TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-111344-2

Job Description: Ravenna, OH

For:
Cardno GS, Inc
2496 Old Ivy Road
Suite 300
Charlottesville, VA 22903

Attention: Mr. Peter Chapman

Approved for release.
Patrick J McEntee
Manager of Project Management
10/9/2018 1:39 PM

Patrick J McEntee, Manager of Project Management
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10/09/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

Table of Contents

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	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)

CASE NARRATIVE

Client: Cardno GS, Inc

Project: Ravenna, OH

Report Number: 280-111344-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 6/23/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 11 coolers at receipt time were 0.2º C, 0.4º C, 0.6º C, 1.4º C, 1.5º C, 1.8º C, 2.8º C, 2.8º C, 2.8º C, 2.9º C and 2.9º C.

Receipt Exceptions

All coolers were received without a custody seal present. It can be noted that shipping tape was in tact and there was no evidence of tampering with the sample volume during transit. The client was notified on 6/25/2018.

The requested 353.2 Nitrocellulose and 8330 Nitroguanidine analyses were subcontracted to TestAmerica's Sacramento laboratory.

Per client request on 6/22/2018, the requested 2320B Alkalinity analysis was cancelled and 9040C pH analysis was added for each of the following samples: CBLmw-001-062018-GW (280-111344-3), CBLmw-001-D-062018-GW (280-111344-4), CBLmw-002-062018-GW (280-111344-5), CBLmw-003-062118-GW (280-111344-9) and CBLmw-004-062118-GW (280-111344-10).

Sample volume for the requested 9056 Nitrate analysis for the following samples was received at the laboratory performing the analysis, TestAmerica Denver, with less than half the analytical hold time remaining or one 8 hour shift: FWGmw-020-062118-GW (280-111344-1), CBLmw-003-062118-GW (280-111344-9) and CBLmw-004-062118-GW (280-111344-10). It is TestAmerica's policy to analyze all samples within hold time whenever possible. However, TestAmerica cannot guarantee samples will be analyzed within hold time when they are received with less than half the analytical hold time or one 8 hour shift remaining. The requested analyses were performed on 6/24/2018, outside of the 48 hour hold time. The laboratory will report the analytical results with hold time narration unless instructed otherwise. The client was notified on 6/25/2018.

SDG 280-111344-2 was created to report sulfate and nitrite in accordance with method 9056A for samples CBLmw-003-062118-GW (280-111344-9) and CBLmw-004-062118-GW (280-111344-10) as requested by the client on September 26, 2018.

ANIONS (28 DAYS)

Samples CBLmw-003-062118-GW (280-111344-9) and CBLmw-004-062118-GW (280-111344-10) were analyzed for anions (28 days) in accordance with 9056A. The samples were analyzed on 06/24/2018.

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

ANIONS (48 HOURS)

Samples CBLmw-003-062118-GW (280-111344-9) and CBLmw-004-062118-GW (280-111344-10) were analyzed for anions (48 hours) in accordance with 9056A. The samples were analyzed on 06/24/2018.

The request to report nitrite results for samples CBLmw-003-062118-GW (280-111344-9) and CBLmw-004-062118-GW (280-111344-10) was made after the holding times had expired .

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

Detection Summary

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

Client Sample ID: CBLmw-003-062118-GW — Lab Sample ID: 280-111344-9

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	30000		5000	500	230	ug/L	1		9056A	Total/NA

Client Sample ID: CBLmw-004-062118-GW — Lab Sample ID: 280-111344-10

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	15000		5000	500	230	ug/L	1		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CBLmw-003-062118-GW

Lab Sample ID: 280-111344-9

Date Collected: 06/21/18 16:30

Matrix: Water

Date Received: 06/23/18 08:50

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrite as N	0.10	U H	0.50	0.10	0.049	mg/L		06/24/18 14:37	1
Sulfate	**30000**		5000	500	230	ug/L		06/24/18 14:37	1

Client Sample ID: CBLmw-004-062118-GW

Lab Sample ID: 280-111344-10

Date Collected: 06/21/18 16:40

Matrix: Water

Date Received: 06/23/18 08:50

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrite as N	0.10	U H	0.50	0.10	0.049	mg/L		06/24/18 14:55	1
Sulfate	**15000**		5000	500	230	ug/L		06/24/18 14:55	1

Default Detection Limits

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

General Chemistry

Analyte	LOQ	DL	Units	Method
Nitrite as N	0.50	0.049	mg/L	9056A
Sulfate	5000	230	ug/L	9056A

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-419757/8
Matrix: Water
Analysis Batch: 419757

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrite as N	0.10	U	0.50	0.10	0.049	mg/L		06/24/18 14:01	1

Lab Sample ID: LCS 280-419757/6
Matrix: Water
Analysis Batch: 419757

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			5.00	4.97		mg/L		99	87 - 111		

Lab Sample ID: LCSD 280-419757/7
Matrix: Water
Analysis Batch: 419757

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
Nitrite as N			5.00	4.98		mg/L		100	87 - 111	0	10

Lab Sample ID: MRL 280-419757/5
Matrix: Water
Analysis Batch: 419757

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			0.200	0.189	J	mg/L		94	50 - 150		

Lab Sample ID: 280-111344-10 MS
Matrix: Water
Analysis Batch: 419757

Client Sample ID: CBLmw-004-062118-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	0.10	U H	5.00	4.62		mg/L		92	87 - 111		

Lab Sample ID: 280-111344-10 MSD
Matrix: Water
Analysis Batch: 419757

Client Sample ID: CBLmw-004-062118-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	0.10	U H	5.00	4.80		mg/L		96	87 - 111	4	10

Lab Sample ID: 280-111344-10 DU
Matrix: Water
Analysis Batch: 419757

Client Sample ID: CBLmw-004-062118-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrite as N	0.10	U H		0.10	U	mg/L				NC	10

Lab Sample ID: MB 280-419758/8
Matrix: Water
Analysis Batch: 419758

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	500	U	5000	500	230	ug/L		06/24/18 14:01	1

Lab Sample ID: LCS 280-419758/6
Matrix: Water
Analysis Batch: 419758

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			100000	96200		ug/L		96	87 - 112		

Lab Sample ID: LCSD 280-419758/7
Matrix: Water
Analysis Batch: 419758

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
Sulfate			100000	96300		ug/L		96	87 - 112	0	10

Lab Sample ID: MRL 280-419758/5
Matrix: Water
Analysis Batch: 419758

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			2.50	2.31	J	mg/L		93	50 - 150		

Lab Sample ID: 280-111344-10 MS
Matrix: Water
Analysis Batch: 419758

Client Sample ID: CBLmw-004-062118-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	15000		25000	40000		ug/L		102	87 - 112		

Lab Sample ID: 280-111344-10 MSD
Matrix: Water
Analysis Batch: 419758

Client Sample ID: CBLmw-004-062118-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	15000		25000	40800		ug/L		105	87 - 112	2	10

Lab Sample ID: 280-111344-10 DU
Matrix: Water
Analysis Batch: 419758

Client Sample ID: CBLmw-004-062118-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate	15000			14400		ug/L				0.9	10

QC Association Summary

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

General Chemistry

Analysis Batch: 419757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111344-9	CBLmw-003-062118-GW	Total/NA	Water	9056A	
280-111344-10	CBLmw-004-062118-GW	Total/NA	Water	9056A	
MB 280-419757/8	Method Blank	Total/NA	Water	9056A	
LCS 280-419757/6	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-419757/7	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-419757/5	Lab Control Sample	Total/NA	Water	9056A	
280-111344-10 MS	CBLmw-004-062118-GW	Total/NA	Water	9056A	
280-111344-10 MSD	CBLmw-004-062118-GW	Total/NA	Water	9056A	
280-111344-10 DU	CBLmw-004-062118-GW	Total/NA	Water	9056A	

Analysis Batch: 419758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111344-9	CBLmw-003-062118-GW	Total/NA	Water	9056A	
280-111344-10	CBLmw-004-062118-GW	Total/NA	Water	9056A	
MB 280-419758/8	Method Blank	Total/NA	Water	9056A	
LCS 280-419758/6	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-419758/7	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-419758/5	Lab Control Sample	Total/NA	Water	9056A	
280-111344-10 MS	CBLmw-004-062118-GW	Total/NA	Water	9056A	
280-111344-10 MSD	CBLmw-004-062118-GW	Total/NA	Water	9056A	
280-111344-10 DU	CBLmw-004-062118-GW	Total/NA	Water	9056A	

Lab Chronicle

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

Client Sample ID: CBLmw-003-062118-GW

Lab Sample ID: 280-111344-9

Date Collected: 06/21/18 16:30

Matrix: Water

Date Received: 06/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	419757	06/24/18 14:37	TLP	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	419758	06/24/18 14:37	TLP	TAL DEN

Client Sample ID: CBLmw-004-062118-GW

Lab Sample ID: 280-111344-10

Date Collected: 06/21/18 16:40

Matrix: Water

Date Received: 06/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	419757	06/24/18 14:55	TLP	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	419758	06/24/18 14:55	TLP	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

Laboratory: TestAmerica Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-19

Method Summary

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Cardno GS, Inc
Project/Site: Ravenna, OH

TestAmerica Job ID: 280-111344-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-111344-9	CBLmw-003-062118-GW	Water	06/21/18 16:30	06/23/18 08:50
280-111344-10	CBLmw-004-062118-GW	Water	06/21/18 16:40	06/23/18 08:50

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
IC CAL cl/so4_00202	06/08/18	06/01/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18	SPEX CertiPrep, Lot 4-72CL-2X			(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19	SPEX CertiPrep, Lot 4-65SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC CAL cl/so4_00205	06/30/18	06/23/18	Di Water, Lot na	100 mL	IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00052	04/30/19	SPEX CertiPrep, Lot 4-65SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC Cal low_00373	06/11/18	06/04/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
					IC FL cal_00012	5 mL	Fluoride	50 mg/L
					IC N02 CAL_00042	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00018	5 mL	Orthophosphate as P	50 mg/L
.IC Br cal_00015	01/31/19	Ricca, Lot 4707D55			(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00012	10/31/18	Ricca, Lot 4704K15			(Purchased Reagent)		Fluoride	1000 mg/L
.IC N02 CAL_00042	08/31/18	RICCA, Lot 1802e42			(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00018	11/30/18	Ricca, Lot 2705D50			(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC P04 cal_00018	11/30/19	RICCA, Lot 4711L59			(Purchased Reagent)		Orthophosphate as P	1000 mg/L
IC Cal low_00379	06/29/18	06/22/18	Di Water, Lot NA	100 mL	IC N02 CAL_00042	5 mL	Nitrite as N	50 mg/L
.IC N02 CAL_00042	08/31/18	RICCA, Lot 1802e42			(Purchased Reagent)		Nitrite as N	1000 ppm
IC ICV 5_00201	06/06/18	05/30/18	Di Water, Lot na	10 mL	IC NO2 ICV_00015	0.5 mL	Nitrite as N	50 mg/L
.IC NO2 ICV_00015	06/30/18	ERA, Lot 320616			(Purchased Reagent)		Nitrite as N	1000 mg/L
IC LCS_01265	06/25/18	06/24/18	Di Water, Lot 27	200 mL	IC Cal low_00379	20 mL	Nitrite as N	5 mg/L
					IC sulfatecal_00052	20 mL	Sulfate	100 mg/L
.IC Cal low_00379	06/29/18	06/22/18	Di Water, Lot NA	100 mL	IC N02 CAL_00042	5 mL	Nitrite as N	50 mg/L
..IC N02 CAL_00042	08/31/18	RICCA, Lot 1802e42			(Purchased Reagent)		Nitrite as N	1000 ppm
.IC sulfatecal_00052	04/30/19	SPEX CertiPrep, Lot 4-65SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC SO4 ICV_00017	06/30/19	ERA, Lot 210617			(Purchased Reagent)		Sulfate	1000 mg/L
ICMS/MSD WEEK_00538	06/25/18	06/18/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00019	5 mL	Sulfate	2500.26 mg/L
					IC SPK N02SOL_00013	5 mL	Nitrite as N	499.973 mg/L
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC MS/MSD S04_00005	9.0704 g	Sulfate	5000.51 mg/L
..IC MS/MSD S04_00005	09/29/20	FISHER, Lot 147276			(Purchased Reagent)		Sulfate	0.5513 g/g
.IC SPK N02SOL_00013	06/05/19	06/05/18	Di Water, Lot na	500 mL	IC MS/MSD N02_00002	2.4628 g	Nitrite as N	999.946 mg/L
..IC MS/MSD N02_00002	01/12/27	fisher, Lot 164254			(Purchased Reagent)		Nitrite as N	0.20301 g/g

Reagent

IC Br cal_00015

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Bromide Standard, 1000 ppm Br^-

Lot Number: 4707D55 **Product Number:** 1180

Manufacture Date: JUL 20, 2017
Expiration Date: JAN 2019

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Bromide	7647-15-6	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Bromide (Br)	995-1005 ppm	1000 ppm

Specification	Reference
Bromide Solution, Standard (1 mL = 1 mg Br-)	ASTM (D 3869 D)
Standard Bromide Solution, 1000 mg/L	APHA (4110 B)
Bromide Stock Solution (1.00 mL = 1.00 mg Br-)	EPA (SW-846) (9056)
Sodium Bromide Standard Solution, 1000 mg/L	ASTM (D 1246)
Bromide Stock Solution (1.00 mL = 1.00 mg Br?)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1180-16	500 mL natural poly	18 months
1180-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jim Gibbs (07/20/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC CL cal_00051

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: AS-CL9-2X **Lot No.** 4-72CL-2X

Description: 1000 µg/mL Chloride

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3182*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Sodium Chloride, Lot# 07131A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1002 µg/mL

Method: Precipitation using Silver Nitrate. Filter, dry and weigh as AgCl.

Instrumental Analysis by Ion Chromatography: 1004 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.05	NO_3^-	<0.04
F^-	<0.006	$PO4^{-3}$	<0.06
NO_2^-	<0.03	$SO4^{-2}$	<0.05

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: 1 AUG 2017 Certifying Officer: Kathleen Cullen

Reagent

IC FL cal_00012

RICCA CHEMICAL COMPANY®

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Batesville, IN 47006
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1-888-GO-RICCA
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Certificate of Analysis

Fluoride Standard, 1000 ppm F^-

Lot Number: 4704K15 **Product Number:** 3173

Manufacture Date: APR 26, 2017
Expiration Date: OCT 2018

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Fluoride (F)	995-1005 ppm	1000 ppm

Specification	Reference
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5542)
Fluoride Stock Solution (1.00 mL = 1.00 mg F^-)	EPA (SW-846) (9056)
Fluoride Calibration Stock Solution (1,000 mg/L F^-)	EPA (SW-846) (9214)
Stock Solution, 1.0 mL = 1.0 mg F	EPA (340.3)
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5996)
Fluoride Stock Solution (1.00 mL = 1.00 mg F?)	ASTM (D 4327)
Fluoride Stock Standard Solution (1 mg of F in 1 mL)	ACS (N/A)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3173-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jim Gibbs (04/26/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC MS/MSD N02_00002

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

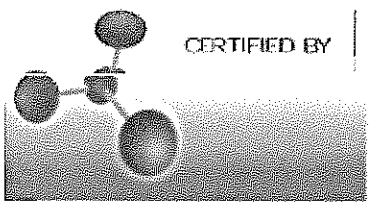
Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**S347**	**Quality Test / Release Date**	**9/9/2016**
Lot Number	**164254**		
Description	**SODIUM NITRITE, A.C.S.**		
Country of Origin	**India**	*** Suggested Retest Date**	**Sep-2021**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	yELLOW-WHITE CRYSTALS
ASSAY	%	>= 97	98.6
CALCIUM	%	<= 0.01	<0.010
CHLORIDE	%	<= 0.005	<0.005
HEAVY METALS (as Pb)	%	<= 0.001	<0.0010
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	%	<= 0.001	<0.0010
POTASSIUM (K)	%	<= 0.005	<0.0010
SULFATE (SO4)	%	<= 0.01	<0.010



Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

IC MS/MSD S04_00005

Fisher Scientific

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201.796.7100 tel
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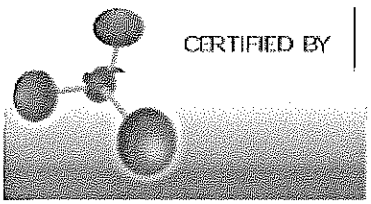
Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**P304**	**Quality Test / Release Date**	**3/2/2015**
Lot Number	**147276**		
Description	**POTASSIUM SULFATE, CRYSTAL, CERTIFIED, A.C.S.**		
Country of Origin	**India**	*** Suggested Retest Date**	**Feb-2020**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	This product is not manufactured from, or with, any type of animal product, nor any derivative of an animal product. As such, this product should not be considered a vector for BSE or TSE.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	FINE WHITE CRYSTALS
ASSAY	%	>= 99	99.4
CALCIUM	%	<= 0.01	<0.010
CHLORIDE	%	<= 0.001	<0.0010
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	ppm	<= 5	<5.0
MAGNESIUM	%	<= 0.005	<0.0050
NITROGEN COMPOUNDS	ppm	<= 5	<5
PH 5% SOLUTION @ 25 DEG C		Inclusive Between 5.5 - 8.5	5.5
SODIUM (Na)	%	<= 0.02	<0.020



Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

IC N02 CAL_00042

RICCA CHEMICAL COMPANY®

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Certificate of Analysis

Nitrite Nitrogen Standard, 1000 ppm N (3285 ppm NO_2^-)

Lot Number: 1802E42 **Product Number:** R5444900

Manufacture Date: FEB 14, 2018
Expiration Date: AUG 2018

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrite	7758-09-0	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Permanganate)	995-1005 ppm N	1001 ppm N	40

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
R5444900-120C	120 mL amber glass	6 months
R5444900-500C	500 mL amber glass	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

Israel Alamudun (02/14/2018)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC N03 cal_00018

RICCA CHEMICAL COMPANY®

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Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3^-)

Lot Number: 2705D50 **Product Number:** 5459

Manufacture Date: MAY 24, 2017
Expiration Date: NOV 2018

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrate	7757-79-1	High Purity
Chloroform	67-66-3	

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Andy Baumgartner (05/24/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC NO2 ICV_00015

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Nitrite as N (NO_2-N)
CATALOG NUMBER:	053 -125 mL; 990 - 500 mL
LOT NUMBER:	320616
ISSUE DATE:	July 7, 2016
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Nitrite ($NaNO_2$)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.9%
MATRIX:	18 megohm deionized water
DENSITY:	1.0001 ± 0.0016 g/mL at 20.0°C and 761 mm Hg
TRACEABILITY[3]:	NA
NIST/SRM:	SRM not available
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 6/2018**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

IC P04 cal_00018

RICCA CHEMICAL COMPANY®

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Certificate of Analysis

Phosphorus AA Standard, 1000 ppm P in H_2O

Lot Number: 4711L59 **Product Number:** AP1KW

Manufacture Date: NOV 30, 2017
Expiration Date: NOV 2019

This is a single element solution that was prepared volumetrically to contain the certified value reported. The uncertainty associated with the certifiec value is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution, and transpiration of the solution through the container wall.
The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3139.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Ammonium Dihydrogen Phosphate	7722-76-1	High Purity

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Phosphorus (P)	995-1005 ppm	1000 ppm	3139

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
AP1KW-500	500 mL natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jim Gibbs (11/30/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC SO4 ICV_00017

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Sulfate (SO_4)
CATALOG NUMBER:	062 -125 mL; 995 - 500 mL
LOT NUMBER:	210617
ISSUE DATE:	June 27, 2017
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Sulfate (K_2SO_4)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9987 ± 0.0008 g/mL at 22.5°C and 757 mm Hg
TRACEABILITY[3]:	99.5%
NIST/SRM:	3181 Sulfate
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability ((% Recovery Certified Standard)/(% Recovery NIST SRM))* 100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs. Where a NIST SRM is not available, the product is metrologically traceable through an unbroken chain of calibrations to NIST weights, each having stated uncertainties and utilizing measurement standards that are appropriate for the physical and/or chemical property being measured.

This standard **expires 6/2019**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller - Product Line Manager

ISO/IEC GUIDE 34:2009 ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 ACCREDITED
CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-111344-2

SDG No.:

Project: Ravenna, OH

Client Sample ID	Lab Sample ID
CBLmw-003-062118-GW	280-111344-9
CBLmw-004-062118-GW	280-111344-10

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: CBLmw-003-062118-GW
Lab Sample ID: 280-111344-9
Lab Name: TestAmerica Denver
Job No.: 280-111344-2
SDG ID.:
Matrix: Water
Date Sampled: 06/21/2018 16:30
Reporting Basis: WET
Date Received: 06/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrite as N	0.10	0.50	0.10	0.049	mg/L	U	H	1	9056A
Sulfate	30000	5000	500	230	ug/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: CBLmw-004-062118-GW
Lab Sample ID: 280-111344-10
Lab Name: TestAmerica Denver
Job No.: 280-111344-2
SDG ID.:
Matrix: Water
Date Sampled: 06/21/2018 16:40
Reporting Basis: WET
Date Received: 06/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Nitrite as N	0.10	0.50	0.10	0.049	mg/L	U	H	1	9056A
Sulfate	15000	5000	500	230	ug/L			1	9056A

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Analyst: CCJ Batch Start Date: 06/05/2018

Reporting Units: mg/L Analytical Batch No.: 417404

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	12:20	Nitrite as N	4.15	4.00	104	90-110		IC ICV 5_00201
9	ICB	12:38	Nitrite as N	0.10				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Analyst: CCJ Batch Start Date: 06/05/2018

Reporting Units: mg/L Analytical Batch No.: 417405

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	12:20	Sulfate	82.4	80.0	103	90-110		IC SO4 ICV_00017
9	ICB	12:38	Sulfate	0.50				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Analyst: TLP Batch Start Date: 06/24/2018

Reporting Units: mg/L Analytical Batch No.: 419757

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	11:55	Nitrite as N	4.58	5.00	92	90-110		IC LCS_01265
2	CCB	12:13	Nitrite as N	0.10				U	
17	CCV	16:42	Nitrite as N	4.97	5.00	99	90-110		IC LCS_01265
18	CCB	16:59	Nitrite as N	0.10				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Analyst: TLP Batch Start Date: 06/24/2018

Reporting Units: mg/L Analytical Batch No.: 419758

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	11:55	Sulfate	93.8	100	94	90-110		IC LCS_01265
2	CCB	12:13	Sulfate	0.50				U	
17	CCV	16:42	Sulfate	96.4	100	96	90-110		IC LCS_01265
18	CCB	16:59	Sulfate	0.50				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 419757 Date: 06/24/2018 14:01							
9056A	MB 280-419757/8	Nitrite as N	0.10	U	mg/L	0.50	1
Batch ID: 419758 Date: 06/24/2018 14:01							
9056A	MB 280-419758/8	Sulfate	500	U	ug/L	5000	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 419757 Date: 06/24/2018 15:30											
9056A	280-111344-10	Nitrite as N	0.10	U	mg/L						H
9056A	280-111344-10 MS	Nitrite as N	4.62		mg/L	5.00	92	87-111			
Batch ID: 419758 Date: 06/24/2018 15:30											
9056A	280-111344-10	Sulfate	15000		ug/L						
9056A	280-111344-10 MS	Sulfate	40000		ug/L	25000	102	87-112			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 419757 Date: 06/24/2018 15:48											
9056A	280-111344-10 MSD	Nitrite as N	4.80		mg/L	5.00	96	87-111	4	10	
Batch ID: 419758 Date: 06/24/2018 15:48											
9056A	280-111344-10 MSD	Sulfate	40800		ug/L	25000	105	87-112	2	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 419757 Date: 06/24/2018 15:13								
9056A	CBLmw-004-062118-GW	280-111344-10	Nitrite as N	0.10	mg/L			U
9056A	CBLmw-004-062118-GW	280-111344-10 DU	Nitrite as N	0.10	mg/L	NC	10	U
Batch ID: 419758 Date: 06/24/2018 15:13								
9056A	CBLmw-004-062118-GW	280-111344-10	Sulfate	15000	ug/L			
9056A	CBLmw-004-062118-GW	280-111344-10 DU	Sulfate	14400	ug/L	0.9	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 419757	Date: 06/24/2018 13:26										
						LCS Source: IC LCS_01265					
9056A	LCS 280-419757/6	Nitrite as N	4.97		mg/L	5.00	99	87-111	0	10	
Batch ID: 419758	Date: 06/24/2018 13:26										
						LCS Source: IC LCS_01265					
9056A	LCS 280-419758/6	Sulfate	96200		ug/L	100000	96	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 419757	Date: 06/24/2018 13:43										
						LCSD Source: IC LCS_01265					
9056A	LCSD 280-419757/7	Nitrite as N	4.98		mg/L	5.00	100	87-111	0	10	
Batch ID: 419758	Date: 06/24/2018 13:43										
						LCSD Source: IC LCS_01265					
9056A	LCSD 280-419758/7	Sulfate	96300		ug/L	100000	96	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
METHOD REPORTING LIMIT CHECK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 419757	Date: 06/24/2018 13:08										
						LCS Source: IC Cal low_00379					
9056A	MRL 280-419757/5	Nitrite as N	0.189	J	mg/L	0.200	94	50-150			
Batch ID: 419758	Date: 06/24/2018 13:08										
						LCS Source: IC CAL cl/so4_00205					
9056A	MRL 280-419758/5	Sulfate	2.31	J	mg/L	2.50	93	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-111344-2

