Chapter 4

Water Quality Monitoring

ENVIRONMENTAL PROGRAMS

Daphne

City of Daphne Phase II MS4
Chapter 4 Water Quality Monitoring Plan

Chapter 4	Water Quality Monitoring Plan	Goal	2012 Proposed	2012 Achieved	2013 Proposed	2013 Achieved	2014 Proposed	2014 Achieved	2015 Proposed	2015 Achieved	2016 Proposed	2016 Achieved
4.B1-1	City Water Quality Monitoring Plan	Submit City Monitoring Plan to ADEM for Review and Approval	✓	✓	*	*	*	*	*	*	*	*
4.B1-2	City Water Quality Monitoring Plan	Implement water quality monitoring plan and submit data in SWMP Plan Annual Report	*	**🗁	✓	✓🗁	✓	✓🗁	✓	✓🗁	✓	
4.B2-1	Alabama Water Watch (AWW)	Initiate Communication with the State regarding a City sponsored AWW Program in the D'Olive Watershed	✓	✓🗁	*	*	*	*	*	*	*	*
4.B2-2	Alabama Water Watch (AWW)	Dependent upon funding, City will host training and provide three (3) volunteers with AWW water quality sampling kits	*	*	*	*	✓	✓🗁	*	*	*	*
4.B2-3	Alabama Water Watch (AWW)	In years three (3) through (5), if implemented submit sampling data to the AWW and submit data in SWMP Plan Annual Report	*	*	*	*	✓	✓🗁	✓	✓🗁	✓	
		Total Goals							**2**	**2**		
*	**Not Proposed for Permit Year**											
**	**Completed Prior to Proposed Year**											
🗁	**Attachment Included in Report**											

Chapter 4 Water Quality Monitoring

4.B1-2 Daphne Water Quality Monitoring Results

Sample Location	Date Sampled	Date Sampled	Consultant
D'Olive at Bayview	2/1/2016	2/15/2016	Allen Eng & Science & Test America
Tiawasee at Bayview	2/15/2016	3/11/2016	Allen Eng & Science & Test America

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-101460-1
Client Project/Site: Daphne MS-4 Stormwater D'Olive Creek

For:
City of Daphne
PO BOX 2550
Daphne, Alabama 36526

Attn: Ms. Ashley Campbell

Authorized for release by:
3/26/2015 4:40:38 PM

Mike Nance, Service Center Manager
(251)666-6633
mike.nance@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Client Sample Results 4
Lab Chronicle 5
Certification Summary 6
Method Summary 7
Sample Summary 8
Chain of Custody 9
Field Data Sheets 10
Receipt Checklists 11

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-101460-1

Client Sample ID: DC (01-09) Flow Proportional Composite

Lab Sample ID: 400-101460-10

Date Collected: 02/02/15 08:30
Date Received: 02/02/15 08:30

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.0		5.0		mg/L			02/04/15 12:40	1
Turbidity	8.5		0.50		NTU			02/03/15 11:08	1

Client Sample ID: DC (01-09) Flow Proportional Composite

Lab Sample ID: 400-101460-10

Date Collected: 02/02/15 08:30
Date Received: 02/02/15 08:30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	245457	02/04/15 12:40	TET	TAL PEN
Total/NA	Analysis	180.1		1	245714	02/03/15 11:08	LSS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Certification Summary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-101460-1

Laboratory: TestAmerica Pensacola

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-15
Arizona	State Program	9	AZ0710	01-11-16
Arkansas DEQ	State Program	6	88-0689	09-01-15
Florida	NELAP	4	E81010	06-30-15
Georgia	State Program	4	N/A	06-30-15
Illinois	NELAP	5	200041	10-09-15
Iowa	State Program	7	367	07-31-16
Kansas	NELAP	7	E-10253	03-31-15
Kentucky (UST)	State Program	4	53	06-30-15
Kentucky (WW)	State Program	4	98030	12-31-15
Louisiana	NELAP	6	30976	06-30-15
Maryland	State Program	3	233	09-30-15
Michigan	State Program	5	9912	06-30-15
New Jersey	NELAP	2	FL006	06-30-15
North Carolina (WW/SW)	State Program	4	314	12-31-15
Oklahoma	State Program	6	9810	08-31-15
Pennsylvania	NELAP	3	68-00467	01-31-16
Rhode Island	State Program	1	LAO00307	12-30-15
South Carolina	State Program	4	96026	06-30-15
Tennessee	State Program	4	TN02907	06-30-15
Texas	NELAP	6	T104704286-12-5	09-30-15
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-15
West Virginia DEP	State Program	3	136	06-30-15

