

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

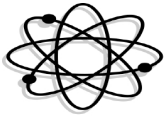
PO #: 15353
Client Project #: Cudjoe Key -M- GW
Date Sampled: Mar 14, 2016
Mar 30, 2016; Invoice: 292981

Report Summary

Date Received: Mar 14, 2016

FCL Project Manager: Thomas D. Cross

Laboratory #	Sample Description	Analysis	Chemist	Location	SampleMatrix
292981GW1	OW-1	EPA350.1	PCW	Main Lab	Ground Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		FDEP DEP-SOP	PCW	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
292981GW2	OW-3	EPA350.1	PCW	Main Lab	Ground Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		FDEP DEP-SOP	PCW	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
292981GW3	OW-5	EPA350.1	PCW	Main Lab	Ground Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		FDEP DEP-SOP	PCW	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
292981GW4	OW-4	EPA350.1	PCW	Main Lab	Ground Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		FDEP DEP-SOP	PCW	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
292981GW5	OW-2	EPA350.1	PCW	Main Lab	Ground Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		FDEP DEP-SOP	PCW	Main Lab	
		OrgNit			
		SM10200 H	ECG	Main Lab	
	TotNit				



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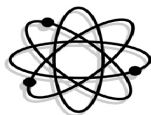
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Certificate of Results

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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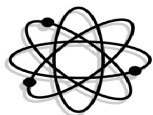
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Analysis Report

Lab #:	Sampled:	Desc:	Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
292981GW1	03/14/16 10:35 AM	OW-1	Organic Nitrogen	0.764		0				OrgNit		
			Total Nitrogen(as N)	0.764		0				TotNit	17778-88-0	
			Unionized NH3(as N)	0.000100	U mg/L	1.00	0.000100	0.000200	10274203	FDEP DEP-SOF		03/23/16
			Chlorophyll a	1.00	U mg/m3	1.00	1.00	2.00	10306826	SM10200 H	479-61-8	03/18/16
			TKN(as N)	0.764	mg/L	1.00	0.200	0.400	10307299	EPA351.2	7727-37-9	03/24/16
			Total Phosphorus(as P)	0.00200	U mg/L	1.00	0.00200	0.00400	10307376	EPA365.1	7723-14-0	03/25/16
			Ammonia (as N)	0.0100	U mg/L	1.00	0.0100	0.0200	10307477	EPA350.1	7664-41-7	03/23/16
			NO3+NO2(as N)	0.0200	U mg/L	1.00	0.0200	0.0400	10307489	EPA353.2	I-005	03/28/16
292981GW2	03/14/16 10:57 AM	OW-3	Organic Nitrogen	0.787		0				OrgNit		
			Total Nitrogen(as N)	1.97		0				TotNit	17778-88-0	
			Unionized NH3(as N)	0.00673	mg/L	1.00	0.000100	0.000200	10274203	FDEP DEP-SOF		03/23/16
			Chlorophyll a	1.00	U mg/m3	1.00	1.00	2.00	10306826	SM10200 H	479-61-8	03/18/16
			TKN(as N)	1.97	mg/L	1.00	0.200	0.400	10307299	EPA351.2	7727-37-9	03/24/16
			Total Phosphorus(as P)	0.214	mg/L	1.00	0.00200	0.00400	10307376	EPA365.1	7723-14-0	03/25/16
			Ammonia (as N)	1.18	mg/L	1.00	0.0100	0.0200	10307477	EPA350.1	7664-41-7	03/23/16
			NO3+NO2(as N)	0.0200	U mg/L	1.00	0.0200	0.0400	10307489	EPA353.2	I-005	03/28/16
292981GW3	03/14/16 11:38 AM	OW-5	Organic Nitrogen	1.24		0				OrgNit		
			Total Nitrogen(as N)	3.00		0				TotNit	17778-88-0	
			Unionized NH3(as N)	0.0100	mg/L	1.00	0.000100	0.000200	10274203	FDEP DEP-SOF		03/23/16
			Chlorophyll a	1.00	U mg/m3	1.00	1.00	2.00	10306826	SM10200 H	479-61-8	03/18/16
			TKN(as N)	3.00	mg/L	1.00	0.200	0.400	10307299	EPA351.2	7727-37-9	03/24/16



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Lab #: 292981GW3 Sampled: 03/14/16 11:38 AM Desc: OW-5

