

AP-101

2017 Annual Report

March 2018

2 of 2

APPENDIX E

Analytical Laboratory Reports



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-145295-1

Client Project/Site: JAL#4 Gas Plant Quarterly Sampling

For:

ARCADIS U.S., Inc.
1004 North Big Spring
Suite 300
Midland, Texas 79701

Attn: Hank McConnell



Authorized for release by:
3/29/2017 9:52:28 AM

Cathy Upton, Project Manager I
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LINKS

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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.

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Method Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-145295-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
120.1	Conductivity, Specific Conductance	MCAWW	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU

Protocol References:

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

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-145295-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-145295-1	ACW-13	Water	03/14/17 15:10	03/16/17 09:56
600-145295-2	ACW-14	Water	03/14/17 16:10	03/16/17 09:56
600-145295-3	ACW-15	Water	03/14/17 15:25	03/16/17 09:56
600-145295-4	Doom Well	Water	03/14/17 16:20	03/16/17 09:56
600-145295-5	OXY Well	Water	03/14/17 15:40	03/16/17 09:56
600-145295-6	DUP-01	Water	03/14/17 16:00	03/16/17 09:56
600-145295-7	Trip Blank	Water	03/14/17 00:00	03/16/17 09:56

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Client Sample ID: ACW-13

Lab Sample ID: 600-145295-1

Date Collected: 03/14/17 15:10

Matrix: Water

Date Received: 03/16/17 09:56

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		03/18/17 00:24	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		03/18/17 00:24	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		03/18/17 00:24	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		03/18/17 00:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	57		50 - 134		03/18/17 00:24	1
4-Bromofluorobenzene	115		67 - 139		03/18/17 00:24	1
Dibromofluoromethane	68		62 - 130		03/18/17 00:24	1
Toluene-d8 (Surr)	104		70 - 130		03/18/17 00:24	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	246	B	4.00	0.534	mg/L	-		03/25/17 08:19	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	116		1.00	0.0214	mg/L	-	03/17/17 16:45	03/28/17 13:24	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1350		2.00	1.31	umhos/cm	-		03/22/17 14:40	1
Total Dissolved Solids	1010		20.0	20.0	mg/L	-		03/18/17 13:47	1

Client Sample ID: ACW-14

Lab Sample ID: 600-145295-2

Date Collected: 03/14/17 16:10

Matrix: Water

Date Received: 03/16/17 09:56

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		03/18/17 00:50	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		03/18/17 00:50	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		03/18/17 00:50	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		03/18/17 00:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	59		50 - 134		03/18/17 00:50	1
4-Bromofluorobenzene	114		67 - 139		03/18/17 00:50	1
Dibromofluoromethane	69		62 - 130		03/18/17 00:50	1
Toluene-d8 (Surr)	103		70 - 130		03/18/17 00:50	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	96.1	B	4.00	0.534	mg/L	-		03/25/17 08:39	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	108		1.00	0.0214	mg/L	-	03/17/17 16:45	03/28/17 13:26	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Client Sample ID: ACW-14

Date Collected: 03/14/17 16:10

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	875		2.00	1.31	umhos/cm			03/22/17 14:40	1
Total Dissolved Solids	583		10.0	10.0	mg/L			03/18/17 13:47	1

Client Sample ID: ACW-15

Date Collected: 03/14/17 15:25

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/20/17 16:16	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/20/17 16:16	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/20/17 16:16	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/20/17 16:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	60		50 - 134		03/20/17 16:16	1
4-Bromofluorobenzene	107		67 - 139		03/20/17 16:16	1
Dibromofluoromethane	69		62 - 130		03/20/17 16:16	1
Toluene-d8 (Surr)	100		70 - 130		03/20/17 16:16	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83.6	B	4.00	0.534	mg/L			03/27/17 17:39	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	94.7		1.00	0.0214	mg/L		03/17/17 16:45	03/28/17 13:28	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	864		2.00	1.31	umhos/cm			03/22/17 14:40	1
Total Dissolved Solids	575		10.0	10.0	mg/L			03/18/17 13:47	1

Client Sample ID: Doom Well

Date Collected: 03/14/17 16:20

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/20/17 16:42	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/20/17 16:42	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/20/17 16:42	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/20/17 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	62		50 - 134		03/20/17 16:42	1
4-Bromofluorobenzene	112		67 - 139		03/20/17 16:42	1
Dibromofluoromethane	69		62 - 130		03/20/17 16:42	1
Toluene-d8 (Surr)	102		70 - 130		03/20/17 16:42	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Client Sample ID: Doom Well

Date Collected: 03/14/17 16:20

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-4

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.7	B	4.00	0.534	mg/L			03/27/17 17:59	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	70.3		1.00	0.0214	mg/L		03/17/17 16:45	03/28/17 13:30	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	628		2.00	1.31	umhos/cm			03/22/17 14:40	1
Total Dissolved Solids	429		10.0	10.0	mg/L			03/18/17 13:47	1

Client Sample ID: OXY Well

Date Collected: 03/14/17 15:40

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/20/17 17:08	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/20/17 17:08	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/20/17 17:08	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/20/17 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	62		50 - 134		03/20/17 17:08	1
4-Bromofluorobenzene	111		67 - 139		03/20/17 17:08	1
Dibromofluoromethane	70		62 - 130		03/20/17 17:08	1
Toluene-d8 (Surr)	102		70 - 130		03/20/17 17:08	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201	B	4.00	0.534	mg/L			03/27/17 18:59	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	99.8		1.00	0.0214	mg/L		03/17/17 16:45	03/28/17 13:32	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1180		2.00	1.31	umhos/cm			03/22/17 14:40	1
Total Dissolved Solids	730		20.0	20.0	mg/L			03/18/17 13:47	1

Client Sample ID: DUP-01

Date Collected: 03/14/17 16:00

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/20/17 17:34	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/20/17 17:34	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/20/17 17:34	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/20/17 17:34	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Client Sample ID: DUP-01

Date Collected: 03/14/17 16:00

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	60		50 - 134		03/20/17 17:34	1
4-Bromofluorobenzene	111		67 - 139		03/20/17 17:34	1
Dibromofluoromethane	70		62 - 130		03/20/17 17:34	1
Toluene-d8 (Surr)	102		70 - 130		03/20/17 17:34	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92.8	B	4.00	0.534	mg/L			03/27/17 19:19	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	105		1.00	0.0214	mg/L		03/17/17 16:45	03/28/17 13:34	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	879		2.00	1.31	umhos/cm			03/22/17 14:40	1
Total Dissolved Solids	572		10.0	10.0	mg/L			03/18/17 13:47	1

Client Sample ID: Trip Blank

Date Collected: 03/14/17 00:00

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/20/17 15:49	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/20/17 15:49	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/20/17 15:49	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/20/17 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	61		50 - 134		03/20/17 15:49	1
4-Bromofluorobenzene	111		67 - 139		03/20/17 15:49	1
Dibromofluoromethane	70		62 - 130		03/20/17 15:49	1
Toluene-d8 (Surr)	99		70 - 130		03/20/17 15:49	1

TestAmerica Houston

Definitions/Glossary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-145295-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (50-134)	BFB (67-139)	DBFM (62-130)	TOL (70-130)
600-145295-1	ACW-13	57	115	68	104
600-145295-2	ACW-14	59	114	69	103
600-145295-3	ACW-15	60	107	69	100
600-145295-4	Doom Well	62	112	69	102
600-145295-5	OXY Well	62	111	70	102
600-145295-6	DUP-01	60	111	70	102
600-145295-7	Trip Blank	61	111	70	99
LCS 600-208848/3	Lab Control Sample	67	115	73	104
LCS 600-208931/3	Lab Control Sample	63	105	69	99
LCSD 600-208848/4	Lab Control Sample Dup	69	117	76	106
LCSD 600-208931/4	Lab Control Sample Dup	70	109	76	101
MB 600-208848/6	Method Blank	62	114	73	100
MB 600-208931/6	Method Blank	62	109	68	101

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-208848/6

Matrix: Water

Analysis Batch: 208848

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/17/17 16:30	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/17/17 16:30	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/17/17 16:30	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/17/17 16:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	62		50 - 134		03/17/17 16:30	1
4-Bromofluorobenzene	114		67 - 139		03/17/17 16:30	1
Dibromofluoromethane	73		62 - 130		03/17/17 16:30	1
Toluene-d8 (Surr)	100		70 - 130		03/17/17 16:30	1

Lab Sample ID: LCS 600-208848/3

Matrix: Water

Analysis Batch: 208848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01146		mg/L		115	70 - 130
Ethylbenzene	0.0100	0.01091		mg/L		109	70 - 130
Toluene	0.0100	0.01185		mg/L		119	70 - 130
Xylenes, Total	0.0200	0.02163		mg/L		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	67		50 - 134
4-Bromofluorobenzene	115		67 - 139
Dibromofluoromethane	73		62 - 130
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: LCSD 600-208848/4

Matrix: Water

Analysis Batch: 208848

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01180		mg/L		118	70 - 130	3	20
Ethylbenzene	0.0100	0.01103		mg/L		110	70 - 130	1	20
Toluene	0.0100	0.01189		mg/L		119	70 - 130	0	20
Xylenes, Total	0.0200	0.02206		mg/L		110	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	69		50 - 134
4-Bromofluorobenzene	117		67 - 139
Dibromofluoromethane	76		62 - 130
Toluene-d8 (Surr)	106		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-208931/6

Matrix: Water

Analysis Batch: 208931

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			03/20/17 15:23	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			03/20/17 15:23	1
Toluene	<0.000198		0.00100	0.000198	mg/L			03/20/17 15:23	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			03/20/17 15:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	62		50 - 134		03/20/17 15:23	1
4-Bromofluorobenzene	109		67 - 139		03/20/17 15:23	1
Dibromofluoromethane	68		62 - 130		03/20/17 15:23	1
Toluene-d8 (Surr)	101		70 - 130		03/20/17 15:23	1

Lab Sample ID: LCS 600-208931/3

Matrix: Water

Analysis Batch: 208931

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01098		mg/L		110	70 - 130
Ethylbenzene	0.0100	0.01051		mg/L		105	70 - 130
Toluene	0.0100	0.01157		mg/L		116	70 - 130
Xylenes, Total	0.0200	0.02117		mg/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	63		50 - 134
4-Bromofluorobenzene	105		67 - 139
Dibromofluoromethane	69		62 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: LCSD 600-208931/4

Matrix: Water

Analysis Batch: 208931

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01151		mg/L		115	70 - 130	5	20
Ethylbenzene	0.0100	0.01023		mg/L		102	70 - 130	3	20
Toluene	0.0100	0.01133		mg/L		113	70 - 130	2	20
Xylenes, Total	0.0200	0.02071		mg/L		104	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	70		50 - 134
4-Bromofluorobenzene	109		67 - 139
Dibromofluoromethane	76		62 - 130
Toluene-d8 (Surr)	101		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-209296/4

Matrix: Water

Analysis Batch: 209296

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			03/24/17 17:39	1

Lab Sample ID: MB 600-209296/42

Matrix: Water

Analysis Batch: 209296

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.2966	J	0.400	0.0534	mg/L			03/25/17 06:19	1

Lab Sample ID: LCS 600-209296/43

Matrix: Water

Analysis Batch: 209296

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.99		mg/L		100	90 - 110

Lab Sample ID: LCS 600-209296/5

Matrix: Water

Analysis Batch: 209296

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.92		mg/L		100	90 - 110

Lab Sample ID: MB 600-209397/4

Matrix: Water

Analysis Batch: 209397

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.2895	J	0.400	0.0534	mg/L			03/27/17 12:39	1

Lab Sample ID: LCS 600-209397/5

Matrix: Water

Analysis Batch: 209397

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.98		mg/L		100	90 - 110

Lab Sample ID: 600-145295-4 MS

Matrix: Water

Analysis Batch: 209397

Client Sample ID: Doom Well

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	29.7	B	100	128.1		mg/L		98	80 - 120

Lab Sample ID: 600-145295-4 MSD

Matrix: Water

Analysis Batch: 209397

Client Sample ID: Doom Well

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	29.7	B	100	133.7		mg/L		104	80 - 120	4	20

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-208808/1-A
Matrix: Water
Analysis Batch: 209473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208808

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.0214		1.00	0.0214	mg/L		03/17/17 16:45	03/28/17 12:40	1

Lab Sample ID: LCS 600-208808/2-A
Matrix: Water
Analysis Batch: 209473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	11.25		mg/L		113	80 - 120

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 600-209139/1
Matrix: Water
Analysis Batch: 209139

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

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.31		2.00	1.31	umhos/cm			03/22/17 14:40	1

Lab Sample ID: LCS 600-209139/2
Matrix: Water
Analysis Batch: 209139

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	10.0	10.28		umhos/cm		103	90 - 110

Lab Sample ID: 600-145295-3 DU
Matrix: Water
Analysis Batch: 209139

Client Sample ID: ACW-15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	864		871.0		umhos/cm		0.8	20

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 600-208884/25
Matrix: Water
Analysis Batch: 208884

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

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L			03/18/17 13:47	1

Lab Sample ID: LCS 600-208884/26
Matrix: Water
Analysis Batch: 208884

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1762		mg/L		98	90 - 110

TestAmerica Houston

Unadjusted Detection Limits

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-145295-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	MQL	MDL	Units	Method
Benzene	0.00100	0.000176	mg/L	8260B
Ethylbenzene	0.00100	0.000212	mg/L	8260B
Toluene	0.00100	0.000198	mg/L	8260B
Xylenes, Total	0.00200	0.000366	mg/L	8260B

Method: 300.0 - Anions, Ion Chromatography

Analyte	MQL	MDL	Units	Method
Chloride	0.400	0.0534	mg/L	300.0

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Analyte	MQL	MDL	Units	Method
Sodium	1.00	0.0214	mg/L	6010B

General Chemistry

Analyte	MQL	MDL	Units	Method
Specific Conductance	2.00	1.31	umhos/cm	120.1
Total Dissolved Solids	10.0	10.0	mg/L	2540 C-1997

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

GC/MS VOA

Analysis Batch: 208848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-1	ACW-13	Total/NA	Water	8260B	
600-145295-2	ACW-14	Total/NA	Water	8260B	
MB 600-208848/6	Method Blank	Total/NA	Water	8260B	
LCS 600-208848/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-208848/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 208931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-3	ACW-15	Total/NA	Water	8260B	
600-145295-4	Doom Well	Total/NA	Water	8260B	
600-145295-5	OXY Well	Total/NA	Water	8260B	
600-145295-6	DUP-01	Total/NA	Water	8260B	
600-145295-7	Trip Blank	Total/NA	Water	8260B	
MB 600-208931/6	Method Blank	Total/NA	Water	8260B	
LCS 600-208931/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-208931/4	Lab Control Sample Dup	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 209296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-1	ACW-13	Total/NA	Water	300.0	
600-145295-2	ACW-14	Total/NA	Water	300.0	
MB 600-209296/4	Method Blank	Total/NA	Water	300.0	
MB 600-209296/42	Method Blank	Total/NA	Water	300.0	
LCS 600-209296/43	Lab Control Sample	Total/NA	Water	300.0	
LCSD 600-209296/5	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 209397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-3	ACW-15	Total/NA	Water	300.0	
600-145295-4	Doom Well	Total/NA	Water	300.0	
600-145295-5	OXY Well	Total/NA	Water	300.0	
600-145295-6	DUP-01	Total/NA	Water	300.0	
MB 600-209397/4	Method Blank	Total/NA	Water	300.0	
LCS 600-209397/5	Lab Control Sample	Total/NA	Water	300.0	
600-145295-4 MS	Doom Well	Total/NA	Water	300.0	
600-145295-4 MSD	Doom Well	Total/NA	Water	300.0	

Metals

Prep Batch: 208808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-1	ACW-13	Total/NA	Water	3010A	
600-145295-2	ACW-14	Total/NA	Water	3010A	
600-145295-3	ACW-15	Total/NA	Water	3010A	
600-145295-4	Doom Well	Total/NA	Water	3010A	
600-145295-5	OXY Well	Total/NA	Water	3010A	
600-145295-6	DUP-01	Total/NA	Water	3010A	
MB 600-208808/1-A	Method Blank	Total/NA	Water	3010A	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Metals (Continued)

Prep Batch: 208808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 600-208808/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 209473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-1	ACW-13	Total/NA	Water	6010B	208808
600-145295-2	ACW-14	Total/NA	Water	6010B	208808
600-145295-3	ACW-15	Total/NA	Water	6010B	208808
600-145295-4	Doom Well	Total/NA	Water	6010B	208808
600-145295-5	OXY Well	Total/NA	Water	6010B	208808
600-145295-6	DUP-01	Total/NA	Water	6010B	208808
MB 600-208808/1-A	Method Blank	Total/NA	Water	6010B	208808
LCS 600-208808/2-A	Lab Control Sample	Total/NA	Water	6010B	208808

General Chemistry

Analysis Batch: 208884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-1	ACW-13	Total/NA	Water	2540 C-1997	
600-145295-2	ACW-14	Total/NA	Water	2540 C-1997	
600-145295-3	ACW-15	Total/NA	Water	2540 C-1997	
600-145295-4	Doom Well	Total/NA	Water	2540 C-1997	
600-145295-5	OXY Well	Total/NA	Water	2540 C-1997	
600-145295-6	DUP-01	Total/NA	Water	2540 C-1997	
MB 600-208884/25	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-208884/26	Lab Control Sample	Total/NA	Water	2540 C-1997	

Analysis Batch: 209139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-145295-1	ACW-13	Total/NA	Water	120.1	
600-145295-2	ACW-14	Total/NA	Water	120.1	
600-145295-3	ACW-15	Total/NA	Water	120.1	
600-145295-4	Doom Well	Total/NA	Water	120.1	
600-145295-5	OXY Well	Total/NA	Water	120.1	
600-145295-6	DUP-01	Total/NA	Water	120.1	
MB 600-209139/1	Method Blank	Total/NA	Water	120.1	
LCS 600-209139/2	Lab Control Sample	Total/NA	Water	120.1	
600-145295-3 DU	ACW-15	Total/NA	Water	120.1	

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Client Sample ID: ACW-13

Date Collected: 03/14/17 15:10

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208848	03/18/17 00:24	YX1	TAL HOU
Total/NA	Analysis	300.0		10	209296	03/25/17 08:19	BDG	TAL HOU
Total/NA	Prep	3010A			208808	03/17/17 16:45	DCL	TAL HOU
Total/NA	Analysis	6010B		1	209473	03/28/17 13:24	DCL	TAL HOU
Total/NA	Analysis	120.1		1	209139	03/22/17 14:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	208884	03/18/17 13:47	EC1	TAL HOU

Client Sample ID: ACW-14

Date Collected: 03/14/17 16:10

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208848	03/18/17 00:50	YX1	TAL HOU
Total/NA	Analysis	300.0		10	209296	03/25/17 08:39	BDG	TAL HOU
Total/NA	Prep	3010A			208808	03/17/17 16:45	DCL	TAL HOU
Total/NA	Analysis	6010B		1	209473	03/28/17 13:26	DCL	TAL HOU
Total/NA	Analysis	120.1		1	209139	03/22/17 14:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	208884	03/18/17 13:47	EC1	TAL HOU

Client Sample ID: ACW-15

Date Collected: 03/14/17 15:25

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208931	03/20/17 16:16	YX1	TAL HOU
Total/NA	Analysis	300.0		10	209397	03/27/17 17:39	DAW	TAL HOU
Total/NA	Prep	3010A			208808	03/17/17 16:45	DCL	TAL HOU
Total/NA	Analysis	6010B		1	209473	03/28/17 13:28	DCL	TAL HOU
Total/NA	Analysis	120.1		1	209139	03/22/17 14:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	208884	03/18/17 13:47	EC1	TAL HOU

Client Sample ID: Doom Well

Date Collected: 03/14/17 16:20

Date Received: 03/16/17 09:56

Lab Sample ID: 600-145295-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208931	03/20/17 16:42	YX1	TAL HOU
Total/NA	Analysis	300.0		10	209397	03/27/17 17:59	DAW	TAL HOU
Total/NA	Prep	3010A			208808	03/17/17 16:45	DCL	TAL HOU
Total/NA	Analysis	6010B		1	209473	03/28/17 13:30	DCL	TAL HOU
Total/NA	Analysis	120.1		1	209139	03/22/17 14:40	KRD	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-145295-1

Client Sample ID: Doom Well

Lab Sample ID: 600-145295-4

Date Collected: 03/14/17 16:20

Matrix: Water

Date Received: 03/16/17 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 C-1997		1	208884	03/18/17 13:47	EC1	TAL HOU

Client Sample ID: OXY Well

Lab Sample ID: 600-145295-5

Date Collected: 03/14/17 15:40

Matrix: Water

Date Received: 03/16/17 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208931	03/20/17 17:08	YX1	TAL HOU
Total/NA	Analysis	300.0		10	209397	03/27/17 18:59	DAW	TAL HOU
Total/NA	Prep	3010A			208808	03/17/17 16:45	DCL	TAL HOU
Total/NA	Analysis	6010B		1	209473	03/28/17 13:32	DCL	TAL HOU
Total/NA	Analysis	120.1		1	209139	03/22/17 14:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	208884	03/18/17 13:47	EC1	TAL HOU

Client Sample ID: DUP-01

Lab Sample ID: 600-145295-6

Date Collected: 03/14/17 16:00

Matrix: Water

Date Received: 03/16/17 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208931	03/20/17 17:34	YX1	TAL HOU
Total/NA	Analysis	300.0		10	209397	03/27/17 19:19	DAW	TAL HOU
Total/NA	Prep	3010A			208808	03/17/17 16:45	DCL	TAL HOU
Total/NA	Analysis	6010B		1	209473	03/28/17 13:34	DCL	TAL HOU
Total/NA	Analysis	120.1		1	209139	03/22/17 14:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	208884	03/18/17 13:47	EC1	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-145295-7

Date Collected: 03/14/17 00:00

Matrix: Water

Date Received: 03/16/17 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208931	03/20/17 15:49	YX1	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TestAmerica Houston

Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-145295-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223-17-21	10-31-17

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
120.1		Water	Specific Conductance

Chain of Custody Record

Client Information Client Contact: Hank McConnell Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 300 City: Midland State: TX, Zip: 79701 Phone: 432-687-5400 (Tel) Email: hank.mcconnell@arcadis-us.com Project Name: JAL #4 Gas Plant - Hank McConnell Site: Quarterly sampling		Due Date Requested: TAT Requested (days): PO #: WD255945 WO #: Project #: 60008415 SSOW#:		Lab PM: Upton, Cathy L E-Mail: cathy.upton@testamericainc.com Carrier Tracking No(s):		COC No: 600-51545-15276.1 Page: 1 of 1 Job #:						
Sampler: Scott Wade Phone: 832-347-4521		Analysis Requested										
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/soil, BT=biogas, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B - Sodium 8260B LL - BTEX Only 120.1 - Specific Conductance 2540C - Calcd - TDS 300.ORGFM - 28D - Chloride	Total Number of Containers	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 Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	Special Instructions/Note:  600-145295 Chain of Custody	
ACW-13 ACW-14 ACW-15 DOOM Well OXY Well DUP-01 Trip Blank		3-14-17 1610 1525 1620 1540 1600 -	1510 1610 1525 1620 1540 1600 -	G G G G G G G	Water Water Water Water Water Water Water	N N N N N N N	N N N N N N N	N N N N N N N	N N N N N N N	N N N N N N N	N N N N N N N	N N N N N N N
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Date:		Method of Shipment:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months		Special Instructions/QC Requirements:		
Relinquished by: Scott Wade Relinquished by:		Date/Time: 3/15/17 1500 Date/Time:		Company: HMI Company:		Date/Time: 3/15/17 0850 Date/Time:		Company: JAL Company:		Date/Time:		
Relinquished by:		Date/Time:		Company:		Date/Time:		Company:		Cooler Temperature(s) °C and Other Remarks:		
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:										

TestAmerica Houston

Loc: 600
145295**TestAmerica**
THE LEADER IN ENVIRONMENTAL TESTING

Sample R

cklist

Date/Time Received: 17 MAR 16 9:56

JOB NUMBER: _____

CLIENT: Arcadis

UNPACKED BY: _____

CARRIER/DRIVER: Fed Ex

Custody Seal Present: ☒ YES ☐ NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
R/W	Y / N	Y / N	0.8	U75	0.02	0.6
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YESBase samples are >pH 12: ☐ YES ☐ NO Acid preserved are <pH 2: ☒ YES ☐ NO

pH paper Lot # _____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

TRK# 7859 2273 5972
0201

AB LKSA

THU - 16 MAR 10:30A
PRIORITY OVERNIGHT77040
TX-US IAH

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-145295-1

Login Number: 145295

List Source: TestAmerica Houston

List Number: 1

Creator: Crafton, Tommie S

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	0.6
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 (excluding tests with immediate HTs)	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	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-149982-1

Client Project/Site: JAL#4 Gas Plant Quarterly Sampling

For:

ARCADIS U.S., Inc.

1004 North Big Spring

Suite 300

Midland, Texas 79701

Attn: Hank McConnell



Authorized for release by:

7/7/2017 11:13:00 AM

Taylor Bruzzio, Project Management Assistant I

(361)289-2673

taylor.bruzzio@testamericainc.com

Designee for

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

LINKS

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results through

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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.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
120.1	Conductivity, Specific Conductance	MCAWW	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU

Protocol References:

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

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.

Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-149982-1	ACW-13	Water	06/21/17 11:10	06/22/17 10:08
600-149982-2	ACW-14	Water	06/21/17 12:10	06/22/17 10:08
600-149982-3	ACW-15	Water	06/21/17 10:15	06/22/17 10:08
600-149982-4	Doom Well	Water	06/21/17 09:40	06/22/17 10:08
600-149982-5	OXY Well	Water	06/21/17 10:40	06/22/17 10:08
600-149982-6	DUP-01	Water	06/21/17 12:00	06/22/17 10:08
600-149982-7	Trip Blank	Water	06/21/17 00:00	06/22/17 10:08

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Client Sample ID: ACW-13

Date Collected: 06/21/17 11:10

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		06/22/17 20:40	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		06/22/17 20:40	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		06/22/17 20:40	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		06/22/17 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		50 - 134		06/22/17 20:40	1
4-Bromofluorobenzene	89		67 - 139		06/22/17 20:40	1
Dibromofluoromethane	97		62 - 130		06/22/17 20:40	1
Toluene-d8 (Surr)	100		70 - 130		06/22/17 20:40	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	327		10.0	1.34	mg/L	-		07/05/17 14:57	25

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	116		1.00	0.0214	mg/L	-	06/28/17 12:02	06/30/17 12:33	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1350		2.00	1.31	umhos/cm	-		06/26/17 16:00	1
Total Dissolved Solids	1190		20.0	20.0	mg/L	-		06/24/17 08:42	1

Client Sample ID: ACW-14

Date Collected: 06/21/17 12:10

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		06/23/17 17:27	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		06/23/17 17:27	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		06/23/17 17:27	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		06/23/17 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		50 - 134		06/23/17 17:27	1
4-Bromofluorobenzene	92		67 - 139		06/23/17 17:27	1
Dibromofluoromethane	94		62 - 130		06/23/17 17:27	1
Toluene-d8 (Surr)	98		70 - 130		06/23/17 17:27	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	128		8.00	1.07	mg/L	-		07/05/17 18:15	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	101		1.00	0.0214	mg/L	-	06/28/17 12:02	06/30/17 12:35	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Client Sample ID: ACW-14

Date Collected: 06/21/17 12:10

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	867		2.00	1.31	umhos/cm			06/26/17 16:00	1
Total Dissolved Solids	748		10.0	10.0	mg/L			06/24/17 08:42	1

Client Sample ID: ACW-15

Date Collected: 06/21/17 10:15

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			06/23/17 17:53	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			06/23/17 17:53	1
Toluene	<0.000198		0.00100	0.000198	mg/L			06/23/17 17:53	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			06/23/17 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		50 - 134		06/23/17 17:53	1
4-Bromofluorobenzene	86		67 - 139		06/23/17 17:53	1
Dibromofluoromethane	94		62 - 130		06/23/17 17:53	1
Toluene-d8 (Surr)	97		70 - 130		06/23/17 17:53	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	126		8.00	1.07	mg/L			07/05/17 15:17	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	90.1		1.00	0.0214	mg/L		06/28/17 12:02	06/30/17 12:37	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	880		2.00	1.31	umhos/cm			06/26/17 16:00	1
Total Dissolved Solids	771		10.0	10.0	mg/L			06/24/17 08:42	1

Client Sample ID: Doom Well

Date Collected: 06/21/17 09:40

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			06/23/17 18:20	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			06/23/17 18:20	1
Toluene	<0.000198		0.00100	0.000198	mg/L			06/23/17 18:20	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			06/23/17 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		50 - 134		06/23/17 18:20	1
4-Bromofluorobenzene	98		67 - 139		06/23/17 18:20	1
Dibromofluoromethane	96		62 - 130		06/23/17 18:20	1
Toluene-d8 (Surr)	97		70 - 130		06/23/17 18:20	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Client Sample ID: Doom Well

Date Collected: 06/21/17 09:40

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-4

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.1		8.00	1.07	mg/L	-		07/05/17 15:37	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	65.2		1.00	0.0214	mg/L	-	06/28/17 12:02	06/30/17 12:39	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	627		2.00	1.31	umhos/cm	-		06/26/17 16:00	1
Total Dissolved Solids	577		10.0	10.0	mg/L	-		06/24/17 08:42	1

Client Sample ID: OXY Well

Date Collected: 06/21/17 10:40

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		06/23/17 18:46	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		06/23/17 18:46	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		06/23/17 18:46	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		06/23/17 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		50 - 134		06/23/17 18:46	1
4-Bromofluorobenzene	88		67 - 139		06/23/17 18:46	1
Dibromofluoromethane	95		62 - 130		06/23/17 18:46	1
Toluene-d8 (Surr)	97		70 - 130		06/23/17 18:46	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		10.0	1.34	mg/L	-		07/05/17 15:57	25

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	107		1.00	0.0214	mg/L	-	06/28/17 12:02	06/30/17 12:41	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1370		2.00	1.31	umhos/cm	-		06/26/17 16:00	1
Total Dissolved Solids	1050		20.0	20.0	mg/L	-		06/24/17 08:42	1

Client Sample ID: DUP-01

Date Collected: 06/21/17 12:00

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		06/23/17 19:12	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		06/23/17 19:12	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		06/23/17 19:12	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		06/23/17 19:12	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Client Sample ID: DUP-01

Date Collected: 06/21/17 12:00

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		50 - 134		06/23/17 19:12	1
4-Bromofluorobenzene	95		67 - 139		06/23/17 19:12	1
Dibromofluoromethane	93		62 - 130		06/23/17 19:12	1
Toluene-d8 (Surr)	96		70 - 130		06/23/17 19:12	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	114		8.00	1.07	mg/L			07/05/17 17:15	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	105		1.00	0.0214	mg/L		06/28/17 12:02	06/30/17 12:43	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	860		2.00	1.31	umhos/cm			06/26/17 16:00	1
Total Dissolved Solids	761		10.0	10.0	mg/L			06/24/17 08:42	1

Client Sample ID: Trip Blank

Date Collected: 06/21/17 00:00

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			06/22/17 20:14	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			06/22/17 20:14	1
Toluene	<0.000198		0.00100	0.000198	mg/L			06/22/17 20:14	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			06/22/17 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		50 - 134		06/22/17 20:14	1
4-Bromofluorobenzene	95		67 - 139		06/22/17 20:14	1
Dibromofluoromethane	96		62 - 130		06/22/17 20:14	1
Toluene-d8 (Surr)	100		70 - 130		06/22/17 20:14	1

TestAmerica Houston

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (50-134)	BFB (67-139)	DBFM (62-130)	TOL (70-130)
600-149982-1	ACW-13	86	89	97	100
600-149982-2	ACW-14	85	92	94	98
600-149982-3	ACW-15	85	86	94	97
600-149982-4	Doom Well	84	98	96	97
600-149982-5	OXY Well	84	88	95	97
600-149982-6	DUP-01	85	95	93	96
600-149982-7	Trip Blank	83	95	96	100
LCS 600-215645/3	Lab Control Sample	78	87	93	97
LCS 600-215741/3	Lab Control Sample	78	88	92	96
LCSD 600-215645/4	Lab Control Sample Dup	84	88	95	96
LCSD 600-215741/4	Lab Control Sample Dup	84	87	94	92
MB 600-215645/6	Method Blank	86	89	95	100
MB 600-215741/6	Method Blank	84	91	96	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-215645/6

Matrix: Water

Analysis Batch: 215645

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			06/22/17 13:20	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			06/22/17 13:20	1
Toluene	<0.000198		0.00100	0.000198	mg/L			06/22/17 13:20	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			06/22/17 13:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		50 - 134		06/22/17 13:20	1
4-Bromofluorobenzene	89		67 - 139		06/22/17 13:20	1
Dibromofluoromethane	95		62 - 130		06/22/17 13:20	1
Toluene-d8 (Surr)	100		70 - 130		06/22/17 13:20	1

Lab Sample ID: LCS 600-215645/3

Matrix: Water

Analysis Batch: 215645

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01146		mg/L		115	70 - 130
Ethylbenzene	0.0100	0.01065		mg/L		106	70 - 130
Toluene	0.0100	0.01063		mg/L		106	70 - 130
Xylenes, Total	0.0200	0.02052		mg/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		50 - 134
4-Bromofluorobenzene	87		67 - 139
Dibromofluoromethane	93		62 - 130
Toluene-d8 (Surr)	97		70 - 130

Lab Sample ID: LCSD 600-215645/4

Matrix: Water

Analysis Batch: 215645

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01185		mg/L		119	70 - 130	3	20
Ethylbenzene	0.0100	0.01082		mg/L		108	70 - 130	2	20
Toluene	0.0100	0.01075		mg/L		108	70 - 130	1	20
Xylenes, Total	0.0200	0.02085		mg/L		104	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		50 - 134
4-Bromofluorobenzene	88		67 - 139
Dibromofluoromethane	95		62 - 130
Toluene-d8 (Surr)	96		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-215741/6

Matrix: Water

Analysis Batch: 215741

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			06/23/17 13:04	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			06/23/17 13:04	1
Toluene	<0.000198		0.00100	0.000198	mg/L			06/23/17 13:04	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			06/23/17 13:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		50 - 134		06/23/17 13:04	1
4-Bromofluorobenzene	91		67 - 139		06/23/17 13:04	1
Dibromofluoromethane	96		62 - 130		06/23/17 13:04	1
Toluene-d8 (Surr)	98		70 - 130		06/23/17 13:04	1

Lab Sample ID: LCS 600-215741/3

Matrix: Water

Analysis Batch: 215741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01133		mg/L		113	70 - 130
Ethylbenzene	0.0100	0.01076		mg/L		108	70 - 130
Toluene	0.0100	0.01066		mg/L		107	70 - 130
Xylenes, Total	0.0200	0.02078		mg/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		50 - 134
4-Bromofluorobenzene	88		67 - 139
Dibromofluoromethane	92		62 - 130
Toluene-d8 (Surr)	96		70 - 130

Lab Sample ID: LCSD 600-215741/4

Matrix: Water

Analysis Batch: 215741

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01152		mg/L		115	70 - 130	2	20
Ethylbenzene	0.0100	0.01042		mg/L		104	70 - 130	3	20
Toluene	0.0100	0.01037		mg/L		104	70 - 130	3	20
Xylenes, Total	0.0200	0.02010		mg/L		100	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		50 - 134
4-Bromofluorobenzene	87		67 - 139
Dibromofluoromethane	94		62 - 130
Toluene-d8 (Surr)	92		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-216417/4

Matrix: Water

Analysis Batch: 216417

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			07/05/17 10:21	1

Lab Sample ID: LCS 600-216417/5

Matrix: Water

Analysis Batch: 216417

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	18.63		mg/L		93	90 - 110

Lab Sample ID: 600-149982-6 MS

Matrix: Water

Analysis Batch: 216417

Client Sample ID: DUP-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	114		200	297.9		mg/L		92	80 - 120

Lab Sample ID: 600-149982-6 MSD

Matrix: Water

Analysis Batch: 216417

Client Sample ID: DUP-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	114		200	298.4		mg/L		92	80 - 120	0	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-216067/1-A

Matrix: Water

Analysis Batch: 216276

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 216067

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.0214		1.00	0.0214	mg/L		06/28/17 12:02	06/30/17 12:29	1

Lab Sample ID: LCS 600-216067/2-A

Matrix: Water

Analysis Batch: 216276

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 216067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	10.49		mg/L		105	80 - 120

Lab Sample ID: 600-149982-6 MS

Matrix: Water

Analysis Batch: 216276

Client Sample ID: DUP-01

Prep Type: Total/NA

Prep Batch: 216067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	105		10.0	114.7	4	mg/L		101	75 - 125

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-149982-6 MSD

Matrix: Water

Analysis Batch: 216276

Client Sample ID: DUP-01

Prep Type: Total/NA

Prep Batch: 216067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	105		10.0	114.2	4	mg/L		96	75 - 125	0	20

Lab Sample ID: 600-149982-6 DU

Matrix: Water

Analysis Batch: 216276

Client Sample ID: DUP-01

Prep Type: Total/NA

Prep Batch: 216067

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sodium	105		103.0		mg/L		2	20

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 600-215890/1

Matrix: Water

Analysis Batch: 215890

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.31		2.00	1.31	umhos/cm			06/26/17 16:00	1

Lab Sample ID: LCS 600-215890/2

Matrix: Water

Analysis Batch: 215890

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	10.0	9.780		umhos/cm		98	90 - 110

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 600-215795/1

Matrix: Water

Analysis Batch: 215795

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L			06/24/17 08:42	1

Lab Sample ID: LCS 600-215795/2

Matrix: Water

Analysis Batch: 215795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1650		mg/L		92	90 - 110

Lab Sample ID: 600-149982-2 DU

Matrix: Water

Analysis Batch: 215795

Client Sample ID: ACW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	748		767.0		mg/L		3	10

TestAmerica Houston

Unadjusted Detection Limits

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	MQL	MDL	Units	Method
Benzene	0.00100	0.000176	mg/L	8260B
Ethylbenzene	0.00100	0.000212	mg/L	8260B
Toluene	0.00100	0.000198	mg/L	8260B
Xylenes, Total	0.00200	0.000366	mg/L	8260B

Method: 300.0 - Anions, Ion Chromatography

Analyte	MQL	MDL	Units	Method
Chloride	0.400	0.0534	mg/L	300.0

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Analyte	MQL	MDL	Units	Method
Sodium	1.00	0.0214	mg/L	6010B

General Chemistry

Analyte	MQL	MDL	Units	Method
Specific Conductance	2.00	1.31	umhos/cm	120.1
Total Dissolved Solids	10.0	10.0	mg/L	2540 C-1997

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

GC/MS VOA

Analysis Batch: 215645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-1	ACW-13	Total/NA	Water	8260B	
600-149982-7	Trip Blank	Total/NA	Water	8260B	
MB 600-215645/6	Method Blank	Total/NA	Water	8260B	
LCS 600-215645/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-215645/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 215741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-2	ACW-14	Total/NA	Water	8260B	
600-149982-3	ACW-15	Total/NA	Water	8260B	
600-149982-4	Doom Well	Total/NA	Water	8260B	
600-149982-5	OXY Well	Total/NA	Water	8260B	
600-149982-6	DUP-01	Total/NA	Water	8260B	
MB 600-215741/6	Method Blank	Total/NA	Water	8260B	
LCS 600-215741/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-215741/4	Lab Control Sample Dup	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 216417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-1	ACW-13	Total/NA	Water	300.0	
600-149982-2	ACW-14	Total/NA	Water	300.0	
600-149982-3	ACW-15	Total/NA	Water	300.0	
600-149982-4	Doom Well	Total/NA	Water	300.0	
600-149982-5	OXY Well	Total/NA	Water	300.0	
600-149982-6	DUP-01	Total/NA	Water	300.0	
MB 600-216417/4	Method Blank	Total/NA	Water	300.0	
LCS 600-216417/5	Lab Control Sample	Total/NA	Water	300.0	
600-149982-6 MS	DUP-01	Total/NA	Water	300.0	
600-149982-6 MSD	DUP-01	Total/NA	Water	300.0	

Metals

Prep Batch: 216067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-1	ACW-13	Total/NA	Water	3010A	
600-149982-2	ACW-14	Total/NA	Water	3010A	
600-149982-3	ACW-15	Total/NA	Water	3010A	
600-149982-4	Doom Well	Total/NA	Water	3010A	
600-149982-5	OXY Well	Total/NA	Water	3010A	
600-149982-6	DUP-01	Total/NA	Water	3010A	
MB 600-216067/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-216067/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-149982-6 MS	DUP-01	Total/NA	Water	3010A	
600-149982-6 MSD	DUP-01	Total/NA	Water	3010A	
600-149982-6 DU	DUP-01	Total/NA	Water	3010A	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Metals (Continued)

Analysis Batch: 216276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-1	ACW-13	Total/NA	Water	6010B	216067
600-149982-2	ACW-14	Total/NA	Water	6010B	216067
600-149982-3	ACW-15	Total/NA	Water	6010B	216067
600-149982-4	Doom Well	Total/NA	Water	6010B	216067
600-149982-5	OXY Well	Total/NA	Water	6010B	216067
600-149982-6	DUP-01	Total/NA	Water	6010B	216067
MB 600-216067/1-A	Method Blank	Total/NA	Water	6010B	216067
LCS 600-216067/2-A	Lab Control Sample	Total/NA	Water	6010B	216067
600-149982-6 MS	DUP-01	Total/NA	Water	6010B	216067
600-149982-6 MSD	DUP-01	Total/NA	Water	6010B	216067
600-149982-6 DU	DUP-01	Total/NA	Water	6010B	216067

General Chemistry

Analysis Batch: 215795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-1	ACW-13	Total/NA	Water	2540 C-1997	
600-149982-2	ACW-14	Total/NA	Water	2540 C-1997	
600-149982-3	ACW-15	Total/NA	Water	2540 C-1997	
600-149982-4	Doom Well	Total/NA	Water	2540 C-1997	
600-149982-5	OXY Well	Total/NA	Water	2540 C-1997	
600-149982-6	DUP-01	Total/NA	Water	2540 C-1997	
MB 600-215795/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-215795/2	Lab Control Sample	Total/NA	Water	2540 C-1997	
600-149982-2 DU	ACW-14	Total/NA	Water	2540 C-1997	

Analysis Batch: 215890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-149982-1	ACW-13	Total/NA	Water	120.1	
600-149982-2	ACW-14	Total/NA	Water	120.1	
600-149982-3	ACW-15	Total/NA	Water	120.1	
600-149982-4	Doom Well	Total/NA	Water	120.1	
600-149982-5	OXY Well	Total/NA	Water	120.1	
600-149982-6	DUP-01	Total/NA	Water	120.1	
MB 600-215890/1	Method Blank	Total/NA	Water	120.1	
LCS 600-215890/2	Lab Control Sample	Total/NA	Water	120.1	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Client Sample ID: ACW-13

Date Collected: 06/21/17 11:10

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215645	06/22/17 20:40	WS1	TAL HOU
Total/NA	Analysis	300.0		25	216417	07/05/17 14:57	DAW	TAL HOU
Total/NA	Prep	3010A			216067	06/28/17 12:02	JAH	TAL HOU
Total/NA	Analysis	6010B		1	216276	06/30/17 12:33	DCL	TAL HOU
Total/NA	Analysis	120.1		1	215890	06/26/17 16:00	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	215795	06/24/17 08:42	EC1	TAL HOU

Client Sample ID: ACW-14

Date Collected: 06/21/17 12:10

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215741	06/23/17 17:27	WS1	TAL HOU
Total/NA	Analysis	300.0		20	216417	07/05/17 18:15	DAW	TAL HOU
Total/NA	Prep	3010A			216067	06/28/17 12:02	JAH	TAL HOU
Total/NA	Analysis	6010B		1	216276	06/30/17 12:35	DCL	TAL HOU
Total/NA	Analysis	120.1		1	215890	06/26/17 16:00	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	215795	06/24/17 08:42	EC1	TAL HOU

Client Sample ID: ACW-15

Date Collected: 06/21/17 10:15

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215741	06/23/17 17:53	WS1	TAL HOU
Total/NA	Analysis	300.0		20	216417	07/05/17 15:17	DAW	TAL HOU
Total/NA	Prep	3010A			216067	06/28/17 12:02	JAH	TAL HOU
Total/NA	Analysis	6010B		1	216276	06/30/17 12:37	DCL	TAL HOU
Total/NA	Analysis	120.1		1	215890	06/26/17 16:00	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	215795	06/24/17 08:42	EC1	TAL HOU

Client Sample ID: Doom Well

Date Collected: 06/21/17 09:40

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215741	06/23/17 18:20	WS1	TAL HOU
Total/NA	Analysis	300.0		20	216417	07/05/17 15:37	DAW	TAL HOU
Total/NA	Prep	3010A			216067	06/28/17 12:02	JAH	TAL HOU
Total/NA	Analysis	6010B		1	216276	06/30/17 12:39	DCL	TAL HOU
Total/NA	Analysis	120.1		1	215890	06/26/17 16:00	KRD	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Client Sample ID: Doom Well

Date Collected: 06/21/17 09:40

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 C-1997		1	215795	06/24/17 08:42	EC1	TAL HOU

Client Sample ID: OXY Well

Date Collected: 06/21/17 10:40

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215741	06/23/17 18:46	WS1	TAL HOU
Total/NA	Analysis	300.0		25	216417	07/05/17 15:57	DAW	TAL HOU
Total/NA	Prep	3010A			216067	06/28/17 12:02	JAH	TAL HOU
Total/NA	Analysis	6010B		1	216276	06/30/17 12:41	DCL	TAL HOU
Total/NA	Analysis	120.1		1	215890	06/26/17 16:00	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	215795	06/24/17 08:42	EC1	TAL HOU

Client Sample ID: DUP-01

Date Collected: 06/21/17 12:00

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215741	06/23/17 19:12	WS1	TAL HOU
Total/NA	Analysis	300.0		20	216417	07/05/17 17:15	DAW	TAL HOU
Total/NA	Prep	3010A			216067	06/28/17 12:02	JAH	TAL HOU
Total/NA	Analysis	6010B		1	216276	06/30/17 12:43	DCL	TAL HOU
Total/NA	Analysis	120.1		1	215890	06/26/17 16:00	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	215795	06/24/17 08:42	EC1	TAL HOU

Client Sample ID: Trip Blank

Date Collected: 06/21/17 00:00

Date Received: 06/22/17 10:08

Lab Sample ID: 600-149982-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	215645	06/22/17 20:14	WS1	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TestAmerica Houston

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-149982-1

Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-17-21	10-31-17

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
120.1		Water	Specific Conductance

TestAmerica Houston

6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record



merica
713-690-5646

Client Information Client Contact: Hank McConnell Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 300 City: Midland State, Zip: TX, 79701 Phone: 432-687-5400 (Tel) Email: hank.mcconnell@arcadis-us.com Project Name: JAL #4 Gas Plant--Hank McConnell Site: Quarterly sampling		Supplier: Bryan Bayles / HMF to go Phone: 832-347-4513 Lab PM: Upton, Cathy L E-Mail: cathy.upton@testamericainc.com		Due Date Requested: TAT Requested (days): PO #: WD255945 WO #: Project #: 60008415 SSOW#:		Analysis Requested 6010B - Sodium 8260B LL - BTEX Only 120.1 - Specific Conductance 2540C - Col - TDS 300 - ORGM - 28D - Chloride		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 Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		Special Instructions/Note: Total Number of containers			
Sample Identification ACW-13 ACW-14 ACW-15 Doom well OXY well Dup-01 Trip Blank		Sample Date 6/21/17 1210 1015 940 1040 1200 -		Sample Time 1110 1210 1015 940 1040 1200 -		Sample Type (C=Comp, G=grab) G G G G G G G		Matrix (W=water, S=solid, O=organic, A=air) Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) N N N N N N N N		Perform MS/MSD (Yes or No) N N N N N N N N	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological													
Deliverable Requested: I, II, III, IV, Other (specify)													
Empty Kit Relinquished by:													
Relinquished by: [Signature] Date/Time: 6/21/17 1600 Company: HMF													
Relinquished by: [Signature] Date/Time: [Blank] Company: [Blank]													
Relinquished by: [Signature] Date/Time: [Blank] Company: [Blank]													
Custody Seal No.: Δ Yes Δ No													

1
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Sample Receipt Checklist

Loc: 600

149982

Date/Time Received: _____

17 JUN 22 10:08

JOB NUMB/ _____

CLIENT: ARCADIUS

UNPACKED BY: _____

CARRIER/DRIVER: FedExCustody Seal Present: ☒ YES ☐ NO

Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
<u>6</u>	Y / N	Y / N	<u>1.4</u>	<u>549</u>	<u>-0.3</u>	<u>1.1</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				<u>JCH</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YESBase samples are > pH 12: ☐ YES ☐ NOAcid preserved are < pH 2: ☐ YES ☐ NO

pH paper Lot # _____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	☐

COMMENTS:	<u>7332</u>	<u>7229</u>	<u>6177</u>

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-149982-1

Login Number: 149982

List Source: TestAmerica Houston

List Number: 1

Creator: Trenery, Michael J

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	
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 (excluding tests with immediate HTs)	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	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-154306-1

Client Project/Site: JAL#4 Gas Plant--Hank McConnell

For:

ARCADIS U.S., Inc.

1004 North Big Spring

Suite 300

Midland, Texas 79701

Attn: Hank McConnell



Authorized for release by:

9/30/2017 10:29:00 AM

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

LINKS

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results through

TotalAccess

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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.

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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Job ID: 600-154306-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-154306-1

Comments

No additional comments.