Method Summary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-101460-1

Method	Method Description	Protocol	Laboratory
160.2	Solids, Total Suspended (TSS)	MCAWW	TAL PEN
180.1	Turbidity, Nephelometric	MCAWW	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-101460-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-101460-10	DC (01-09) Flow Proportional Composite	Water	02/02/15 08:30	02/02/15 08:30

TestAmerica Mobile
900 Lakeside Drive
Mobile, AL 36693
Phone (251) 666-6633 Fax (251) 666-6696

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

400-101460 COC

Client Information	Sampler: S. Allison	Lab PM:	COC No: 700-33049-2926.1
Client Contact: Ms. Ashley Campbell	Phone: (251) 342-0700	E-Mail:	Page: Page 1 of 1
Company: City of Daphne			Job #:
Address: PO BOX 2550	Due Date Requested:		
City: Daphne	TAT Requested (days):		
State, Zip: AL, 36526			
Phone: (251) 621-3080	PO #:		
Email: ~~cpm@daphneal.com~~ ACAMPBELL@DAPHNEAL.COM	WO #:		
Project Name: Daphne D'Olive Creek	Project #: 14134.02		
Site: D'Olive Creek at Bayview	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	~~1664A-O&G~~	~~150.1-pH~~	TSS/Turbidity	Total Number of containers	pH	Temp. C°	Cumulative Rainfall
			Preservation Code:				A	N	N		Special Instructions/Note:		
DC-01	02-01-15	12:40	C	Water					1		6.35	15.1	0.12
DC-02	02-01-15	13:00	C	Water					1		6.55	15.0	0.02
DC-03	02-01-15	13:20	C	Water					1		6.61	15.1	0.005
DC-04	02-01-15	13:40	C	Water					1		6.63	15.1	0.01
DC-05	02-01-15	14:00	C	Water					1		6.60	15.2	0.02
DC-06	02-01-15	14:20	C	Water					1		6.51	15.2	0.005
DC-07	02-01-15	14:40	C	Water					1		6.25	15.3	0.03
DC-08	02-01-15	15:00	C	Water					1		6.54	15.7	0.005
DC-09	02-01-15	15:20	C	Water					1		6.59	15.4	0.005
				Water									

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	02-02-15	Allen ES	[signature]	2/2/15 8:00	Allen ES
[signature]	2/2/15 8:300	Allen ES	[signature]	2-2-15 8:30	TA
			[signature]	2-2-15 8:30	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: 400-101460 | Cooler Temperature(s) °C and Other Remarks: 4.2°C #5592

3/26/2015

STORM EVENT FIELD DATA AND LOADING ESTIMATES

FLOW WEIGHTED COMPOSITE SAMPLE COLLECTION

DATE SAMPLED: 2/1/2015 LAB NO: 400-101460

LOCATION: D'Olive Creek
at Bayview drive
Daphne, AL

SAMPLER: ECO-Systems

STORM EVENT TOTAL RAINFALL (inches): 0.22

STORM BEGIN TIME (hrs): 1240
STORM END TIME (hrs): 1520
STORM DURATION (minutes): 160

DAYS WITHOUT RAIN: 8

DRAINAGE AREA OF SAMPLE LOCATION (acres): 3320

LAND USE/GROUND COVER WITH RUNOFF COEFFICIENT:

44% Developed	(Runoff coefficient 0.7)	6.1
56% Undeveloped	(Runoff coefficient 0.2)	2.22

TOTAL VOLUME OF DISCHARGE (MGD): 8.32

PARAMETER	ESTIMATED ANNUAL LOADINGS, lbs.	
	Mobile Data*	Fairhope Station Data*
Annual Discharge MGY)	2022	2463
TOTAL SUSPENDED SOLIDS (TSS)	64,900	79,000

NOTE: * ANNUAL LOADING CALCULATIONS BASED ON THE NATIONAL WEATHER SERVICE 30 YEAR ANNUAL RAIN FALL AVERAGE AT BATES FIELD OF 53.43 INCHES AND DATA FROM THE STROM EVENT REFERENCED. ALSO, ANNUAL LOADING IS CALCULATED BASED ON FAIRHOPE MONITORING STATION 30 YEAR AVERAGE OF 65.10 INCHES.

