35587322001	MRSS1-10	Enterolert/Quanti-Tray	677657	Enterolert/Quanti-Tray	677658
35587322002	MRSS1-12	Enterolert/Quanti-Tray	677657	Enterolert/Quanti-Tray	677658
35587322003	MRSS1-13	Enterolert/Quanti-Tray	677657	Enterolert/Quanti-Tray	677658
35587322004	MRSS1-14	Enterolert/Quanti-Tray	677657	Enterolert/Quanti-Tray	677658
35587322005	MRSS1-15	Enterolert/Quanti-Tray	677657	Enterolert/Quanti-Tray	677658

ace Analytical

HAIN-OF-CUSTODY / Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

ntact (Y/N) gambles (N/X) SAMPLE CONDITIONS Cooler ŏ Sealed Custody Regulatory Agency (N/Y) State / Location Received on Residual Chlorine (Y/N) Page: TEMP in C 120 TIME 200 DATE DATE Signed: christina raschke@pacelabs com ACCEPTED BY / AFFILIATION Enterococci E. Coli MPN Analyses Test N/A Other Methanol Na2S2O3 Preservatives HOaN 5651 Pace Project Manager. нсі Invoice Information: EONH Company Name: Pace Profile # H2SO4 Pace Quote: Address TIME Onpreserved # ОЕ СОИТАІИЕВЅ SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: 13500 SAMPLE TEMP AT COLLECTION DATE TIME END DATE COLLECTED RELINQUISHED BY / AFFILIATION 120 TIME OPOLETO O START Miami River DATE Required Project Information: Ash Aitharaiu SAMPLE TYPE (G=GRAB C=COMP) Purchase Order #: MATRIX CODE (see valid codes to left) Project Name: Report To: Copy To: Project #: CODE DW WY WW SL OL WP ARR TS MATRIX
Dimking Water
Waste Water
Waste Water
Product
Product
Oil
Wipe
Air
Other
Tissue 35587322 1 ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique SAMPLE ID Email: ashok aitharaju@woodplc com 5845 NW 158th Street MRSS MRSS MRSS MICS Required Client Information: (954)695-6796 Wood E&I Miami Lakes, FL 33014 Requested Due Date: Page 15 of 16 11 12 10 # M3TI es 9



Document Name:

Document Revised:

Pace Analytical -	Sample Condition Upon Receipt Form	May 30, 2018
KACHORY FARMANANA	F-FL-C-007 rev. 13	Pace Florida Quality Office
	Sample Condition Upon Receipt Fo	orm (SCUR)
Project # Project Manager: Client:	WO#: 35587322	Date and Initials of person: Examining contents: Label: Deliver:
Thermometer Used: 134	Date: 10/23/20 Time	1/
State of Origin:	For WV projects, all contain	ners verified to ≤6 °C
Cooler #1 Temp. C (Visua	(Actual)	al) Samples on ice, cooling process has begu
Cooler #2 Temp. C(Visua	(Actual)(Correction Factor)(Actual	al) Samples on ice, cooling process has begui
Cooler #3 Temp. °C(Visua	II)(Correction Factor)(Actual	Samples on ice, cooling process has begui
Cooler #4 Temp. C(Visua	I)(Correction Factor)(Actual	al) Samples on ice, cooling process has begui
Cooler #5 Temp.*C(Visua	I)(Correction Factor)(Actual	Samples on ice, cooling process has begui
Cooler #6 Temp.°C(Visua	II)(Correction Factor)(Actual	al) Samples on ice, cooling process has begui
Shipping Method: ☐ First Overnig	ht ☐ Priority Overnight ☐ Standard Overnight ☐	Ground
Document No. Project # Project # Project Manager: Client: State of Origin: Fortwood of Time: For		
-		Shorted Time: Oty:
Project # Project # Project # Project # Project Manager: Client: Date: 10/29/20 Date: 10/29/20 Date: 10/29/20 Examining contents: Label: Deliver: pH: Date:		
Rush TAT requested on COC	DVac MNO DNIA	

			Comments:
Chain of Custody Present	≱Yes	□ No □N/A	
Chain of Custody Filled Out	⊊ Yes	□ No □N/A	
Relinquished Signature & Sampler Name COC	¥aYes	□ No □N/A	
Samples Arrived within Hold Time	Yes	□ No □N/A	
Rush TAT requested on COC	□Yes	Ø No □N/A	
Sufficient Volume	□Yes	□ No □N/A	
Correct Containers Used	□Yes	□ No □N/A	
Containers Intact	□Yes	□ No □N/A	
Sample Labels match COC (sample IDs & date/time of collection)	□Yes	□ No □N/A	
All containers needing acid/base preservation have been checked All Containers needing preservation are found to be in	□Yes	□ No □N/A	Preservation Information: Preservative:
compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Ca	□Yes rbamates	□ No □N/A	Lot #/Trace # Time: Date: Time: Initials:
Headspace in VOA Vials? (>6mm):	□Yes	□ No □N/A	
Trip Blank Present:	□Yes	□ No □N/A)

Trip Blank Present:	□Yes	□ No □N/A		
Client Notification/ Resolution: Person Contacted:			Date/Time:	
Comments/ Resolution (use back for additional com	ments)			

Project Manager Review: Date:

ATTACHMENT E

NUTRIENT LABORATORY ANALYTICAL RESULTS AND CHAIN OF CUSTODY FORMS

(954)582-4300



October 27, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: MDC Storm Sewer

Pace Project No.: 35586872

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke christina raschke@pa

Christin Parelle

christina.raschke@pacelabs.com (954)582-4300

Project Manager

Enclosures





CERTIFICATIONS

Project: MDC Storm Sewer

Pace Project No.: 35586872

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

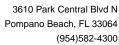


SAMPLE SUMMARY

Project: MDC Storm Sewer

Pace Project No.: 35586872

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35586872001	MRSS1-1	Water	10/22/20 09:20	10/22/20 16:30
35586872002	MRSS1-3	Water	10/22/20 09:50	10/22/20 16:30
35586872003	MRSS1-5	Water	10/22/20 10:30	10/22/20 16:30
35586872004	MRSS1-9	Water	10/22/20 11:00	10/22/20 16:30
35586872005	MRSS1-11	Water	10/22/20 11:30	10/22/20 16:30





SAMPLE ANALYTE COUNT

Project: MDC Storm Sewer

Pace Project No.: 35586872

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35586872001	MRSS1-1	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586872002	MRSS1-3	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586872003	MRSS1-5	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586872004	MRSS1-9	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586872005	MRSS1-11	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach



Pompano Beach, FL 33064 (954)582-4300

SUMMARY OF DETECTION

Project: MDC Storm Sewer

Pace Project No.: 35586872

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35586872001	MRSS1-1					
EPA 350.1	Nitrogen, Ammonia	0.48	mg/L	0.050	10/23/20 12:29	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.92	mg/L	0.50	10/27/20 11:06	
EPA 353.2	Nitrogen, NO2 plus NO3	0.22	mg/L	0.050	10/24/20 10:25	
EPA 365.1	Orthophosphate as P	0.0043	mg/L	0.0040	10/23/20 07:24	
5586872002	MRSS1-3					
EPA 350.1	Nitrogen, Ammonia	0.65	mg/L	0.050	10/23/20 12:30	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.99	mg/L	0.50	10/27/20 11:10	
EPA 353.2	Nitrogen, NO2 plus NO3	0.17	mg/L	0.050	10/24/20 10:32	
EPA 365.1	Orthophosphate as P	0.0057	mg/L	0.0040	10/23/20 07:28	
5586872003	MRSS1-5					
EPA 350.1	Nitrogen, Ammonia	0.67	mg/L	0.050	10/23/20 12:32	
EPA 351.2	Nitrogen, Kjeldahl, Total	1.0	mg/L	0.50	10/27/20 11:11	
EPA 353.2	Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	10/24/20 10:33	
5586872004	MRSS1-9					
EPA 350.1	Nitrogen, Ammonia	0.32	mg/L	0.050	10/23/20 12:34	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.60	mg/L	0.50	10/27/20 11:12	
EPA 353.2	Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	10/24/20 10:34	
EPA 365.1	Orthophosphate as P	0.019	mg/L	0.0040	10/23/20 07:37	
5586872005	MRSS1-11					
EPA 350.1	Nitrogen, Ammonia	0.33	mg/L	0.050	10/23/20 12:35	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.54	mg/L	0.50	10/27/20 11:15	
EPA 353.2	Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	10/24/20 10:35	
EPA 365.1	Orthophosphate as P	0.031	mg/L	0.0040	10/23/20 07:39	



Project: MDC Storm Sewer

Pace Project No.: 35586872

Date: 10/27/2020 06:15 PM

Sample: MRSS1-1	Lab ID:	35586872001	Collecte	d: 10/22/20	0 09:20	Received: 10/	/22/20 16:30 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.48	mg/L	0.050	0.035	1		10/23/20 12:29	7664-41-7		
351.2 Total Kjeldahl Nitrogen	•	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Ormond Beach								
Nitrogen, Kjeldahl, Total	0.92	mg/L	0.50	0.086	1	10/26/20 11:31	10/27/20 11:06	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, NO2 plus NO3	0.22	mg/L	0.050	0.033	1		10/24/20 10:25			
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach						
Orthophosphate as P	0.0043	mg/L	0.0040	0.0038	1		10/23/20 07:24			
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		od: EP	A 365.4				
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/26/20 11:31	10/27/20 11:06	7723-14-0		



Project: MDC Storm Sewer

Pace Project No.: 35586872

Sample: MRSS1-3	Lab ID:	35586872002	Collecte	d: 10/22/20	0 09:50	Received: 10/	/22/20 16:30 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.65	mg/L	0.050	0.035	1		10/23/20 12:30	7664-41-7		
351.2 Total Kjeldahl Nitrogen	•	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Ormond Beach								
Nitrogen, Kjeldahl, Total	0.99	mg/L	0.50	0.086	1	10/26/20 11:31	10/27/20 11:10	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, NO2 plus NO3	0.17	mg/L	0.050	0.033	1		10/24/20 10:32			
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach						
Orthophosphate as P	0.0057	mg/L	0.0040	0.0038	1		10/23/20 07:28			
365.4 Phosphorus, Total	•	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Ormond Beach								
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/26/20 11:31	10/27/20 11:10	7723-14-0		





Project: MDC Storm Sewer

Pace Project No.: 35586872

Sample: MRSS1-5	Lab ID:	35586872003	Collecte	d: 10/22/2	0 10:30	Received: 10/	22/20 16:30 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.67	mg/L	0.050	0.035	1		10/23/20 12:32	7664-41-7		
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services	•		nod: EP	A 351.2				
Nitrogen, Kjeldahl, Total	1.0	mg/L	0.50	0.086	1	10/26/20 11:31	10/27/20 11:11	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	0.033	1		10/24/20 10:33			
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach						
Orthophosphate as P	0.0038 U	mg/L	0.0040	0.0038	1		10/23/20 07:32			
365.4 Phosphorus, Total		Method: EPA 3 ytical Services			nod: EP	A 365.4				
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/26/20 11:31	10/27/20 11:11	7723-14-0		