Receipt

The samples were received on 9/22/2017 8:49 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
120.1	Conductivity, Specific Conductance	MCAWW	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU

Protocol References:

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

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-154306-1	ACW-13	Water	09/21/17 10:05	09/22/17 08:49
600-154306-2	ACW-14	Water	09/21/17 10:55	09/22/17 08:49
600-154306-3	ACW-15	Water	09/21/17 09:10	09/22/17 08:49
600-154306-4	Doom Well	Water	09/21/17 09:25	09/22/17 08:49
600-154306-5	Oxy Well	Water	09/21/17 09:00	09/22/17 08:49
600-154306-6	Dup-01	Water	09/21/17 10:00	09/22/17 08:49
600-154306-7	TRIP BLANK	Water	09/21/17 00:00	09/22/17 08:49

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Client Sample ID: ACW-13

Date Collected: 09/21/17 10:05

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		09/22/17 21:13	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		09/22/17 21:13	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		09/22/17 21:13	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		09/22/17 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		50 - 134		09/22/17 21:13	1
4-Bromofluorobenzene	107		67 - 139		09/22/17 21:13	1
Dibromofluoromethane	102		62 - 130		09/22/17 21:13	1
Toluene-d8 (Surr)	92		70 - 130		09/22/17 21:13	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	329		20.0	2.67	mg/L	-		09/27/17 19:42	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	121		1.00	0.0214	mg/L	-	09/26/17 16:16	09/27/17 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1430		2.00	1.31	umhos/cm	-		09/29/17 11:25	1
Total Dissolved Solids	1100		20.0	20.0	mg/L	-		09/22/17 11:01	1

Client Sample ID: ACW-14

Date Collected: 09/21/17 10:55

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		09/23/17 17:38	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		09/23/17 17:38	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		09/23/17 17:38	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		09/23/17 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		50 - 134		09/23/17 17:38	1
4-Bromofluorobenzene	87		67 - 139		09/23/17 17:38	1
Dibromofluoromethane	80		62 - 130		09/23/17 17:38	1
Toluene-d8 (Surr)	101		70 - 130		09/23/17 17:38	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	121		8.00	1.07	mg/L	-		09/27/17 20:42	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	107		1.00	0.0214	mg/L	-	09/26/17 16:16	09/27/17 16:03	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Client Sample ID: ACW-14

Date Collected: 09/21/17 10:55

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	877		2.00	1.31	umhos/cm			09/29/17 11:25	1
Total Dissolved Solids	598		10.0	10.0	mg/L			09/22/17 11:01	1

Client Sample ID: ACW-15

Date Collected: 09/21/17 09:10

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			09/23/17 17:10	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			09/23/17 17:10	1
Toluene	<0.000198		0.00100	0.000198	mg/L			09/23/17 17:10	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			09/23/17 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		50 - 134		09/23/17 17:10	1
4-Bromofluorobenzene	107		67 - 139		09/23/17 17:10	1
Dibromofluoromethane	107		62 - 130		09/23/17 17:10	1
Toluene-d8 (Surr)	93		70 - 130		09/23/17 17:10	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	133		8.00	1.07	mg/L			09/27/17 21:02	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	92.4		1.00	0.0214	mg/L		09/26/17 16:16	09/27/17 15:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	898		2.00	1.31	umhos/cm			09/29/17 11:25	1
Total Dissolved Solids	635		10.0	10.0	mg/L			09/22/17 11:01	1

Client Sample ID: Doom Well

Date Collected: 09/21/17 09:25

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			09/23/17 17:37	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			09/23/17 17:37	1
Toluene	<0.000198		0.00100	0.000198	mg/L			09/23/17 17:37	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			09/23/17 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		50 - 134		09/23/17 17:37	1
4-Bromofluorobenzene	107		67 - 139		09/23/17 17:37	1
Dibromofluoromethane	106		62 - 130		09/23/17 17:37	1
Toluene-d8 (Surr)	93		70 - 130		09/23/17 17:37	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Client Sample ID: Doom Well

Date Collected: 09/21/17 09:25

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-4

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43.3		8.00	1.07	mg/L	-		09/27/17 21:22	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	64.3		1.00	0.0214	mg/L	-	09/26/17 16:16	09/27/17 16:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	636		2.00	1.31	umhos/cm	-		09/29/17 11:47	1
Total Dissolved Solids	438		10.0	10.0	mg/L	-		09/22/17 11:01	1

Client Sample ID: Oxy Well

Date Collected: 09/21/17 09:00

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		09/23/17 18:03	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		09/23/17 18:03	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		09/23/17 18:03	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		09/23/17 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		50 - 134		09/23/17 18:03	1
4-Bromofluorobenzene	105		67 - 139		09/23/17 18:03	1
Dibromofluoromethane	99		62 - 130		09/23/17 18:03	1
Toluene-d8 (Surr)	90		70 - 130		09/23/17 18:03	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	264		20.0	2.67	mg/L	-		09/27/17 21:42	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	104		1.00	0.0214	mg/L	-	09/26/17 16:16	09/27/17 16:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1410		2.00	1.31	umhos/cm	-		09/29/17 11:47	1
Total Dissolved Solids	980		20.0	20.0	mg/L	-		09/22/17 11:01	1

Client Sample ID: Dup-01

Date Collected: 09/21/17 10:00

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		09/23/17 18:29	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		09/23/17 18:29	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		09/23/17 18:29	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		09/23/17 18:29	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Client Sample ID: Dup-01

Date Collected: 09/21/17 10:00

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		50 - 134		09/23/17 18:29	1
4-Bromofluorobenzene	107		67 - 139		09/23/17 18:29	1
Dibromofluoromethane	104		62 - 130		09/23/17 18:29	1
Toluene-d8 (Surr)	92		70 - 130		09/23/17 18:29	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	128		8.00	1.07	mg/L			09/27/17 22:02	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	103		1.00	0.0214	mg/L		09/26/17 16:16	09/27/17 16:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	884		2.00	1.31	umhos/cm			09/29/17 11:47	1
Total Dissolved Solids	628		10.0	10.0	mg/L			09/22/17 11:01	1

Client Sample ID: TRIP BLANK

Date Collected: 09/21/17 00:00

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			09/23/17 16:44	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			09/23/17 16:44	1
Toluene	<0.000198		0.00100	0.000198	mg/L			09/23/17 16:44	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			09/23/17 16:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		50 - 134		09/23/17 16:44	1
4-Bromofluorobenzene	104		67 - 139		09/23/17 16:44	1
Dibromofluoromethane	102		62 - 130		09/23/17 16:44	1
Toluene-d8 (Surr)	91		70 - 130		09/23/17 16:44	1

TestAmerica Houston

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (50-134)	BFB (67-139)	DBFM (62-130)	TOL (70-130)
600-154306-1	ACW-13	112	107	102	92
600-154306-2	ACW-14	77	87	80	101
600-154306-3	ACW-15	118	107	107	93
600-154306-4	Doom Well	114	107	106	93
600-154306-5	Oxy Well	113	105	99	90
600-154306-6	Dup-01	117	107	104	92
600-154306-7	TRIP BLANK	117	104	102	91
LCS 600-221914/3	Lab Control Sample	104	113	107	94
LCS 600-221966/3	Lab Control Sample	77	96	94	109
LCS 600-221983/3	Lab Control Sample	117	110	108	92
LCSD 600-221914/4	Lab Control Sample Dup	116	112	106	94
LCSD 600-221966/4	Lab Control Sample Dup	79	94	95	109
LCSD 600-221983/4	Lab Control Sample Dup	107	110	106	92
MB 600-221914/6	Method Blank	108	106	101	95
MB 600-221966/6	Method Blank	76	91	80	102
MB 600-221983/6	Method Blank	112	105	102	93

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-221914/6

Matrix: Water

Analysis Batch: 221914

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			09/22/17 12:20	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			09/22/17 12:20	1
Toluene	<0.000198		0.00100	0.000198	mg/L			09/22/17 12:20	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			09/22/17 12:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		50 - 134		09/22/17 12:20	1
4-Bromofluorobenzene	106		67 - 139		09/22/17 12:20	1
Dibromofluoromethane	101		62 - 130		09/22/17 12:20	1
Toluene-d8 (Surr)	95		70 - 130		09/22/17 12:20	1

Lab Sample ID: LCS 600-221914/3

Matrix: Water

Analysis Batch: 221914

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.009608		mg/L		96	70 - 130
Ethylbenzene	0.0100	0.009593		mg/L		96	70 - 130
Toluene	0.0100	0.009071		mg/L		91	70 - 130
Xylenes, Total	0.0200	0.01926		mg/L		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		50 - 134
4-Bromofluorobenzene	113		67 - 139
Dibromofluoromethane	107		62 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: LCSD 600-221914/4

Matrix: Water

Analysis Batch: 221914

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.009599		mg/L		96	70 - 130	0	20
Ethylbenzene	0.0100	0.009668		mg/L		97	70 - 130	1	20
Toluene	0.0100	0.009086		mg/L		91	70 - 130	0	20
Xylenes, Total	0.0200	0.01945		mg/L		97	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		50 - 134
4-Bromofluorobenzene	112		67 - 139
Dibromofluoromethane	106		62 - 130
Toluene-d8 (Surr)	94		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-221966/6

Matrix: Water

Analysis Batch: 221966

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			09/23/17 09:26	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			09/23/17 09:26	1
Toluene	<0.000198		0.00100	0.000198	mg/L			09/23/17 09:26	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			09/23/17 09:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		50 - 134		09/23/17 09:26	1
4-Bromofluorobenzene	91		67 - 139		09/23/17 09:26	1
Dibromofluoromethane	80		62 - 130		09/23/17 09:26	1
Toluene-d8 (Surr)	102		70 - 130		09/23/17 09:26	1

Lab Sample ID: LCS 600-221966/3

Matrix: Water

Analysis Batch: 221966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01077		mg/L		108	70 - 130
Ethylbenzene	0.0100	0.01103		mg/L		110	70 - 130
Toluene	0.0100	0.01156		mg/L		116	70 - 130
Xylenes, Total	0.0200	0.02248		mg/L		112	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	77		50 - 134
4-Bromofluorobenzene	96		67 - 139
Dibromofluoromethane	94		62 - 130
Toluene-d8 (Surr)	109		70 - 130

Lab Sample ID: LCSD 600-221966/4

Matrix: Water

Analysis Batch: 221966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01085		mg/L		109	70 - 130	1	20
Ethylbenzene	0.0100	0.01118		mg/L		112	70 - 130	1	20
Toluene	0.0100	0.01148		mg/L		115	70 - 130	1	20
Xylenes, Total	0.0200	0.02241		mg/L		112	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		50 - 134
4-Bromofluorobenzene	94		67 - 139
Dibromofluoromethane	95		62 - 130
Toluene-d8 (Surr)	109		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-221983/6

Matrix: Water

Analysis Batch: 221983

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			09/23/17 14:30	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			09/23/17 14:30	1
Toluene	<0.000198		0.00100	0.000198	mg/L			09/23/17 14:30	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			09/23/17 14:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		50 - 134		09/23/17 14:30	1
4-Bromofluorobenzene	105		67 - 139		09/23/17 14:30	1
Dibromofluoromethane	102		62 - 130		09/23/17 14:30	1
Toluene-d8 (Surr)	93		70 - 130		09/23/17 14:30	1

Lab Sample ID: LCS 600-221983/3

Matrix: Water

Analysis Batch: 221983

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01028		mg/L		103	70 - 130
Ethylbenzene	0.0100	0.009859		mg/L		99	70 - 130
Toluene	0.0100	0.009376		mg/L		94	70 - 130
Xylenes, Total	0.0200	0.02010		mg/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	117		50 - 134
4-Bromofluorobenzene	110		67 - 139
Dibromofluoromethane	108		62 - 130
Toluene-d8 (Surr)	92		70 - 130

Lab Sample ID: LCSD 600-221983/4

Matrix: Water

Analysis Batch: 221983

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.009481		mg/L		95	70 - 130	8	20
Ethylbenzene	0.0100	0.009138		mg/L		91	70 - 130	8	20
Toluene	0.0100	0.008610		mg/L		86	70 - 130	9	20
Xylenes, Total	0.0200	0.01852		mg/L		93	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		50 - 134
4-Bromofluorobenzene	110		67 - 139
Dibromofluoromethane	106		62 - 130
Toluene-d8 (Surr)	92		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-222229/4

Matrix: Water

Analysis Batch: 222229

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L	-		09/27/17 10:08	1

Lab Sample ID: LCS 600-222229/5

Matrix: Water

Analysis Batch: 222229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.22		mg/L	-	96	90 - 110

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-222186/1-A

Matrix: Water

Analysis Batch: 222291

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 222186

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.0214		1.00	0.0214	mg/L	-	09/26/17 16:16	09/27/17 15:17	1

Lab Sample ID: LCS 600-222186/2-A

Matrix: Water

Analysis Batch: 222291

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 222186

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	9.913		mg/L	-	99	80 - 120

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 600-222475/1

Matrix: Water

Analysis Batch: 222475

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.31		2.00	1.31	umhos/cm	-		09/29/17 11:25	1

Lab Sample ID: LCS 600-222475/2

Matrix: Water

Analysis Batch: 222475

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	10.0	9.920		umhos/cm	-	99	90 - 110

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 600-221918/1

Matrix: Water

Analysis Batch: 221918

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L	-		09/22/17 11:01	1

Lab Sample ID: LCS 600-221918/2

Matrix: Water

Analysis Batch: 221918

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1744		mg/L	-	97	90 - 110

Lab Sample ID: 600-154306-2 DU

Matrix: Water

Analysis Batch: 221918

Client Sample ID: ACW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	598		602.0		mg/L	-	0.7	10

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

GC/MS VOA

Analysis Batch: 221914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-1	ACW-13	Total/NA	Water	8260B	
MB 600-221914/6	Method Blank	Total/NA	Water	8260B	
LCS 600-221914/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-221914/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 221966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-2	ACW-14	Total/NA	Water	8260B	
MB 600-221966/6	Method Blank	Total/NA	Water	8260B	
LCS 600-221966/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-221966/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 221983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-3	ACW-15	Total/NA	Water	8260B	
600-154306-4	Doom Well	Total/NA	Water	8260B	
600-154306-5	Oxy Well	Total/NA	Water	8260B	
600-154306-6	Dup-01	Total/NA	Water	8260B	
600-154306-7	TRIP BLANK	Total/NA	Water	8260B	
MB 600-221983/6	Method Blank	Total/NA	Water	8260B	
LCS 600-221983/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-221983/4	Lab Control Sample Dup	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 222229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-1	ACW-13	Total/NA	Water	300.0	
600-154306-2	ACW-14	Total/NA	Water	300.0	
600-154306-3	ACW-15	Total/NA	Water	300.0	
600-154306-4	Doom Well	Total/NA	Water	300.0	
600-154306-5	Oxy Well	Total/NA	Water	300.0	
600-154306-6	Dup-01	Total/NA	Water	300.0	
MB 600-222229/4	Method Blank	Total/NA	Water	300.0	
LCS 600-222229/5	Lab Control Sample	Total/NA	Water	300.0	

Metals

Prep Batch: 222186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-1	ACW-13	Total/NA	Water	3010A	
600-154306-2	ACW-14	Total/NA	Water	3010A	
600-154306-3	ACW-15	Total/NA	Water	3010A	
600-154306-4	Doom Well	Total/NA	Water	3010A	
600-154306-5	Oxy Well	Total/NA	Water	3010A	
600-154306-6	Dup-01	Total/NA	Water	3010A	
MB 600-222186/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-222186/2-A	Lab Control Sample	Total/NA	Water	3010A	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Metals (Continued)

Analysis Batch: 222291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-1	ACW-13	Total/NA	Water	6010B	222186
600-154306-2	ACW-14	Total/NA	Water	6010B	222186
600-154306-3	ACW-15	Total/NA	Water	6010B	222186
600-154306-4	Doom Well	Total/NA	Water	6010B	222186
600-154306-5	Oxy Well	Total/NA	Water	6010B	222186
600-154306-6	Dup-01	Total/NA	Water	6010B	222186
MB 600-222186/1-A	Method Blank	Total/NA	Water	6010B	222186
LCS 600-222186/2-A	Lab Control Sample	Total/NA	Water	6010B	222186

General Chemistry

Analysis Batch: 221918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-1	ACW-13	Total/NA	Water	2540 C-1997	
600-154306-2	ACW-14	Total/NA	Water	2540 C-1997	
600-154306-3	ACW-15	Total/NA	Water	2540 C-1997	
600-154306-4	Doom Well	Total/NA	Water	2540 C-1997	
600-154306-5	Oxy Well	Total/NA	Water	2540 C-1997	
600-154306-6	Dup-01	Total/NA	Water	2540 C-1997	
MB 600-221918/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-221918/2	Lab Control Sample	Total/NA	Water	2540 C-1997	
600-154306-2 DU	ACW-14	Total/NA	Water	2540 C-1997	

Analysis Batch: 222475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-154306-1	ACW-13	Total/NA	Water	120.1	
600-154306-2	ACW-14	Total/NA	Water	120.1	
600-154306-3	ACW-15	Total/NA	Water	120.1	
600-154306-4	Doom Well	Total/NA	Water	120.1	
600-154306-5	Oxy Well	Total/NA	Water	120.1	
600-154306-6	Dup-01	Total/NA	Water	120.1	
MB 600-222475/1	Method Blank	Total/NA	Water	120.1	
LCS 600-222475/2	Lab Control Sample	Total/NA	Water	120.1	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Client Sample ID: ACW-13

Date Collected: 09/21/17 10:05

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221914	09/22/17 21:13	YX1	TAL HOU
Total/NA	Analysis	300.0		50	222229	09/27/17 19:42	DAW	TAL HOU
Total/NA	Prep	3010A			222186	09/26/17 16:16	DCL	TAL HOU
Total/NA	Analysis	6010B		1	222291	09/27/17 15:56	DCL	TAL HOU
Total/NA	Analysis	120.1		1	222475	09/29/17 11:25	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	221918	09/22/17 11:01	EC1	TAL HOU

Client Sample ID: ACW-14

Date Collected: 09/21/17 10:55

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221966	09/23/17 17:38	WS1	TAL HOU
Total/NA	Analysis	300.0		20	222229	09/27/17 20:42	DAW	TAL HOU
Total/NA	Prep	3010A			222186	09/26/17 16:16	DCL	TAL HOU
Total/NA	Analysis	6010B		1	222291	09/27/17 16:03	DCL	TAL HOU
Total/NA	Analysis	120.1		1	222475	09/29/17 11:25	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	221918	09/22/17 11:01	EC1	TAL HOU

Client Sample ID: ACW-15

Date Collected: 09/21/17 09:10

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221983	09/23/17 17:10	KLV	TAL HOU
Total/NA	Analysis	300.0		20	222229	09/27/17 21:02	DAW	TAL HOU
Total/NA	Prep	3010A			222186	09/26/17 16:16	DCL	TAL HOU
Total/NA	Analysis	6010B		1	222291	09/27/17 15:59	DCL	TAL HOU
Total/NA	Analysis	120.1		1	222475	09/29/17 11:25	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	221918	09/22/17 11:01	EC1	TAL HOU

Client Sample ID: Doom Well

Date Collected: 09/21/17 09:25

Date Received: 09/22/17 08:49

Lab Sample ID: 600-154306-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221983	09/23/17 17:37	KLV	TAL HOU
Total/NA	Analysis	300.0		20	222229	09/27/17 21:22	DAW	TAL HOU
Total/NA	Prep	3010A			222186	09/26/17 16:16	DCL	TAL HOU
Total/NA	Analysis	6010B		1	222291	09/27/17 16:01	DCL	TAL HOU
Total/NA	Analysis	120.1		1	222475	09/29/17 11:47	KRD	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Client Sample ID: Doom Well

Lab Sample ID: 600-154306-4

Date Collected: 09/21/17 09:25

Matrix: Water

Date Received: 09/22/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 C-1997		1	221918	09/22/17 11:01	EC1	TAL HOU

Client Sample ID: Oxy Well

Lab Sample ID: 600-154306-5

Date Collected: 09/21/17 09:00

Matrix: Water

Date Received: 09/22/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221983	09/23/17 18:03	KLV	TAL HOU
Total/NA	Analysis	300.0		50	222229	09/27/17 21:42	DAW	TAL HOU
Total/NA	Prep	3010A			222186	09/26/17 16:16	DCL	TAL HOU
Total/NA	Analysis	6010B		1	222291	09/27/17 16:13	DCL	TAL HOU
Total/NA	Analysis	120.1		1	222475	09/29/17 11:47	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	221918	09/22/17 11:01	EC1	TAL HOU

Client Sample ID: Dup-01

Lab Sample ID: 600-154306-6

Date Collected: 09/21/17 10:00

Matrix: Water

Date Received: 09/22/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221983	09/23/17 18:29	KLV	TAL HOU
Total/NA	Analysis	300.0		20	222229	09/27/17 22:02	DAW	TAL HOU
Total/NA	Prep	3010A			222186	09/26/17 16:16	DCL	TAL HOU
Total/NA	Analysis	6010B		1	222291	09/27/17 16:11	DCL	TAL HOU
Total/NA	Analysis	120.1		1	222475	09/29/17 11:47	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	221918	09/22/17 11:01	EC1	TAL HOU

Client Sample ID: TRIP BLANK

Lab Sample ID: 600-154306-7

Date Collected: 09/21/17 00:00

Matrix: Water

Date Received: 09/22/17 08:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	221983	09/23/17 16:44	KLV	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TestAmerica Houston

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant--Hank McConnell

TestAmerica Job ID: 600-154306-1

Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-17-21	10-31-17

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
120.1		Water	Specific Conductance

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 300 City: Midland State, Zip: TX, 79701 Phone: 432-687-5400(Tel) Email: hank.mcconnell@arcadis-us.com Project Name: JAL#4 Gas Plant--Hank McConnell Site: Quarterly sampling		Sample Information Sample: CAMERON HABER / HANE TERN Lab PM: Upton, Cathy L E-Mail: cathy.upton@testamericainc.com Phone: 832-347-4511		Carrier Tracking No(s): COC No: 600-51545-15276.1 Page: Page 1 of 1 Job #:	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: WD255945 WO #: Project #: 60008415 SSOW#:		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 Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Sample Identification ACW-13 ACW-14 ACW-15 Down Well Oxy Well Dup-01 TRIP BLANK		Sample Date 9/21/17 1055 910 925 900 1000 -		Sample Time 1005 1055 910 925 900 1000 -	
Sample Type (C=Comp, G=grab) G G G G G G G		Matrix (W=water, S=solid, O=oil, BT=tissue, A=air) Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) N N N N N N N	
Perform MS/MSD (Yes or No) N N N N N N N		6010B - Sodium X X X X X X X		8260B LL - BTEX Only X X X X X X X	
120.1 - Specific Conductance N N N N N N N		2540C - Calcd - TDS X X X X X X X		300 - ORP/M - 28D - Chloride N N N N N N N	
Total Number of containers X X X X X X X		Special Instructions/Notes 600-154306 Chain of Custody		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 Other:	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					
Deliverable Requested: I, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by: Relinquished by: CAMERON HABER Date/Time: 9/22/17 849 Company: HANE TERN		Method of Shipment: Date/Time: 9/22/17 0849 Company: TAI		Relinquished by: Date/Time: 9/22/17 0849 Company: TAI	
Relinquished by: Date/Time: 9/22/17 0849 Company: TAI		Relinquished by: Date/Time: 9/22/17 0849 Company: TAI		Relinquished by: Date/Time: 9/22/17 0849 Company: TAI	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

Sample Receipt Che

JOB NUMBER:

306

Date/Time Received:

CLIENT:

Arcadis

UNPACKED BY:

CARRIER/DRIVER:

Client

Custody Seal Present: ☐ YES ☒ NO

Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
13/W	Y / N	Y / N	1.1	549	-0.3	0.8
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

☒ NO☐ YESBase samples are > pH 12: ☐ YES ☐ NO

Acid preserved are < pH 2:

☒ YES ☐ NO

pH paper Lot # _____

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

YES NO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

COMMENTS:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-154306-1

Login Number: 154306

List Source: TestAmerica Houston

List Number: 1

Creator: Crafton, Tommie S

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	0.8
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 (excluding tests with immediate HTs)	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	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-157625-1

Client Project/Site: JAL#4 Gas Plant Quarterly Sampling

For:

ARCADIS U.S., Inc.

1004 North Big Spring

Suite 300

Midland, Texas 79701

Attn: Hank McConnell



Authorized for release by:

12/14/2017 4:53:46 PM

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

LINKS

Review your project
results through

TotalAccess

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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.



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Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Job ID: 600-157625-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-157625-1

Comments

No additional comments.

Receipt

The samples were received on 11/30/2017 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.1° C, 0.8° C, 2.3° C, 2.4° C and 2.8° C.

GC/MS VOA

Method(s) 8260B: Surrogate recovery for the following sample was outside control limits: ACW-20 (600-157625-18). Evidence of matrix interference is present and an additional dilution was required for Benzene.

Method(s) 8260B: The following volatile samples were analyzed with significant headspace in the sample Containers: ACW-07 (600-157625-6), ACW-19 (600-157625-17), ACW-20 (600-157625-18), ACW-24 (600-157625-22) and Dup-02 (600-157625-30). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 3010A: The following samples for metals were received unpreserved and were preserved upon receipt to the laboratory: ACW-02A (600-157625-2). Regulatory documents require a 16-hour waiting period from the time of the addition of the acid preservative to the time of digestion.

Method(s) 6010B: The method blank for Prep Batch 226877 contained Sodium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6010B: The method blank for Prep Batch 226960 contained Sodium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method(s) SM 2540C: The following samples were re-analyzed outside of analytical holding time: ACW-11 (600-157625-9) and ACW-25 (600-157625-23). Samples were initially analyzed within holding time; however, the analyses were unable to be reported due to the result being outside the calibration range. The results analyzed outside of the holding time were comparable to the original results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
120.1	Conductivity, Specific Conductance	MCAWW	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU

Protocol References:

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

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-157625-1	ACW-01	Water	11/28/17 11:50	11/30/17 09:55
600-157625-2	ACW-02A	Water	11/28/17 14:45	11/30/17 09:55
600-157625-3	ACW-04	Water	11/28/17 13:15	11/30/17 09:55
600-157625-4	ACW-05	Water	11/28/17 10:45	11/30/17 09:55
600-157625-5	ACW-06	Water	11/28/17 09:45	11/30/17 09:55
600-157625-6	ACW-07	Water	11/28/17 14:30	11/30/17 09:55
600-157625-7	ACW-09	Water	11/28/17 12:15	11/30/17 09:55
600-157625-8	ACW-10	Water	11/28/17 12:15	11/30/17 09:55
600-157625-9	ACW-11	Water	11/28/17 11:40	11/30/17 09:55
600-157625-10	ACW-12	Water	11/28/17 13:50	11/30/17 09:55
600-157625-11	ACW-13	Water	11/28/17 11:30	11/30/17 09:55
600-157625-12	ACW-14	Water	11/28/17 09:15	11/30/17 09:55
600-157625-13	ACW-15	Water	11/28/17 13:00	11/30/17 09:55
600-157625-14	ACW-16	Water	11/28/17 12:50	11/30/17 09:55
600-157625-15	ACW-17	Water	11/28/17 09:25	11/30/17 09:55
600-157625-16	ACW-18	Water	11/28/17 11:05	11/30/17 09:55
600-157625-17	ACW-19	Water	11/28/17 15:35	11/30/17 09:55
600-157625-18	ACW-20	Water	11/28/17 14:35	11/30/17 09:55
600-157625-19	ACW-21	Water	11/28/17 12:10	11/30/17 09:55
600-157625-20	ACW-22	Water	11/28/17 11:20	11/30/17 09:55
600-157625-21	ACW-23	Water	11/28/17 13:10	11/30/17 09:55
600-157625-22	ACW-24	Water	11/28/17 10:35	11/30/17 09:55
600-157625-23	ACW-25	Water	11/28/17 10:05	11/30/17 09:55
600-157625-24	Doom Well	Water	11/28/17 13:40	11/30/17 09:55
600-157625-25	Oxy Well	Water	11/28/17 10:30	11/30/17 09:55
600-157625-26	ENSR-01	Water	11/28/17 13:55	11/30/17 09:55
600-157625-27	EPNG-01	Water	11/28/17 09:30	11/30/17 09:55
600-157625-28	PTP-01	Water	11/28/17 10:10	11/30/17 09:55
600-157625-29	Dup-01	Water	11/28/17 08:30	11/30/17 09:55
600-157625-30	Dup-02	Water	11/28/17 12:00	11/30/17 09:55
600-157625-31	Dup-03	Water	11/28/17 12:00	11/30/17 09:55
600-157625-32	FB-01	Water	11/28/17 09:45	11/30/17 09:55
600-157625-33	FB-02	Water	11/28/17 14:40	11/30/17 09:55
600-157625-34	FB-03	Water	11/28/17 15:25	11/30/17 09:55
600-157625-35	Trip Blank	Water	11/28/17 00:00	11/30/17 09:55

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-01

Date Collected: 11/28/17 11:50

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.000793	J	0.00100	0.000212	mg/L	-		12/01/17 22:20	1
Toluene	0.00316		0.00100	0.000198	mg/L			12/01/17 22:20	1
Xylenes, Total	0.00115	J	0.00200	0.000366	mg/L			12/01/17 22:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	67		50 - 134					12/01/17 22:20	1
4-Bromofluorobenzene	103		67 - 139					12/01/17 22:20	1
Dibromofluoromethane	74		62 - 130					12/01/17 22:20	1
Toluene-d8 (Surr)	114		70 - 130					12/01/17 22:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.115		0.0100	0.00176	mg/L	-		12/08/17 16:48	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		50 - 134					12/08/17 16:48	10
4-Bromofluorobenzene	77		67 - 139					12/08/17 16:48	10
Dibromofluoromethane	93		62 - 130					12/08/17 16:48	10
Toluene-d8 (Surr)	103		70 - 130					12/08/17 16:48	10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6020		200	26.7	mg/L	-		12/06/17 21:40	500

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	3340	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/12/17 18:46	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	16200		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	16000		1000	1000	mg/L	-		12/05/17 09:59	1

Client Sample ID: ACW-02A

Date Collected: 11/28/17 14:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00481		0.00100	0.000176	mg/L	-		12/01/17 21:04	1
Ethylbenzene	0.00202		0.00100	0.000212	mg/L			12/01/17 21:04	1
Toluene	0.00191		0.00100	0.000198	mg/L			12/01/17 21:04	1
Xylenes, Total	0.00212		0.00200	0.000366	mg/L			12/01/17 21:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	70		50 - 134					12/01/17 21:04	1
4-Bromofluorobenzene	120		67 - 139					12/01/17 21:04	1
Dibromofluoromethane	72		62 - 130					12/01/17 21:04	1
Toluene-d8 (Surr)	102		70 - 130					12/01/17 21:04	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-02A

Lab Sample ID: 600-157625-2

Date Collected: 11/28/17 14:45

Matrix: Water

Date Received: 11/30/17 09:55

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3210		200	26.7	mg/L			12/06/17 21:58	500

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	2590	B	20.0	0.428	mg/L		12/05/17 08:30	12/12/17 18:01	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	11100		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	7030		100	100	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-04

Lab Sample ID: 600-157625-3

Date Collected: 11/28/17 13:15

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0268		0.00100	0.000176	mg/L			12/01/17 21:29	1
Ethylbenzene	0.00395		0.00100	0.000212	mg/L			12/01/17 21:29	1
Toluene	0.000899	J	0.00100	0.000198	mg/L			12/01/17 21:29	1
Xylenes, Total	0.00600		0.00200	0.000366	mg/L			12/01/17 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		50 - 134		12/01/17 21:29	1
4-Bromofluorobenzene	95		67 - 139		12/01/17 21:29	1
Dibromofluoromethane	91		62 - 130		12/01/17 21:29	1
Toluene-d8 (Surr)	90		70 - 130		12/01/17 21:29	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67000		2000	267	mg/L			12/07/17 14:32	5000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	36400	B	200	4.28	mg/L		12/04/17 09:05	12/13/17 20:12	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	32800		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	138000		1000	1000	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-05

Lab Sample ID: 600-157625-4

Date Collected: 11/28/17 10:45

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00470		0.00100	0.000176	mg/L			12/01/17 21:55	1
Ethylbenzene	0.000275	J	0.00100	0.000212	mg/L			12/01/17 21:55	1
Toluene	0.000295	J	0.00100	0.000198	mg/L			12/01/17 21:55	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 21:55	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-05

Date Collected: 11/28/17 10:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	72		50 - 134		12/01/17 21:55	1
4-Bromofluorobenzene	99		67 - 139		12/01/17 21:55	1
Dibromofluoromethane	75		62 - 130		12/01/17 21:55	1
Toluene-d8 (Surr)	100		70 - 130		12/01/17 21:55	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2660		40.0	5.34	mg/L	-		12/06/17 22:34	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	1260	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/13/17 17:06	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1810		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	5360		40.0	40.0	mg/L	-		12/05/17 09:59	1

Client Sample ID: ACW-06

Date Collected: 11/28/17 09:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000317	J	0.00100	0.000176	mg/L	-		12/01/17 18:05	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		12/01/17 18:05	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		12/01/17 18:05	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		12/01/17 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		50 - 134		12/01/17 18:05	1
4-Bromofluorobenzene	92		67 - 139		12/01/17 18:05	1
Dibromofluoromethane	85		62 - 130		12/01/17 18:05	1
Toluene-d8 (Surr)	97		70 - 130		12/01/17 18:05	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2140		200	26.7	mg/L	-		12/06/17 22:51	500

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	1230	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/12/17 19:00	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	5760		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	3460		40.0	40.0	mg/L	-		12/05/17 09:59	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-07

Date Collected: 11/28/17 14:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/01/17 18:30	1
Ethylbenzene	0.000363	J	0.00100	0.000212	mg/L			12/01/17 18:30	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 18:30	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		50 - 134		12/01/17 18:30	1
4-Bromofluorobenzene	91		67 - 139		12/01/17 18:30	1
Dibromofluoromethane	83		62 - 130		12/01/17 18:30	1
Toluene-d8 (Surr)	96		70 - 130		12/01/17 18:30	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2810		200	26.7	mg/L			12/06/17 23:09	500

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	1840	B	20.0	0.428	mg/L		12/04/17 09:05	12/12/17 19:02	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	8940		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	5940		100	100	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-09

Date Collected: 11/28/17 12:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/01/17 18:56	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/01/17 18:56	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 18:56	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		50 - 134		12/01/17 18:56	1
4-Bromofluorobenzene	95		67 - 139		12/01/17 18:56	1
Dibromofluoromethane	81		62 - 130		12/01/17 18:56	1
Toluene-d8 (Surr)	95		70 - 130		12/01/17 18:56	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10600		400	53.4	mg/L			12/07/17 12:27	1000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	3090	B	20.0	0.428	mg/L		12/04/17 09:05	12/12/17 19:04	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	26000		2.00	1.31	umhos/cm			12/05/17 10:45	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-09

Date Collected: 11/28/17 12:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-7

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	20000		200	200	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-10

Date Collected: 11/28/17 12:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000248	J	0.00100	0.000176	mg/L			12/01/17 19:22	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/01/17 19:22	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 19:22	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		50 - 134		12/01/17 19:22	1
4-Bromofluorobenzene	93		67 - 139		12/01/17 19:22	1
Dibromofluoromethane	78		62 - 130		12/01/17 19:22	1
Toluene-d8 (Surr)	99		70 - 130		12/01/17 19:22	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2350		100	13.4	mg/L			12/07/17 12:45	250

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	303	B	20.0	0.428	mg/L		12/04/17 09:05	12/12/17 19:12	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	4640		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	2320		20.0	20.0	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-11

Date Collected: 11/28/17 11:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0126		0.00100	0.000176	mg/L			12/01/17 19:47	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/01/17 19:47	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 19:47	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		50 - 134		12/01/17 19:47	1
4-Bromofluorobenzene	95		67 - 139		12/01/17 19:47	1
Dibromofluoromethane	87		62 - 130		12/01/17 19:47	1
Toluene-d8 (Surr)	96		70 - 130		12/01/17 19:47	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-11

Date Collected: 11/28/17 11:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-9

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30500		2000	267	mg/L			12/07/17 13:03	5000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	10700	B	100	2.14	mg/L		12/04/17 09:05	12/13/17 17:28	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	65600		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	39900	H	200	200	mg/L			12/06/17 15:06	1

Client Sample ID: ACW-12

Date Collected: 11/28/17 13:50

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/01/17 20:13	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/01/17 20:13	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 20:13	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	74		50 - 134		12/01/17 20:13	1
4-Bromofluorobenzene	95		67 - 139		12/01/17 20:13	1
Dibromofluoromethane	74		62 - 130		12/01/17 20:13	1
Toluene-d8 (Surr)	102		70 - 130		12/01/17 20:13	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1840		100	13.4	mg/L			12/07/17 13:21	250

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	348	B	20.0	0.428	mg/L		12/04/17 09:05	12/13/17 17:08	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	5820		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	2430		20.0	20.0	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-13

Date Collected: 11/28/17 11:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/01/17 20:38	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/01/17 20:38	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 20:38	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 20:38	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-13

Date Collected: 11/28/17 11:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-11

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	69		50 - 134		12/01/17 20:38	1
4-Bromofluorobenzene	98		67 - 139		12/01/17 20:38	1
Dibromofluoromethane	75		62 - 130		12/01/17 20:38	1
Toluene-d8 (Surr)	104		70 - 130		12/01/17 20:38	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	363		40.0	5.34	mg/L	-		12/07/17 13:38	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	137	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/12/17 19:19	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1550		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	1160		20.0	20.0	mg/L	-		12/05/17 09:59	1

Client Sample ID: ACW-14

Date Collected: 11/28/17 09:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-12

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		12/06/17 17:43	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		12/06/17 17:43	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		12/06/17 17:43	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		12/06/17 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		50 - 134		12/06/17 17:43	1
4-Bromofluorobenzene	84		67 - 139		12/06/17 17:43	1
Dibromofluoromethane	97		62 - 130		12/06/17 17:43	1
Toluene-d8 (Surr)	78		70 - 130		12/06/17 17:43	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		10.0	1.34	mg/L	-		12/07/17 11:30	25

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	104	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/12/17 19:21	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	905		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	613		10.0	10.0	mg/L	-		12/05/17 09:59	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-15

Date Collected: 11/28/17 13:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-13

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/06/17 18:11	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/06/17 18:11	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/06/17 18:11	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/06/17 18:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		50 - 134		12/06/17 18:11	1
4-Bromofluorobenzene	86		67 - 139		12/06/17 18:11	1
Dibromofluoromethane	98		62 - 130		12/06/17 18:11	1
Toluene-d8 (Surr)	79		70 - 130		12/06/17 18:11	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	168		10.0	1.34	mg/L			12/07/17 14:50	25

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	94.4	B	20.0	0.428	mg/L		12/04/17 09:05	12/12/17 19:23	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	940		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	640		10.0	10.0	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-16

Date Collected: 11/28/17 12:50

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-14

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00243		0.00100	0.000176	mg/L			12/06/17 18:39	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/06/17 18:39	1
Toluene	0.000234	J	0.00100	0.000198	mg/L			12/06/17 18:39	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/06/17 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		50 - 134		12/06/17 18:39	1
4-Bromofluorobenzene	80		67 - 139		12/06/17 18:39	1
Dibromofluoromethane	103		62 - 130		12/06/17 18:39	1
Toluene-d8 (Surr)	82		70 - 130		12/06/17 18:39	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11700		400	53.4	mg/L			12/07/17 15:08	1000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	4260	B	50.0	1.07	mg/L		12/04/17 09:05	12/13/17 17:30	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	27700		2.00	1.31	umhos/cm			12/05/17 10:45	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-16

Date Collected: 11/28/17 12:50

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-14

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	21700		200	200	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-17

Date Collected: 11/28/17 09:25

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-15

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/06/17 19:07	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/06/17 19:07	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/06/17 19:07	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/06/17 19:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		50 - 134		12/06/17 19:07	1
4-Bromofluorobenzene	80		67 - 139		12/06/17 19:07	1
Dibromofluoromethane	99		62 - 130		12/06/17 19:07	1
Toluene-d8 (Surr)	82		70 - 130		12/06/17 19:07	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6420		400	53.4	mg/L			12/07/17 15:26	1000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	1700	B	20.0	0.428	mg/L		12/04/17 09:05	12/13/17 17:10	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	15100		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	11600		100	100	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-18

Date Collected: 11/28/17 11:05

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-16

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000615	J	0.00100	0.000176	mg/L			12/06/17 19:35	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/06/17 19:35	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/06/17 19:35	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/06/17 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		50 - 134		12/06/17 19:35	1
4-Bromofluorobenzene	90		67 - 139		12/06/17 19:35	1
Dibromofluoromethane	101		62 - 130		12/06/17 19:35	1
Toluene-d8 (Surr)	76		70 - 130		12/06/17 19:35	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-18

Lab Sample ID: 600-157625-16

Date Collected: 11/28/17 11:05

Matrix: Water

Date Received: 11/30/17 09:55

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60200		4000	534	mg/L			12/08/17 14:59	10000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	27200	B	200	4.28	mg/L		12/04/17 09:05	12/13/17 20:14	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	106000		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	91400		1000	1000	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-19

Lab Sample ID: 600-157625-17

Date Collected: 11/28/17 15:35

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.00137		0.00100	0.000212	mg/L			12/06/17 20:03	1
Toluene	0.000567	J	0.00100	0.000198	mg/L			12/06/17 20:03	1
Xylenes, Total	0.00224		0.00200	0.000366	mg/L			12/06/17 20:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		50 - 134		12/06/17 20:03	1
4-Bromofluorobenzene	88		67 - 139		12/06/17 20:03	1
Dibromofluoromethane	98		62 - 130		12/06/17 20:03	1
Toluene-d8 (Surr)	83		70 - 130		12/06/17 20:03	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0476		0.00500	0.000880	mg/L			12/08/17 15:09	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		50 - 134		12/08/17 15:09	5
4-Bromofluorobenzene	78		67 - 139		12/08/17 15:09	5
Dibromofluoromethane	92		62 - 130		12/08/17 15:09	5
Toluene-d8 (Surr)	98		70 - 130		12/08/17 15:09	5

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1320		100	13.4	mg/L			12/07/17 16:38	250

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	645	B	20.0	0.428	mg/L		12/04/17 09:05	12/13/17 17:12	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	4600		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	2960		40.0	40.0	mg/L			12/05/17 09:59	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-20

Lab Sample ID: 600-157625-18

Date Collected: 11/28/17 14:35

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.00503		0.00100	0.000212	mg/L			12/07/17 17:44	1
Toluene	0.00874		0.00100	0.000198	mg/L			12/07/17 17:44	1
Xylenes, Total	0.00410		0.00200	0.000366	mg/L			12/07/17 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	142	X	50 - 134		12/07/17 17:44	1
4-Bromofluorobenzene	82		67 - 139		12/07/17 17:44	1
Dibromofluoromethane	100		62 - 130		12/07/17 17:44	1
Toluene-d8 (Surr)	85		70 - 130		12/07/17 17:44	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0553		0.00500	0.000880	mg/L			12/08/17 15:34	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		50 - 134		12/08/17 15:34	5
4-Bromofluorobenzene	77		67 - 139		12/08/17 15:34	5
Dibromofluoromethane	93		62 - 130		12/08/17 15:34	5
Toluene-d8 (Surr)	98		70 - 130		12/08/17 15:34	5

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80600		4000	534	mg/L			12/08/17 15:19	10000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	46700	B	500	10.7	mg/L		12/04/17 09:05	12/13/17 20:16	500

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	150000		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	136000		1000	1000	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-21

Lab Sample ID: 600-157625-19

Date Collected: 11/28/17 12:10

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.00921		0.00100	0.000212	mg/L			12/07/17 21:48	1
Toluene	0.000365	J	0.00100	0.000198	mg/L			12/07/17 21:48	1
Xylenes, Total	0.00220		0.00200	0.000366	mg/L			12/07/17 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		50 - 134		12/07/17 21:48	1
4-Bromofluorobenzene	81		67 - 139		12/07/17 21:48	1
Dibromofluoromethane	92		62 - 130		12/07/17 21:48	1
Toluene-d8 (Surr)	95		70 - 130		12/07/17 21:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0562		0.00500	0.000880	mg/L			12/08/17 15:59	5

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		50 - 134		12/08/17 15:59	5
4-Bromofluorobenzene	77		67 - 139		12/08/17 15:59	5
Dibromofluoromethane	90		62 - 130		12/08/17 15:59	5
Toluene-d8 (Surr)	99		70 - 130		12/08/17 15:59	5

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	572		40.0	5.34	mg/L	-		12/07/17 17:13	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	144	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/13/17 17:20	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1890		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	1280		20.0	20.0	mg/L	-		12/05/17 09:59	1

Client Sample ID: ACW-22

Lab Sample ID: 600-157625-20

Date Collected: 11/28/17 11:20

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000269	J	0.00100	0.000176	mg/L	-		12/07/17 18:09	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		12/07/17 18:09	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		12/07/17 18:09	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		12/07/17 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		50 - 134		12/07/17 18:09	1
4-Bromofluorobenzene	85		67 - 139		12/07/17 18:09	1
Dibromofluoromethane	92		62 - 130		12/07/17 18:09	1
Toluene-d8 (Surr)	91		70 - 130		12/07/17 18:09	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	418		40.0	5.34	mg/L	-		12/07/17 18:07	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	260	B	20.0	0.428	mg/L	-	12/04/17 09:05	12/12/17 19:43	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	2190		2.00	1.31	umhos/cm	-		12/05/17 10:45	1
Total Dissolved Solids	1350		20.0	20.0	mg/L	-		12/05/17 09:59	1

Client Sample ID: ACW-23

Lab Sample ID: 600-157625-21

Date Collected: 11/28/17 13:10

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		12/07/17 18:33	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		12/07/17 18:33	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-23

Date Collected: 11/28/17 13:10

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-21

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 18:33	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 18:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		50 - 134					12/07/17 18:33	1
4-Bromofluorobenzene	86		67 - 139					12/07/17 18:33	1
Dibromofluoromethane	96		62 - 130					12/07/17 18:33	1
Toluene-d8 (Surr)	92		70 - 130					12/07/17 18:33	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	761		80.0	10.7	mg/L			12/07/17 18:25	200

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	326	B	20.0	0.428	mg/L		12/04/17 09:05	12/12/17 18:54	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	3150		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	2100		20.0	20.0	mg/L			12/05/17 09:59	1

Client Sample ID: ACW-24

Date Collected: 11/28/17 10:35

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-22

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00187		0.00100	0.000176	mg/L			12/07/17 22:12	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 22:12	1
Toluene	0.000325	J	0.00100	0.000198	mg/L			12/07/17 22:12	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 22:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		50 - 134					12/07/17 22:12	1
4-Bromofluorobenzene	73		67 - 139					12/07/17 22:12	1
Dibromofluoromethane	92		62 - 130					12/07/17 22:12	1
Toluene-d8 (Surr)	113		70 - 130					12/07/17 22:12	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64000		4000	534	mg/L			12/08/17 16:59	10000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	29600		200	4.28	mg/L		12/05/17 08:30	12/13/17 20:18	200

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	115000		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	110000		1000	1000	mg/L			12/05/17 09:59	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-25

Date Collected: 11/28/17 10:05

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-23

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0189		0.00100	0.000176	mg/L			12/07/17 18:58	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 18:58	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 18:58	1
Xylenes, Total	0.000391	J	0.00200	0.000366	mg/L			12/07/17 18:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		50 - 134		12/07/17 18:58	1
4-Bromofluorobenzene	84		67 - 139		12/07/17 18:58	1
Dibromofluoromethane	98		62 - 130		12/07/17 18:58	1
Toluene-d8 (Surr)	93		70 - 130		12/07/17 18:58	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22400		2000	267	mg/L			12/07/17 19:01	5000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	5660		50.0	1.07	mg/L		12/05/17 08:30	12/13/17 17:39	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	41500		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	33400	H	200	200	mg/L			12/06/17 15:06	1

Client Sample ID: Doom Well

Date Collected: 11/28/17 13:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-24

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 19:22	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 19:22	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 19:22	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		50 - 134		12/07/17 19:22	1
4-Bromofluorobenzene	87		67 - 139		12/07/17 19:22	1
Dibromofluoromethane	96		62 - 130		12/07/17 19:22	1
Toluene-d8 (Surr)	97		70 - 130		12/07/17 19:22	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.9		10.0	1.34	mg/L			12/07/17 19:19	25

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	66.8		20.0	0.428	mg/L		12/05/17 08:30	12/13/17 17:22	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	665		2.00	1.31	umhos/cm			12/05/17 10:45	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: Doom Well

Date Collected: 11/28/17 13:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-24

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	541		10.0	10.0	mg/L			12/05/17 09:59	1

Client Sample ID: Oxy Well

Date Collected: 11/28/17 10:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-25

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 19:47	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 19:47	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 19:47	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		50 - 134		12/07/17 19:47	1
4-Bromofluorobenzene	88		67 - 139		12/07/17 19:47	1
Dibromofluoromethane	93		62 - 130		12/07/17 19:47	1
Toluene-d8 (Surr)	94		70 - 130		12/07/17 19:47	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	289		20.0	2.67	mg/L			12/07/17 19:37	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	111	B	20.0	0.428	mg/L		12/05/17 08:30	12/12/17 18:10	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1390		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	924		20.0	20.0	mg/L			12/05/17 09:59	1

Client Sample ID: ENSR-01

Date Collected: 11/28/17 13:55

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-26

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0136		0.00100	0.000176	mg/L			12/07/17 22:36	1
Ethylbenzene	0.00205		0.00100	0.000212	mg/L			12/07/17 22:36	1
Toluene	0.000550	J	0.00100	0.000198	mg/L			12/07/17 22:36	1
Xylenes, Total	0.00124	J	0.00200	0.000366	mg/L			12/07/17 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		50 - 134		12/07/17 22:36	1
4-Bromofluorobenzene	76		67 - 139		12/07/17 22:36	1
Dibromofluoromethane	96		62 - 130		12/07/17 22:36	1
Toluene-d8 (Surr)	98		70 - 130		12/07/17 22:36	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ENSR-01

Lab Sample ID: 600-157625-26

Date Collected: 11/28/17 13:55

Matrix: Water

Date Received: 11/30/17 09:55

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8280		400	53.4	mg/L			12/07/17 22:00	1000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	3740	B	20.0	0.428	mg/L		12/05/17 08:30	12/12/17 18:12	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	20700		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	16400		200	200	mg/L			12/05/17 09:59	1

Client Sample ID: EPNG-01

Lab Sample ID: 600-157625-27

Date Collected: 11/28/17 09:30

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 20:11	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 20:11	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 20:11	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		50 - 134		12/07/17 20:11	1
4-Bromofluorobenzene	87		67 - 139		12/07/17 20:11	1
Dibromofluoromethane	92		62 - 130		12/07/17 20:11	1
Toluene-d8 (Surr)	93		70 - 130		12/07/17 20:11	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		20.0	2.67	mg/L			12/07/17 20:30	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	113	B	20.0	0.428	mg/L		12/05/17 08:30	12/12/17 18:20	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1350		2.00	1.31	umhos/cm			12/05/17 10:45	1
Total Dissolved Solids	894		20.0	20.0	mg/L			12/05/17 09:59	1

Client Sample ID: PTP-01

Lab Sample ID: 600-157625-28

Date Collected: 11/28/17 10:10

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000607	J	0.00100	0.000176	mg/L			12/07/17 20:35	1
Ethylbenzene	0.00182		0.00100	0.000212	mg/L			12/07/17 20:35	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 20:35	1
Xylenes, Total	0.000998	J	0.00200	0.000366	mg/L			12/07/17 20:35	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: PTP-01

Date Collected: 11/28/17 10:10

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-28

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		50 - 134		12/07/17 20:35	1
4-Bromofluorobenzene	84		67 - 139		12/07/17 20:35	1
Dibromofluoromethane	96		62 - 130		12/07/17 20:35	1
Toluene-d8 (Surr)	89		70 - 130		12/07/17 20:35	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	528		40.0	5.34	mg/L	-		12/07/17 22:18	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	178	B	20.0	0.428	mg/L	-	12/05/17 08:30	12/12/17 18:22	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	2140		2.00	1.31	umhos/cm	-		12/05/17 11:40	1
Total Dissolved Solids	1480		20.0	20.0	mg/L	-		12/05/17 09:59	1

Client Sample ID: Dup-01

Date Collected: 11/28/17 08:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-29

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		12/07/17 20:59	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		12/07/17 20:59	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		12/07/17 20:59	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		12/07/17 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		50 - 134		12/07/17 20:59	1
4-Bromofluorobenzene	87		67 - 139		12/07/17 20:59	1
Dibromofluoromethane	89		62 - 130		12/07/17 20:59	1
Toluene-d8 (Surr)	98		70 - 130		12/07/17 20:59	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	267		20.0	2.67	mg/L	-		12/07/17 22:36	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	110	B	20.0	0.428	mg/L	-	12/05/17 08:30	12/12/17 18:24	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1350		2.00	1.31	umhos/cm	-		12/05/17 11:40	1
Total Dissolved Solids	922		20.0	20.0	mg/L	-		12/05/17 09:59	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: Dup-02

Date Collected: 11/28/17 12:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-30

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.00584		0.00100	0.000212	mg/L			12/07/17 21:24	1
Toluene	0.0105		0.00100	0.000198	mg/L			12/07/17 21:24	1
Xylenes, Total	0.00461		0.00200	0.000366	mg/L			12/07/17 21:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	128		50 - 134					12/07/17 21:24	1
4-Bromofluorobenzene	86		67 - 139					12/07/17 21:24	1
Dibromofluoromethane	95		62 - 130					12/07/17 21:24	1
Toluene-d8 (Surr)	93		70 - 130					12/07/17 21:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0580		0.00500	0.000880	mg/L			12/08/17 16:23	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		50 - 134					12/08/17 16:23	5
4-Bromofluorobenzene	77		67 - 139					12/08/17 16:23	5
Dibromofluoromethane	93		62 - 130					12/08/17 16:23	5
Toluene-d8 (Surr)	100		70 - 130					12/08/17 16:23	5

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	325000		4000	534	mg/L			12/08/17 17:19	10000

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	45000		500	10.7	mg/L		12/05/17 08:30	12/13/17 19:24	500

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	151000		2.00	1.31	umhos/cm			12/05/17 11:40	1
Total Dissolved Solids	138000		1000	1000	mg/L			12/05/17 09:59	1

Client Sample ID: Dup-03

Date Collected: 11/28/17 12:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-31

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00381		0.00100	0.000176	mg/L			12/08/17 14:45	1
Ethylbenzene	0.00104		0.00100	0.000212	mg/L			12/08/17 14:45	1
Toluene	0.00130		0.00100	0.000198	mg/L			12/08/17 14:45	1
Xylenes, Total	0.00109	J	0.00200	0.000366	mg/L			12/08/17 14:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		50 - 134					12/08/17 14:45	1
4-Bromofluorobenzene	104		67 - 139					12/08/17 14:45	1
Dibromofluoromethane	89		62 - 130					12/08/17 14:45	1
Toluene-d8 (Surr)	94		70 - 130					12/08/17 14:45	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: Dup-03

Date Collected: 11/28/17 12:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-31

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4640		200	26.7	mg/L			12/07/17 23:12	500

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	2630		20.0	0.428	mg/L		12/05/17 08:30	12/13/17 17:24	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	11200		2.00	1.31	umhos/cm			12/05/17 11:40	1
Total Dissolved Solids	7330		100	100	mg/L			12/05/17 09:59	1

Client Sample ID: FB-01

Date Collected: 11/28/17 09:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-32

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 15:17	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 15:17	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 15:17	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		50 - 134		12/07/17 15:17	1
4-Bromofluorobenzene	84		67 - 139		12/07/17 15:17	1
Dibromofluoromethane	92		62 - 130		12/07/17 15:17	1
Toluene-d8 (Surr)	92		70 - 130		12/07/17 15:17	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.14		0.400	0.0534	mg/L			12/07/17 23:29	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	12.7	J B	20.0	0.428	mg/L		12/05/17 08:30	12/12/17 18:30	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	6.40		2.00	1.31	umhos/cm			12/05/17 11:40	1
Total Dissolved Solids	68.0		10.0	10.0	mg/L			12/05/17 09:59	1

Client Sample ID: FB-02

Date Collected: 11/28/17 14:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-33

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 15:41	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 15:41	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 15:41	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 15:41	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: FB-02

Date Collected: 11/28/17 14:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-33

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		50 - 134		12/07/17 15:41	1
4-Bromofluorobenzene	82		67 - 139		12/07/17 15:41	1
Dibromofluoromethane	91		62 - 130		12/07/17 15:41	1
Toluene-d8 (Surr)	89		70 - 130		12/07/17 15:41	1

Method: 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.62		0.400	0.0534	mg/L	-		12/08/17 15:39	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	7.78	J B	20.0	0.428	mg/L	-	12/05/17 08:30	12/12/17 18:32	20

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	11.0		2.00	1.31	umhos/cm	-		12/05/17 11:40	1
Total Dissolved Solids	79.0		10.0	10.0	mg/L	-		12/05/17 09:59	1

Client Sample ID: FB-03

Date Collected: 11/28/17 15:25

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-34

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L	-		12/07/17 16:06	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L	-		12/07/17 16:06	1
Toluene	<0.000198		0.00100	0.000198	mg/L	-		12/07/17 16:06	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L	-		12/07/17 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		50 - 134		12/07/17 16:06	1
4-Bromofluorobenzene	80		67 - 139		12/07/17 16:06	1
Dibromofluoromethane	86		62 - 130		12/07/17 16:06	1
Toluene-d8 (Surr)	88		70 - 130		12/07/17 16:06	1

Method: 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.152	J	0.400	0.0534	mg/L	-		12/08/17 15:59	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	4.89	J B	20.0	0.428	mg/L	-	12/05/17 08:30	12/12/17 18:34	20

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1.56	J	2.00	1.31	umhos/cm	-		12/05/17 11:40	1
Total Dissolved Solids	70.0		10.0	10.0	mg/L	-		12/05/17 09:59	1

TestAmerica Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: Trip Blank

Lab Sample ID: 600-157625-35

Date Collected: 11/28/17 00:00

Matrix: Water

Date Received: 11/30/17 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 14:53	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 14:53	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 14:53	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 14:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		50 - 134		12/07/17 14:53	1
4-Bromofluorobenzene	81		67 - 139		12/07/17 14:53	1
Dibromofluoromethane	87		62 - 130		12/07/17 14:53	1
Toluene-d8 (Surr)	89		70 - 130		12/07/17 14:53	1

TestAmerica Houston

Definitions/Glossary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (50-134)	BFB (67-139)	DBFM (62-130)	TOL (70-130)
600-157625-1	ACW-01	67	103	74	114
600-157625-1 - DL	ACW-01	98	77	93	103
600-157625-2	ACW-02A	70	120	72	102
600-157625-3	ACW-04	96	95	91	90
600-157625-4	ACW-05	72	99	75	100
600-157625-5	ACW-06	87	92	85	97
600-157625-6	ACW-07	93	91	83	96
600-157625-7	ACW-09	90	95	81	95
600-157625-8	ACW-10	76	93	78	99
600-157625-9	ACW-11	91	95	87	96
600-157625-10	ACW-12	74	95	74	102
600-157625-11	ACW-13	69	98	75	104
600-157625-12	ACW-14	101	84	97	78
600-157625-13	ACW-15	102	86	98	79
600-157625-14	ACW-16	100	80	103	82
600-157625-15	ACW-17	96	80	99	82
600-157625-16	ACW-18	116	90	101	76
600-157625-17	ACW-19	101	88	98	83
600-157625-17 - DL	ACW-19	98	78	92	98
600-157625-18	ACW-20	142 X	82	100	85
600-157625-18 - DL	ACW-20	105	77	93	98
600-157625-19	ACW-21	99	81	92	95
600-157625-19 - DL	ACW-21	97	77	90	99
600-157625-20	ACW-22	113	85	92	91
600-157625-21	ACW-23	117	86	96	92
600-157625-22	ACW-24	120	73	92	113
600-157625-23	ACW-25	114	84	98	93
600-157625-24	Doom Well	106	87	96	97
600-157625-25	Oxy Well	106	88	93	94
600-157625-26	ENSR-01	100	76	96	98
600-157625-27	EPNG-01	99	87	92	93
600-157625-28	PTP-01	103	84	96	89
600-157625-29	Dup-01	105	87	89	98
600-157625-30	Dup-02	128	86	95	93
600-157625-30 - DL	Dup-02	107	77	93	100
600-157625-31	Dup-03	98	104	89	94
600-157625-32	FB-01	108	84	92	92
600-157625-33	FB-02	109	82	91	89
600-157625-34	FB-03	109	80	86	88
600-157625-35	Trip Blank	112	81	87	89
LCS 600-226794/3	Lab Control Sample	82	89	84	91
LCS 600-227049/4	Lab Control Sample	105	92	105	84
LCS 600-227203/3	Lab Control Sample	109	81	87	86
LCS 600-227304/3	Lab Control Sample	81	79	84	92
LCSD 600-226794/4	Lab Control Sample Dup	84	91	86	89
LCSD 600-227049/5	Lab Control Sample Dup	105	89	105	82
LCSD 600-227203/4	Lab Control Sample Dup	112	79	85	85
LCSD 600-227304/4	Lab Control Sample Dup	86	79	86	93
MB 600-226794/6	Method Blank	85	92	82	94