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom7

Method: 9056A DL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Nitrite as N		0.5	0.049
Sulfate		5	0.232

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-111344-2

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom7

Method: 9056A XMDL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrite as N		0.5	0.049
Sulfate		5	0.232

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Instrument ID: WC_IonChrom7 Analysis Method: 9056A

Start Date: 06/05/2018 10:15 End Date: 06/06/2018 08:48

Lab Sample Id	D/F	Type	Time	Analytes
				NO2-N
RTC 280-417404/1			10:15	
STD 280-417404/2 IC	1		10:33	X
STD 280-417404/3 IC	1		10:51	X
STD 280-417404/4 IC	1		11:09	X
STD 280-417404/5 IC	1		11:27	X
STD 280-417404/6 IC	1		11:44	X
STD 280-417404/7 IC	1		12:02	X
ICV 280-417404/8	1		12:20	X
ICB 280-417404/9	1		12:38	X
ZZZZZZ			12:56	
ZZZZZZ			13:13	
ZZZZZZ			13:31	
ZZZZZZ			13:49	
ZZZZZZ			19:08	
ZZZZZZ			19:26	
ZZZZZZ			19:44	
ZZZZZZ			20:01	
ZZZZZZ			20:19	
ZZZZZZ			20:37	
ZZZZZZ			20:55	
ZZZZZZ			21:13	
ZZZZZZ			21:30	
ZZZZZZ			21:48	
CCV 280-417404/24			22:06	
CCB 280-417404/25			22:24	
ZZZZZZ			22:42	
ZZZZZZ			22:59	
ZZZZZZ			23:17	
ZZZZZZ			23:35	
ZZZZZZ			23:53	
ZZZZZZ			00:11	
ZZZZZZ			00:28	
ZZZZZZ			00:46	
ZZZZZZ			01:04	
ZZZZZZ			01:22	
CCV 280-417404/36			01:40	
CCB 280-417404/37			01:57	
ZZZZZZ			02:15	
ZZZZZZ			02:33	

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Instrument ID: WC_IonChrom7 Analysis Method: 9056A

Start Date: 06/05/2018 10:15 End Date: 06/06/2018 08:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				NO2-N																								
ZZZZZZ			02:51																									
ZZZZZZ			03:09																									
CCV 280-417404/48			05:13																									
CCB 280-417404/49			05:31																									
CCV 280-417404/59			08:30																									
CCB 280-417404/60			08:48																									

Prep Types:
=

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Instrument ID: WC_IonChrom7 Analysis Method: 9056A

Start Date: 06/05/2018 10:15 End Date: 06/06/2018 08:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
RTC 280-417405/1			10:15																									
STD 280-417405/2 IC	1		10:33	X																								
STD 280-417405/3 IC	1		10:51	X																								
STD 280-417405/4 IC	1		11:09	X																								
STD 280-417405/5 IC	1		11:27	X																								
STD 280-417405/6 IC	1		11:44	X																								
STD 280-417405/7 IC	1		12:02	X																								
ICV 280-417405/8	1		12:20	X																								
ICB 280-417405/9	1		12:38	X																								
ZZZZZZ			12:56																									
ZZZZZZ			13:13																									
ZZZZZZ			13:31																									
ZZZZZZ			13:49																									
ZZZZZZ			19:08																									
ZZZZZZ			19:26																									
ZZZZZZ			19:44																									
ZZZZZZ			20:01																									
ZZZZZZ			20:19																									
ZZZZZZ			20:37																									
ZZZZZZ			20:55																									
ZZZZZZ			21:13																									
ZZZZZZ			21:30																									
ZZZZZZ			21:48																									
CCV 280-417405/24			22:06																									
CCB 280-417405/25			22:24																									
ZZZZZZ			22:42																									
ZZZZZZ			22:59																									
ZZZZZZ			23:17																									
ZZZZZZ			23:35																									
ZZZZZZ			23:53																									
ZZZZZZ			00:11																									
ZZZZZZ			00:28																									
ZZZZZZ			00:46																									
ZZZZZZ			01:04																									
ZZZZZZ			01:22																									
CCV 280-417405/36			01:40																									
CCB 280-417405/37			01:57																									
ZZZZZZ			02:15																									
ZZZZZZ			02:33																									
ZZZZZZ			02:51																									
ZZZZZZ			03:09																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Instrument ID: WC_IonChrom7 Analysis Method: 9056A

Start Date: 06/05/2018 10:15 End Date: 06/06/2018 08:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
ZZZZZZ			03:26																									
ZZZZZZ			03:44																									
ZZZZZZ			04:02																									
ZZZZZZ			04:20																									
ZZZZZZ			04:38																									
ZZZZZZ			04:55																									
CCV 280-417405/48			05:13																									
CCB 280-417405/49			05:31																									
ZZZZZZ			05:49																									
ZZZZZZ			06:07																									
ZZZZZZ			06:24																									
ZZZZZZ			06:42																									
ZZZZZZ			07:01																									
ZZZZZZ			07:19																									
ZZZZZZ			07:37																									
ZZZZZZ			07:54																									
ZZZZZZ			08:12																									
CCV 280-417405/59			08:30																									
CCB 280-417405/60			08:48																									

Prep Types:
=

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Instrument ID: WC_IonChrom7 Analysis Method: 9056A

Start Date: 06/24/2018 11:55 End Date: 06/24/2018 16:59

Lab Sample Id	D/F	Type	Time	Analytes																								
				NO2-N																								
CCV 280-419757/1	1		11:55	X																								
CCB 280-419757/2	1		12:13	X																								
ZZZZZZ			12:32																									
ZZZZZZ			12:50																									
MRL 280-419757/5	1	T	13:08	X																								
LCS 280-419757/6	1	T	13:26	X																								
LCSD 280-419757/7	1	T	13:43	X																								
MB 280-419757/8	1	T	14:01	X																								
ZZZZZZ			14:19																									
280-111344-9	1	T	14:37	X																								
280-111344-10	1	T	14:55	X																								
280-111344-10 DU	1	T	15:13	X																								
280-111344-10 MS	1	T	15:30	X																								
280-111344-10 MSD	1	T	15:48	X																								
ZZZZZZ			16:06																									
ZZZZZZ			16:24																									
CCV 280-419757/17	1		16:42	X																								
CCB 280-419757/18	1		16:59	X																								

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Instrument ID: WC_IonChrom7 Analysis Method: 9056A

Start Date: 06/24/2018 11:55 End Date: 06/24/2018 16:59

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
CCV 280-419758/1	1		11:55	X																								
CCB 280-419758/2	1		12:13	X																								
ZZZZZZ			12:32																									
ZZZZZZ			12:50																									
MRL 280-419758/5	1	T	13:08	X																								
LCS 280-419758/6	1	T	13:26	X																								
LCSD 280-419758/7	1	T	13:43	X																								
MB 280-419758/8	1	T	14:01	X																								
280-111344-9	1	T	14:37	X																								
280-111344-10	1	T	14:55	X																								
280-111344-10 DU	1	T	15:13	X																								
280-111344-10 MS	1	T	15:30	X																								
280-111344-10 MSD	1	T	15:48	X																								
ZZZZZZ			16:06																									
ZZZZZZ			16:24																									
CCV 280-419758/17	1		16:42	X																								
CCB 280-419758/18	1		16:59	X																								

Prep Types:
T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Batch Number: 417404 Batch Start Date: 06/05/18 10:15 Batch Analyst: Jewell, Connie C

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00202	IC Cal low 00373	IC CL ICV 00014	IC ICV 5 00201
STD 280-417404/2 IC		9056A		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-417404/3 IC		9056A		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-417404/4 IC		9056A		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-417404/5 IC		9056A		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-417404/6 IC		9056A		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-417404/7 IC		9056A		5 mL	5 mL	4 mL	1 mL		
ICV 280-417404/8		9056A		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-417404/9		9056A		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-417404/2 IC		9056A							
STD 280-417404/3 IC		9056A							
STD 280-417404/4 IC		9056A							
STD 280-417404/5 IC		9056A							
STD 280-417404/6 IC		9056A							
STD 280-417404/7 IC		9056A							
ICV 280-417404/8		9056A		0.4 mL					
ICB 280-417404/9		9056A							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Batch Number: 417404 Batch Start Date: 06/05/18 10:15 Batch Analyst: Jewell, Connie C

Batch Method: 9056A Batch End Date:

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	171210701013
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Batch Number: 417405 Batch Start Date: 06/05/18 10:15 Batch Analyst: Jewell, Connie C

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00202	IC Cal low 00373	IC CL ICV 00014	IC ICV 5 00201
STD 280-417405/2 IC		9056A		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-417405/3 IC		9056A		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-417405/4 IC		9056A		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-417405/5 IC		9056A		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-417405/6 IC		9056A		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-417405/7 IC		9056A		5 mL	5 mL	4 mL	1 mL		
ICV 280-417405/8		9056A		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-417405/9		9056A		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-417405/2 IC		9056A							
STD 280-417405/3 IC		9056A							
STD 280-417405/4 IC		9056A							
STD 280-417405/5 IC		9056A							
STD 280-417405/6 IC		9056A							
STD 280-417405/7 IC		9056A							
ICV 280-417405/8		9056A		0.4 mL					
ICB 280-417405/9		9056A							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Batch Number: 417405 Batch Start Date: 06/05/18 10:15 Batch Analyst: Jewell, Connie C

Batch Method: 9056A Batch End Date:

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	171210701013
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Batch Number: 419757 Batch Start Date: 06/24/18 11:55 Batch Analyst: Phan, Thu L

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00205	IC Cal low 00379	IC LCS 01265	ICMS/MSD WEEK 00538
CCV 280-419757/1		9056A		5 mL	5 mL			5 mL	
CCB 280-419757/2		9056A		5 mL	5 mL				
MRL 280-419757/5		9056A		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-419757/6		9056A		5 mL	5 mL			5 mL	
LCSD 280-419757/7		9056A		5 mL	5 mL			5 mL	
MB 280-419757/8		9056A		5 mL	5 mL				
280-111344-I-9	CBLmw-003-062118-GW	9056A	T	5 mL	5 mL				
280-111344-J-10	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				
280-111344-J-10 DU	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				
280-111344-J-10 MS	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				0.05 mL
280-111344-J-10 MSD	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				0.05 mL
CCV 280-419757/17		9056A		5 mL	5 mL			5 mL	
CCB 280-419757/18		9056A		5 mL	5 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	5000ics, 1000d, 100c
Regeneration Solution ID	171210701013

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111344-2

SDG No.:

Batch Number: 419758 Batch Start Date: 06/24/18 11:55 Batch Analyst: Phan, Thu L

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00205	IC Cal low 00379	IC LCS 01265	ICMS/MSD WEEK 00538
CCV 280-419758/1		9056A		5 mL	5 mL			5 mL	
CCB 280-419758/2		9056A		5 mL	5 mL				
MRL 280-419758/5		9056A		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-419758/6		9056A		5 mL	5 mL			5 mL	
LCSD 280-419758/7		9056A		5 mL	5 mL			5 mL	
MB 280-419758/8		9056A		5 mL	5 mL				
280-111344-I-9	CBLmw-003-062118-GW	9056A	T	5 mL	5 mL				
280-111344-J-10	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				
280-111344-J-10 DU	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				
280-111344-J-10 MS	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				0.05 mL
280-111344-J-10 MSD	CBLmw-004-062118-GW	9056A	T	5 mL	5 mL				0.05 mL
CCV 280-419758/17		9056A		5 mL	5 mL			5 mL	
CCB 280-419758/18		9056A		5 mL	5 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	5000ics, 1000d, 100c
Regeneration Solution ID	171210701013

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\02.0000.d
Lims ID: std L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 05-Jun-2018 10:33:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-002
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 05-Jun-2018 12:36:27 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:34:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.017	-0.017	6350951	0.2000	0.1911	
2 Chloride	3.233	3.208	0.025	17204213	1.00	0.9821	
3 Nitrite as N	3.725	3.717	0.008	8547902	0.2000	0.1933	
4 Bromide	5.917	5.808	0.109	1282303	0.2000	0.2100	
5 Nitrate as N	6.467	6.200	0.267	8707426	0.2000	0.2019	
6 Sulfate	9.300	8.850	0.450	14285710	1.00	0.9474	
7 Orthophosphate as P		11.492			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

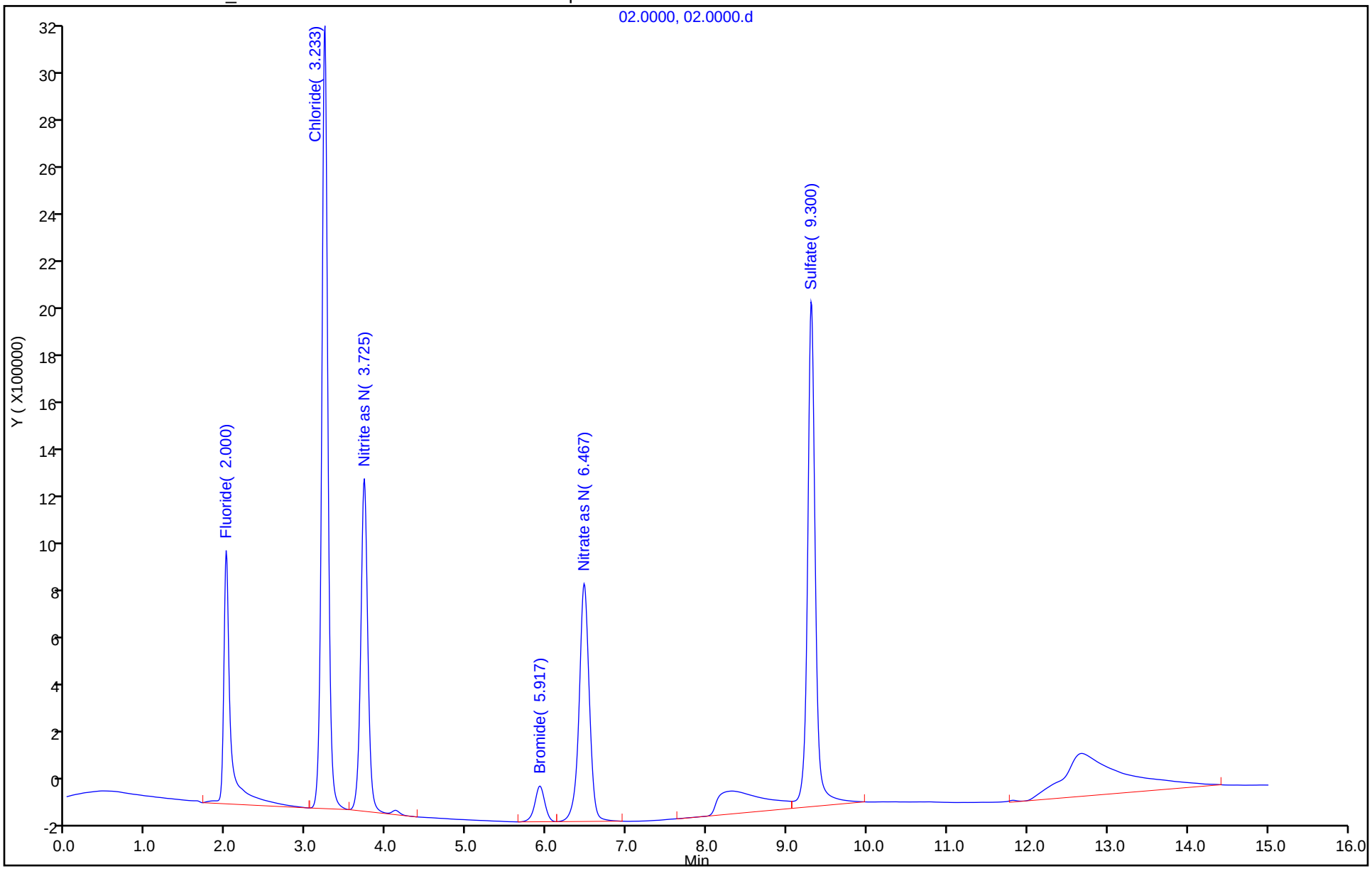
IC Cal low_00373 Amount Added: 0.02 Units: mL
IC CAL cl/so4_00202 Amount Added: 0.02 Units: mL

Report Date: 05-Jun-2018 12:36:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\02.0000.d

Injection Date:	05-Jun-2018 10:33:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L1			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\02.0000.d
Lims ID: std L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 05-Jun-2018 10:33:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-002
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 05-Jun-2018 12:36:27 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:34:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.017	-0.017	6350951	0.2000	0.1911	
2 Chloride	3.233	3.208	0.025	17204213	1.00	0.9821	
3 Nitrite as N	3.725	3.717	0.008	8547902	0.2000	0.1933	
4 Bromide	5.917	5.808	0.109	1282303	0.2000	0.2100	
5 Nitrate as N	6.467	6.200	0.267	8707426	0.2000	0.2019	
6 Sulfate	9.300	8.850	0.450	14285710	1.00	0.9474	
7 Orthophosphate as P		11.492			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

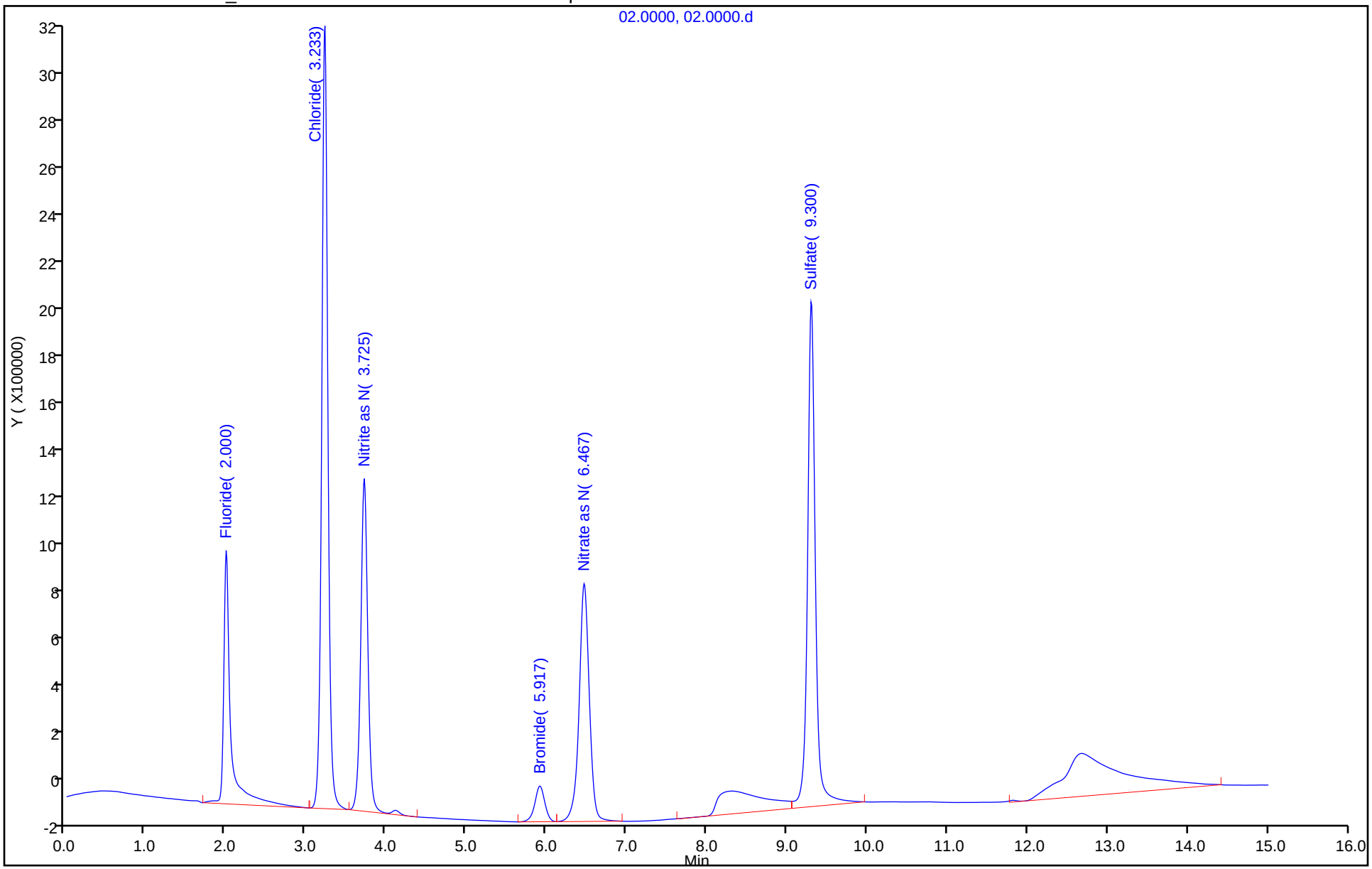
IC Cal low_00373 Amount Added: 0.02 Units: mL
IC CAL cl/so4_00202 Amount Added: 0.02 Units: mL

Report Date: 05-Jun-2018 12:36:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\02.0000.d

Injection Date:	05-Jun-2018 10:33:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L1			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\03.0000.d
Lims ID: std L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 05-Jun-2018 10:51:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-003
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 05-Jun-2018 12:36:27 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:00

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.017	-0.017	14729157	0.5000	0.4955	
2 Chloride	3.225	3.208	0.017	42893961	2.50	2.49	
3 Nitrite as N	3.725	3.717	0.008	21664939	0.5000	0.5073	
4 Bromide	5.908	5.808	0.100	3452047	0.5000	0.4958	
5 Nitrate as N	6.450	6.200	0.250	22099291	0.5000	0.5037	
6 Sulfate	9.292	8.850	0.442	34173739	2.50	2.52	
7 Orthophosphate as P		11.492			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

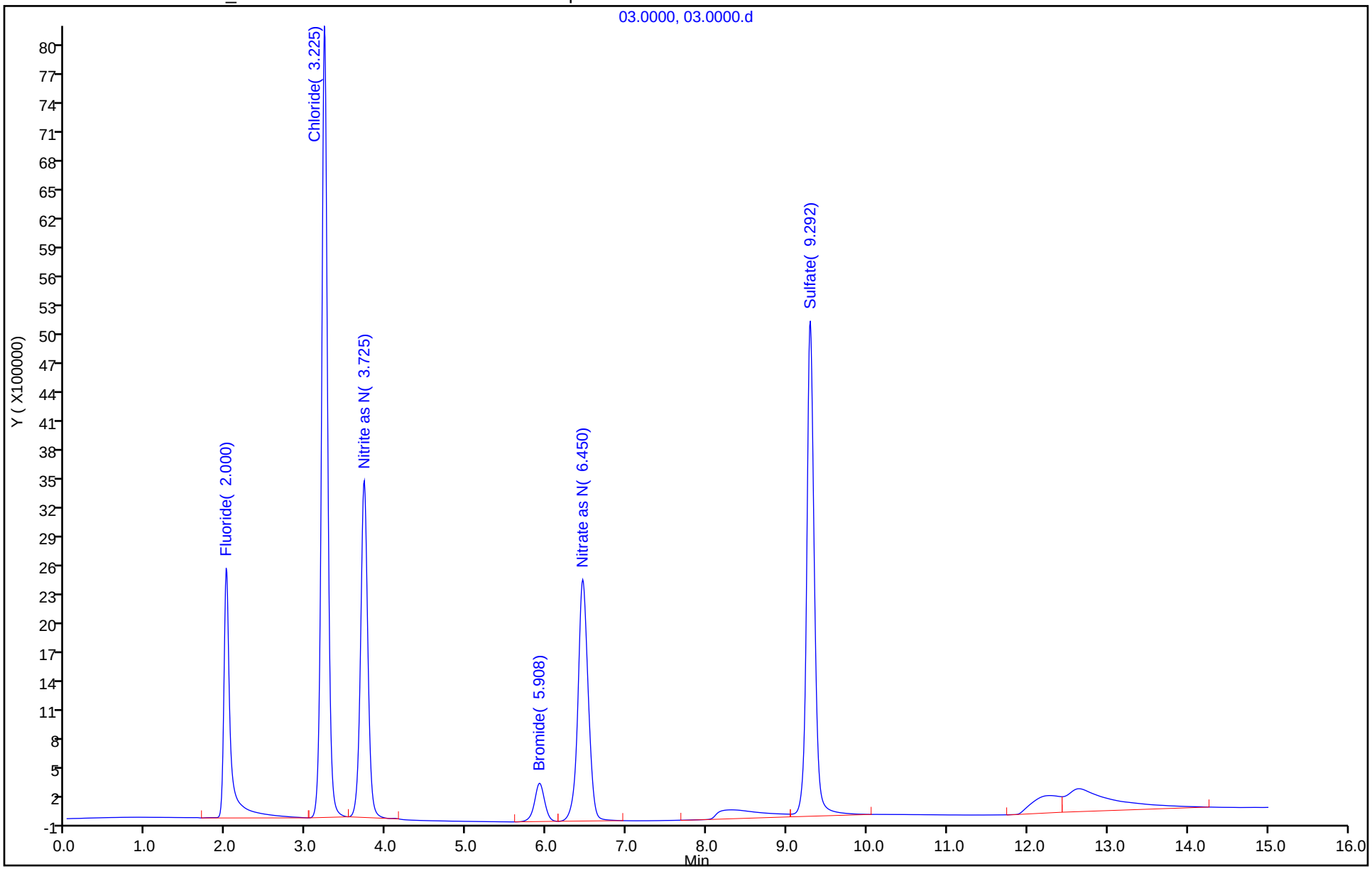
IC Cal low_00373 Amount Added: 0.05 Units: mL
IC CAL cl/so4_00202 Amount Added: 0.05 Units: mL