Project: MDC Storm Sewer

Pace Project No.: 35586872

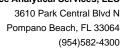
Sample: MRSS1-9	Lab ID:	35586872004	Collecte	d: 10/22/2	0 11:00	Received: 10/	22/20 16:30 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.32	mg/L	0.050	0.035	1		10/23/20 12:34	7664-41-7		
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services	•		nod: EP	A 351.2				
Nitrogen, Kjeldahl, Total	0.60	mg/L	0.50	0.086	1	10/26/20 11:31	10/27/20 11:12	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	0.033	1		10/24/20 10:34			
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach						
Orthophosphate as P	0.019	mg/L	0.0040	0.0038	1		10/23/20 07:37			
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		nod: EP	A 365.4				
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/26/20 11:31	10/27/20 11:12	7723-14-0		



Project: MDC Storm Sewer

Pace Project No.: 35586872

Sample: MRSS1-11	Lab ID:	35586872005	Collecte	d: 10/22/2	0 11:30	Received: 10/	/22/20 16:30 Ma	atrix: Water			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach							
Nitrogen, Ammonia	0.33	mg/L	0.050	0.035	1		10/23/20 12:35	7664-41-7			
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services	•		nod: EP	A 351.2					
Nitrogen, Kjeldahl, Total	0.54	mg/L	0.50	0.086	1	10/26/20 11:31	10/27/20 11:15	7727-37-9			
353.2 Nitrogen, NO2/NO3 pres.	•	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	0.033	1		10/24/20 10:35				
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach							
Orthophosphate as P	0.031	mg/L	0.0040	0.0038	1		10/23/20 07:39				
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		nod: EP	A 365.4					
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/26/20 11:31	10/27/20 11:15	7723-14-0			





Project: MDC Storm Sewer

Pace Project No.: 35586872

Date: 10/27/2020 06:15 PM

QC Batch: 676110 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

METHOD BLANK: 3677910 Matrix: Water

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, Ammonia mg/L 0.035 U 0.050 0.035 10/23/20 11:47

LABORATORY CONTROL SAMPLE: 3677911

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, Ammonia 1.1 105 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3677913 3677912

MSD MS 35585215001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Result Conc. % Rec % Rec Limits Qual 0.090 20 Nitrogen, Ammonia mg/L 1.1 1.1 100 100 90-110 0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3677914 3677915

MS MSD 35586879001 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 1 1 1.3 99 Nitrogen, Ammonia 0.33 1.3 100 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





Project: MDC Storm Sewer

Pace Project No.: 35586872

Date: 10/27/2020 06:15 PM

QC Batch: 676492 QC Batch Method: EPA 351.2 Analysis Method: EPA 351.2

Analysis Description: 351.2 TKN

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

METHOD BLANK: 3680357 Matrix: Water

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, Kjeldahl, Total mg/L 0.086 U 0.50 0.086 10/27/20 10:42

LABORATORY CONTROL SAMPLE: 3680358

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Nitrogen, Kjeldahl, Total mg/L 20 19.5 98 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3680360 3680359

MS MSD

35585234015 Spike Spike MS MSD MS MSD % Rec Max Parameter Result Result **RPD** RPD Units Result Conc. Conc. % Rec % Rec Limits Qual 20 Nitrogen, Kjeldahl, Total mg/L 0.33 I 20 20 19.5 19.5 96 96 90-110 0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3680362 3680361

MS MSD 35586872001 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 20 20 Nitrogen, Kjeldahl, Total 0.92 20.8 20.6 99 98 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





Project: MDC Storm Sewer

Pace Project No.: 35586872

Date: 10/27/2020 06:15 PM

QC Batch: 676356 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

METHOD BLANK: 3679692 Matrix: Water

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, NO2 plus NO3 mg/L 0.033 U 0.050 0.033 10/24/20 10:23

LABORATORY CONTROL SAMPLE: 3679693

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, NO2 plus NO3 2 2.1 106 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679695 3679694

MSD MS 35586872001 Spike Spike MS MSD MS MSD % Rec Max Parameter Conc. Result Result **RPD** RPD Units Result Conc. % Rec % Rec Limits Qual Nitrogen, NO2 plus NO3 2 20 mg/L 0.22 2 2.4 2.2 107 101 90-110 5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679697 3679696

MS MSD 35586629005 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Nitrogen, NO2 plus NO3 2 2 0.81 2.8 2.8 101 102 0 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Qualifiers



QUALITY CONTROL DATA

EPA 365.1

Project: MDC Storm Sewer

Pace Project No.: 35586872

Date: 10/27/2020 06:15 PM

QC Batch: 676043

QC Batch Method: EPA 365.1 Analysis Description: 365.1 Orthophosphate as P

Laboratory: Pace Analytical Services - Ormond Beach

Analysis Method:

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

METHOD BLANK: 3677711 Matrix: Water

Associated Lab Samples: 35586872001, 35586872002, 35586872003, 35586872004, 35586872005

Blank Reporting
Parameter Units Result Limit MDL Analyzed

Orthophosphate as P mg/L 0.0038 U 0.0040 0.0038 10/23/20 07:14

LABORATORY CONTROL SAMPLE: 3677712

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Orthophosphate as P 0.1 0.096 95 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3677714 3677713 MS MSD

35586668001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Result RPD Result Conc. Conc. % Rec % Rec Limits **RPD** Qual Orthophosphate as P 0.22 20 mg/L 0.12 0.1 0.1 0.22 103 105 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3677716 3677715

MS MSD 35586693003 MS MSD MS MSD % Rec Max Spike Spike RPD RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits Qual 75 0.25 0.1 Orthophosphate as P 0.1 0.34 0.33 90 90-110 5 20 J(M1) mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

MDC Storm Sewer

Pace Project No.:

35586872

QC Batch: QC Batch Method:

676494

EPA 365.4

Analysis Method:

EPA 365.4

Analysis Description:

365.4 Phosphorus

Laboratory:

Pace Analytical Services - Ormond Beach

Associated Lab Samples:

35586872001, 35586872002, 35586872003, 35586872004, 35586872005

METHOD BLANK: Associated Lab Samples:

Matrix: Water

35586872001, 35586872002, 35586872003, 35586872004, 35586872005

Blank

Reporting Limit

Result

MDL

Analyzed

Qualifiers

Phosphorus, Total (as P)

Units mg/L

0.050 U

0.10

0.050

10/27/20 11:16

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3680370

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Phosphorus, Total (as P)

Units mg/L

4.0

99

90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3680372 MS

MSD

4

MSD

MS

MSD

% Rec

Max

Parameter

35586872001

Spike Spike

MS Result

Result

% Rec

% Rec

Limits

RPD RPD

20

Phosphorus, Total (as P)

Date: 10/27/2020 06:15 PM

Units Result 0.050 U mg/L

Conc.

Conc. 4

4.0

3680371

4.0

99

99

80-120 0

Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Pompano Beach, FL 33064 (954)582-4300

QUALIFIERS

Project: MDC Storm Sewer

35586872 Pace Project No.:

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Compound was analyzed for but not detected.
- Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) J(M1) recovery.



Project: MDC Storm Sewer

Pace Project No.: 35586872

Date: 10/27/2020 06:15 PM

Pace Analytical

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35586872001	MRSS1-1	EPA 350.1	676110	_	
35586872002	MRSS1-3	EPA 350.1	676110		
35586872003	MRSS1-5	EPA 350.1	676110		
35586872004	MRSS1-9	EPA 350.1	676110		
35586872005	MRSS1-11	EPA 350.1	676110		
35586872001	MRSS1-1	EPA 351.2	676492	EPA 351.2	676907
35586872002	MRSS1-3	EPA 351.2	676492	EPA 351.2	676907
35586872003	MRSS1-5	EPA 351.2	676492	EPA 351.2	676907
35586872004	MRSS1-9	EPA 351.2	676492	EPA 351.2	676907
35586872005	MRSS1-11	EPA 351.2	676492	EPA 351.2	676907
35586872001	MRSS1-1	EPA 353.2	676356		
35586872002	MRSS1-3	EPA 353.2	676356		
35586872003	MRSS1-5	EPA 353.2	676356		
35586872004	MRSS1-9	EPA 353.2	676356		
35586872005	MRSS1-11	EPA 353.2	676356		
35586872001	MRSS1-1	EPA 365.1	676043		
35586872002	MRSS1-3	EPA 365.1	676043		
35586872003	MRSS1-5	EPA 365.1	676043		
35586872004	MRSS1-9	EPA 365.1	676043		
35586872005	MRSS1-11	EPA 365.1	676043		
35586872001	MRSS1-1	EPA 365.4	676494	EPA 365.4	676910
35586872002	MRSS1-3	EPA 365.4	676494	EPA 365.4	676910
35586872003	MRSS1-5	EPA 365.4	676494	EPA 365.4	676910
35586872004	MRSS1-9	EPA 365.4	676494	EPA 365.4	676910
35586872005	MRSS1-11	EPA 365.4	676494	EPA 365.4	676910

WO#: 35586872

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Companies Comp	Section A Required Client Information:	Required Project Information:	Section C	-
SAMPLE ID	Sompany: Wood E&I	Report To: Ash Aitheraiu	Attention:	Page: Of
SAMPLE ID	Address: 5845 NW 158th Street		Company Name:	I
SAMPLE ID	0.55		Address:	Daniel strategy
SAMPLE ID SAMPLE ID On Characters Provided Region of Party Properties and Party Properties Provided Regions (Provided Regions) On Characters Provided Region	ashok.aitharaju@woodplc.co	#	Pace Quote:	Paris Box Commission
SAMPLE ID	(954)695-6795 ted Due Date		2	State / Location
SAMPLE ID On COLLEGE B On Co			1000	
SAMPLE ID		COMP)	Preservatives Y/N	
Comparison Com	SAMPLEID	WW Y W START	SRS SRS TOOLLECTIC TOOL SRS SRS SRS SRS SRS SRS SRS	(N/λ) əu
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SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: SIGNATURE OF SAMP	Pa			
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	of 20	SIGNATURE	DATE Signed:	TEMP I

DocuSign Envelope ID: C511CAA5-50CF-405A-BF6C-C2C214E3B552



Project Manager Review:

Document Name: Sample Condition Upon Receipt Form Document No.:

