



PINELLAS COUNTY UTILITIES LABORATORY
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CERTIFICATE OF ANALYSIS

Client: Pinellas County - Environmental Management
Division
22211 US Hwy 19 N
Clearwater, FL 33756

Analyzed By: Pinellas County Utilities Laboratory
1620 Ridge Road Bldg B, Largo, FL 33778
Ph: 727-582-2302

State of Florida Certification: E54357

Workorder Number: 1900582

EPA Lab#: FL00123

Profile: Environmental Mgmt - Ambient

Line Item: EMD - Land Run

SAMPLE SITE	SAMPLE NO.	COLLECTED DATE/TIME	RECEIVED DATE/TIME
LR6-FB 19-02	190058201	03/21/2019 08:30	03/21/2019 15:40
24-02 19-02	190058202	03/21/2019 08:40	03/21/2019 15:40
22-01 19-02	190058203	03/21/2019 09:45	03/21/2019 15:40
23-08 19-02	190058204	03/21/2019 10:37	03/21/2019 15:40
22-12 19-02	190058205	03/21/2019 11:35	03/21/2019 15:40
22-16 19-02	190058206	03/21/2019 12:06	03/21/2019 15:40
29-11 19-02	190058207	03/21/2019 13:18	03/21/2019 15:40
25-07 19-02	190058208	03/21/2019 14:22	03/21/2019 15:40
25-08 19-02	190058209	03/21/2019 15:07	03/21/2019 15:40

THIS REPORT MEETS TNi STANDARDS

All analytical data contained in this report were obtained using the specified methods and were verified by our laboratory quality system. All methods referenced in this report meet TNi requirements unless otherwise indicated by analytical data codes and/or remarks. Analytical results listed within this report pertain only to the specific samples listed. No other inferences can be made. All measurements are on a wet weight basis unless otherwise indicated by the units of measure. Uncertainty of Measurement for each analyte and the associated Quality Control data for these sample results will be provided upon request.

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CERTIFICATION STATEMENT

An asterisk (*) appearing next to an analyte indicates certification is not currently held for that test/analyte or that the certified test method has been sufficiently modified to accommodate the customer requirements that it no longer qualifies as certified.

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Pinellas County Utilities Laboratory
Contact Person: Terri Grimes
727-582-2322

Terri Grimes

04/02/2019

Terri Grimes
Laboratory Project Coordinator/QA Manager
tgrimes@pinellascounty.org