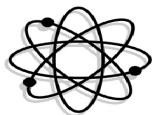
Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Total Phosphorus(as P)	0.0282	mg/L	1.00	0.00200	0.00400	10307376	EPA365.1	7723-14-0	03/25/16
Ammonia (as N)	1.76	mg/L	1.00	0.0100	0.0200	10307477	EPA350.1	7664-41-7	03/23/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10307489	EPA353.2	I-005	03/28/16

Lab #: 292981GW4 Sampled: 03/14/16 12:00 PM Desc: OW-4

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.536		0				OrgNit		
Total Nitrogen(as N)	0.617		0				TotNit	17778-88-0	
Unionized NH3(as N)	0.000100 U	mg/L	1.00	0.000100	0.000200	10274203	FDEP DEP-SOF		03/23/16
Chlorophyll a	1.00 U	mg/m3	1.00	1.00	2.00	10306826	SM10200 H	479-61-8	03/18/16
TKN(as N)	0.536	mg/L	1.00	0.200	0.400	10307299	EPA351.2	7727-37-9	03/24/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10307376	EPA365.1	7723-14-0	03/25/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10307477	EPA350.1	7664-41-7	03/23/16
NO3+NO2(as N)	0.0805	mg/L	1.00	0.0200	0.0400	10307489	EPA353.2	I-005	03/28/16

Lab #: 292981GW5 Sampled: 03/14/16 12:22 PM Desc: OW-2

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.255		0				OrgNit		
Total Nitrogen(as N)	2.66		0				TotNit	17778-88-0	
Unionized NH3(as N)	0.000100 U	mg/L	1.00	0.000100	0.000200	10274203	FDEP DEP-SOF		03/23/16
Chlorophyll a	1.00 U	mg/m3	1.00	1.00	2.00	10306826	SM10200 H	479-61-8	03/18/16
TKN(as N)	0.255 I	mg/L	1.00	0.200	0.400	10307299	EPA351.2	7727-37-9	03/24/16
Total Phosphorus(as P)	0.00200 U	mg/L	1.00	0.00200	0.00400	10307376	EPA365.1	7723-14-0	03/25/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10307477	EPA350.1	7664-41-7	03/23/16
NO3+NO2(as N)	2.40	mg/L	1.00	0.0200	0.0400	10307489	EPA353.2	I-005	03/28/16



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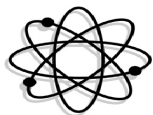
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Quality Report

Quality Control Batch: 10274203		Analyst: PCW						
Blank	Result	Units						
Unionized NH3(as N)	0.000100U	mg/L						
Quality Control Batch: 10306826		Analyst: ECG						
Blank	Result	Units						
Chlorophyll a	1.00U	mg/m3						
Quality Control Batch: 10307299		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	2.93	mg/L	3.00	97.65	80.00-120.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	2.91	mg/L	3.00	77.83	80.00-120.00	0.578		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	2.95	mg/L	3.00	78.96	80.00-120.00	0.578	1.16	20.00
Quality Control Batch: 10307376		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)	0.485	mg/L	0.500	97.06	85.00-115.00			



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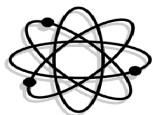
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Quality Control Batch: 10307376		Analyst: VLB						
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Total Phosphorus(as P)	0.150	mg/L	0.200	75.22	85.00-115.00	0.00200U		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Total Phosphorus(as P)	0.160	mg/L	0.200	79.80	85.00-115.00	0.00200U	5.90	20.00
Quality Control Batch: 10307477		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)	0.844	mg/L	0.780	108.21	85.00-115.00	0.0100U		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)	0.893	mg/L	0.780	114.49	85.00-115.00	0.0100U	5.64	20.00
Quality Control Batch: 10307489		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)	2.11	mg/L	2.00	105.50	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
NO3+NO2(as N)	4.47	mg/L	4.00	105.35	85.00-115.00	0.256		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim



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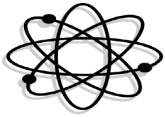
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Quality Control Batch: 10307489	Analyst: PCW							
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
NO3+NO2(as N)	4.65	mg/L	4.00	109.85	85.00-115.00	0.256	3.95	20.00



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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

The sample selected for MS/MSD TKN and TP was not from this sample delivery group. The LCS validates the run.

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.