Document Revised May 30, 2018 Issuing Authority

Pace Florida Quality Office F-FL-C-007 rev. 13 Sample Condition Upon P (SCUR) Project # Date and Initials of person:
Examining contents: Due Date: 10/28/20 **Project Manager:** PM: CTR Label: CLIENT: 36-MACTEC Deliver Client: Date: 10/22/20 Time: 23,12 Thermometer Used: For WV projects, all containers verified to ≤6 °C State of Origin: Cooler #1 Temp. "C 3 -9 (Visual) 10,3 (Correction Factor) (Actual) Samples on ice, cooling process has begun (Correction Factor) Cooler #2 Temp.°C (Visual) Samples on ice, cooling process has begun Samples on ice, cooling process has begun _(Visual) __ _(Correction Factor) ___ _(Actual) Cooler #3 Temp.°C__ Samples on ice, cooling process has begun Cooler #4 Temp.°C___ _(Visual) _____(Correction Factor) ___ Samples on ice, cooling process has begun Cooler #5 Temp.°C___ (Visual) (Correction Factor) ___ __(Actual) Samples on ice, cooling process has begun Cooler #6 Temp.°C_____ ___(Visual) _____(Correction Factor) ___ _(Actual) Other_ ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client Commercial Pace Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground International Priority ☐ Other ☐ Third Party ☐ Credit Card □ Unknown □ Recipient ☐ Sender Billing: Tracking # Seals intact: 🛭 Yes 🗌 No Blue Dry None **Custody Seal on Cooler/Box Present:** [[]Xes □No None Packing Material: Bubble Wrap Bubble Bags Other Shorted Time: Qty: __ Samples shorted to lab (If Yes, complete) Shorted Date: Comments: Yes □ No □N/A Chain of Custody Present □ No □N/A Chain of Custody Filled Out MYes □ No □N/A Relinquished Signature & Sampler Name COC □ No □N/A Samples Arrived within Hold Time □Yes No DN/A Rush TAT requested on COC MYes □ No □N/A Sufficient Volume □ No □N/A Correct Containers Used Yes □ No □N/A Containers Intact Sample Labels match COC (sample IDs & date/time of Yes □ No □N/A collection) All containers needing acid/base preservation have been Preservation Information: □ No □N/A checked. Preservative: All Containers needing preservation are found to be in Lot #/Trace #: L/Yes □ No □N/A compliance with EPA recommendation: Date: Initials Exceptions: VOA, Coliform, TOC, O&G, Carbamates □ No IMNIA Headspace in VOA Vials? (>6mm): □Yes □ No □N/A □Yes Trip Blank Present: Client Notification/ Resolution: Person Contacted: Date/Time: Comments/ Resolution (use back for additional comments):

Date:



Document Name: Sample Condition Upon Receipt Form Document No.: F-FL-C-007 rev. 13 Document Revised: May 30, 2018 Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # Project Manager: Client:			Date and Initials of person: Examining contents: Label: Deliver: pH:
Thermometer Used: 1343	Samples on ice, cooling process h Visual Correction Factor Correction Factor	30 Initials: J A	
State of Origin:	☐ For WV pr	olects, all containers ver	ified to ≤6. [®] C
Cooler #1 Temp. °C 9 + (Visual) 0 0	(Correction Factor) 5 -	t (Actual)	Samples on ice, cooling process has begun
Cooler #2 Temp.°C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begun
Cooler #3 Temp.°C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begun
Cooler #4 Temp.°C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begun
Cooler #5 Temp.°C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begun
Cooler #6 Temp.°C(Visual)	(Correction Factor)	(Actual)	Samples on ice, cooling process has begun
Shipping Method: ☐ First Overnight ☐ Prio	rity Overnight ☐ Standard C	Overnight 🗋 🗀 Groun	•
Tracking #	i i i i i i i i i i i i i i i i i i i	L Credit Card	U GIATIOWII
	h		
		_	Ice: Wet Blue Dry None
·	•		
Samples shorted to lab (If Yes, complete)	Shorted Date:	Shor	ted Time: Qty:
	C	omments:	
Chain of Custody Present	Yes □ No □N/A		
Chain of Custody Filled Out	Yes □ No □N/A		
Relinquished Signature & Sampler Name COC	Yes □ No □N/A		
Samples Arrived within Hold Time	APYes □ No □N/A	100	
Rush TAT requested on COC	□Yes □ No □N/A		
Sufficient Volume	□Yes □ No □N/A		
Correct Containers Used	□Yes □ No □N/A		
Containers Intact Sample Labels match COC (sample IDs & date/time of	□Yes □ No □N/A		
collection)			
All containers needing acid/base preservation have beer checked.		Dronopustiu	
All Containers needing preservation are found to be in		Lot #/Trace	#:
compliance with EPA recommendation: Exceptions: VOA. Coliform, TOC. O&G			Time:
Headspace in VOA Vials? (>6mm):			
Trip Blank Present:	□Yes □ No □N/A		
Client Notification/ Resolution: Person Contacted:		Date/Time:	
Comments/ Resolution (use back for additional	comments):		
Project Manager Review			Date

(954)582-4300



October 28, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: MDC Storm Sewer

Pace Project No.: 35586873

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

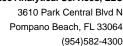
Christina Raschke christina.raschke@pacelabs.com

Christin Parelle

(954)582-4300 Project Manager

Enclosures







CERTIFICATIONS

Project: MDC Storm Sewer

Pace Project No.: 35586873

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity



SAMPLE SUMMARY

Project: MDC Storm Sewer

Pace Project No.: 35586873

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35586873001	MRSS1-2	Water	10/22/20 13:45	10/22/20 17:30
35586873002	MRSS1-4	Water	10/22/20 14:30	10/22/20 17:30
35586873003	MRSS1-6	Water	10/22/20 14:50	10/22/20 17:30
35586873004	MRSS1-7	Water	10/22/20 15:25	10/22/20 17:30



SAMPLE ANALYTE COUNT

Project: MDC Storm Sewer

Pace Project No.: 35586873

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35586873001	MRSS1-2	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586873002	MRSS1-4	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586873003	MRSS1-6	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35586873004	MRSS1-7	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach





SUMMARY OF DETECTION

Project: MDC Storm Sewer

Pace Project No.: 35586873

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35586873001	MRSS1-2					
EPA 351.2	Nitrogen, Kjeldahl, Total	0.38	mg/L	0.50	10/28/20 08:23	
EPA 353.2	Nitrogen, NO2 plus NO3	0.26	mg/L	0.050	10/24/20 10:52	
EPA 365.1	Orthophosphate as P	0.018	mg/L	0.0040	10/23/20 07:42	
EPA 365.4	Phosphorus, Total (as P)	0.065 I	mg/L	0.10	10/28/20 08:23	
35586873002	MRSS1-4					
EPA 350.1	Nitrogen, Ammonia	0.041 I	mg/L	0.050	10/23/20 13:09	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.29 I	mg/L	0.50	10/28/20 08:26	
EPA 353.2	Nitrogen, NO2 plus NO3	0.50	mg/L	0.050	10/24/20 10:53	
EPA 365.1	Orthophosphate as P	0.031	mg/L	0.0040	10/23/20 07:43	
35586873003	MRSS1-6					
EPA 351.2	Nitrogen, Kjeldahl, Total	0.77	mg/L	0.50	10/28/20 08:28	
EPA 353.2	Nitrogen, NO2 plus NO3	0.038 I	mg/L	0.050	10/24/20 10:55	
EPA 365.1	Orthophosphate as P	0.013	mg/L	0.0040	10/23/20 07:44	
EPA 365.4	Phosphorus, Total (as P)	0.056 I	mg/L	0.10	10/28/20 08:28	
35586873004	MRSS1-7					
EPA 350.1	Nitrogen, Ammonia	0.18	mg/L	0.050	10/23/20 13:16	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.82	mg/L	0.50	10/28/20 08:29	
EPA 353.2	Nitrogen, NO2 plus NO3	0.070	mg/L	0.050	10/24/20 10:56	
EPA 365.1	Orthophosphate as P	0.031	mg/L	0.0040	10/23/20 07:45	
EPA 365.4	Phosphorus, Total (as P)	0.16	mg/L	0.10	10/28/20 08:29	



Project: MDC Storm Sewer

Pace Project No.: 35586873

Date: 10/28/2020 07:28 PM

Sample: MRSS1-2	Lab ID:	35586873001	Collecte	d: 10/22/2	0 13:45	Received: 10/	22/20 17:30 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.035 U	mg/L	0.050	0.035	1		10/23/20 13:07	7664-41-7		
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services	•		nod: EP	A 351.2				
Nitrogen, Kjeldahl, Total	0.38 I	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 08:23	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.26	mg/L	0.050	0.033	1		10/24/20 10:52			
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach						
Orthophosphate as P	0.018	mg/L	0.0040	0.0038	1		10/23/20 07:42			
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		nod: EP	A 365.4				
Phosphorus, Total (as P)	0.065 I	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 08:23	7723-14-0		



Project: MDC Storm Sewer

Pace Project No.: 35586873

Date: 10/28/2020 07:28 PM

Sample: MRSS1-4	Lab ID:	35586873002	Collecte	d: 10/22/20	14:30	Received: 10/	22/20 17:30 Ma	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, Ammonia	0.041 I	mg/L	0.050	0.035	1		10/23/20 13:09	7664-41-7	
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services			nod: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.29 I	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 08:26	7727-37-9	
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, NO2 plus NO3	0.50	mg/L	0.050	0.033	1		10/24/20 10:53		
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach					
Orthophosphate as P	0.031	mg/L	0.0040	0.0038	1		10/23/20 07:43		
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		nod: EP	A 365.4			
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 08:26	7723-14-0	



Project: MDC Storm Sewer

Pace Project No.: 35586873

Date: 10/28/2020 07:28 PM

Sample: MRSS1-6	Lab ID:	35586873003	Collecte	d: 10/22/2	0 14:50	Received: 10/	22/20 17:30 Ma	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, Ammonia	0.035 U	mg/L	0.050	0.035	1		10/23/20 13:11	7664-41-7	
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services	•		nod: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.77	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 08:28	7727-37-9	
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, NO2 plus NO3	0.038 I	mg/L	0.050	0.033	1		10/24/20 10:55		
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach					
Orthophosphate as P	0.013	mg/L	0.0040	0.0038	1		10/23/20 07:44		
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		nod: EP	A 365.4			
Phosphorus, Total (as P)	0.056 I	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 08:28	7723-14-0	



Project: MDC Storm Sewer

Pace Project No.: 35586873

Date: 10/28/2020 07:28 PM

Sample: MRSS1-7	Lab ID:	35586873004	Collecte	d: 10/22/20	15:25	Received: 10/	22/20 17:30 Ma	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, Ammonia	0.18	mg/L	0.050	0.035	1		10/23/20 13:16	7664-41-7	
351.2 Total Kjeldahl Nitrogen		Method: EPA 3 ytical Services			od: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.82	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 08:29	7727-37-9	
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, NO2 plus NO3	0.070	mg/L	0.050	0.033	1		10/24/20 10:56		
365.1 Orthophosphate as P	-	Method: EPA 3 ytical Services		Beach					
Orthophosphate as P	0.031	mg/L	0.0040	0.0038	1		10/23/20 07:45		
365.4 Phosphorus, Total	•	Method: EPA 3 ytical Services	•		od: EP	A 365.4			
Phosphorus, Total (as P)	0.16	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 08:29	7723-14-0	



Project:

MDC Storm Sewer

Pace Project No.:

35586873

QC Batch: QC Batch Method: 676112

Analysis Method:

EPA 350.1

EPA 350.1

Analysis Description:

350.1 Ammonia

Laboratory:

Pace Analytical Services - Ormond Beach

Associated Lab Samples:

35586873001, 35586873002, 35586873003, 35586873004

METHOD BLANK: Associated Lab Samples: Matrix: Water

35586873001, 35586873002, 35586873003, 35586873004

Blank

Reporting

Result

Limit

MDL

Analyzed

Qualifiers

Nitrogen, Ammonia

Units mg/L

0.035 U

0.050

0.035 10/23/20 12:40

LABORATORY CONTROL SAMPLE:

Parameter

3677921

35586642003

35586873003

Result

0.035 U

Result

ND

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Nitrogen, Ammonia

Nitrogen, Ammonia

Nitrogen, Ammonia

Parameter Units mg/L

Units

mg/L

Units

mg/L

1.1

105

90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3677923 MS

Spike

Conc.