Login Sample Receipt Checklist

Client: City of Daphne

Job Number: 400-101460-1

Login Number: 101460
List Number: 1
Creator: Cai, Meiyun Y

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C 5592
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Preservation labels on samples match COC
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-117617-1
Client Project/Site: Daphne MS-4 Stormwater D'Olive Creek

For:
City of Daphne
PO BOX 2550
Daphne, Alabama 36526

Attn: Ms. Ashley Campbell

Authorized for release by:
3/17/2016 4:35:41 PM

Mike Nance, Service Center Manager
(251)666-6633
mike.nance@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Client Sample Results 4
Definitions 5
QC Sample Results 6
Chronicle 7
Method Summary 8
Chain of Custody 9

STORM EVENT FIELD DATA AND LOADING ESTIMATES

FLOW WEIGHTED COMPOSITE SAMPLE COLLECTION

DATE SAMPLED: 2/15/2016 LAB NO: 400-117617

LOCATION: D'Olive Creek
at Bayview drive
Daphne, AL

SAMPLER: Allen Engineering

STORM EVENT TOTAL RAINFALL (inches): 0.32

STORM BEGIN TIME (hrs): 1330
STORM END TIME (hrs): 1530
STORM DURATION (minutes): 120

DAYS WITHOUT RAIN: 12

DRAINAGE AREA OF SAMPLE LOCATION (acres): 3320

LAND USE/GROUND COVER WITH RUNOFF COEFFICIENT:

44% Developed	(Runoff coefficient 0.7)	8.88
56% Undeveloped	(Runoff coefficient 0.2)	3.23

TOTAL VOLUME OF DISCHARGE (MGD): 12.11

PARAMETER	ESTIMATED ANNUAL LOADINGS, lbs.	
	Mobile Data*	Fairhope Station Data*
Annual Discharge MGY)	2022	2463
TOTAL SUSPENDED SOLIDS (TSS)	742,000	904,000

NOTE: * ANNUAL LOADING CALCULATIONS BASED ON THE NATIONAL WEATHER SERVICE 30 YEAR ANNUAL RAIN FALL AVERAGE AT BATES FIELD OF 53.43 INCHES AND DATA FROM THE STORM EVENT REFERENCED. ALSO, ANNUAL LOADING IS CALCULATED BASED ON FAIRHOPE MONITORING STATION 30 YEAR AVERAGE OF 65.10 INCHES.

Client Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-117617-1

Client Sample ID: Flow Proportional Composite (grabs 1-9)

Lab Sample ID: 400-117617-10

Date Collected: 02/15/16 15:30
Date Received: 02/16/16 09:35

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	44		5.0	3.2	mg/L			02/18/16 13:47	1
Turbidity	53		1.0	0.36	NTU			02/16/16 10:50	2

Definitions/Glossary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-117617-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-117617-1

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-294267/1
Matrix: Water
Analysis Batch: 294267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	3.2	mg/L			02/18/16 13:47	1

Lab Sample ID: LCS 400-294267/2
Matrix: Water
Analysis Batch: 294267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	281	254		mg/L		90	82 - 118

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 400-293928/1
Matrix: Water
Analysis Batch: 293928

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	<0.50		0.50	0.18	NTU			02/16/16 10:50	1

Lab Sample ID: LCS 400-293928/3
Matrix: Water
Analysis Batch: 293928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	11.8	10.8		NTU		92	90 - 110

Lab Chronicle

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-117617-1

Client Sample ID: Flow Proportional Composite (grabs 1-9)

Lab Sample ID: 400-117617-10
Matrix: Water

Date Collected: 02/15/16 15:30
Date Received: 02/16/16 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	294267	02/18/16 13:47	TET	TAL PEN
Total/NA	Analysis	180.1		2			293928	02/16/16 10:50	LSS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-293928/3
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	180.1		1		25 mL	293928	02/16/16 10:50	LSS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-294267/2
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	294267	02/18/16 13:47	TET	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-293928/1
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	180.1		1			293928	02/16/16 10:50	LSS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-294267/1
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	294267	02/18/16 13:47	TET	TAL PEN