Report Date: 05-Jun-2018 12:36:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\03.0000.d

Injection Date:	05-Jun-2018 10:51:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L2			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\03.0000.d
Lims ID: std L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 05-Jun-2018 10:51:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-003
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 05-Jun-2018 12:36:27 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:00

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.017	-0.017	14729157	0.5000	0.4955	
2 Chloride	3.225	3.208	0.017	42893961	2.50	2.49	
3 Nitrite as N	3.725	3.717	0.008	21664939	0.5000	0.5073	
4 Bromide	5.908	5.808	0.100	3452047	0.5000	0.4958	
5 Nitrate as N	6.450	6.200	0.250	22099291	0.5000	0.5037	
6 Sulfate	9.292	8.850	0.442	34173739	2.50	2.52	
7 Orthophosphate as P		11.492			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

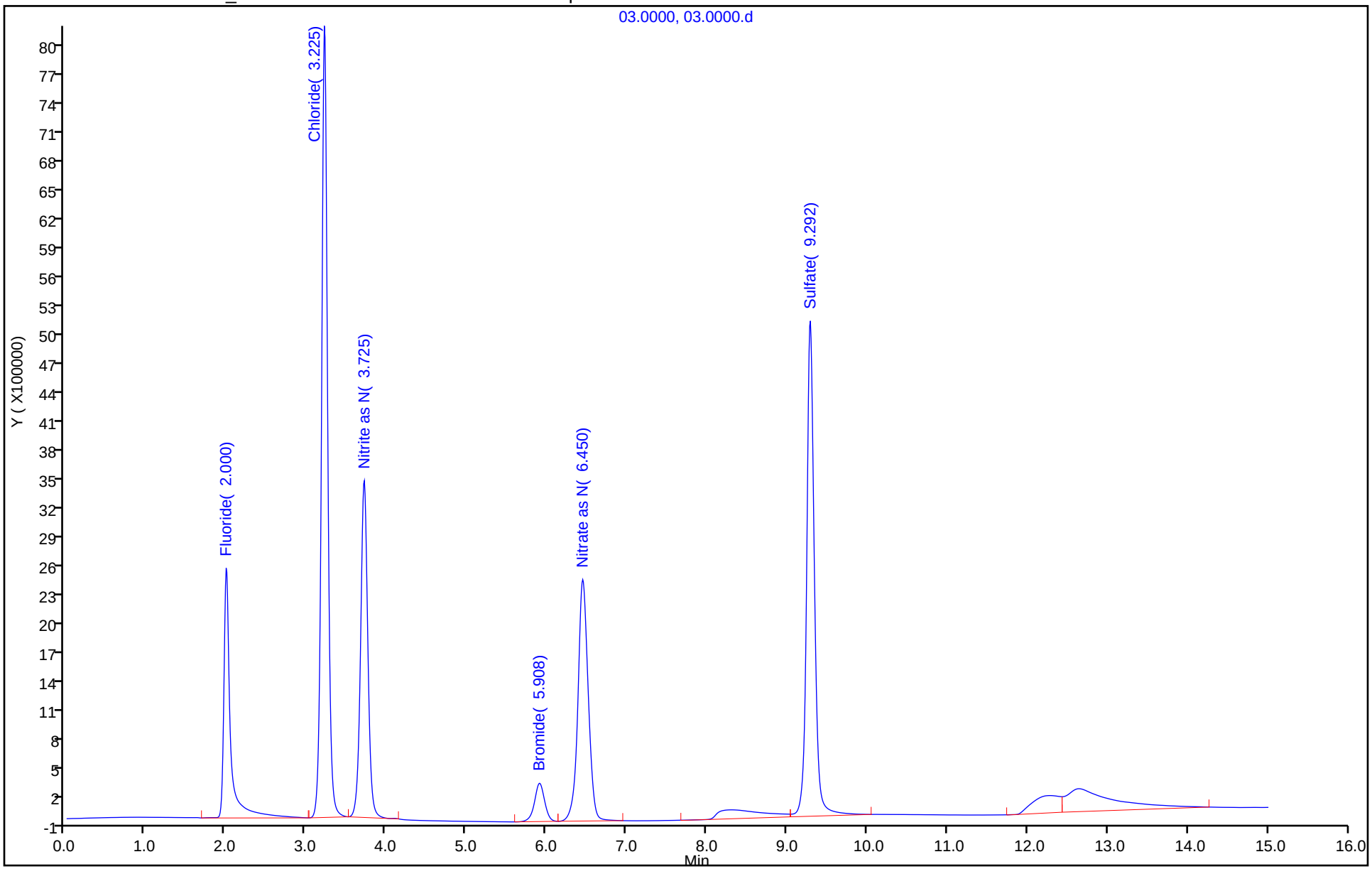
IC Cal low_00373 Amount Added: 0.05 Units: mL
IC CAL cl/so4_00202 Amount Added: 0.05 Units: mL

Report Date: 05-Jun-2018 12:36:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\03.0000.d

Injection Date:	05-Jun-2018 10:51:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L2			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\04.0000.d
Lims ID: std L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 05-Jun-2018 11:09:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-004
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 05-Jun-2018 12:36:28 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:12

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.017	-0.009	29570255	1.00	1.03	
2 Chloride	3.225	3.208	0.017	86729334	5.00	5.07	
3 Nitrite as N	3.725	3.717	0.008	42498019	1.00	1.01	
4 Bromide	5.908	5.808	0.100	6969044	1.00	0.9592	
5 Nitrate as N	6.425	6.200	0.225	43441006	1.00	0.9845	
6 Sulfate	9.275	8.850	0.425	67795829	5.00	5.17	
7 Orthophosphate as P	12.025	11.492	0.533	12515848	1.00	1.01	

Reagents:

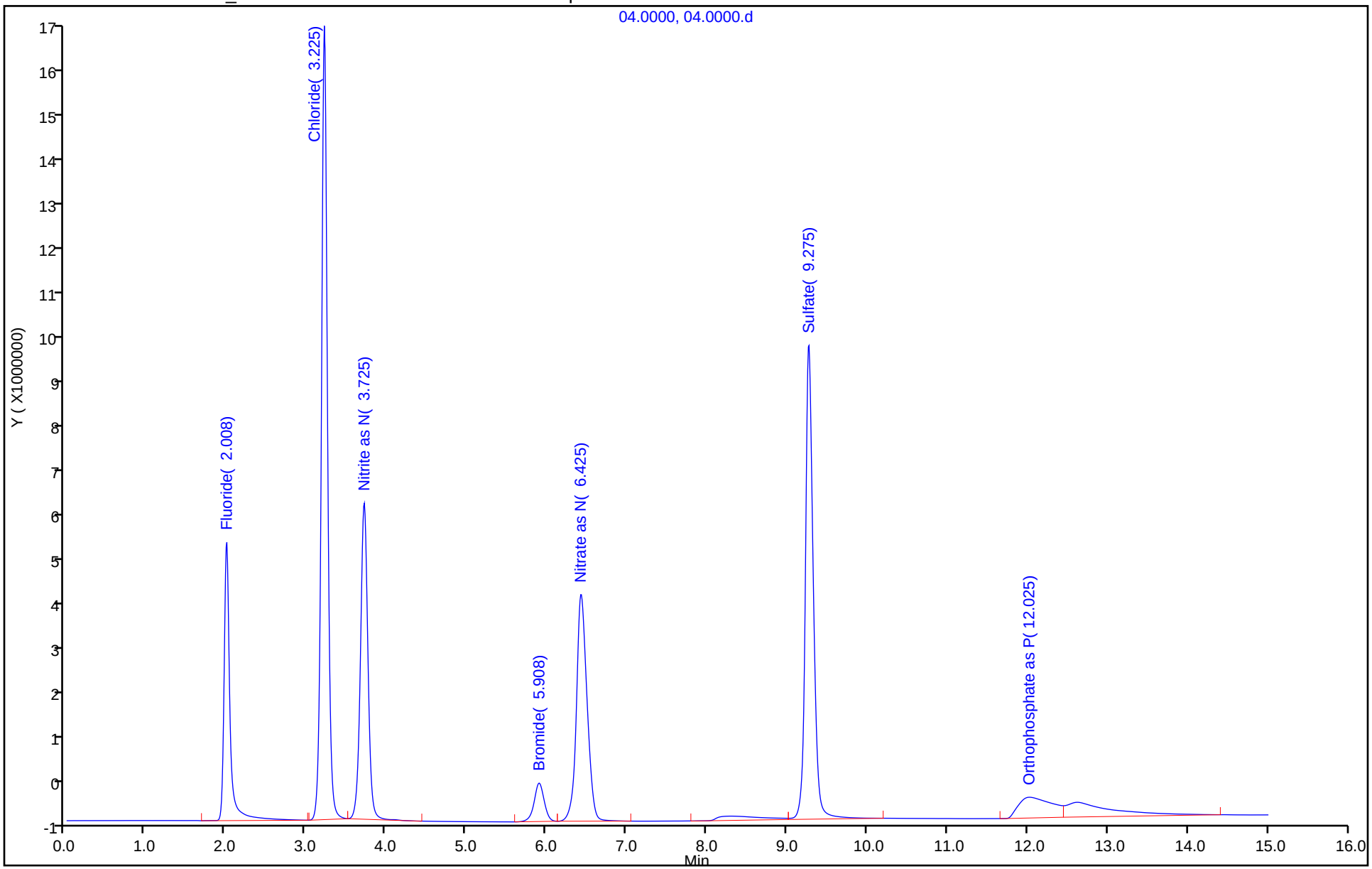
IC Cal low_00373 Amount Added: 0.10 Units: mL
IC CAL cl/so4_00202 Amount Added: 0.10 Units: mL

Report Date: 05-Jun-2018 12:36:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\04.0000.d

Injection Date:	05-Jun-2018 11:09:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L3			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\04.0000.d
Lims ID: std L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 05-Jun-2018 11:09:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-004
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 05-Jun-2018 12:36:28 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:12

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.017	-0.009	29570255	1.00	1.03	
2 Chloride	3.225	3.208	0.017	86729334	5.00	5.07	
3 Nitrite as N	3.725	3.717	0.008	42498019	1.00	1.01	
4 Bromide	5.908	5.808	0.100	6969044	1.00	0.9592	
5 Nitrate as N	6.425	6.200	0.225	43441006	1.00	0.9845	
6 Sulfate	9.275	8.850	0.425	67795829	5.00	5.17	
7 Orthophosphate as P	12.025	11.492	0.533	12515848	1.00	1.01	

Reagents:

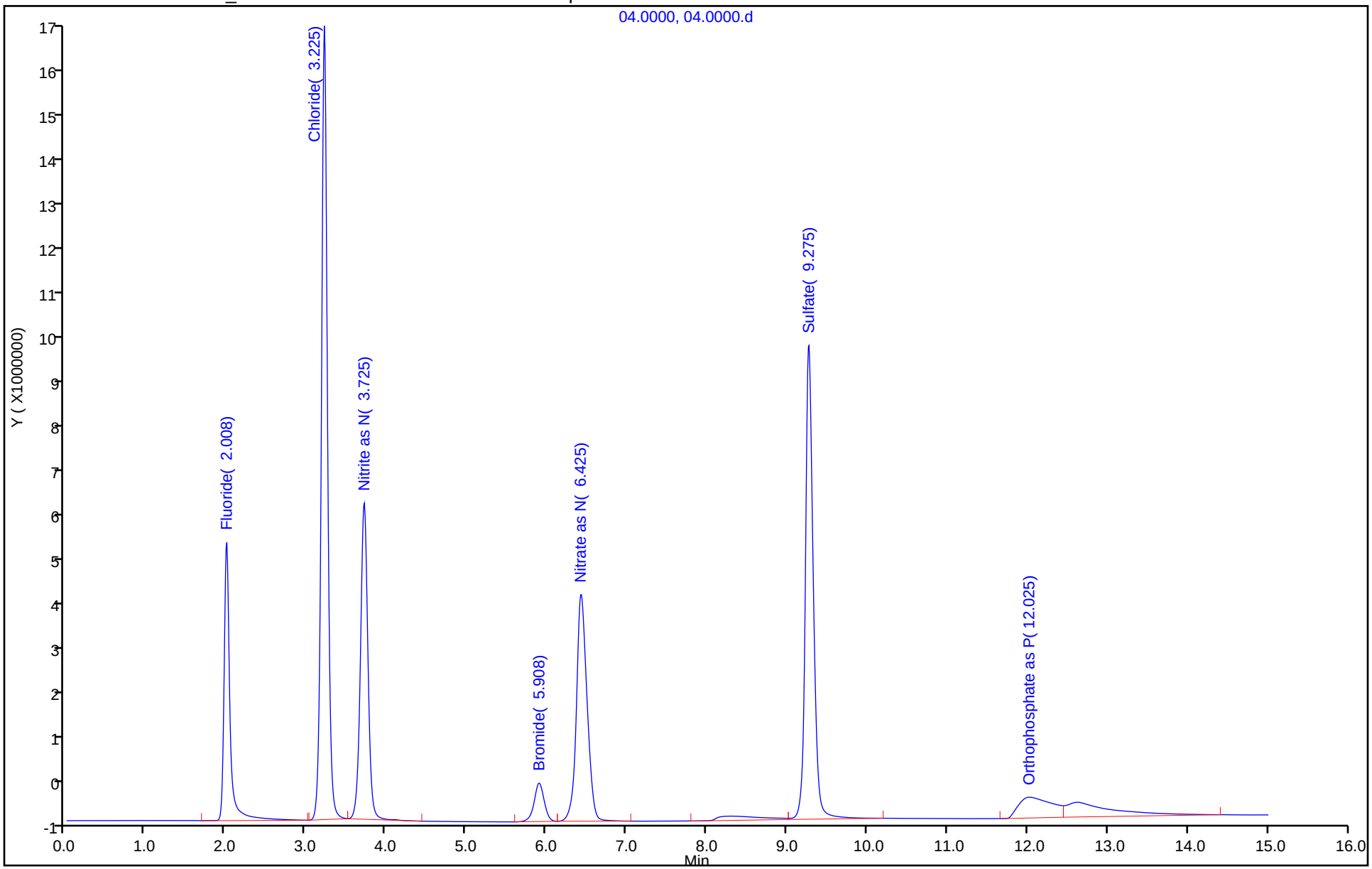
IC Cal low_00373 Amount Added: 0.10 Units: mL
IC CAL cl/so4_00202 Amount Added: 0.10 Units: mL

Report Date: 05-Jun-2018 12:36:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\04.0000.d

Injection Date:	05-Jun-2018 11:09:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L3			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\05.0000.d
Lims ID: std L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 05-Jun-2018 11:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-005
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 05-Jun-2018 12:36:28 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:23

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	114940420	4.00	4.14	
2 Chloride	3.208	3.208	0.000	1031096518	60.0	60.6	
3 Nitrite as N	3.725	3.725	0.000	171553985	4.00	4.10	
4 Bromide	5.875	5.875	0.000	29791673	4.00	3.97	
5 Nitrate as N	6.342	6.342	0.000	176382525	4.00	3.98	
6 Sulfate	9.083	9.083	0.000	772995817	60.0	60.9	
7 Orthophosphate as P	11.667	11.667	0.000	65509655	4.00	3.94	

Reagents:

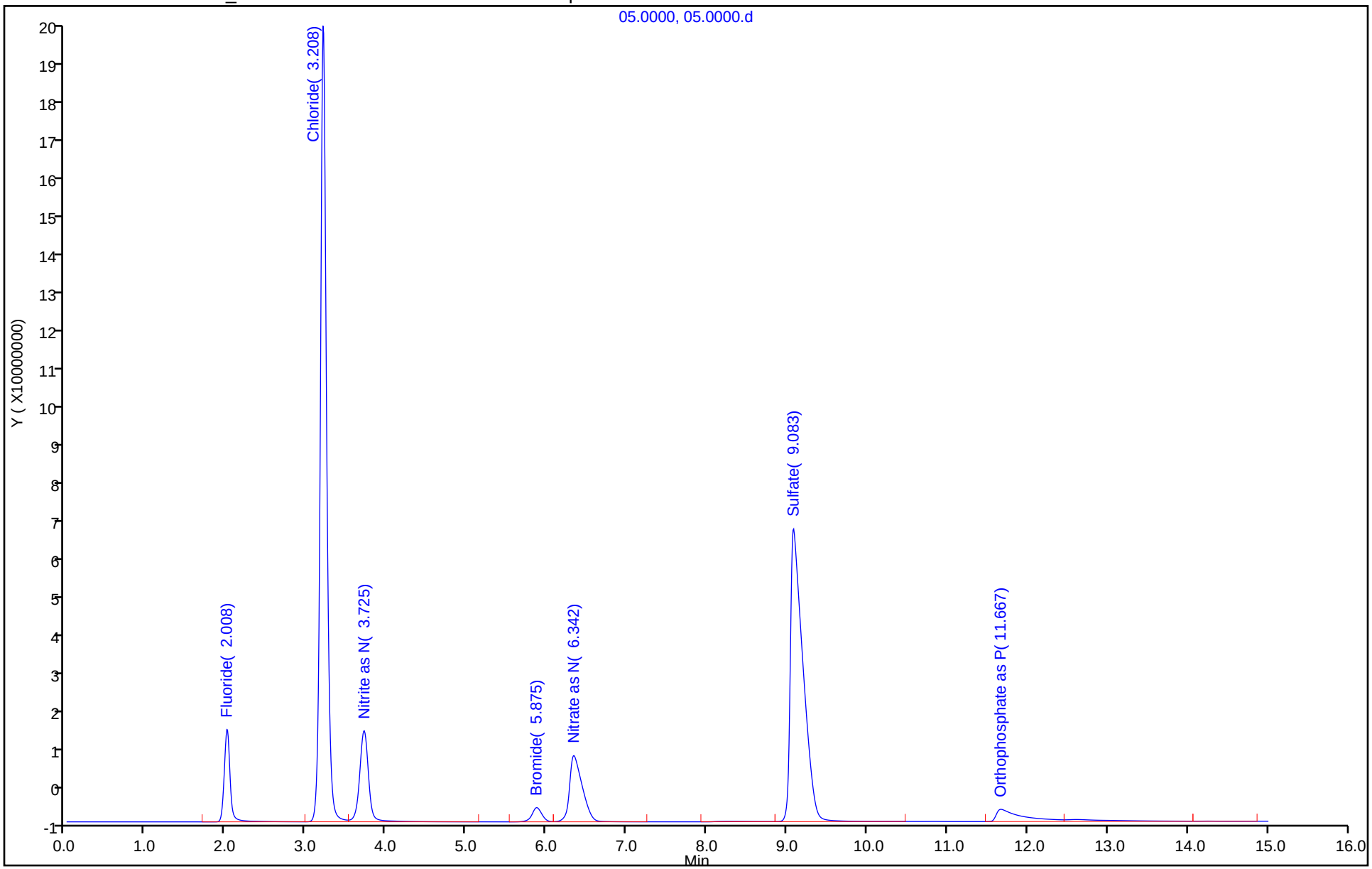
IC Cal low_00373 Amount Added: 0.40 Units: mL
IC CAL cl/so4_00202 Amount Added: 1.20 Units: mL

Report Date: 05-Jun-2018 12:36:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\05.0000.d

Injection Date:	05-Jun-2018 11:27:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L4			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\05.0000.d
Lims ID: std L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 05-Jun-2018 11:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-005
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 05-Jun-2018 12:36:28 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:23

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	114940420	4.00	4.14	
2 Chloride	3.208	3.208	0.000	1031096518	60.0	60.6	
3 Nitrite as N	3.725	3.725	0.000	171553985	4.00	4.10	
4 Bromide	5.875	5.875	0.000	29791673	4.00	3.97	
5 Nitrate as N	6.342	6.342	0.000	176382525	4.00	3.98	
6 Sulfate	9.083	9.083	0.000	772995817	60.0	60.9	
7 Orthophosphate as P	11.667	11.667	0.000	65509655	4.00	3.94	

Reagents:

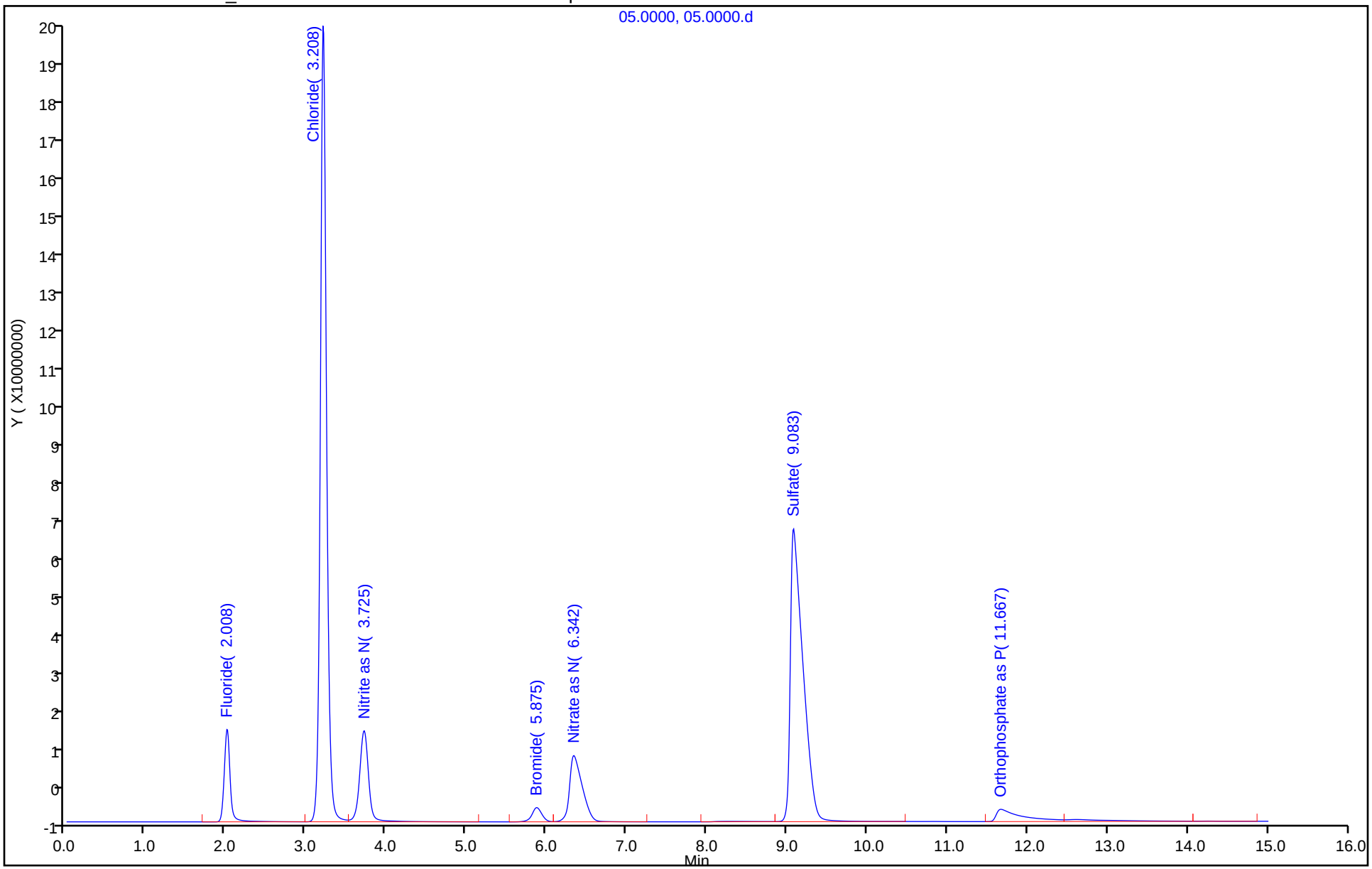
IC Cal low_00373 Amount Added: 0.40 Units: mL
IC CAL cl/so4_00202 Amount Added: 1.20 Units: mL