MS

MSD

Conc.

Spike MS

1

1

3677922

Result

1.0

3677925

Result

1.0

MSD Result

1.1

MS % Rec

MSD % Rec

% Rec

102

101

% Rec Limits

90-110

Max **RPD** RPD Qual

0

20

Qual

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

Parameter

Parameter

Date: 10/28/2020 07:28 PM

3677924

MSD Spike Spike Conc. Conc.

1

MS MSD

Result

1.1

MS MSD

101

% Rec

101

% Rec

Max Limits

RPD RPD 0 20 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





MDC Storm Sewer Project:

Pace Project No.: 35586873

QC Batch:

QC Batch Method:

676732

EPA 351.2

Analysis Method:

EPA 351.2

Analysis Description:

351.2 TKN

Laboratory:

Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35586873001, 35586873002, 35586873003, 35586873004

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

35586873001, 35586873002, 35586873003, 35586873004

Blank

Reporting

Units Result Limit

Analyzed

Qualifiers

Nitrogen, Kjeldahl, Total

mg/L

0.086 U

0.50

0.086

MDL

92

10/28/20 08:06

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Parameter

Nitrogen, Kjeldahl, Total

Date: 10/28/2020 07:28 PM

Nitrogen, Kjeldahl, Total

Parameter

3681160

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Nitrogen, Kjeldahl, Total mg/L

Units

35586415010

35586873001

Result

0.38 I

Result

33.8

Units

mg/L

Units

mg/L

20

18.4

Result

76.6

90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3681162 MS

Spike

Conc.

40

20

Conc.

MSD Spike

40

MSD

3681161

MS

Result

76.0

3681163

MS

Result

19.4

MS % Rec

MSD % Rec

% Rec

% Rec

Max Limits

RPD **RPD** Qual 20 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3681164

MS

Spike

Conc.

Conc.

MSD Spike

20

MSD

Result

19.5

MS

95

% Rec

106

MSD

96

107

% Rec Limits

90-110

Max RPD RPD Qual 0

20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





Project:

MDC Storm Sewer

Pace Project No.:

35586873

QC Batch:

676356

Analysis Method:

EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description:

353.2 Nitrate + Nitrite, preserved

Laboratory:

Pace Analytical Services - Ormond Beach

35586873001, 35586873002, 35586873003, 35586873004 Associated Lab Samples:

METHOD BLANK: Associated Lab Samples:

Matrix: Water

35586873001, 35586873002, 35586873003, 35586873004

Blank Result Reporting

MDL Limit

Analyzed

Qualifiers

Nitrogen, NO2 plus NO3

Units mg/L

0.033 U

0.050

0.033 10/24/20 10:23

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3679693

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Nitrogen, NO2 plus NO3

Parameter

Parameter

Nitrogen, NO2 plus NO3

Nitrogen, NO2 plus NO3

Units mg/L

35586872001

35586629005

Result

0.81

Result

0.22

Units

mg/L

Units

mg/L

2

2.1

Result

2.4

2.8

106

90-110

% Rec

101

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3679695 MS

Spike

Conc.

2

2

MSD

Conc.

3679694 Spike MS

2

2

MSD Result

2.2

2.8

MS

107

% Rec

MSD

% Rec Max **RPD** RPD Limits

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3679697

MSD Spike 3679696

90-110

Max

5

MS Spike

Conc.

Conc.

MS MSD Result Result

MS % Rec 101

MSD % Rec % Rec Limits

102

RPD

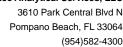
RPD Qual 0 20 90-110

Qual

20

Date: 10/28/2020 07:28 PM

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





Project:

MDC Storm Sewer

Pace Project No.:

35586873

QC Batch:

676043

Analysis Method:

EPA 365.1

QC Batch Method: EPA 365.1 Analysis Description:

365.1 Orthophosphate as P

Laboratory:

Pace Analytical Services - Ormond Beach

35586873001, 35586873002, 35586873003, 35586873004 Associated Lab Samples:

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

35586873001, 35586873002, 35586873003, 35586873004

Blank Result Reporting

Parameter Units

Limit

Analyzed

Qualifiers

Orthophosphate as P

mg/L

0.0038 U

0.0040

0.0038 10/23/20 07:14

LABORATORY CONTROL SAMPLE:

Parameter

3677712

Units

mg/L

Units

mg/L

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Orthophosphate as P

Parameter

Orthophosphate as P

Orthophosphate as P

Date: 10/28/2020 07:28 PM

Units mg/L

35586668001

Result

0.1

0.096

95

MDL

90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3677714 MS

Spike

Conc.

0.1

0.1

MSD

Spike

Conc.

0.1

0.1

MS Result

3677713

0.22

0.34

MSD

0.22

0.33

Result

MSD

% Rec

% Rec Max **RPD** RPD Limits

3677716

0.12

MSD

3677715

MS

% Rec

103

90

105

90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

MS

MS

MS

75

Max Qual

20

Qual

Parameter

35586693003 Spike Result Conc.

0.25

Spike Conc.

MSD Result Result

% Rec

MSD % Rec % Rec Limits

RPD RPD

20 J(M1) 90-110 5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: MDC Storm Sewer

Pace Project No.: 35586873

Date: 10/28/2020 07:28 PM

QC Batch: 676733 Analysis Method: EPA 365.4

QC Batch Method: EPA 365.4 Analysis Description: 365.4 Phosphorus

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35586873001, 35586873002, 35586873003, 35586873004

METHOD BLANK: 3681165 Matrix: Water

Associated Lab Samples: 35586873001, 35586873002, 35586873003, 35586873004

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Phosphorus, Total (as P) mg/L 0.050 U 0.10 0.050 10/28/20 08:37

LABORATORY CONTROL SAMPLE: 3681166

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Phosphorus, Total (as P) mg/L 4 3.9 97 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3681168 3681167

MS MSD

35586415010 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result RPD Result Conc. % Rec % Rec Limits **RPD** Qual

Phosphorus, Total (as P) mg/L 4.4 8 8 12.4 12.5 99 100 80-120 1 20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3681170 3681169

MS MSD 35586873001 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 0.065 I 4 4 4.0 97 Phosphorus, Total (as P) 3.9 97 80-120 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

(954)582-4300



QUALIFIERS

Project: MDC Storm Sewer

Pace Project No.: 35586873

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/28/2020 07:28 PM

- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Compound was analyzed for but not detected.
- J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MDC Storm Sewer

Pace Project No.: 35586873

Date: 10/28/2020 07:28 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
35586873001	MRSS1-2	EPA 350.1	676112	_	
35586873002	MRSS1-4	EPA 350.1	676112		
35586873003	MRSS1-6	EPA 350.1	676112		
35586873004	MRSS1-7	EPA 350.1	676112		
35586873001	MRSS1-2	EPA 351.2	676732	EPA 351.2	677209
35586873002	MRSS1-4	EPA 351.2	676732	EPA 351.2	677209
35586873003	MRSS1-6	EPA 351.2	676732	EPA 351.2	677209
35586873004	MRSS1-7	EPA 351.2	676732	EPA 351.2	677209
35586873001	MRSS1-2	EPA 353.2	676356		
35586873002	MRSS1-4	EPA 353.2	676356		
35586873003	MRSS1-6	EPA 353.2	676356		
35586873004	MRSS1-7	EPA 353.2	676356		
35586873001	MRSS1-2	EPA 365.1	676043		
35586873002	MRSS1-4	EPA 365.1	676043		
35586873003	MRSS1-6	EPA 365.1	676043		
35586873004	MRSS1-7	EPA 365.1	676043		
35586873001	MRSS1-2	EPA 365.4	676733	EPA 365.4	677211
35586873002	MRSS1-4	EPA 365.4	676733	EPA 365.4	677211
35586873003	MRSS1-6	EPA 365.4	676733	EPA 365.4	677211
35586873004	MRSS1-7	EPA 365.4	676733	EPA 365.4	677211

MO#: 35586873

35586873

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately,

(N/Y) ntact Samples (N/A) SAMPLE CONDITIONS Cooler ŏ pelsed Custody Regulatory Agency (V/N) State / Location Received on 4.2 Residual Chlorine (Y/N) TEMP in C Page: 750 TIME Requested Analysis Filtered (Y/N 22/01 DATE Signed: 10 122 DATE Orthophosphate (PO4 Total Phosphorus christina raschke@pacelabs.com, **LKN** ACCEPTED BY / AFFILIATION Witrate+Witrite (NOx) **BinommA** Analyses Test N/A Orper Methanol J S Na2S2O3 HOBN Pace Project Manager: HCI Invoice Information: EONH Company Name: Pace Profile #: HSSO4 1720 ace Quote: Section C \$ Attention: TIME Address: Лпргезегиед 2 SAMPLER NAME AND SIGNATURE # OF CONTAINERS PRINT Name of SAMPLER: 8 SIGNATURE of SAMPLER. SAMPLE TEMP AT COLLECTION DATE TIME END DATE Weed COLLECTED RELINQUISHED BY I AFFILLATION MDC Storm Sewer 1525 450 START 122/x 10),CO Required Project Information: Report To: Ash Aitharaju SAMPLE TYPE (G=GRAB C=COMP) Jurchase Order #: Keila MATRIX CODE (see valid codes to left) Project Name: Section B Copy To: Project #: MATFIX
Drinking Water
Water
Waste Water
Product
Soil/Soild
Oil
Wipe
Air
Charact
Tissue ADDITIONAL COMMENTS (A-Z, 0-9 / , -) Sample Ids must be unique One Character per box. SAMPLE ID ashok aitharaju@woodplc.com 5845 NW 158th Street Required Client Information: (954)695-6796 Wood E&I Miami Lakes, FL 33014 Requested Due Date: Address: Email: 10 1 12 Page 17 of 19 σ # M3TI 0 က 3 9 ∞



