



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

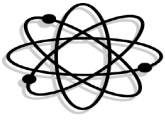
PO #: 15352
Client Project #: Cudjoe Key -M- SW
Date Sampled: Jun 18, 2016
Jun 29, 2016; Invoice: 301668

Report Summary

Date Received: Jun 18, 2016

FCL Project Manager: Thomas D. Cross

Laboratory #	Sample Description	Analysis	Chemist	Location	Sample Matrix
301668SW1	C-23	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		OrgNit			
301668SW2	C-22	SM10200 H	ECG	Main Lab	Surface Water
		TotNit			
		EPA350.1	PCW	Main Lab	
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
301668SW3	C-21	EPA365.1	VLB	Main Lab	Surface Water
		OrgNit			
		SM10200 H	ECG	Main Lab	
		TotNit			
		EPA350.1	PCW	Main Lab	
301668SW4	CK-5	EPA351.2	VLB	Main Lab	Surface Water
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
301668SW5	CK-8	TotNit			Surface Water
		EPA350.1	PCW	Main Lab	
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
301668SW6	CK-14	OrgNit			Surface Water
		SM10200 H	ECG	Main Lab	
		TotNit			
		EPA350.1	PCW	Main Lab	
		EPA351.2	VLB	Main Lab	
EPA353.2	PCW	Main Lab			
EPA365.1	VLB	Main Lab			
OrgNit					
SM10200 H	ECG	Main Lab			
TotNit					



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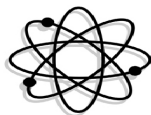
301668SW7	C-26	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
		TotNit			
301668SW8	CK-1	EPA350.1	PCW	Main Lab	Surface Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		OrgNit			
		SM10200 H	ECG	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 #: 301668SW1 **Sampled:** 06/18/16 07:41 AM **Desc:** C-23

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.272		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.272		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.510	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.272 J	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16

Lab #: 301668SW2 **Sampled:** 06/18/16 07:50 AM **Desc:** C-22

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.200 U		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.200 U		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.210	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.200 U	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16

Lab #: 301668SW3 **Sampled:** 06/18/16 07:55 AM **Desc:** C-21

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.213		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.213		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.410	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.213 I	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16



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Lab #: 301668SW4 **Sampled:** 06/18/16 08:10 AM **Desc:** CK-5

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.254		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.254		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.260	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.254 I	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16

Lab #: 301668SW5 **Sampled:** 06/18/16 08:20 AM **Desc:** CK-8

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.256		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.256		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.0600 I	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.256 I	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0408	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16

Lab #: 301668SW6 **Sampled:** 06/18/16 08:40 AM **Desc:** CK-14

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.233		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.233		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.240	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.233 I	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16



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Lab #: 301668SW7 **Sampled:** 06/18/16 08:55 AM **Desc:** C-26

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.256		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.256		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.330	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.256 I	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16

Lab #: 301668SW8 **Sampled:** 06/18/16 09:20 AM **Desc:** CK-1

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.437		1.00	0.200			OrgNit		
Total Nitrogen(as N)	0.437		1.00	0.200			TotNit	17778-88-0	
Chlorophyll a	0.470	ug/L	1.00	0.0200	0.150	10314881	SM10200 H	479-61-8	06/23/16
TKN(as N)	0.437	mg/L	1.00	0.200	0.400	10314899	EPA351.2	7727-37-9	06/24/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10314986	EPA353.2	I-005	06/27/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10315105	EPA350.1	7664-41-7	06/29/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10315194	EPA365.1	7723-14-0	06/23/16



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Quality Report

Quality Control Batch: 10314881		Analyst: ECG						
Blank	Result	Units						
Chlorophyll a	0.0200U	ug/L						
Quality Control Batch: 10314899		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	2.87	mg/L	3.00	95.61	80.00-120.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	2.63	mg/L	3.00	78.65	80.00-120.00	0.272		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	2.62	mg/L	3.00	78.29	80.00-120.00	0.272	0.41	20.00
Quality Control Batch: 10314986		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)	2.10	mg/L	2.00	105.00	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
NO3+NO2(as N)	3.91	mg/L	4.00	97.75	85.00-115.00	0.0200U		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim



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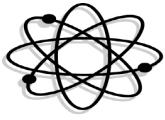
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Quality Control Batch: 10314986	Analyst: PCW							
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
NO3+NO2(as N)	3.86	mg/L	4.00	96.50	85.00-115.00	0.0200U	1.29	20.00
Quality Control Batch: 10315105	Analyst: PCW							
Blank	Result	Units						
Ammonia (as N)	0.0100U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Ammonia (as N)	0.530	mg/L	0.500	106.00	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Ammonia (as N)	0.864	mg/L	0.780	113.86	85.00-115.00	-0.0241		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)	0.800	mg/L	0.780	105.65	85.00-115.00	-0.0241	7.69	20.00
Quality Control Batch: 10315194	Analyst: VLB							
Blank	Result	Units						
Total Phosphorus(as P)	0.00200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
Total Phosphorus(as P)	0.457	mg/L	0.500	91.34	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Total Phosphorus(as P)	0.217	mg/L	0.200	108.51	85.00-115.00	0.00200U		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Total Phosphorus(as P)	0.219	mg/L	0.200	109.62	85.00-115.00	0.00200U	1.02	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.

Quality Control

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

Additional Comments

Sample C-23 was used for TKN MS/MSD and is "J" flagged because recovery was below control limit. The LCS validates the batch.

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.