Laboratory References:
TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Method Summary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater D'Olive Creek

TestAmerica Job ID: 400-117617-1

Method	Method Description	Protocol	Laboratory
160.2	Solids, Total Suspended (TSS)	MCAWW	TAL PEN
180.1	Turbidity, Nephelometric	MCAWW	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENT

400-117617 COC

Client Information	Sampler: Sherry Allison	Lab PM: Nance, Mike M	Carrier Tracking No(s):	COC No: 400-47485-22321.1
Client Contact: Ms. Ashley Campbell	Phone: 251 342-0700	E-Mail: mike.nance@testamericainc.com		Page: Page 1 of 1
Company: City of Daphne				Job #:
Address: PO BOX 2550	Due Date Requested:			
City: Daphne	TAT Requested (days):			
State, Zip: AL, 36526				
Phone: (251) 621-3080	PO #: 01402001-00			
Email: epm@daphneal.com	WO #:			
Project Name: Daphne MS-4 Stormwater	Project #: 40003660			
Site: Dolive Creek at Bayview	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	160.2, 180.1	Total Number of Containers	pH	Temp. -C°	Cumulative Rainfall
			Preservation Code				N		Special Instructions/Note:		
DC-01	021516	13:30	G	Water			1		6.70	17.0	0.10
DC-02	021516	13:50	G	Water			1		6.58	17.2	0.00
DC-03	021516	14:10	G	Water			1		6.60	17.2	0.00
DC-04	021516	14:30	G	Water			1		6.55	17.2	0.02
DC-05	021516	14:50	G	Water			1		6.58	17.1	0.02
DC-06	021516	15:10	G	Water			1		6.50	17.1	0.00
DC-07	021516	15:30	G	Water			1		6.58	16.9	0.04
DC-08	021516	15:50	G	Water			1		6.45	16.9	0.05
DC-09	021516	16:10	G	Water			1		6.45	16.9	0.09
DC-10	021516	15:30	G	Water			1		6.50	16.9	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Sherry Allison	021616 9:35		[signature]	2-16-16 9:35	TA
			Julia Dreyphan	2/16/16 935	TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 400-117617	Cooler Temperature(s) °C and Other Remarks: 3.4°C #5592

3/17/2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-117618-1
Client Project/Site: Daphne MS-4 Stormwater Tiawasee

For:
City of Daphne
PO BOX 2550
Daphne, Alabama 36526

Attn: Ms. Ashley Campbell

Authorized for release by:
3/22/2016 1:26:51 PM

Mike Nance, Service Center Manager
(251)666-6633
mike.nance@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Client Sample Results 4
Definitions 5
QC Sample Results 6
Chronicle 7
Chain of Custody 8

STORM EVENT FIELD DATA AND LOADING ESTIMATES

FLOW WEIGHTED COMPOSITE SAMPLE COLLECTION

DATE SAMPLED: 2/15/2016 LAB NO: 400-177618

LOCATION: Tiawasee Creek
at Bayview
Daphne, Alabama

SAMPLER: Allen Engineering

STORM EVENT TOTAL RAINFALL (inches): 0.33

STORM BEGIN TIME (hrs): 1345
STORM END TIME (hrs): 1645
STORM DURATION (minutes): 180

DAYS WITHOUT RAIN: 12

DRAINAGE AREA OF SAMPLE LOCATION (acres): 3280

LAND USE/GROUND COVER WITH RUNOFF COEFFICIENT:

36% Developed	(Runoff Coefficient 0.70)	7.4
64% Undeveloped	(Runoff Coefficient 0.20)	3.76

TOTAL VOLUME OF DISCHARGE (MGD): 11.17

PARAMETER	ESTIMATED ANNUAL LOADINGS, lbs.	
	Mobile Data*	Fairhope Station Data*
Annual Discharge (MGY)	1,808	2,203
TOTAL SUSPENDED SOLIDS (TSS)	<75000	<92000

NOTE: * ANNUAL LOADING CALCULATIONS BASED ON THE NATIONAL WEATHER SERVICE 30 YEAR ANNUAL RAIN FALL AVERAGE AT BATES FIELD OF 53.43 INCHES AND DATA FROM THE STORM EVENT REFERENCED. ALSO, ANNUAL LOADING IS CALCULATED BASED ON FAIRHOPE MONITORING STATION 30 YEAR AVERAGE OF 65.10 INCHES.