Project Manager Review:

Document Name: Sample Condition Upon Receipt Form Document No.; F-FL-C-007 rev. 13

Document Revised May 30, 2018 Issuing Authority: Pace Florida Quality Office

Project #	WO#	3558687	73	Date and Initials of person:
Project Manager:	PM: CTR	Due Date:	10/29/20	Examining contents:
Client:	CLIENT:	36-MACTEC		Deliver
0.1.011.01				pH: 1723
Thermometer Used:	35 3	Date: 10/22/2	20 Time: 2	3, 12 Initials: 788
State of Origin:		☐ For WV p	projects, all containers v	erified to ≤6 °C
Cooler #1 Temp. c 3 - 9 (Visi	ual) 10,3	_(Correction Factor) <u></u>	(Actual)	Samples on ice, cooling process has beg
Cooler #2 Temp.°C(Visi		The state of the s		Samples on ice, cooling process has beg
Cooler #3 Temp.°C(Visu	ual)	_(Correction Factor)	(Actual)	Samples on ice, cooling process has beg
Cooler #4 Temp.°C(Visu	ual)	_(Correction Factor)	(Actual)	Samples on ice, cooling process has beg
Cooler #5 Temp.°C(Visu	ual)	_(Correction Factor)	(Actual)	Samples on ice, cooling process has beg
Cooler #6 Temp.°C(Visu	ual)	_(Correction Factor)	(Actual)	Samples on ice, cooling process has beg
Courier: Fed Ex Shipping Method: Shipping Method: Street Overn Other Billing: Recipient				
racking #				10
	•	• / _	•	o Ice: Wet Blue Dry None
Packing Material: Bubble Wrap	Bubble B	ags None 🗆 Of	ther	norted Time: Qty:
Packing Material: □Bubble Wrap	Bubble B	ags None 🗆 Of	therS	V
Packing Material: □Bubble Wrap camples shorted to lab (If Yes, con Chain of Custody Present	Bubble B	ags None Of Shorted Date:	therS	V
Packing Material: Bubble Wrap camples shorted to lab (If Yes, con Chain of Custody Present Chain of Custody Filled Out	o ☐ Bubble B mplete)	ags None On Shorted Date:	therS	V
Packing Material: Bubble Wrap camples shorted to lab (If Yes, con chain of Custody Present chain of Custody Filled Out telinquished Signature & Sampler N	o ☐ Bubble B mplete)	ags None Of Shorted Date: No DN/A Yes No DN/A	therS	V
Packing Material: Bubble Wrap camples shorted to lab (If Yes, con chain of Custody Present chain of Custody Filled Out telinquished Signature & Sampler Notes	o ☐ Bubble B mplete)	ags None On Shorted Date: Wes No NA Yes No NA Yes No NA	therS	V
Packing Material: Bubble Wrap camples shorted to lab (If Yes, col chain of Custody Present chain of Custody Filled Out delinquished Signature & Sampler N camples Arrived within Hold Time	o ☐ Bubble B mplete)	Shorted Date: Tyes No N/A Tyes No N/A Tyes No N/A Tyes No N/A	therS	V
Packing Material: Bubble Wrap Samples shorted to lab (If Yes, con Chain of Custody Present Chain of Custody Filled Out Relinquished Signature & Sampler N Samples Arrived within Hold Time Rush TAT requested on COC Sufficient Volume	o ☐ Bubble B mplete)	Shorted Date: No DN/A Yes D No DN/A	therS	V
Chain of Custody Present Chain of Custody Present Chain of Custody Filled Out Relinquished Signature & Sampler N Camples Arrived within Hold Time Rush TAT requested on COC Sufficient Volume Correct Containers Used Containers Intact Comple Labels match COC (sample IDs	Bubble Bomplete)	Shorted Date: None On Shorted Date: Yes No No N/A Yes No N/A	therS	V
Packing Material: Bubble Wrap Samples shorted to lab (If Yes, con Chain of Custody Present Chain of Custody Filled Out Relinquished Signature & Sampler N Samples Arrived within Hold Time Rush TAT requested on COC Sufficient Volume Correct Containers Used Containers Intact Comple Labels match COC (sample IDs collection) Il containers needing acid/base preserv	Name COC	Shorted Date: No DN/A Yes No DN/A	therS	V
Chain of Custody Present Chain of Custody Present Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Present Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N C	Name COC & date/time of ration have been	Shorted Date: None On Shorted Date: Yes No No N/A Yes No N/A	therSh	Preservation Information:
Packing Material: Bubble Wrap Samples shorted to lab (If Yes, con Shain of Custody Present Shain of Custody Filled Out Stellinquished Signature & Sampler N Samples Arrived within Hold Time Stush TAT requested on COC Sufficient Volume Sorrect Containers Used Sontainers Intact Sample Labels match COC (sample IDs. Sollection) Sollection) Sollection Containers needing acid/base preserved Secked. Containers needing preservation are fompliance with EPA recommendation:	Name COC & date/time of ration have been found to be in	Ags None On Shorted Date: 1	Preserv. Lot #/Tra Date:	Preservation Information:
Chain of Custody Present Chain of Custody Present Chain of Custody Filled Out Relinquished Signature & Sampler N Remples Arrived within Hold Time Rush TAT requested on COC Rufficient Volume Romple Labels match COC (sample IDs Romple IDs Romple Labels match COC (sample IDs Romple IDs Rom	Name COC & date/time of ration have been found to be in	Shorted Date: No DN/A Yes No DN/A	Comments: Preserv. Lot #/Tra	Preservation Information: ative:
Chain of Custody Present Chain of Custody Present Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain Filled Out Relinquished Signature & Sampler N Chain Filled Out Relinquished Signature & Sampler N Chain Good Signature & Sampler N Chain of Custody Filled Out Relinquished Signature & Sampler N Chain of Custody Filled Out Reli	Name COC & date/time of ration have been found to be in	Shorted Date: No DN/A Yes DNO DN/A Yes NO DN/A	Preserv. Lot #/Tra Date:	Preservation Information:
Custody Seal on Cooler/Box Preservation are formpliance with EPA recommendation: Exceptions: VOA, Colification/ Resolution; Person Contacted: Exceptions: VOA, Colification/ Resolution; Person Contacted: Person Contacted: Exceptions: VOA Vials? (>6mm): Person Contacted:	Name COC & date/time of vation have been found to be in orm, TOC, O&G, C	Shorted Date: No DN/A Yes No DN/A	Preserv. Lot #/Tra Date: Initials:	Preservation Information:

Date:

Charles and the same
Pace Analytical

	Document Name:
	Sample Condition Upon Receipt Form
Ī	Document No.:
	F-FL-C-007 rev. 13

Document Revised: May 30, 2018 Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # Project Manager: Client:					Date and Initials of person: Examining contents: () Label: Deliver: pH:
Thermometer Used: 13M3	Date:	10/2	1/20	Time: <u>1130</u>	Initials: \(\textstyle \tex
State of Origin: N			I	projects, all containers verified	to ≤6 °C
~	_(Correcti				Samples on ice, cooling process has begun
Cooler #2 Temp.°C(Visual) Cooler #3 Temp.°C(Visual)	(Correcti			·	Samples on ice, cooling process has begun
	(Correcti			(Actual) (Actual)	Samples on ice, cooling process has begun
Cooler #5 Temp. C(Visual)					Samples on ice, cooling process has begun
Cooler #6 Temp. °C(Visual)			-	•	Samples on Ice, cooling process has begun
(Visual)	_(00119011	/ rac		(Actual)	Samples office, cooling process has begun
Courler: Fed Ex UPS USI	PS 🗹 C	lient		Commercial 📮 Pace	Other
Shipping Method: ☐ First Overnight ☐ Priorit	y Overnight		Standar	d Overnight Ground	☐ International Priority
☐ Other	_				
Billing: ☐ Recipient ☐ Sender		Third P	arty	☐ Credit Card ☐	Unknown
Tracking #					
Custody Seal on Cooler/Box Present:	No	,	Seals	intact: 🗌 Yes 🗌 No	Ice: Wet Blue Dry None
Packing Material: Bubble Wrap Bubble E	Bags Z	None		Other	
Samples shorted to lab (If Yes, complete)	Shorted			Shorted	Time: Qty:
• • • • • • •				7	
Chain of Custody Present	✓ Yes-	□ No	ПΝ/Δ	Comments:	
Chain of Custody Filled Out	☑Yes•				
Relinquished Signature & Sampler Name COC	☐Yes ✓		_		
Samples Arrived within Hold Time	ØYes				
Rush TAT requested on COC	□Yes	$\overline{}$	□N/A		
Sufficient Volume	□Yes	□ No			
Correct Containers Used	□Yes				
Containers Intact	□Yes				
Sample Labels match COC (sample IDs & date/time of collection)	□Yes				
All containers needing acid/base preservation have been				Pre	servation Information;
checked. All Containers needing preservation are found to be in	□Yes	□ No	□N/A	Preservative:	
compliance with EPA recommendation:	□Yes	□ No	□N/A	Date:	Time:
Exceptions: VOA, Coliform, TOC, O&G, C				Initials:	
Headspace in VOA Vials? (>6mm): Frip Blank Present:	□Yes				
	□Yes	□ 140	⊔IN/A		
Client Notification/ Resolution: Person Contacted:				Date/Time:	
Comments/ Resolution (use back for additional c	omments):	_			
					•
Project Manager Review:					Date:

(954)582-4300



October 28, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: Miami River

Pace Project No.: 35587159

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke christina.raschke@pacelabs.com

Christin Parelle

(954)582-4300 Project Manager

Enclosures







CERTIFICATIONS

Project: Miami River Pace Project No.: 35587159

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services, LLC 3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300



SAMPLE SUMMARY

Project: Miami River Pace Project No.: 35587159

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35587159001	MRSS1-10	Water	10/23/20 09:00	10/23/20 16:00
35587159002	MRSS1-12	Water	10/23/20 09:40	10/23/20 16:00
35587159003	MRSS1-13	Water	10/23/20 10:00	10/23/20 16:00
35587159004	MRSS1-14	Water	10/23/20 11:00	10/23/20 16:00
35587159005	MRSS1-15	Water	10/23/20 11:20	10/23/20 16:00

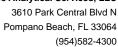


SAMPLE ANALYTE COUNT

Project: Miami River
Pace Project No.: 35587159

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35587159001	MRSS1-10	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35587159002	MRSS1-12	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
	EPA 353.2	CLL	1	PASI-O	
	EPA 365.1	CLL	1	PASI-O	
		EPA 365.4	LNR	1	PASI-O
5587159003 MRSS1-13	EPA 350.1	RRB	1	PASI-O	
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35587159004	MRSS1-14	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O
35587159005	MRSS1-15	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	CLL	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach





SUMMARY OF DETECTION

Project: Miami River
Pace Project No.: 35587159

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
			Office			Qualificity
35587159001	MRSS1-10					
EPA 350.1	Nitrogen, Ammonia	0.059	mg/L	0.050	10/26/20 11:44	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.32	mg/L	0.50	10/28/20 09:06	
EPA 353.2	Nitrogen, NO2 plus NO3	0.16	mg/L	0.050	10/24/20 11:23	
EPA 365.1	Orthophosphate as P	0.043	mg/L	0.0040	10/24/20 11:44	
EPA 365.4	Phosphorus, Total (as P)	0.055 I	mg/L	0.10	10/28/20 09:06	
35587159002	MRSS1-12					
EPA 350.1	Nitrogen, Ammonia	0.40	mg/L	0.050	10/26/20 11:49	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.51	mg/L	0.50	10/28/20 09:07	
EPA 353.2	Nitrogen, NO2 plus NO3	0.13	mg/L	0.050	10/24/20 11:24	
EPA 365.1	Orthophosphate as P	0.052	mg/L	0.0040	10/24/20 11:45	
EPA 365.4	Phosphorus, Total (as P)	0.059 I	mg/L	0.10	10/28/20 09:07	
35587159003	MRSS1-13					
EPA 350.1	Nitrogen, Ammonia	0.14	mg/L	0.050	10/26/20 11:51	
EPA 351.2	Nitrogen, Kjeldahl, Total	0.33	mg/L	0.50	10/28/20 09:08	
EPA 353.2	Nitrogen, NO2 plus NO3	0.33	mg/L	0.050	10/24/20 11:30	
EPA 365.1	Orthophosphate as P	0.048	mg/L	0.0040	10/24/20 11:46	
EPA 365.4	Phosphorus, Total (as P)	0.058 I	mg/L	0.10	10/28/20 09:08	
35587159004	MRSS1-14					
EPA 350.1	Nitrogen, Ammonia	0.74	mg/L	0.050	10/26/20 11:52	
EPA 351.2	Nitrogen, Kjeldahl, Total	1.1	mg/L	0.50	10/28/20 09:12	
EPA 353.2	Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	10/24/20 11:32	
EPA 365.1	Orthophosphate as P	0.0041	mg/L	0.0040	10/24/20 11:48	
35587159005	MRSS1-15					
EPA 350.1	Nitrogen, Ammonia	0.83	mg/L	0.050	10/26/20 11:54	
EPA 351.2	Nitrogen, Kjeldahl, Total	1.2	mg/L	0.50	10/28/20 09:15	
EPA 353.2	Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	10/24/20 11:33	



Project: Miami River
Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

Sample: MRSS1-10	Lab ID:	35587159001	Collected	d: 10/23/20	09:00	Received: 10/	23/20 16:00 Ma	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, Ammonia	0.059	mg/L	0.050	0.035	1		10/26/20 11:44	7664-41-7	
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services			od: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.32 I	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 09:06	7727-37-9	
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, NO2 plus NO3	0.16	mg/L	0.050	0.033	1		10/24/20 11:23		
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach					
Orthophosphate as P	0.043	mg/L	0.0040	0.0038	1		10/24/20 11:44		
365.4 Phosphorus, Total		Method: EPA 3 ytical Services			od: EP	A 365.4			
Phosphorus, Total (as P)	0.055 I	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 09:06	7723-14-0	



Project: Miami River
Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

Sample: MRSS1-12	Lab ID:	35587159002	Collected	d: 10/23/20	0 09:40	Received: 10/	23/20 16:00 Ma	atrix: Water			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
350.1 Ammonia	•	Method: EPA 3 ytical Services		seach							
Nitrogen, Ammonia	0.40	mg/L	0.050	0.035	1		10/26/20 11:49	7664-41-7			
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Ormond Beach										
Nitrogen, Kjeldahl, Total	0.51	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 09:07	7727-37-9			
353.2 Nitrogen, NO2/NO3 pres.	•	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.13	mg/L	0.050	0.033	1		10/24/20 11:24				
365.1 Orthophosphate as P	•	Analytical Method: EPA 365.1 Pace Analytical Services - Ormond Beach									
Orthophosphate as P	0.052	mg/L	0.0040	0.0038	1		10/24/20 11:45				
365.4 Phosphorus, Total	•	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Ormond Beach									
Phosphorus, Total (as P)	0.059 I	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 09:07	7723-14-0			

3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300



ANALYTICAL RESULTS

Project: Miami River
Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

Sample: MRSS1-13	Lab ID:	35587159003	Collected	d: 10/23/20	10:00	Received: 10/	23/20 16:00 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		seach						
Nitrogen, Ammonia	0.14	mg/L	0.050	0.035	1		10/26/20 11:51	7664-41-7		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Ormond Beach									
Nitrogen, Kjeldahl, Total	0.33 I	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 09:08	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.33	mg/L	0.050	0.033	1		10/24/20 11:30			
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Ormond Beach									
Orthophosphate as P	0.048	mg/L	0.0040	0.0038	1		10/24/20 11:46			
365.4 Phosphorus, Total	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Ormond Beach									
Phosphorus, Total (as P)	0.058 I	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 09:08	7723-14-0		



Project: Miami River
Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

Sample: MRSS1-14	Lab ID:	35587159004	Collected	d: 10/23/20	11:00	Received: 10/	23/20 16:00 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.74	mg/L	0.050	0.035	1		10/26/20 11:52	7664-41-7		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Ormond Beach									
Nitrogen, Kjeldahl, Total	1.1	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 09:12	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	0.033	1		10/24/20 11:32			
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Ormond Beach									
Orthophosphate as P	0.0041	mg/L	0.0040	0.0038	1		10/24/20 11:48			
365.4 Phosphorus, Total	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Ormond Beach									
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 09:12	7723-14-0		



Project: Miami River
Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

Pace Analytical
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Sample: MRSS1-15	Lab ID:	35587159005	Collecte	d: 10/23/20	11:20	Received: 10/	23/20 16:00 Ma	atrix: Water		
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach						
Nitrogen, Ammonia	0.83	mg/L	0.050	0.035	1		10/26/20 11:54	7664-41-7		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Ormond Beach									
Nitrogen, Kjeldahl, Total	1.2	mg/L	0.50	0.086	1	10/27/20 10:58	10/28/20 09:15	7727-37-9		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Ormond Beach									
Nitrogen, NO2 plus NO3	0.15	mg/L	0.050	0.033	1		10/24/20 11:33			
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Ormond Beach									
Orthophosphate as P	0.0038 U	mg/L	0.0040	0.0038	1		10/24/20 11:52			
365.4 Phosphorus, Total	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Ormond Beach									
Phosphorus, Total (as P)	0.050 U	mg/L	0.10	0.050	1	10/27/20 10:58	10/28/20 09:15	7723-14-0		



Project: Miami River Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

QC Batch: 676609 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

METHOD BLANK: 3680655 Matrix: Water

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, Ammonia mg/L 0.035 U 0.050 0.035 10/26/20 11:40

LABORATORY CONTROL SAMPLE: 3680656

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, Ammonia 1.1 104 90-110 mq/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3680658 3680657

MSD MS 35587159001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result RPD Result Conc. % Rec % Rec Limits **RPD** Qual 0.059 20 Nitrogen, Ammonia mg/L 1 1.1 1.1 99 100 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3680659 3680660

MS MSD 35587063004 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 1 1 Nitrogen, Ammonia < 0.035 1.0 1.1 101 107 6 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Miami River Pace Project No.: 35587159

QC Batch: 676734 Analysis Method: EPA 351.2

QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

METHOD BLANK: 3681171 Matrix: Water

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, Kjeldahl, Total mg/L 0.086 U 0.50 0.086 10/28/20 08:46

LABORATORY CONTROL SAMPLE: 3681172

Date: 10/28/2020 07:31 PM

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, Kjeldahl, Total 20 18.9 95 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3681174 3681173

MSD MS 35586903006 Spike Spike MS MSD MS MSD % Rec Max Parameter Result Result RPD Units Result Conc. Conc. % Rec % Rec Limits **RPD** Qual 20 Nitrogen, Kjeldahl, Total mg/L 6.4 20 20 25.8 26.1 97 99 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3681176 3681175

MS MSD 35587159004 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 1.1 20 20 Nitrogen, Kjeldahl, Total 20.2 20.2 96 96 0 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Miami River Pace Project No.: 35587159

QC Batch: 676357 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

METHOD BLANK: 3679700 Matrix: Water

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, NO2 plus NO3 mg/L 0.033 U 0.050 0.033 10/24/20 11:04

LABORATORY CONTROL SAMPLE: 3679701

Date: 10/28/2020 07:31 PM

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, NO2 plus NO3 2 2.1 107 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679703 3679702

MSD MS 35586903004 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Qual Result Conc. % Rec % Rec Limits Nitrogen, NO2 plus NO3 2 20 J(M1), mg/L 4.8 2 6.1 6.1 63 62 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679705 3679704

MS MSD 35587159002 Spike MS MSD MS MSD Spike % Rec Max % Rec % Rec RPD Parameter Units Result Conc. Conc. Result Result Limits **RPD** Qual Nitrogen, NO2 plus NO3 0.13 2 2 2.2 2.2 104 20 mg/L 103 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Miami River Pace Project No.: 35587159

QC Batch: 676368 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1 Analysis Description: 365.1 Orthophosphate as P

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

METHOD BLANK: 3679761 Matrix: Water

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L 0.0038 U 0.0040 0.0038 10/24/20 11:38

LABORATORY CONTROL SAMPLE: 3679762

Date: 10/28/2020 07:31 PM

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Orthophosphate as P 0.1 0.094 94 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679764 3679763

MSD MS 35585574004 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result **RPD** RPD Result Conc. Conc. Result % Rec % Rec Limits Qual Orthophosphate as P 0.096 20 Q mg/L 0.0038 U 0.1 0.1 0.093 95 92 90-110 3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679766 3679765

MS MSD 35587168001 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 0.1 Orthophosphate as P 0.098 0.1 0.20 0.20 101 100 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Miami River Pace Project No.: 35587159

QC Batch: 676735

QC Batch Method: EPA 365.4

Date: 10/28/2020 07:31 PM

Analysis Method: EPA 365.4

Analysis Description: 365.4 Phosphorus

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

METHOD BLANK: 3681177 Matrix: Water

Associated Lab Samples: 35587159001, 35587159002, 35587159003, 35587159004, 35587159005

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Phosphorus, Total (as P) mg/L 0.050 U 0.10 0.050 10/28/20 09:16

LABORATORY CONTROL SAMPLE: 3681178

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Phosphorus, Total (as P) 3.9 97 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3681180 3681179