TestAmerica Houston

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (50-134)	BFB (67-139)	DBFM (62-130)	TOL (70-130)
MB 600-227049/7	Method Blank	105	90	100	84
MB 600-227203/6	Method Blank	110	80	88	89
MB 600-227304/6	Method Blank	92	80	90	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-226794/6

Matrix: Water

Analysis Batch: 226794

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/01/17 13:50	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/01/17 13:50	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/01/17 13:50	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/01/17 13:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		50 - 134		12/01/17 13:50	1
4-Bromofluorobenzene	92		67 - 139		12/01/17 13:50	1
Dibromofluoromethane	82		62 - 130		12/01/17 13:50	1
Toluene-d8 (Surr)	94		70 - 130		12/01/17 13:50	1

Lab Sample ID: LCS 600-226794/3

Matrix: Water

Analysis Batch: 226794

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01062		mg/L		106	70 - 130
Ethylbenzene	0.0100	0.01065		mg/L		106	70 - 130
Toluene	0.0100	0.01053		mg/L		105	70 - 130
Xylenes, Total	0.0200	0.02148		mg/L		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		50 - 134
4-Bromofluorobenzene	89		67 - 139
Dibromofluoromethane	84		62 - 130
Toluene-d8 (Surr)	91		70 - 130

Lab Sample ID: LCSD 600-226794/4

Matrix: Water

Analysis Batch: 226794

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.009475		mg/L		95	70 - 130	11	20
Ethylbenzene	0.0100	0.009646		mg/L		96	70 - 130	10	20
Toluene	0.0100	0.009590		mg/L		96	70 - 130	9	20
Xylenes, Total	0.0200	0.01933		mg/L		97	70 - 130	11	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		50 - 134
4-Bromofluorobenzene	91		67 - 139
Dibromofluoromethane	86		62 - 130
Toluene-d8 (Surr)	89		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-227049/7

Matrix: Water

Analysis Batch: 227049

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/06/17 10:46	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/06/17 10:46	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/06/17 10:46	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/06/17 10:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		50 - 134		12/06/17 10:46	1
4-Bromofluorobenzene	90		67 - 139		12/06/17 10:46	1
Dibromofluoromethane	100		62 - 130		12/06/17 10:46	1
Toluene-d8 (Surr)	84		70 - 130		12/06/17 10:46	1

Lab Sample ID: LCS 600-227049/4

Matrix: Water

Analysis Batch: 227049

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.01037		mg/L		104	70 - 130
Ethylbenzene	0.0100	0.008910		mg/L		89	70 - 130
Toluene	0.0100	0.008489		mg/L		85	70 - 130
Xylenes, Total	0.0200	0.01783		mg/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		50 - 134
4-Bromofluorobenzene	92		67 - 139
Dibromofluoromethane	105		62 - 130
Toluene-d8 (Surr)	84		70 - 130

Lab Sample ID: LCSD 600-227049/5

Matrix: Water

Analysis Batch: 227049

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01034		mg/L		103	70 - 130	0	20
Ethylbenzene	0.0100	0.008807		mg/L		88	70 - 130	1	20
Toluene	0.0100	0.008349		mg/L		83	70 - 130	2	20
Xylenes, Total	0.0200	0.01763		mg/L		88	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		50 - 134
4-Bromofluorobenzene	89		67 - 139
Dibromofluoromethane	105		62 - 130
Toluene-d8 (Surr)	82		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-227203/6

Matrix: Water

Analysis Batch: 227203

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/07/17 14:28	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/07/17 14:28	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/07/17 14:28	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/07/17 14:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		50 - 134		12/07/17 14:28	1
4-Bromofluorobenzene	80		67 - 139		12/07/17 14:28	1
Dibromofluoromethane	88		62 - 130		12/07/17 14:28	1
Toluene-d8 (Surr)	89		70 - 130		12/07/17 14:28	1

Lab Sample ID: LCS 600-227203/3

Matrix: Water

Analysis Batch: 227203

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.007786		mg/L		78	70 - 130
Ethylbenzene	0.0100	0.008001		mg/L		80	70 - 130
Toluene	0.0100	0.008069		mg/L		81	70 - 130
Xylenes, Total	0.0200	0.01636		mg/L		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	109		50 - 134
4-Bromofluorobenzene	81		67 - 139
Dibromofluoromethane	87		62 - 130
Toluene-d8 (Surr)	86		70 - 130

Lab Sample ID: LCSD 600-227203/4

Matrix: Water

Analysis Batch: 227203

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.007680		mg/L		77	70 - 130	1	20
Ethylbenzene	0.0100	0.007764		mg/L		78	70 - 130	3	20
Toluene	0.0100	0.007971		mg/L		80	70 - 130	1	20
Xylenes, Total	0.0200	0.01587		mg/L		79	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		50 - 134
4-Bromofluorobenzene	79		67 - 139
Dibromofluoromethane	85		62 - 130
Toluene-d8 (Surr)	85		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-227304/6

Matrix: Water

Analysis Batch: 227304

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000176		0.00100	0.000176	mg/L			12/08/17 13:56	1
Ethylbenzene	<0.000212		0.00100	0.000212	mg/L			12/08/17 13:56	1
Toluene	<0.000198		0.00100	0.000198	mg/L			12/08/17 13:56	1
Xylenes, Total	<0.000366		0.00200	0.000366	mg/L			12/08/17 13:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		50 - 134		12/08/17 13:56	1
4-Bromofluorobenzene	80		67 - 139		12/08/17 13:56	1
Dibromofluoromethane	90		62 - 130		12/08/17 13:56	1
Toluene-d8 (Surr)	99		70 - 130		12/08/17 13:56	1

Lab Sample ID: LCS 600-227304/3

Matrix: Water

Analysis Batch: 227304

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0100	0.009007		mg/L		90	70 - 130
Ethylbenzene	0.0100	0.009142		mg/L		91	70 - 130
Toluene	0.0100	0.009974		mg/L		100	70 - 130
Xylenes, Total	0.0200	0.01761		mg/L		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		50 - 134
4-Bromofluorobenzene	79		67 - 139
Dibromofluoromethane	84		62 - 130
Toluene-d8 (Surr)	92		70 - 130

Lab Sample ID: LCSD 600-227304/4

Matrix: Water

Analysis Batch: 227304

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0100	0.01010		mg/L		101	70 - 130	11	20
Ethylbenzene	0.0100	0.009835		mg/L		98	70 - 130	7	20
Toluene	0.0100	0.01095		mg/L		110	70 - 130	9	20
Xylenes, Total	0.0200	0.01924		mg/L		96	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		50 - 134
4-Bromofluorobenzene	79		67 - 139
Dibromofluoromethane	86		62 - 130
Toluene-d8 (Surr)	93		70 - 130

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-227059/34

Matrix: Water

Analysis Batch: 227059

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			12/06/17 19:17	1

Lab Sample ID: MB 600-227059/4

Matrix: Water

Analysis Batch: 227059

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			12/06/17 09:56	1

Lab Sample ID: LCS 600-227059/35

Matrix: Water

Analysis Batch: 227059

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.02		mg/L		105	90 - 110

Lab Sample ID: LCS 600-227059/5

Matrix: Water

Analysis Batch: 227059

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.91		mg/L		105	90 - 110

Lab Sample ID: MB 600-227167/34

Matrix: Water

Analysis Batch: 227167

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			12/07/17 19:55	1

Lab Sample ID: MB 600-227167/4

Matrix: Water

Analysis Batch: 227167

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			12/07/17 10:48	1

Lab Sample ID: LCS 600-227167/35

Matrix: Water

Analysis Batch: 227167

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.10		mg/L		106	90 - 110

Lab Sample ID: LCS 600-227167/5

Matrix: Water

Analysis Batch: 227167

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.05		mg/L		105	90 - 110

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Lab Sample ID: 600-157625-12 MS

Matrix: Water

Analysis Batch: 227167

Client Sample ID: ACW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	120		250	396.4		mg/L		111	80 - 120

Lab Sample ID: 600-157625-12 MSD

Matrix: Water

Analysis Batch: 227167

Client Sample ID: ACW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	120		250	415.3		mg/L		118	80 - 120	5	20

Lab Sample ID: 600-157625-16 MS

Matrix: Water

Analysis Batch: 227167

Client Sample ID: ACW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	289000	E	5000	126500	E 4	mg/L		-3260	80 - 120

Lab Sample ID: 600-157625-16 MSD

Matrix: Water

Analysis Batch: 227167

Client Sample ID: ACW-18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	289000	E	5000	141900	E 4	mg/L		-2951	80 - 120	12	20

Lab Sample ID: 600-157625-27 MS

Matrix: Water

Analysis Batch: 227167

Client Sample ID: EPNG-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	274		500	749.1		mg/L		95	80 - 120

Lab Sample ID: 600-157625-27 MSD

Matrix: Water

Analysis Batch: 227167

Client Sample ID: EPNG-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	274		500	767.7		mg/L		99	80 - 120	2	20

Lab Sample ID: MB 600-227268/4

Matrix: Water

Analysis Batch: 227268

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.0534		0.400	0.0534	mg/L			12/08/17 12:55	1

Lab Sample ID: LCS 600-227268/5

Matrix: Water

Analysis Batch: 227268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.58		mg/L		98	90 - 110

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-226877/1-A

Matrix: Water

Analysis Batch: 227550

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 226877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.1840	J	1.00	0.0214	mg/L		12/04/17 09:05	12/12/17 18:36	1

Lab Sample ID: LCS 600-226877/2-A

Matrix: Water

Analysis Batch: 227550

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	9.828		mg/L		98	80 - 120

Lab Sample ID: 600-157625-1 MS

Matrix: Water

Analysis Batch: 227550

Client Sample ID: ACW-01

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	3340	B	10.0	3222	4	mg/L		-1220	75 - 125

Lab Sample ID: 600-157625-1 MSD

Matrix: Water

Analysis Batch: 227550

Client Sample ID: ACW-01

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Sodium	3340	B	10.0	3230	4	mg/L		-1140	75 - 125	0 20

Lab Sample ID: 600-157625-20 MS

Matrix: Water

Analysis Batch: 227550

Client Sample ID: ACW-22

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	260	B	10.0	266.0	4	mg/L		58	75 - 125

Lab Sample ID: 600-157625-20 MSD

Matrix: Water

Analysis Batch: 227550

Client Sample ID: ACW-22

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Sodium	260	B	10.0	269.2	4	mg/L		90	75 - 125	1 20

Lab Sample ID: 600-157625-1 DU

Matrix: Water

Analysis Batch: 227550

Client Sample ID: ACW-01

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD Limit
Sodium	3340	B	3352		mg/L		0.2 20

Lab Sample ID: 600-157625-20 DU

Matrix: Water

Analysis Batch: 227550

Client Sample ID: ACW-22

Prep Type: Total/NA

Prep Batch: 226877

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD Limit
Sodium	260	B	260.0		mg/L		0.08 20

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Lab Sample ID: MB 600-226960/1-A

Matrix: Water

Analysis Batch: 227550

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 226960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.1671	J	1.00	0.0214	mg/L		12/05/17 08:30	12/12/17 19:55	1

Lab Sample ID: LCS 600-226960/2-A

Matrix: Water

Analysis Batch: 227550

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 226960

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	10.55		mg/L		106	80 - 120

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 600-226999/1

Matrix: Water

Analysis Batch: 226999

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.31		2.00	1.31	umhos/cm			12/05/17 10:45	1

Lab Sample ID: MB 600-226999/31

Matrix: Water

Analysis Batch: 226999

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.31		2.00	1.31	umhos/cm			12/05/17 10:45	1

Lab Sample ID: LCS 600-226999/2

Matrix: Water

Analysis Batch: 226999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	10.0	10.08		umhos/cm		101	90 - 110

Lab Sample ID: LCS 600-226999/32

Matrix: Water

Analysis Batch: 226999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	10.0	10.13		umhos/cm		101	90 - 110

Lab Sample ID: 600-157625-1 DU

Matrix: Water

Analysis Batch: 226999

Client Sample ID: ACW-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	16200		16210		umhos/cm		0.3	20

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 120.1 - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 600-157625-11 DU

Matrix: Water

Analysis Batch: 226999

Client Sample ID: ACW-13

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Specific Conductance	1550		1569		umhos/cm		1	20

Lab Sample ID: 600-157625-21 DU

Matrix: Water

Analysis Batch: 226999

Client Sample ID: ACW-23

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Specific Conductance	3150		3160		umhos/cm		0.3	20

Lab Sample ID: 600-157625-31 DU

Matrix: Water

Analysis Batch: 226999

Client Sample ID: Dup-03

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Specific Conductance	11200		11210		umhos/cm		0.3	20

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 600-226980/1

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L			12/05/17 09:59	1

Lab Sample ID: MB 600-226980/25

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L			12/05/17 09:59	1

Lab Sample ID: MB 600-226980/49

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L			12/05/17 09:59	1

Lab Sample ID: LCS 600-226980/2

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1870		mg/L		104	90 - 110

TestAmerica Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C) (Continued)

Lab Sample ID: LCS 600-226980/26

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1823		mg/L		101	90 - 110

Lab Sample ID: LCS 600-226980/50

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1789		mg/L		99	90 - 110

Lab Sample ID: 600-157625-12 DU

Matrix: Water

Analysis Batch: 226980

Client Sample ID: ACW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	613		612.0		mg/L		0.2	10

Lab Sample ID: 600-157625-24 DU

Matrix: Water

Analysis Batch: 226980

Client Sample ID: Doom Well

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	541		530.0		mg/L		2	10

Lab Sample ID: 600-157625-28 DU

Matrix: Water

Analysis Batch: 226980

Client Sample ID: PTP-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1480		1480		mg/L		0.1	10

Lab Sample ID: MB 600-227129/1

Matrix: Water

Analysis Batch: 227129

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10.0		10.0	10.0	mg/L			12/06/17 15:06	1

Lab Sample ID: LCS 600-227129/2

Matrix: Water

Analysis Batch: 227129

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1798		mg/L		100	90 - 110

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

GC/MS VOA

Analysis Batch: 226794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1	ACW-01	Total/NA	Water	8260B	
600-157625-2	ACW-02A	Total/NA	Water	8260B	
600-157625-3	ACW-04	Total/NA	Water	8260B	
600-157625-4	ACW-05	Total/NA	Water	8260B	
600-157625-5	ACW-06	Total/NA	Water	8260B	
600-157625-6	ACW-07	Total/NA	Water	8260B	
600-157625-7	ACW-09	Total/NA	Water	8260B	
600-157625-8	ACW-10	Total/NA	Water	8260B	
600-157625-9	ACW-11	Total/NA	Water	8260B	
600-157625-10	ACW-12	Total/NA	Water	8260B	
600-157625-11	ACW-13	Total/NA	Water	8260B	
MB 600-226794/6	Method Blank	Total/NA	Water	8260B	
LCS 600-226794/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-226794/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 227049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-12	ACW-14	Total/NA	Water	8260B	
600-157625-13	ACW-15	Total/NA	Water	8260B	
600-157625-14	ACW-16	Total/NA	Water	8260B	
600-157625-15	ACW-17	Total/NA	Water	8260B	
600-157625-16	ACW-18	Total/NA	Water	8260B	
600-157625-17	ACW-19	Total/NA	Water	8260B	
MB 600-227049/7	Method Blank	Total/NA	Water	8260B	
LCS 600-227049/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-227049/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 227203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-18	ACW-20	Total/NA	Water	8260B	
600-157625-19	ACW-21	Total/NA	Water	8260B	
600-157625-20	ACW-22	Total/NA	Water	8260B	
600-157625-21	ACW-23	Total/NA	Water	8260B	
600-157625-22	ACW-24	Total/NA	Water	8260B	
600-157625-23	ACW-25	Total/NA	Water	8260B	
600-157625-24	Doom Well	Total/NA	Water	8260B	
600-157625-25	Oxy Well	Total/NA	Water	8260B	
600-157625-26	ENSR-01	Total/NA	Water	8260B	
600-157625-27	EPNG-01	Total/NA	Water	8260B	
600-157625-28	PTP-01	Total/NA	Water	8260B	
600-157625-29	Dup-01	Total/NA	Water	8260B	
600-157625-30	Dup-02	Total/NA	Water	8260B	
600-157625-32	FB-01	Total/NA	Water	8260B	
600-157625-33	FB-02	Total/NA	Water	8260B	
600-157625-34	FB-03	Total/NA	Water	8260B	
600-157625-35	Trip Blank	Total/NA	Water	8260B	
MB 600-227203/6	Method Blank	Total/NA	Water	8260B	
LCS 600-227203/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-227203/4	Lab Control Sample Dup	Total/NA	Water	8260B	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

GC/MS VOA (Continued)

Analysis Batch: 227304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1 - DL	ACW-01	Total/NA	Water	8260B	
600-157625-17 - DL	ACW-19	Total/NA	Water	8260B	
600-157625-18 - DL	ACW-20	Total/NA	Water	8260B	
600-157625-19 - DL	ACW-21	Total/NA	Water	8260B	
600-157625-30 - DL	Dup-02	Total/NA	Water	8260B	
600-157625-31	Dup-03	Total/NA	Water	8260B	
MB 600-227304/6	Method Blank	Total/NA	Water	8260B	
LCS 600-227304/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-227304/4	Lab Control Sample Dup	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 227059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1	ACW-01	Total/NA	Water	300.0	
600-157625-2	ACW-02A	Total/NA	Water	300.0	
600-157625-4	ACW-05	Total/NA	Water	300.0	
600-157625-5	ACW-06	Total/NA	Water	300.0	
600-157625-6	ACW-07	Total/NA	Water	300.0	
MB 600-227059/34	Method Blank	Total/NA	Water	300.0	
MB 600-227059/4	Method Blank	Total/NA	Water	300.0	
LCS 600-227059/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-227059/5	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 227167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-3	ACW-04	Total/NA	Water	300.0	
600-157625-7	ACW-09	Total/NA	Water	300.0	
600-157625-8	ACW-10	Total/NA	Water	300.0	
600-157625-9	ACW-11	Total/NA	Water	300.0	
600-157625-10	ACW-12	Total/NA	Water	300.0	
600-157625-11	ACW-13	Total/NA	Water	300.0	
600-157625-12	ACW-14	Total/NA	Water	300.0	
600-157625-13	ACW-15	Total/NA	Water	300.0	
600-157625-14	ACW-16	Total/NA	Water	300.0	
600-157625-15	ACW-17	Total/NA	Water	300.0	
600-157625-17	ACW-19	Total/NA	Water	300.0	
600-157625-19	ACW-21	Total/NA	Water	300.0	
600-157625-20	ACW-22	Total/NA	Water	300.0	
600-157625-21	ACW-23	Total/NA	Water	300.0	
600-157625-23	ACW-25	Total/NA	Water	300.0	
600-157625-24	Doom Well	Total/NA	Water	300.0	
600-157625-25	Oxy Well	Total/NA	Water	300.0	
600-157625-26	ENSR-01	Total/NA	Water	300.0	
600-157625-27	EPNG-01	Total/NA	Water	300.0	
600-157625-28	PTP-01	Total/NA	Water	300.0	
600-157625-29	Dup-01	Total/NA	Water	300.0	
600-157625-31	Dup-03	Total/NA	Water	300.0	
600-157625-32	FB-01	Total/NA	Water	300.0	
MB 600-227167/34	Method Blank	Total/NA	Water	300.0	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

HPLC/IC (Continued)

Analysis Batch: 227167 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-227167/4	Method Blank	Total/NA	Water	300.0	
LCS 600-227167/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-227167/5	Lab Control Sample	Total/NA	Water	300.0	
600-157625-12 MS	ACW-14	Total/NA	Water	300.0	
600-157625-12 MSD	ACW-14	Total/NA	Water	300.0	
600-157625-16 MS	ACW-18	Total/NA	Water	300.0	
600-157625-16 MSD	ACW-18	Total/NA	Water	300.0	
600-157625-27 MS	EPNG-01	Total/NA	Water	300.0	
600-157625-27 MSD	EPNG-01	Total/NA	Water	300.0	

Analysis Batch: 227268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-16	ACW-18	Total/NA	Water	300.0	
600-157625-18	ACW-20	Total/NA	Water	300.0	
600-157625-22	ACW-24	Total/NA	Water	300.0	
600-157625-30	Dup-02	Total/NA	Water	300.0	
600-157625-33	FB-02	Total/NA	Water	300.0	
600-157625-34	FB-03	Total/NA	Water	300.0	
MB 600-227268/4	Method Blank	Total/NA	Water	300.0	
LCS 600-227268/5	Lab Control Sample	Total/NA	Water	300.0	

Metals

Prep Batch: 226877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1	ACW-01	Total/NA	Water	3010A	
600-157625-3	ACW-04	Total/NA	Water	3010A	
600-157625-4	ACW-05	Total/NA	Water	3010A	
600-157625-5	ACW-06	Total/NA	Water	3010A	
600-157625-6	ACW-07	Total/NA	Water	3010A	
600-157625-7	ACW-09	Total/NA	Water	3010A	
600-157625-8	ACW-10	Total/NA	Water	3010A	
600-157625-9	ACW-11	Total/NA	Water	3010A	
600-157625-10	ACW-12	Total/NA	Water	3010A	
600-157625-11	ACW-13	Total/NA	Water	3010A	
600-157625-12	ACW-14	Total/NA	Water	3010A	
600-157625-13	ACW-15	Total/NA	Water	3010A	
600-157625-14	ACW-16	Total/NA	Water	3010A	
600-157625-15	ACW-17	Total/NA	Water	3010A	
600-157625-16	ACW-18	Total/NA	Water	3010A	
600-157625-17	ACW-19	Total/NA	Water	3010A	
600-157625-18	ACW-20	Total/NA	Water	3010A	
600-157625-19	ACW-21	Total/NA	Water	3010A	
600-157625-20	ACW-22	Total/NA	Water	3010A	
600-157625-21	ACW-23	Total/NA	Water	3010A	
MB 600-226877/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-226877/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-157625-1 MS	ACW-01	Total/NA	Water	3010A	
600-157625-1 MSD	ACW-01	Total/NA	Water	3010A	
600-157625-20 MS	ACW-22	Total/NA	Water	3010A	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Metals (Continued)

Prep Batch: 226877 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-20 MSD	ACW-22	Total/NA	Water	3010A	
600-157625-1 DU	ACW-01	Total/NA	Water	3010A	
600-157625-20 DU	ACW-22	Total/NA	Water	3010A	

Prep Batch: 226960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-2	ACW-02A	Total/NA	Water	3010A	
600-157625-22	ACW-24	Total/NA	Water	3010A	
600-157625-23	ACW-25	Total/NA	Water	3010A	
600-157625-24	Doom Well	Total/NA	Water	3010A	
600-157625-25	Oxy Well	Total/NA	Water	3010A	
600-157625-26	ENSR-01	Total/NA	Water	3010A	
600-157625-27	EPNG-01	Total/NA	Water	3010A	
600-157625-28	PTP-01	Total/NA	Water	3010A	
600-157625-29	Dup-01	Total/NA	Water	3010A	
600-157625-30	Dup-02	Total/NA	Water	3010A	
600-157625-31	Dup-03	Total/NA	Water	3010A	
600-157625-32	FB-01	Total/NA	Water	3010A	
600-157625-33	FB-02	Total/NA	Water	3010A	
600-157625-34	FB-03	Total/NA	Water	3010A	
MB 600-226960/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-226960/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 227550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1	ACW-01	Total/NA	Water	6010B	226877
600-157625-2	ACW-02A	Total/NA	Water	6010B	226960
600-157625-5	ACW-06	Total/NA	Water	6010B	226877
600-157625-6	ACW-07	Total/NA	Water	6010B	226877
600-157625-7	ACW-09	Total/NA	Water	6010B	226877
600-157625-8	ACW-10	Total/NA	Water	6010B	226877
600-157625-11	ACW-13	Total/NA	Water	6010B	226877
600-157625-12	ACW-14	Total/NA	Water	6010B	226877
600-157625-13	ACW-15	Total/NA	Water	6010B	226877
600-157625-20	ACW-22	Total/NA	Water	6010B	226877
600-157625-21	ACW-23	Total/NA	Water	6010B	226877
600-157625-25	Oxy Well	Total/NA	Water	6010B	226960
600-157625-26	ENSR-01	Total/NA	Water	6010B	226960
600-157625-27	EPNG-01	Total/NA	Water	6010B	226960
600-157625-28	PTP-01	Total/NA	Water	6010B	226960
600-157625-29	Dup-01	Total/NA	Water	6010B	226960
600-157625-32	FB-01	Total/NA	Water	6010B	226960
600-157625-33	FB-02	Total/NA	Water	6010B	226960
600-157625-34	FB-03	Total/NA	Water	6010B	226960
MB 600-226877/1-A	Method Blank	Total/NA	Water	6010B	226877
MB 600-226960/1-A	Method Blank	Total/NA	Water	6010B	226960
LCS 600-226877/2-A	Lab Control Sample	Total/NA	Water	6010B	226877
LCS 600-226960/2-A	Lab Control Sample	Total/NA	Water	6010B	226960
600-157625-1 MS	ACW-01	Total/NA	Water	6010B	226877
600-157625-1 MSD	ACW-01	Total/NA	Water	6010B	226877
600-157625-20 MS	ACW-22	Total/NA	Water	6010B	226877

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Metals (Continued)

Analysis Batch: 227550 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-20 MSD	ACW-22	Total/NA	Water	6010B	226877
600-157625-1 DU	ACW-01	Total/NA	Water	6010B	226877
600-157625-20 DU	ACW-22	Total/NA	Water	6010B	226877

Analysis Batch: 227647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-3	ACW-04	Total/NA	Water	6010B	226877
600-157625-4	ACW-05	Total/NA	Water	6010B	226877
600-157625-9	ACW-11	Total/NA	Water	6010B	226877
600-157625-10	ACW-12	Total/NA	Water	6010B	226877
600-157625-14	ACW-16	Total/NA	Water	6010B	226877
600-157625-15	ACW-17	Total/NA	Water	6010B	226877
600-157625-16	ACW-18	Total/NA	Water	6010B	226877
600-157625-17	ACW-19	Total/NA	Water	6010B	226877
600-157625-18	ACW-20	Total/NA	Water	6010B	226877
600-157625-19	ACW-21	Total/NA	Water	6010B	226877
600-157625-22	ACW-24	Total/NA	Water	6010B	226960
600-157625-23	ACW-25	Total/NA	Water	6010B	226960
600-157625-24	Doom Well	Total/NA	Water	6010B	226960
600-157625-30	Dup-02	Total/NA	Water	6010B	226960
600-157625-31	Dup-03	Total/NA	Water	6010B	226960

General Chemistry

Analysis Batch: 226980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1	ACW-01	Total/NA	Water	2540 C-1997	
600-157625-2	ACW-02A	Total/NA	Water	2540 C-1997	
600-157625-3	ACW-04	Total/NA	Water	2540 C-1997	
600-157625-4	ACW-05	Total/NA	Water	2540 C-1997	
600-157625-5	ACW-06	Total/NA	Water	2540 C-1997	
600-157625-6	ACW-07	Total/NA	Water	2540 C-1997	
600-157625-7	ACW-09	Total/NA	Water	2540 C-1997	
600-157625-8	ACW-10	Total/NA	Water	2540 C-1997	
600-157625-10	ACW-12	Total/NA	Water	2540 C-1997	
600-157625-11	ACW-13	Total/NA	Water	2540 C-1997	
600-157625-12	ACW-14	Total/NA	Water	2540 C-1997	
600-157625-13	ACW-15	Total/NA	Water	2540 C-1997	
600-157625-14	ACW-16	Total/NA	Water	2540 C-1997	
600-157625-15	ACW-17	Total/NA	Water	2540 C-1997	
600-157625-16	ACW-18	Total/NA	Water	2540 C-1997	
600-157625-17	ACW-19	Total/NA	Water	2540 C-1997	
600-157625-18	ACW-20	Total/NA	Water	2540 C-1997	
600-157625-19	ACW-21	Total/NA	Water	2540 C-1997	
600-157625-20	ACW-22	Total/NA	Water	2540 C-1997	
600-157625-21	ACW-23	Total/NA	Water	2540 C-1997	
600-157625-22	ACW-24	Total/NA	Water	2540 C-1997	
600-157625-24	Doom Well	Total/NA	Water	2540 C-1997	
600-157625-25	Oxy Well	Total/NA	Water	2540 C-1997	
600-157625-26	ENSR-01	Total/NA	Water	2540 C-1997	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

General Chemistry (Continued)

Analysis Batch: 226980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-27	EPNG-01	Total/NA	Water	2540 C-1997	
600-157625-28	PTP-01	Total/NA	Water	2540 C-1997	
600-157625-29	Dup-01	Total/NA	Water	2540 C-1997	
600-157625-30	Dup-02	Total/NA	Water	2540 C-1997	
600-157625-31	Dup-03	Total/NA	Water	2540 C-1997	
600-157625-32	FB-01	Total/NA	Water	2540 C-1997	
600-157625-33	FB-02	Total/NA	Water	2540 C-1997	
600-157625-34	FB-03	Total/NA	Water	2540 C-1997	
MB 600-226980/1	Method Blank	Total/NA	Water	2540 C-1997	
MB 600-226980/25	Method Blank	Total/NA	Water	2540 C-1997	
MB 600-226980/49	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-226980/2	Lab Control Sample	Total/NA	Water	2540 C-1997	
LCS 600-226980/26	Lab Control Sample	Total/NA	Water	2540 C-1997	
LCS 600-226980/50	Lab Control Sample	Total/NA	Water	2540 C-1997	
600-157625-12 DU	ACW-14	Total/NA	Water	2540 C-1997	
600-157625-24 DU	Doom Well	Total/NA	Water	2540 C-1997	
600-157625-28 DU	PTP-01	Total/NA	Water	2540 C-1997	

Analysis Batch: 226999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-1	ACW-01	Total/NA	Water	120.1	
600-157625-2	ACW-02A	Total/NA	Water	120.1	
600-157625-3	ACW-04	Total/NA	Water	120.1	
600-157625-4	ACW-05	Total/NA	Water	120.1	
600-157625-5	ACW-06	Total/NA	Water	120.1	
600-157625-6	ACW-07	Total/NA	Water	120.1	
600-157625-7	ACW-09	Total/NA	Water	120.1	
600-157625-8	ACW-10	Total/NA	Water	120.1	
600-157625-9	ACW-11	Total/NA	Water	120.1	
600-157625-10	ACW-12	Total/NA	Water	120.1	
600-157625-11	ACW-13	Total/NA	Water	120.1	
600-157625-12	ACW-14	Total/NA	Water	120.1	
600-157625-13	ACW-15	Total/NA	Water	120.1	
600-157625-14	ACW-16	Total/NA	Water	120.1	
600-157625-15	ACW-17	Total/NA	Water	120.1	
600-157625-16	ACW-18	Total/NA	Water	120.1	
600-157625-17	ACW-19	Total/NA	Water	120.1	
600-157625-18	ACW-20	Total/NA	Water	120.1	
600-157625-19	ACW-21	Total/NA	Water	120.1	
600-157625-20	ACW-22	Total/NA	Water	120.1	
600-157625-21	ACW-23	Total/NA	Water	120.1	
600-157625-22	ACW-24	Total/NA	Water	120.1	
600-157625-23	ACW-25	Total/NA	Water	120.1	
600-157625-24	Doom Well	Total/NA	Water	120.1	
600-157625-25	Oxy Well	Total/NA	Water	120.1	
600-157625-26	ENSR-01	Total/NA	Water	120.1	
600-157625-27	EPNG-01	Total/NA	Water	120.1	
600-157625-28	PTP-01	Total/NA	Water	120.1	
600-157625-29	Dup-01	Total/NA	Water	120.1	
600-157625-30	Dup-02	Total/NA	Water	120.1	
600-157625-31	Dup-03	Total/NA	Water	120.1	

TestAmerica Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

General Chemistry (Continued)

Analysis Batch: 226999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-32	FB-01	Total/NA	Water	120.1	
600-157625-33	FB-02	Total/NA	Water	120.1	
600-157625-34	FB-03	Total/NA	Water	120.1	
MB 600-226999/1	Method Blank	Total/NA	Water	120.1	
MB 600-226999/31	Method Blank	Total/NA	Water	120.1	
LCS 600-226999/2	Lab Control Sample	Total/NA	Water	120.1	
LCS 600-226999/32	Lab Control Sample	Total/NA	Water	120.1	
600-157625-1 DU	ACW-01	Total/NA	Water	120.1	
600-157625-11 DU	ACW-13	Total/NA	Water	120.1	
600-157625-21 DU	ACW-23	Total/NA	Water	120.1	
600-157625-31 DU	Dup-03	Total/NA	Water	120.1	

Analysis Batch: 227129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-157625-9	ACW-11	Total/NA	Water	2540 C-1997	
600-157625-23	ACW-25	Total/NA	Water	2540 C-1997	
MB 600-227129/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-227129/2	Lab Control Sample	Total/NA	Water	2540 C-1997	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-01

Date Collected: 11/28/17 11:50

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 22:20	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	227304	12/08/17 16:48	KLV	TAL HOU
Total/NA	Analysis	300.0		500	227059	12/06/17 21:40	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:46	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-02A

Date Collected: 11/28/17 14:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 21:04	KLV	TAL HOU
Total/NA	Analysis	300.0		500	227059	12/06/17 21:58	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:01	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-04

Date Collected: 11/28/17 13:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 21:29	KLV	TAL HOU
Total/NA	Analysis	300.0		5000	227167	12/07/17 14:32	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		200	227647	12/13/17 20:12	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-05

Date Collected: 11/28/17 10:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 21:55	KLV	TAL HOU
Total/NA	Analysis	300.0		100	227059	12/06/17 22:34	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:06	DCL	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-05

Date Collected: 11/28/17 10:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-06

Date Collected: 11/28/17 09:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 18:05	KLV	TAL HOU
Total/NA	Analysis	300.0		500	227059	12/06/17 22:51	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:00	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-07

Date Collected: 11/28/17 14:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 18:30	KLV	TAL HOU
Total/NA	Analysis	300.0		500	227059	12/06/17 23:09	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:02	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-09

Date Collected: 11/28/17 12:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 18:56	KLV	TAL HOU
Total/NA	Analysis	300.0		1000	227167	12/07/17 12:27	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:04	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-10

Lab Sample ID: 600-157625-8

Date Collected: 11/28/17 12:15

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 19:22	KLK	TAL HOU
Total/NA	Analysis	300.0		250	227167	12/07/17 12:45	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:12	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-11

Lab Sample ID: 600-157625-9

Date Collected: 11/28/17 11:40

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 19:47	KLK	TAL HOU
Total/NA	Analysis	300.0		5000	227167	12/07/17 13:03	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		100	227647	12/13/17 17:28	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	227129	12/06/17 15:06	EC1	TAL HOU

Client Sample ID: ACW-12

Lab Sample ID: 600-157625-10

Date Collected: 11/28/17 13:50

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 20:13	KLK	TAL HOU
Total/NA	Analysis	300.0		250	227167	12/07/17 13:21	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:08	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-13

Lab Sample ID: 600-157625-11

Date Collected: 11/28/17 11:30

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	226794	12/01/17 20:38	KLK	TAL HOU
Total/NA	Analysis	300.0		100	227167	12/07/17 13:38	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:19	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-13

Date Collected: 11/28/17 11:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-14

Date Collected: 11/28/17 09:15

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227049	12/06/17 17:43	DT1	TAL HOU
Total/NA	Analysis	300.0		25	227167	12/07/17 11:30	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:21	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-15

Date Collected: 11/28/17 13:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227049	12/06/17 18:11	DT1	TAL HOU
Total/NA	Analysis	300.0		25	227167	12/07/17 14:50	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:23	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-16

Date Collected: 11/28/17 12:50

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227049	12/06/17 18:39	DT1	TAL HOU
Total/NA	Analysis	300.0		1000	227167	12/07/17 15:08	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		50	227647	12/13/17 17:30	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-17

Lab Sample ID: 600-157625-15

Date Collected: 11/28/17 09:25

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227049	12/06/17 19:07	DT1	TAL HOU
Total/NA	Analysis	300.0		1000	227167	12/07/17 15:26	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:10	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-18

Lab Sample ID: 600-157625-16

Date Collected: 11/28/17 11:05

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227049	12/06/17 19:35	DT1	TAL HOU
Total/NA	Analysis	300.0		10000	227268	12/08/17 14:59	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		200	227647	12/13/17 20:14	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-19

Lab Sample ID: 600-157625-17

Date Collected: 11/28/17 15:35

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	5	227304	12/08/17 15:09	KLV	TAL HOU
Total/NA	Analysis	8260B		1	227049	12/06/17 20:03	DT1	TAL HOU
Total/NA	Analysis	300.0		250	227167	12/07/17 16:38	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:12	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-20

Lab Sample ID: 600-157625-18

Date Collected: 11/28/17 14:35

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 17:44	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	5	227304	12/08/17 15:34	KLV	TAL HOU
Total/NA	Analysis	300.0		10000	227268	12/08/17 15:19	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-20

Date Collected: 11/28/17 14:35

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		500	227647	12/13/17 20:16	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-21

Date Collected: 11/28/17 12:10

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 21:48	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	5	227304	12/08/17 15:59	KLV	TAL HOU
Total/NA	Analysis	300.0		100	227167	12/07/17 17:13	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:20	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-22

Date Collected: 11/28/17 11:20

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 18:09	KLV	TAL HOU
Total/NA	Analysis	300.0		100	227167	12/07/17 18:07	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 19:43	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-23

Date Collected: 11/28/17 13:10

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 18:33	KLV	TAL HOU
Total/NA	Analysis	300.0		200	227167	12/07/17 18:25	DAW	TAL HOU
Total/NA	Prep	3010A			226877	12/04/17 09:05	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:54	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: ACW-24

Date Collected: 11/28/17 10:35

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 22:12	KLK	TAL HOU
Total/NA	Analysis	300.0		10000	227268	12/08/17 16:59	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		200	227647	12/13/17 20:18	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ACW-25

Date Collected: 11/28/17 10:05

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 18:58	KLK	TAL HOU
Total/NA	Analysis	300.0		5000	227167	12/07/17 19:01	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		50	227647	12/13/17 17:39	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	227129	12/06/17 15:06	EC1	TAL HOU

Client Sample ID: Doom Well

Date Collected: 11/28/17 13:40

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 19:22	KLK	TAL HOU
Total/NA	Analysis	300.0		25	227167	12/07/17 19:19	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:22	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: Oxy Well

Date Collected: 11/28/17 10:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 19:47	KLK	TAL HOU
Total/NA	Analysis	300.0		50	227167	12/07/17 19:37	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:10	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: Oxy Well

Lab Sample ID: 600-157625-25

Date Collected: 11/28/17 10:30

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: ENSR-01

Lab Sample ID: 600-157625-26

Date Collected: 11/28/17 13:55

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 22:36	KLV	TAL HOU
Total/NA	Analysis	300.0		1000	227167	12/07/17 22:00	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:12	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: EPNG-01

Lab Sample ID: 600-157625-27

Date Collected: 11/28/17 09:30

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 20:11	KLV	TAL HOU
Total/NA	Analysis	300.0		50	227167	12/07/17 20:30	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:20	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 10:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: PTP-01

Lab Sample ID: 600-157625-28

Date Collected: 11/28/17 10:10

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 20:35	KLV	TAL HOU
Total/NA	Analysis	300.0		100	227167	12/07/17 22:18	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:22	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: Dup-01

Date Collected: 11/28/17 08:30

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-29

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 20:59	KLV	TAL HOU
Total/NA	Analysis	300.0		50	227167	12/07/17 22:36	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:24	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: Dup-02

Date Collected: 11/28/17 12:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 21:24	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	5	227304	12/08/17 16:23	KLV	TAL HOU
Total/NA	Analysis	300.0		10000	227268	12/08/17 17:19	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		500	227647	12/13/17 19:24	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: Dup-03

Date Collected: 11/28/17 12:00

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-31

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227304	12/08/17 14:45	KLV	TAL HOU
Total/NA	Analysis	300.0		500	227167	12/07/17 23:12	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227647	12/13/17 17:24	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: FB-01

Date Collected: 11/28/17 09:45

Date Received: 11/30/17 09:55

Lab Sample ID: 600-157625-32

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 15:17	KLV	TAL HOU
Total/NA	Analysis	300.0		1	227167	12/07/17 23:29	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:30	DCL	TAL HOU

TestAmerica Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: JAL#4 Gas Plant Quarterly Sampling

TestAmerica Job ID: 600-157625-1

Client Sample ID: FB-01

Lab Sample ID: 600-157625-32

Date Collected: 11/28/17 09:45

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: FB-02

Lab Sample ID: 600-157625-33

Date Collected: 11/28/17 14:40

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 15:41	KLV	TAL HOU
Total/NA	Analysis	300.0		1	227268	12/08/17 15:39	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:32	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: FB-03

Lab Sample ID: 600-157625-34

Date Collected: 11/28/17 15:25

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 16:06	KLV	TAL HOU
Total/NA	Analysis	300.0		1	227268	12/08/17 15:59	DAW	TAL HOU
Total/NA	Prep	3010A			226960	12/05/17 08:30	DCL	TAL HOU
Total/NA	Analysis	6010B		20	227550	12/12/17 18:34	DCL	TAL HOU
Total/NA	Analysis	120.1		1	226999	12/05/17 11:40	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	226980	12/05/17 09:59	EC1	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-157625-35

Date Collected: 11/28/17 00:00

Matrix: Water

Date Received: 11/30/17 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	227203	12/07/17 14:53	KLV	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TestAmerica Houston

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 600-157625-1

Project/Site: JAL#4 Gas Plant Quarterly Sampling

Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-17-22	10-31-18

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
120.1		Water	Specific Conductance

Chain of Custody Record

Client Information Client Contact: Hank McConnell Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 300 City: Midland State, Zip: TX, 79701 Phone: 432-687-5400(Tel) Email: hank.mcconnell@arcadis-us.com Project Name: JAL #4 Gas Plant--Hank McConnell Site: Quarterly sampling		Sampler: Brian Hillin + HME Team Phone: 713-653-3127 Lab PM: Upton, Cathy L E-Mail: cathy.upton@testamericainc.com		Carrier Tracking No(s): COC No: 600-51545-15276.1 Page: 4 of 4 Job #: 2 of 3	
Due Date Requested: TAT Requested (days): PO #: WD255945 WO #: Project #: 60008415 SSOV#:		Analysis Requested			
Sample Identification		Sample Date 11/28/17	Sample Time 915	Sample Type (C=Comp, G=grab) G	Matrix (W=water, S=solid, O=oil, BT=Tissue, AA=Air) Water
ACW-14		11/28/17	915	G	Water
ACW-15			1300	G	Water
ACW-16			1250	G	Water
ACW-17			925	G	Water
ACW-18			1105	G	Water
ACW-19			1535	G	Water
TRIP-BLANK ACW-20			1435	G	Water
ACW-21			1210	G	Water
ACW-22			1120	G	Water
ACW-23			1310	G	Water
ACW-24			1035	G	Water
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by:					
Relinquished by: <i>Brian Hillin</i>		Date/Time: 11/29/17 1600		Company: HME	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4442

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Hank McConnell Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 300 City: Midland State, Zip: TX, 79701 Phone: 432-687-5400(Tel) Email: hank.mcconnell@arcadis-us.com Project Name: JAL#4 Gas Plant - Hank McConnell Site: Quarry sampling			Lab PM: Upton, Cathy L E-Mail: cathy.upton@testamericainc.com Phone: 713-653-3127			Carrier Tracking No(s): COC No: 600-51545-15276.1 Page: 1 of 3 Job #: 3 of 3								
Due Date Requested: TAT Requested (days): PO #: WD255945 WO #: Project #: 60008415 SSOW#:			Analysis Requested											
Sample Identification ACW-25 Doom well Oxy well ENSR-01 EPNG-01 PTP-01 TRIP-BLANK SD Dup-01 Dup-02 Dup-03 FB-01 FB-02			Sample Date 11/28/17		Sample Time 1005 1340 1030 1355 930 1010 830 1200 1200 945 1440		Sample Type (C=Comp, G=grab) G G G G G G G G G G G		Matrix (W=water, S=solid, O=oil, A=air) Water Water Water Water Water Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 6010B - Sodium 8260B - Specific Conductance 120.1 - Specific Conductance 2540C - Calcd - TDS 300 - ORP - Chloride		Total Number of Containers Special Instructions/Note:	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested 1, II, III, IV, Other (specify)			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months Special Instructions/QC Requirements:											
Empty Kit Relinquished by: Relinquished by: Bri Hill Relinquished by: Relinquished by:			Date: 11/25/17 1600		Time: HMT Company		Method of Shipment: Received by: 9/16 Received by: Received by:		Date/Time: 11/30/17 19:55 Date/Time: Date/Time:		Company: Company: Company:			
Custody Seals Intact: Yes ☒ No ☐			Cooler Temperature(s) °C and Other Remarks:											

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Sample Receipt Checklist

17 NOV 30 9:55

JOB NUMBER: 5625

Date/Time Received: _____

CLIENT: AracelisUNPACKED BY: JCHCARRIER/DRIVER: Fed-ExCustody Seal Present: ☒ YES ☐ NONumber of Coolers Received: 5

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
BW	Y / N	Y / N	3.3	676	-0.5	2.8
BW	Y / N	Y / N	2.8	676	-0.5	2.3
BW	Y / N	Y / N	2.9	676	-0.5	2.4
RW	Y / N	Y / N	1.3	676	-0.5	0.8
RW	Y / N	Y / N	0.6	676	-0.5	0.1
	Y / N	Y / N				
	Y / N	Y / N				JCH
	Y / N	Y / N				11/30/17
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YESBase samples are >pH 12: ☐ YES ☐ NO Acid preserved are <pH 2: ☒ YES ☐ NOpH paper Lot # HC717803VOA headspace acceptable (5-6mm): ☐ YES ☒ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	☐

COMMENTS:

[Large handwritten signature across the comments section]

JCH
11/30/17

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-157625-1

Login Number: 157625

List Source: TestAmerica Houston

List Number: 1

Creator: Hilton, Jeremy C

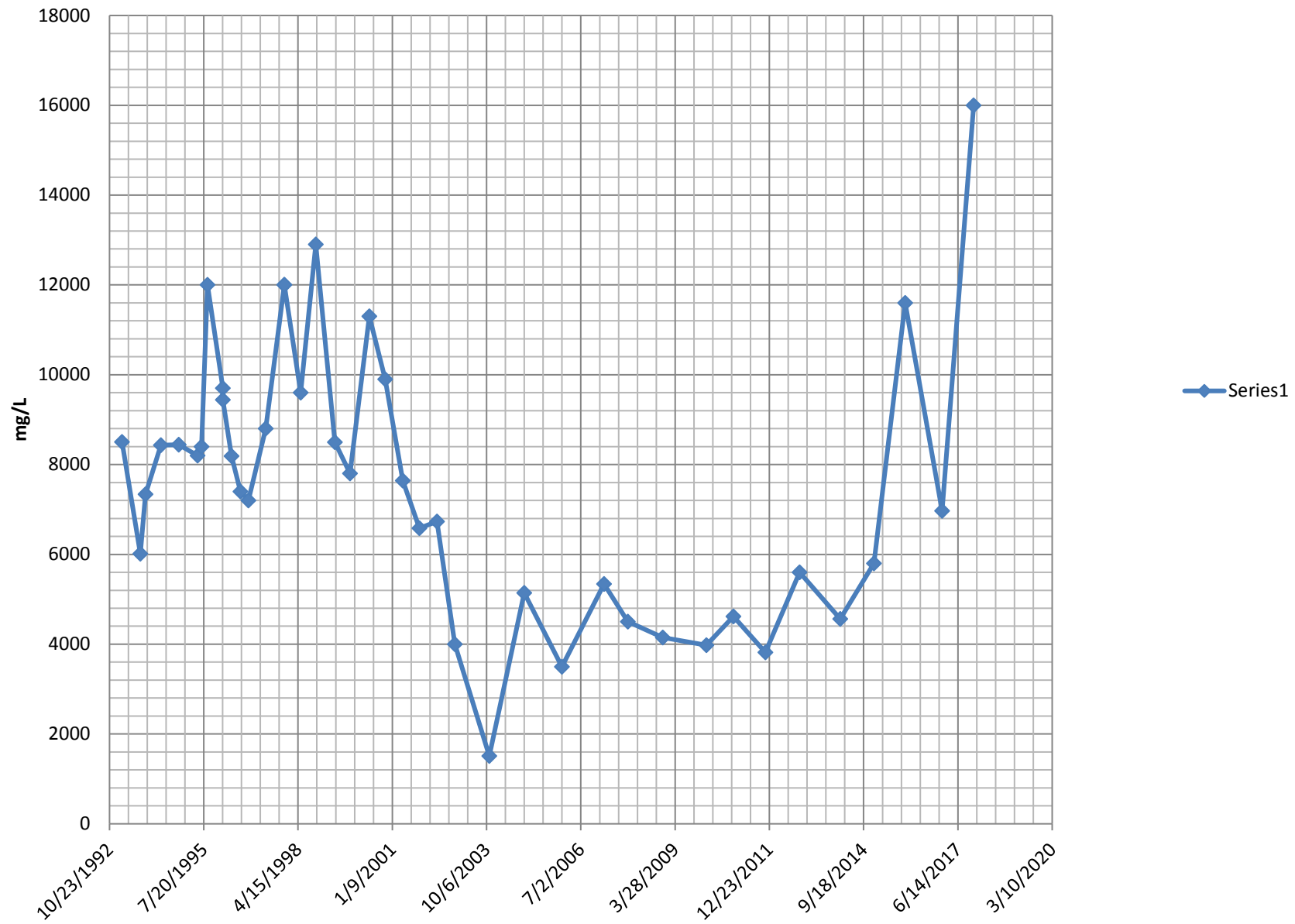
Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8/2.3/2.4/0.8/0.1
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 (excluding tests with immediate HTs)	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	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