Report Date: 05-Jun-2018 12:36:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\05.0000.d

Injection Date:	05-Jun-2018 11:27:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L4			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\06.0000.d
Lims ID: std L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 05-Jun-2018 11:44:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 05-Jun-2018 12:36:26 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:36:26

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.017	0.000	221467033	8.00	8.01	
2 Chloride	3.208	3.208	0.000	2047237442	120.0	120.3	
3 Nitrite as N	3.725	3.717	0.008	333142558	8.00	7.96	
4 Bromide	5.833	5.808	0.025	60688987	8.00	8.04	
5 Nitrate as N	6.250	6.200	0.050	355903515	8.00	8.02	
6 Sulfate	8.967	8.850	0.117	1523157981	120.0	120.2	
7 Orthophosphate as P	11.550	11.492	0.058	139065974	8.00	8.00	

Reagents:

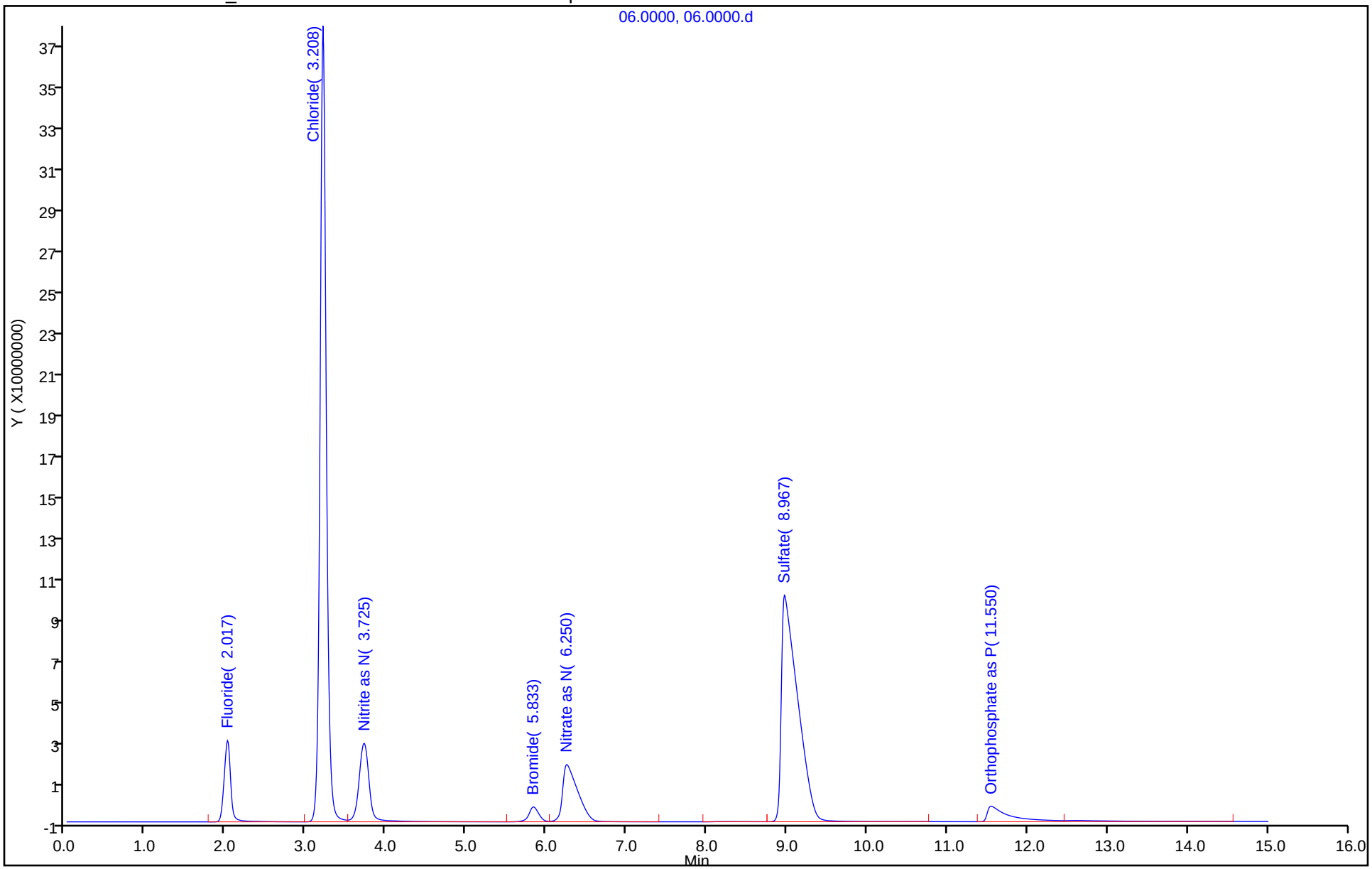
IC Cal low_00373 Amount Added: 0.80 Units: mL
IC CAL cl/so4_00202 Amount Added: 2.40 Units: mL

Report Date: 05-Jun-2018 12:36:26 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\06.0000.d

Injection Date:	05-Jun-2018 11:44:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L5			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\06.0000.d
Lims ID: std L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 05-Jun-2018 11:44:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 05-Jun-2018 12:36:26 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:36:26

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.017	0.000	221467033	8.00	8.01	
2 Chloride	3.208	3.208	0.000	2047237442	120.0	120.3	
3 Nitrite as N	3.725	3.717	0.008	333142558	8.00	7.96	
4 Bromide	5.833	5.808	0.025	60688987	8.00	8.04	
5 Nitrate as N	6.250	6.200	0.050	355903515	8.00	8.02	
6 Sulfate	8.967	8.850	0.117	1523157981	120.0	120.2	
7 Orthophosphate as P	11.550	11.492	0.058	139065974	8.00	8.00	

Reagents:

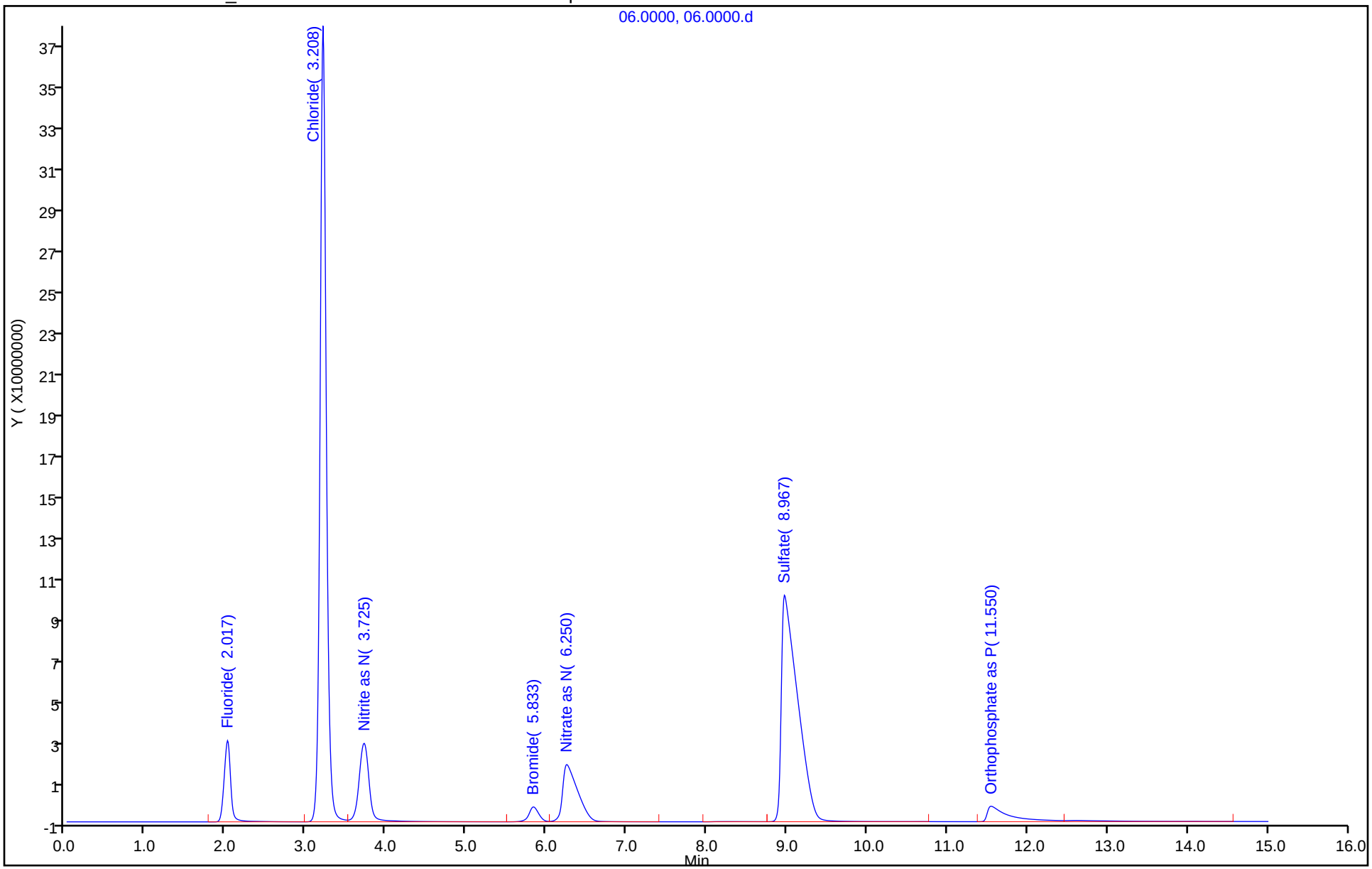
IC Cal low_00373 Amount Added: 0.80 Units: mL
IC CAL cl/so4_00202 Amount Added: 2.40 Units: mL

Report Date: 05-Jun-2018 12:36:26 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\06.0000.d

Injection Date:	05-Jun-2018 11:44:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L5			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d
Lims ID: std L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 05-Jun-2018 12:02:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-007
Misc. Info.: 7 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 05-Jun-2018 12:36:29 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	271729025	10.0	9.83	
2 Chloride	3.208	3.208	0.000	3388060477	200.0	199.1	
3 Nitrite as N	3.717	3.725	-0.008	415327633	10.0	9.93	
4 Bromide	5.808	5.875	-0.067	75830729	10.0	10.0	
5 Nitrate as N	6.200	6.342	-0.142	443857326	10.0	10.0	
6 Sulfate	8.850	9.083	-0.233	2518985817	200.0	198.8	
7 Orthophosphate as P	11.492	11.667	-0.175	176332183	10.0	10.1	

Reagents:

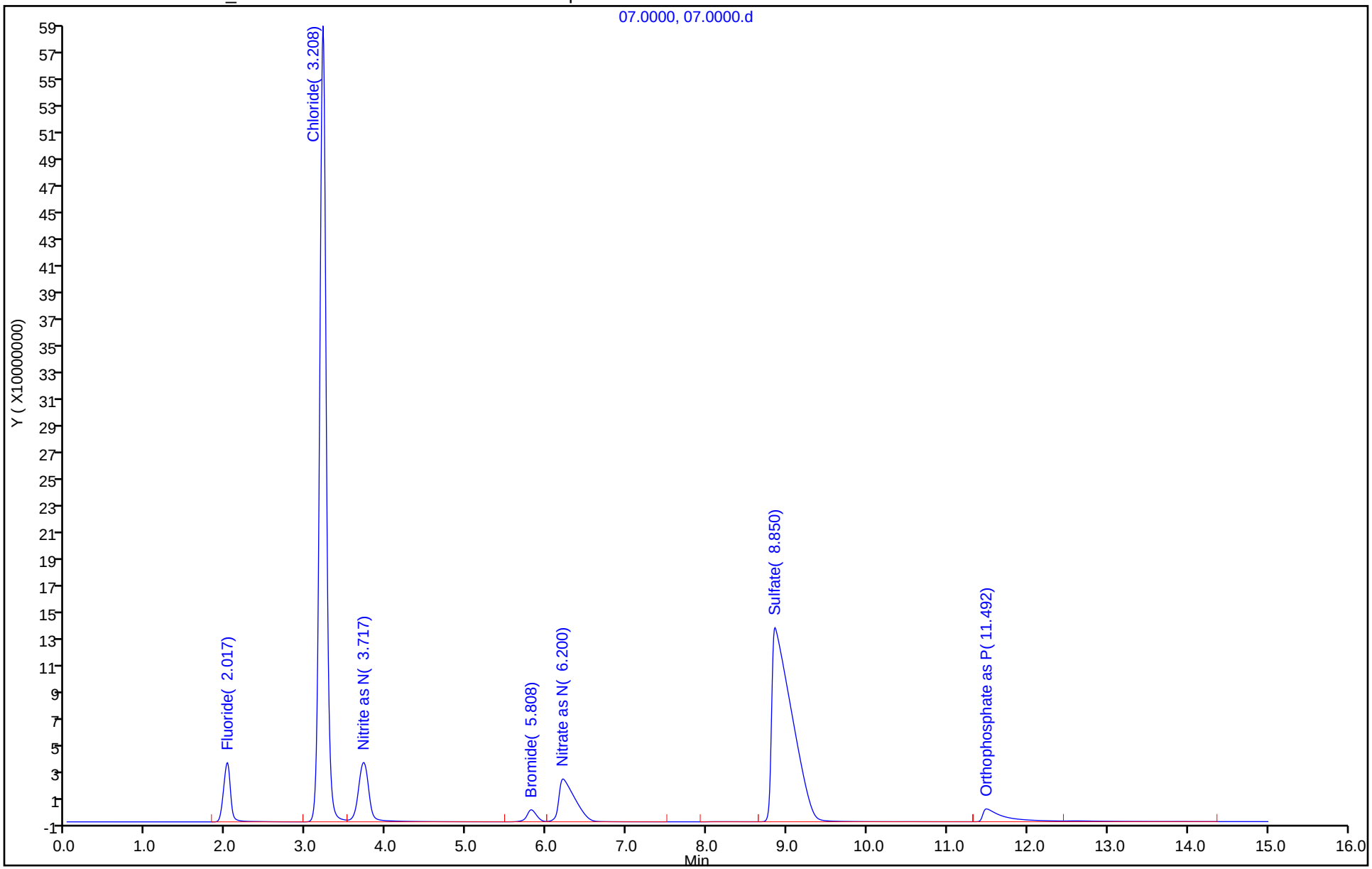
IC Cal low_00373 Amount Added: 1.00 Units: mL
IC CAL cl/so4_00202 Amount Added: 4.00 Units: mL

Report Date: 05-Jun-2018 12:36:29 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Injection Date:	05-Jun-2018 12:02:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L6			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d
Lims ID: std L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 05-Jun-2018 12:02:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-007
Misc. Info.: 7 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 05-Jun-2018 12:36:29 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0302

First Level Reviewer: jewellc Date: 05-Jun-2018 12:35:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	271729025	10.0	9.83	
2 Chloride	3.208	3.208	0.000	3388060477	200.0	199.1	
3 Nitrite as N	3.717	3.725	-0.008	415327633	10.0	9.93	
4 Bromide	5.808	5.875	-0.067	75830729	10.0	10.0	
5 Nitrate as N	6.200	6.342	-0.142	443857326	10.0	10.0	
6 Sulfate	8.850	9.083	-0.233	2518985817	200.0	198.8	
7 Orthophosphate as P	11.492	11.667	-0.175	176332183	10.0	10.1	

Reagents:

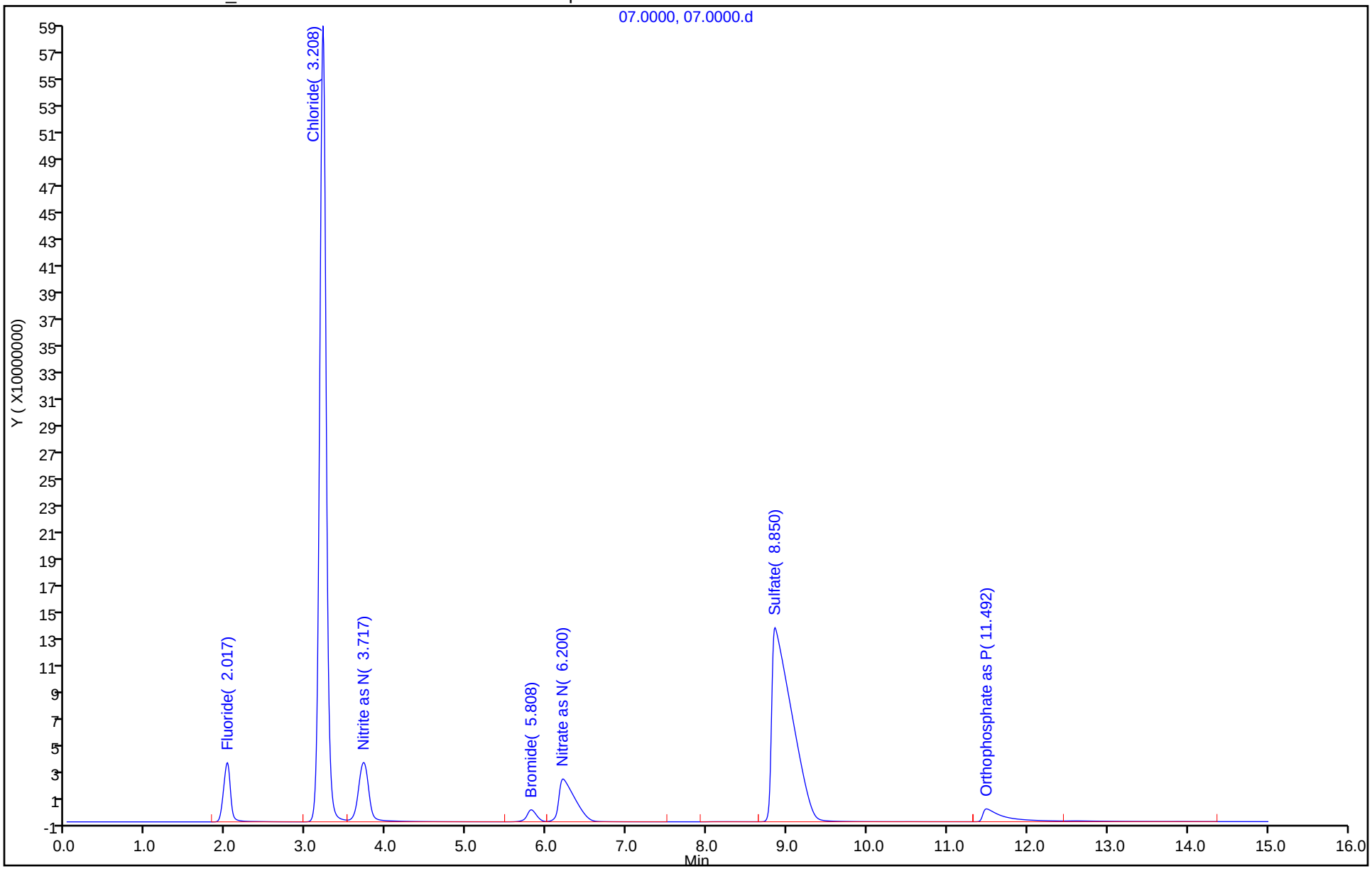
IC Cal low_00373 Amount Added: 1.00 Units: mL
IC CAL cl/so4_00202 Amount Added: 4.00 Units: mL

Report Date: 05-Jun-2018 12:36:29 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Injection Date:	05-Jun-2018 12:02:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	std L6			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver

TestAmerica

419404 / 419405

IC Instrument Information

WL: 70676 **Inst ID:** 7 **Analysis Date:** 06/05/18 **Analyst:** TT

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	110516 ✓	5	F (Cl) (NO2) Br (NO3) PO4 (SO4)	MS/D	15
☐	550-103735 ✓	1	F Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110464 ✓	1	F (Cl) NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110474	2	F (Cl) (NO2) Br (NO3) PO4 SO4	MS/D	
☐	109875-7	1	F Cl NO2 Br NO3 PO4 (SO4)	MS/D	confirm per Thu
☐	109813	1	F Cl NO2 Br NO3 PO4 (SO4)	MS/D	
☐	109962	7	F (Cl) NO2 (Br) NO3 PO4 (SO4)	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

Phuriya 6/7/18

IC Instrument Information

WL: 70676 **Inst ID:** 7 **Analysis Date:** 06/05/18 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	110516 ✓	5	F (Cl) (NO2) Br (NO3) PO4 (SO4)	MS/D	15
☒	550-103735 ✓	1	F Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110464 ✓	1	F (Cl) NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110474	2	F (Cl) (NO2) Br (NO3) PO4 SO4	MS/D	
☐	109875-7	1	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	confirm per Thu
☐	109813	1	F Cl NO2 Br NO3 PO4 (SO4)	MS/D	
☐	109962	7	F (Cl) NO2 (Br) NO3 PO4 (SO4)	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Instrument: WC_IonChrom7 Lims Location: 280
Lock State: Initial Calib Locked Cpnd Order: Retention Time
Integrator: Falcon Last Modified: 05-Jun-2018 12:36:26
No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917	1811218	R2, R4	1.000*	-578917	1811218	R2, R4	1.000*

ICalib Error Legend
R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

Phuriya
6/7/18

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m

Instrument:	WC_IonChrom7	Lims Location:	280
Lock State:	Initial Calib Locked	Cpnd Order:	Retention Time
Integrator:	Falcon	Last Modified:	05-Jun-2018 12:36:26

No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917	1811218	R2, R4	1.000*	-578917	1811218	R2, R4	1.000*

ICalib Error Legend

R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\08.0000.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 05-Jun-2018 12:20:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-008
Misc. Info.: 8 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist:

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 06-Jun-2018 10:01:58 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0303

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	115146856	4.00	4.14	
2 Chloride	3.208	3.208	0.000	1399306524	80.0	82.2	
3 Nitrite as N	3.717	3.717	0.000	173786735	4.00	4.15	
4 Bromide	5.867	5.867	0.000	30184915	4.00	4.02	
5 Nitrate as N	6.333	6.333	0.000	181727518	4.00	4.10	
6 Sulfate	9.033	9.033	0.000	1045532426	80.0	82.4	
7 Orthophosphate as P	11.658	11.658	0.000	68190758	4.00	4.08	

Reagents:

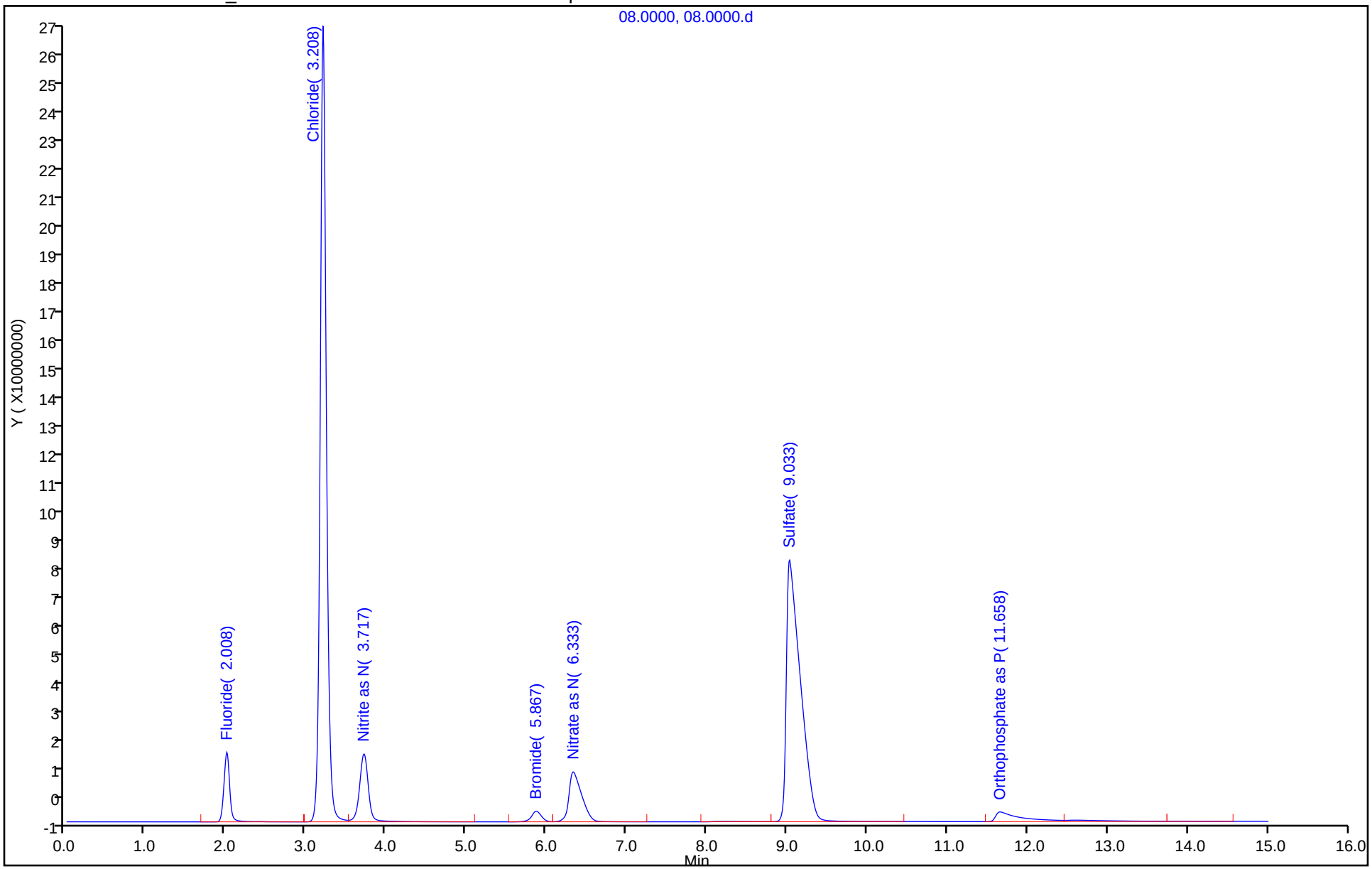
IC CL ICV_00014	Amount Added:	0.40	Units: mL
IC ICV 5_00201	Amount Added:	0.40	Units: mL
IC SO4 ICV_00017	Amount Added:	0.40	Units: mL

