

FLOWERS CHEMICAL LABORATORIES INC.

P.O. Box 150597, Altamonte Springs, FL 32715-0597
571 NW Mercantile Pl, Suite 111, Port St. Lucie, FL 34986
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

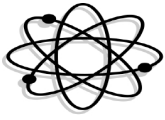
PO #: 16976
Client Project #: Cudjoe Key WWTP -M- SW's
Date Sampled: Jan 19, 2017
Feb 14, 2017; Invoice: 321125

Report Summary

Date Received: Jan 20, 2017

FCL Project Manager: Thomas D. Cross

Laboratory #	Sample Description	Analysis	Chemist	Location	SampleMatrix
321125SW1	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	
321125SW2	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	
321125SW3	CK-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	
321125SW4	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	
321125SW5	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	
321125SW6	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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321125SW7	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			
321125SW8	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
321125SW1	01/19/17 02:40 PM	C-23	Organic Nitrogen	0.638		0				OrgNit		
			Total Nitrogen(as N)	0.638		0				TotNit	17778-88-0	
			Chlorophyll a	0.110 I	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
			NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332620	EPA353.2	I-005	02/02/17
			TKN(as N)	0.638	mg/L	1.00	0.200	0.400	10332688	EPA351.2	7727-37-9	02/02/17
			Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
			Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17
321125SW2	01/19/17 02:50 PM	C-22	Organic Nitrogen	0.628		0				OrgNit		
			Total Nitrogen(as N)	0.628		0				TotNit	17778-88-0	
			Chlorophyll a	0.130 I	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
			NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332620	EPA353.2	I-005	02/02/17
			TKN(as N)	0.628	mg/L	1.00	0.200	0.400	10332688	EPA351.2	7727-37-9	02/02/17
			Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
			Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17
321125SW3	01/19/17 03:00 PM	CK-21	Organic Nitrogen	2.11		0				OrgNit		
			Total Nitrogen(as N)	2.11		0				TotNit	17778-88-0	
			Chlorophyll a	0.170	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
			NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332620	EPA353.2	I-005	02/02/17
			TKN(as N)	2.11	mg/L	1.00	0.200	0.400	10332688	EPA351.2	7727-37-9	02/02/17
			Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
			Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17



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Lab #: 321125SW4 **Sampled:** 01/19/17 03:10 PM **Desc:** CK-5

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.665		0				OrgNit		
Total Nitrogen(as N)	0.665		0				TotNit	17778-88-0	
Chlorophyll a	0.0900 I	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332620	EPA353.2	I-005	02/02/17
TKN(as N)	0.665	mg/L	1.00	0.200	0.400	10332688	EPA351.2	7727-37-9	02/02/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17

Lab #: 321125SW5 **Sampled:** 01/19/17 03:20 PM **Desc:** CK-8

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.729		0				OrgNit		
Total Nitrogen(as N)	0.729		0				TotNit	17778-88-0	
Chlorophyll a	0.130 I	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332620	EPA353.2	I-005	02/02/17
TKN(as N)	0.729	mg/L	1.00	0.200	0.400	10332689	EPA351.2	7727-37-9	02/02/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17

Lab #: 321125SW6 **Sampled:** 01/19/17 03:50 PM **Desc:** CK-14

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.663		0				OrgNit		
Total Nitrogen(as N)	0.663		0				TotNit	17778-88-0	
Chlorophyll a	0.120 I	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332620	EPA353.2	I-005	02/02/17
TKN(as N)	0.663	mg/L	1.00	0.200	0.400	10332689	EPA351.2	7727-37-9	02/02/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17



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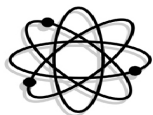
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Lab #: 321125SW7 **Sampled:** 01/19/17 04:00 PM **Desc:** C-26

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.620		0				OrgNit		
Total Nitrogen(as N)	0.620		0				TotNit	17778-88-0	
Chlorophyll a	0.170	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332621	EPA353.2	I-005	02/02/17
TKN(as N)	0.620	mg/L	1.00	0.200	0.400	10332689	EPA351.2	7727-37-9	02/02/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17

Lab #: 321125SW8 **Sampled:** 01/19/17 04:26 PM **Desc:** CK-1

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	1.12		0				OrgNit		
Total Nitrogen(as N)	1.12		0				TotNit	17778-88-0	
Chlorophyll a	0.350	ug/L	1.00	0.0200	0.150	10332085	SM10200 H	479-61-8	01/19/17
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10332621	EPA353.2	I-005	02/02/17
TKN(as N)	1.12	mg/L	1.00	0.200	0.400	10332689	EPA351.2	7727-37-9	02/02/17
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10332750	EPA350.1	7664-41-7	02/05/17
Total Phosphorus(as P)	0.00502	mg/L	1.00	0.00200	0.00400	10333550	EPA365.1	7723-14-0	02/13/17



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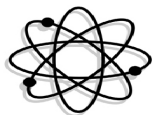
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Quality Report

Quality Control Batch: 10332085		Analyst: TRB						
Blank	Result	Units						
Chlorophyll a	0.0200U	ug/L						
Quality Control Batch: 10332621		Analyst: PCW						
Blank	Result	Units						
NO3+NO2(as N)	0.0200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
NO3+NO2(as N)	2.06	mg/L	2.00	103.00	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
NO3+NO2(as N)	3.85	mg/L	4.00	85.92	85.00-115.00	0.413		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
NO3+NO2(as N)	3.84	mg/L	4.00	85.68	85.00-115.00	0.413	0.26	20.00
Quality Control Batch: 10332689		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	6.40	mg/L	6.00	106.65	80.00-120.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	3.21	mg/L	3.00	82.73	80.00-120.00	0.729		



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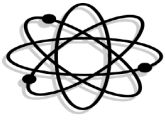
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Quality Control Batch: 10332689	Analyst: VLB							
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	3.22	mg/L	3.00	83.12	80.00-120.00	0.729	0.36	20.00
Quality Control Batch: 10332750	Analyst: PCW							
Blank	Result	Units						
Ammonia (as N)	0.0100U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Ammonia (as N)	0.480	mg/L	0.500	96.00	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Ammonia (as N)	0.806	mg/L	0.780	97.51	85.00-115.00	0.0454		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)	0.802	mg/L	0.780	97.00	85.00-115.00	0.0454	0.50	20.00
Quality Control Batch: 10333550	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)	0.456	mg/L	0.500	91.20	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Total Phosphorus(as P)	0.257	mg/L	0.200	112.40	85.00-115.00	0.0322		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Total Phosphorus(as P)	0.221	mg/L	0.200	94.40	85.00-115.00	0.0322	15.06	20.00



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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 for aqueous matrices and on a dry weight basis for sludge and soil matrices unless otherwise noted.

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.