MS MSD

35586903006 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result RPD Result Conc. % Rec % Rec Limits **RPD** Qual Phosphorus, Total (as P) 20 mg/L 1.2 4 4 5.2 5.2 98 100 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3681182 3681181

MS MSD 35587159004 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 0.050 U 4 4 97 Phosphorus, Total (as P) 3.9 3.9 97 80-120 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: Miami River Pace Project No.: 35587159

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/28/2020 07:31 PM

- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Compound was analyzed for but not detected.
- J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- L Off-scale high. Actual value is known to be greater than value given.
- Q Sample held beyond the accepted holding time.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Miami River
Pace Project No.: 35587159

Date: 10/28/2020 07:31 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35587159001	MRSS1-10	EPA 350.1	676609	_	
35587159002	MRSS1-12	EPA 350.1	676609		
35587159003	MRSS1-13	EPA 350.1	676609		
35587159004	MRSS1-14	EPA 350.1	676609		
35587159005	MRSS1-15	EPA 350.1	676609		
35587159001	MRSS1-10	EPA 351.2	676734	EPA 351.2	677221
35587159002	MRSS1-12	EPA 351.2	676734	EPA 351.2	677221
35587159003	MRSS1-13	EPA 351.2	676734	EPA 351.2	677221
35587159004	MRSS1-14	EPA 351.2	676734	EPA 351.2	677221
35587159005	MRSS1-15	EPA 351.2	676734	EPA 351.2	677221
35587159001	MRSS1-10	EPA 353.2	676357		
5587159002	MRSS1-12	EPA 353.2	676357		
35587159003	MRSS1-13	EPA 353.2	676357		
5587159004	MRSS1-14	EPA 353.2	676357		
35587159005	MRSS1-15	EPA 353.2	676357		
35587159001	MRSS1-10	EPA 365.1	676368		
35587159002	MRSS1-12	EPA 365.1	676368		
35587159003	MRSS1-13	EPA 365.1	676368		
35587159004	MRSS1-14	EPA 365.1	676368		
35587159005	MRSS1-15	EPA 365.1	676368		
35587159001	MRSS1-10	EPA 365.4	676735	EPA 365.4	677222
35587159002	MRSS1-12	EPA 365.4	676735	EPA 365.4	677222
35587159003	MRSS1-13	EPA 365.4	676735	EPA 365.4	677222
35587159004	MRSS1-14	EPA 365.4	676735	EPA 365.4	677222
35587159005	MRSS1-15	EPA 365.4	676735	EPA 365.4	677222

WO#: 35587159

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Company: Wood E&!	Report To: Ash Aitharaju	Attention:		5
		Company Name:		
Miami Lakes, FL 33014		,Address;	Regulatory Agency	ency
@woodplc.co	#			
Priorie: (954)695-6796 Frax Requested Due Date:	Project Name: Miami River	Pace Project Manager: christina raschke@pacelabs.com.	State	ion
	is the second se	1000	Requested Analysis Filtered (Y/N)	
	(Hel o) se	Preservatives		
SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique	Dimwing Water DW Water WY Water WY Waste Water WY Wyse Wy Product P SoluSolid OL START END Wipe W W W W W W W W W W W W W W W W W W W	TKN Mitrate+Mitrite (NOx) Machanonia Ma	Total Phosphorus Orthophosphate (PO4) Residual Chlorine (YW)	
MRSS1-10	102216910	XX	××××	
2 MRSS1-12	VAB 1	XXX	7	
3 MRSS1-13	0001	XXX		
MRSS1-14	20/1	× × × × × × × × × × × × × × × × × × ×	ナタス	
MRSSIL	2011	24X	XX	
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12 ADDITIONAL COMMENTS	RELINGUISHED BY / AFRILIATION	DATE TIME ACCEPTED BY 1 AFFLIATION	DATE TIME SAMPLE	SAMPLE CONDITIONS
	Kelly-1490/ / Wad 10	1023/2 12:30 July Our	17 Jan 1930	-
	200	1000 M (M. C) 2000	10/23 1600 1.1	•
	N Open	10/27/2 1900 TAS/1000	1003003305201	
Paç				
ge 18	SAMPLER NAME AND SIGNATURE	ND SIGNATURE	O	
3 of	PRINT Name of SAMPLER:	SAMPLER: X-CIII-C	ni '	dy d
		11/2/1	ie) () ()

2	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018		
Face Analytical	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office		

Sample Condition Upon Receipt Form (SCUR)

Project #	WO#:35587159	Date and Initials of perpen:
Project Manager	PM: CTR Due Date: 1	0/29/20 Examining contents: 7/0
	CLIENT: 36-MACTEC	Label:
Client:	CLIENT. SO-INCTES	Deliver:
=#-	2.60	57 ft 3 ft 1.00
Thermometer Used:	.344 Date: 10123	100 Time: 23:45 Initials: S-C L
State of Origin:		ejects, all containers verified to ≤6 °C
Cooler #1 Temp. °C(Vis	ual) <u> </u>	(Actual) Samples on ice, cooling process has beg
Cooler #2 Temp. °C(Vis	ual)(Correction Factor)	(Actual) Samples on ice, cooling process has beg
Cooler #3 Temp.°C(Vis	ual)(Correction Factor)	(Actual) Samples on ice, cooling process has beg
Cooler #4 Temp.°C(Vis	ual)(Correction Factor)	(Actual) Samples on ice, cooling process has beg
Cooler #5 Temp. °C(Vis	ual)(Correction Factor)	(Actual) Samples on ice, cooling process has beg
Cooler #6 Temp. °C(Vis	ual)(Correction Factor)	(Actual) Samples on ice, cooling process has beg
П П	una Duana Day / Ra	omercial Dage Other
	UPS USPS Client Com	illiercial — Pace —
Shipping Method: ☐ First Overr	night ☐ Priority Overnight ☐ Standard O	overnight □ Ground □ International Priority
Billing: ☐ Recipient	☐ Sender ☐ Third Party ☐	☐ Credit Card ☐ Unknown
Tracking #	~	
		. the Day 10 10 10 10 10 10 10 10 10 10 10 10 10
Custody Seal on Cooler/Box Pres		act: Yes No Ice: Wey Blue Dry None
Packing Material: Bubble Wrap	p 🗌 Bubble Bags 🔟 None 🗀 Othe	er
Samples shorted to lab (If Yes, co	mplete) Shorted Date:	Shorted Time: Qty:
	Co	omments:
Chain of Custody Present	th∕res □ No □N/A	
Chain of Custody Filled Out	res □ No □N/A	
Relinquished Signature & Sampler I	Name COC Yes □ No □N/A	
Samples Arrived within Hold Time	✓Yes □ No □N/A	
Rush TAT requested on COC	□Yes th No □N/A	
Sufficient Volume	¥Yes □ No □N/A	
Correct Containers Used	ØYes □ No □N/A	
Containers Intact	☐Yes ☐ No ☐N/A	
Sample Label's match COC (sample IDs collection)	& date/time of ■Yes □ No □N/A	
All containers needing acid/base preserv	vation have been	Preservation Information:
checked All Containers needing preservation are	found to be in	Preservative: Lot #/Trace #:
compliance with EPA recommendation:	☐Yes □ No □N/A	Date:Time:
	orm, TOC, O&G, Carbamates	Initials:
Headspace in VOA Vials? (>6mm): Inp Blank Present:	□Yes □ No 17 N/A	
	1162 1140 FMAY	A
Client Notification/ Resolution: Person Contacted:		Date/Time:
i cison contacted.		Dato (into
Comments/ Resolution (use back	for additional comments):	
Project Manager Deviews		Date
Project Manager Review:		Dogo 10



Document Name: Sample Condition Upon Receipt Form Document No.; F-FL-C-007 rev. 13

Document Revised: May 30, 2018 Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # Project Manager: Client:					Date and Initials of person: Examining contents: 5-//- Label: Deliver: pH:
Thermometer Used: 1343	Date	10/	23/	20	1000 Initials: J.A.
State of Origin:			For W	projects, all containers ver	ified to ≤6 °C
Cooler #1 Temp.°C 1.1 (Visual) 5.0	_(Correct	ion Fac			Samples on ice, cooling process has begun
Cooler #2 Temp.°C(Visual)			7	(Actual)	Samples on ice, cooling process has begun
Cooler #3 Temp.°C(Visual)	_(Correct	ion Fac	ctor)	(Actual)	Samples on ice, cooling process has begun
Cooler #4 Temp.°C(Visual)					Samples on ice, cooling process has begun
Cooler #5 Temp.°C(Visual)					Samples on ice, cooling process has begun
Cooler #6 Temp.°C(Visual)					Samples on ice, cooling process has begun
Courier: Fed Ex UPS USF Shipping Method: First Overnight Priority Other Billing: Recipient Sender	/ Overnigh		Standar	•	☐ Otherd ☐ International Priority
Tracking #	-		,		
Custody Seal on Cooler/Box Present:	P No		Seals I	Intact: Yes No	Ice: Wet Blue Dry None
Packing Material: Bubble Wrap Bubble B	ans 🗷	None		Other	
Samples shorted to lab (If Yes, complete)	Shorted				ted Time: Qty:
, , , , , , , , , , , , , , , , , , , ,		10000			u
Chain of Custody Present	≱Yes	□ No	□N/A	Comments:	
Chain of Custody Filled Out	₩Yes		□N/A		
Relinquished Signature & Sampler Name COC	Yes		□N/A		
Samples Arrived within Hold Time	Z Yes		□N/A		
Rush TAT requested on COC	□Yes	,	□N/A		
Sufficient Volume	□Yes	1	□N/A		
Correct Containers Used	□Yes	□ No			
Containers Intact	□Yes				
Sample Labels match COC (sample IDs & date/time of collection)	□Yes				
All containers needing acid/base preservation have been					Preservation Information:
checked. All Containers needing preservation are found to be in	□Yes	□ No	□N/A	Preservative	9:
compliance with EPA recommendation:	□Yes	□ No	□N/A	Lot #/ I race	#:Time:
Exceptions: VOA, Coliform, TOC, O&G, Ca				Initials:	
Headspace in VOA Vials? (>6mm):	□Yes				
Trip Blank Present:	□Yes	□ No	□N/A		
Client Notification/ Resolution: Person Contacted:				Date/Time:	
Comments/ Resolution (use back for additional co	mments):				
Project Manager Review:					Date:

(954)582-4300



October 28, 2020

Ash Aitharaju Wood E&I 5845 NW 158th Street Miami Lakes, FL 33014

RE: Project: Miami River

Pace Project No.: 35587168

Dear Ash Aitharaju:

Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christina Raschke christina.raschke@pacelabs.com

Christin Parelle

(954)582-4300 Project Manager

Enclosures





CERTIFICATIONS

Project: Miami River Pace Project No.: 35587168

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958 New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services, LLC 3610 Park Central Blvd N Pompano Beach, FL 33064 (954)582-4300