Client Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee

TestAmerica Job ID: 400-117618-1

Client Sample ID: Flow Proportional Composite (Grabs 1-9)

Date Collected: 02/15/16 15:45
Date Received: 02/16/16 09:35

Lab Sample ID: 400-117618-10

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			02/18/16 13:47	1
Turbidity	**6.8**		0.50		NTU			02/16/16 10:50	1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee

TestAmerica Job ID: 400-117618-1

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-294267/1
Matrix: Water
Analysis Batch: 294267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			02/18/16 13:47	1

Lab Sample ID: LCS 400-294267/2
Matrix: Water
Analysis Batch: 294267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	281	254		mg/L		90	82 - 118

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 400-293928/1
Matrix: Water
Analysis Batch: 293928

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	<0.50		0.50		NTU			02/16/16 10:50	1

Lab Sample ID: LCS 400-293928/3
Matrix: Water
Analysis Batch: 293928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	11.8	10.8		NTU		92	90 - 110

Lab Chronicle

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee

TestAmerica Job ID: 400-117618-1

Client Sample ID: Flow Proportional Composite (Grabs 1-9)

Lab Sample ID: 400-117618-10
Date Collected: 02/15/16 15:45
Matrix: Water
Date Received: 02/16/16 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	294267	02/18/16 13:47	TET	TAL PEN
Total/NA	Analysis	180.1		1			293928	02/16/16 10:50	LSS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-293928/3
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	180.1		1		25 mL	293928	02/16/16 10:50	LSS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-294267/2
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	294267	02/18/16 13:47	TET	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-293928/1
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	180.1		1			293928	02/16/16 10:50	LSS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-294267/1
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	294267	02/18/16 13:47	TET	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
THE LEADER IN ENVI

Client Information	Sampler: Sherry Allison	Lab PM: Nance, Mike M	Carrier Tracking No(s):	COC No: 400-47485-22321.1
Client Contact: Ms. Ashley Campbell	Phone: 251 342-8200	E-Mail: mike.nance@testamericainc.com		Page: Page 1 of 1
Company: City of Daphne				Job #: 400-117618 COC
Address: PO BOX 2550	Due Date Requested:			
City: Daphne	TAT Requested (days):			
State, Zip: AL, 36526				
Phone: (251) 621-3050	PO #: 01402001-00			
Email: epm@daphneal.com	WO #:			
Project Name: Daphne MS-4 Stormwater	Project #: 40003660			
Site: Tiawasee Creek at Bayview	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	160.2, 180.1	Total Number of containers	pH	Temp C°	Cumulative Rainfall	Special Instructions/Note:
			Preservation Code:				N					
TC-01	021516	13:45	G	Water			1		6.42	16.2	0.11	
TC-02	021516	14:05	G	Water			1		6.40	16.2	0.00	
TC-03	021516	14:25	G	Water			1		6.41	16.0	0.00	
TC-04	021516	14:45	G	Water			1		6.47	16.3	0.02	
TC-05	021516	15:05	G	Water			1		6.35	16.2	0.02	
TC-06	021516	15:25	G	Water			1		6.43	16.2	0.00	
TC-07	021516	15:45	G	Water			1		6.45	16.3	0.04	
TC-08	021516	16:05	G	Water			1		6.45	16.4	0.05	
TC-09	021516	16:25	G	Water			1		6.50	16.5	0.09	
TC-10	021516	15:45	G	Water			1		6.45	16.3		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Sherry Allison	021616 9:35			2-16-16 9:35	TA
			Julia Dempsey	2/16/16 @ 935	TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No: 400-117618	Cooler Temperature(s) °C and Other Remarks: 2.6°C #5592

Page 8 of 8

3/22/2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-118710-1
Client Project/Site: Daphne MS-4 Stormwater Tiawasee Creek

For:
City of Daphne
PO BOX 2550
Daphne, Alabama 36526

Attn: Ms. Ashley Campbell

Authorized for release by:
3/22/2016 2:04:23 PM

Mike Nance, Service Center Manager
(251)666-6633
mike.nance@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Client Sample Results 4
Definitions 5
QC Sample Results 6
Chronicle 7
Method Summary 8
Chain of Custody 9

