



FLOWERS CHEMICAL LABORATORIES INC.

P.O. Box 150597, Altamonte Springs, FL 32715-0597
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812 SW Harvey Green Dr, Madison, FL 32340
3980 Overseas Hwy, Suite 103, Marathon, FL 33050

Phone: 407-339-5984 E83018 (Main Lab)
Phone: 772-343-8006 E86562 (South Lab)
Phone: 850-973-6878 E82405 (North Lab)
Phone: 305-743-8598 E35834 (Keys Lab)

Florida Keys Aqueduct Authority-WWTP
3375 Overseas Hwy
Marathon, FL 33050

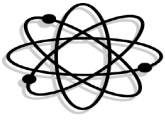
PO #: 16976
Client Project #: Cudjoe Key WWTP -M- SW's
Date Sampled: Apr 9, 1710
Apr 18, 2017; Invoice: 328635

Report Summary

Date Received: Apr 9, 2017

FCL Project Manager: Thomas D. Cross

Laboratory #	Sample Description	Analysis	Chemist	Location	Sample Matrix
328635SW1	C-23	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
328635SW2	C-22	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
328635SW3	C-21	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
328635SW4	CK-5	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
328635SW5	CK-8	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
328635SW6	CK-14	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
		TotNit			



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328635SW7	C-26	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
		TotNit			
328635SW8	CK-1	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	CCP	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
		TotNit			

Certificate of Results

Sample integrity was certified prior to analysis. Test results meet all requirements of the NELAC Standards except as noted in the Quality Control Report. Uncertainties for these data are available on request. This report may not be reproduced in part; results relate only to items tested.



Jefferson S. Flowers, Ph.D.
President/Technical Director



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Analysis Report

Lab #:	Sampled:	Desc:	Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
328635SW1	04/09/17 09:30 AM	C-23	Organic Nitrogen	0		0				OrgNit		
			Total Nitrogen(as N)	0		0				TotNit	17778-88-0	
			TKN(as N)	0.200 U	mg/L	1.00	0.200	0.400	10338824	EPA351.2	7727-37-9	04/15/17
			NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
			Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338980	EPA350.1	7664-41-7	04/17/17
			Total Phosphorus(as P)	0.0120	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
			Chlorophyll a	0.150	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17
328635SW2	04/09/17 09:45 AM	C-22	Organic Nitrogen	0.337		0				OrgNit		
			Total Nitrogen(as N)	0.337		0				TotNit	17778-88-0	
			TKN(as N)	0.337 I	mg/L	1.00	0.200	0.400	10338824	EPA351.2	7727-37-9	04/15/17
			NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
			Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338980	EPA350.1	7664-41-7	04/17/17
			Total Phosphorus(as P)	0.00799	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
			Chlorophyll a	0.120 I	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17
328635SW3	04/09/17 09:55 AM	C-21	Organic Nitrogen	0.323		0				OrgNit		
			Total Nitrogen(as N)	0.323		0				TotNit	17778-88-0	
			TKN(as N)	0.323 I	mg/L	1.00	0.200	0.400	10338824	EPA351.2	7727-37-9	04/15/17
			NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
			Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338980	EPA350.1	7664-41-7	04/17/17
			Total Phosphorus(as P)	0.0149	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
			Chlorophyll a	0.120 I	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17



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Lab #: 328635SW4 **Sampled:** 04/09/10 12:00 AM **Desc:** CK-5

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.243		0				OrgNit		
Total Nitrogen(as N)	0.243		0				TotNit	17778-88-0	
TKN(as N)	0.243 I	mg/L	1.00	0.200	0.400	10338824	EPA351.2	7727-37-9	04/15/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338980	EPA350.1	7664-41-7	04/17/17
Total Phosphorus(as P)	0.0129	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
Chlorophyll a	0.0900 I	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17

Lab #: 328635SW5 **Sampled:** 04/09/17 10:15 AM **Desc:** CK-8

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.405		0				OrgNit		
Total Nitrogen(as N)	0.451		0				TotNit	17778-88-0	
TKN(as N)	0.405	mg/L	1.00	0.200	0.400	10338824	EPA351.2	7727-37-9	04/15/17
NO3+NO2(as N)	0.0461	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338981	EPA350.1	7664-41-7	04/17/17
Total Phosphorus(as P)	0.0127	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
Chlorophyll a	0.0200 U	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17

Lab #: 328635SW6 **Sampled:** 04/09/17 10:40 AM **Desc:** CK-14

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.316		0				OrgNit		
Total Nitrogen(as N)	0.316		0				TotNit	17778-88-0	
TKN(as N)	0.316 I	mg/L	1.00	0.200	0.400	10338824	EPA351.2	7727-37-9	04/15/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338981	EPA350.1	7664-41-7	04/17/17
Total Phosphorus(as P)	0.0117	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
Chlorophyll a	0.110 I	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17



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Lab #: 328635SW7 Sampled: 04/09/17 10:50 AM Desc: C-26

