



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
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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 #: 15352
Client Project #: Cudjoe Key WWTP -M- SW's
Date Sampled: Oct 17, 2016
Oct 26, 2016; Invoice: 312609

Report Summary

Date Received: Oct 17, 2016

FCL Project Manager: Thomas D. Cross

Laboratory #	Sample Description	Analysis	Chemist	Location	Sample Matrix
312609SW1	C-24	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	PCW	Main Lab	
		OrgNit			
312609SW2	CK-3	SM10200 H	TRB	Main Lab	Surface Water
		TotNit			
		EPA350.1	PCW	Main Lab	
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
312609SW3	CK-2	EPA365.1	PCW	Main Lab	Surface Water
		OrgNit			
		SM10200 H	TRB	Main Lab	
		TotNit			
		EPA350.1	PCW	Main Lab	
312609SW4	C-25	EPA351.2	VLB	Main Lab	Surface Water
		EPA353.2	PCW	Main Lab	
		EPA365.1	PCW	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 #: 312609SW1 **Sampled:** 10/17/16 07:35 AM **Desc:** C-24

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.592		0				OrgNit		
Total Nitrogen(as N)	0.592		0				TotNit	17778-88-0	
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10323752	EPA353.2	I-005	10/19/16
TKN(as N)	0.592	mg/L	1.00	0.200	0.400	10323981	EPA351.2	7727-37-9	10/20/16
Total Phosphorus(as P)	0.0207	mg/L	1.00	0.00200	0.00400	10324152	EPA365.1	7723-14-0	10/24/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10324243	EPA350.1	7664-41-7	10/25/16
Chlorophyll a	0.240	ug/L	1.00	0.0200	0.150	10324371	SM10200 H	479-61-8	10/17/16

Lab #: 312609SW2 **Sampled:** 10/17/16 07:45 AM **Desc:** CK-3

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.685		0				OrgNit		
Total Nitrogen(as N)	0.685		0				TotNit	17778-88-0	
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10323752	EPA353.2	I-005	10/19/16
TKN(as N)	0.685	mg/L	1.00	0.200	0.400	10323981	EPA351.2	7727-37-9	10/20/16
Total Phosphorus(as P)	0.0183	mg/L	1.00	0.00200	0.00400	10324152	EPA365.1	7723-14-0	10/24/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10324243	EPA350.1	7664-41-7	10/25/16
Chlorophyll a	0.100 I	ug/L	1.00	0.0200	0.150	10324371	SM10200 H	479-61-8	10/17/16

Lab #: 312609SW3 **Sampled:** 10/17/16 07:50 AM **Desc:** CK-2

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.685		0				OrgNit		
Total Nitrogen(as N)	0.685		0				TotNit	17778-88-0	
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10323752	EPA353.2	I-005	10/19/16
TKN(as N)	0.685	mg/L	1.00	0.200	0.400	10323981	EPA351.2	7727-37-9	10/20/16
Total Phosphorus(as P)	0.0138	mg/L	1.00	0.00200	0.00400	10324152	EPA365.1	7723-14-0	10/24/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10324243	EPA350.1	7664-41-7	10/25/16
Chlorophyll a	0.110 I	ug/L	1.00	0.0200	0.150	10324371	SM10200 H	479-61-8	10/17/16



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Lab #: 312609SW4 Sampled: 10/17/16 10:00 AM Desc: C-25

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.607		0				OrgNit		
Total Nitrogen(as N)	0.607		0				TotNit	17778-88-0	
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10323752	EPA353.2	I-005	10/19/16
TKN(as N)	0.607	mg/L	1.00	0.200	0.400	10323981	EPA351.2	7727-37-9	10/20/16
Total Phosphorus(as P)	0.0187	mg/L	1.00	0.00200	0.00400	10324152	EPA365.1	7723-14-0	10/24/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10324243	EPA350.1	7664-41-7	10/25/16
Chlorophyll a	0.260	ug/L	1.00	0.0200	0.150	10324371	SM10200 H	479-61-8	10/17/16



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Quality Report

Quality Control Batch: 10323752		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)	2.02	mg/L	2.00	101.00	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
NO3+NO2(as N)	4.28	mg/L	4.00	107.00	85.00-115.00	0.0200U		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
NO3+NO2(as N)	4.24	mg/L	4.00	106.00	85.00-115.00	0.0200U	0.94	20.00
Quality Control Batch: 10323981		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	3.00	mg/L	3.00	100.07	80.00-120.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	3.47	mg/L	3.00	93.54	80.00-120.00	0.662		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	3.58	mg/L	3.00	97.12	80.00-120.00	0.662	3.04	20.00
Quality Control Batch: 10324152		Analyst: PCW						
Blank	Result	Units						
Total Phosphorus(as P)	0.00200U	mg/L						



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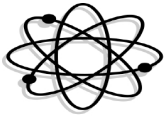
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Quality Control Batch: 10324152		Analyst: PCW						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Total Phosphorus(as P)	0.449	mg/L	0.470	95.53	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Total Phosphorus(as P)	0.164	mg/L	0.200	73.99	85.00-115.00	0.0157		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Total Phosphorus(as P)	0.168	mg/L	0.200	76.32	85.00-115.00	0.0157	2.81	20.00
Quality Control Batch: 10324243		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		
Ammonia (as N)	1.34	mg/L	0.780	74.10	85.00-115.00	0.762		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)	1.35	mg/L	0.780	75.38	85.00-115.00	0.762	0.74	20.00
Quality Control Batch: 10324371		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.