STORM EVENT FIELD DATA AND LOADING ESTIMATES

FLOW WEIGHTED COMPOSITE SAMPLE COLLECTION

DATE SAMPLED: 3/11/2016 LAB NO: 400-118710

LOCATION: Tiawasee Creek
at Bayview
Daphne, Alabama

SAMPLER: Allen Engineering

STORM EVENT TOTAL RAINFALL (inches): 2.1

STORM BEGIN TIME (hrs): 930
STORM END TIME (hrs): 1210
STORM DURATION (minutes): 160

DAYS WITHOUT RAIN: 16

DRAINAGE AREA OF SAMPLE LOCATION (acres): 3280

LAND USE/GROUND COVER WITH RUNOFF COEFFICIENT:

36% Developed	(Runoff Coefficient 0.70)	47
64% Undeveloped	(Runoff Coefficient 0.20)	24

TOTAL VOLUME OF DISCHARGE (MGD): 71

PARAMETER	**ESTIMATED ANNUAL LOADINGS, lbs.**	
	Mobile Data*	Fairhope Station Data*
Annual Discharge (MGY)	1,808	2,203
TOTAL SUSPENDED SOLIDS (TSS)	407,000	496,000

NOTE: * ANNUAL LOADING CALCULATIONS BASED ON THE NATIONAL WEATHER SERVICE 30 YEAR ANNUAL RAIN FALL AVERAGE AT BATES FIELD OF 53.43 INCHES AND DATA FROM THE STORM EVENT REFERENCED. ALSO, ANNUAL LOADING IS CALCULATED BASED ON FAIRHOPE MONITORING STATION 30 YEAR AVERAGE OF 65.10 INCHES.

Client Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee Creek

TestAmerica Job ID: 400-118710-1

Client Sample ID: TC Flow Weighted Composite

Date Collected: 03/11/16 12:10
Date Received: 03/11/16 14:08

Lab Sample ID: 400-118710-10

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	27		5.0		mg/L			03/17/16 16:27	1
Turbidity	30		0.50		NTU			03/12/16 11:49	1

Definitions/Glossary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee Creek

TestAmerica Job ID: 400-118710-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee Creek

TestAmerica Job ID: 400-118710-1

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 400-297831/1
Matrix: Water
Analysis Batch: 297831

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			03/17/16 16:27	1

Lab Sample ID: LCS 400-297831/2
Matrix: Water
Analysis Batch: 297831

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	287	290		mg/L		101	82 - 118

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 400-297190/1
Matrix: Water
Analysis Batch: 297190

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	<0.50		0.50		NTU			03/12/16 11:49	1

Lab Sample ID: LCS 400-297190/3
Matrix: Water
Analysis Batch: 297190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	11.8	11.4		NTU		97	90 - 110

Lab Chronicle

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee Creek

TestAmerica Job ID: 400-118710-1

Client Sample ID: TC Flow Weighted Composite

Lab Sample ID: 400-118710-10
Matrix: Water

Date Collected: 03/11/16 12:10
Date Received: 03/11/16 14:08

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	297831	03/17/16 16:27	TET	TAL PEN
Total/NA	Analysis	180.1		1			297190	03/12/16 11:49	LSS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-297190/3
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	180.1		1			297190	03/12/16 11:49	LSS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-297831/2
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	297831	03/17/16 16:27	TET	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-297190/1
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	180.1		1			297190	03/12/16 11:49	LSS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-297831/1
Matrix: Water

Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	160.2		1	100 mL	100 mL	297831	03/17/16 16:27	TET	TAL PEN

Laboratory References:
TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Method Summary

Client: City of Daphne
Project/Site: Daphne MS-4 Stormwater Tiawasee Creek

TestAmerica Job ID: 400-118710-1

Method	Method Description	Protocol	Laboratory
160.2	Solids, Total Suspended (TSS)	MCAWW	TAL PEN
180.1	Turbidity, Nephelometric	MCAWW	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S. Allison + D. Anderson	Lab PM: Nance, Mike M	Carrier Tracking No(s):	COC No: 400-52811-22321.1
Client Contact: Ms. Ashley Campbell	Phone: 251 342-0700	E-Mail: mike.nance@testamericainc.com		Page: Page 1 of 1
Company: City of Daphne				Job #:
Address: PO BOX 2550	Due Date Requested:			
City: Daphne	TAT Requested (days):			
State, Zip: AL, 36526				
Phone:	PO #: 01402001-00			
Email: epm@daphneal.com	WO #:			
Project Name: Daphne MS-4 Stormwater	Project #: 40003660			
Site: Tiawasee Creek at Bayview	SSOW#:			