APPENDIX F

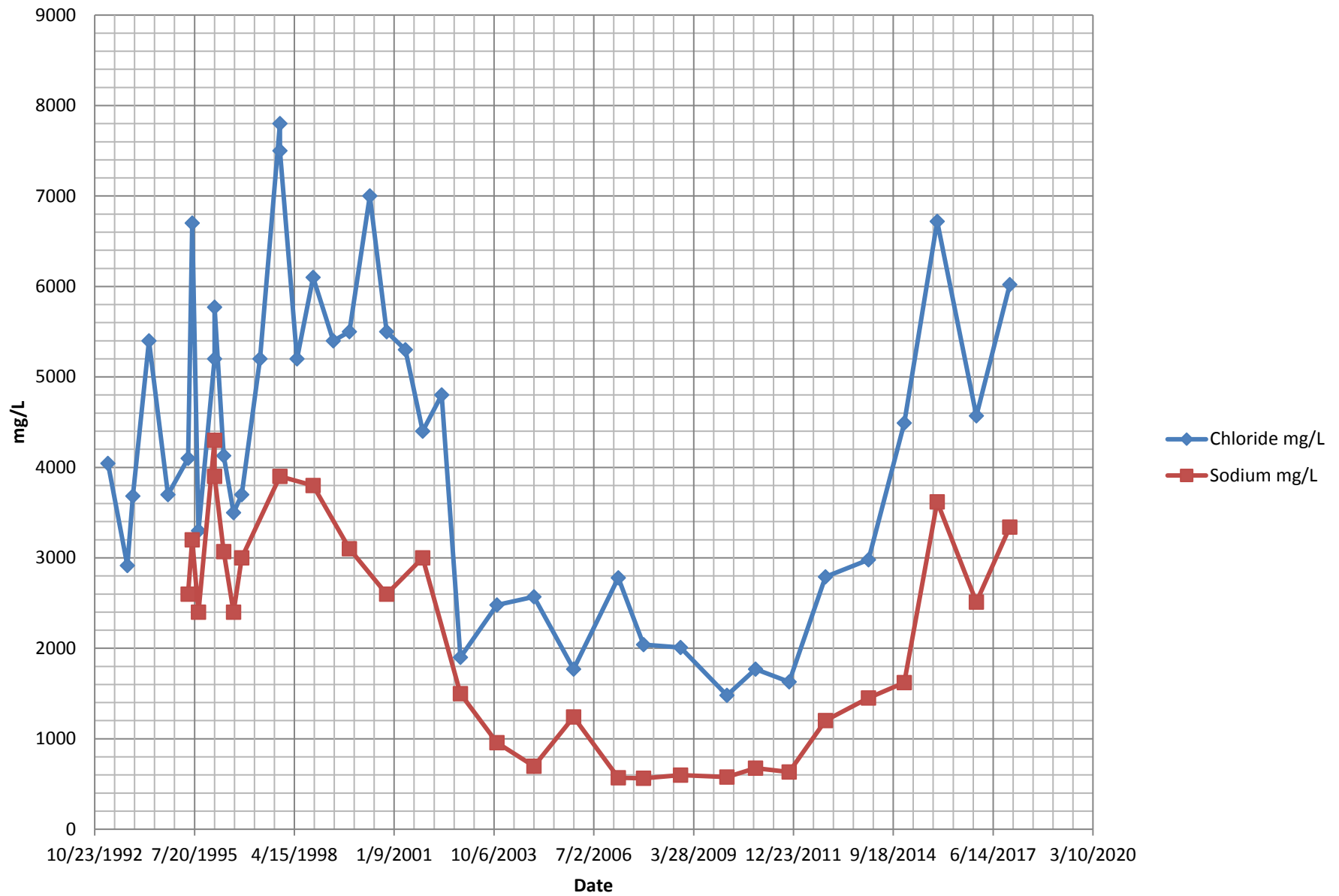
Concentration Trend Graphs



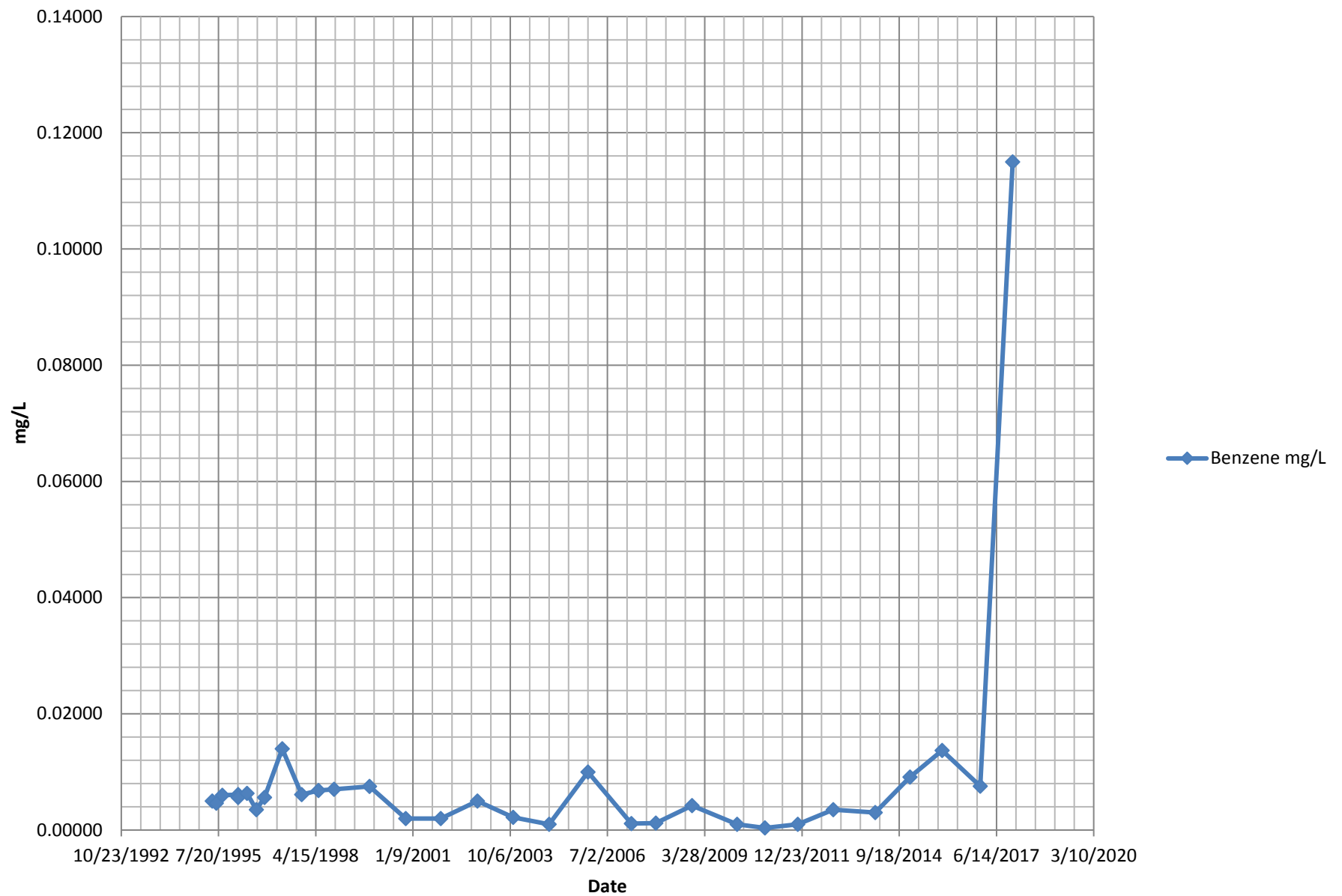
ACW-01 Total Dissolved Solids



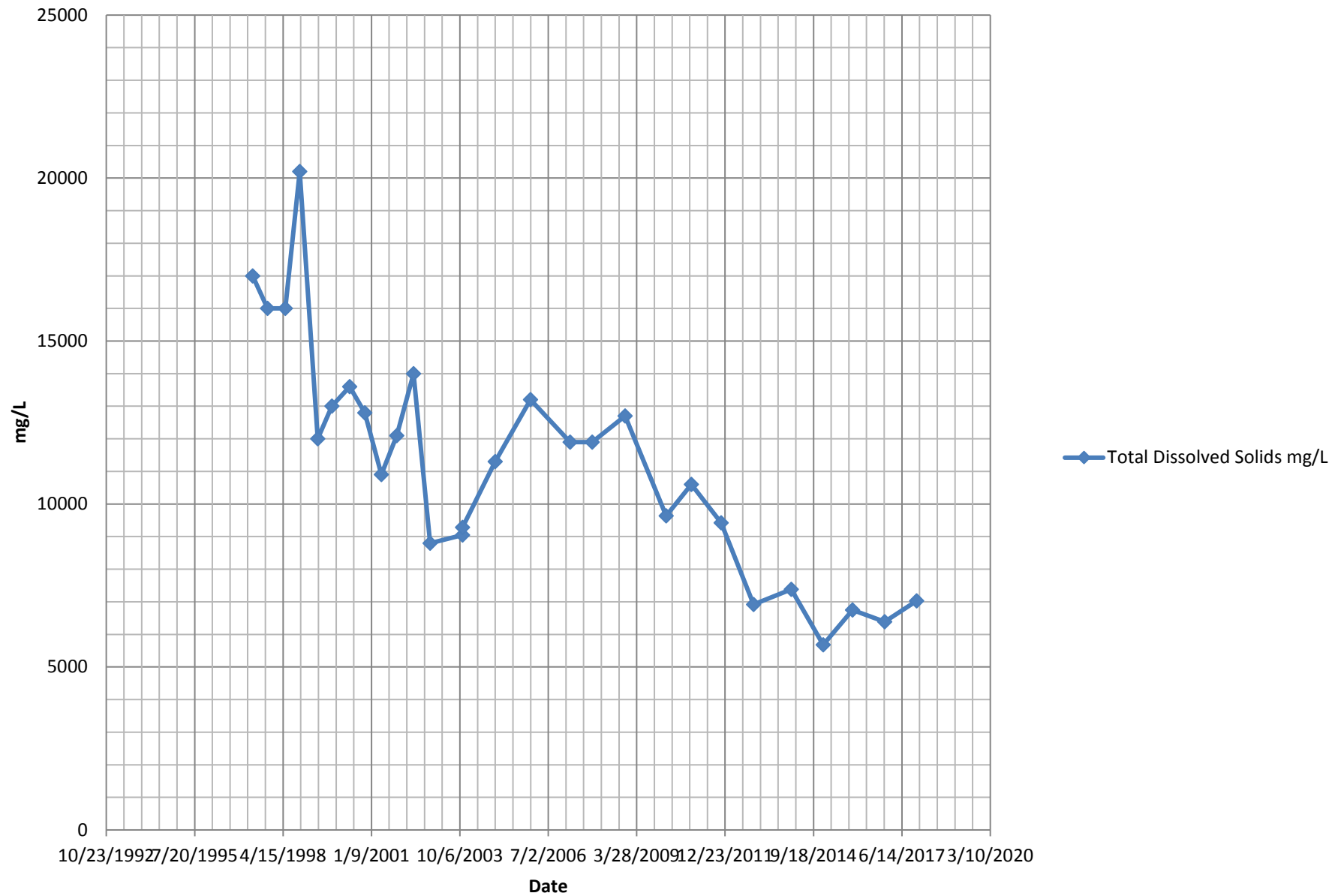
ACW-01 Chloride and Sodium Concentrations



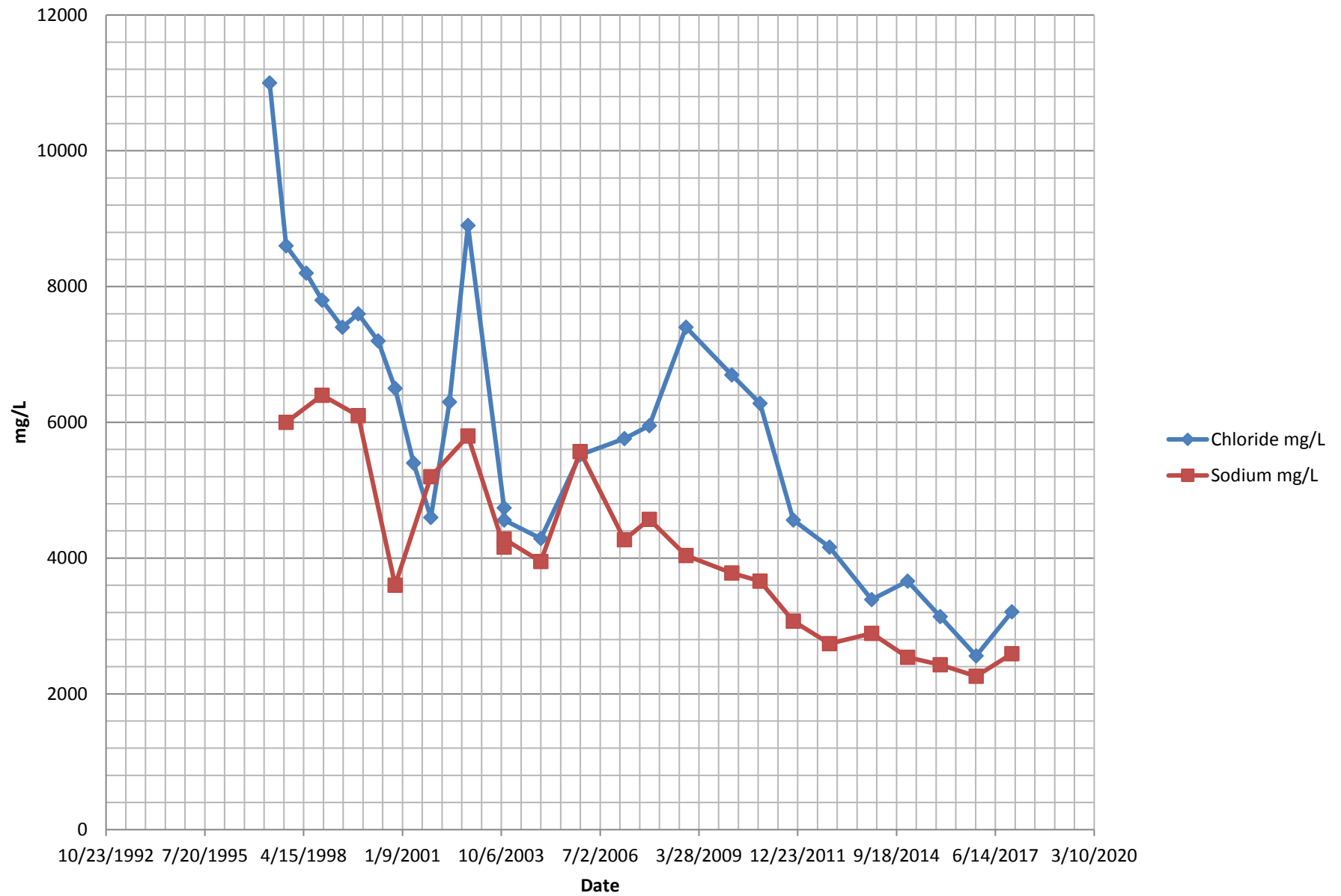
ACW-01 Benzene Concentration



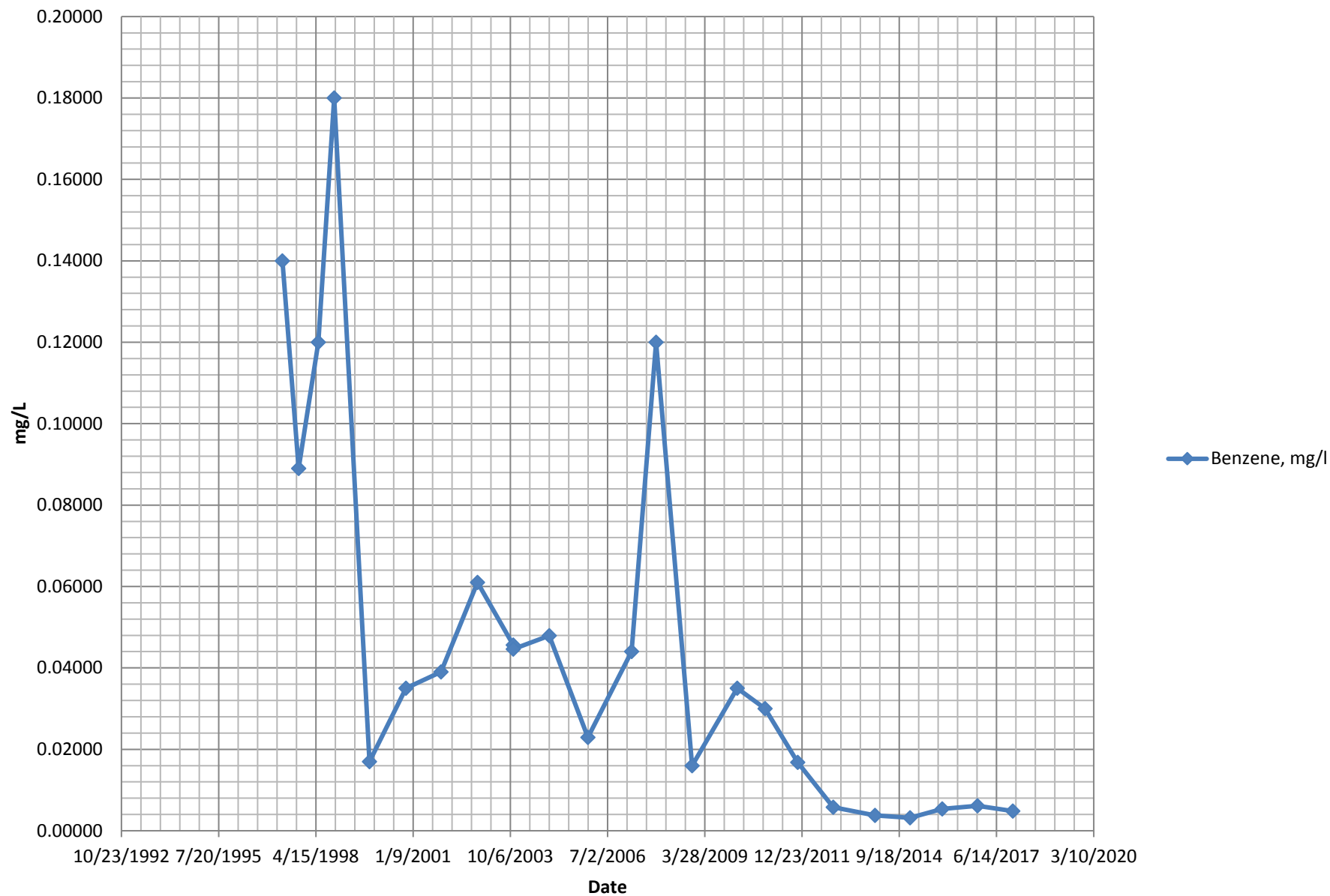
ACW-2A Total Dissolved Solids Concentration



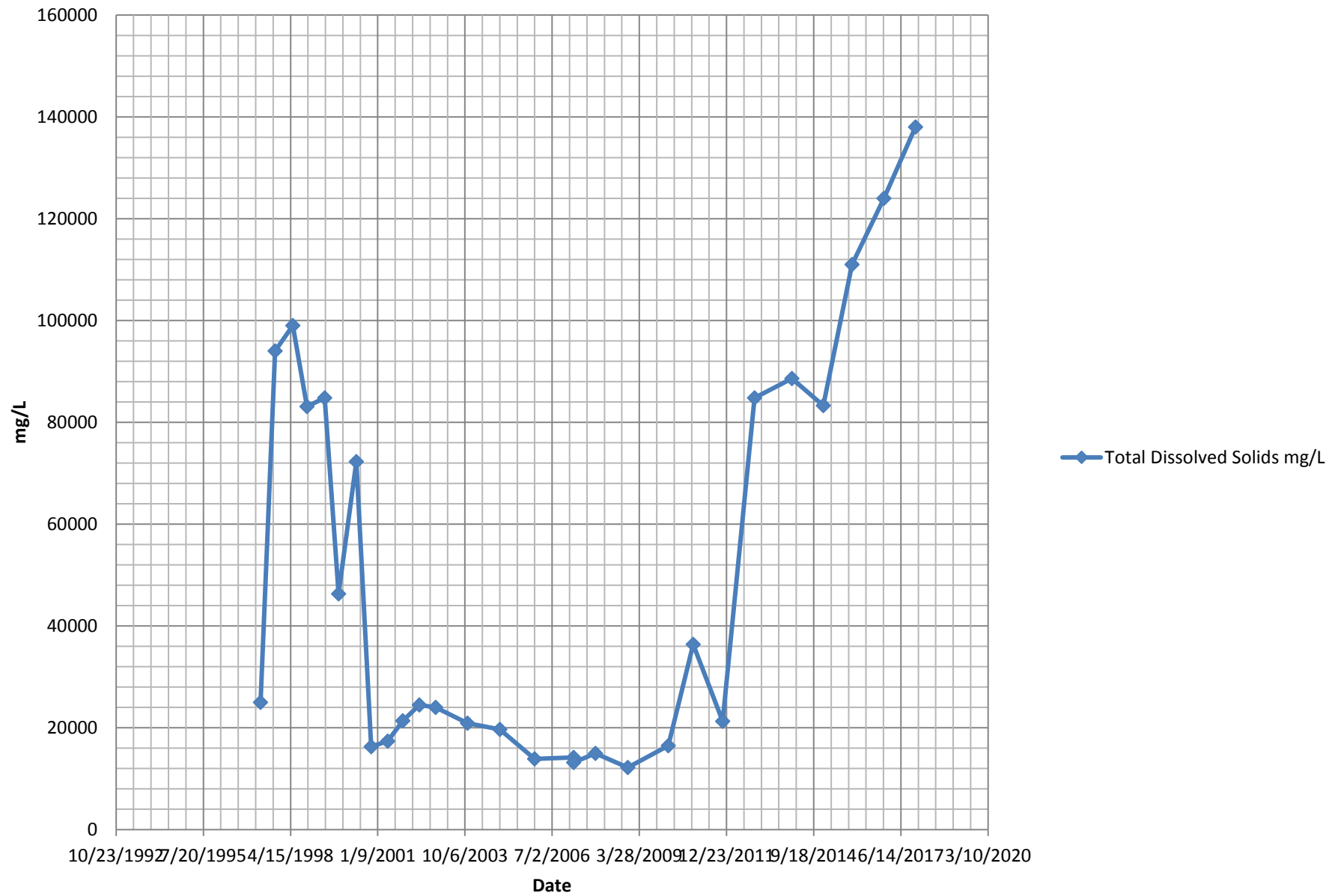
ACW-02A Chloride and Sodium Concentrations



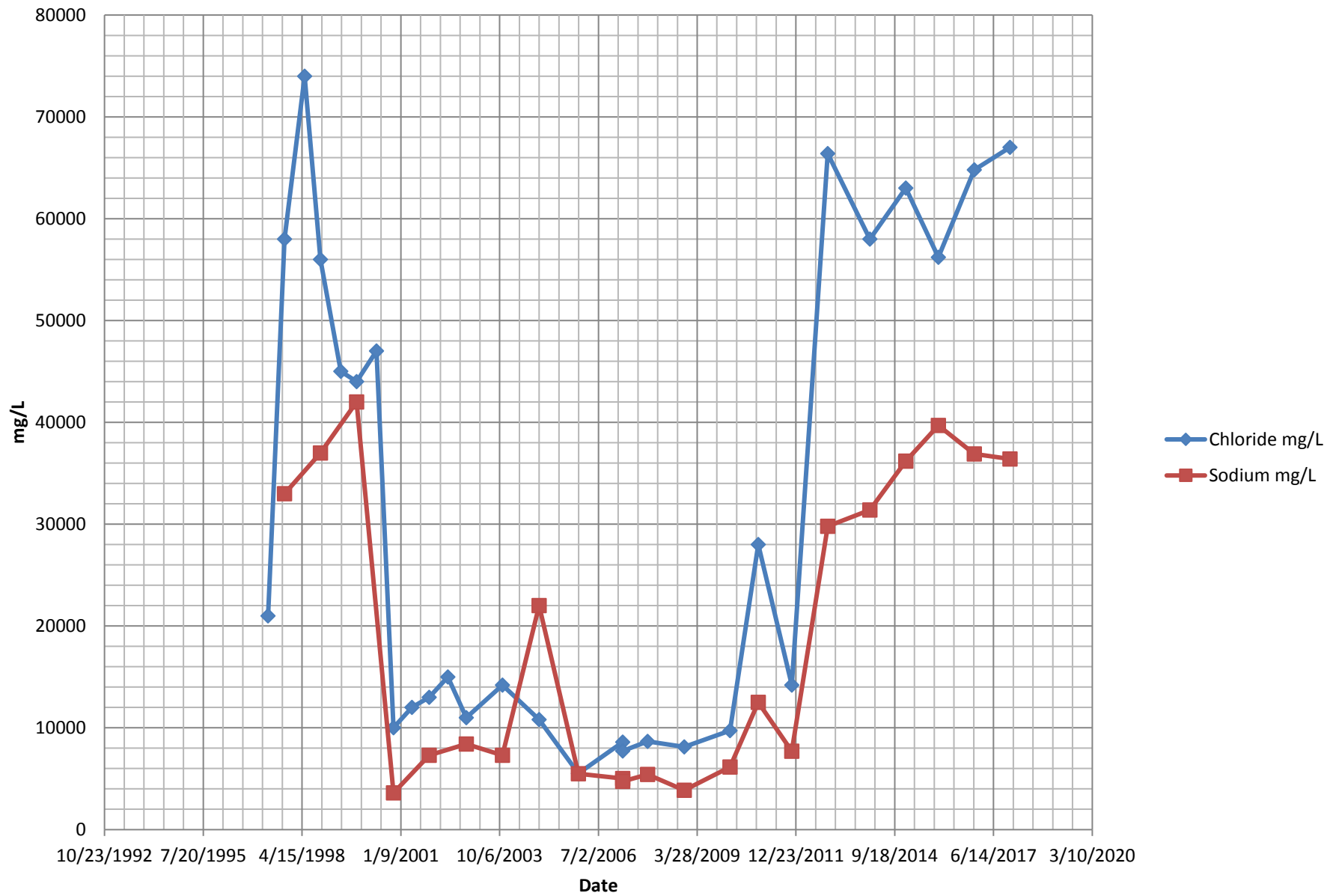
ACW-02A Benzene Concentration



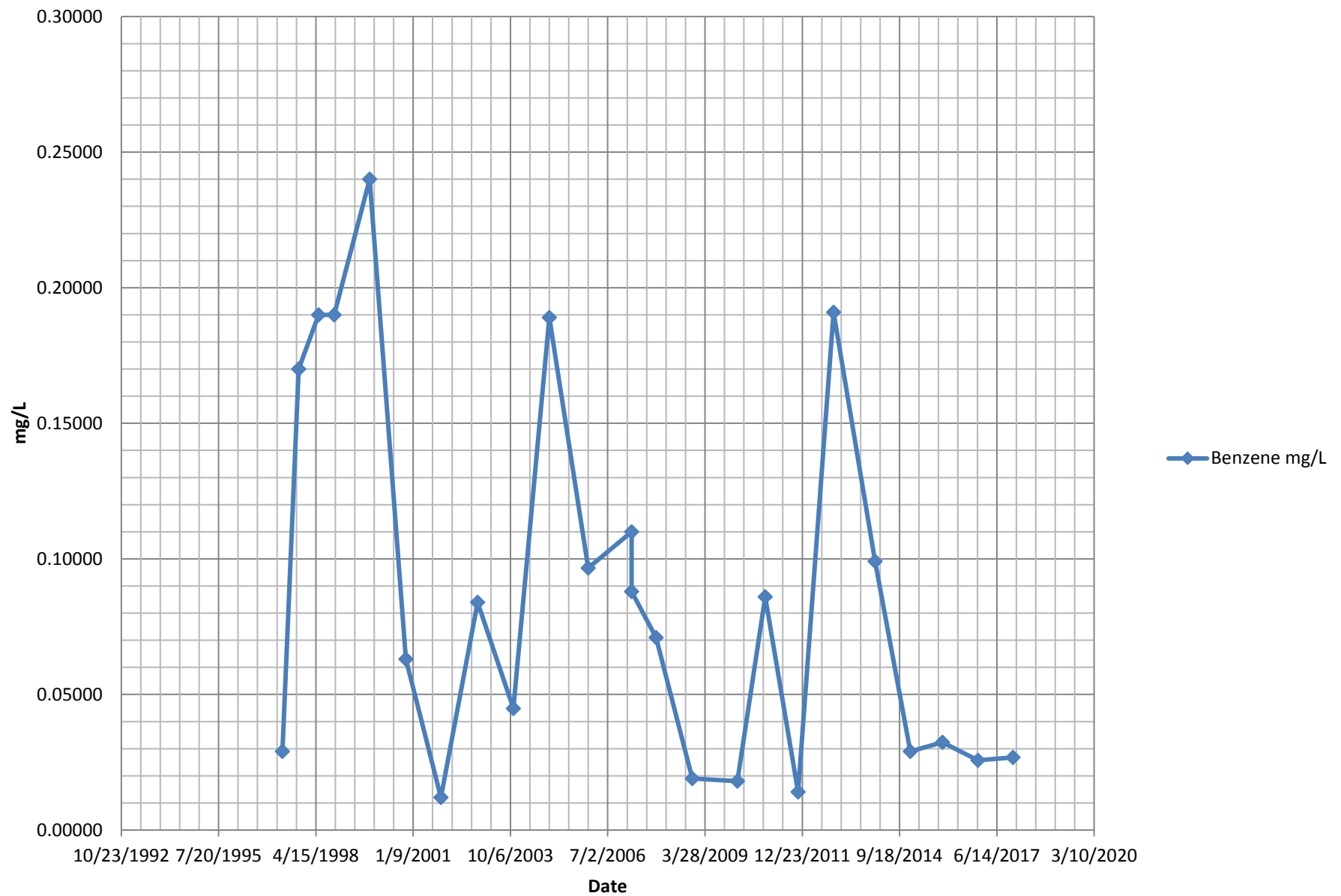
ACW-04 Total Dissolved Solids Concentration



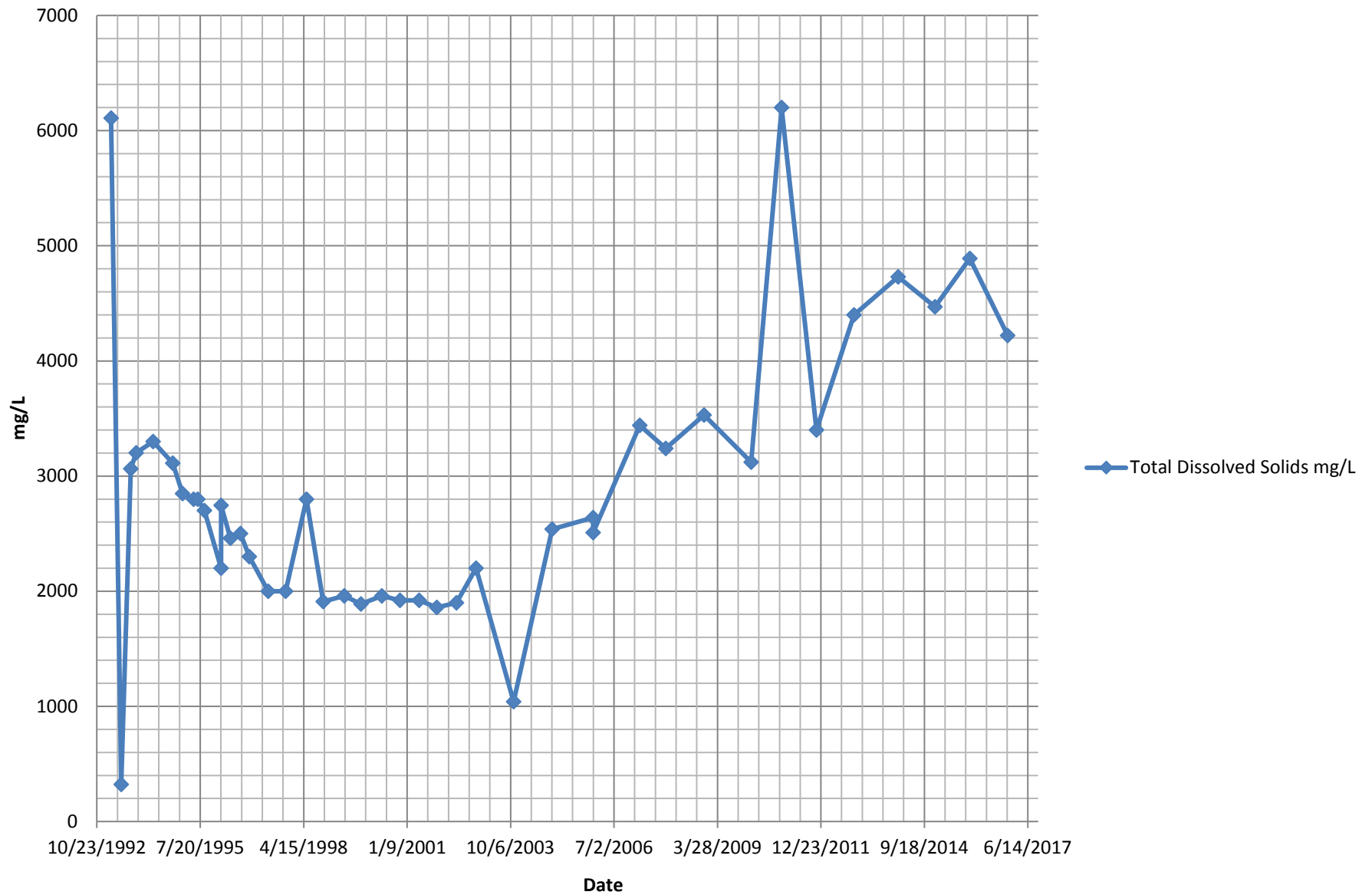
ACW-04 Chloride and Sodium Concentrations



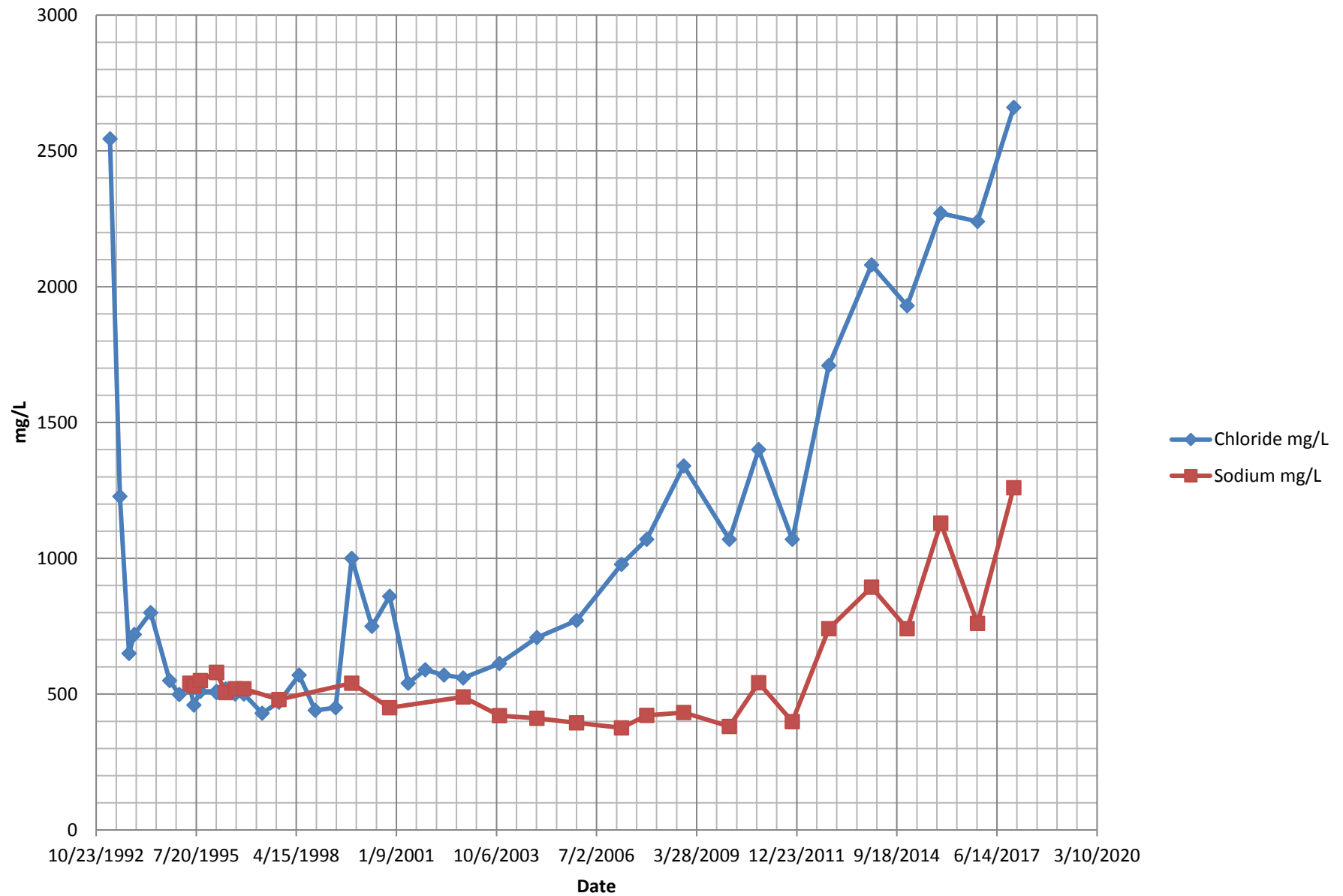
ACW-04 Benzene Concentration



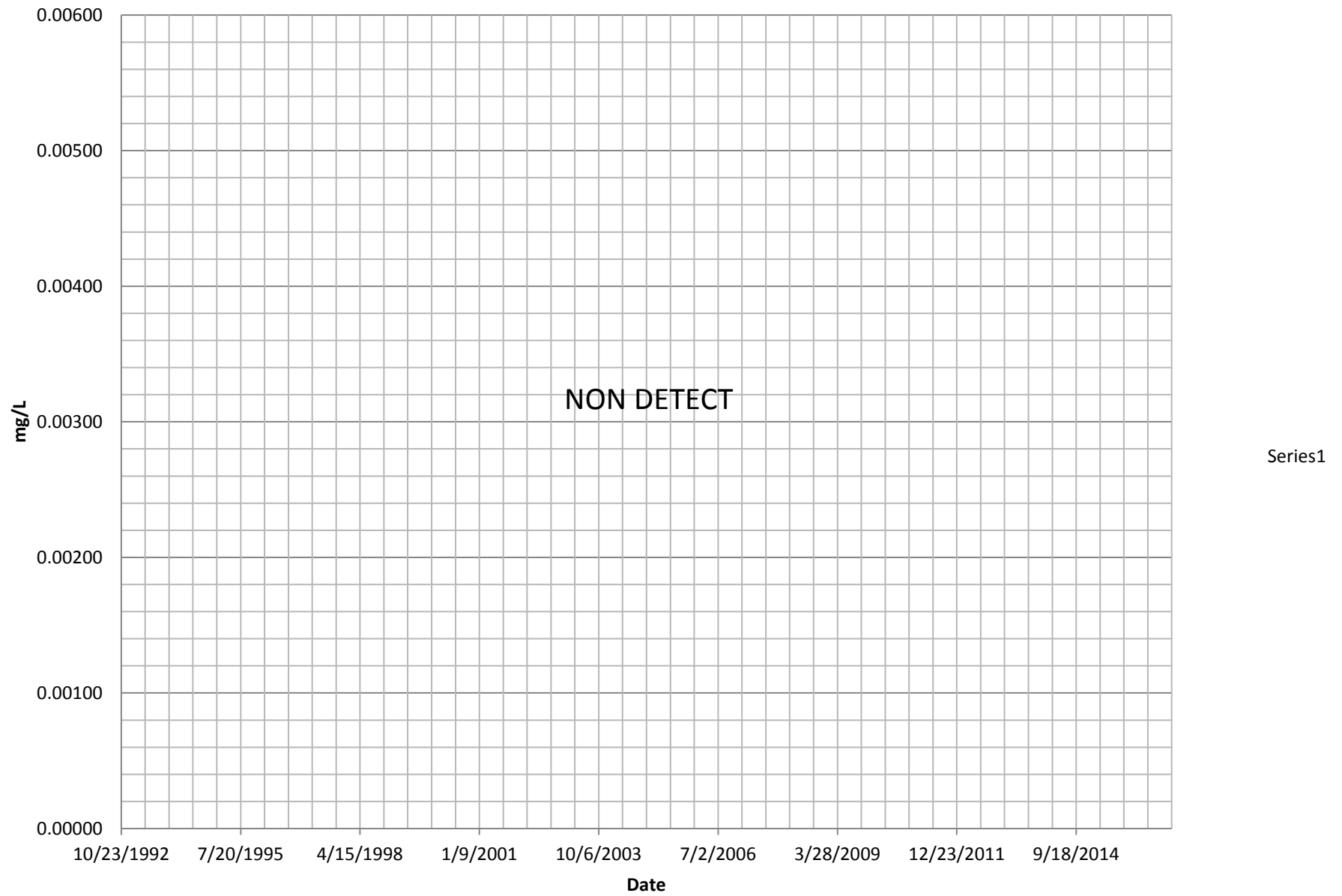
ACW-05 Total Dissolved Solids Concentration



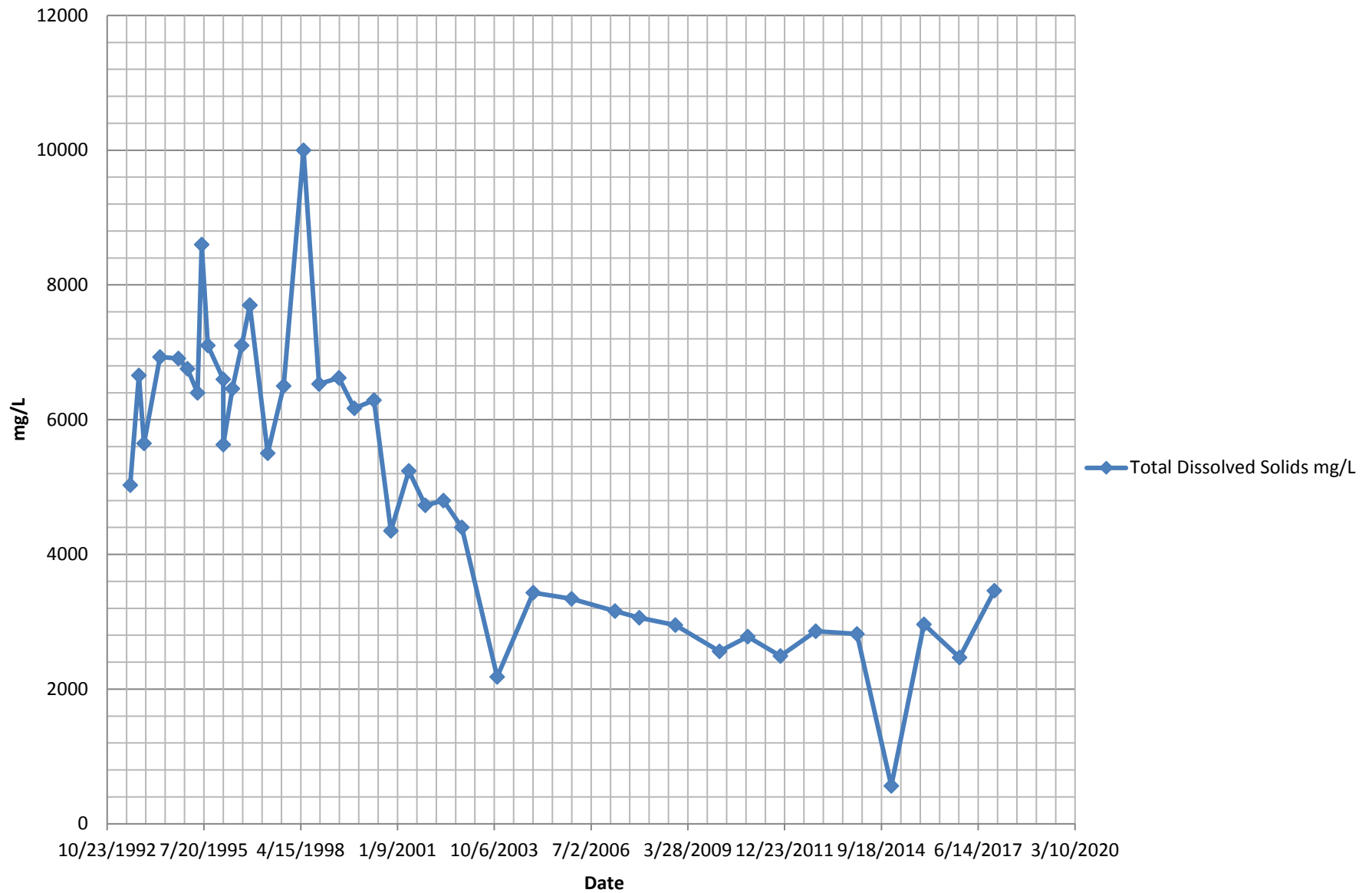
ACW-05 Chloride and Sodium Concentration



ACW-05 Benzene Concentration



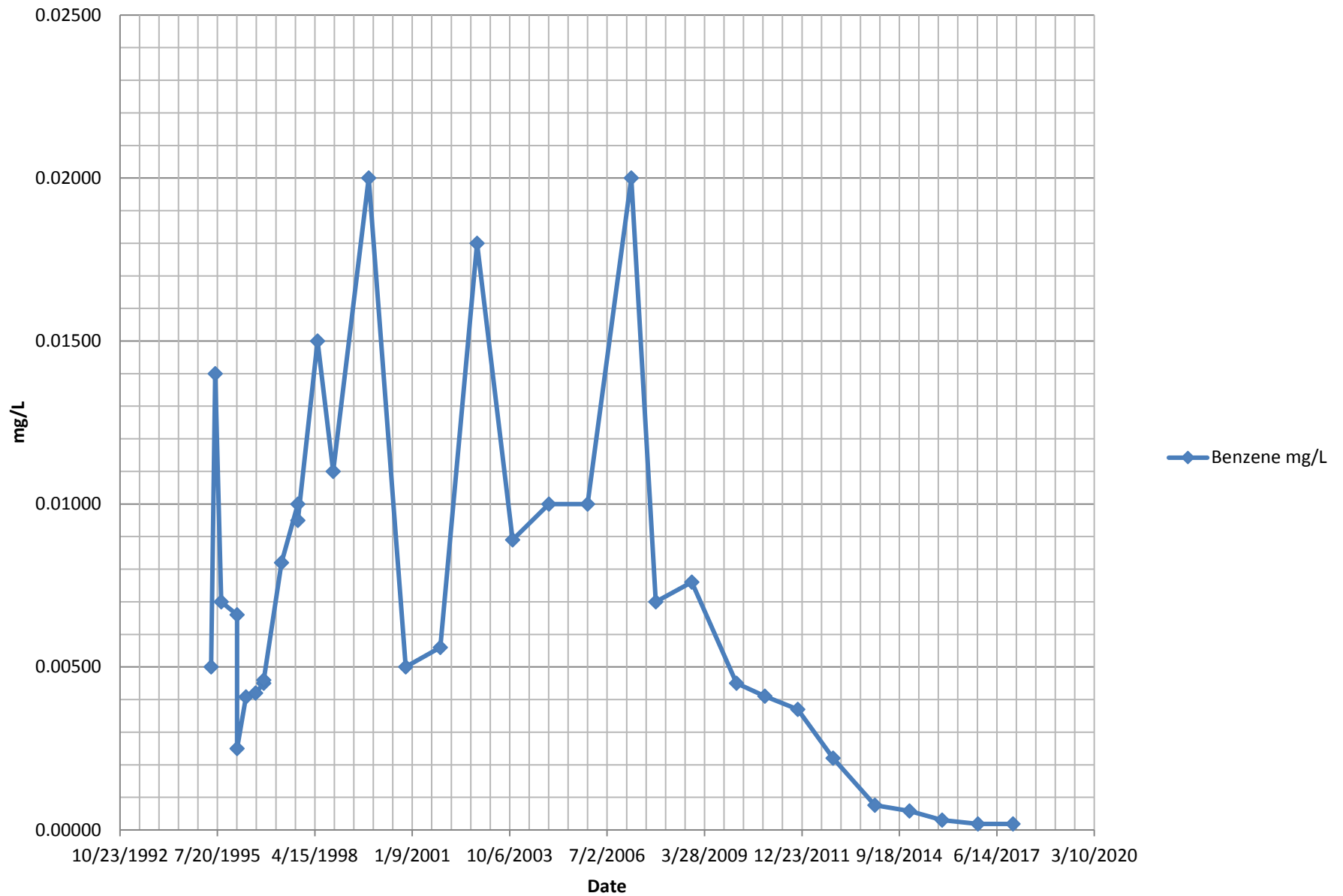
ACW-06 Total Dissolved Solids Concentration



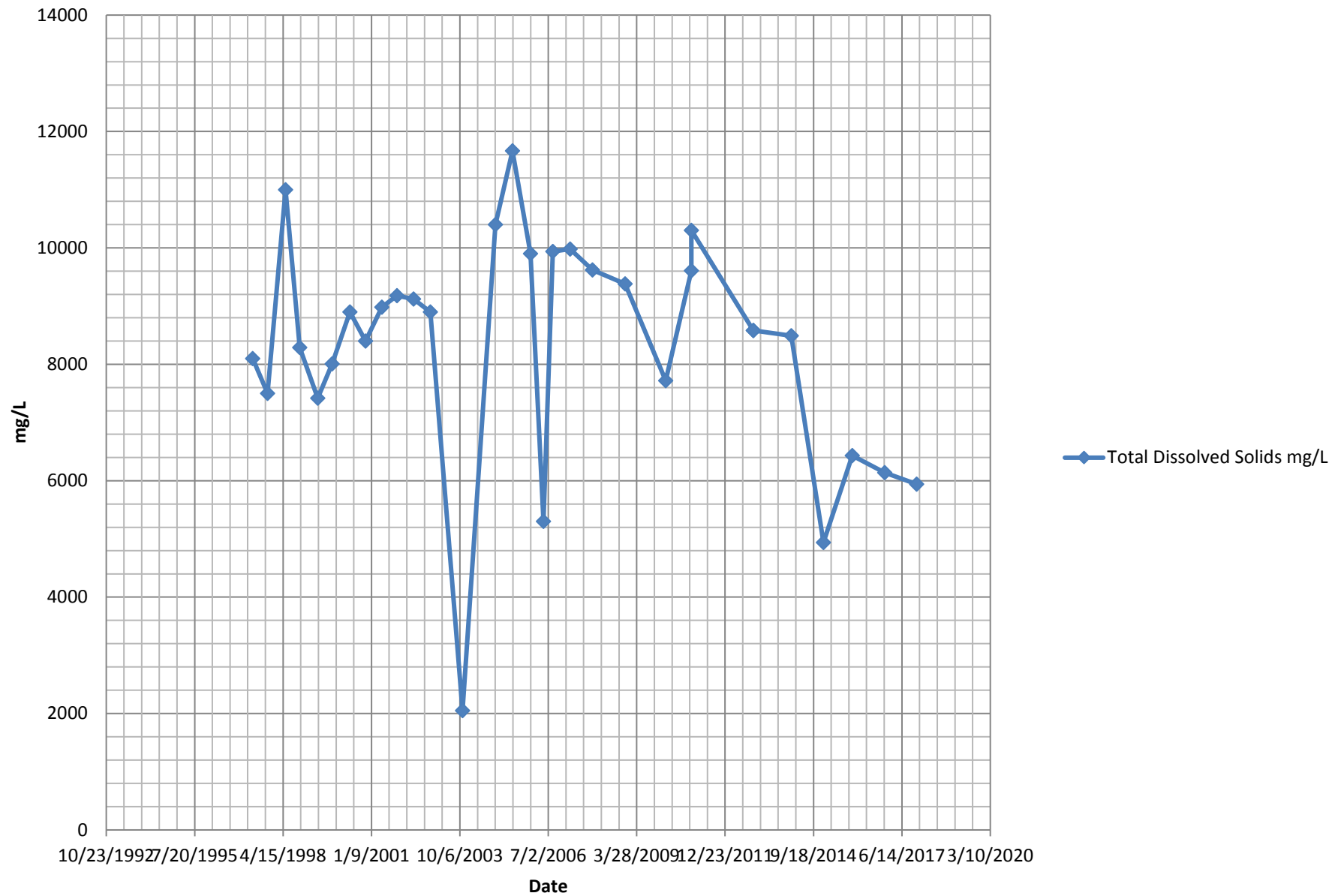
ACW-06 Chloride and Sodium Concentration



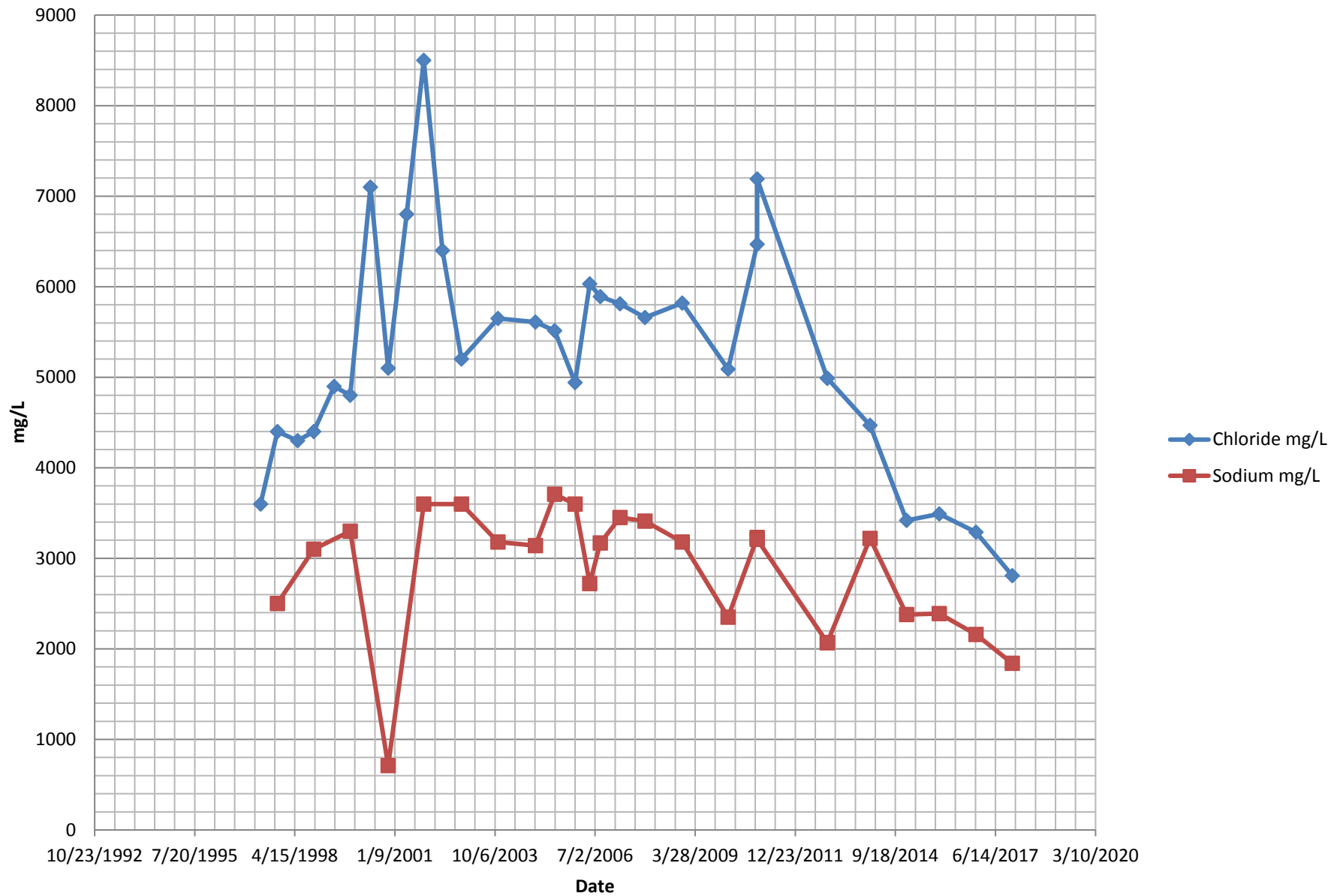
ACW-06 Benzene Concentration



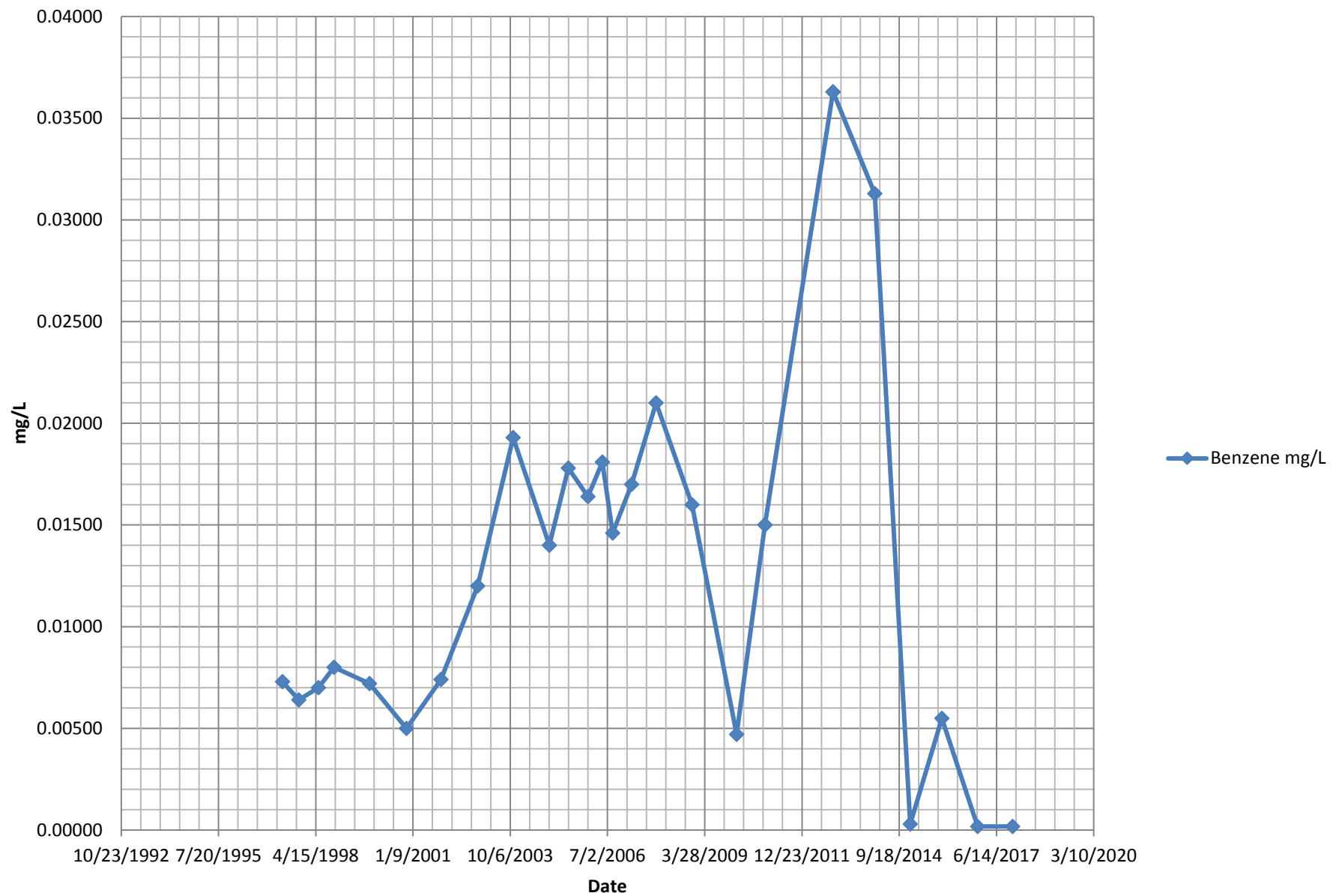
ACW-07 Total Dissolved Solids Concentration