Report Date: 06-Jun-2018 10:01:59 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\08.0000.d

Injection Date:	05-Jun-2018 12:20:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	icv			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver

TestAmerica

419404 / 419405

IC Instrument Information

WL: 70676 **Inst ID:** 7 **Analysis Date:** 06/05/18 **Analyst:** TT

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	110516 ✓	5	F (Cl) NO2 Br (NO3) PO4 (SO4)	MS/D	15
☐	550-103735 ✓	1	F Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110464 ✓	1	F (Cl) NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110474	2	F (Cl) NO2 Br (NO3) PO4 SO4	MS/D	
☐	109875-7	1	F Cl NO2 Br NO3 PO4 (SO4)	MS/D	confirm per Thu
☐	109813	1	F Cl NO2 Br NO3 PO4 (SO4)	MS/D	
☐	109962	7	F (Cl) NO2 (Br) NO3 PO4 (SO4)	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

Phuriya 6/7/18

25

IC Instrument Information

WL: 70676 **Inst ID:** 7 **Analysis Date:** 06/05/18 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	110516 ✓	5	F (Cl) (NO2) Br (NO3) PO4 (SO4)	MS/D	15
☒	550-103735 ✓	1	F Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110464 ✓	1	F (Cl) NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	110474	2	F (Cl) (NO2) Br (NO3) PO4 SO4	MS/D	
☐	109875-7	1	F Cl (NO2) Br NO3 PO4 (SO4)	MS/D	confirm per Thu
☐	109813	1	F Cl NO2 Br NO3 PO4 (SO4)	MS/D	
☐	109962	7	F (Cl) NO2 (Br) NO3 PO4 (SO4)	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m

Instrument:	WC_IonChrom7	Lims Location:	280
Lock State:	Initial Calib Locked	Cpnd Order:	Retention Time
Integrator:	Falcon	Last Modified:	05-Jun-2018 12:36:26

No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917	1811218	R2, R4	1.000*	-578917	1811218	R2, R4	1.000*

ICalib Error Legend
R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

Phuriya
6/7/18

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m

Instrument:	WC_IonChrom7	Lims Location:	280
Lock State:	Initial Calib Locked	Cpnd Order:	Retention Time
Integrator:	Falcon	Last Modified:	05-Jun-2018 12:36:26

No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917	1811218	R2, R4	1.000*	-578917	1811218	R2, R4	1.000*

ICalib Error Legend

R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\08.0000.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 05-Jun-2018 12:20:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-008
Misc. Info.: 8 F
Operator ID: Instrument ID: WC_IonChrom7
Sublist:

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 06-Jun-2018 10:01:58 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0303

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	115146856	4.00	4.14	
2 Chloride	3.208	3.208	0.000	1399306524	80.0	82.2	
3 Nitrite as N	3.717	3.717	0.000	173786735	4.00	4.15	
4 Bromide	5.867	5.867	0.000	30184915	4.00	4.02	
5 Nitrate as N	6.333	6.333	0.000	181727518	4.00	4.10	
6 Sulfate	9.033	9.033	0.000	1045532426	80.0	82.4	
7 Orthophosphate as P	11.658	11.658	0.000	68190758	4.00	4.08	

Reagents:

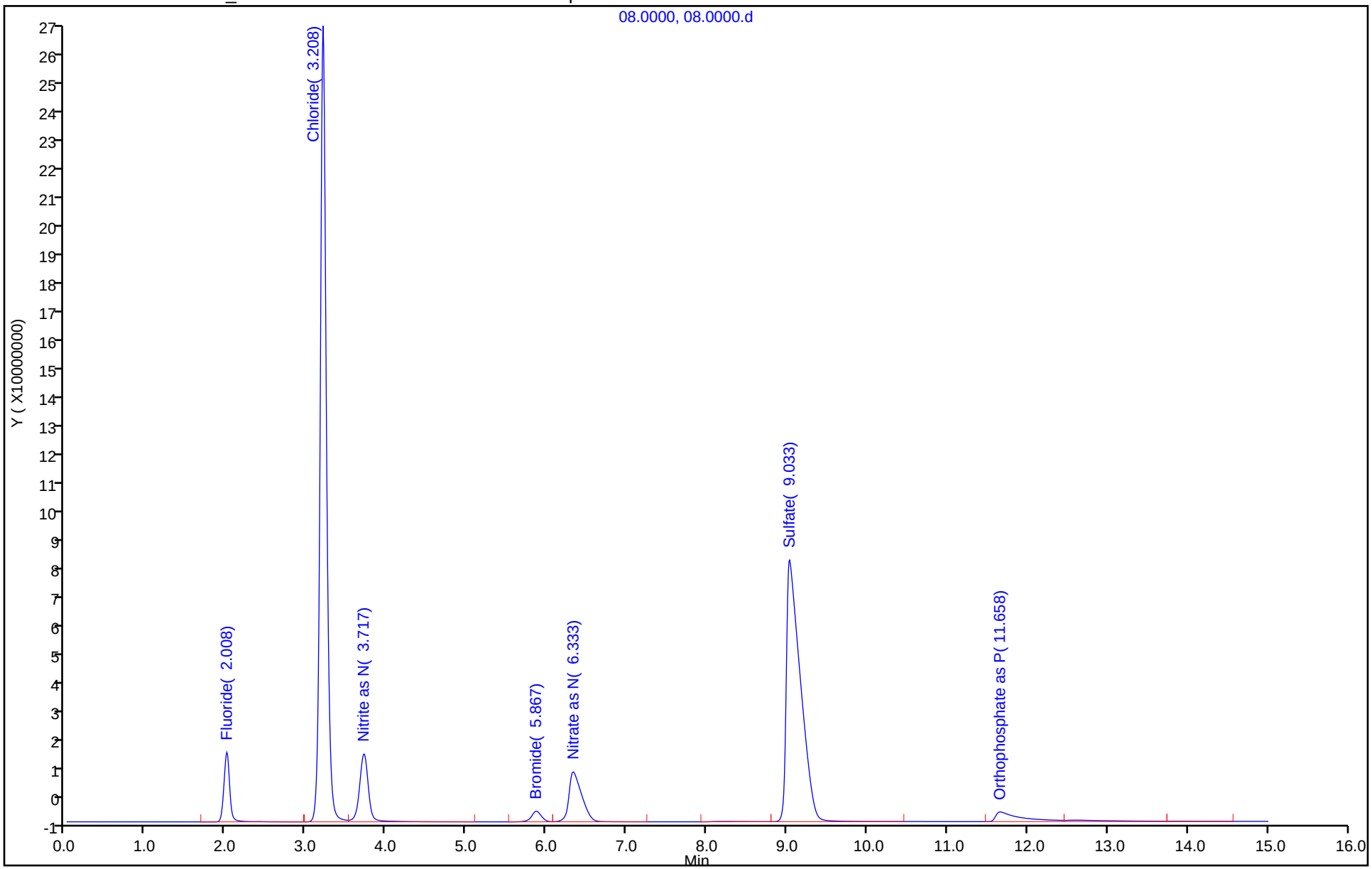
IC CL ICV_00014 Amount Added: 0.40 Units: mL
IC ICV 5_00201 Amount Added: 0.40 Units: mL
IC SO4 ICV_00017 Amount Added: 0.40 Units: mL

Report Date: 06-Jun-2018 10:01:59 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\08.0000.d

Injection Date:	05-Jun-2018 12:20:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	icv			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\09.0000.d
Lims ID: icb
Client ID:
Sample Type: ICB
Inject. Date: 05-Jun-2018 12:38:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-009
Misc. Info.: 9 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 06-Jun-2018 10:01:58 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0303

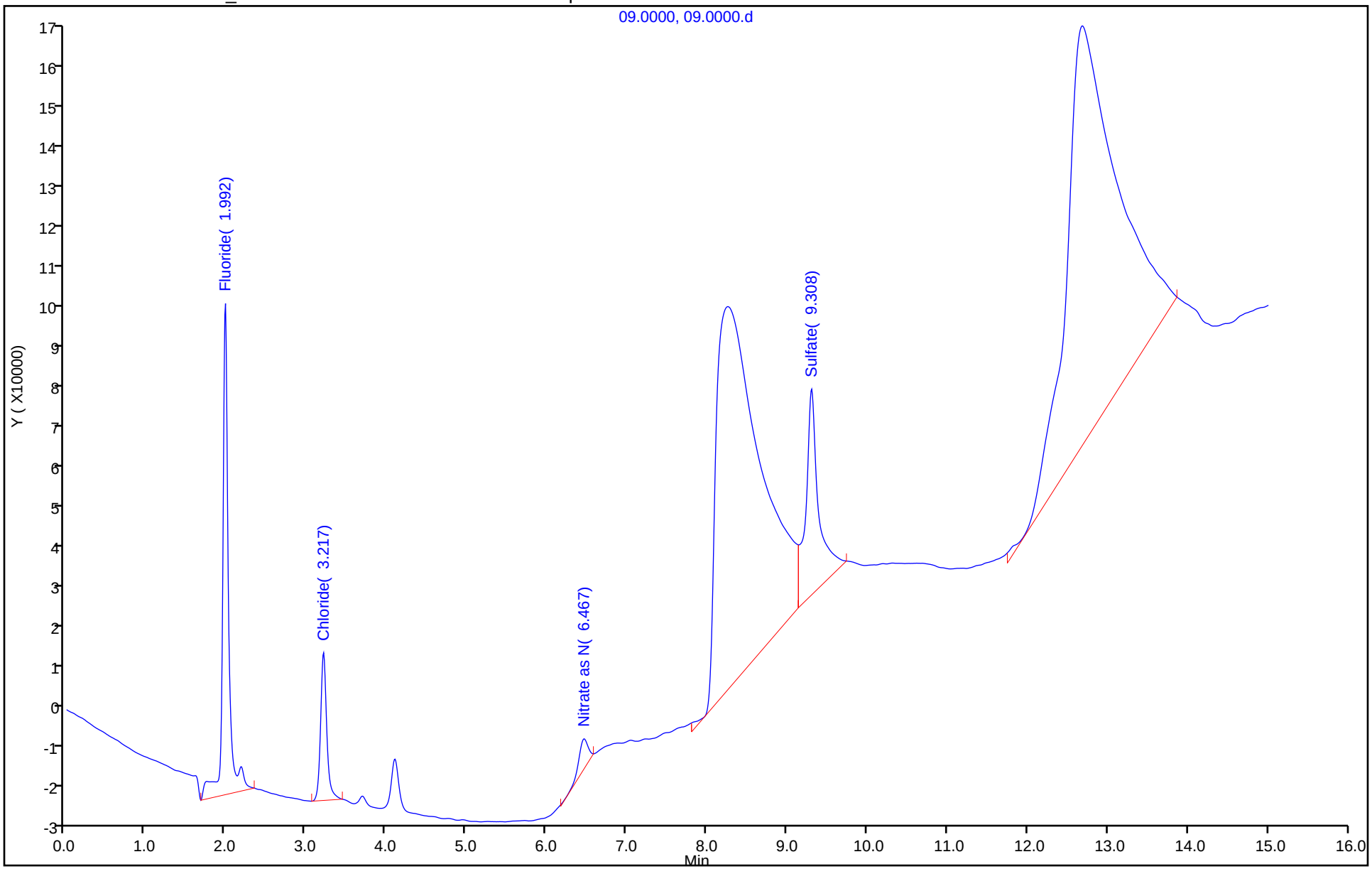
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	586550		-0.0184	
2 Chloride	3.217	3.208	0.009	186324		-0.0180	
3 Nitrite as N		3.717				ND	
4 Bromide		5.867				ND	
5 Nitrate as N	6.467	6.333	0.134	57287		0.007042	
6 Sulfate	9.308	9.033	0.275	538489		-0.1386	
7 Orthophosphate as P		11.658				ND	

Report Date: 06-Jun-2018 10:02:01 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\09.0000.d

Injection Date:	05-Jun-2018 12:38:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	icb			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\09.0000.d
Lims ID: icb
Client ID:
Sample Type: ICB
Inject. Date: 05-Jun-2018 12:38:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0070676-009
Misc. Info.: 9 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 06-Jun-2018 10:01:58 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0303

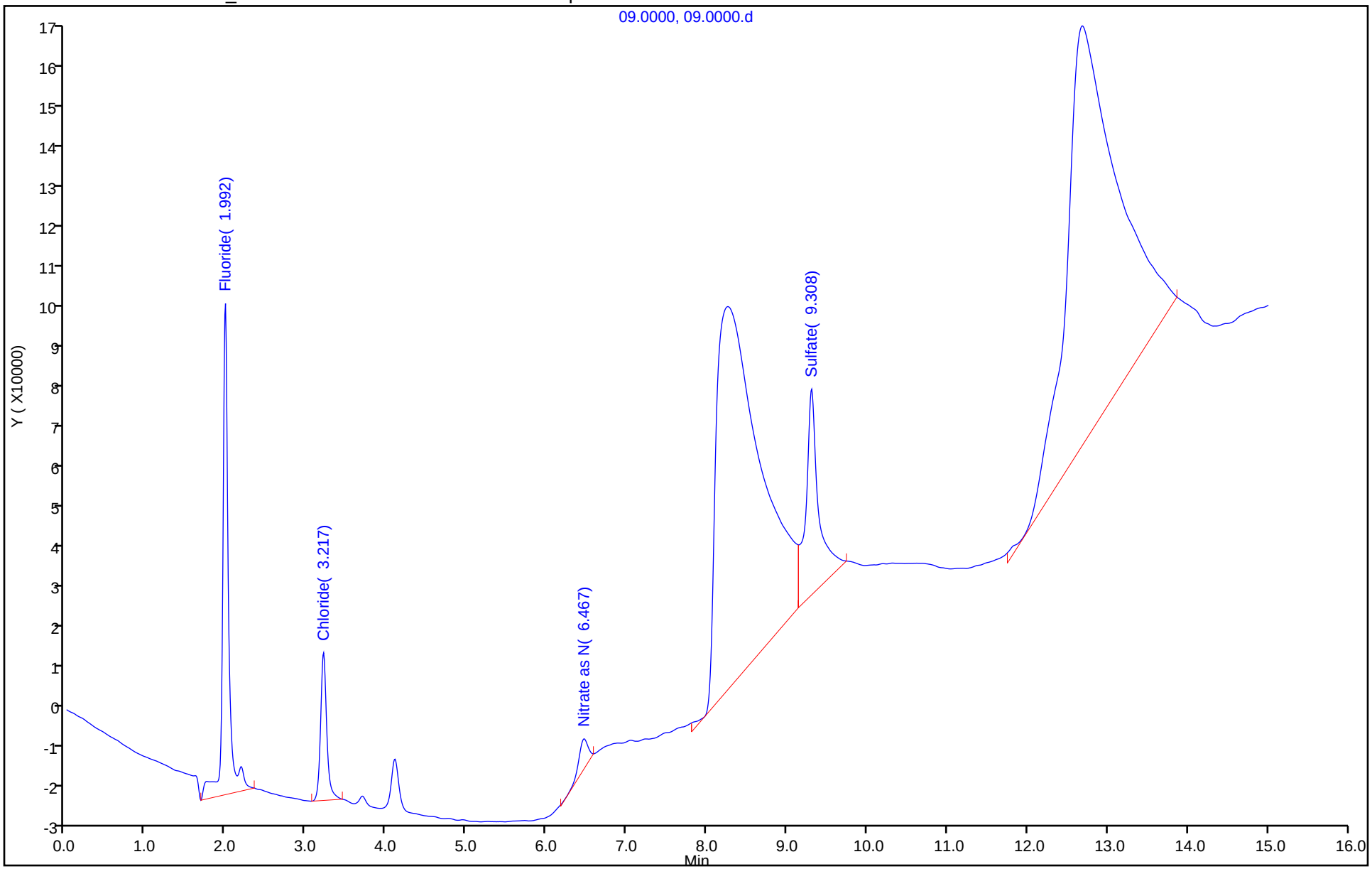
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	586550		-0.0184	
2 Chloride	3.217	3.208	0.009	186324		-0.0180	
3 Nitrite as N		3.717				ND	
4 Bromide		5.867				ND	
5 Nitrate as N	6.467	6.333	0.134	57287		0.007042	
6 Sulfate	9.308	9.033	0.275	538489		-0.1386	
7 Orthophosphate as P		11.658				ND	

Report Date: 06-Jun-2018 10:02:01 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\09.0000.d

Injection Date:	05-Jun-2018 12:38:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	icb			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver

Cl failed

TestAmerica

IC Instrument Information

419757 / 419758

WL: 71311 **Inst ID:** 7 **Analysis Date:** 06/24/18 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	111340	1	(F) Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
☐	111344	3	F Cl NO2 Br (NO3) PO4 SO4	(MS/D) 10	
☐	111301-9	1	F Cl NO2 Br (NO3) PO4 SO4	MS/D	confirm per Thu
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Samples expired when received – not enough time

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

Panida K.
6/26/18

 Cl failed

IC Instrument Information

WL: 71311 **Inst ID:** 7 **Analysis Date:** 06/24/18 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	111340	1	(F) Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
Samples expired when received – not enough time ☐	111344	3	F Cl NO2 Br (NO3) PO4 SO4	(MS/D) 10	
☐	111301-9	1	F Cl NO2 Br (NO3) PO4 SO4	MS/D	Confirm per Thu
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Instrument: WC_IonChrom7 Lims Location: 280
Lock State: Initial Calib Locked Cpnd Order: Retention Time
Integrator: Falcon Last Modified: 25-Jun-2018 07:36:24
No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917.	1811218	R2, R4	1.000*	-578917.	1811218	R2, R4	1.000*

ICalib Error Legend
R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Instrument: WC_IonChrom7 Lims Location: 280
Lock State: Initial Calib Locked Cpnd Order: Retention Time
Integrator: Falcon Last Modified: 25-Jun-2018 07:36:24
No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917.	1811218	R2, R4	1.000*	-578917.	1811218	R2, R4	1.000*

ICalib Error Legend
R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

Panida R.
6/26/18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\01.0000.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 24-Jun-2018 11:55:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-001
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:35:55 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	127632429	5.00	4.60	
2 Chloride	3.200	3.200	0.000	1498327610	100.0	88.0	
3 Nitrite as N	3.708	3.708	0.000	191710866	5.00	4.58	
4 Bromide	5.900	5.900	0.000	34422043	5.00	4.58	
5 Nitrate as N	6.342	6.342	0.000	203315546	5.00	4.59	
6 Sulfate	8.967	8.967	0.000	1190168721	100.0	93.8	
7 Orthophosphate as P	11.983	11.983	0.000	33570350	5.00	2.17	

Reagents:

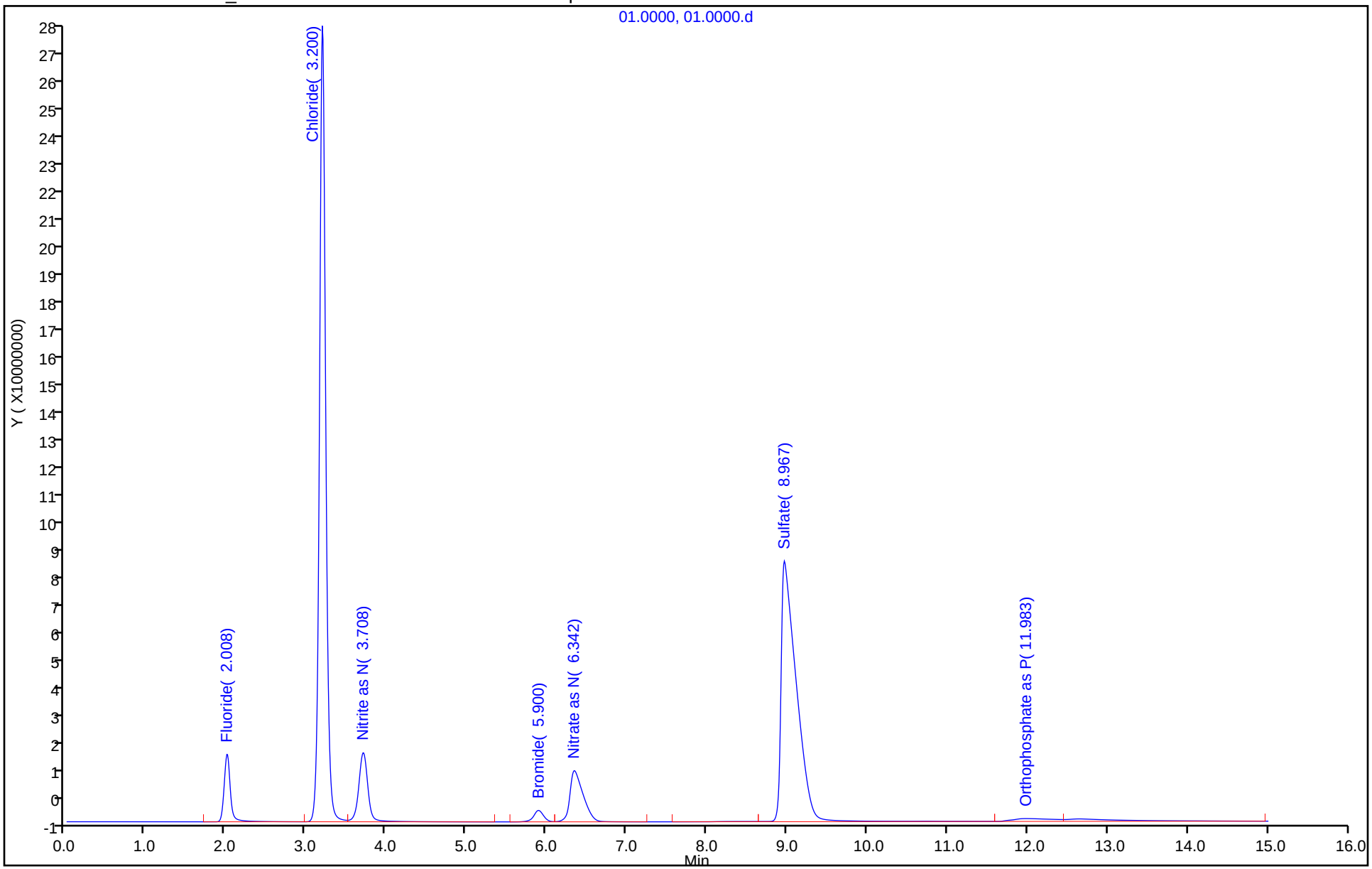
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:35:56 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\01.0000.d

Injection Date:	24-Jun-2018 11:55:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	1
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver Cl failed TestAmerica

IC Instrument Information

419757 / 419758

WL: 71311 **Inst ID:** 7 **Analysis Date:** 06/24/18 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	111340	1	(F) Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
Samples expired when received – not enough time ☐	111344	3	F Cl NO2 Br (NO3) PO4 SO4	(MS/D) 10	
☐	111301-9	1	F Cl NO2 Br (NO3) PO4 SO4	MS/D	Confirm per Thu
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

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Rev. 1, 8/11/2014

Page 1 of 1

Panida R.
6/26/18

Cl failed

TestAmerica

IC Instrument Information

WL: 71311 **Inst ID:** 7 **Analysis Date:** 06/24/18 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	111340	1	(F) Cl NO2 Br (NO3) PO4 (SO4)	MS/D	
Samples expired when received – not enough time ☐	111344	3	F Cl NO2 Br (NO3) PO4 SO4	(MS/D) 10	
☐	111301-9	1	F Cl NO2 Br (NO3) PO4 SO4	MS/D	Confirm per Thu
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Instrument: WC_IonChrom7 Lims Location: 280
Lock State: Initial Calib Locked Cpnd Order: Retention Time
Integrator: Falcon Last Modified: 25-Jun-2018 07:36:24
No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917.	1811218	R2, R4	1.000*	-578917.	1811218	R2, R4	1.000*