Date



ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058201**
Sample ID: **LR6-FB 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 08:30
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Nutrients									
Analytical Method: ASTM D3590-11B									
Total Kjeldahl Nitrogen	0.10 U	mg/L	1	0.10	0.40	3/27/2019 14:34	AMC		NUTR/2161
Analytical Method: EPA 365.1									
Total Phosphorus	0.01 U	mg/L	1	0.01	0.04	3/27/2019 10:15	AMC		NUTR/2164
Analytical Method: SM 4500PF									
Orthophosphate as P(Dissolved)	0.01 U	mg/L	1	0.01	0.04	3/22/2019 10:06	ISP		NUTR/2154
Analytical Method: SM 4500NH3H									
Ammonia	0.01 U	mg/L	1	0.01	0.04	3/22/2019 10:12	AJH		NUTR/2157
Analytical Method: SM 4500NO3F									
Nitrate+Nitrite (N)	0.01 U	mg/L	1	0.01	0.04	3/22/2019 10:12	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058202**
Sample ID: **24-02 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 08:40
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics									
Analytical Method: SM 2130B									
Turbidity	3.3	NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D									
Total Suspended Solids	8	mg/L	1	1		3/22/2019 13:32	KDP		CHEM/2415
Analytical Method: SM 10200H									
Chlorophyll a (Corrected)	3.9	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	4.9	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	0.5 U	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	0.7	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Pheophytin	1.3	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B									
Biochemical Oxygen Demand	1.1 l	mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Microbiology									
Analytical Method: ASTM D6503-99									
Enterococci	121	MPN/100mL	10	10		3/21/2019 15:52	QAC		MIC/2099
Nutrients									
Analytical Method: ASTM D3590-11B									
Total Kjeldahl Nitrogen	0.73	mg/L	1	0.10	0.40	3/27/2019 14:35	AMC		NUTR/2161
Analytical Method: EPA 365.1									
Total Phosphorus	0.13	mg/L	1	0.01	0.04	3/27/2019 10:16	AMC		NUTR/2164
Analytical Method: SM 4500PF									
Orthophosphate as P(Dissolved)	0.08	mg/L	1	0.01	0.04	3/22/2019 10:07	ISP		NUTR/2154
Analytical Method: SM 4500NH3H									
Ammonia	0.11	mg/L	1	0.01	0.04	3/22/2019 10:13	AJH		NUTR/2157
Analytical Method: SM 4500NO3F									
Nitrate+Nitrite (N)	0.07	mg/L	1	0.01	0.04	3/22/2019 10:13	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058203**
Sample ID: **22-01 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 09:45
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics									
Analytical Method: SM 2130B									
Turbidity	2.6	NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D									
Total Suspended Solids	1	U mg/L	1	1		3/22/2019 13:32	KDP		CHEM/2415
Analytical Method: SM 10200H									
Chlorophyll a (Corrected)	0.5	U mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	3	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	0.5	U mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	0.5	U mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Pheophytin	4.5	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B									
Biochemical Oxygen Demand	1.1	I mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Microbiology									
Analytical Method: ASTM D6503-99									
Enterococci	613	MPN/100mL	10	10		3/21/2019 15:52	QAC		MIC/2099
Nutrients									
Analytical Method: ASTM D3590-11B									
Total Kjeldahl Nitrogen	0.68	mg/L	1	0.10	0.40	3/27/2019 14:36	AMC		NUTR/2161
Analytical Method: EPA 365.1									
Total Phosphorus	0.10	mg/L	1	0.01	0.04	3/27/2019 10:17	AMC		NUTR/2164
Analytical Method: SM 4500PF									
Orthophosphate as P(Dissolved)	0.05	mg/L	1	0.01	0.04	3/22/2019 10:08	ISP		NUTR/2154
Analytical Method: SM 4500NH3H									
Ammonia	0.01	U mg/L	1	0.01	0.04	3/22/2019 10:14	AJH		NUTR/2157
Analytical Method: SM 4500NO3F									
Nitrate+Nitrite (N)	0.22	mg/L	1	0.01	0.04	3/22/2019 10:14	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058204**
Sample ID: **23-08 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 10:37
Matrix: Surface Water
Type: Grab

Parameters	Results Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics								
Analytical Method: SM 2130B								
Turbidity	0.9 NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D								
Total Suspended Solids	2 mg/L	1	1		3/22/2019 13:32	KDP		CHEM/2415
Analytical Method: SM 10200H								
Chlorophyll a (Corrected)	2.4 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	3.4 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	0.6 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	0.5 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Pheophytin	1.6 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B								
Biochemical Oxygen Demand	1.1 l mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Microbiology								
Analytical Method: SM 9223B								
E. coli	3 MPN/100mL	1	1		3/21/2019 16:05	QAC		MIC/2097
Nutrients								
Analytical Method: ASTM D3590-11B								
Total Kjeldahl Nitrogen	0.77 mg/L	1	0.10	0.40	3/27/2019 14:37	AMC		NUTR/2161
Analytical Method: EPA 365.1								
Total Phosphorus	0.04 l mg/L	1	0.01	0.04	3/27/2019 10:24	AMC		NUTR/2164
Analytical Method: SM 4500PF								
Orthophosphate as P(Dissolved)	0.01 l mg/L	1	0.01	0.04	3/22/2019 10:08	ISP		NUTR/2154
Analytical Method: SM 4500NH3H								
Ammonia	0.04 l mg/L	1	0.01	0.04	3/22/2019 10:25	AJH		NUTR/2157
Analytical Method: SM 4500NO3F								
Nitrate+Nitrite (N)	0.02 l mg/L	1	0.01	0.04	3/22/2019 10:25	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058205** Date Received: 3/21/2019 15:40 Matrix: Surface Water
Sample ID: **22-12 19-02** Date Collected: 3/21/2019 11:35 Type: Grab

