

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

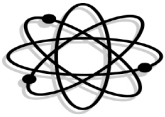
PO #: 15353
Client Project #: Cudjoe Key -M- GW
Date Sampled: Jul 18, 2016
Jul 27, 2016; Invoice: 304447

Report Summary

Date Received: Jul 18, 2016

FCL Project Manager: Thomas D. Cross

Laboratory #	Sample Description	Analysis	Chemist	Location	SampleMatrix
304447GW1	OW-1	EPA350.1	PCW	Main Lab	Ground Water
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		OrgNit			
304447GW2	OW-3	SM10200 H	TRB	Main Lab	Ground Water
		TotNit			
		EPA350.1	PCW	Main Lab	
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
304447GW3	OW-5	EPA365.1	VLB	Main Lab	Ground Water
		OrgNit			
		SM10200 H	TRB	Main Lab	
		TotNit			
		EPA350.1	PCW	Main Lab	
304447GW4	OW-4	EPA351.2	VLB	Main Lab	Ground Water
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
		OrgNit			
		SM10200 H	TRB	Main Lab	
304447GW5	OW-2	TotNit			Ground Water
		EPA350.1	PCW	Main Lab	
		EPA351.2	VLB	Main Lab	
		EPA353.2	PCW	Main Lab	
		EPA365.1	VLB	Main Lab	
	OrgNit				
	SM10200 H	TRB	Main Lab		
	TotNit				



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Certificate of Results

Sample integrity was certified prior to analysis. Test results meet all requirements of the NELAP 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 #: 304447GW1 **Sampled:** 07/18/16 07:30 AM **Desc:** OW-1

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.684		0				OrgNit		
Total Nitrogen(as N)	0.696		0				TotNit	17778-88-0	
Total Phosphorus(as P)	0.00334 I	mg/L	1.00	0.00200	0.00400	10316541	EPA365.1	7723-14-0	07/19/16
TKN(as N)	0.696	mg/L	1.00	0.200	0.400	10316907	EPA351.2	7727-37-9	07/21/16
Ammonia (as N)	0.0121 I	mg/L	1.00	0.0100	0.0200	10317066	EPA350.1	7664-41-7	07/25/16
Chlorophyll a	0.0200 U	ug/L	1.00	0.0200	0.150	10317239	SM10200 H	479-61-8	07/18/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10317421	EPA353.2	I-005	07/25/16

Lab #: 304447GW2 **Sampled:** 07/18/16 07:52 AM **Desc:** OW-3

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	1.39		0				OrgNit		
Total Nitrogen(as N)	2.99		0				TotNit	17778-88-0	
Total Phosphorus(as P)	0.265	mg/L	1.00	0.00200	0.00400	10316541	EPA365.1	7723-14-0	07/19/16
TKN(as N)	2.99	mg/L	1.00	0.200	0.400	10316907	EPA351.2	7727-37-9	07/21/16
Ammonia (as N)	1.60	mg/L	1.00	0.0100	0.0200	10317066	EPA350.1	7664-41-7	07/25/16
Chlorophyll a	0.0700 I	ug/L	1.00	0.0200	0.150	10317239	SM10200 H	479-61-8	07/18/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10317421	EPA353.2	I-005	07/25/16

Lab #: 304447GW3 **Sampled:** 07/18/16 08:25 AM **Desc:** OW-5

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	1.20		0				OrgNit		
Total Nitrogen(as N)	5.61		0				TotNit	17778-88-0	
Total Phosphorus(as P)	0.0146	mg/L	1.00	0.00200	0.00400	10316541	EPA365.1	7723-14-0	07/19/16
TKN(as N)	5.61	mg/L	1.00	0.200	0.400	10316907	EPA351.2	7727-37-9	07/21/16
Ammonia (as N)	4.42	mg/L	5.00	0.0500	0.100	10317066	EPA350.1	7664-41-7	07/25/16
Chlorophyll a	0.0200 U	ug/L	1.00	0.0200	0.150	10317239	SM10200 H	479-61-8	07/18/16
NO3+NO2(as N)	0.0200 U	mg/L	1.00	0.0200	0.0400	10317421	EPA353.2	I-005	07/25/16