ICalib Error Legend
R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m

Instrument:	WC_IonChrom7	Lims Location:	280
Lock State:	Initial Calib Locked	Cpnd Order:	Retention Time
Integrator:	Falcon	Last Modified:	25-Jun-2018 07:36:24

No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b
Inj Date : 05-Jun-2018 10:33:00, Sublist: chrom-Anions_IC7*sub1

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	1091607	2752055		1.000	1091607	2752055		1.000
2 Chloride	493398	1701483		1.000	493398	1701483		1.000
3 Nitrite as N	475295	4176722		1.000	475295	4176722		1.000
4 Bromide	-311280	7589977		1.000	-311280	7589977		1.000
5 Nitrate as N	-255286	4438492		1.000	-255286	4438492		1.000
6 Sulfate	2292933	1265801		1.000	2292933	1265801		1.000
7 Orthophosphate as P	-578917.	1811218	R2, R4	1.000*	-578917.	1811218	R2, R4	1.000*

ICalib Error Legend
R2, Missing the Required Number of Calibration Points
R4, Curve Zero Intercept is > Reporting Limit

Panida R.
6/26/18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\01.0000.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 24-Jun-2018 11:55:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-001
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:35:55 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	127632429	5.00	4.60	
2 Chloride	3.200	3.200	0.000	1498327610	100.0	88.0	
3 Nitrite as N	3.708	3.708	0.000	191710866	5.00	4.58	
4 Bromide	5.900	5.900	0.000	34422043	5.00	4.58	
5 Nitrate as N	6.342	6.342	0.000	203315546	5.00	4.59	
6 Sulfate	8.967	8.967	0.000	1190168721	100.0	93.8	
7 Orthophosphate as P	11.983	11.983	0.000	33570350	5.00	2.17	

Reagents:

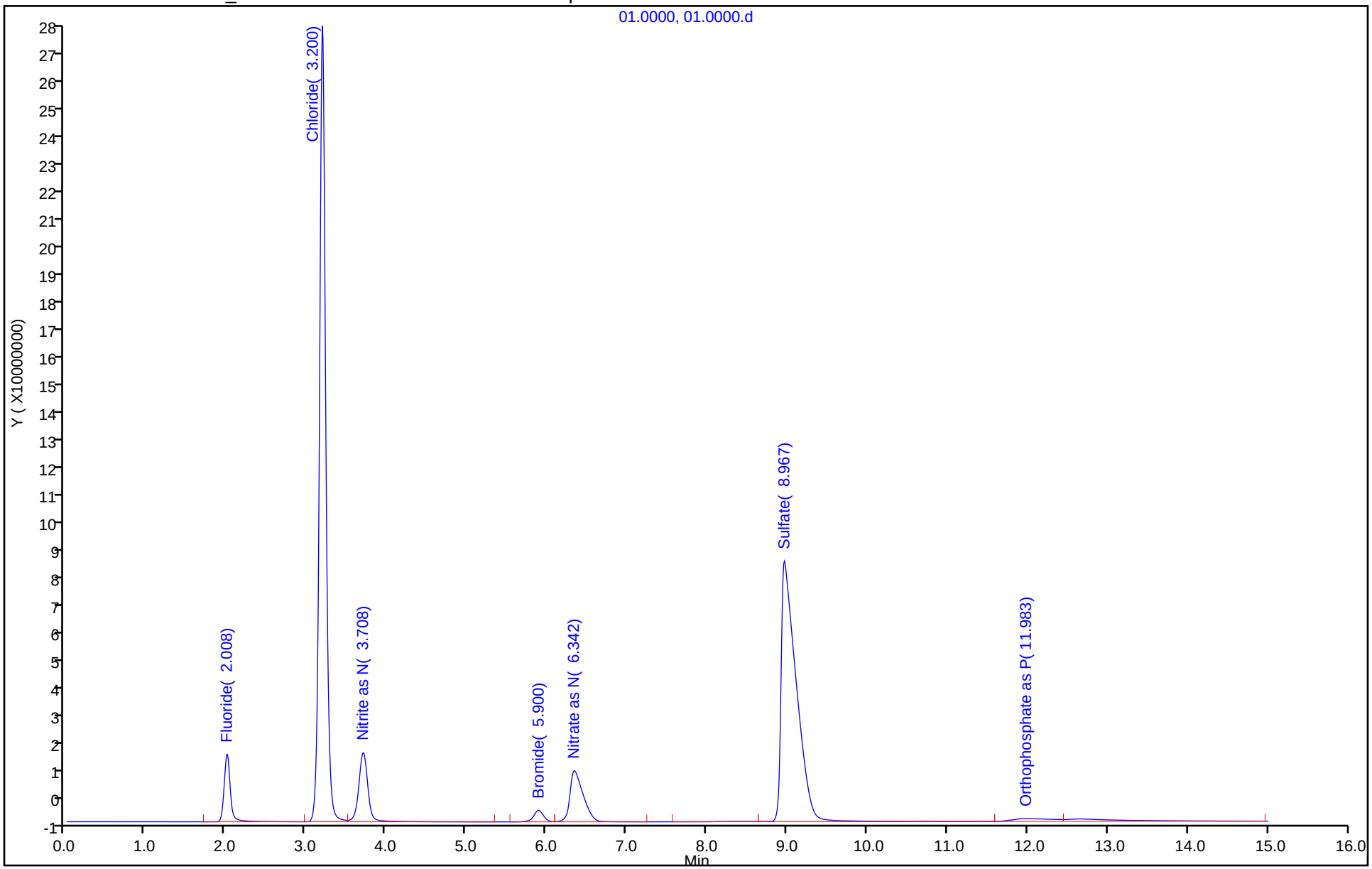
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:35:57 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\01.0000.d

Injection Date:	24-Jun-2018 11:55:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	1
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\02.0000.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 24-Jun-2018 12:13:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-002
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:35:55 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

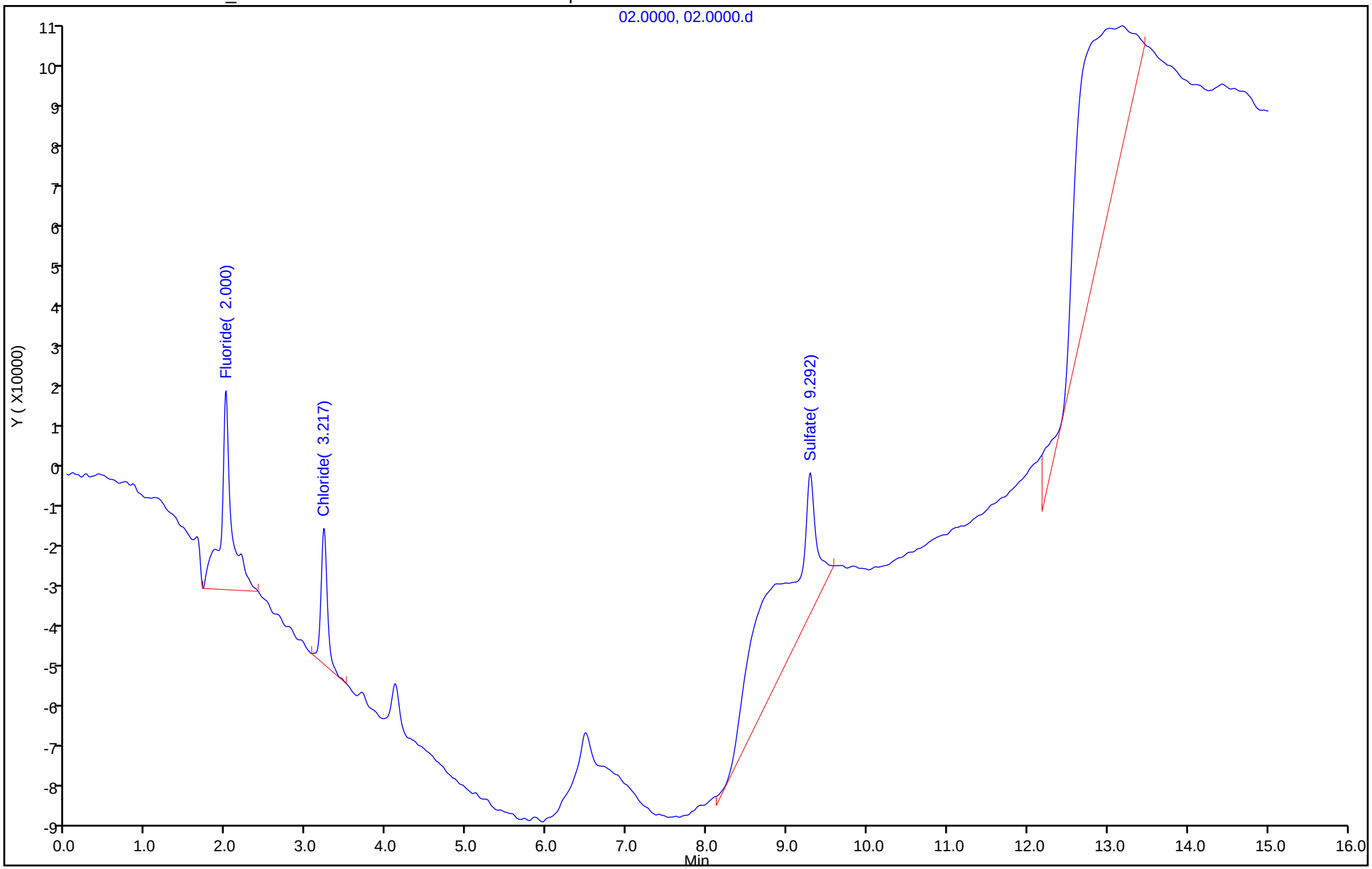
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.000	0.000	449047		-0.0233	
2 Chloride	3.217	3.225	-0.008	184424		-0.0182	
3 Nitrite as N		3.717				ND	
4 Bromide		5.917				ND	
5 Nitrate as N		6.475				ND	
6 Sulfate	9.292	9.275	0.017	1365853		-0.0732	
7 Orthophosphate as P		11.983				ND	

Report Date: 25-Jun-2018 07:35:59 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\02.0000.d

Injection Date:	24-Jun-2018 12:13:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\02.0000.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 24-Jun-2018 12:13:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-002
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:35:55 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

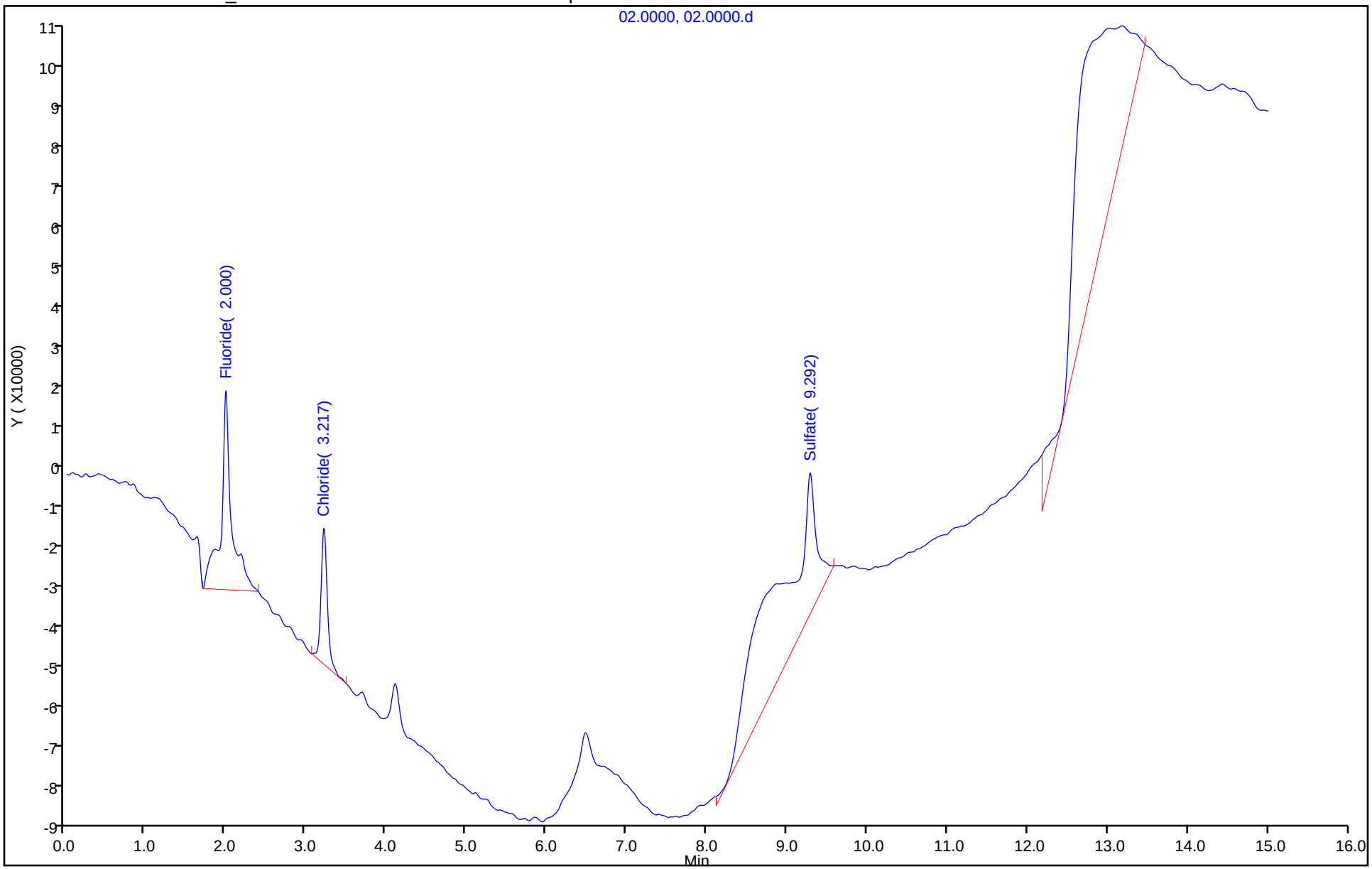
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.000	0.000	449047		-0.0233	
2 Chloride	3.217	3.225	-0.008	184424		-0.0182	
3 Nitrite as N		3.717				ND	
4 Bromide		5.917				ND	
5 Nitrate as N		6.475				ND	
6 Sulfate	9.292	9.275	0.017	1365853		-0.0732	
7 Orthophosphate as P		11.983				ND	

Report Date: 25-Jun-2018 07:35:59 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\02.0000.d

Injection Date:	24-Jun-2018 12:13:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\05.0000.d
Lims ID: mrl
Client ID:
Sample Type: MRL
Inject. Date: 24-Jun-2018 13:08:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-005
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.000	0.000	4609223	0.2000	0.1278	
2 Chloride	3.225	3.225	0.000	40955625	2.50	2.38	
3 Nitrite as N	3.717	3.717	0.000	8365453	0.2000	0.1889	
4 Bromide	5.917	5.917	0.000	1060411	0.2000	0.1807	
5 Nitrate as N	6.475	6.475	0.000	8311941	0.2000	0.1930	
6 Sulfate	9.275	9.275	0.000	31586807	2.50	2.31	
7 Orthophosphate as P		11.983			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

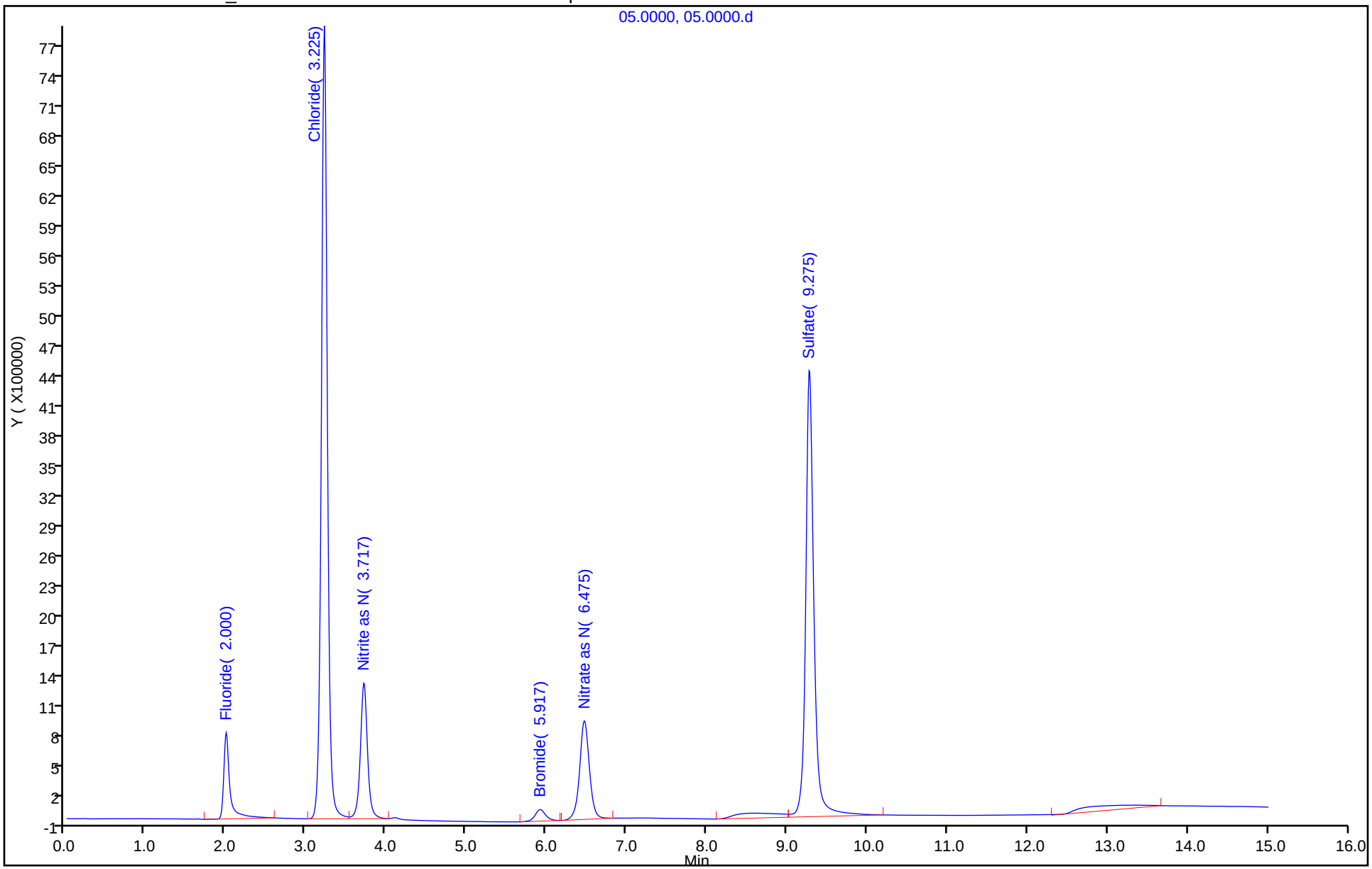
IC Cal low_00379 Amount Added: 0.02 Units: mL
IC CAL cl/so4_00205 Amount Added: 0.05 Units: mL

Report Date: 25-Jun-2018 07:36:06 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\05.0000.d

Injection Date:	24-Jun-2018 13:08:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	mrl			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\05.0000.d
Lims ID: mrl
Client ID:
Sample Type: MRL
Inject. Date: 24-Jun-2018 13:08:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-005
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.000	0.000	4609223	0.2000	0.1278	
2 Chloride	3.225	3.225	0.000	40955625	2.50	2.38	
3 Nitrite as N	3.717	3.717	0.000	8365453	0.2000	0.1889	
4 Bromide	5.917	5.917	0.000	1060411	0.2000	0.1807	
5 Nitrate as N	6.475	6.475	0.000	8311941	0.2000	0.1930	
6 Sulfate	9.275	9.275	0.000	31586807	2.50	2.31	
7 Orthophosphate as P		11.983			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

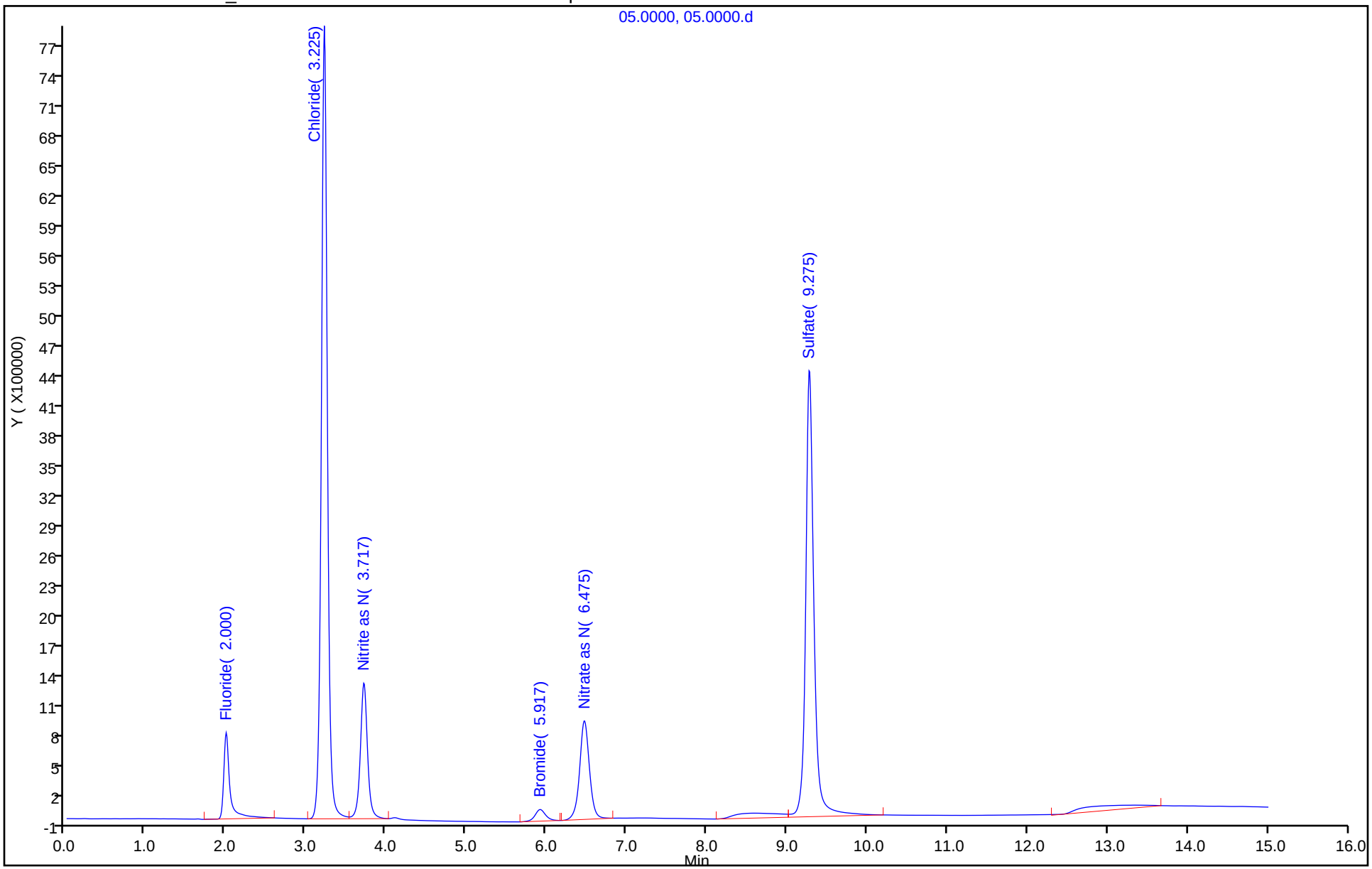
IC Cal low_00379 Amount Added: 0.02 Units: mL
IC CAL cl/so4_00205 Amount Added: 0.05 Units: mL

Report Date: 25-Jun-2018 07:36:06 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\05.0000.d

Injection Date:	24-Jun-2018 13:08:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	mrl			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\06.0000.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 24-Jun-2018 13:26:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	137527197	5.00	4.96	
2 Chloride	3.208	3.200	0.008	1629635646	100.0	95.7	
3 Nitrite as N	3.717	3.708	0.009	207932422	5.00	4.97	
4 Bromide	5.875	5.900	-0.025	35703351	5.00	4.75	
5 Nitrate as N	6.317	6.342	-0.025	214180722	5.00	4.83	
6 Sulfate	8.992	8.967	0.025	1220140201	100.0	96.2	
7 Orthophosphate as P	11.908	11.983	-0.075	40674614	5.00	2.57	

Reagents:

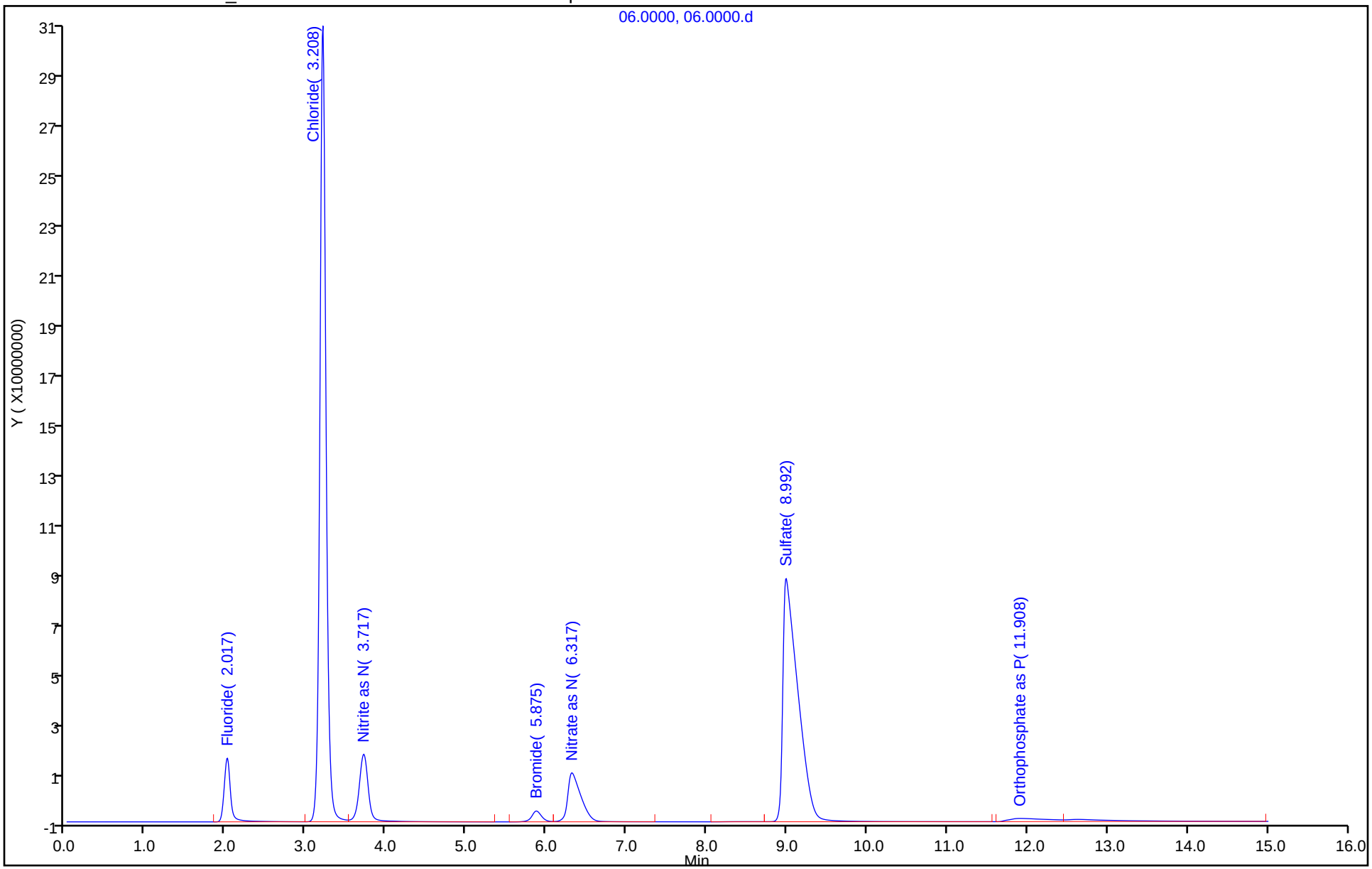
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:36:08 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\06.0000.d

Injection Date:	24-Jun-2018 13:26:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\06.0000.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 24-Jun-2018 13:26:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	137527197	5.00	4.96	
2 Chloride	3.208	3.200	0.008	1629635646	100.0	95.7	
3 Nitrite as N	3.717	3.708	0.009	207932422	5.00	4.97	
4 Bromide	5.875	5.900	-0.025	35703351	5.00	4.75	
5 Nitrate as N	6.317	6.342	-0.025	214180722	5.00	4.83	
6 Sulfate	8.992	8.967	0.025	1220140201	100.0	96.2	
7 Orthophosphate as P	11.908	11.983	-0.075	40674614	5.00	2.57	

Reagents:

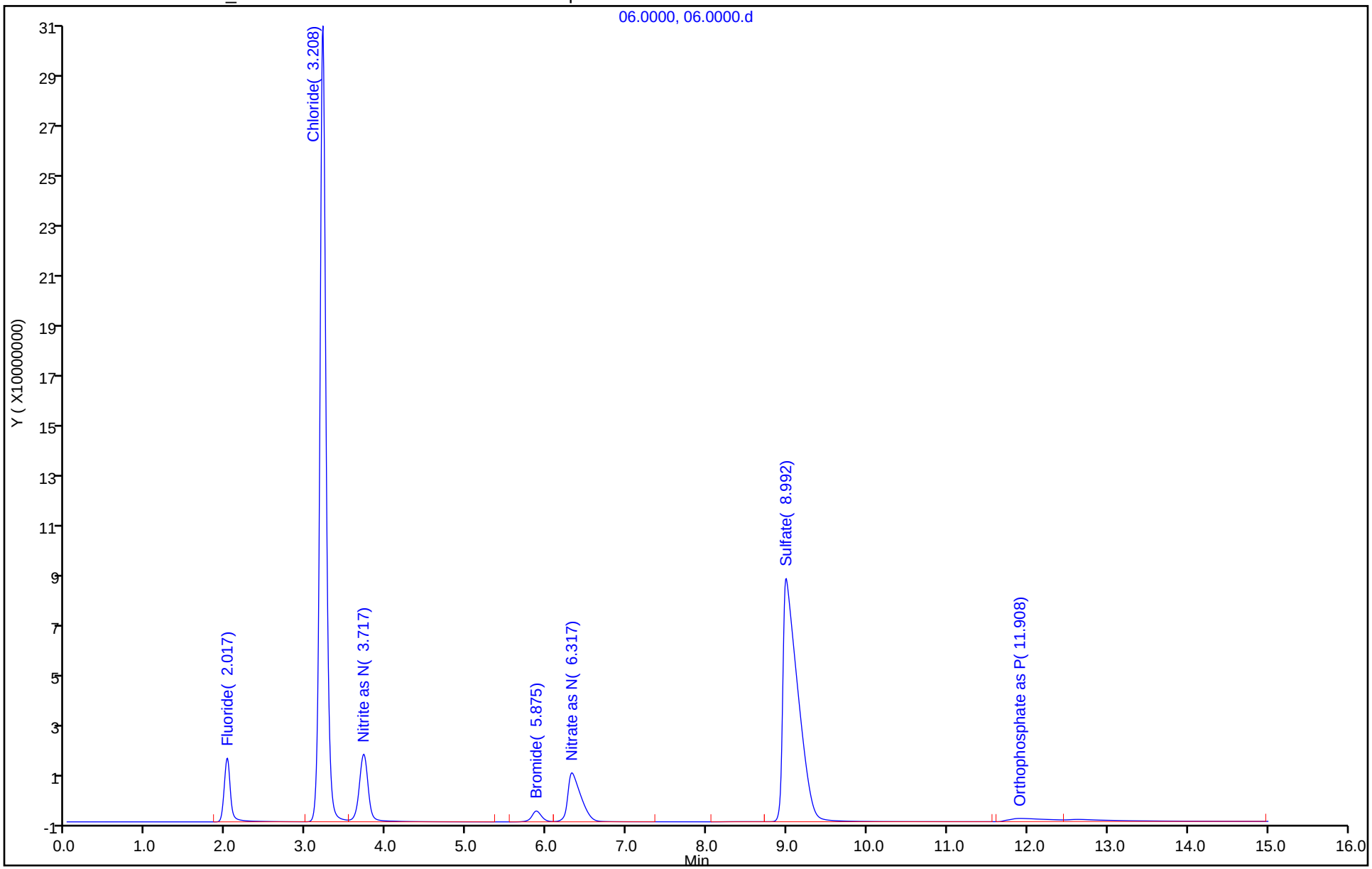
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:36:08 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\06.0000.d

Injection Date:	24-Jun-2018 13:26:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\07.0000.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 24-Jun-2018 13:43:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-007
Misc. Info.: 20865 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	138719761	5.00	5.00	
2 Chloride	3.208	3.200	0.008	1633316764	100.0	96.0	
3 Nitrite as N	3.717	3.708	0.009	208308029	5.00	4.98	
4 Bromide	5.875	5.900	-0.025	35661228	5.00	4.74	
5 Nitrate as N	6.317	6.342	-0.025	214421053	5.00	4.84	
6 Sulfate	8.992	8.967	0.025	1220744081	100.0	96.3	
7 Orthophosphate as P	11.850	11.983	-0.133	48251948	5.00	2.98	

Reagents:

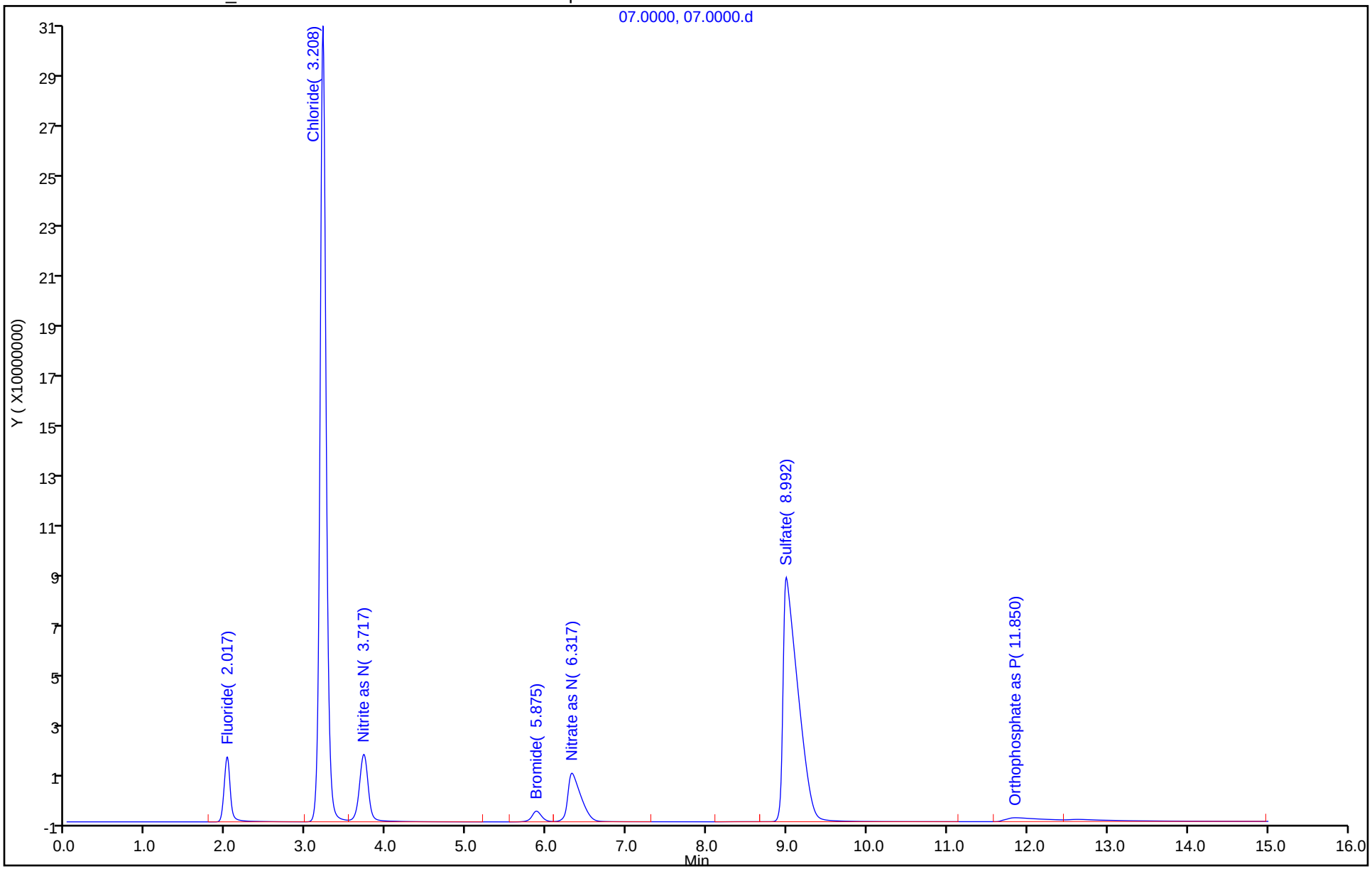
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:36:10 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\07.0000.d

Injection Date:	24-Jun-2018 13:43:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	lcsd			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\07.0000.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 24-Jun-2018 13:43:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-007
Misc. Info.: 20865 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	138719761	5.00	5.00	
2 Chloride	3.208	3.200	0.008	1633316764	100.0	96.0	
3 Nitrite as N	3.717	3.708	0.009	208308029	5.00	4.98	
4 Bromide	5.875	5.900	-0.025	35661228	5.00	4.74	
5 Nitrate as N	6.317	6.342	-0.025	214421053	5.00	4.84	
6 Sulfate	8.992	8.967	0.025	1220744081	100.0	96.3	
7 Orthophosphate as P	11.850	11.983	-0.133	48251948	5.00	2.98	

Reagents:

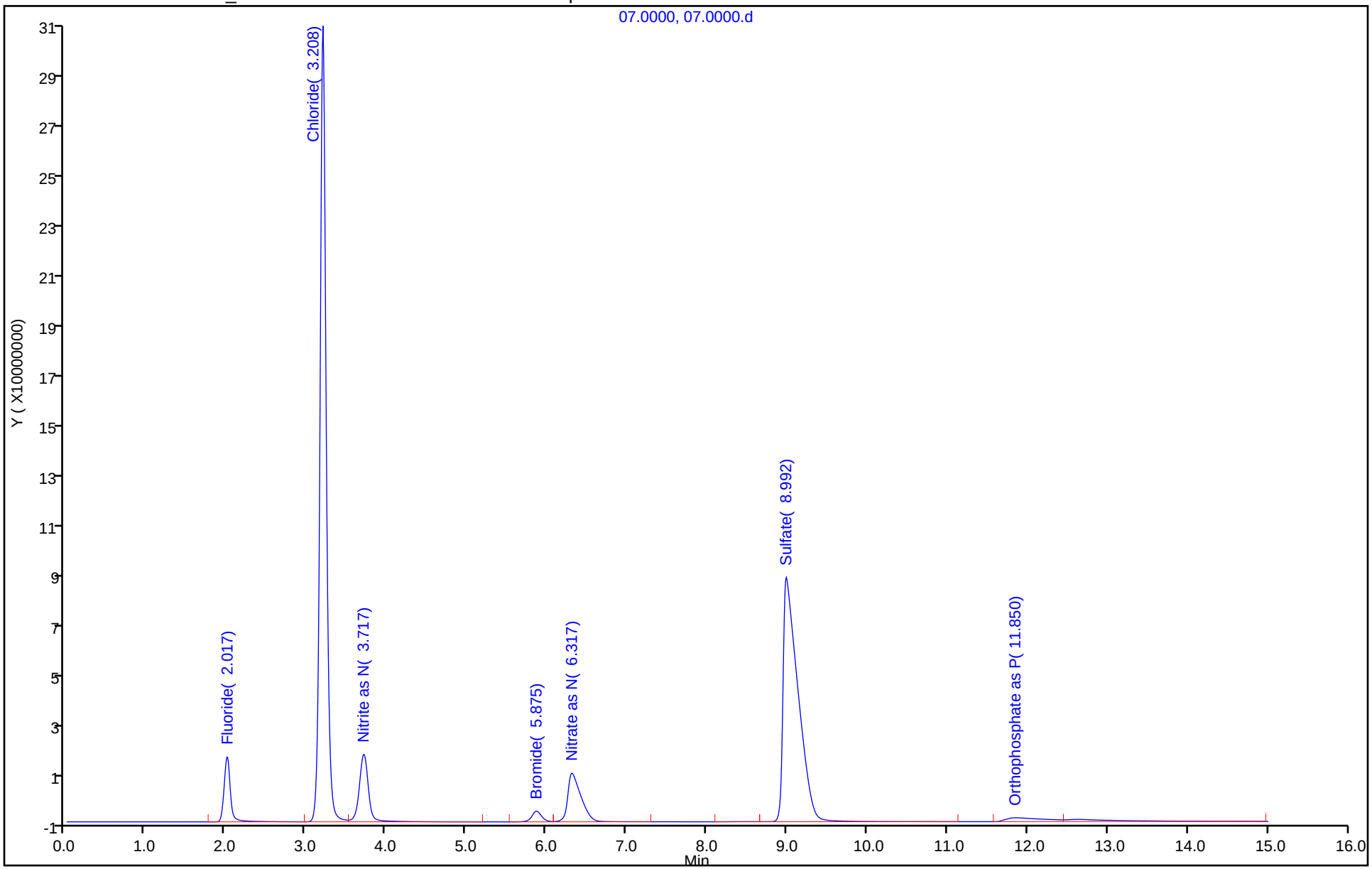
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:36:10 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\07.0000.d

Injection Date:	24-Jun-2018 13:43:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	lcsd			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\08.0000.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 24-Jun-2018 14:01:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-008
Misc. Info.: 3910 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

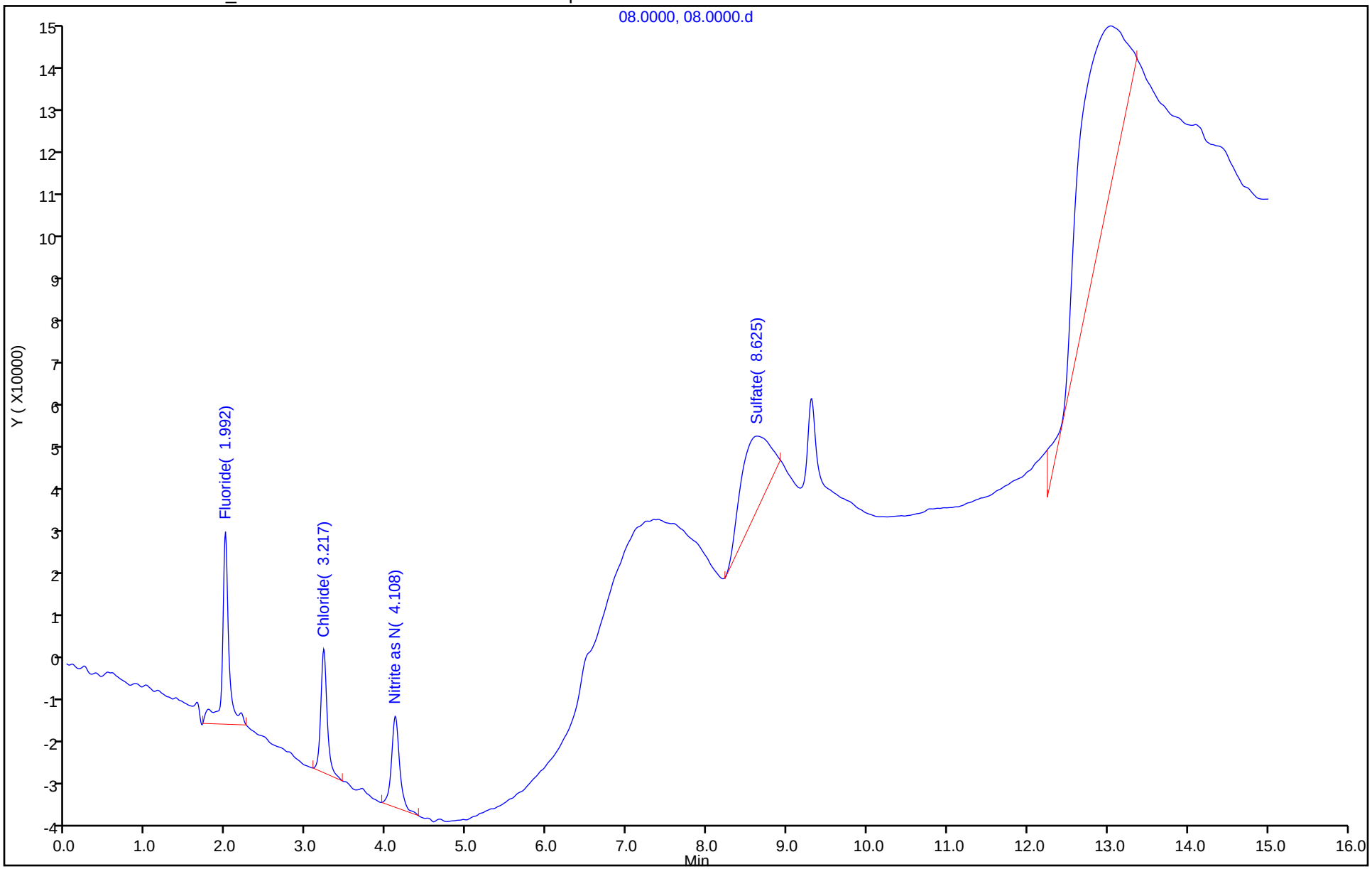
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	249164		-0.0306	
2 Chloride	3.217	3.200	0.017	154560		-0.0199	
3 Nitrite as N	4.108	3.708	0.400	145434		-0.007898	
4 Bromide		5.900				ND	
5 Nitrate as N		6.342				ND	
6 Sulfate	8.625	8.967	-0.342	427894		-0.1473	
7 Orthophosphate as P		11.983				ND	

Report Date: 25-Jun-2018 07:36:11 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\08.0000.d

Injection Date:	24-Jun-2018 14:01:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	mb			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\08.0000.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 24-Jun-2018 14:01:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-008
Misc. Info.: 3910 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:36:05 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

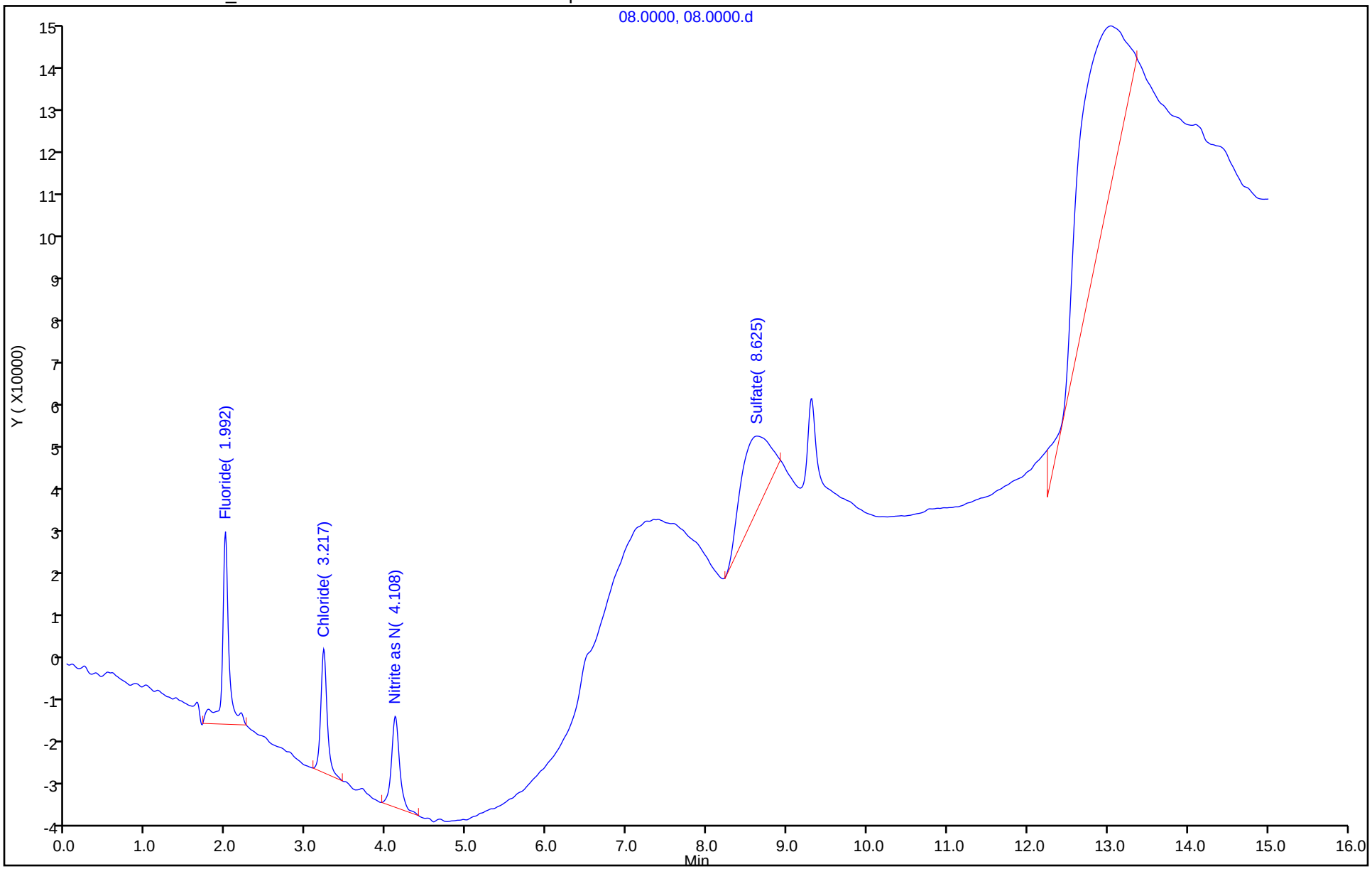
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	249164		-0.0306	
2 Chloride	3.217	3.200	0.017	154560		-0.0199	
3 Nitrite as N	4.108	3.708	0.400	145434		-0.007898	
4 Bromide		5.900				ND	
5 Nitrate as N		6.342				ND	
6 Sulfate	8.625	8.967	-0.342	427894		-0.1473	
7 Orthophosphate as P		11.983				ND	