Parameters	Results Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics								
Analytical Method: SM 2130B								
Turbidity	3.9 NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D								
Total Suspended Solids	2 mg/L	1	1		3/22/2019 13:32	KDP		CHEM/2415
I - Final dried residue < 2.5 mg as req'd by method The Absolute Difference between the duplicate results is less than or equal to the LOD; data not qualified.								
Analytical Method: SM 10200H								
Chlorophyll a (Corrected)	2.8 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	3.2 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	0.5 U mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	0.5 U mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Pheophytin	0.5 mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B								
Biochemical Oxygen Demand	4.8 mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Microbiology								
Analytical Method: SM 9223B								
E. coli	496 MPN/100mL	2	2		3/21/2019 16:05	QAC		MIC/2097
Nutrients								
Analytical Method: ASTM D3590-11B								
Total Kjeldahl Nitrogen	0.84 mg/L	1	0.10	0.40	3/27/2019 14:38	AMC		NUTR/2161
Analytical Method: EPA 365.1								
Total Phosphorus	0.08 mg/L	1	0.01	0.04	3/27/2019 10:25	AMC		NUTR/2164
Analytical Method: SM 4500PF								
Orthophosphate as P(Dissolved)	0.02 I mg/L	1	0.01	0.04	3/22/2019 10:09	ISP		NUTR/2154
Analytical Method: SM 4500NH3H								
Ammonia	0.17 mg/L	1	0.01	0.04	3/22/2019 10:16	AJH		NUTR/2157
Analytical Method: SM 4500NO3F								
Nitrate+Nitrite (N)	0.04 I mg/L	1	0.01	0.04	3/22/2019 10:16	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058206**
Sample ID: **22-16 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 12:06
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics									
Analytical Method: SM 2130B									
Turbidity	3.1	NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D									
Total Suspended Solids	2	mg/L	1	1		3/25/2019 13:11	KDP		CHEM/2417
Analytical Method: SM 10200H									
Chlorophyll a (Corrected)	1.7	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	2.2	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	0.5 U	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	0.5 U	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Pheophytin	0.7	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B									
Biochemical Oxygen Demand	1.8 l	mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Microbiology									
Analytical Method: SM 9223B									
E. coli	299	MPN/100mL	2	2		3/21/2019 16:05	QAC		MIC/2097
Nutrients									
Analytical Method: ASTM D3590-11B									
Total Kjeldahl Nitrogen	0.88	mg/L	1	0.10	0.40	3/27/2019 14:39	AMC		NUTR/2161
Analytical Method: EPA 365.1									
Total Phosphorus	0.09	mg/L	1	0.01	0.04	3/27/2019 10:27	AMC		NUTR/2164
Analytical Method: SM 4500PF									
Orthophosphate as P(Dissolved)	0.03 l	mg/L	1	0.01	0.04	3/22/2019 10:10	ISP		NUTR/2154
Analytical Method: SM 4500NH3H									
Ammonia	0.07	mg/L	1	0.01	0.04	3/22/2019 10:17	AJH	F	NUTR/2157
F - Sample filtered to remove excessive debris									
Analytical Method: SM 4500NO3F									
Nitrate+Nitrite (N)	0.13	mg/L	1	0.01	0.04	3/22/2019 10:17	AJH	F	NUTR/2156
F - Sample filtered to remove excessive debris									