Analysis Reques

400-118710 COC

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acotone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	160.2, 180.1	Total Number of containers	pH	Temp C	~~Cumulative~~ Rainfall Increments
			Preservation Code:				N		Special Instructions/Note:		
TC-01	031116	09:30	G	Water			1		6.40	20.0	.11
TC-02	031116	0950	G	Water			1		6.45	19.9	.27
TC-03	031116	1010	G	Water			1		6.52	19.9	.02
TC-04	031116	1030	G	Water			1		6.55	20.0	.08
TC-05	031116	1050	G	Water			1		6.58	19.9	.04
TC-06	031116	1110	G	Water			1		6.61	19.8	.28
TC-07	031116	1130	G	Water			1		6.65	19.6	.12
TC-08	031116	1150	G	Water			1		6.72	19.6	.58
TC-09	031116	1210	G	Water			1		6.74	19.7	.60
TC-10	031116	1210	G	Water			1		6.74	19.7	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Shoey Allison	031116 1408		[signature]	3-11-16 14:08	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 400-118710	Cooler Temperature(s) °C and Other Remarks: 4.3°C #5592

3/22/2016

Chapter 4 Water Quality Monitoring

4.B2-3 AWW Volunteers WQ Data

Site #	Site Name	Site Location	Site Lattitude	Site Longitude	Site AWW Volunteer
1	Tiwasee Creek-1	Greenwood Drive	30.633	-87.8840	Del
2	Tiawasee Creek-2	Driving Range	30.6455	-87.8957	Del
3	Dolive Creek -3	Bayview Drive-Bridge	30.6522	-87.8931	Del
4	Dolive Creek -4	Gordon Circle	30.6544	-87.8865	Mason
5	Dolive Creek-5	Toms Cove	30.6538	-87.8976	Mason
6	Tiawasee Creek-6	North Lamhatty Lane	30.631	-87.8744	Mason

Alabama Water Watch

Alabama Water Watch

Community-Based, Science-Based Watershed Stewardship

Search: ◉AWW Watersheds by Group ○HUC Watersheds **Data Type:** Chemistry ☐ **All Sites (6)**

AWW Watersheds: Mobile **Groups:** City of Daphne

Site Code	Waterbody	Site Location	Latitude	Longitude	Last Date	No. Recs	Site Maps
06015001	D Olive Creek	155 Bay View Drive	30.65217	-87.89309	01 Feb 2016	16	
06015002	D Olive Creek	Toms Cove, Lake Forest	30.65339	-87.89492	19 Jan 2015	2	
06015003	D Olive Creek	Gordon Circle, Lake Forest	30.65405	-87.88686	23 Feb 2015	3	
06015004	Tiawasee Creek	At golf course driving range	30.64958	-87.89564	18 Jan 2016	15	
06015005	Tiawasee Creek	Greenwood Drive in Lake Forest	30.63299	-87.88334	25 Jan 2016	14	
06015006	Tiawasee Creek	bridge at N Lamhatty Ln.	30.63113	-87.87406	16 Jan 2016	8	

Community-Based Watershed Stewardship through Citizen Volunteer Monitoring of Alabama's Lakes, Streams and Coast

AWWA ► Alabama Water Watch Association • PO Box 3294 • Auburn, AL 36831 • tel: 1-888-844-4785 • email: info@alabamawaterwatch.org

AWW Program Office ► Water Resources Center • 559 DeVall Drive • Auburn University, AL 36849 • Fax: 1-334-844-9208 • email: awwProg@auburn.edu

Copyright © 2003–2015 Auburn University and Global Water Watch. All rights reserved V.2.3

Water Quality Monitoring

4.B2-3 AWW Data

Data	Location
Alabama Water Watch Data	http://www.alabamawaterwatch.org
	Water Data-Water Chemistry-Mobile Watershed-City of Daphne-All Sites