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Lab #: 304447GW4 Sampled: 07/18/16 08:53 AM Desc: OW-4

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.853		0				OrgNit		
Total Nitrogen(as N)	0.909		0				TotNit	17778-88-0	
Total Phosphorus(as P)	0.00296 I	mg/L	1.00	0.00200	0.00400	10316541	EPA365.1	7723-14-0	07/19/16
TKN(as N)	0.853	mg/L	1.00	0.200	0.400	10316907	EPA351.2	7727-37-9	07/21/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10317066	EPA350.1	7664-41-7	07/25/16
Chlorophyll a	0.0200 U	ug/L	1.00	0.0200	0.150	10317239	SM10200 H	479-61-8	07/18/16
NO3+NO2(as N)	0.0562	mg/L	1.00	0.0200	0.0400	10317421	EPA353.2	I-005	07/25/16

Lab #: 304447GW5 Sampled: 07/18/16 09:17 AM Desc: OW-2

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Organic Nitrogen	0.413		0				OrgNit		
Total Nitrogen(as N)	4.80		0				TotNit	17778-88-0	
Total Phosphorus(as P)	0.00338 I	mg/L	1.00	0.00200	0.00400	10316541	EPA365.1	7723-14-0	07/19/16
TKN(as N)	0.413	mg/L	1.00	0.200	0.400	10316907	EPA351.2	7727-37-9	07/21/16
Ammonia (as N)	0.0100 U	mg/L	1.00	0.0100	0.0200	10317066	EPA350.1	7664-41-7	07/25/16
Chlorophyll a	0.0200 U	ug/L	1.00	0.0200	0.150	10317239	SM10200 H	479-61-8	07/18/16
NO3+NO2(as N)	4.39	mg/L	1.00	0.0200	0.0400	10317421	EPA353.2	I-005	07/25/16



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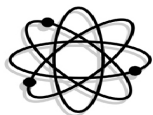
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Quality Report

Quality Control Batch: 10316541		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)	0.463	mg/L	0.500	92.67	85.00-115.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Total Phosphorus(as P)	0.480	mg/L	0.200	74.38	85.00-115.00	0.332		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Total Phosphorus(as P)	0.479	mg/L	0.200	73.58	85.00-115.00	0.332	0.33	20.00
Quality Control Batch: 10316907		Analyst: VLB						
Blank	Result	Units						
TKN(as N)	0.200U	mg/L						
Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim			
TKN(as N)	2.98	mg/L	3.00	99.34	80.00-120.00			
Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
TKN(as N)	3.62	mg/L	3.00	92.94	80.00-120.00	0.829		
Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
TKN(as N)	3.68	mg/L	3.00	94.90	80.00-120.00	0.829	1.62	20.00
Quality Control Batch: 10317066		Analyst: PCW						
Blank	Result	Units						
Ammonia (as N)	0.0100U	mg/L						



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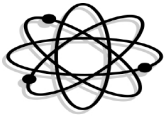
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Quality Control Batch: 10317066		Analyst: PCW							
Laboratory Control Sample		Result	Units	Spike	%REC	%REC Lim			
Ammonia (as N)		0.510	mg/L	0.500	102.00	85.00-115.00			
Matrix Spike		Result	Units	Spike	%REC	%REC Lim	Sample		
Ammonia (as N)		0.890	mg/L	0.780	112.64	85.00-115.00	0.0114		
Matrix Spike Duplicate		Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Ammonia (as N)		0.854	mg/L	0.780	108.03	85.00-115.00	0.0114	4.13	20.00
Quality Control Batch: 10317239		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.