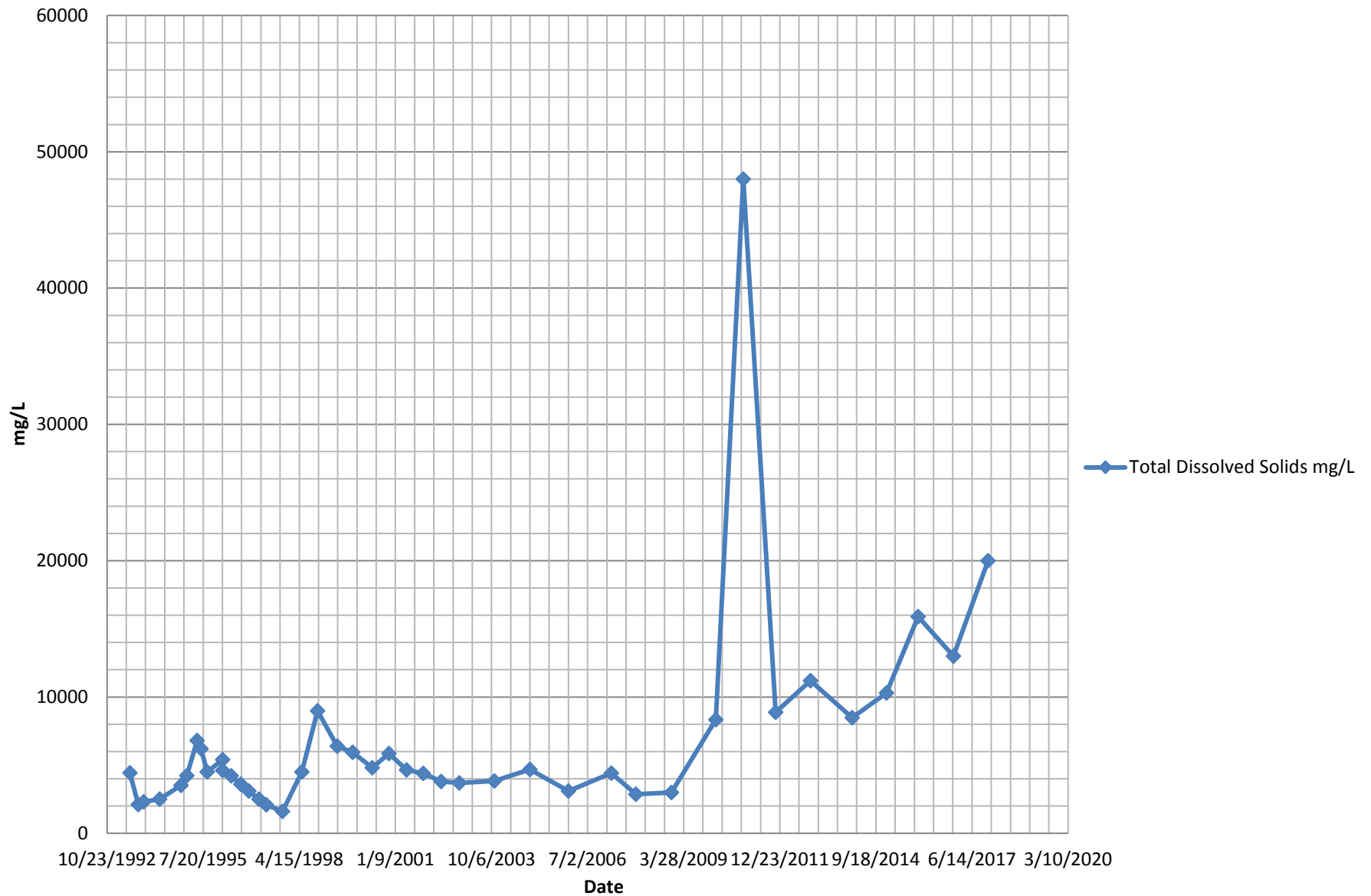
ACW-07 Chloride and Sodium Concentration



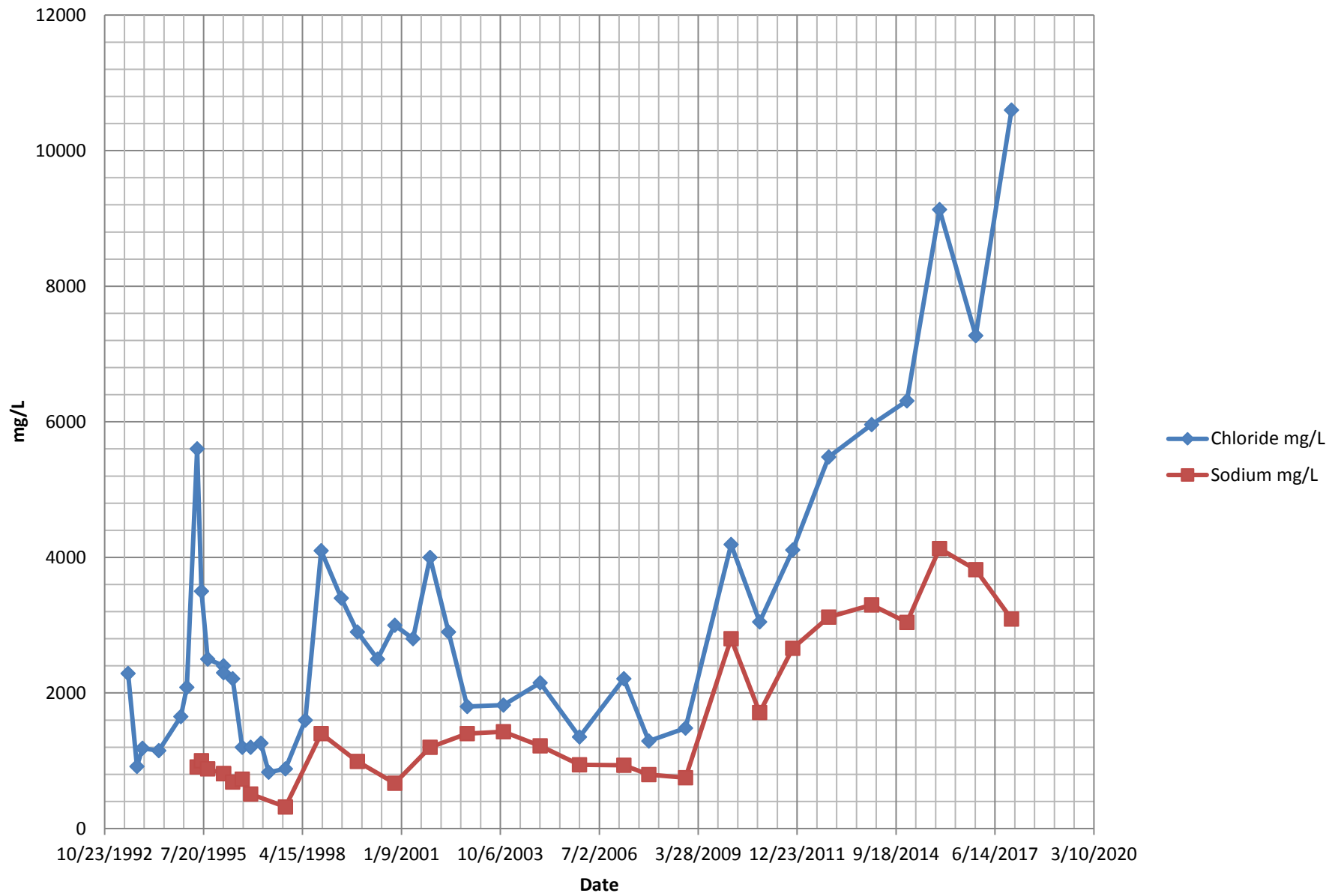
ACW-07 Benzene Concentration



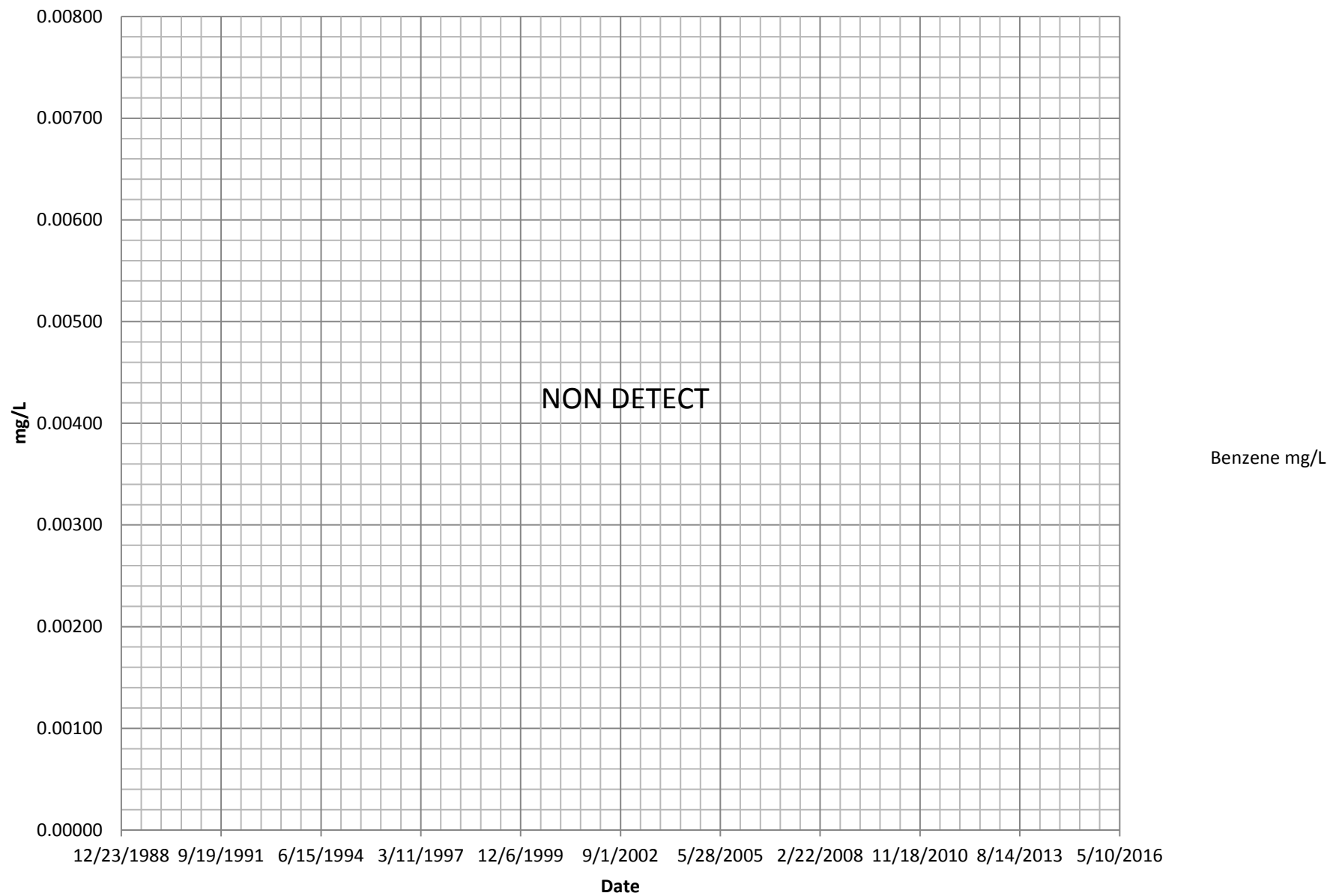
ACW-09 Total Dissolved Solids Concentration



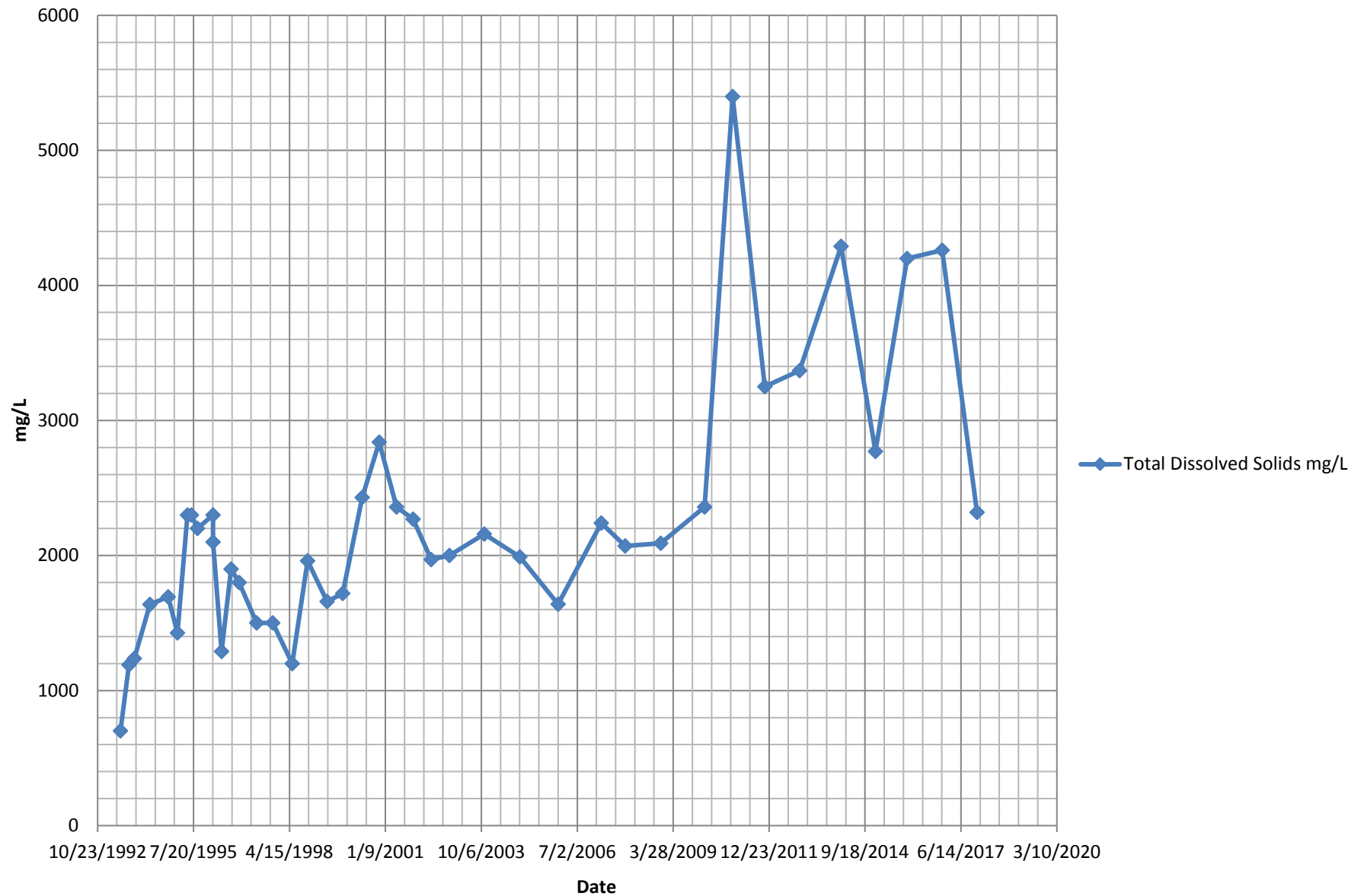
ACW-09 Chloride and Sodium Concentrations



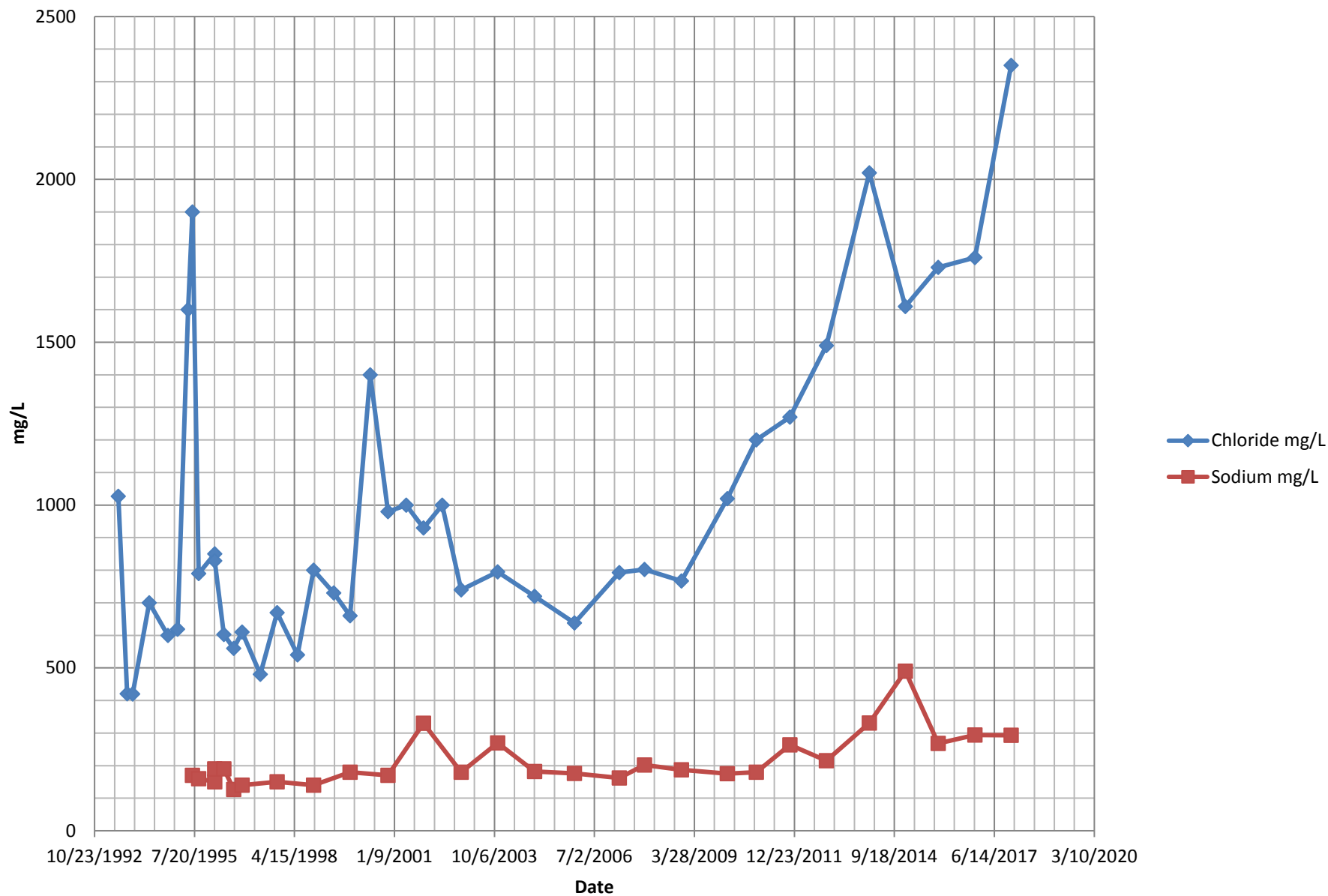
ACW-09 Benzene Concentration



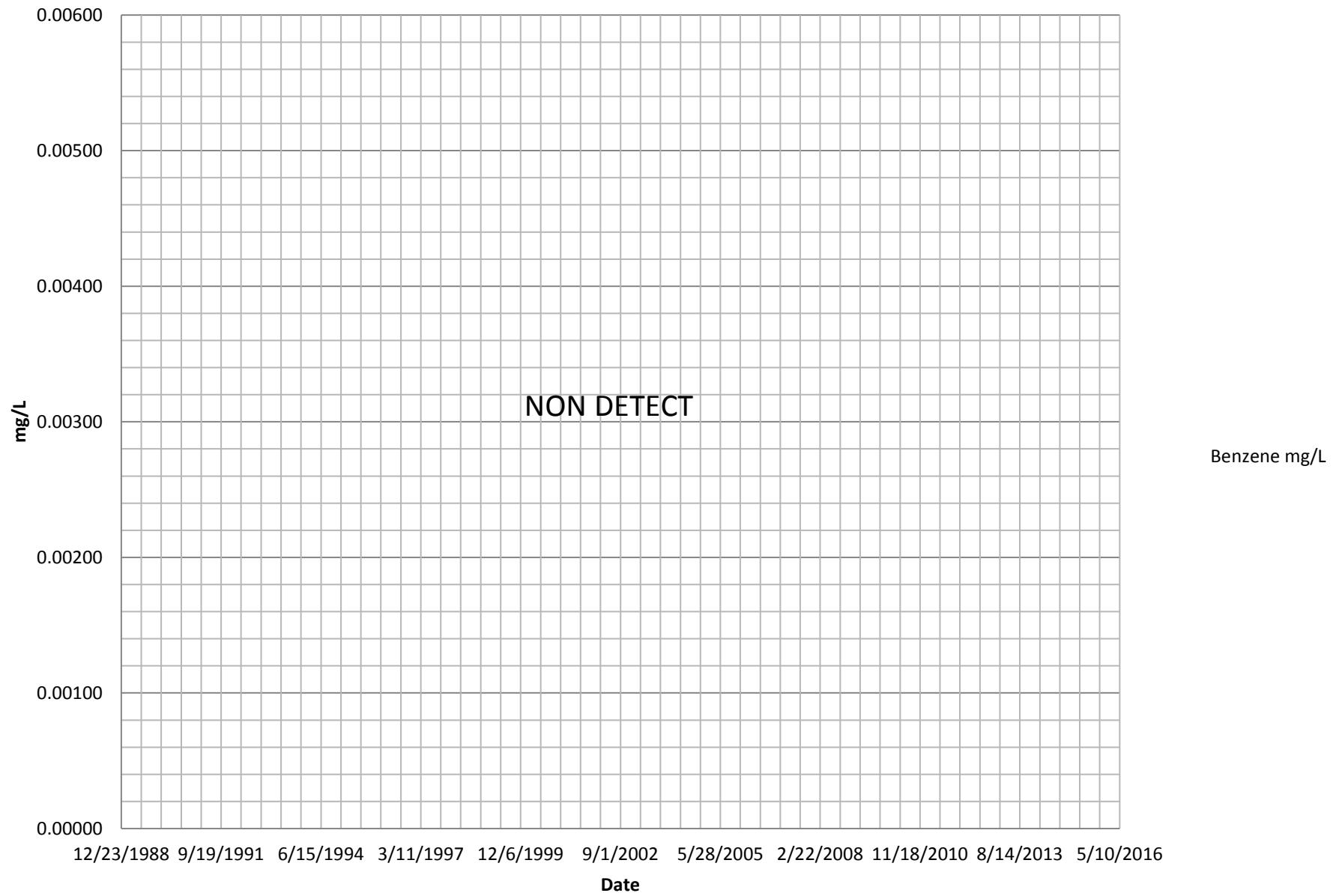
ACW-10 Total Dissolved Solids Concentration



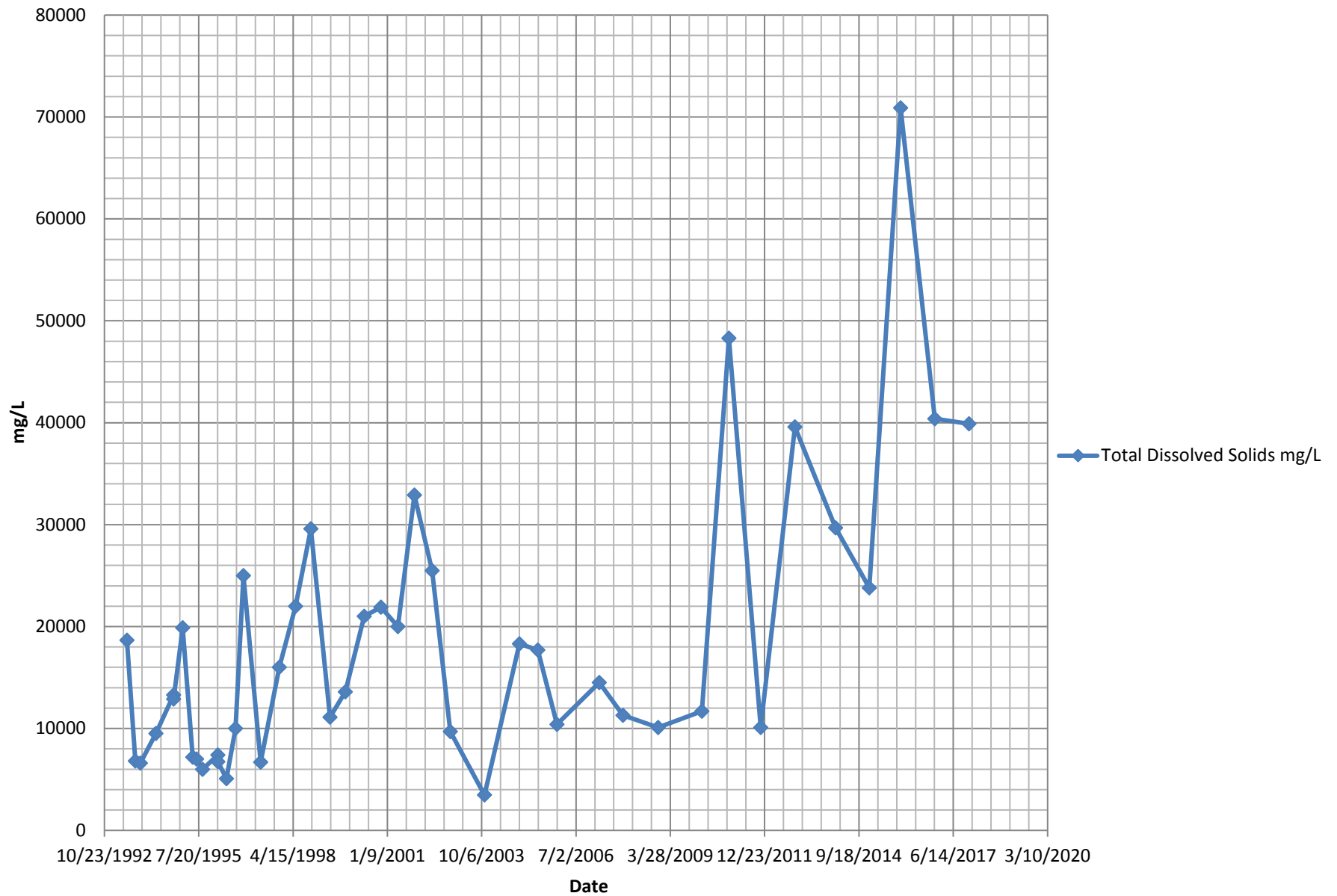
ACW-10 Chloride and Sodium Concentrations



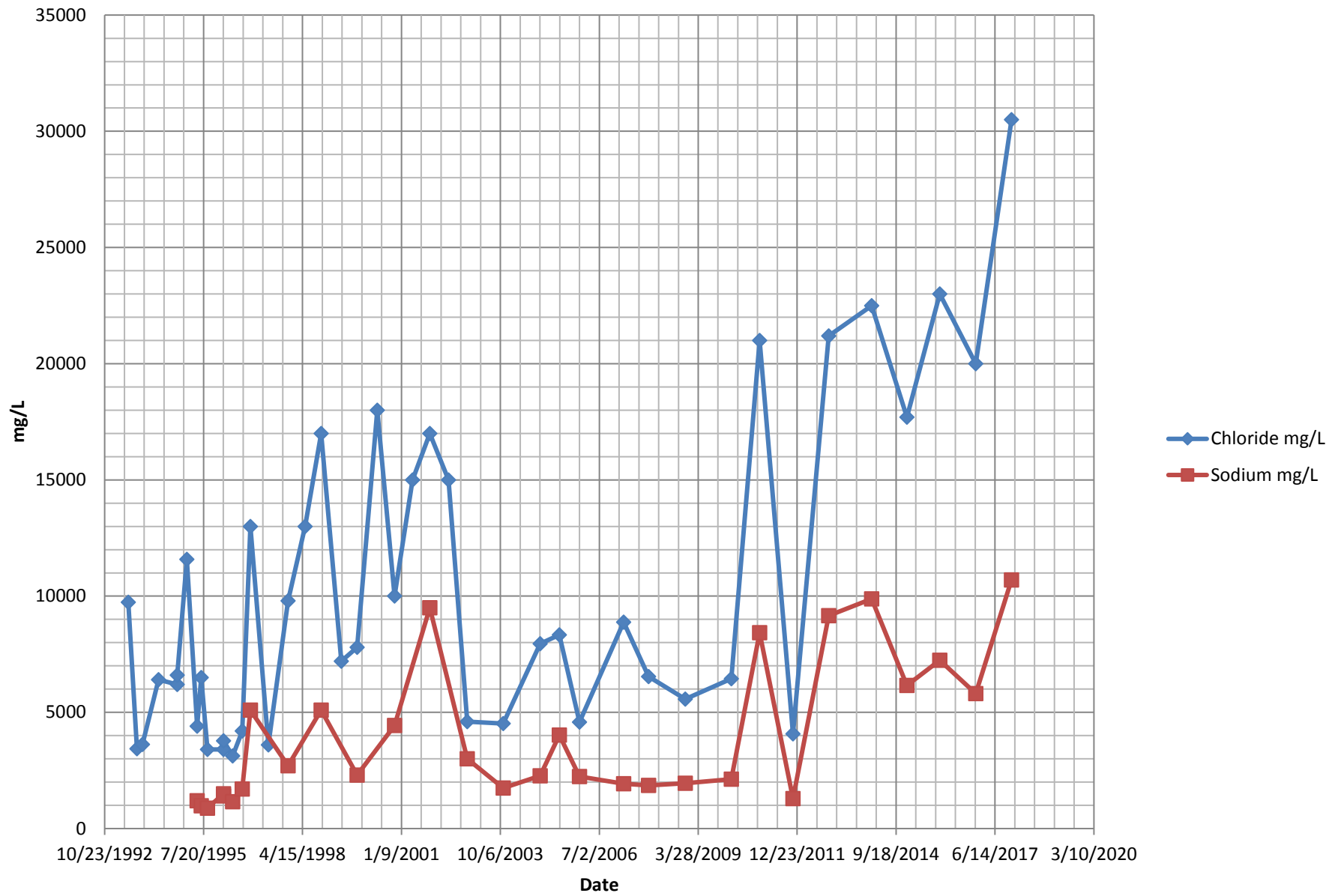
ACW-10 Benzene Concentration



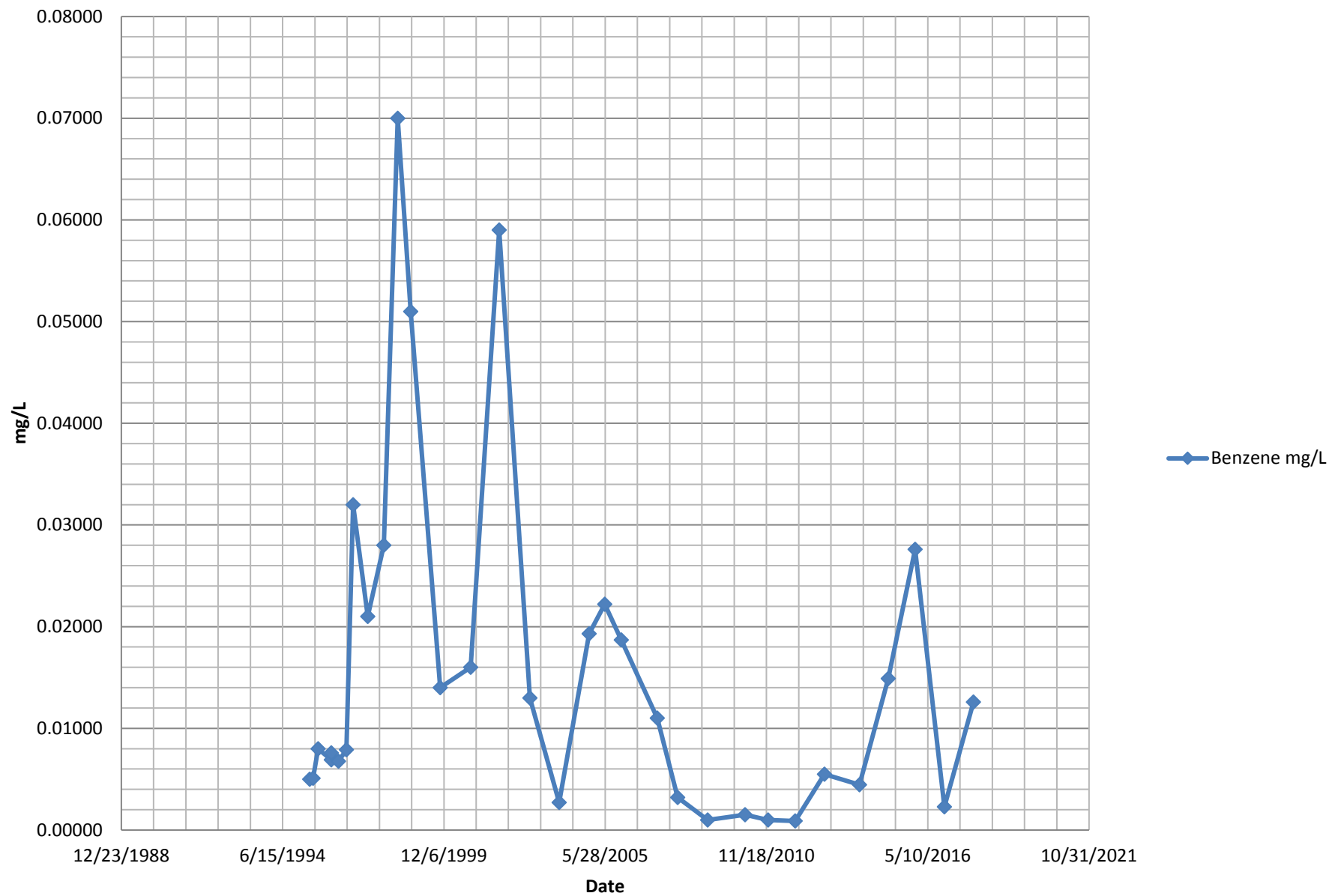
ACW-11 Total Dissolved Solids Concentration



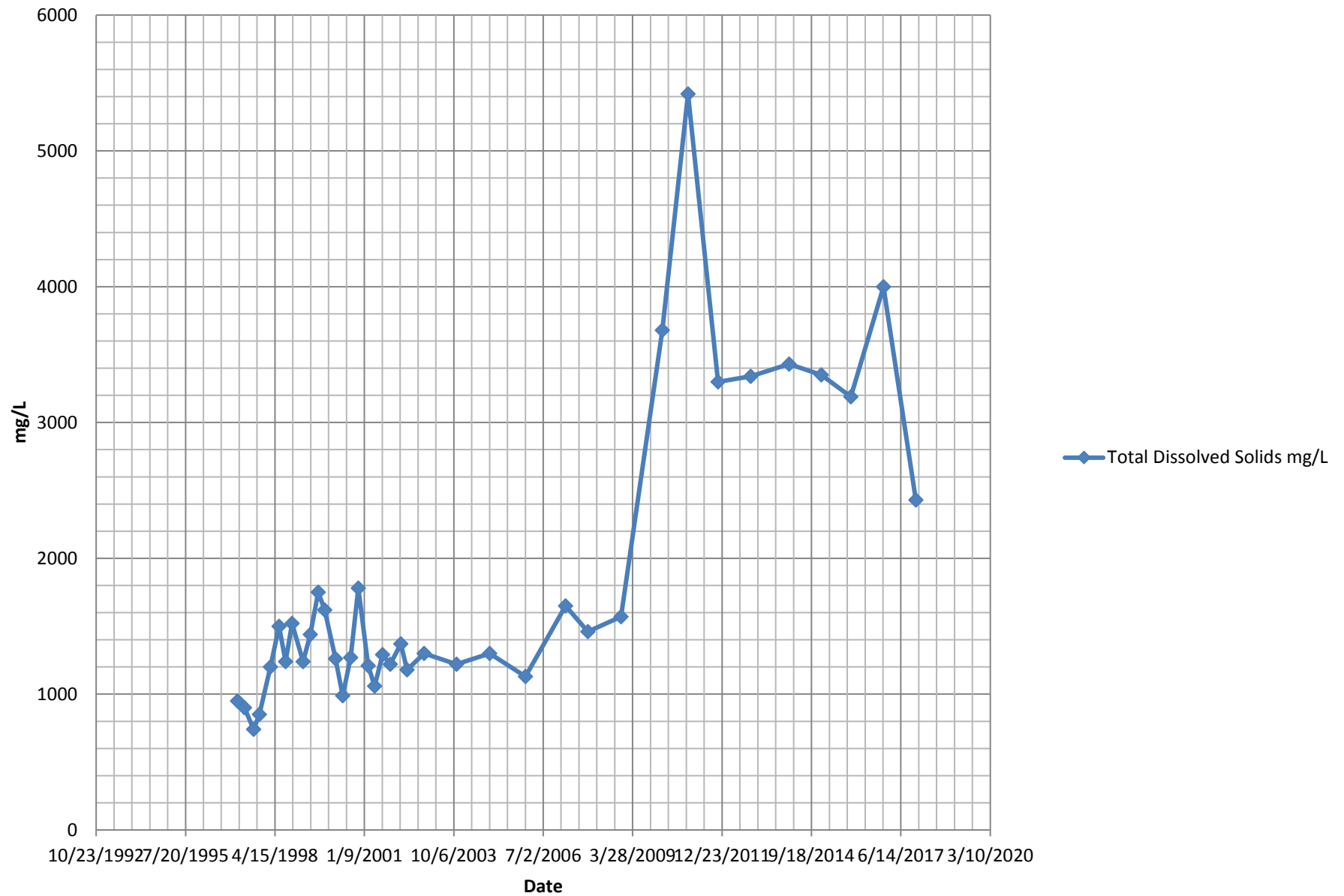
ACW-11 Chloride and Sodium Concentrations



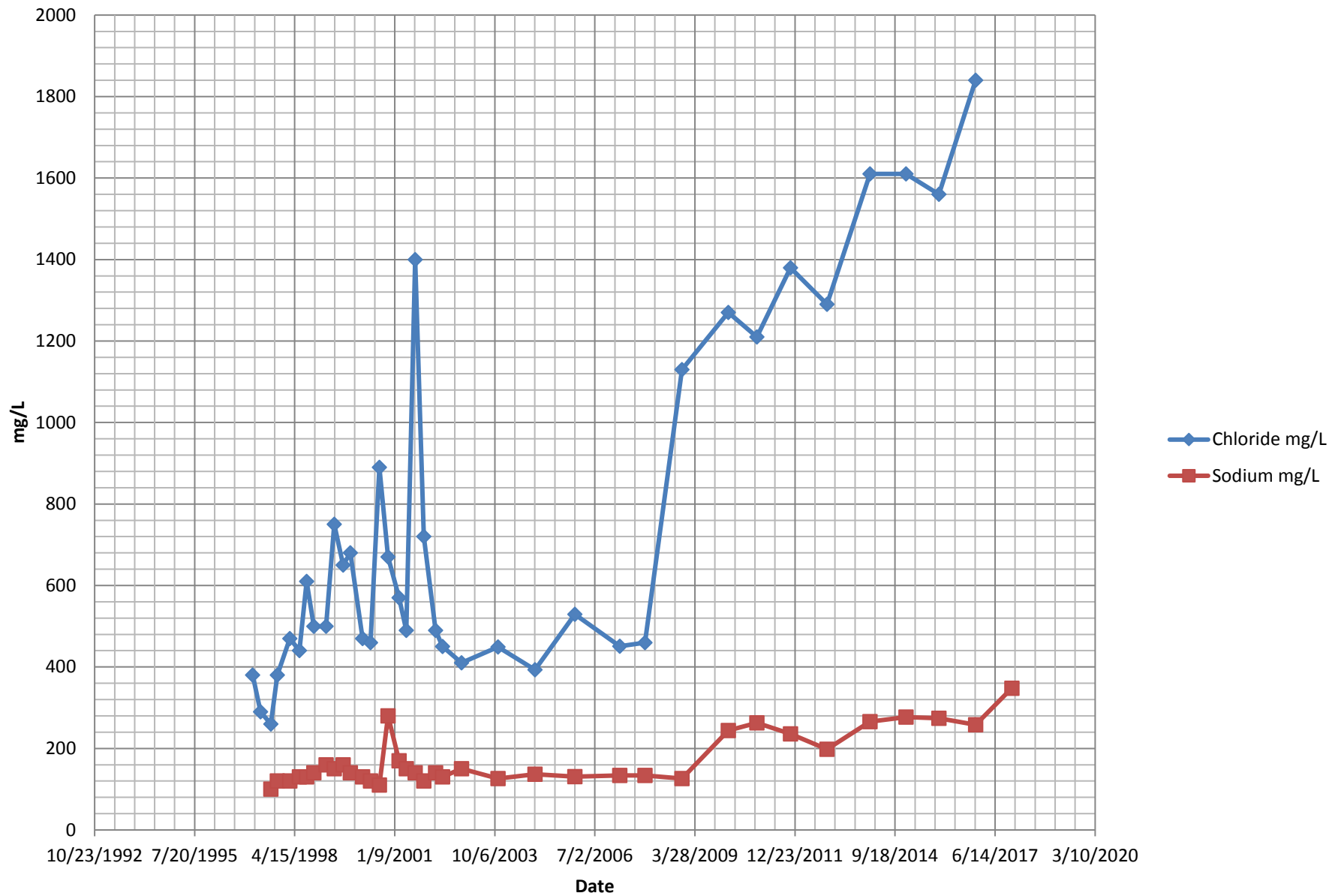
ACW-11 Benzene Concentration



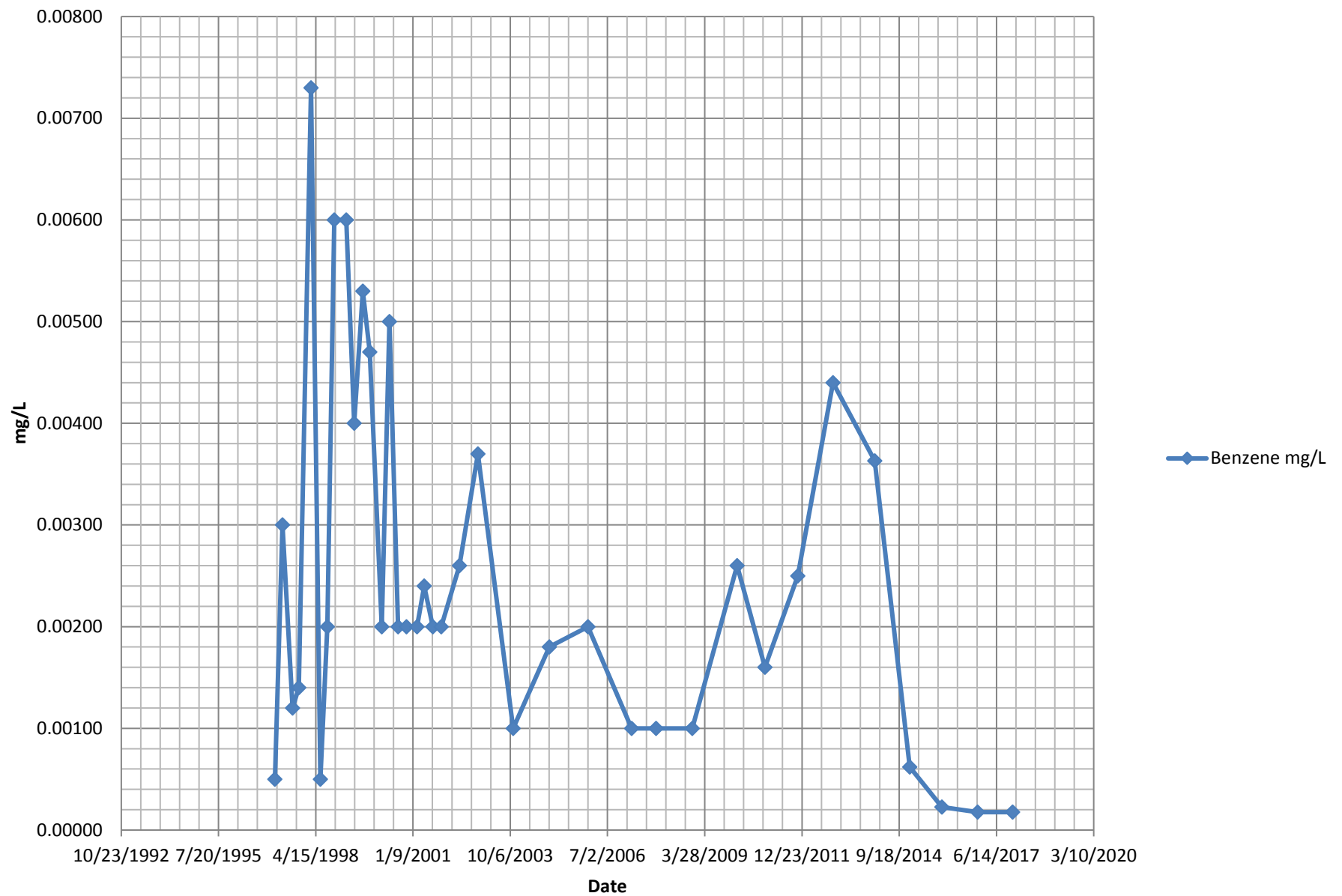
ACW-12 Total Dissolved Solids Concentration



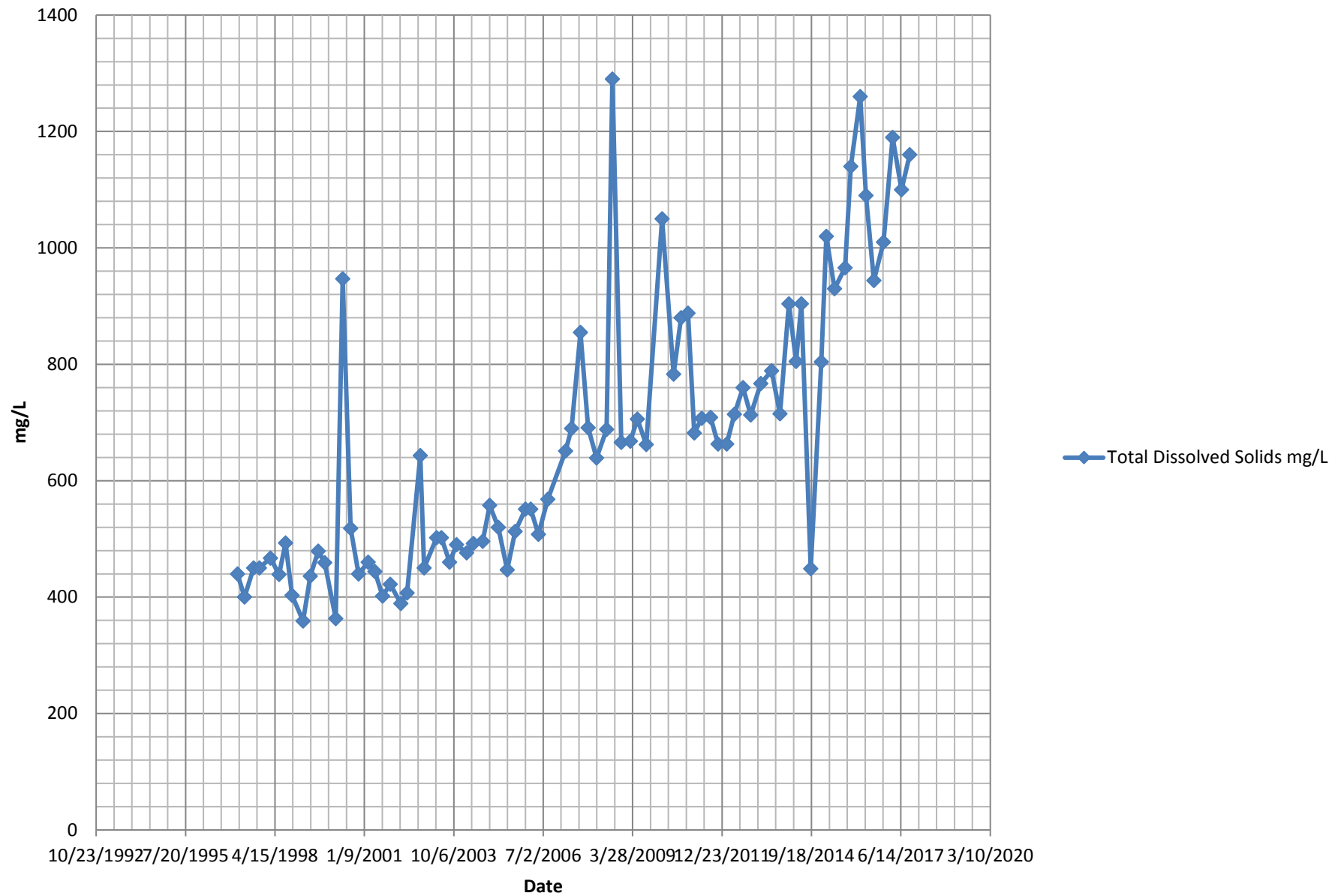
ACW-12 Chloride and Sodium Concentrations



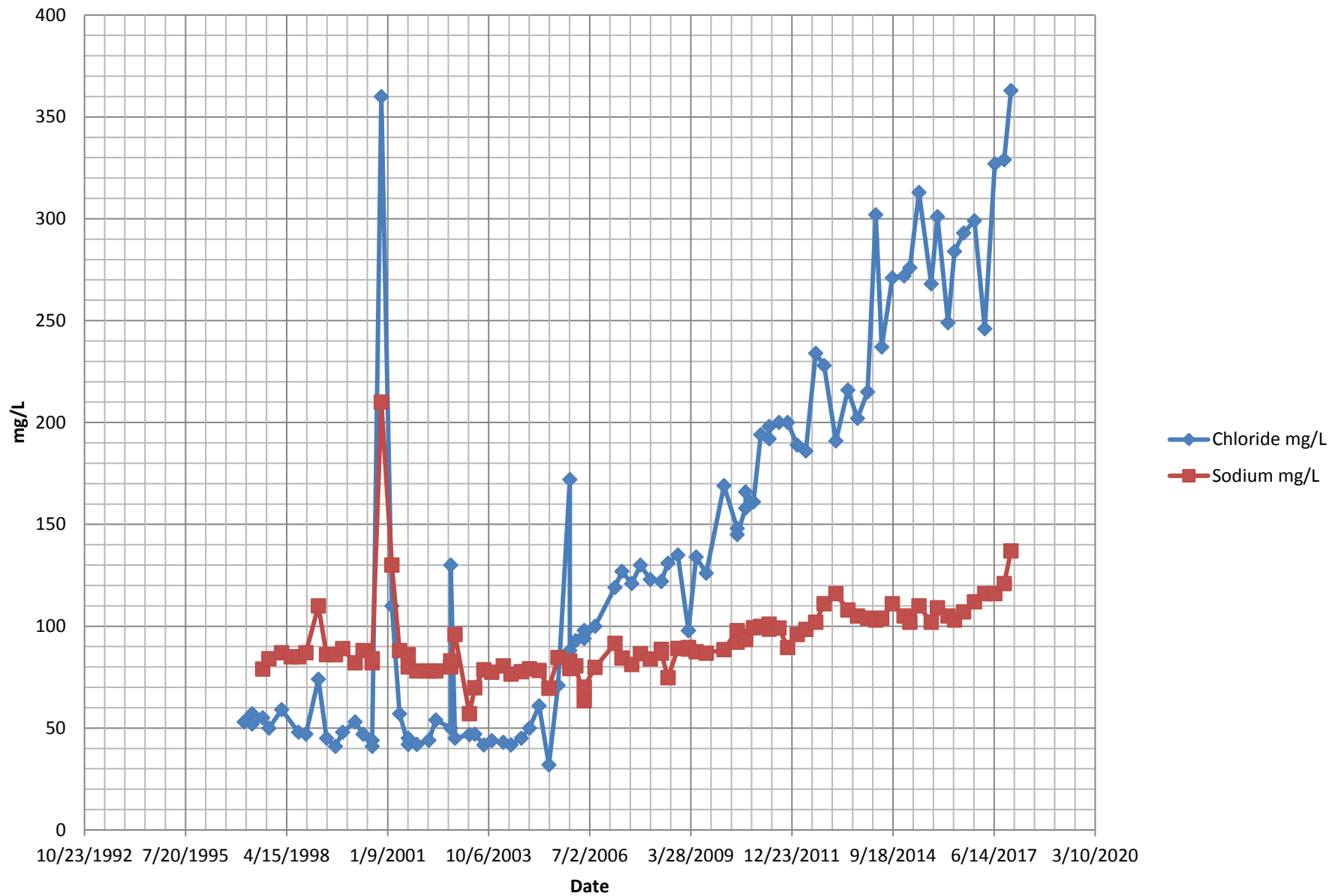
ACW-12 Benzene Concentration



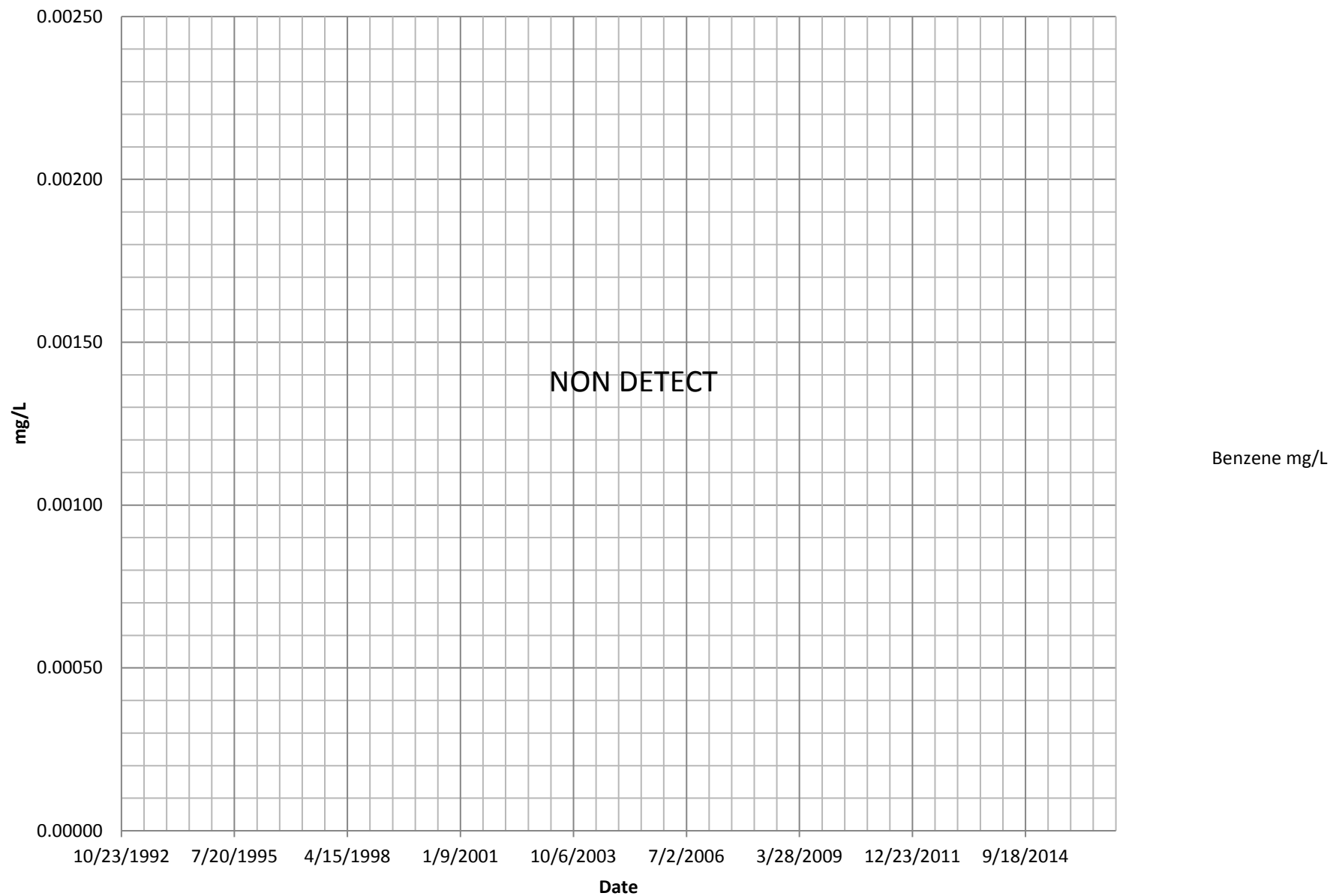
ACW-13 Total Dissolved Solids Concentration