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058207**
Sample ID: **29-11 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 13:18
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics									
Analytical Method: SM 2130B									
Turbidity	1.0	NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D									
Total Suspended Solids	1 U	mg/L	1	1		3/25/2019 13:11	KDP		CHEM/2417
Analytical Method: SM 10200H									
Chlorophyll a (Corrected)	1.0	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	1.3	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	0.5 U	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	0.5 U	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Pheophytin	0.5 U	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B									
Biochemical Oxygen Demand	1.5 I	mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Microbiology									
Analytical Method: SM 9223B									
E. coli	922	MPN/100mL	2	2		3/21/2019 16:05	QAC		MIC/2097
Nutrients									
Analytical Method: ASTM D3590-11B									
Total Kjeldahl Nitrogen	0.65	mg/L	1	0.10	0.40	3/27/2019 14:41	AMC		NUTR/2161
Analytical Method: EPA 365.1									
Total Phosphorus	0.04 I	mg/L	1	0.01	0.04	3/27/2019 10:28	AMC		NUTR/2164
Analytical Method: SM 4500PF									
Orthophosphate as P(Dissolved)	0.01 I	mg/L	1	0.01	0.04	3/22/2019 10:11	ISP		NUTR/2154
Analytical Method: SM 4500NH3H									
Ammonia	0.01 U	mg/L	1	0.01	0.04	3/22/2019 10:19	AJH		NUTR/2157
Analytical Method: SM 4500NO3F									
Nitrate+Nitrite (N)	0.01 U	mg/L	1	0.01	0.04	3/22/2019 10:19	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: 190058208
Sample ID: 25-07 19-02

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 14:22
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Inorganics									
Analytical Method: SM 2130B									
Turbidity	0.7	NTU	1	0.1		3/22/2019 12:58	TMT		CHEM/2413
Analytical Method: SM 2540D									
Total Suspended Solids	1	U mg/L	1	1		3/25/2019 13:11	KDP		CHEM/2417
Analytical Method: SM 10200H									
Chlorophyll a (Corrected)	6.0	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll a (Uncorrected)	7.2	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll b	1.8	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Chlorophyll c	1.2	mg/m3	1	0.5		3/27/2019 12:39	KAV	J	CHEM/2412
J - QC samples exceeded precision limits									
Pheophytin	1.8	mg/m3	1	0.5		3/27/2019 12:39	KAV		CHEM/2412
Analytical Method: SM 5210B									
Biochemical Oxygen Demand	0.9	I mg/L	1	0.5	2.0	3/22/2019 09:48	TMT		CHEM/2411
Metals									
Analytical Method: EPA 200.7-NPW									
Aluminum (Dissolved)	0.020	U mg/L	1	0.020	0.055	3/29/2019 10:40	TMT		MET/1515
Microbiology									
Analytical Method: SM 9223B									
E. coli	2	MPN/100mL	1	1		3/21/2019 16:05	QAC		MIC/2097
Nutrients									
Analytical Method: ASTM D3590-11B									
Total Kjeldahl Nitrogen	0.71	mg/L	1	0.10	0.40	3/27/2019 14:42	AMC		NUTR/2161
Analytical Method: EPA 365.1									
Total Phosphorus	0.08	mg/L	1	0.01	0.04	3/27/2019 10:29	AMC		NUTR/2164
Analytical Method: SM 4500PF									
Orthophosphate as P(Dissolved)	0.04	mg/L	1	0.01	0.04	3/22/2019 10:12	ISP		NUTR/2154
Analytical Method: SM 4500NH3H									
Ammonia	0.05	mg/L	1	0.01	0.04	3/22/2019 10:20	AJH		NUTR/2157
Analytical Method: SM 4500NO3F									
Nitrate+Nitrite (N)	0.03	I mg/L	1	0.01	0.04	3/22/2019 10:20	AJH		NUTR/2156

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ANALYTICAL RESULTS

Workorder: 1900582

Lab ID: **190058209**
Sample ID: **25-08 19-02**

Date Received: 3/21/2019 15:40
Date Collected: 3/21/2019 15:07
Matrix: Surface Water
Type: Grab

Parameters	Results	Units	DF	LOD	LOQ	Analyzed	By	Qualifiers	QC Batch ID
Metals									
Analytical Method: EPA 200.7-NPW									
Aluminum (Dissolved)	0.020	U mg/L	1	0.020	0.055	3/29/2019 10:43	TMT		MET/1515

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