SAMPLE SUMMARY

Project: Miami River Pace Project No.: 35587168

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35587168001	MRSS1-8	Water	10/23/20 13:15	10/23/20 18:10

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SAMPLE ANALYTE COUNT

Project: Miami River
Pace Project No.: 35587168

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35587168001	MRSS1-8	EPA 350.1	RRB	1	PASI-O
		EPA 351.2	LNR	1	PASI-O
		EPA 353.2	TM3	1	PASI-O
		EPA 365.1	CLL	1	PASI-O
		EPA 365.4	LNR	1	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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SUMMARY OF DETECTION

Project: Miami River
Pace Project No.: 35587168

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35587168001	MRSS1-8					
EPA 350.1	Nitrogen, Ammonia	1.6	mg/L	0.050	10/26/20 11:56	
EPA 351.2	Nitrogen, Kjeldahl, Total	1.6	mg/L	0.50	10/28/20 10:22	
EPA 365.1	Orthophosphate as P	0.098	mg/L	0.0040	10/24/20 11:56	
EPA 365.4	Phosphorus, Total (as P)	0.12	mg/L	0.10	10/28/20 10:22	



ANALYTICAL RESULTS

Project: Miami River
Pace Project No.: 35587168

Date: 10/28/2020 09:14 PM

Sample: MRSS1-8	Lab ID:	35587168001	Collected	d: 10/23/20	13:15	Received: 10/	23/20 18:10 Ma	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
350.1 Ammonia	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, Ammonia	1.6	mg/L	0.050	0.035	1		10/26/20 11:56	7664-41-7	
351.2 Total Kjeldahl Nitrogen	•	Method: EPA 3 ytical Services			od: EP	A 351.2			
Nitrogen, Kjeldahl, Total	1.6	mg/L	0.50	0.086	1	10/28/20 04:30	10/28/20 10:22	7727-37-9	
353.2 Nitrogen, NO2/NO3 pres.	•	Method: EPA 3 ytical Services		Beach					
Nitrogen, NO2 plus NO3	0.033 U	mg/L	0.050	0.033	1		10/24/20 17:14		
365.1 Orthophosphate as P	•	Method: EPA 3 ytical Services		Beach					
Orthophosphate as P	0.098	mg/L	0.0040	0.0038	1		10/24/20 11:56		
365.4 Phosphorus, Total	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Ormond Beach								
Phosphorus, Total (as P)	0.12	mg/L	0.10	0.050	1	10/28/20 04:30	10/28/20 10:22	7723-14-0	





QUALITY CONTROL DATA

Project: Miami River
Pace Project No.: 35587168

QC Batch: 676609 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587168001

METHOD BLANK: 3680655 Matrix: Water

Associated Lab Samples: 35587168001

Date: 10/28/2020 09:14 PM

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Nitrogen, Ammonia mg/L 0.035 U 0.050 0.035 10/26/20 11:40

LABORATORY CONTROL SAMPLE: 3680656

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, Ammonia 1.1 104 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3680658 3680657

MSD MS 35587159001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result % Rec **RPD** RPD Result Conc. % Rec Limits Qual 0.059 20 Nitrogen, Ammonia mg/L 1 1.1 1.1 99 100 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3680659 3680660

MS MSD 35587063004 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 1 1 Nitrogen, Ammonia < 0.035 1.0 1.1 101 107 6 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Qualifiers





QUALITY CONTROL DATA

Project: Miami River Pace Project No.: 35587168

QC Batch: 677110 QC Batch Method: EPA 351.2

Analysis Method: Analysis Description: EPA 351.2 351.2 TKN

MDL

Laboratory:

Pace Analytical Services - Ormond Beach

Analyzed

Associated Lab Samples: 35587168001

METHOD BLANK:

Date: 10/28/2020 09:14 PM

Matrix: Water

Associated Lab Samples: 35587168001

> Blank Reporting Parameter Units Result Limit

Nitrogen, Kjeldahl, Total 0.086 U 0.50 0.086 10/28/20 09:59 mg/L

LABORATORY CONTROL SAMPLE: 3683309

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, Kjeldahl, Total 20 18.5 93 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3683311 3683310

MSD MS 35585619001 Spike Spike MS MSD MS

MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Result Conc. % Rec % Rec Limits Qual 20 Nitrogen, Kjeldahl, Total mg/L 16.8 20 20 38.7 38.5 109 108 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3683996 3683995

MS MSD 35585886004 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual 1.4 20 20 Nitrogen, Kjeldahl, Total 20.9 20.8 98 97 0 20 mg/L 90-110

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: Miami River Pace Project No.: 35587168

QC Batch: 676400

QC Batch Method: EPA 353.2

Date: 10/28/2020 09:14 PM

Analysis Method: EPA 353.2

Analysis Description:

353.2 Nitrate + Nitrite, preserved

Laboratory:

Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587168001

METHOD BLANK:

Matrix: Water

Associated Lab Samples: 35587168001

> Blank Reporting Parameter Units Result Limit

MDL Qualifiers Analyzed Nitrogen, NO2 plus NO3 0.033 U 0.050 0.033 10/24/20 16:40 mg/L

LABORATORY CONTROL SAMPLE: 3679877

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Nitrogen, NO2 plus NO3 2 2.1 106 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679878 3679879

MSD MS

35586919004 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Result Conc. % Rec % Rec Limits Qual

Nitrogen, NO2 plus NO3 2 20 mg/L 0.12 2 2.2 2.1 106 100 90-110 6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679881 3679880

mg/L

MS MSD 35587063008 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Nitrogen, NO2 plus NO3 2 2 2.2 2.2 0.13 105 105 0 20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

90-110

Qualifiers



QUALITY CONTROL DATA

Project: Miami River
Pace Project No.: 35587168

QC Batch: 676368

QC Batch Method: EPA 365.1

Date: 10/28/2020 09:14 PM

Analysis Method: EPA 365.1

Analysis Description:

365.1 Orthophosphate as P

Laboratory:

Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35587168001

METHOD BLANK: 3679761 Matrix: Water

Associated Lab Samples: 35587168001

Blank Reporting
Parameter Units Result Limit

Parameter Units Result Limit MDL Analyzed

Orthophosphate as P mg/L 0.0038 U 0.0040 0.0038 10/24/20 11:38

LABORATORY CONTROL SAMPLE: 3679762

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Orthophosphate as P 0.1 0.094 94 90-110 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679764 3679763

MSD MS 35585574004 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Qual Result Conc. % Rec % Rec Limits Orthophosphate as P 0.096 20 Q mg/L 0.0038 U 0.1 0.1 0.093 95 92 90-110 3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3679766 3679765

MS MSD 35587168001 MS MSD MS MSD Spike Spike % Rec Max **RPD** RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits Qual 0.1 Orthophosphate as P 0.098 0.1 0.20 0.20 101 100 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: Miami River
Pace Project No.: 35587168

QC Batch: 677113
QC Batch Method: EPA 365.4

Analysis Description: 365.4 Phosphorus

Laboratory: Pace Analytical Services - Ormond Beach

EPA 365.4

Associated Lab Samples: 35587168001

METHOD BLANK: 3683327 Matrix: Water

Associated Lab Samples: 35587168001

Date: 10/28/2020 09:14 PM

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Analysis Method:

Phosphorus, Total (as P) mg/L 0.050 U 0.10 0.050 10/28/20 10:26

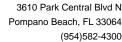
LABORATORY CONTROL SAMPLE: 3683328

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Phosphorus, Total (as P) mg/L 3.8 95 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3683330 3683329

MSD MS 35585619001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Conc. Result Result % Rec % Rec **RPD** RPD Qual Result Limits Phosphorus, Total (as P) 0.28 4.2 4.2 20 mg/L 4 4 99 98 80-120

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALIFIERS

Project: Miami River Pace Project No.: 35587168

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 10/28/2020 09:14 PM

- U Compound was analyzed for but not detected.
- Q Sample held beyond the accepted holding time.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Miami River
Pace Project No.: 35587168

Date: 10/28/2020 09:14 PM

Pace Analytica

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35587168001	MRSS1-8	EPA 350.1	676609		
35587168001	MRSS1-8	EPA 351.2	677110	EPA 351.2	677260
35587168001	MRSS1-8	EPA 353.2	676400		
35587168001	MRSS1-8	EPA 365.1	676368		
35587168001	MRSS1-8	EPA 365.4	677113	EPA 365.4	677268

WO#:35587168

-IAIN-OF-CUSTODY / Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

SAMPLE ID Second Community State	SAMPLE D South Common	SAMPLE ID Signature Committee unique to the first that the committee unique to the committee unique t	;흥[Required Project Information:	Section C Invoice Information:	Pane .
CONTINUE	SAMPLE D State Control Con	SAMPE ID See 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Report To: Ash Aitharaju	Attention:	
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Document Name: Sample Condition Upon Receipt Form

Document Revised: May 30, 2018

Pace Analytical		cument No.: -C-007 rev. 13		Issuing Authority: Pace Florida Quality Office
	Sample Con	0716	0	(SCUR)
Project # Project Manager Client:	PM: CTR CLIENT: 36-MAC		10/29/20	Date and Initials of person: Examining contents: Label: Deliver: pH:
Thermometer Used:	34 <u>9</u> Date	:10/23	3/00 Time:	23.45 Initials: S-C L
State of Origin: Cooler #1 Temp. °C	Correct Corr	For Wolfon Factor) ion Factor) ion Factor) ion Factor) ion Factor) ion Factor) Client Client Standard Third Party Seals i	projects, all containers (-	Samples on ice, cooling process has begur Ce Other Unknown No Ice: Wet Blue Dry None
Samples shorted to lab (If Yes, con	npiete) Shorter	d Date:	Comments:	Shorted Time: Qty:
Chain of Custody Present	Yes	□ No □N/A		*
Chain of Custody Filled Out	Yes	□ No □N/A		
Relinquished Signature & Sampler N	ame COC Yes	□ No □N/A		
Samples Arrived within Hold Time	Yes	□ No □N/A		
Rush TAT requested on COC	□Yes	No □N/A		
Sufficient Volume	Pes	□ No □N/A		
Correct Containers Used	Yes	□ No □N/A		
Containers Intact	Yes	□ No □N/A		\$
Sample Labels match COC (sample IDs &	date/time of			
collection) All containers needing acid/base preserva checked. All Containers needing preservation are fo compliance with EPA recommendation: Exceptions: VOA, Colifor	Yes	□ No □N/A □ No □N/A □ No □N/A		Preservation Information: rvative: race #:Time:
Headspace in VOA Vials? (>6mm):	□Yes	□ No □N/A		
Trip Blank Present:	∐Yes	□ No □N/A		

Client Notification/ Resolution:

Project Manager Review:

Date/Time: Person Contacted: Comments/ Resolution (use back for additional comments):

Date: _____ Page 15 of 15