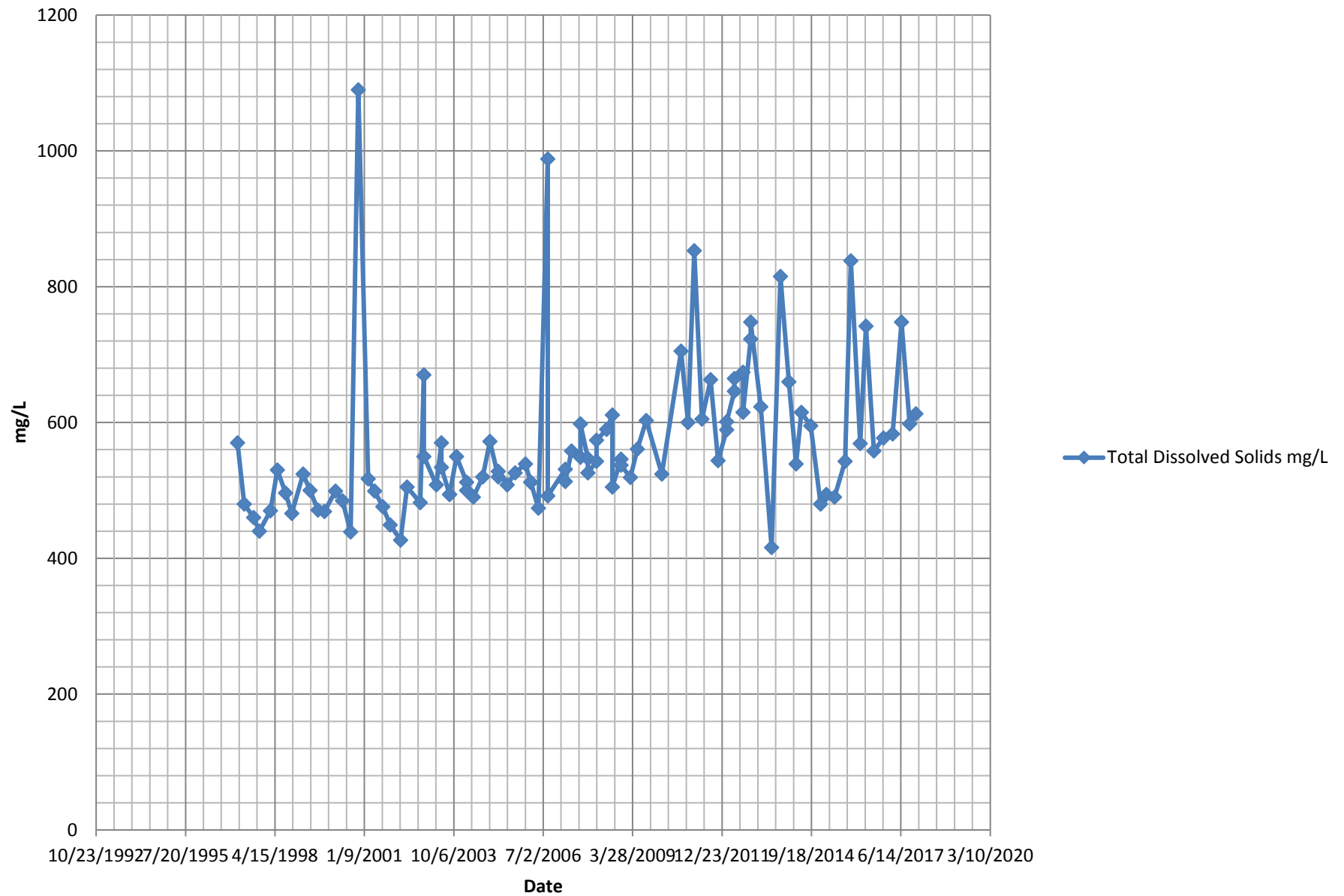
ACW-13 Chloride and Sodium Concentrations



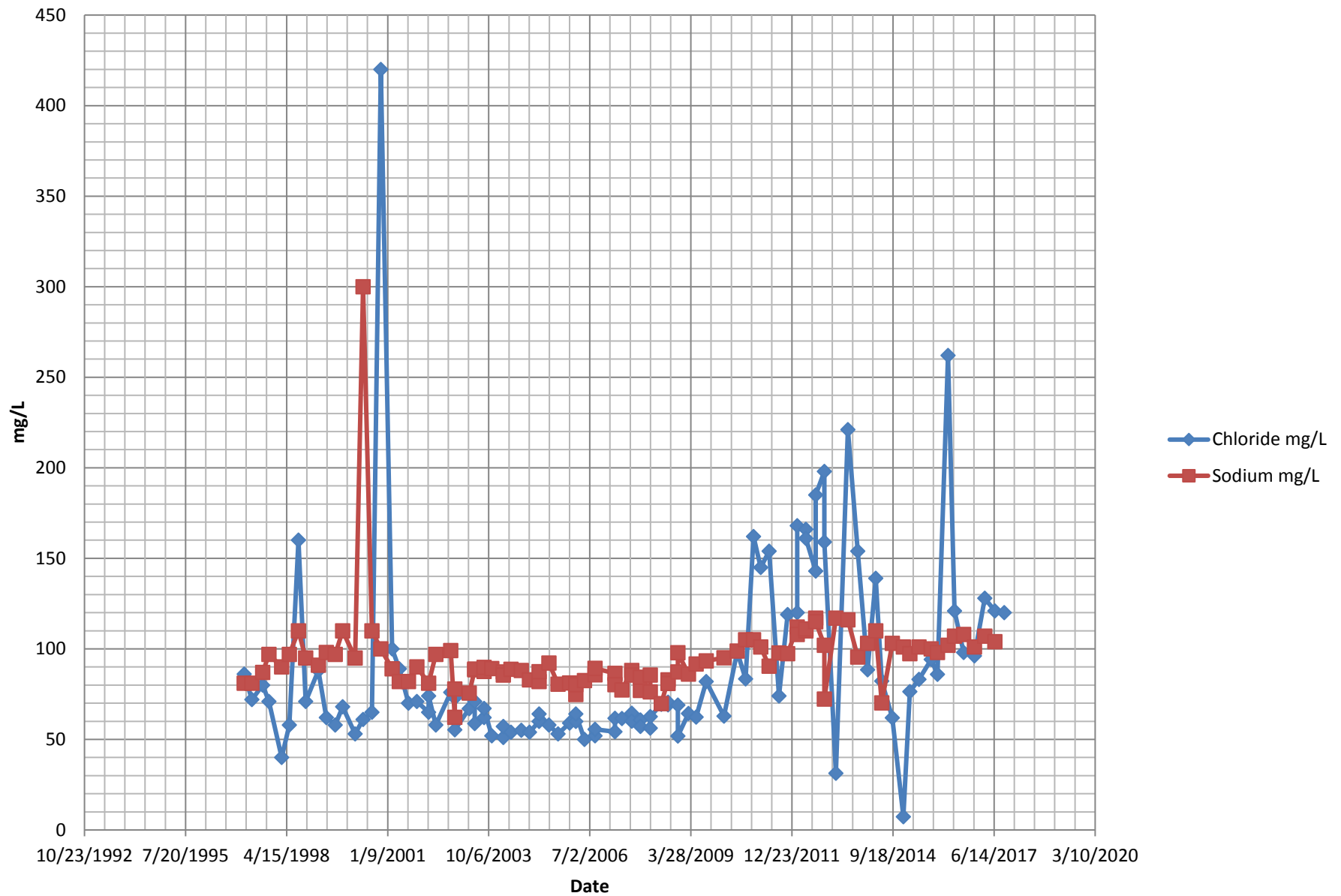
ACW-13 Benzene Concentrations



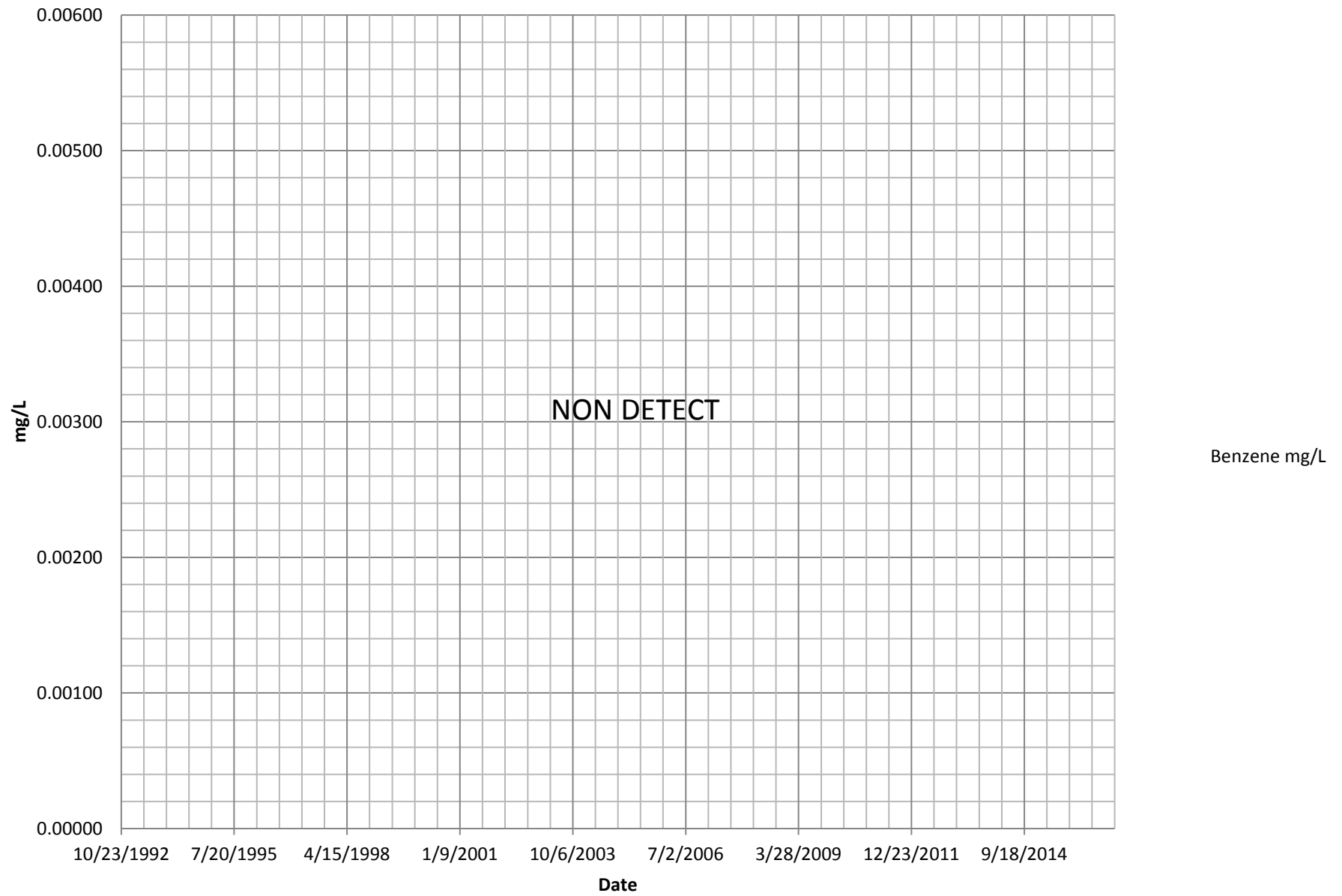
ACW-14 Total Dissolved Solids Concentration



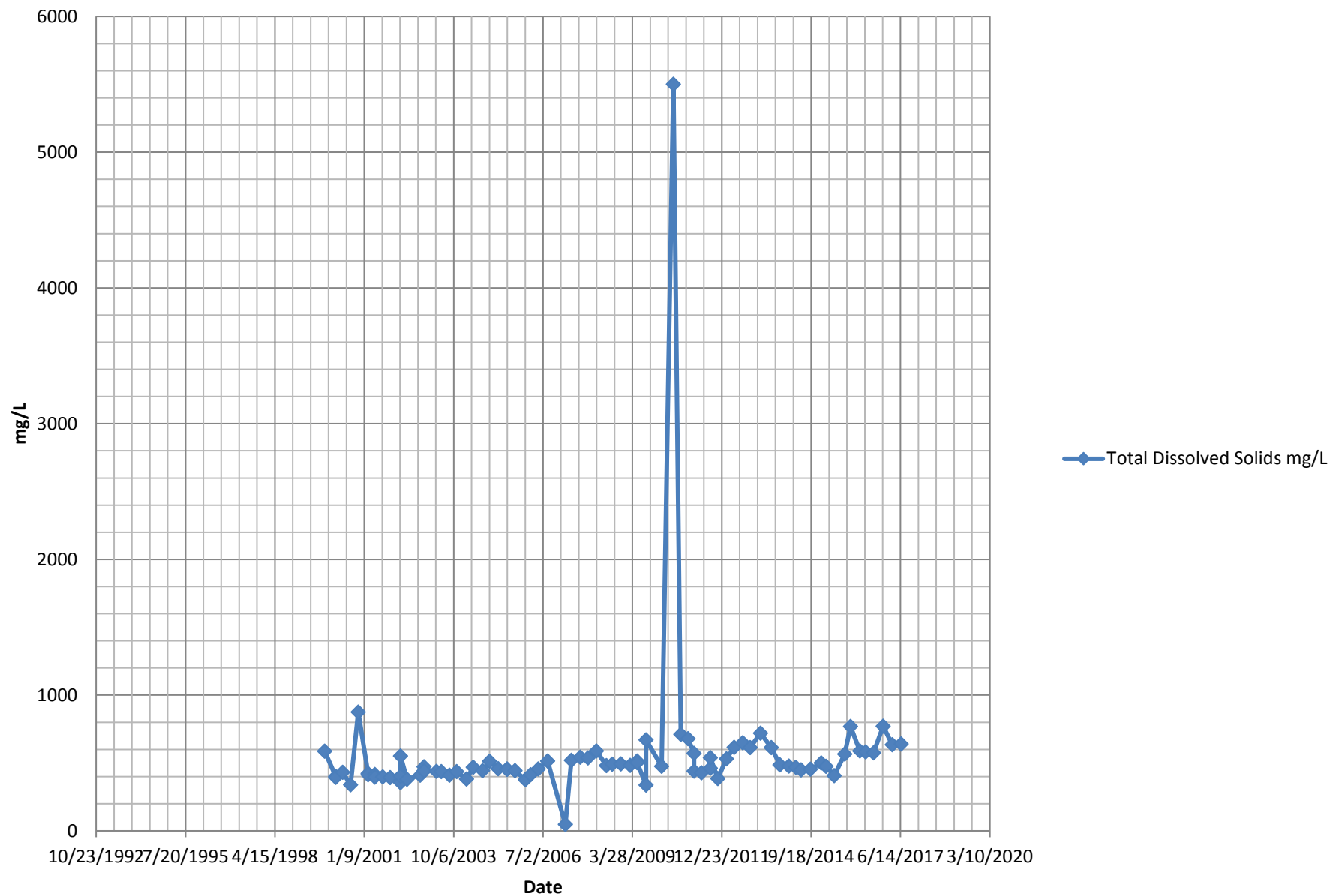
ACW-14 Chloride and Sodium Concentrations



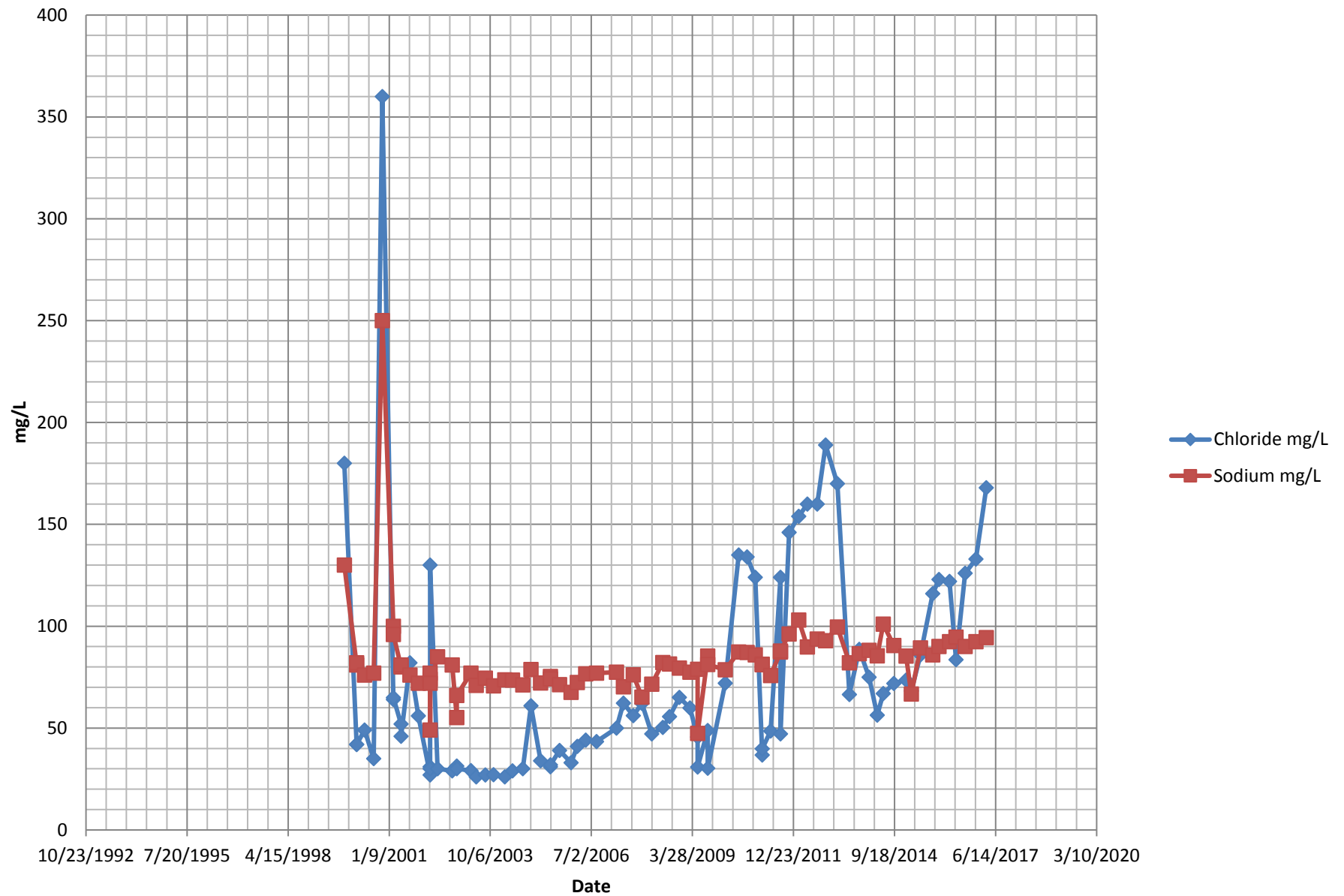
ACW-14 Benzene Concentration



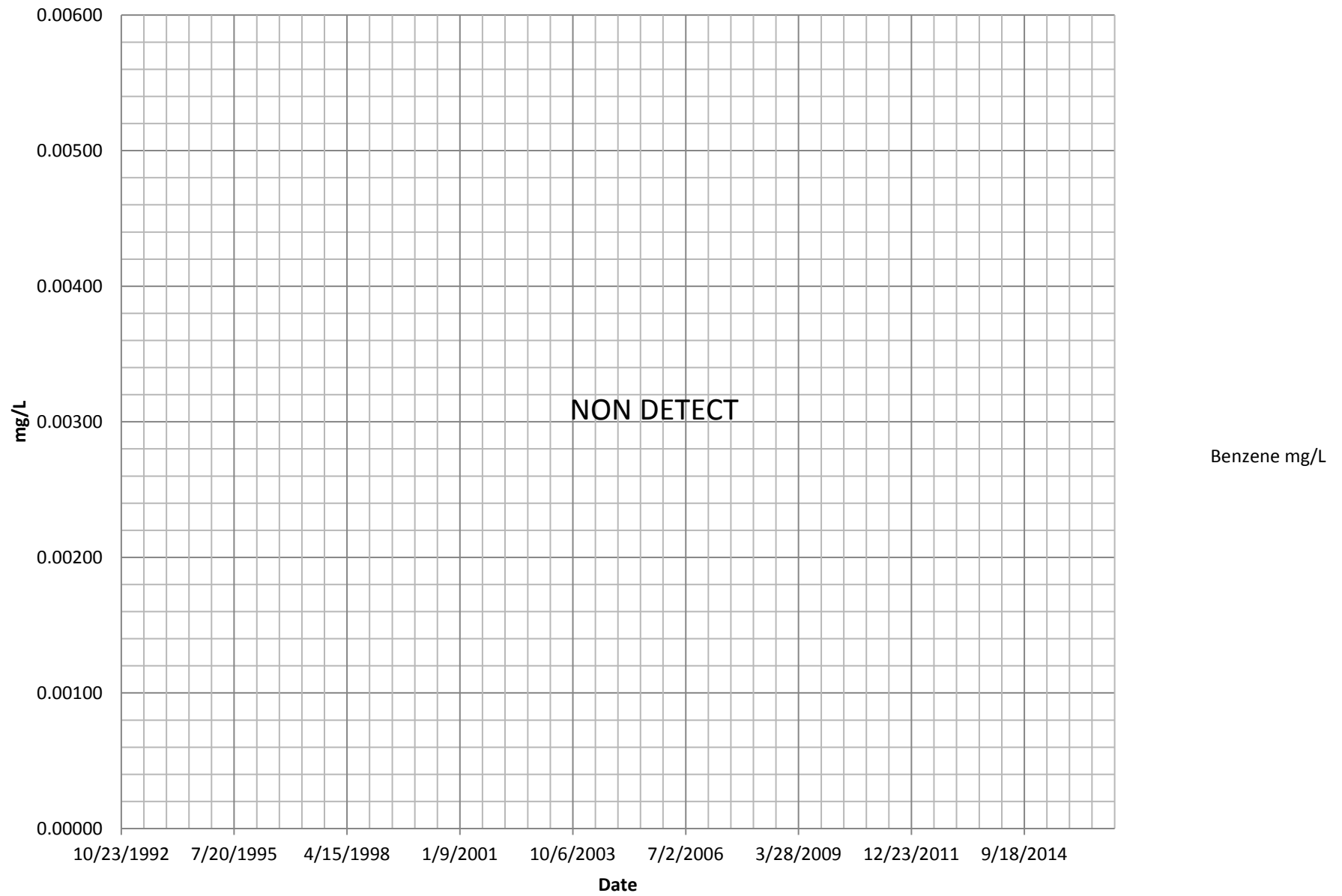
ACW-15 Total Dissolved Solids Concentration



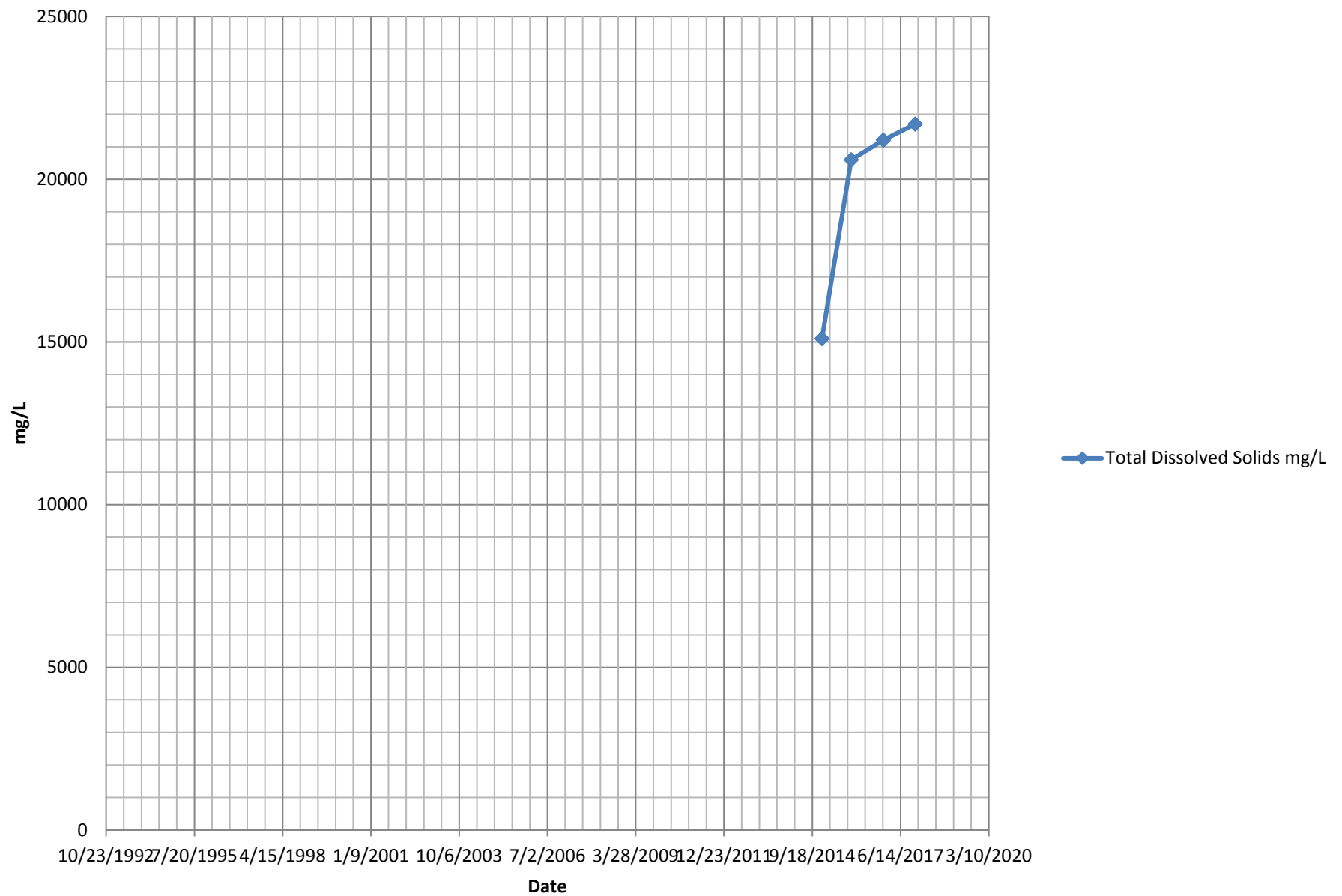
ACW-15 Chloride and Sodium Concentrations



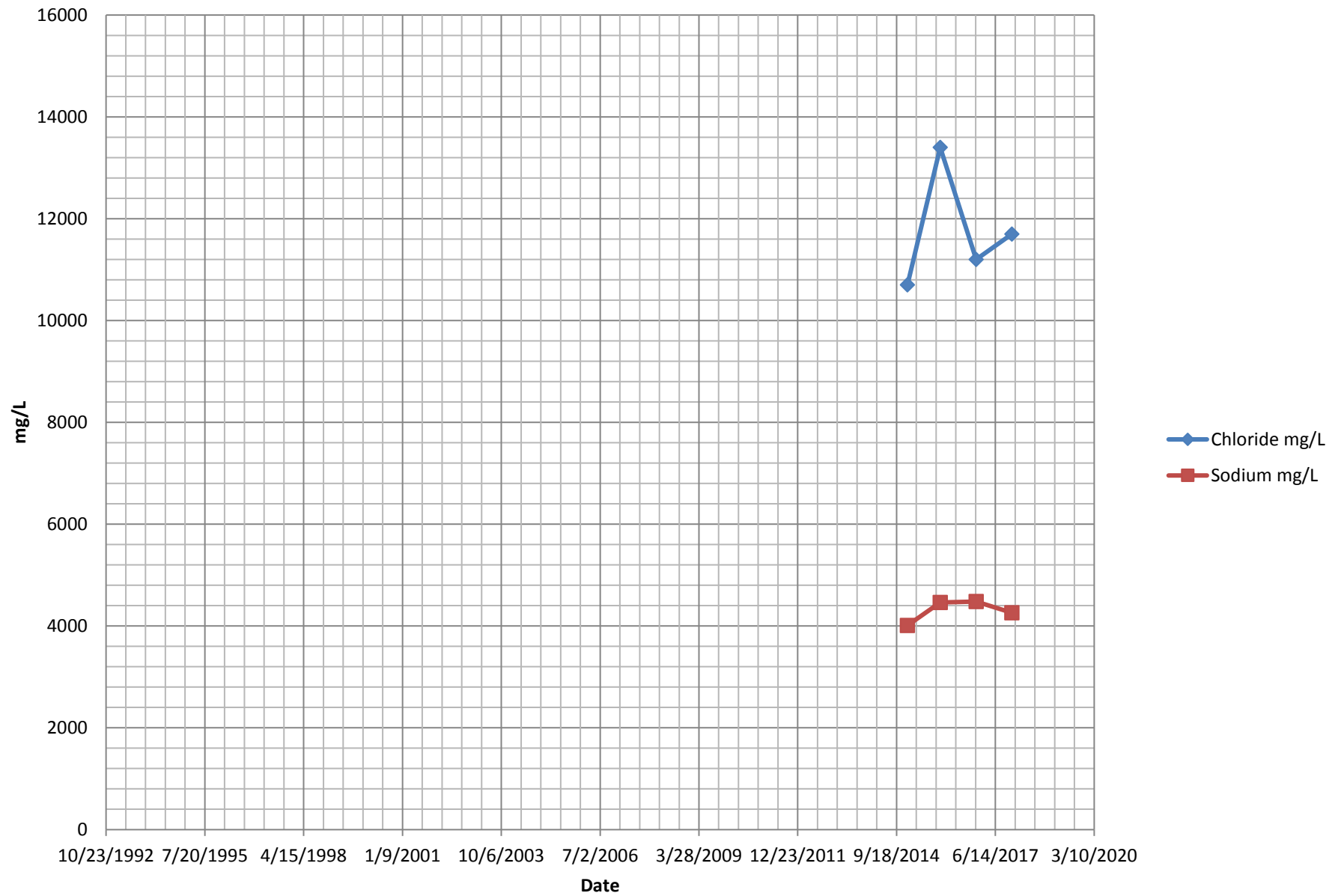
ACW-15 Benzene Concentration



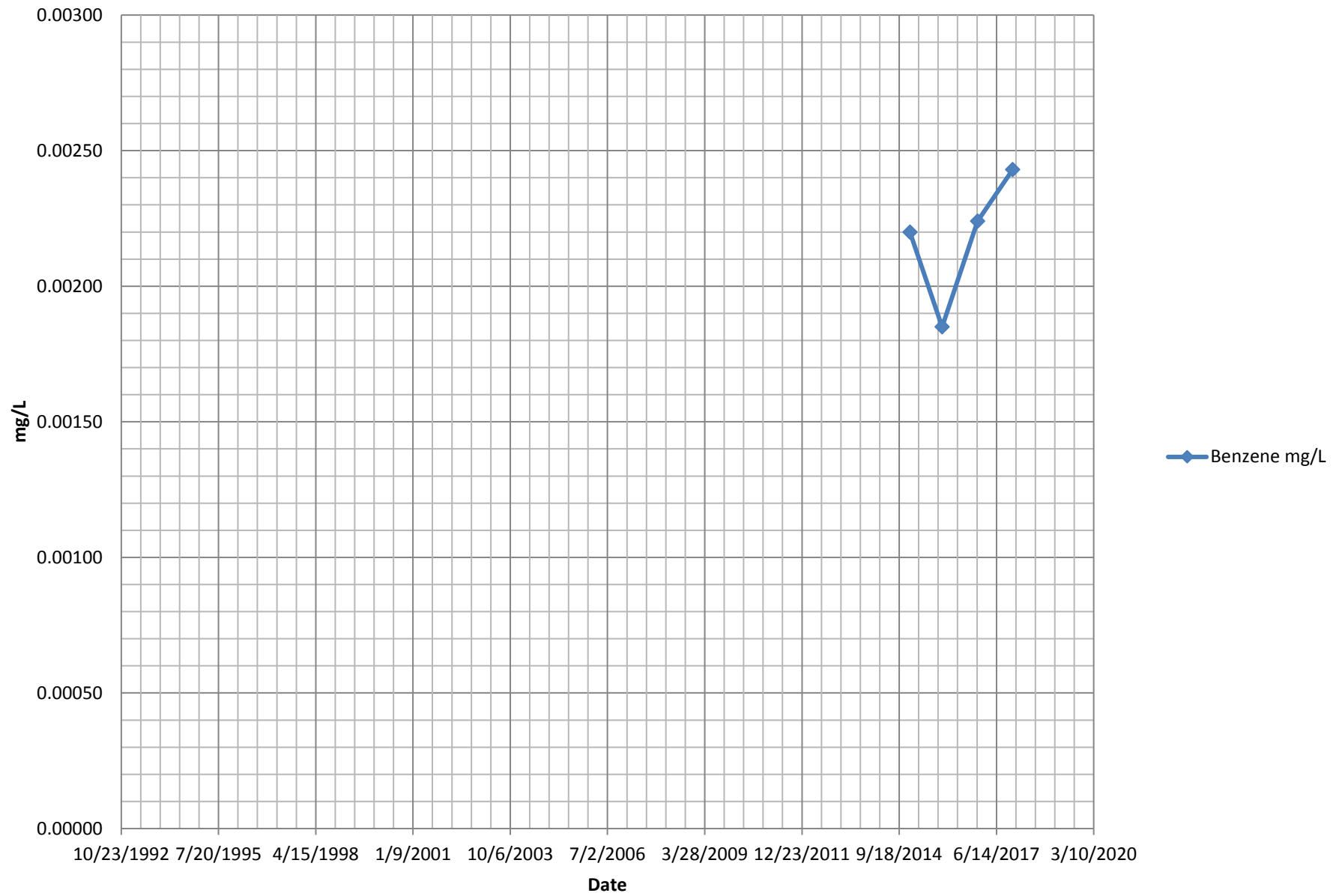
ACW-16 Total Dissolved Solids Concentration



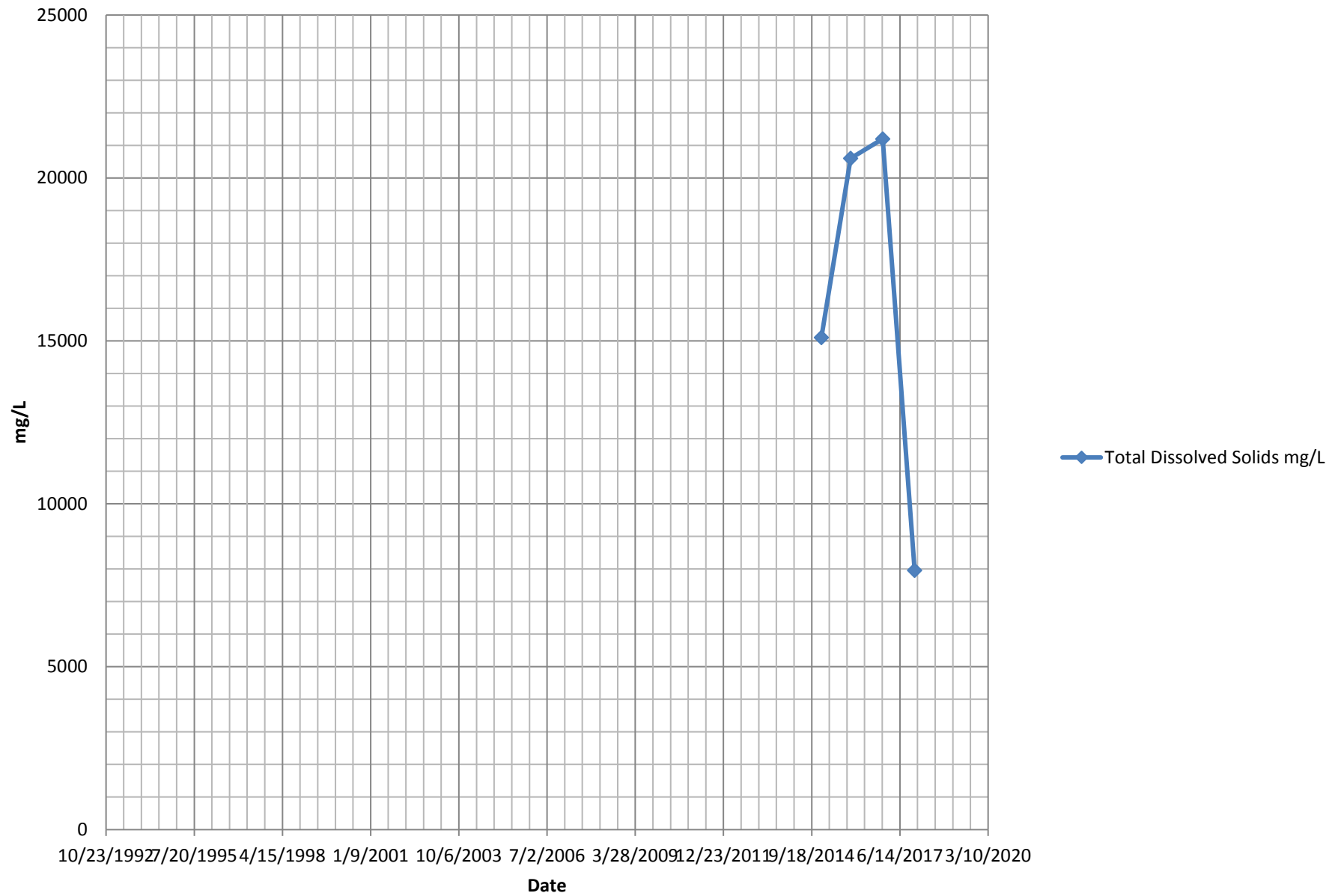
ACW-16 Chloride and Sodium Concentrations



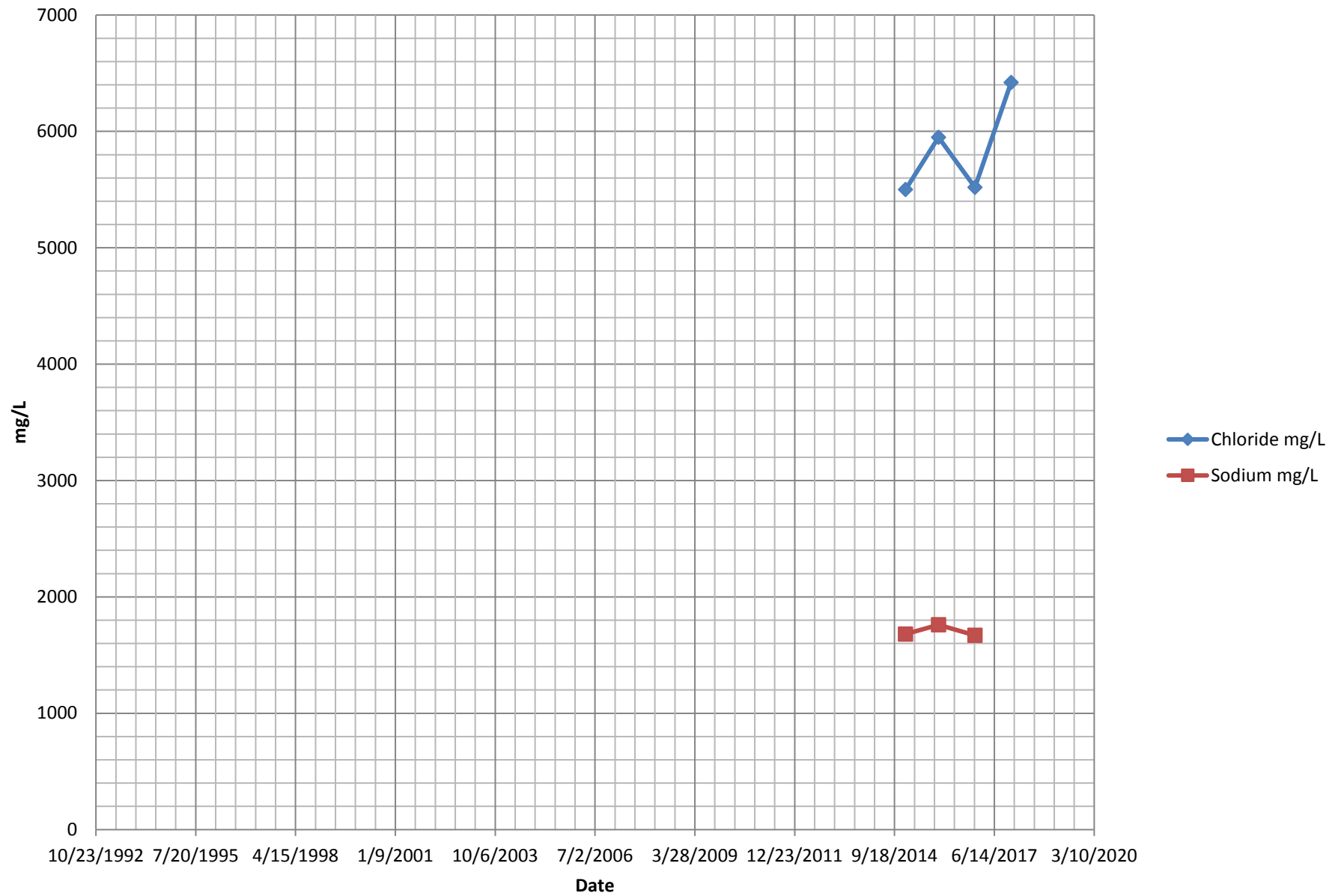
ACW-16 Benzene Concentration



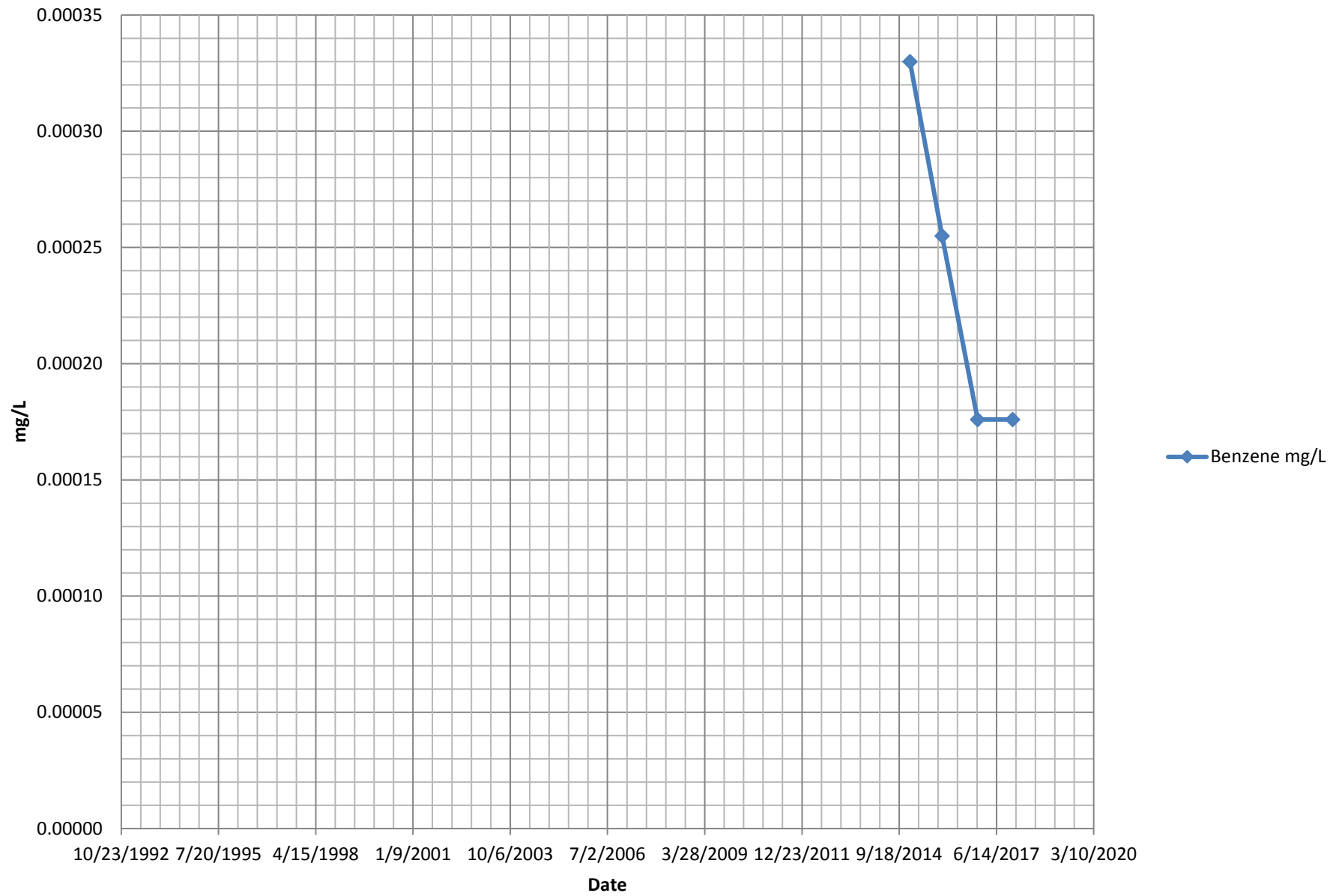
ACW-17 Total Dissolved Solids Concentration



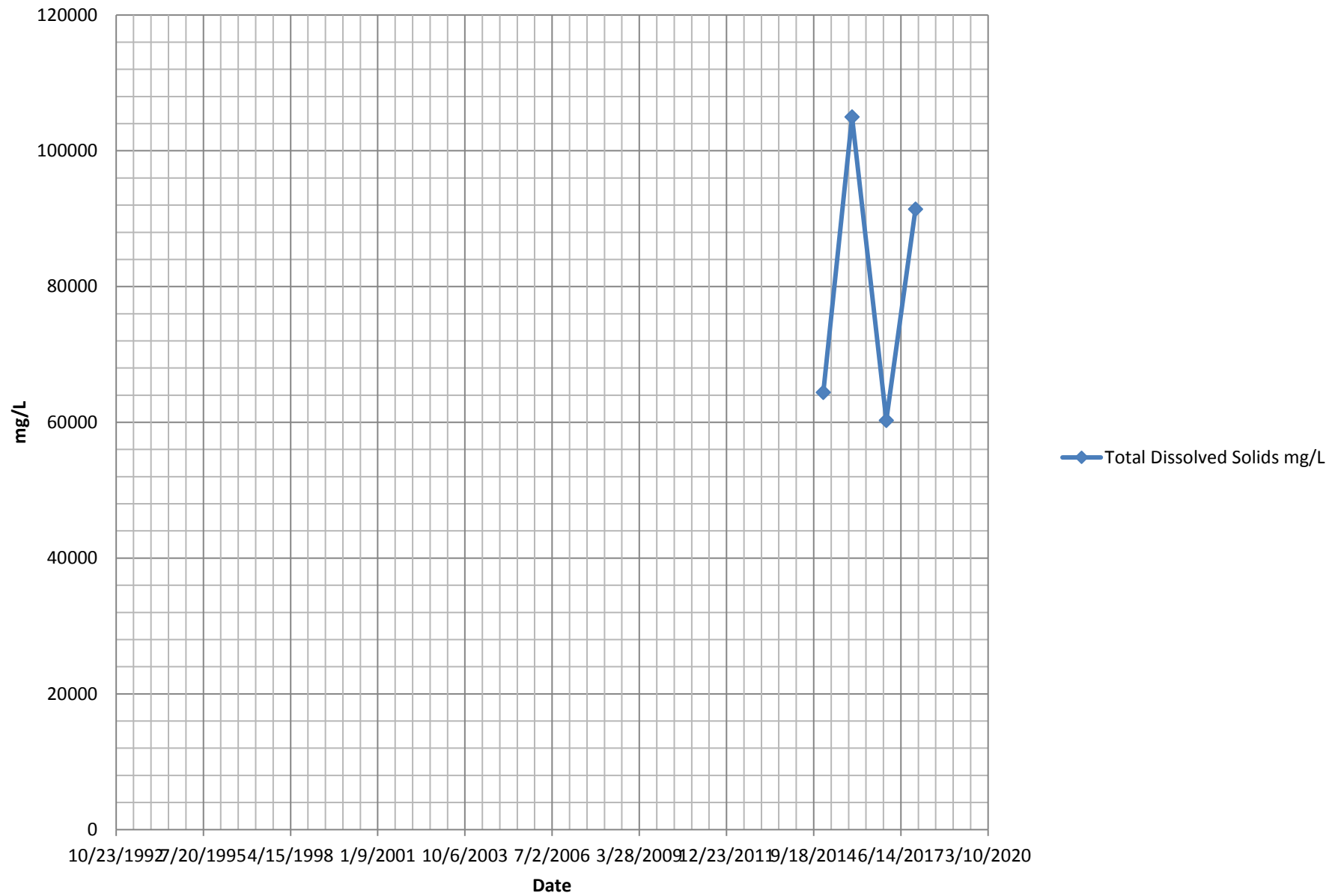
ACW-17 Chloride and Sodium Concentrations



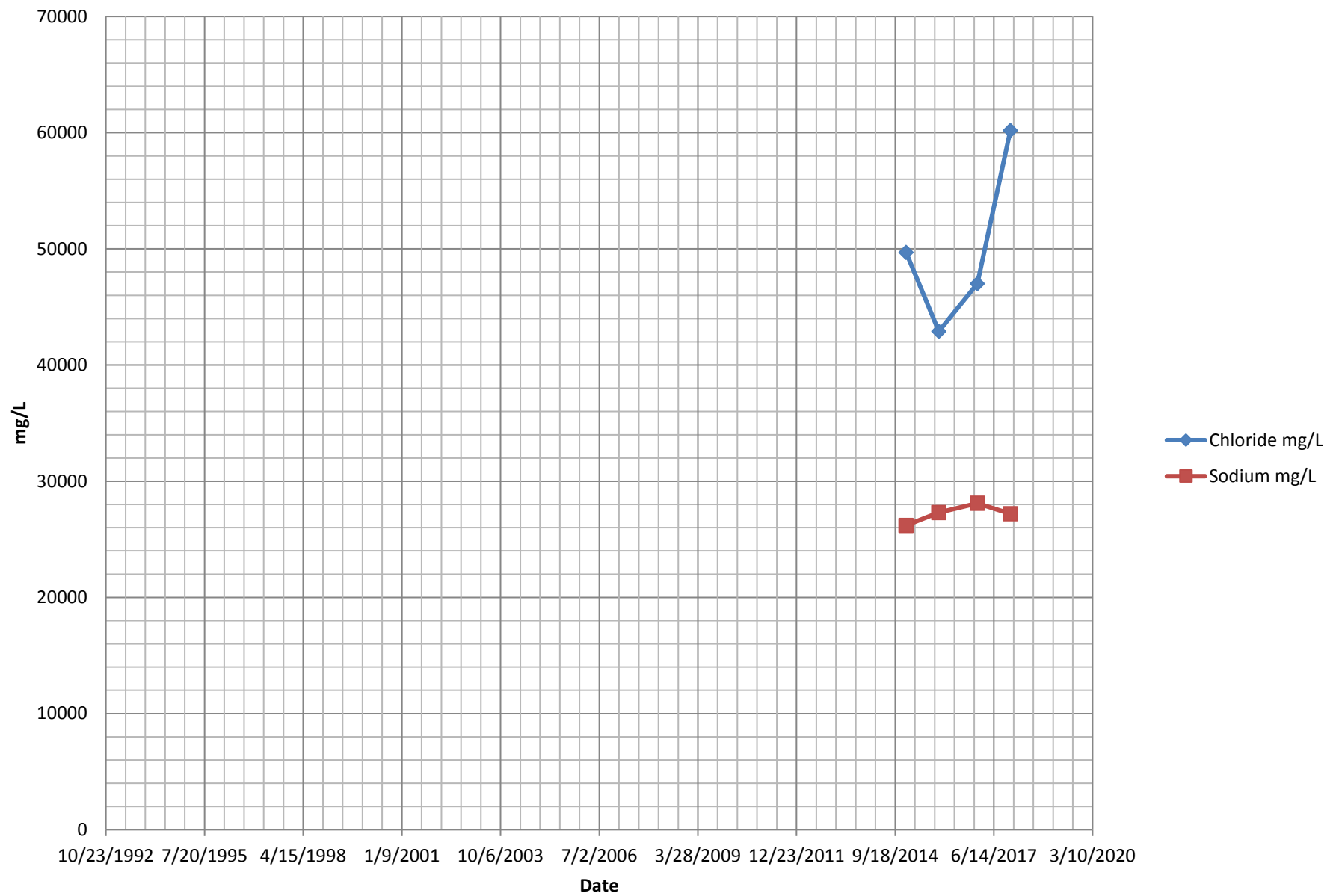
ACW-17 Benzene Concentration



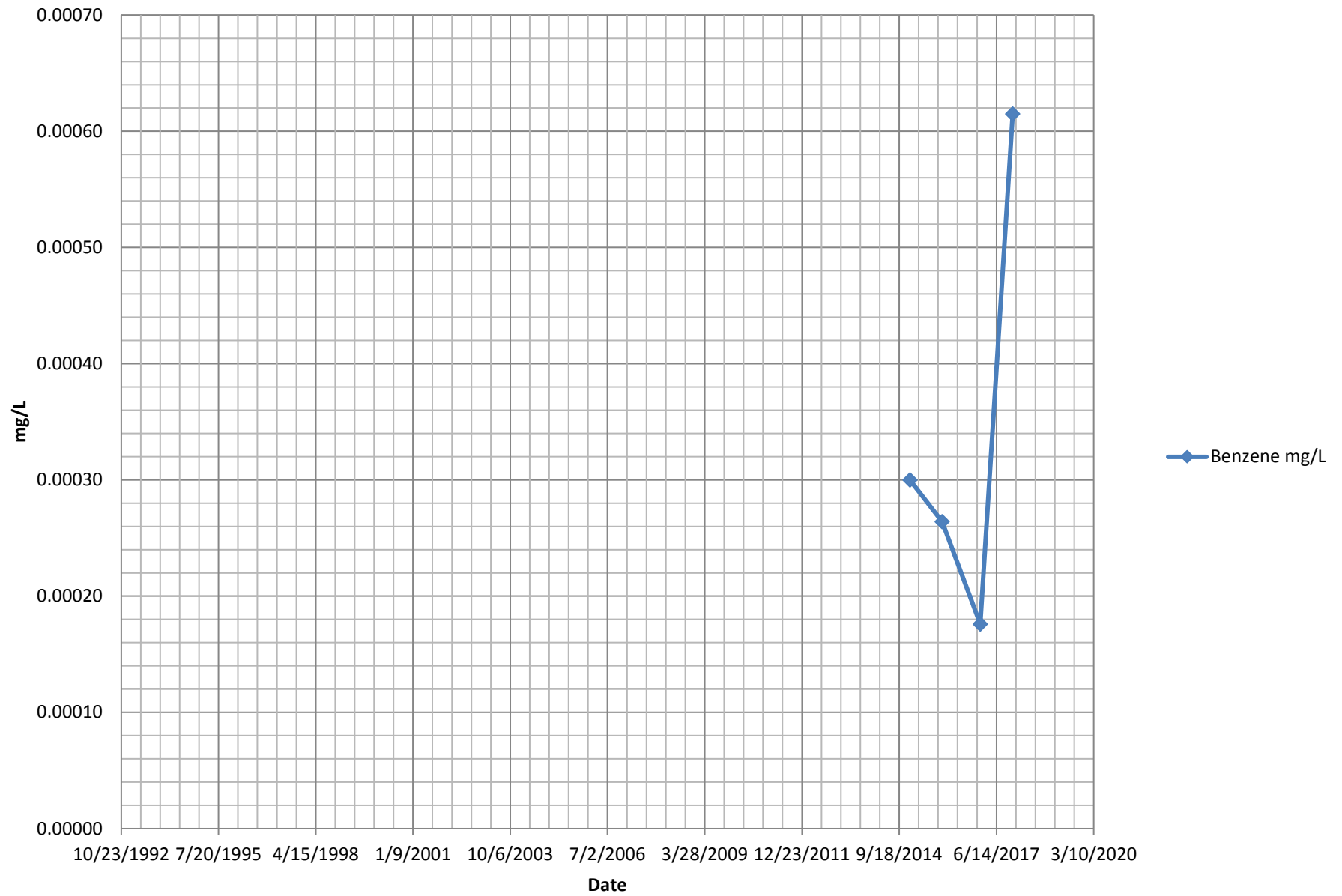
ACW-18 Total Dissolved Solids Concentration