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.280		0				OrgNit		
Total Nitrogen(as N)	0.280		0				TotNit	17778-88-0	
TKN(as N)	0.280 I	mg/L	1.00	0.200	0.400	10338823	EPA351.2	7727-37-9	04/15/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338981	EPA350.1	7664-41-7	04/17/17
Total Phosphorus(as P)	0.0108	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
Chlorophyll a	0.0900 I	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17

Lab #: 328635SW8 Sampled: 04/09/17 11:20 AM Desc: CK-1

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.650		0				OrgNit		
Total Nitrogen(as N)	0.650		0				TotNit	17778-88-0	
TKN(as N)	0.650	mg/L	1.00	0.200	0.400	10338823	EPA351.2	7727-37-9	04/15/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10338963	EPA353.2	I-005	04/17/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10338981	EPA350.1	7664-41-7	04/17/17
Total Phosphorus(as P)	0.0127	mg/L	1.00	0.00200	0.00400	10338982	EPA365.1	7723-14-0	04/17/17
Chlorophyll a	0.250	ug/L	1.00	0.0200	0.150	10339129	SM10200 H	479-61-8	04/09/17



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Quality Report

Quality Control Batch: 10338823		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	2.88	mg/L	3.00	96.02	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	3.10	mg/L	3.00	87.87	80.00-120.00	0.462		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	3.15	mg/L	3.00	89.48	80.00-120.00	0.462	1.54	20.00
Quality Control Batch: 10338824		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	3.22	mg/L	3.00	107.32	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	2.57	mg/L	3.00	85.78	80.00-120.00	0.200U		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	2.56	mg/L	3.00	85.37	80.00-120.00	0.200U	0.48	20.00
Quality Control Batch: 10338963		Analyst: PCW						
Blank	Result	Units						
NO3+NO2(as N)	0.0200U	mg/L						



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Quality Control Batch: 10338963		Analyst: PCW						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
NO3+NO2(as N)	2.03	mg/L	2.00	101.50	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
NO3+NO2(as N)	4.74	mg/L	4.00	112.05	85.00-115.00	0.258		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
NO3+NO2(as N)	4.78	mg/L	4.00	113.05	85.00-115.00	0.258	0.84	20.00
Quality Control Batch: 10338980		Analyst: PCW						
Blank	Result	Units						
Ammonia (as N)	0.0100U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Ammonia (as N)	0.526	mg/L	0.500	105.20	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Ammonia (as N)	1.13	mg/L	1.00	104.27	85.00-115.00	0.0873		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)	1.17	mg/L	1.00	108.27	85.00-115.00	0.0873	3.48	20.00
Quality Control Batch: 10338981		Analyst: PCW						
Blank	Result	Units						
Ammonia (as N)	0.0100U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Ammonia (as N)	0.544	mg/L	0.500	108.80	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		



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Quality Control Batch: 10338981		Analyst: PCW						
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Ammonia (as N)	1.85	mg/L	1.00	116.10	85.00-115.00	0.689		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)	1.82	mg/L	1.00	113.10	85.00-115.00	0.689	1.63	20.00
Quality Control Batch: 10338982		Analyst: CCP						
Blank	Result	Units						
Total Phosphorus(as P)	0.00200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Total Phosphorus(as P)	0.440	mg/L	0.500	88.04	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Total Phosphorus(as P)	0.175	mg/L	0.200	81.43	85.00-115.00	0.0120		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Total Phosphorus(as P)	0.179	mg/L	0.200	83.68	85.00-115.00	0.0120	2.54	20.00
Quality Control Batch: 10339129		Analyst: TRB						
Blank	Result	Units						
Chlorophyll a	0.0200U	ug/L						



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Narrative Report

Sample Handling

Sample handling and holding time criteria were met for all samples. Samples collected by FCL. No unusual events occurred during analysis. Results are reported on a wet weight basis.

Quality Control

Enclosed analyses met method or FCL criteria, unless otherwise denoted on the sample results. Applied data qualifiers are defined below.

Attachments

Chain of Custody
Field Data

Qualifier	Meaning
U	Compound was analyzed for but not detected.
J	Estimated value; one or more QC components associated with this data value exceed current QC limits.
Q	Sample held beyond the accepted holding time.
L	Off-scale high; reported concentration exceeds the highest standard.
V	Analyte was detected in both the sample and the associated method blank.
W	The dissolved oxygen blank was above 0.2 mg/L but less than the MDL.
Z	Too numerous to count colonies on plate.
A	Absent
P	Present
T	Value reported is less than the statistical method detection limit. Reported for informational purposes only.
M	Value reported is greater than the statistical method detection limit, but less than the reported MDL.
G	The greatest of the dilutions performed did not yield sufficient oxygen depletion for valid data.
S	The least of the dilutions performed did not yield sufficient oxygen residual for valid data.
O	Result is greater than (over) the specified value.
I	Reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
B	Results based upon colony plate count outside ideal range.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.