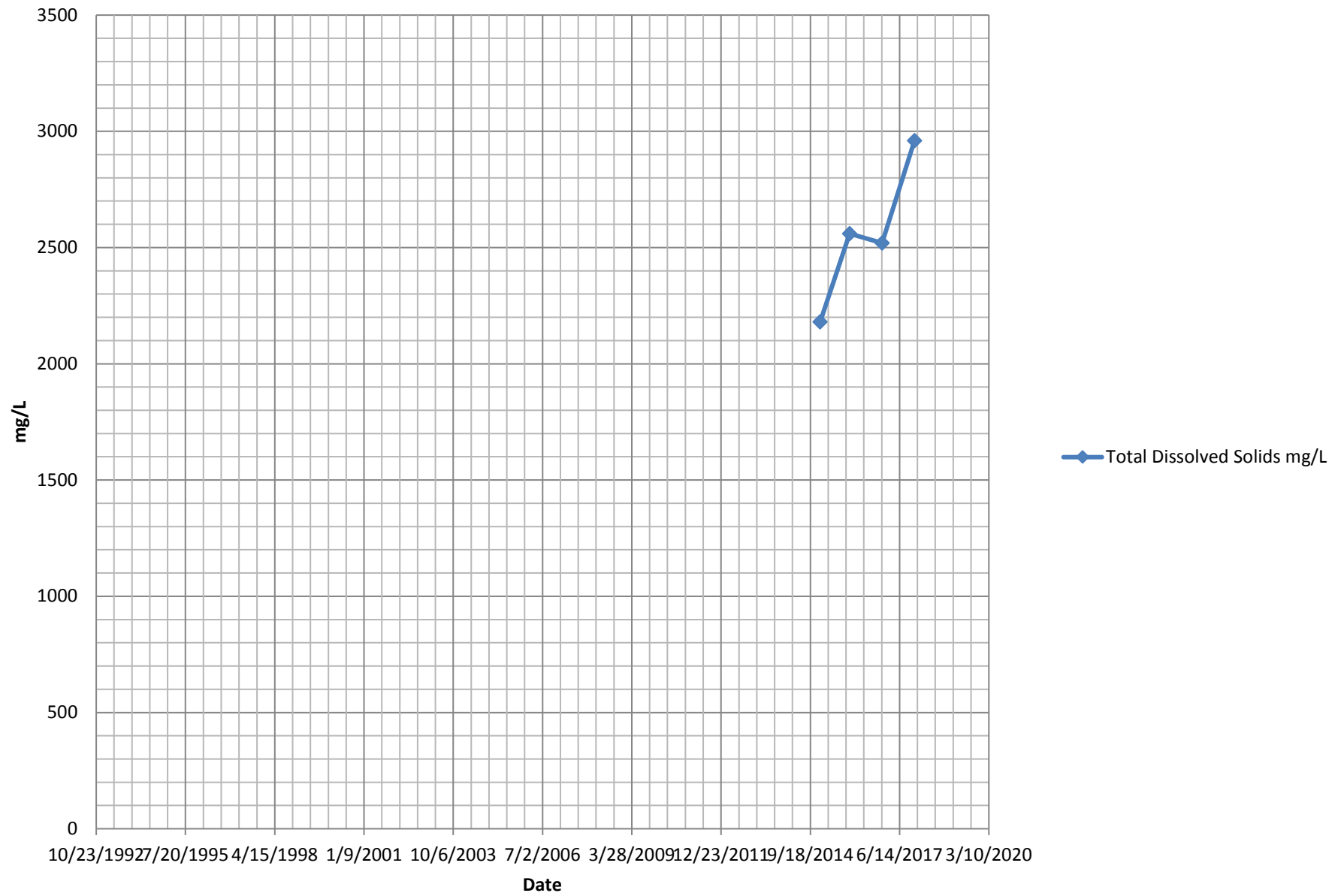
ACW-18 Chloride and Sodium Concentrations



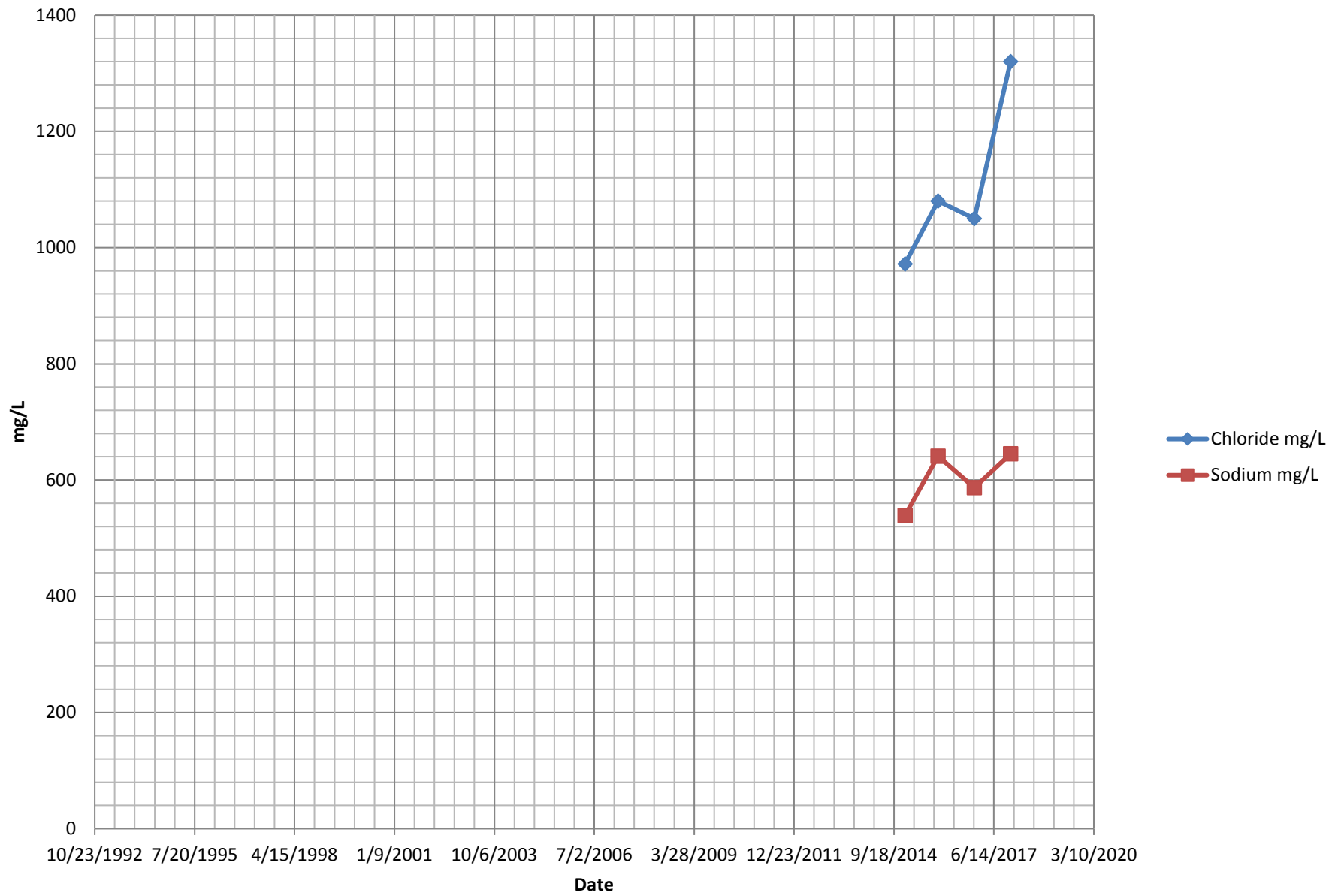
ACW-18 Benzene Concentration



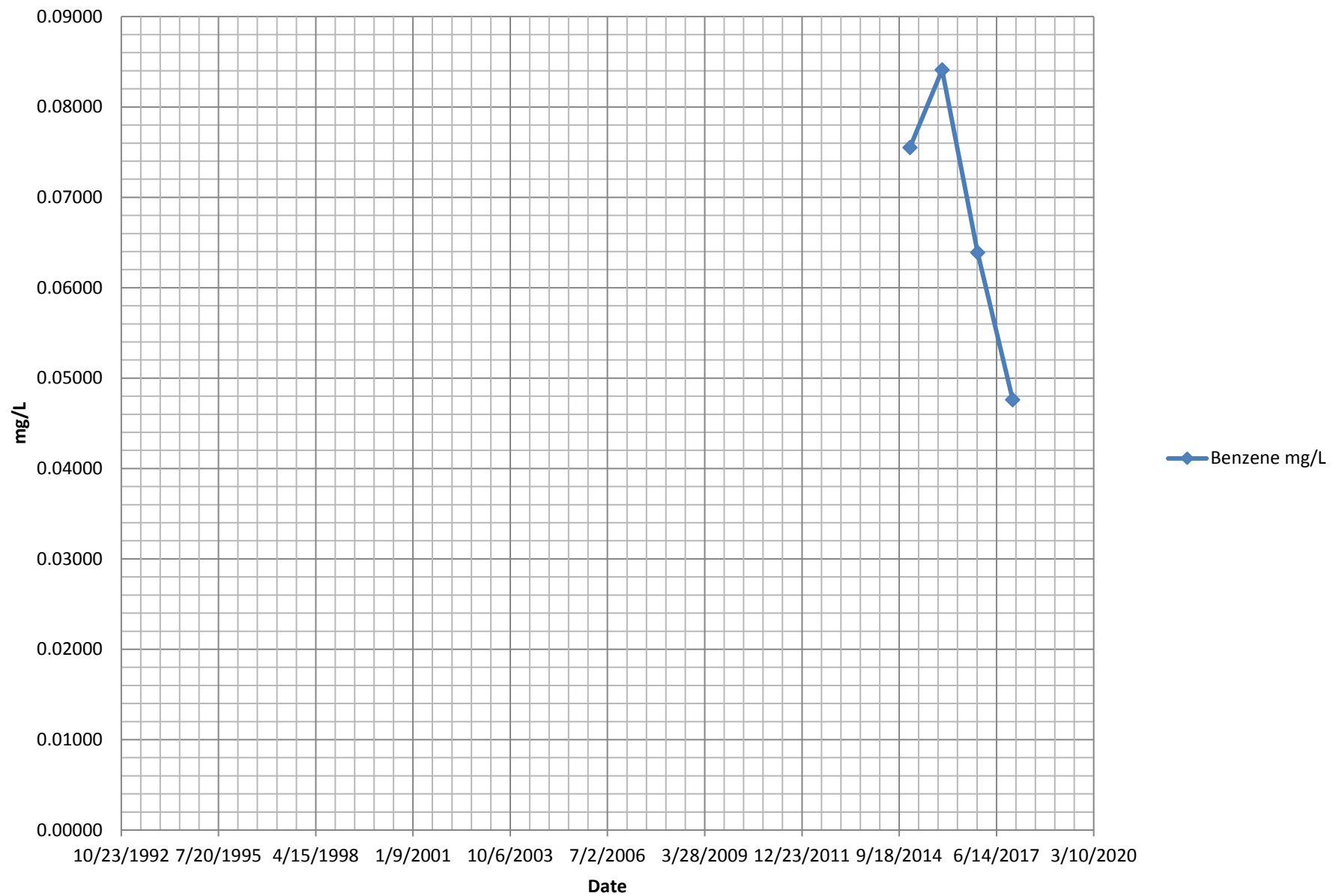
ACW-19 Total Dissolved Solids Concentration



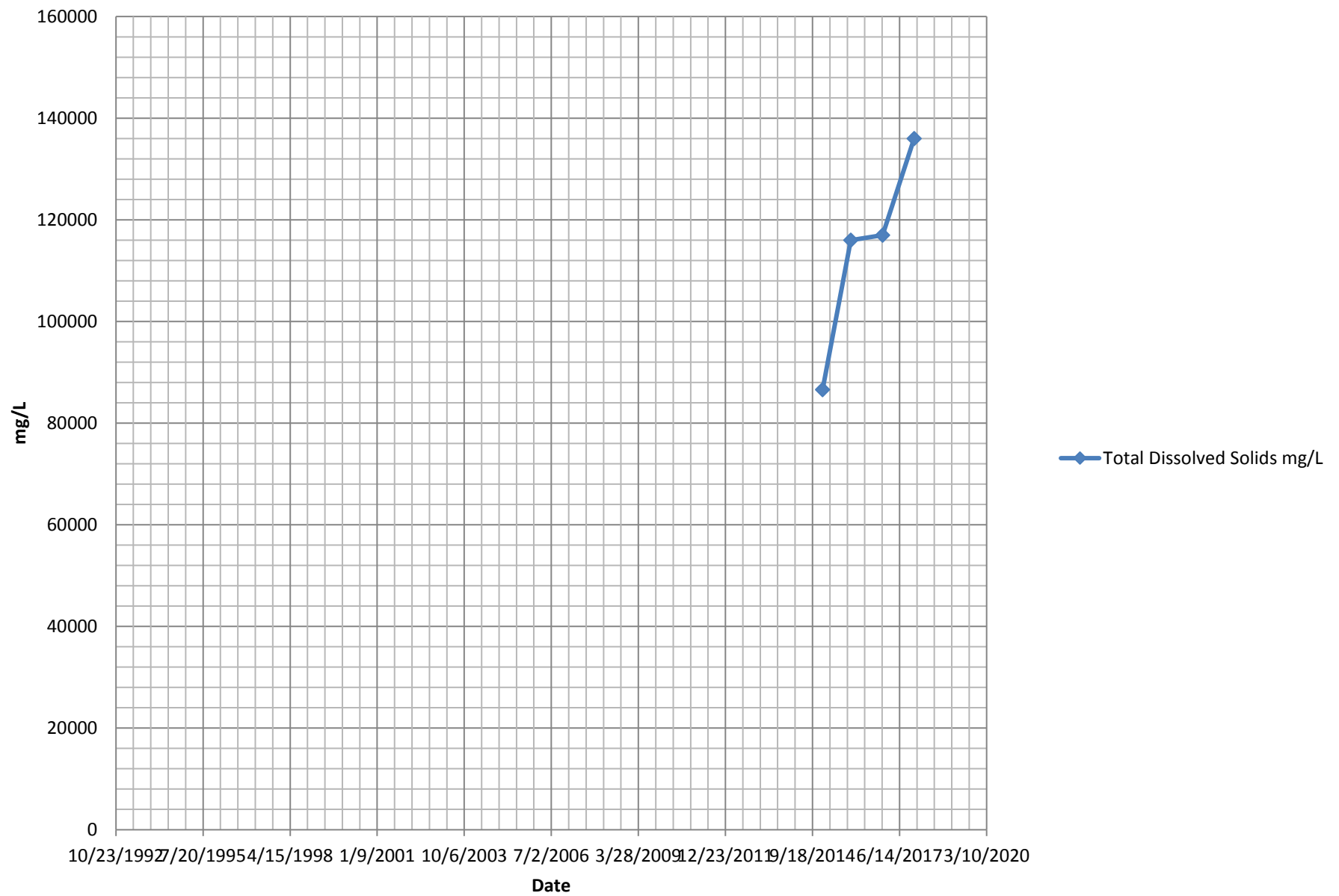
ACW-19 Chloride and Sodium Concentrations



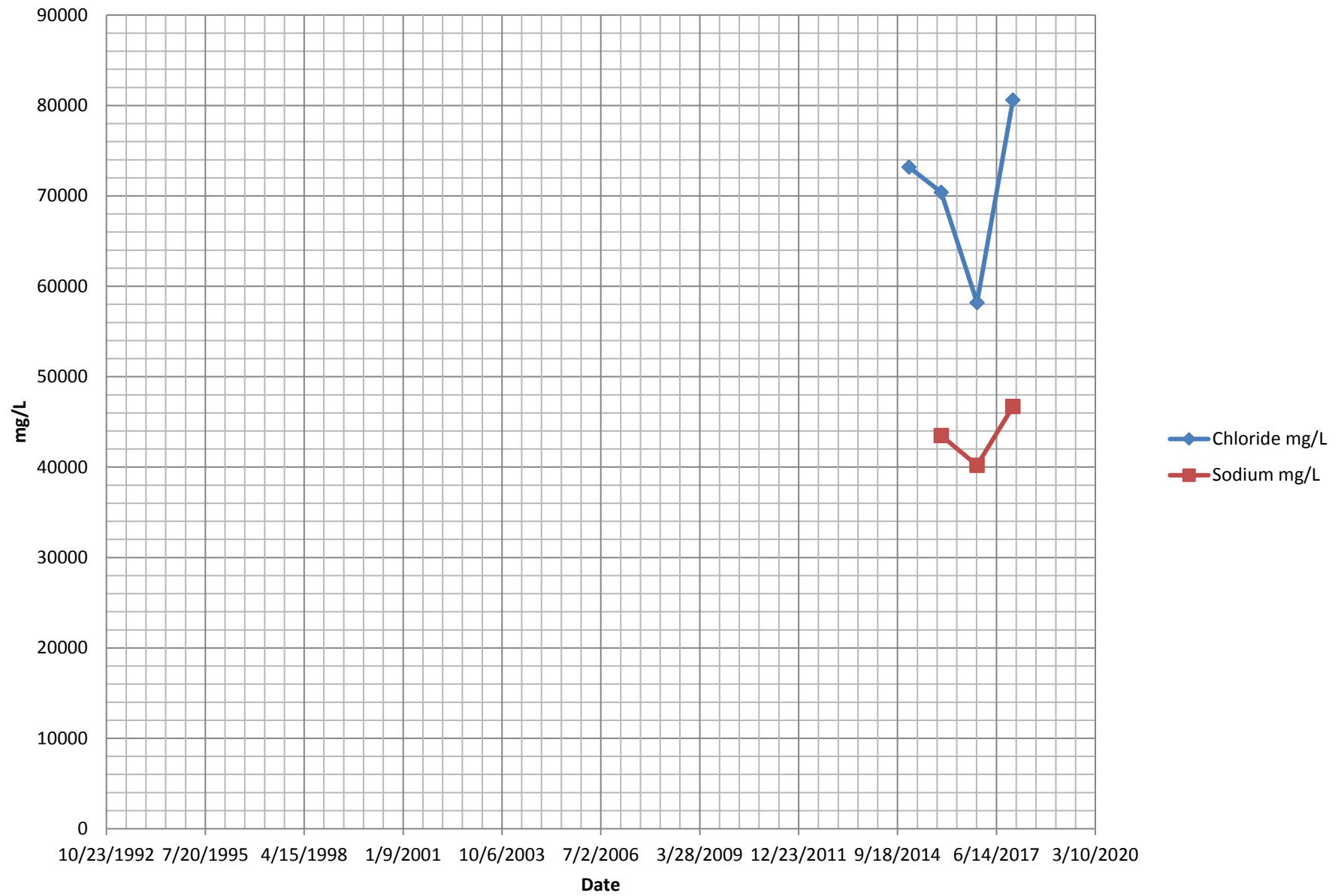
ACW-19 Benzene Concentration



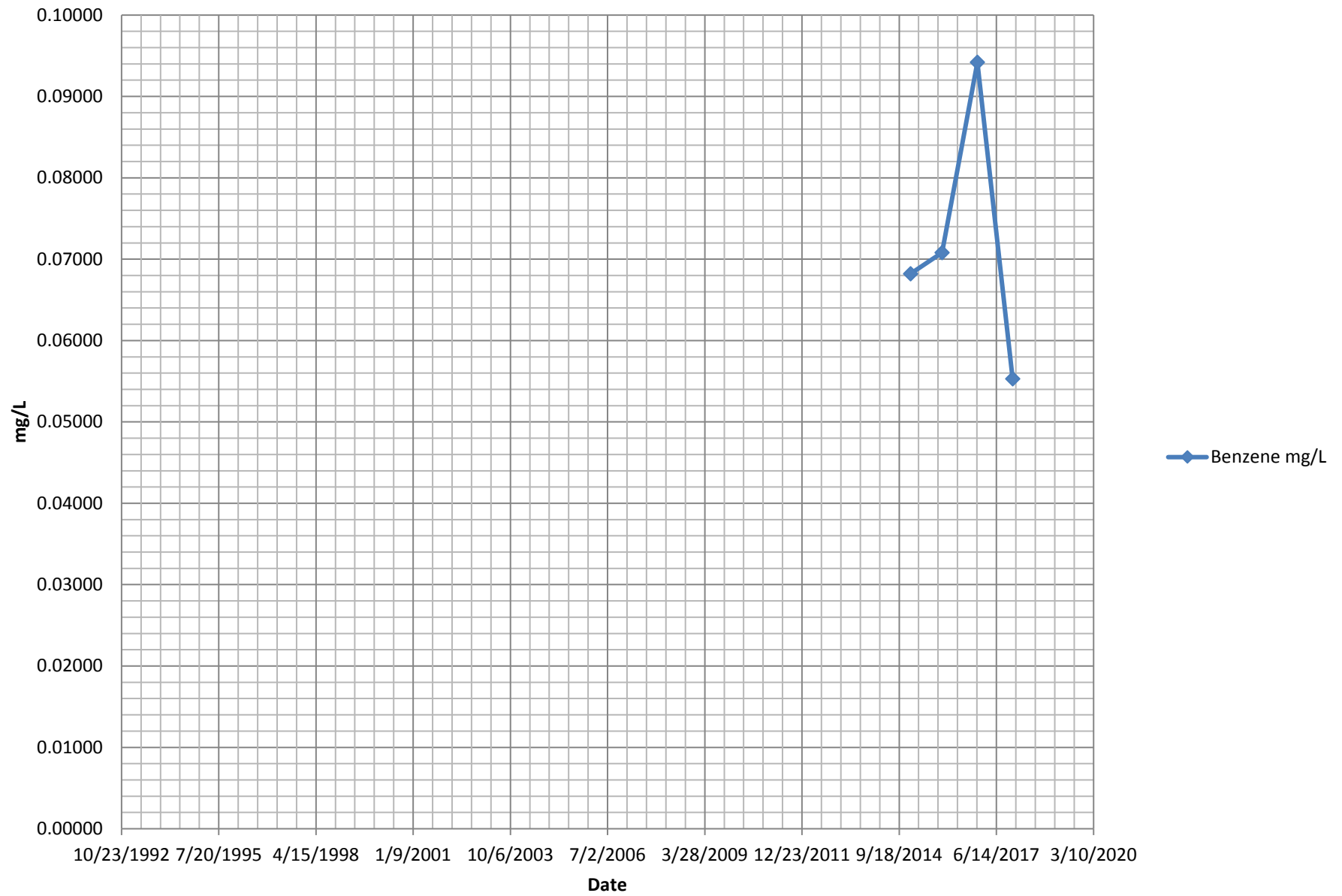
ACW-20 Total Dissolved Solids Concentration



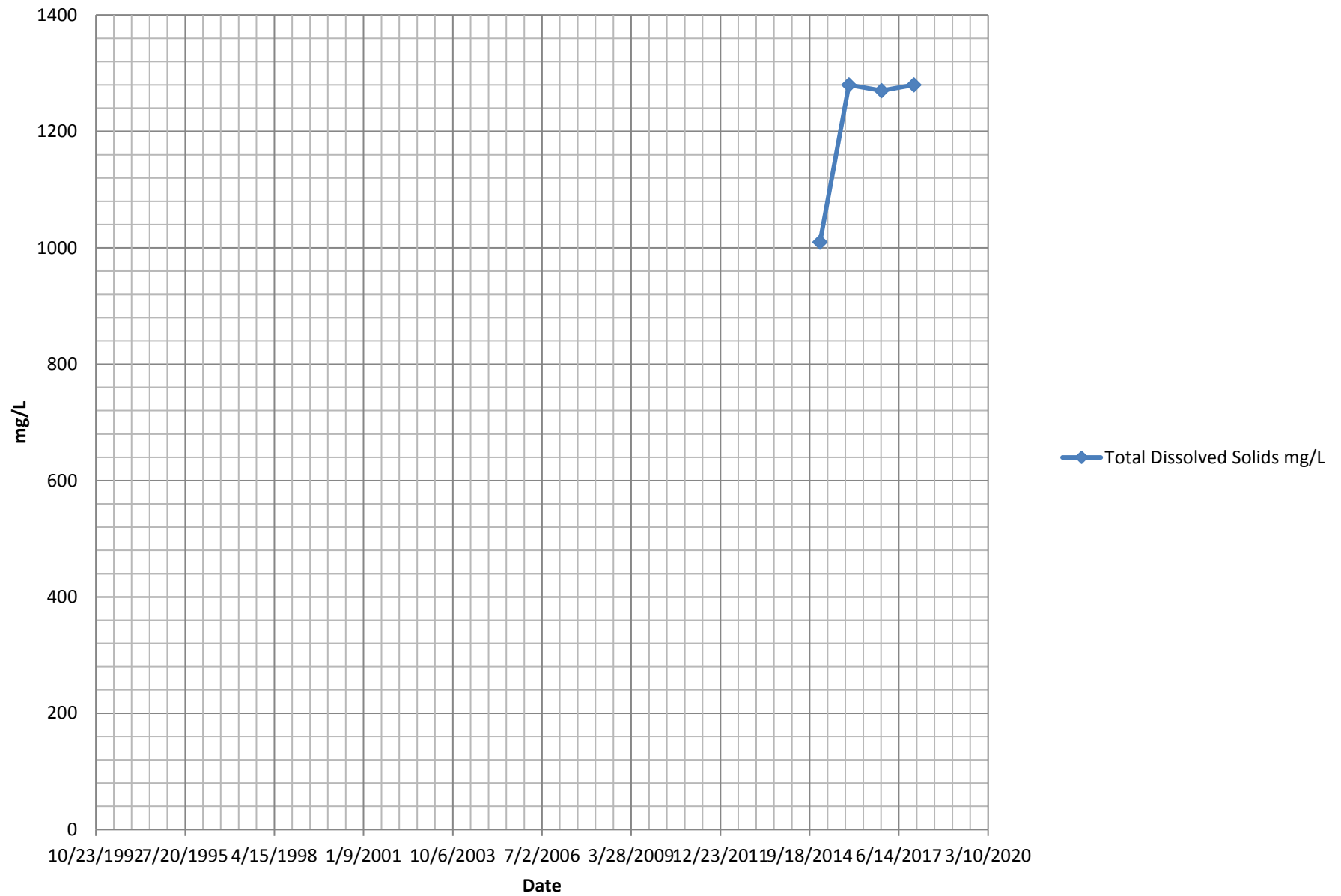
ACW-20 Chloride and Sodium Concentrations



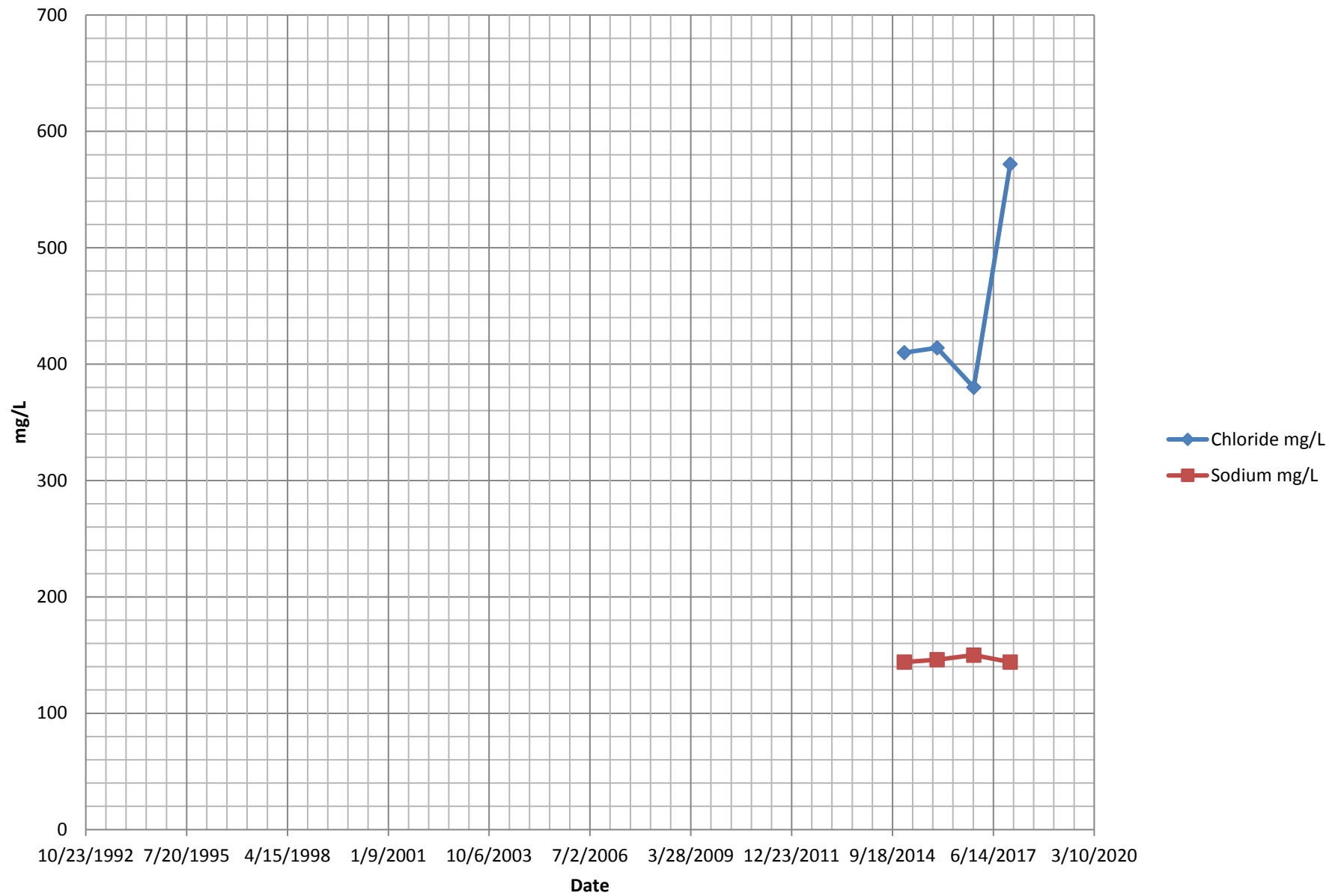
ACW-20 Benzene Concentration



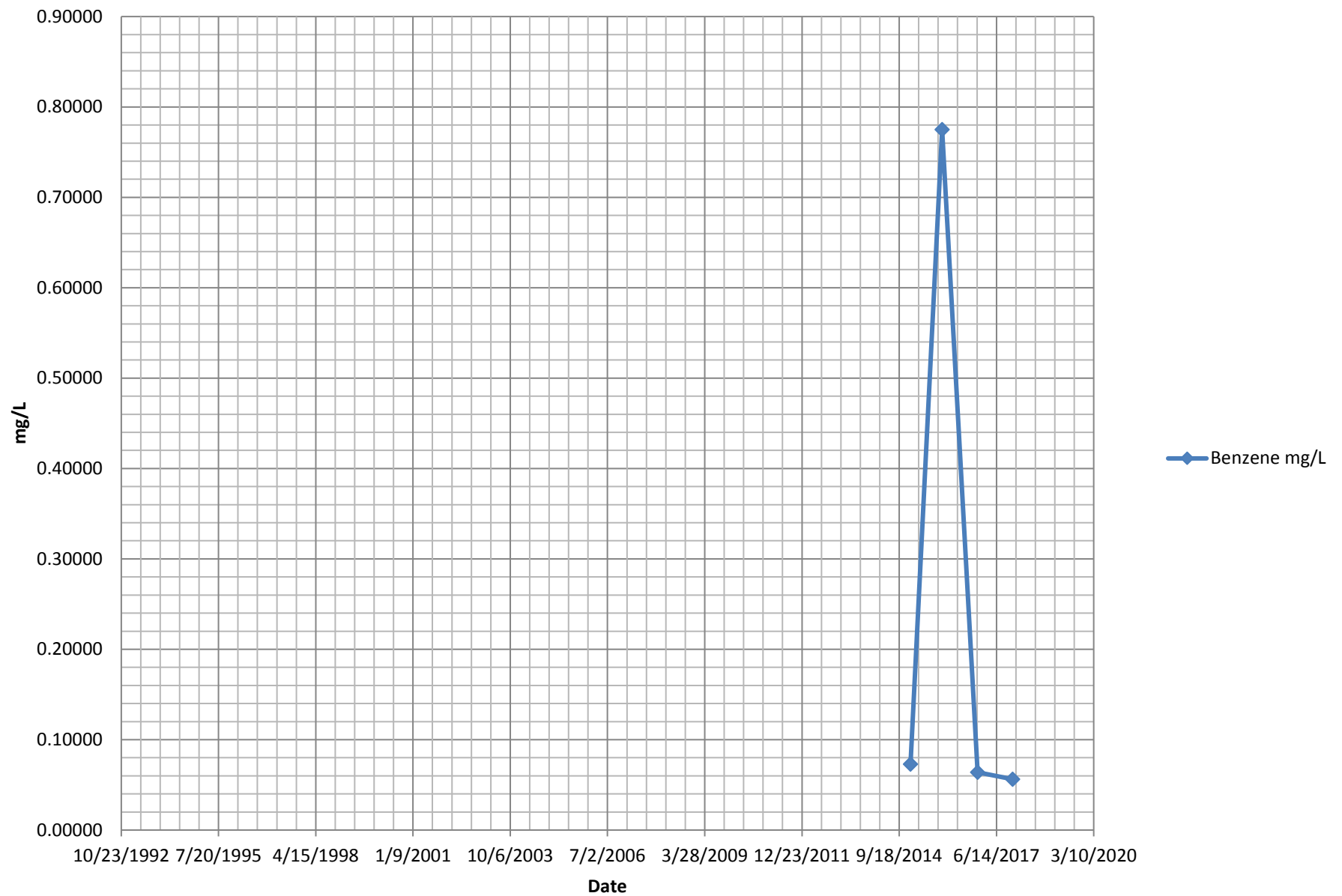
ACW-21 Total Dissolved Solids Concentration



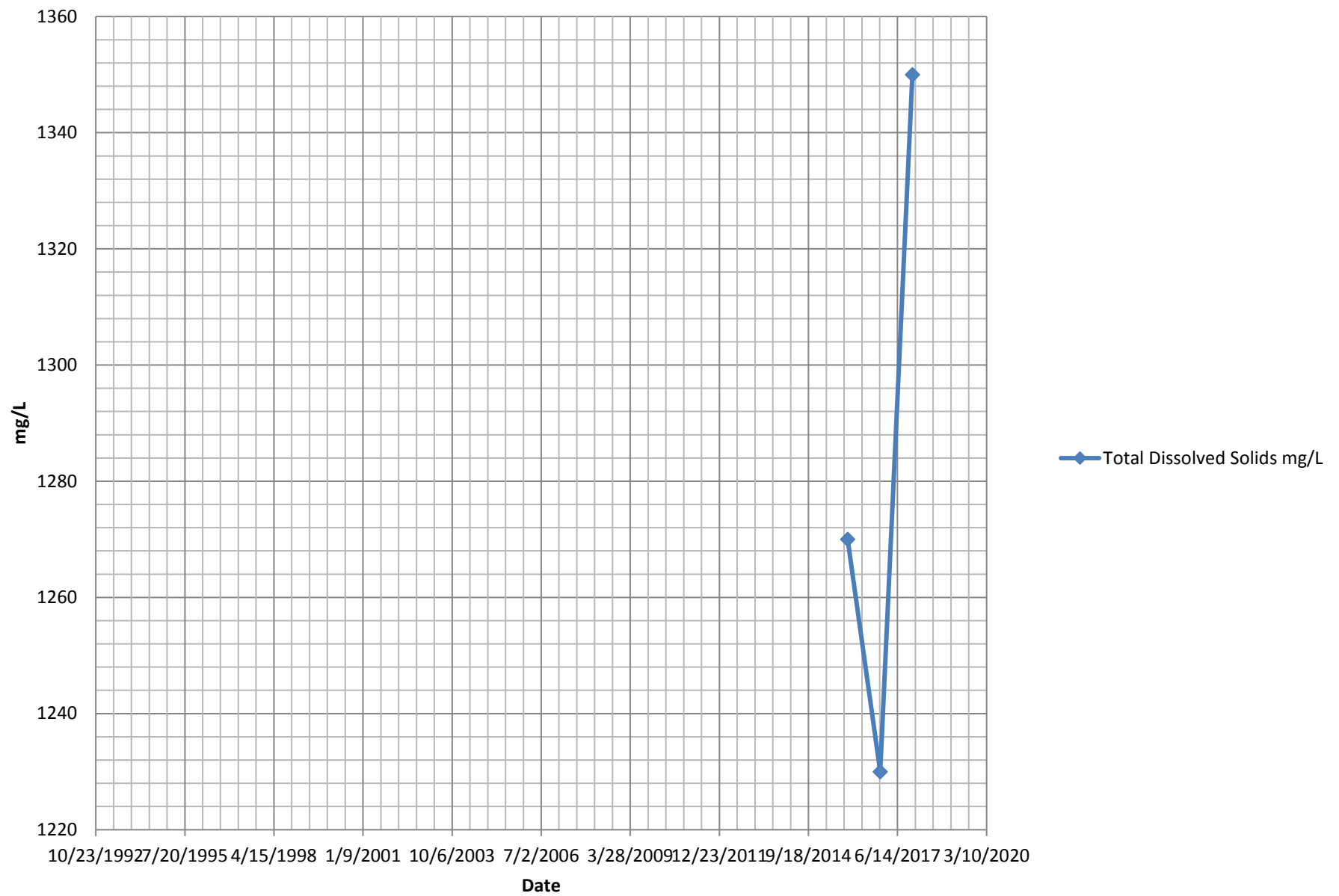
ACW-21 Chloride and Sodium Concentrations



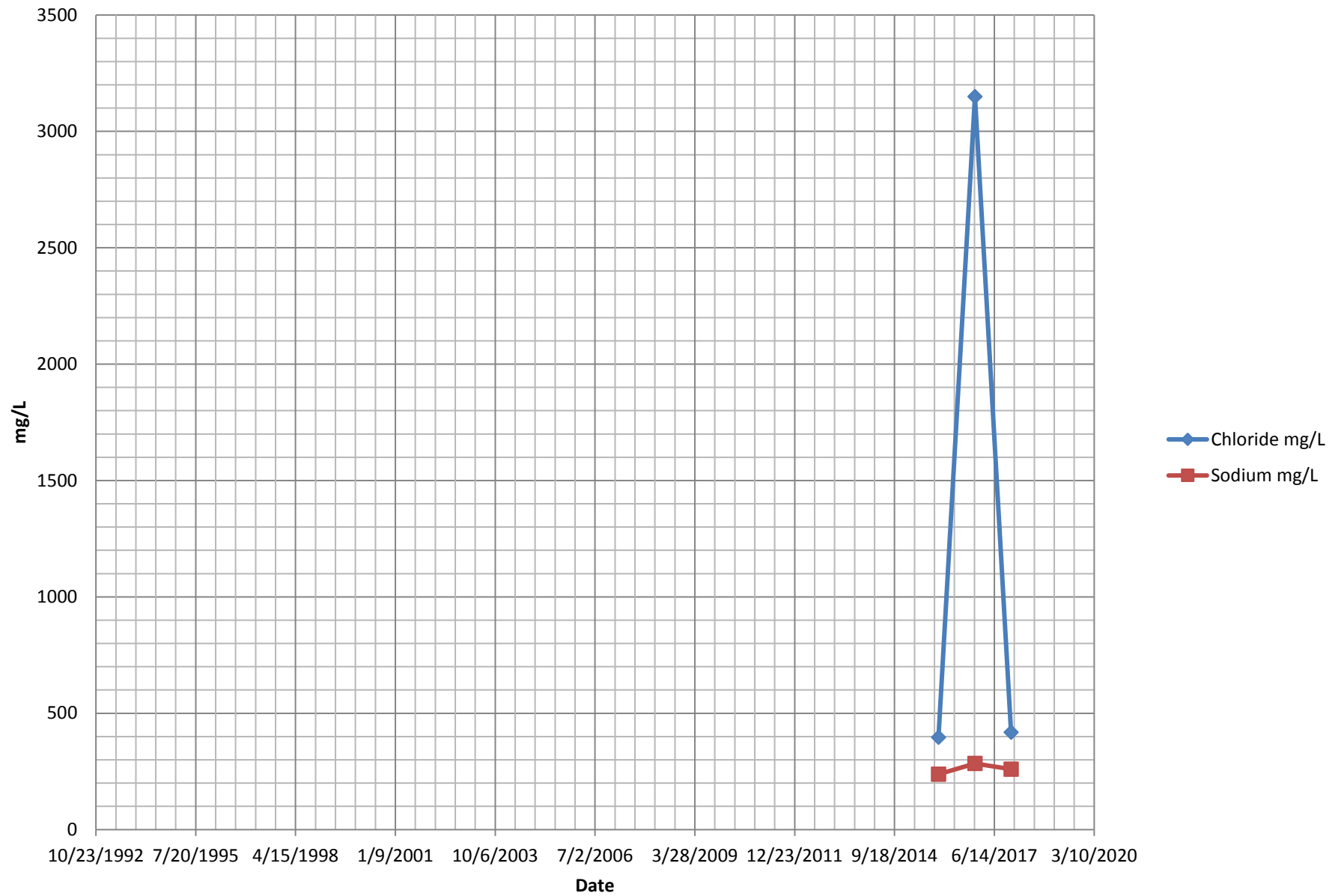
ACW-21 Benzene Concentration



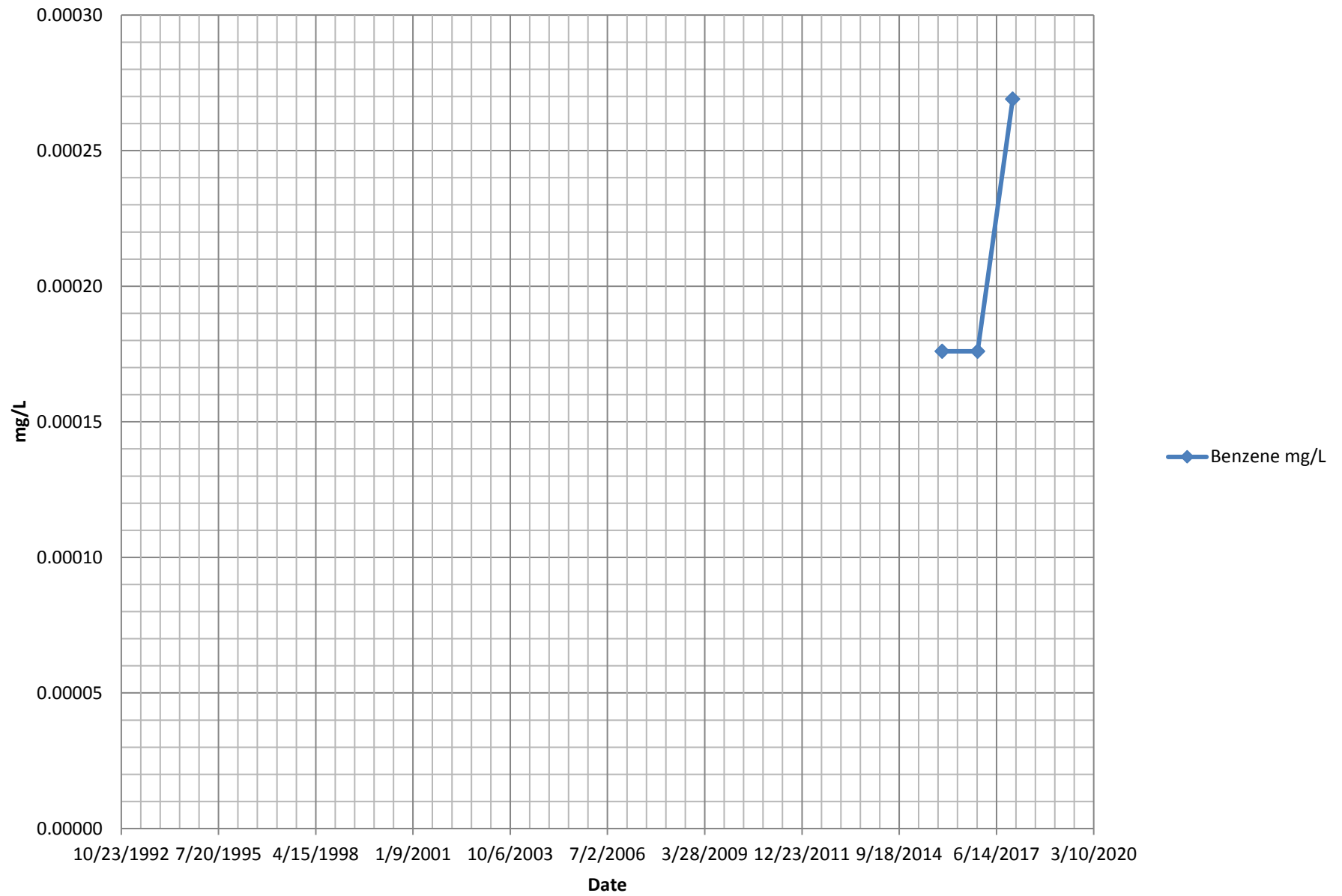
ACW-22 Total Dissolved Solids Concentration



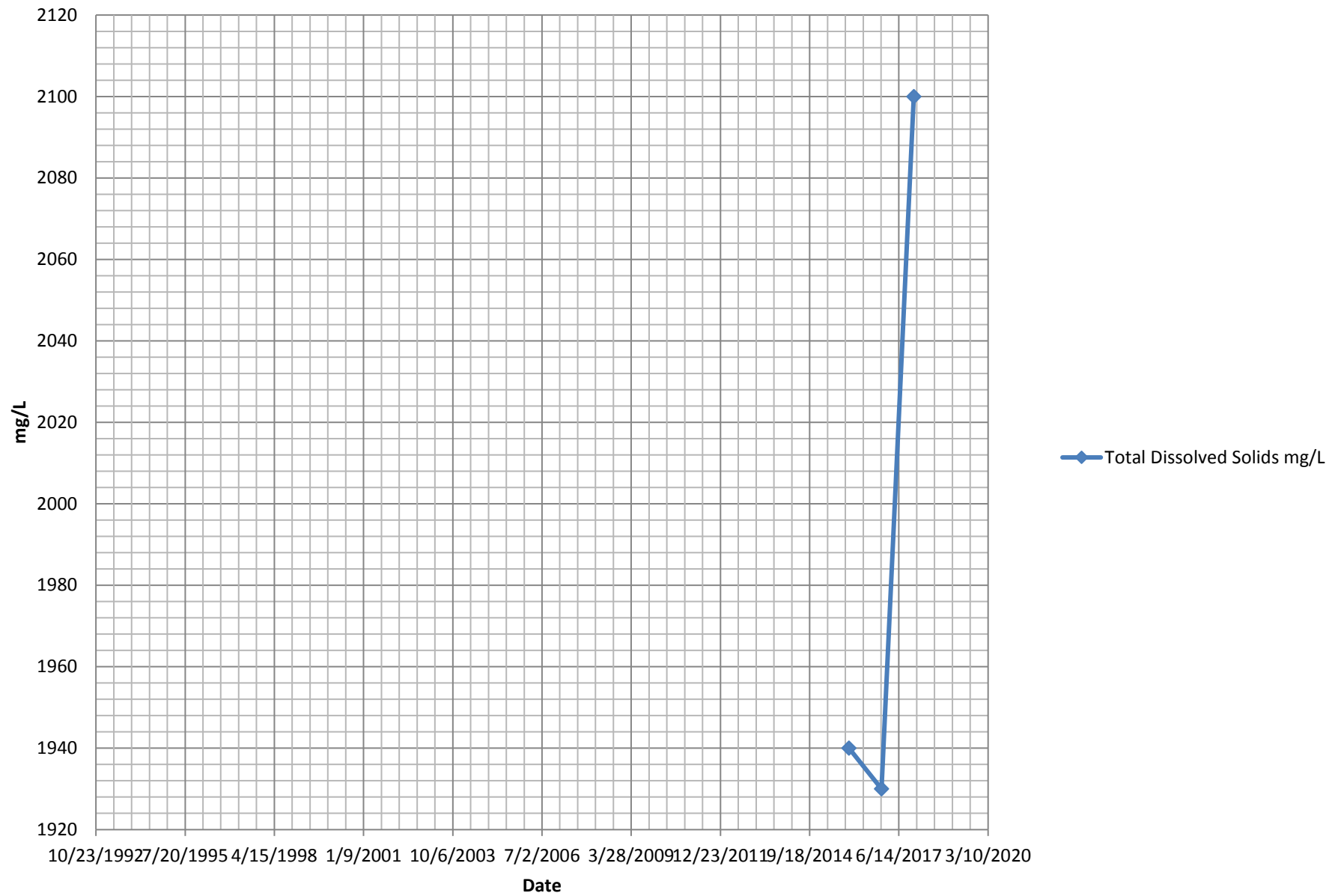
ACW-22 Chloride and Sodium Concentrations



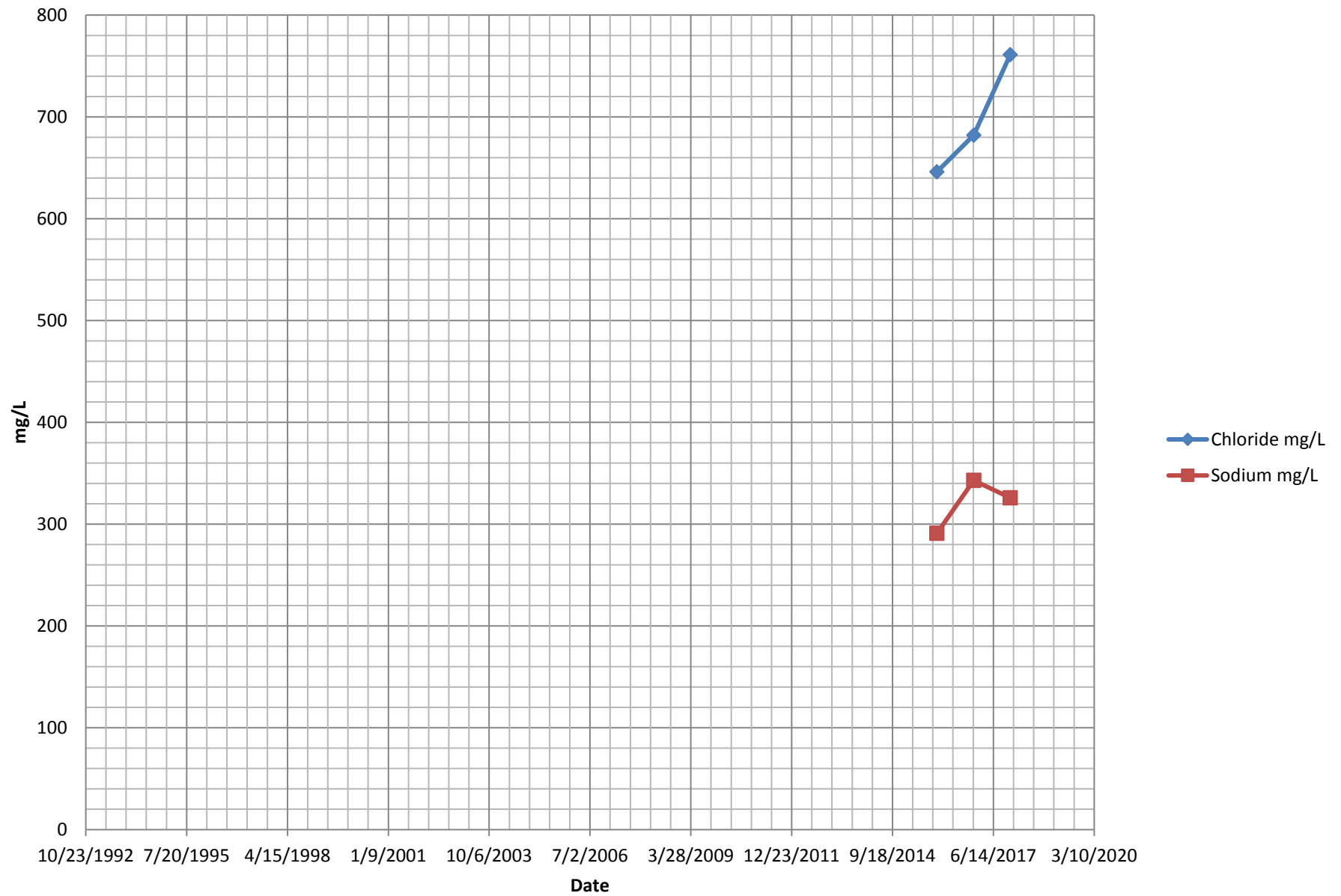
ACW-22 Benzene Concentration



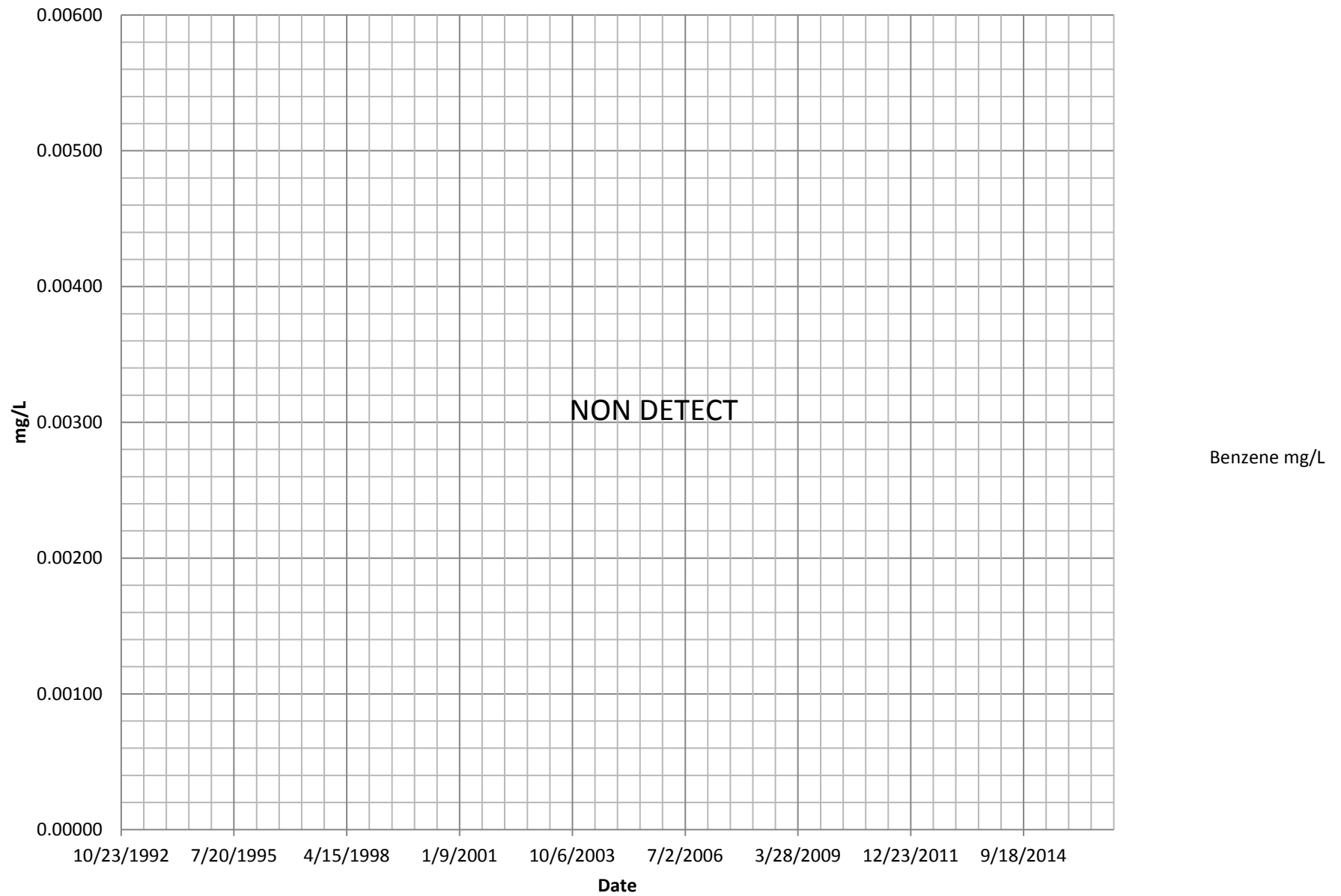
ACW-23 Total Dissolved Solids Concentration



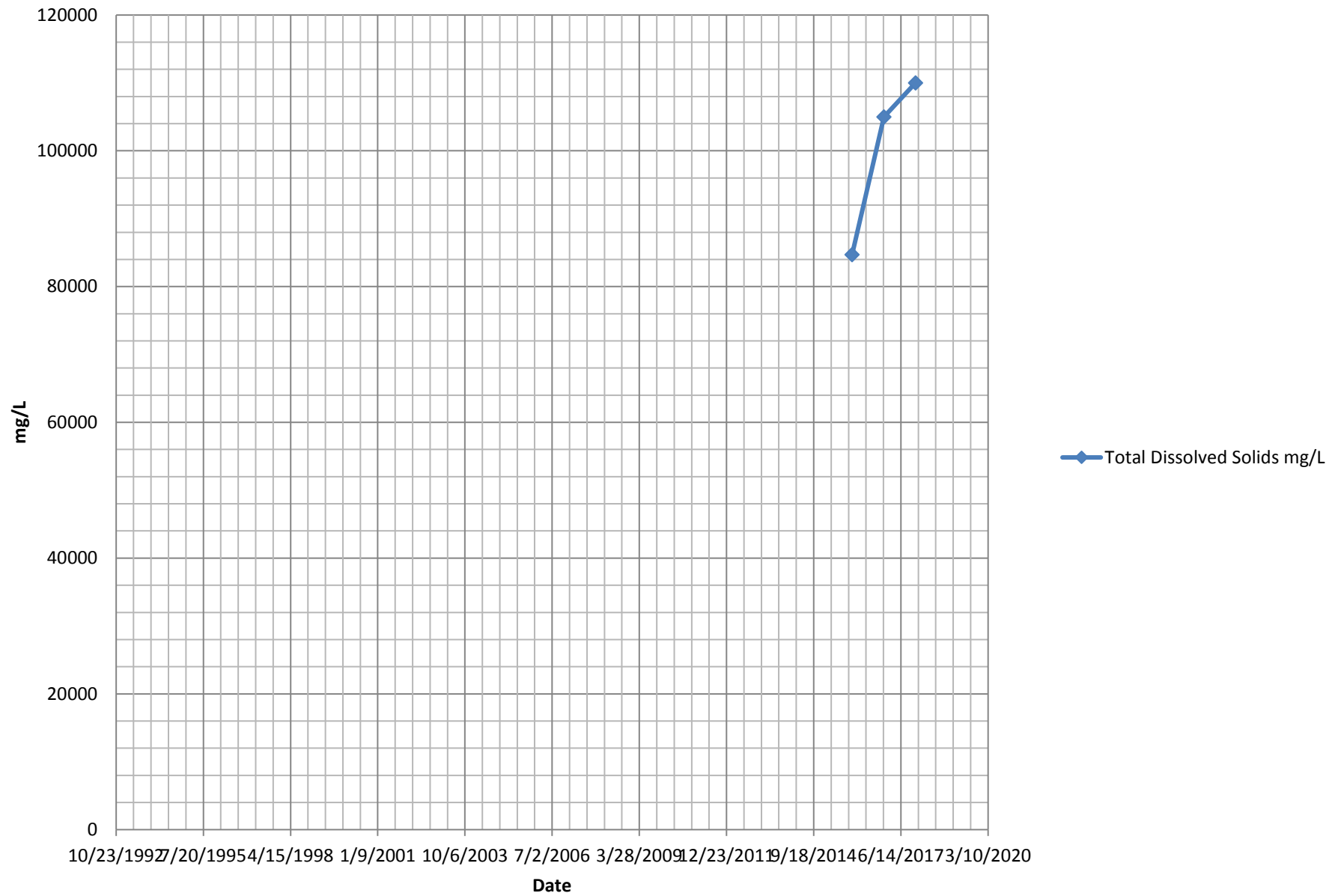
ACW-23 Chloride and Sodium Concentrations



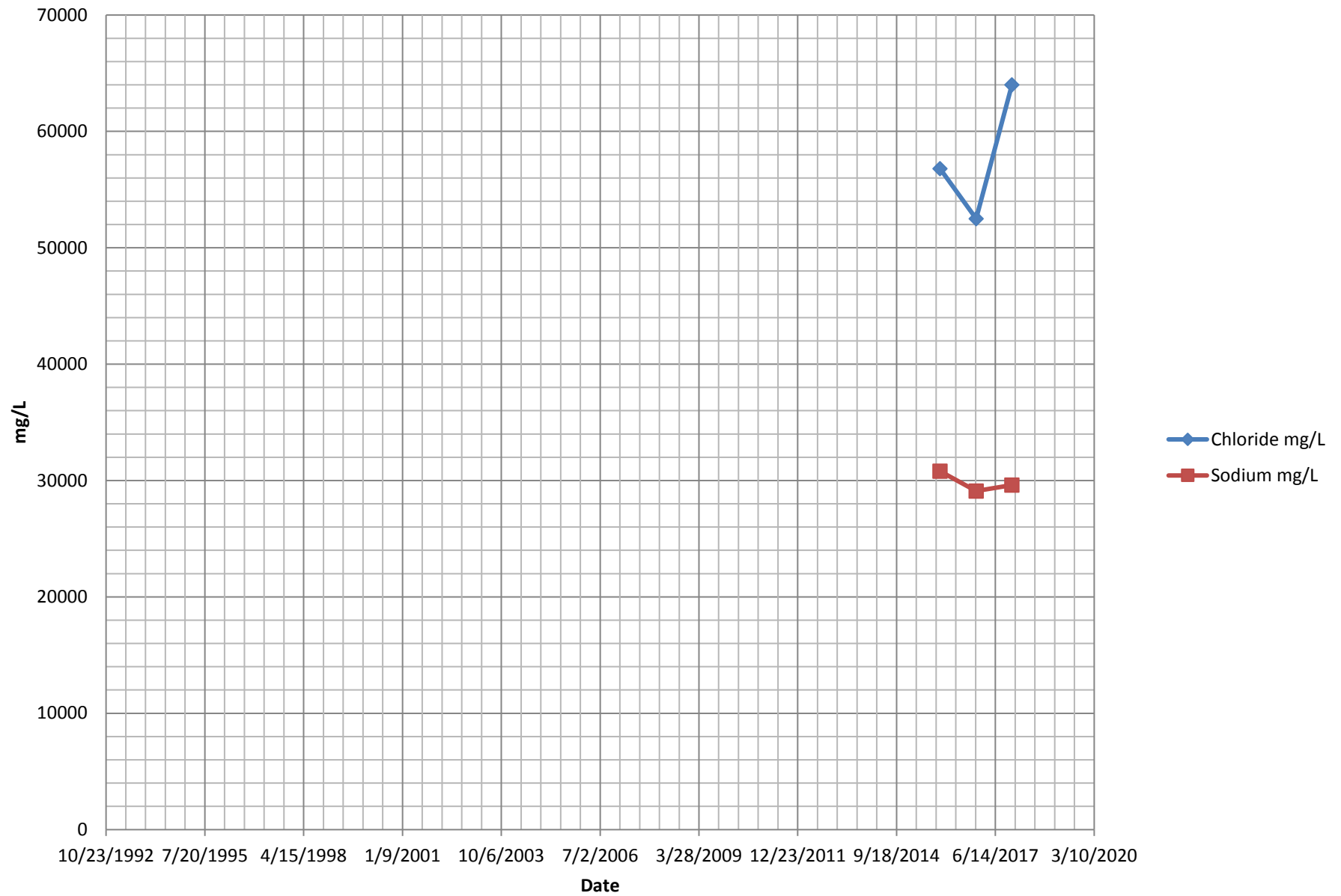
ACW-23 Benzene Concentration



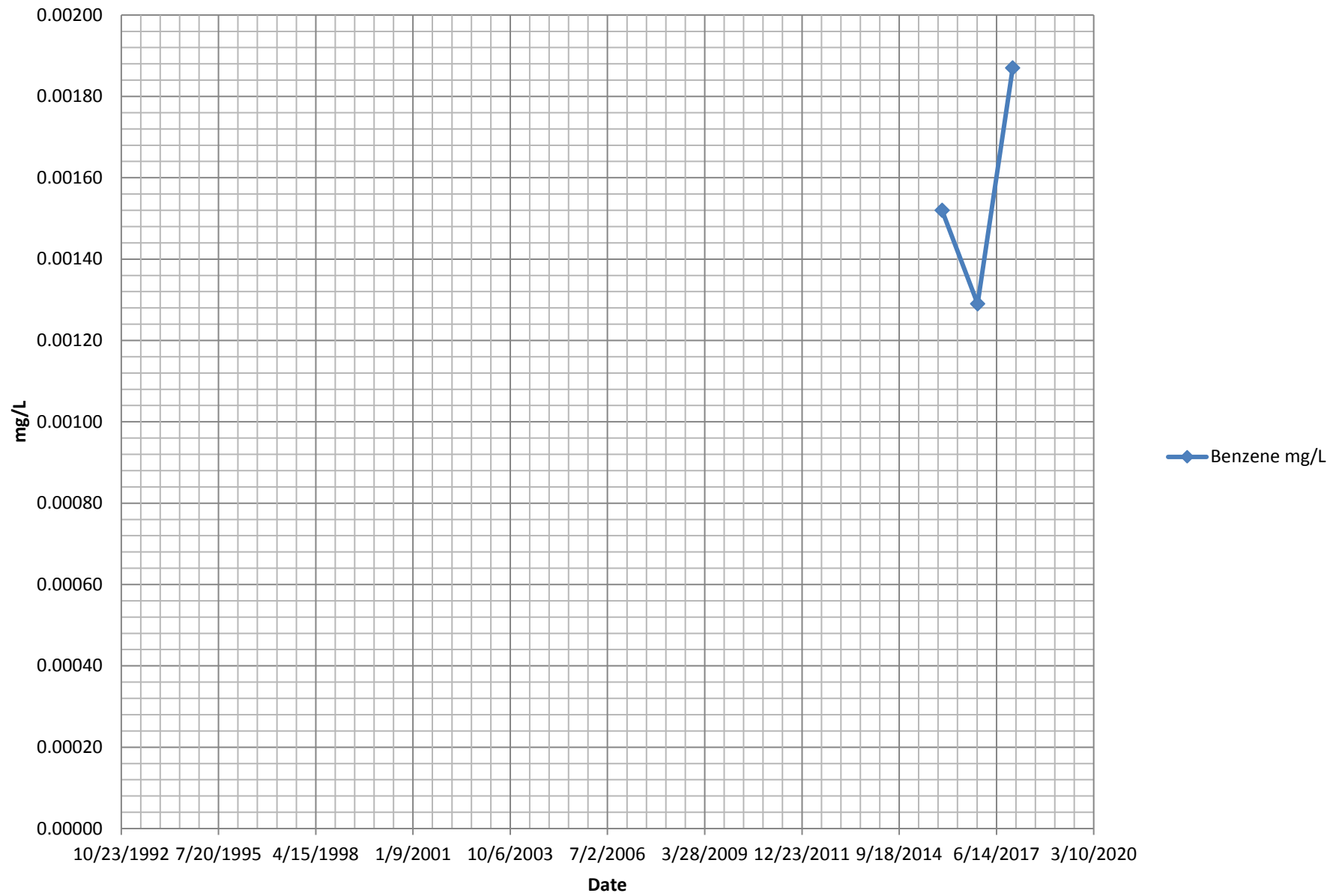
ACW-24 Total Dissolved Solids Concentration



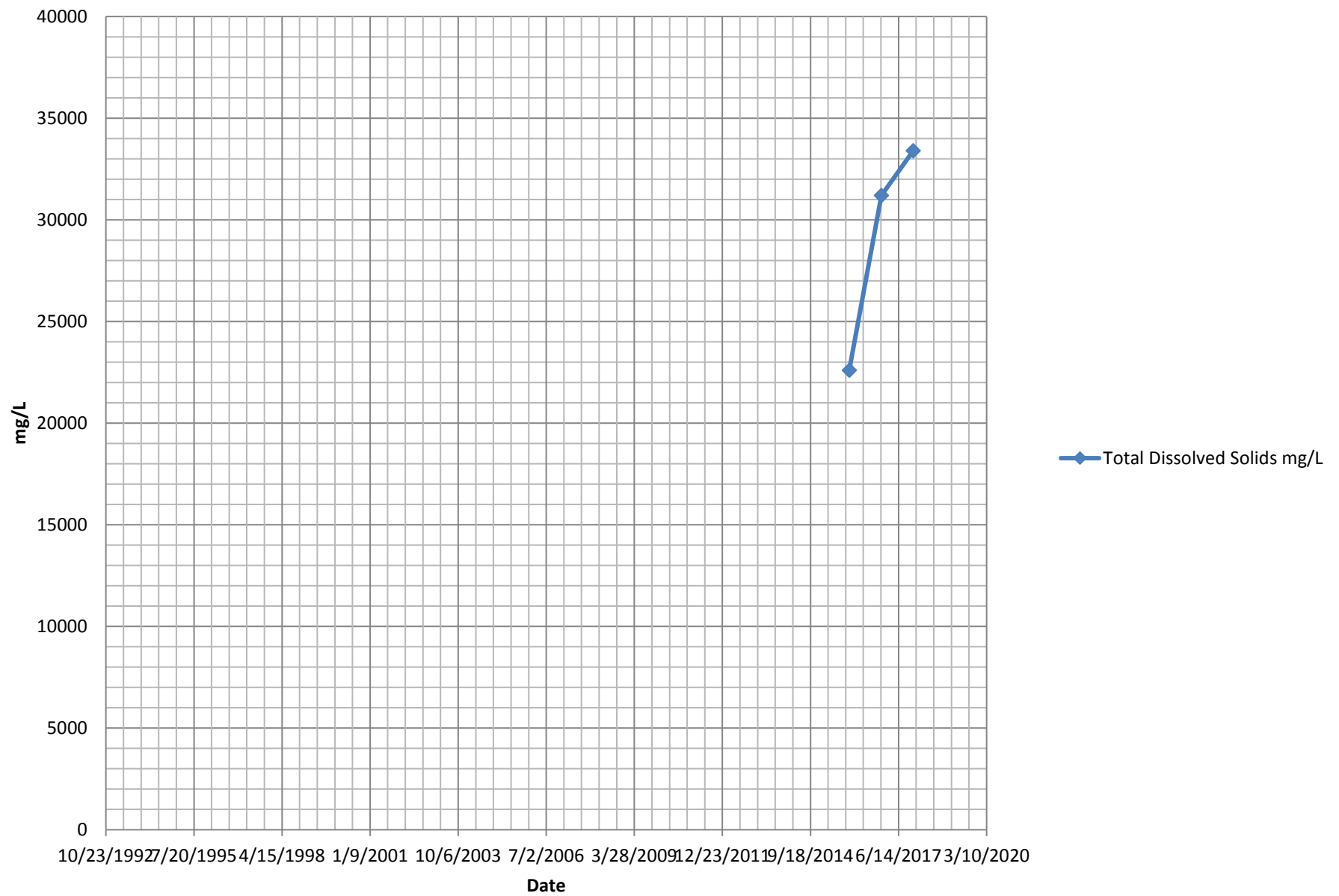
ACW-24 Chloride and Sodium Concentrations



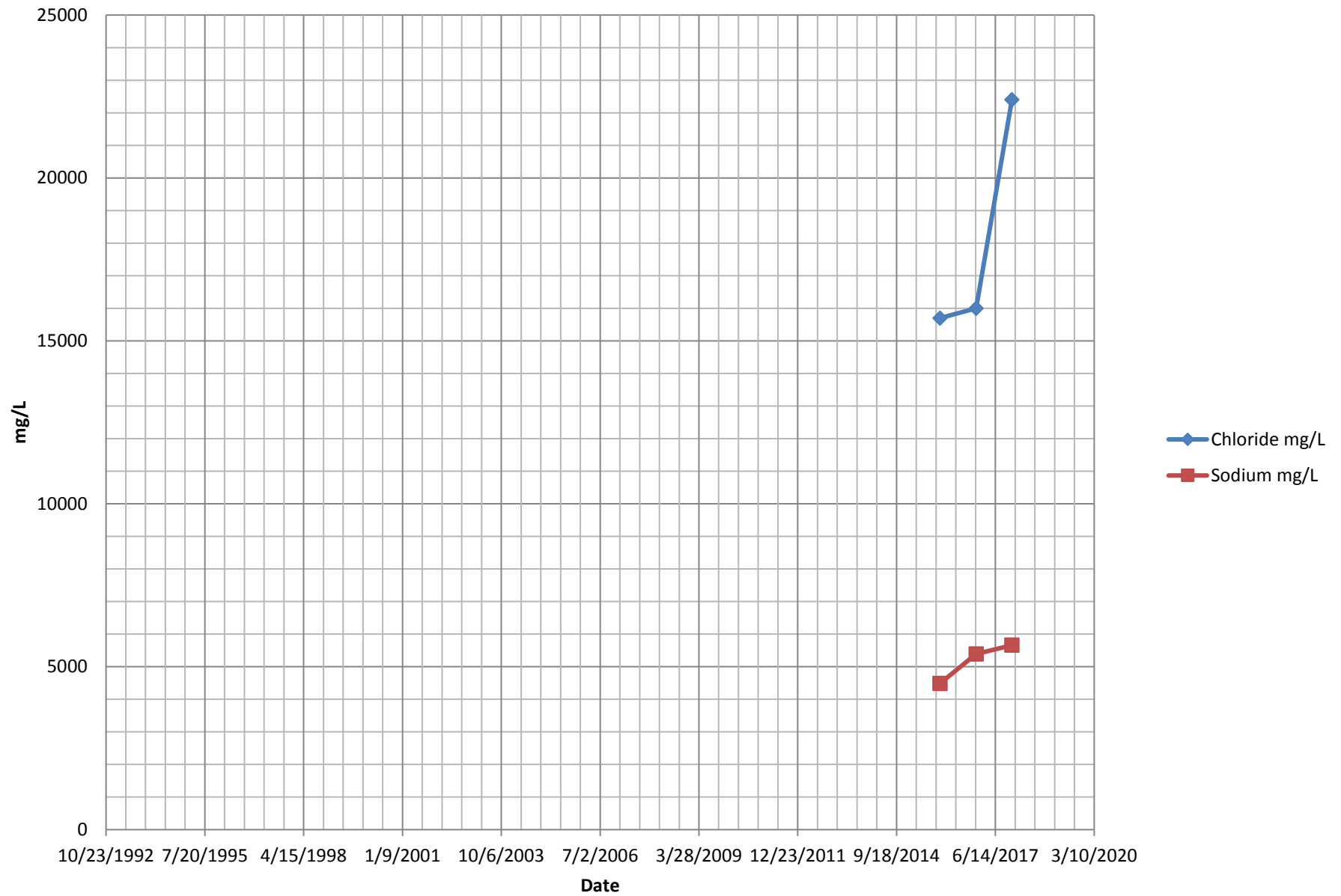
ACW-24 Benzene Concentration



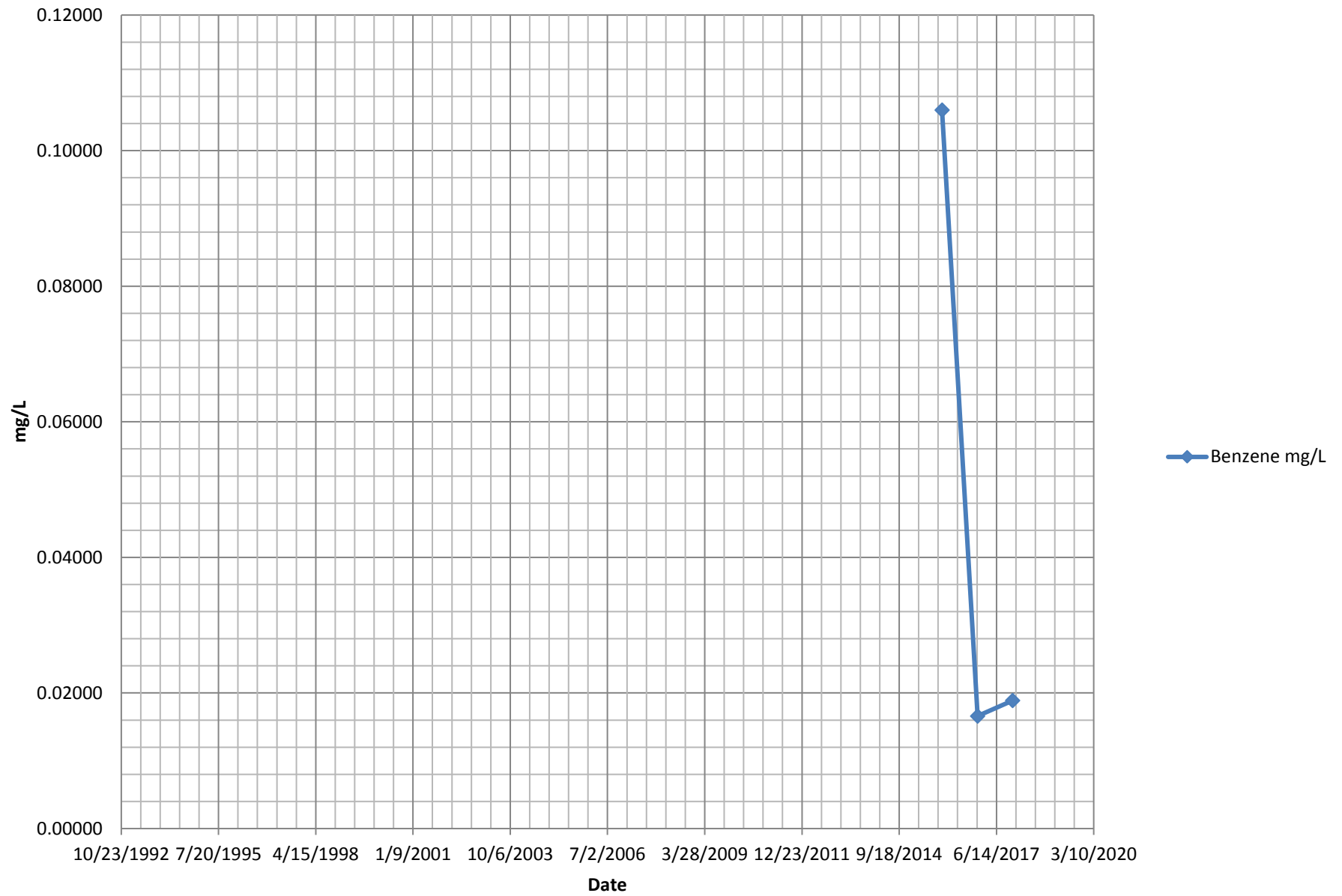
ACW-25 Total Dissolved Solids Concentration



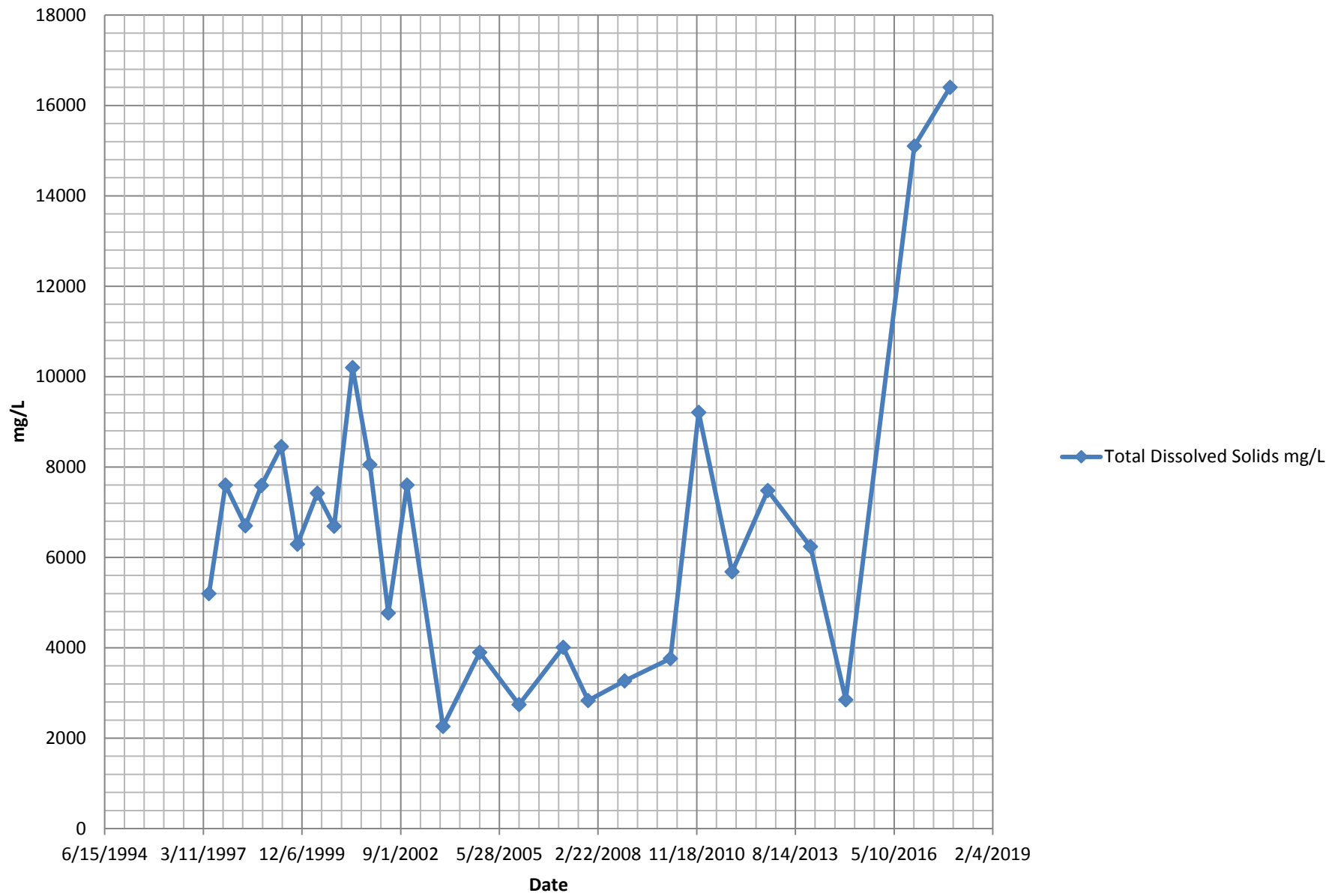
ACW-25 Chloride and Sodium Concentrations



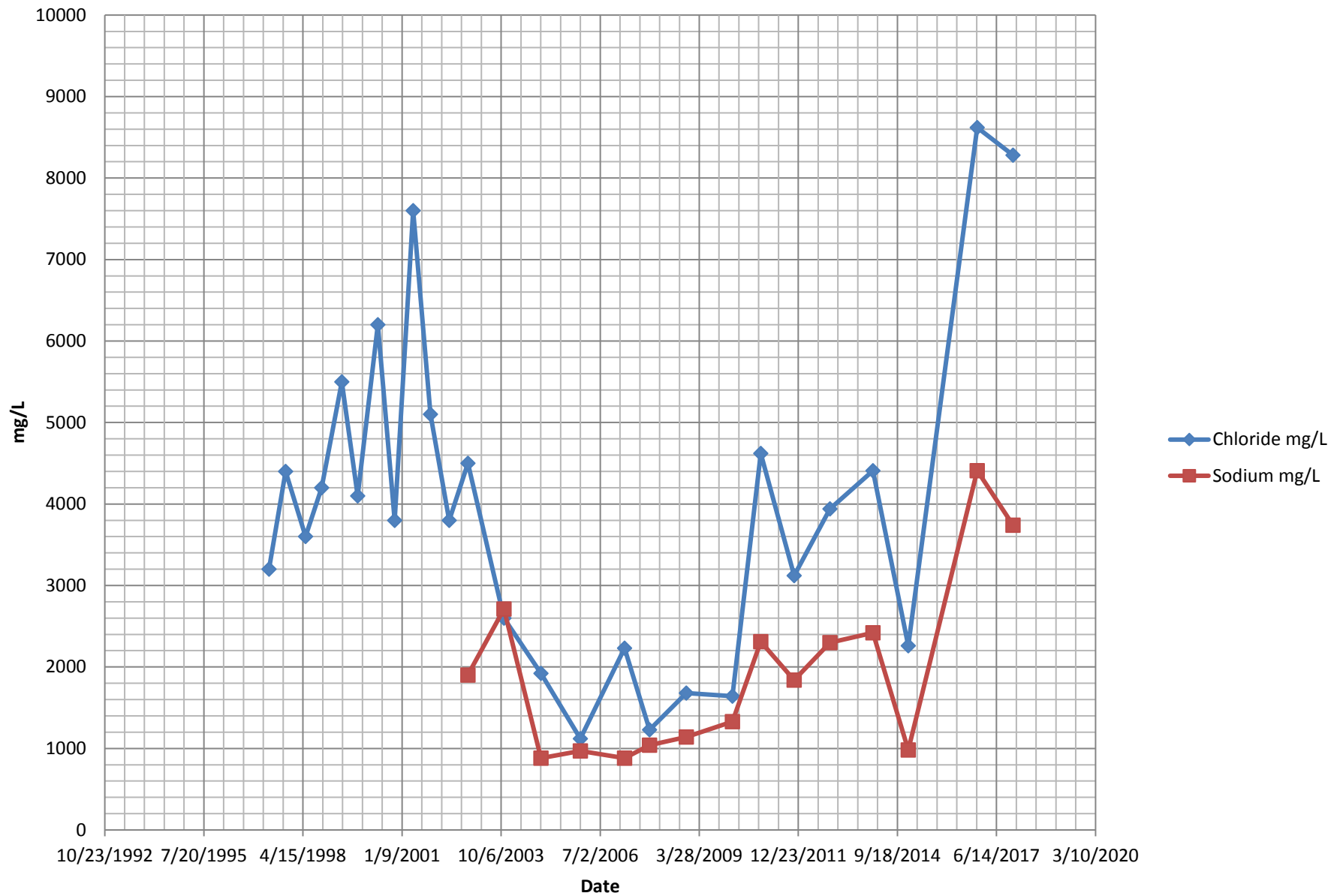
ACW-25 Benzene Concentration



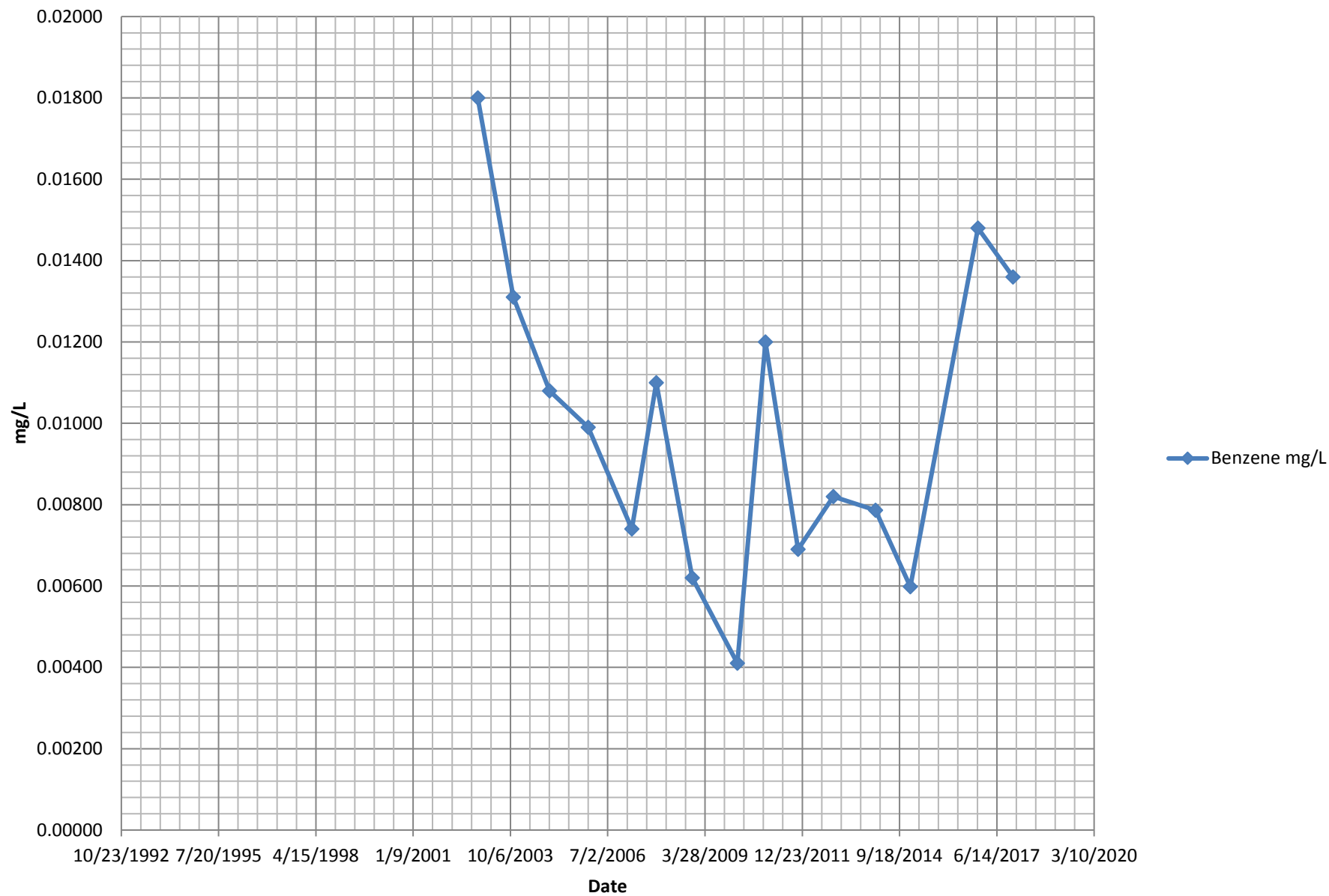
ENSR-01 Total Dissolved Solids Concentration



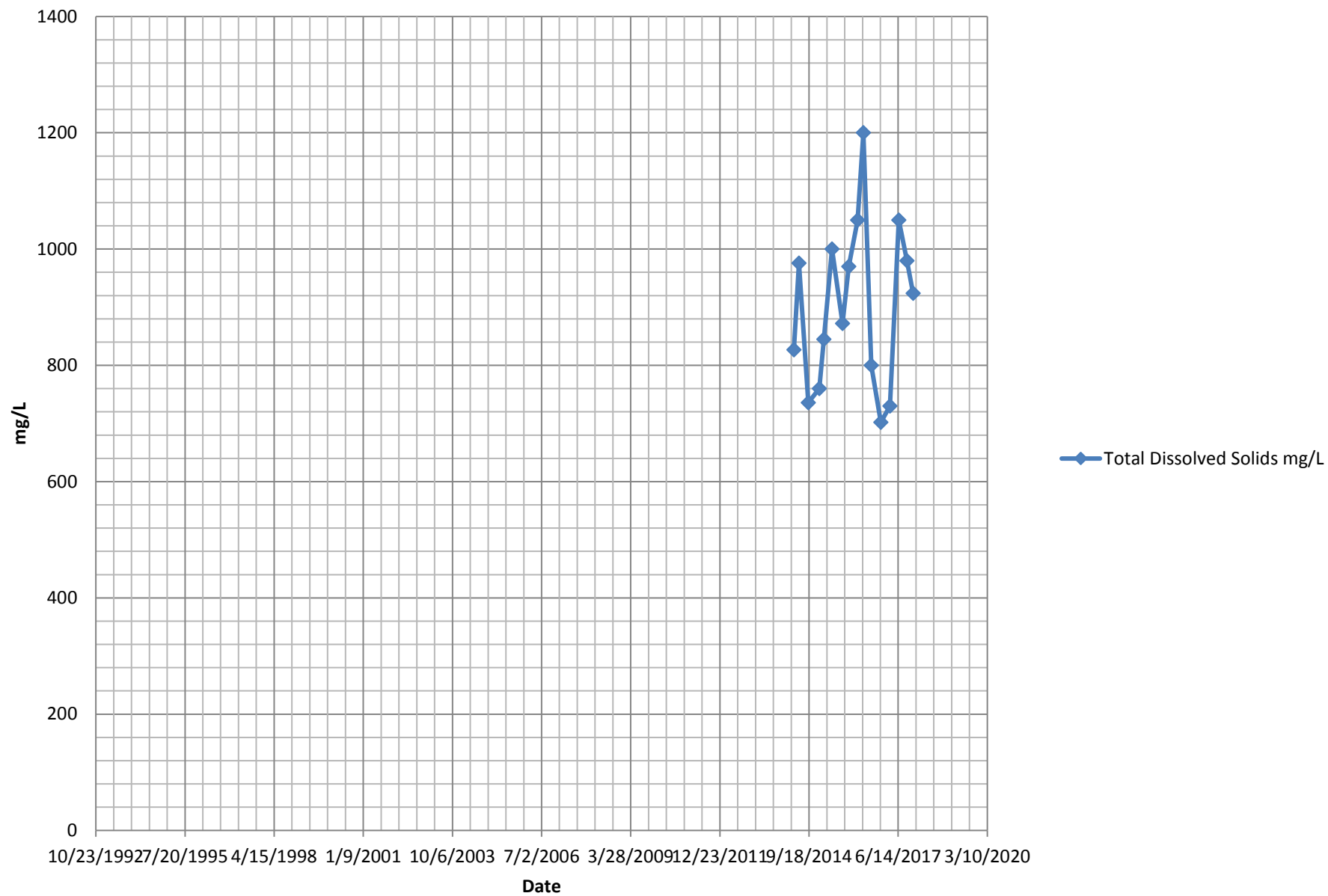
ENSR-01 Chloride and Sodium Concentrations



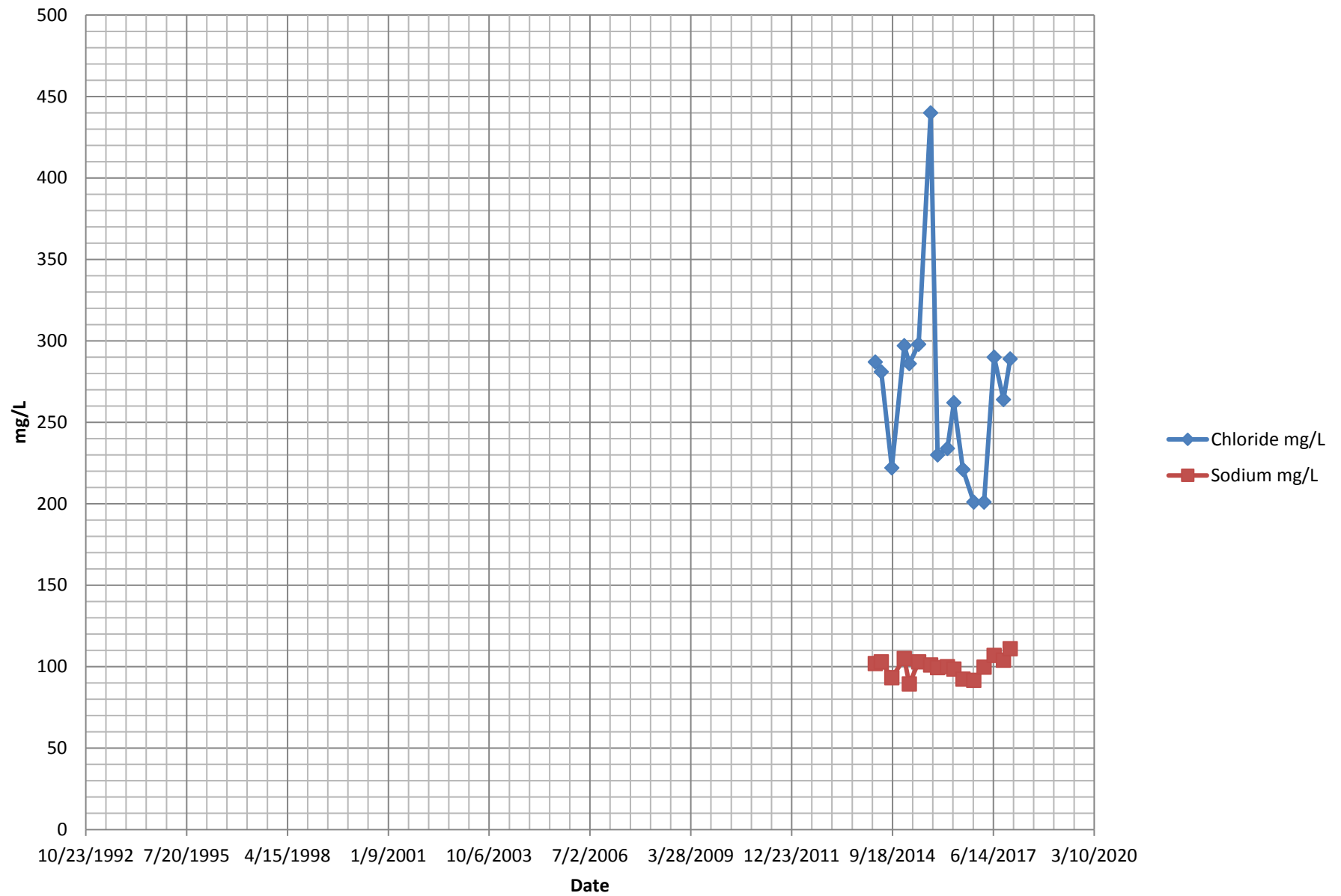
ENSR-01 Benzene Concentration



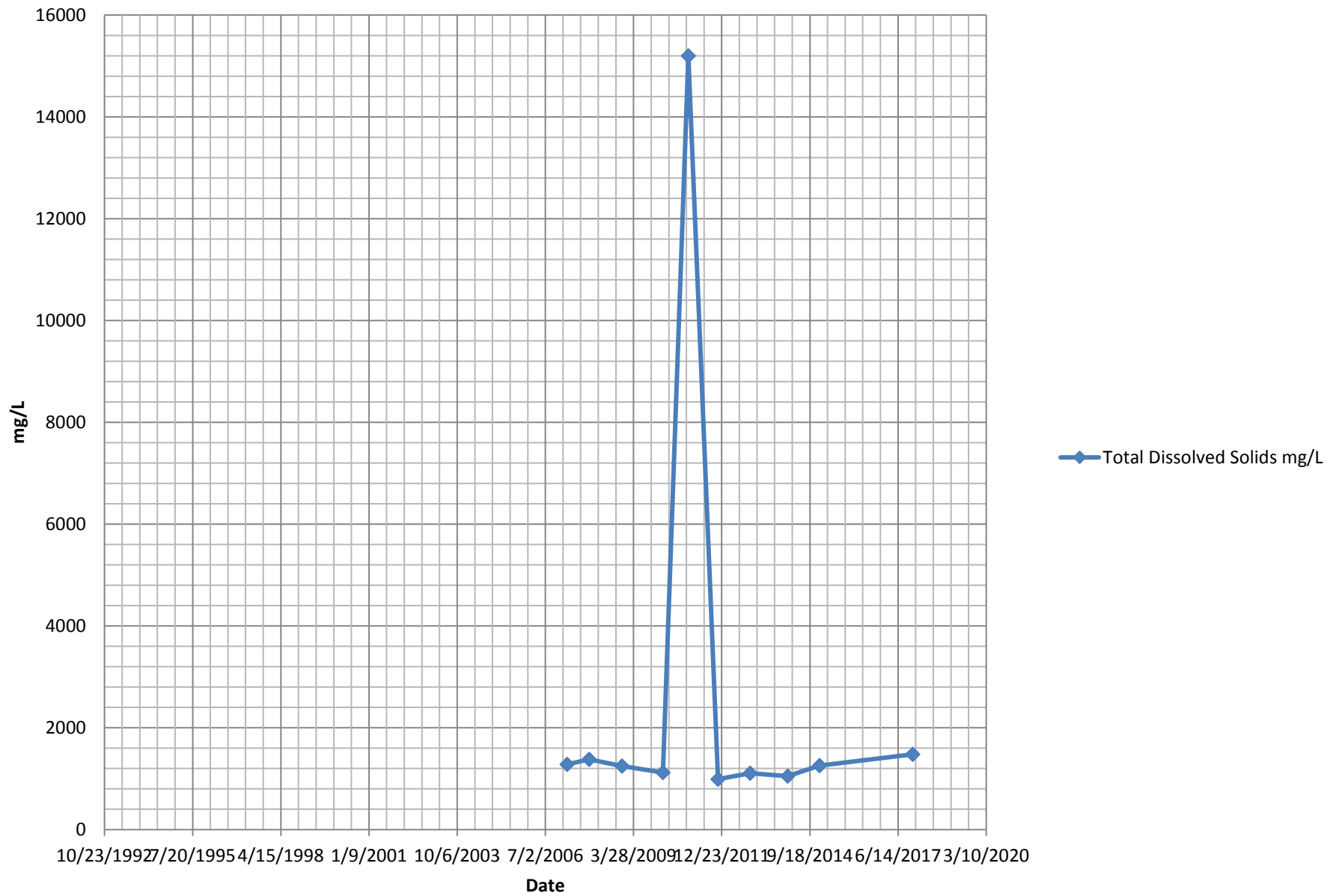
OXY Total Dissolved Solids Concentration



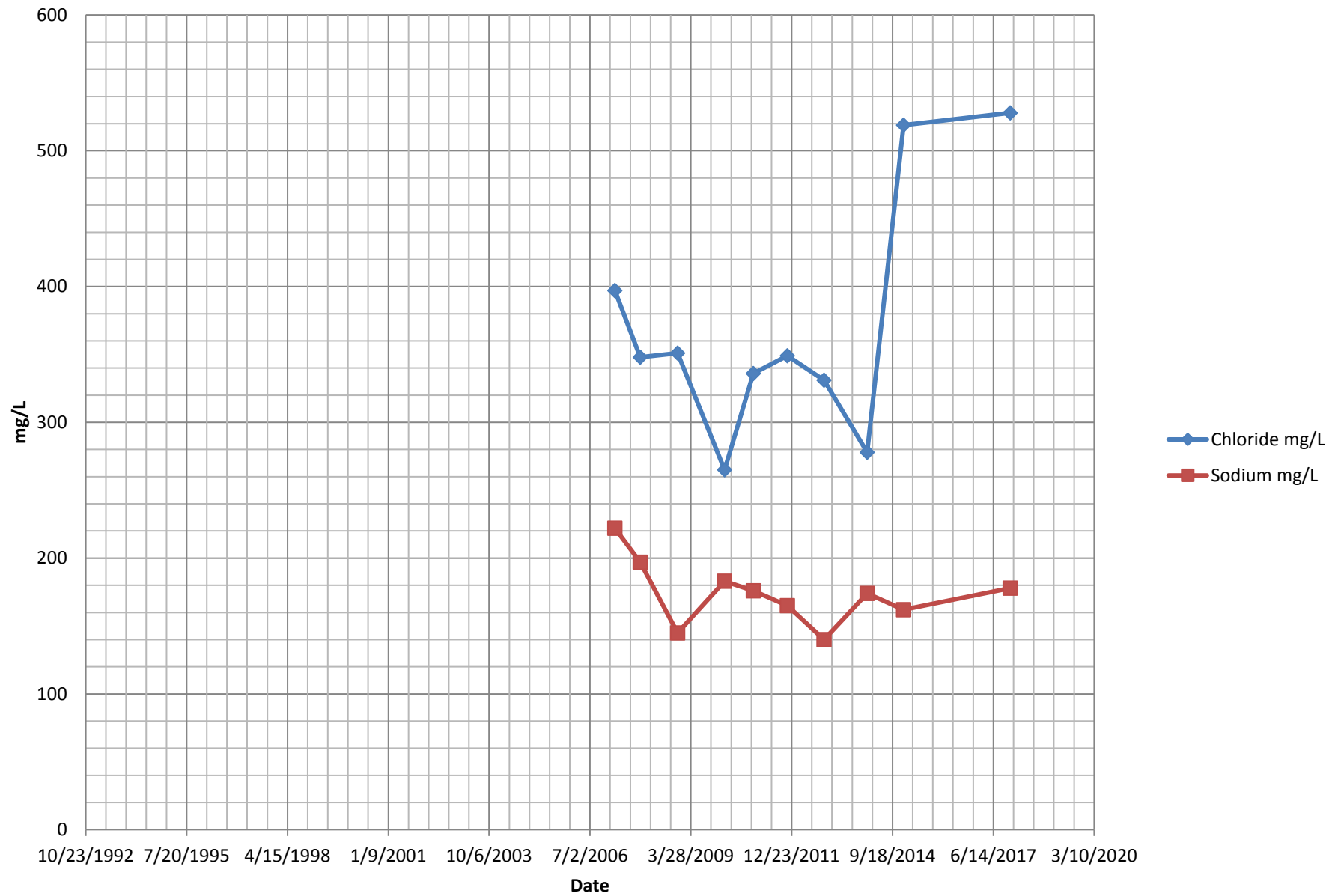
OXY Chloride and Sodium Concentrations



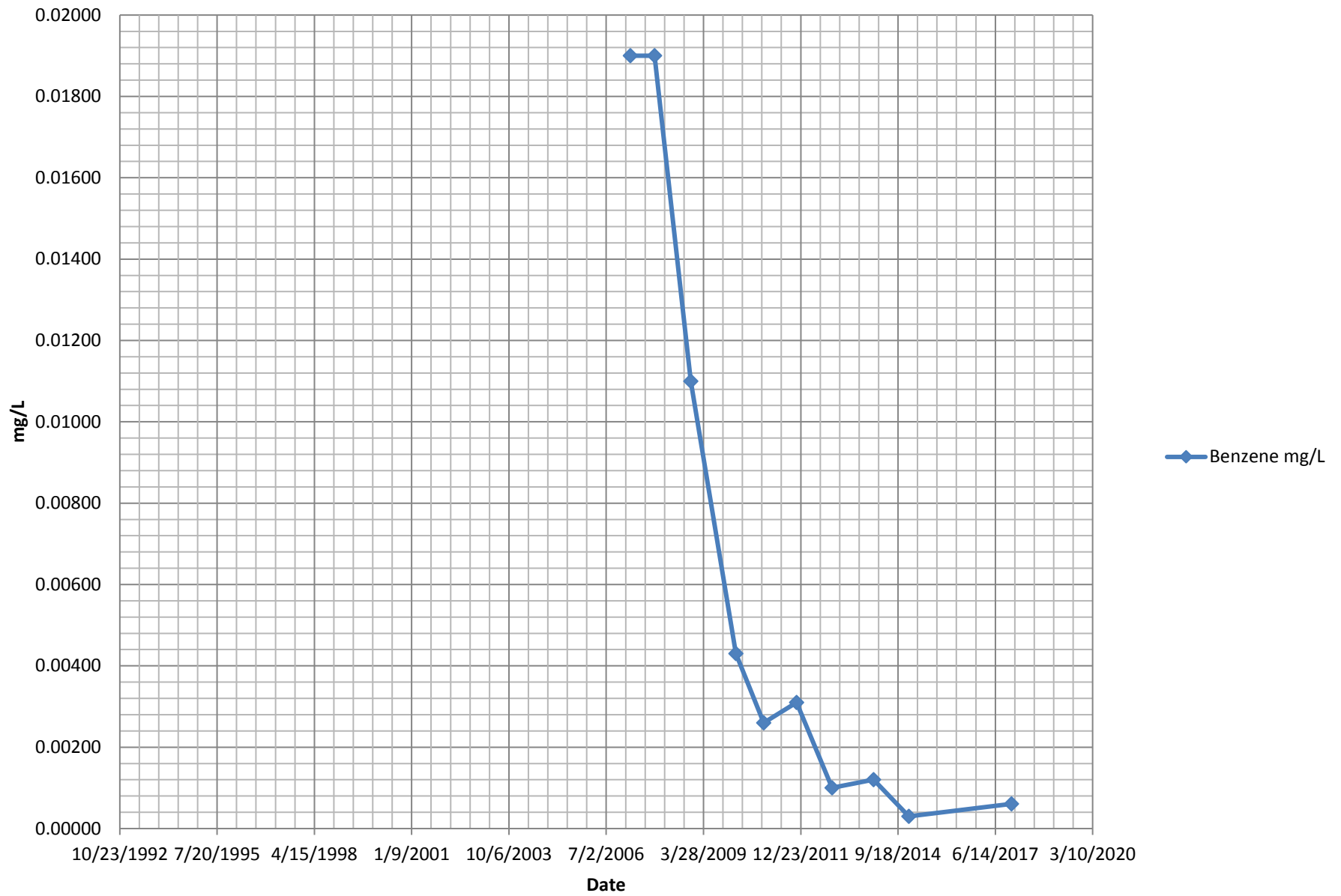
PTP-01 Total Dissolved Solids Concentration



PTP-01 Chloride and Sodium Concentrations



PTP-01 Benzene Concentration



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