Report Date: 25-Jun-2018 07:36:12 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\08.0000.d

Injection Date:	24-Jun-2018 14:01:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	mb			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\10.0000.d
Lims ID: 280-111344-I-9
Client ID: CBLmw-003-062118-GW
Sample Type: Client
Inject. Date: 24-Jun-2018 14:37:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-010
Misc. Info.: 31232 86
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2018 15:29:01 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

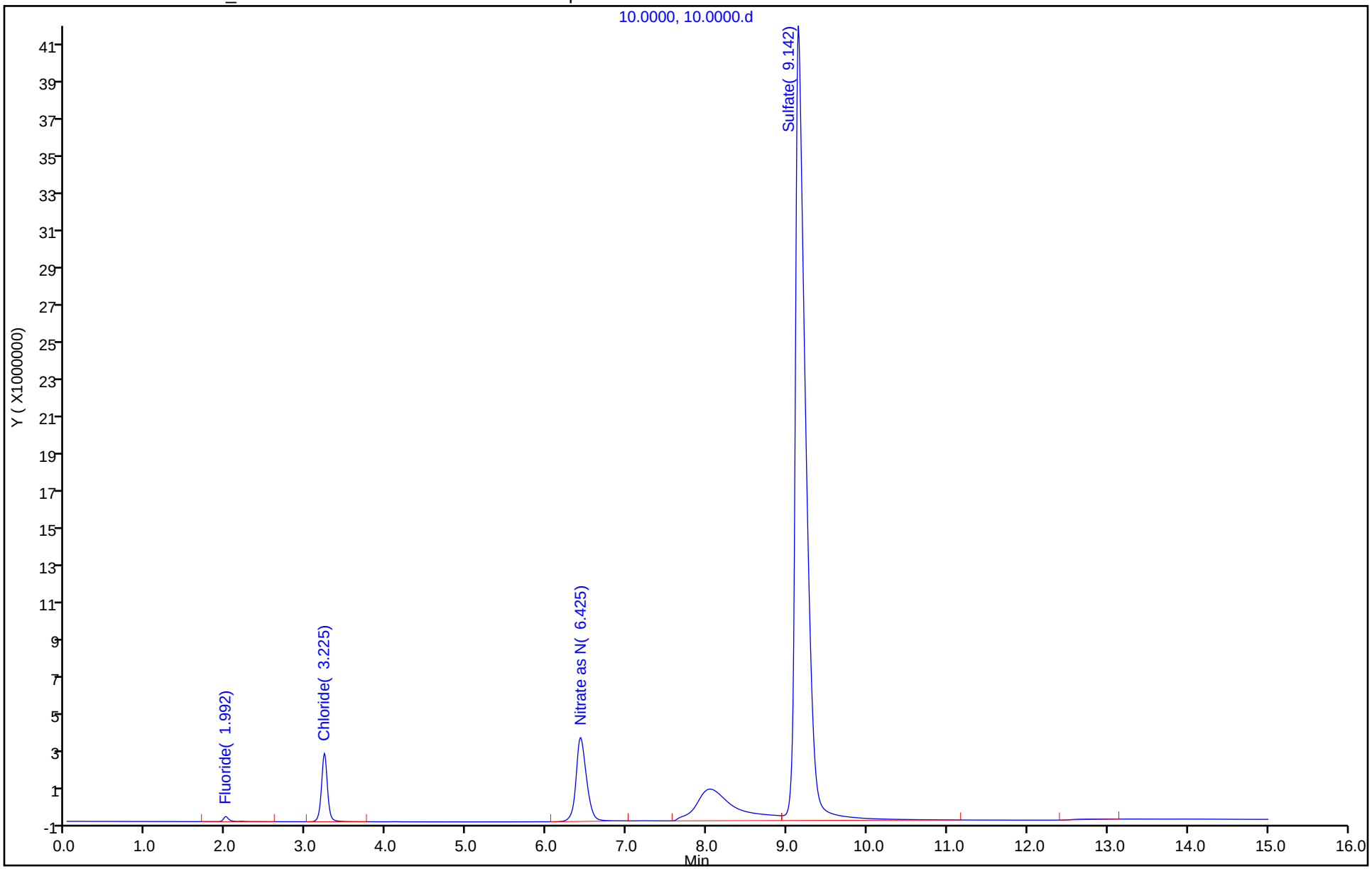
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	1472743	0.0138	
2 Chloride	3.225	3.200	0.025	18731995	1.07	
3 Nitrite as N		3.708			ND	
4 Bromide		5.900			ND	
5 Nitrate as N	6.425	6.342	0.083	39939949	0.9056	
6 Sulfate	9.142	8.967	0.175	376916386	29.6	
7 Orthophosphate as P		11.983			ND	

Report Date: 08-Oct-2018 15:29:01 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\10.0000.d

Injection Date:	24-Jun-2018 14:37:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-I-9	Lab Sample ID:	280-111344-9	Worklist Smp#:	10
Client ID:	CBLmw-003-062118-GW				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\10.0000.d
Lims ID: 280-111344-I-9
Client ID: CBLmw-003-062118-GW
Sample Type: Client
Inject. Date: 24-Jun-2018 14:37:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-010
Misc. Info.: 31232 86
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2018 15:29:01 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

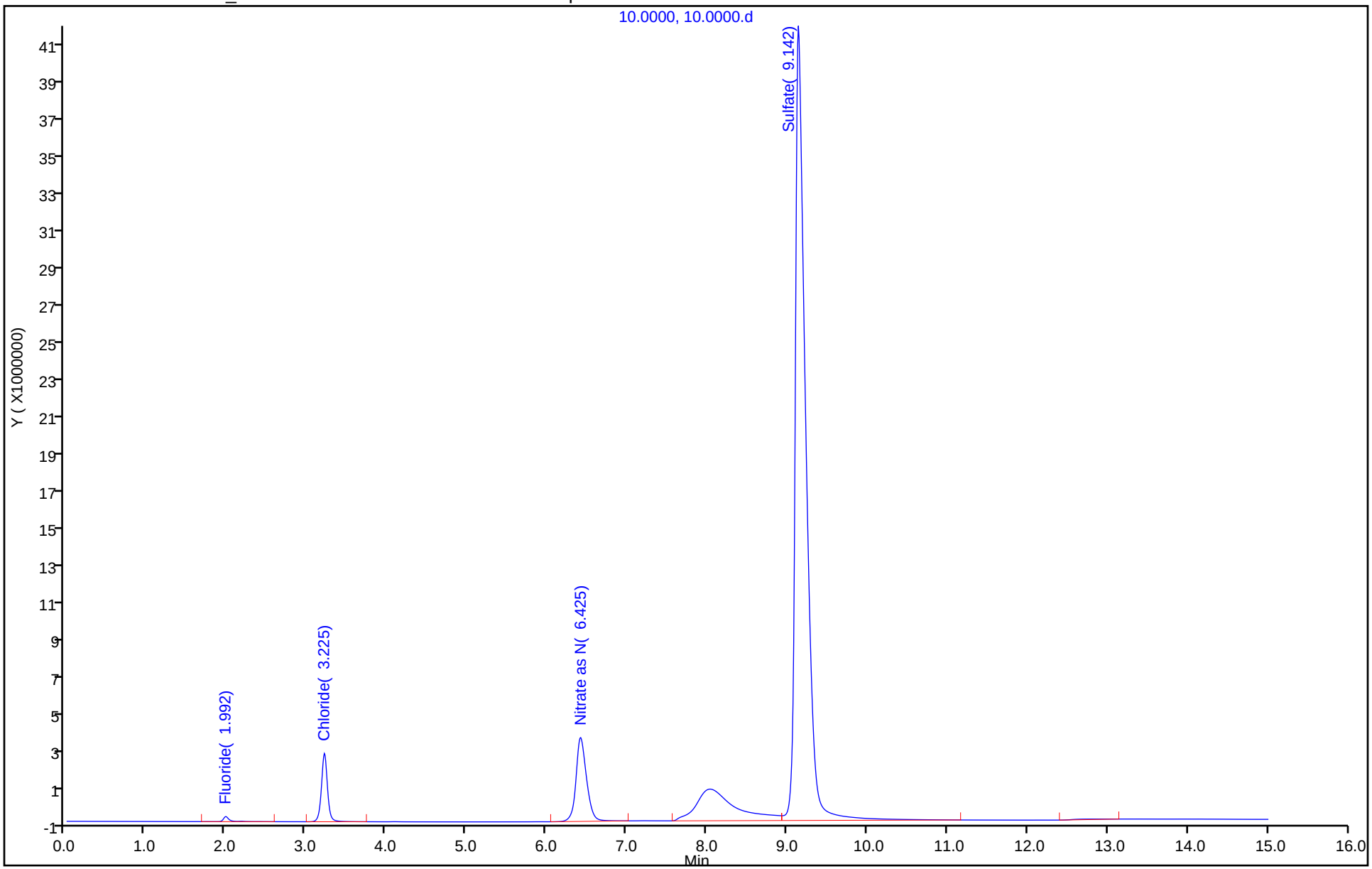
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	1472743	0.0138	
2 Chloride	3.225	3.200	0.025	18731995	1.07	
3 Nitrite as N		3.708			ND	
4 Bromide		5.900			ND	
5 Nitrate as N	6.425	6.342	0.083	39939949	0.9056	
6 Sulfate	9.142	8.967	0.175	376916386	29.6	
7 Orthophosphate as P		11.983			ND	

Report Date: 08-Oct-2018 15:29:01 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\10.0000.d

Injection Date:	24-Jun-2018 14:37:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-I-9	Lab Sample ID:	280-111344-9	Worklist Smp#:	10
Client ID:	CBLmw-003-062118-GW				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\11.0000.d
Lims ID: 280-111344-J-10
Client ID: CBLmw-004-062118-GW
Sample Type: Client
Inject. Date: 24-Jun-2018 14:55:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-011
Misc. Info.: 36 51F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

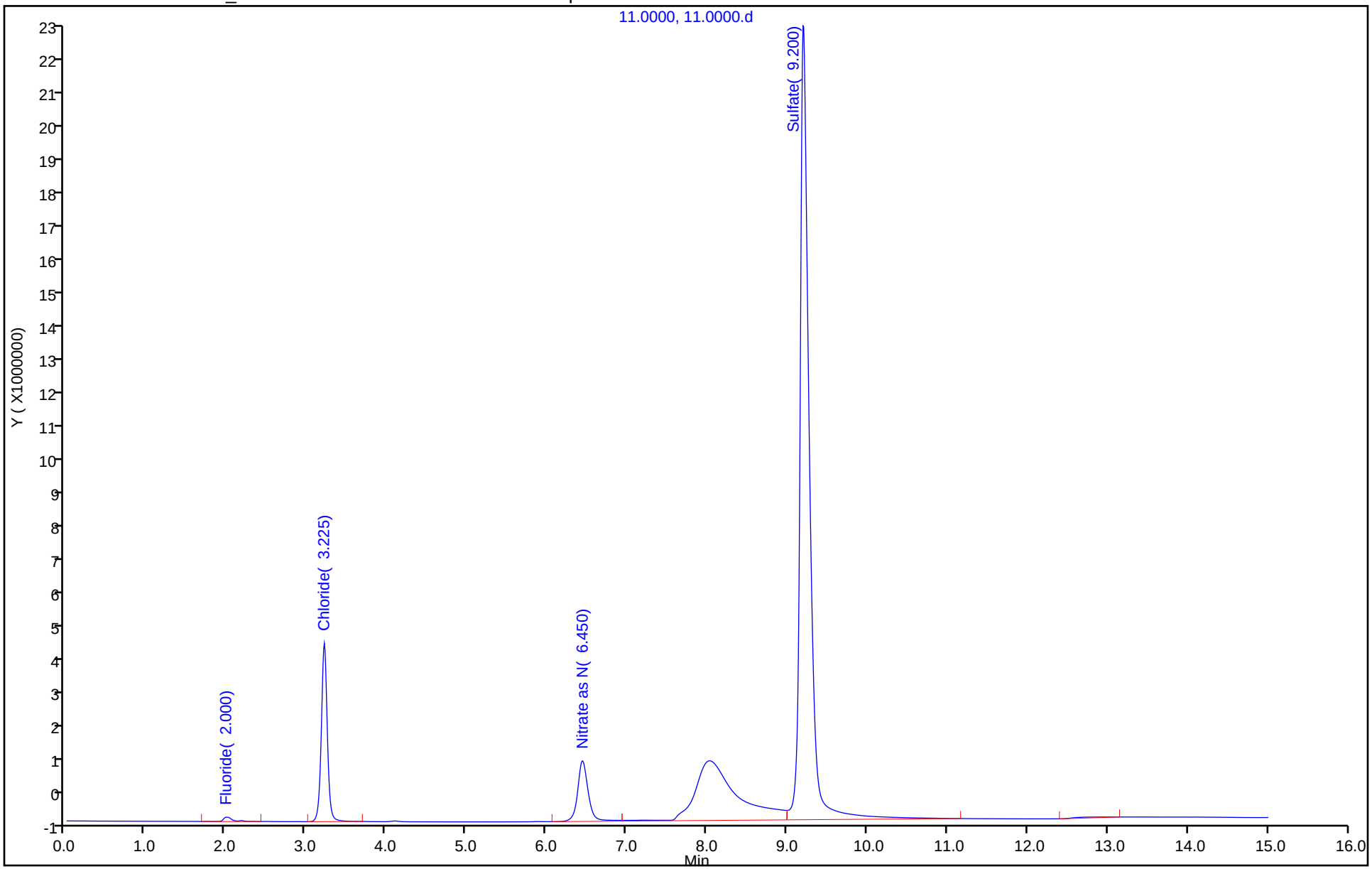
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	1038958	-0.001913	
2 Chloride	3.225	3.200	0.025	26940948	1.55	
3 Nitrite as N		3.708			ND	
4 Bromide		5.900			ND	
5 Nitrate as N	6.450	6.342	0.108	16083401	0.3681	
6 Sulfate	9.200	8.967	0.233	185940163	14.5	
7 Orthophosphate as P		11.983			ND	

Report Date: 08-Oct-2018 16:15:49 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\11.0000.d

Injection Date:	24-Jun-2018 14:55:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10	Lab Sample ID:	280-111344-10	Worklist Smp#:	11
Client ID:	CBLmw-004-062118-GW				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\11.0000.d
Lims ID: 280-111344-J-10
Client ID: CBLmw-004-062118-GW
Sample Type: Client
Inject. Date: 24-Jun-2018 14:55:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-011
Misc. Info.: 36 51F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

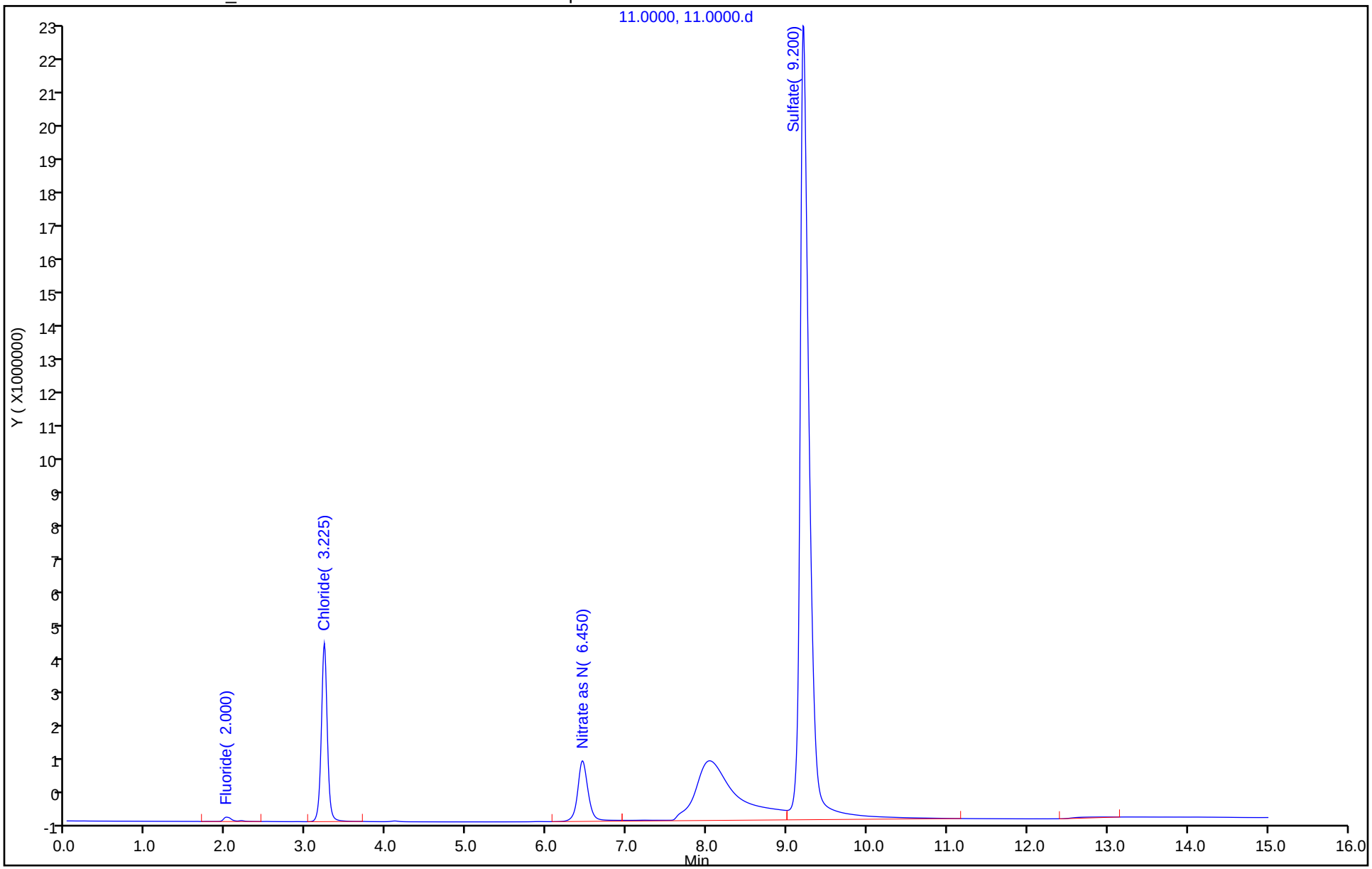
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	1038958	-0.001913	
2 Chloride	3.225	3.200	0.025	26940948	1.55	
3 Nitrite as N		3.708			ND	
4 Bromide		5.900			ND	
5 Nitrate as N	6.450	6.342	0.108	16083401	0.3681	
6 Sulfate	9.200	8.967	0.233	185940163	14.5	
7 Orthophosphate as P		11.983			ND	

Report Date: 08-Oct-2018 16:15:49 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\11.0000.d

Injection Date:	24-Jun-2018 14:55:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10	Lab Sample ID:	280-111344-10	Worklist Smp#:	11
Client ID:	CBLmw-004-062118-GW				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\12.0000.d
Lims ID: 280-111344-J-10 DU
Client ID:
Sample Type: DU
Inject. Date: 24-Jun-2018 15:13:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-012
Misc. Info.: 5843 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

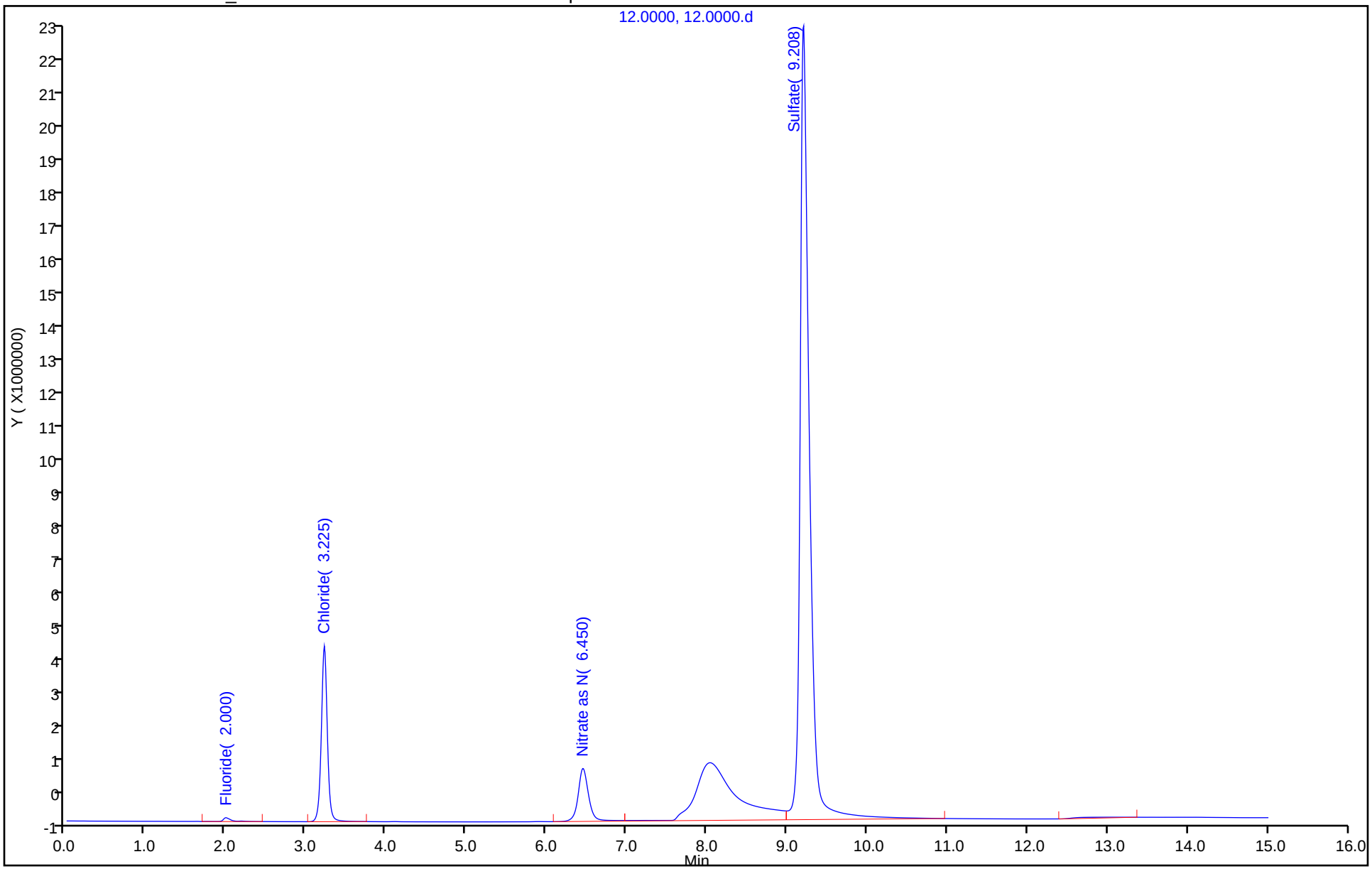
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	772561		-0.0116	
2 Chloride	3.225	3.200	0.025	26513898		1.53	
3 Nitrite as N		3.708				ND	
4 Bromide		5.900				ND	
5 Nitrate as N	6.450	6.342	0.108	13979229		0.3207	
6 Sulfate	9.208	8.967	0.241	184317800		14.4	
7 Orthophosphate as P		11.983				ND	

Report Date: 08-Oct-2018 16:15:50 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\12.0000.d

Injection Date:	24-Jun-2018 15:13:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10 DU			Worklist Smp#:	12
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\12.0000.d
Lims ID: 280-111344-J-10 DU
Client ID:
Sample Type: DU
Inject. Date: 24-Jun-2018 15:13:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-012
Misc. Info.: 5843 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

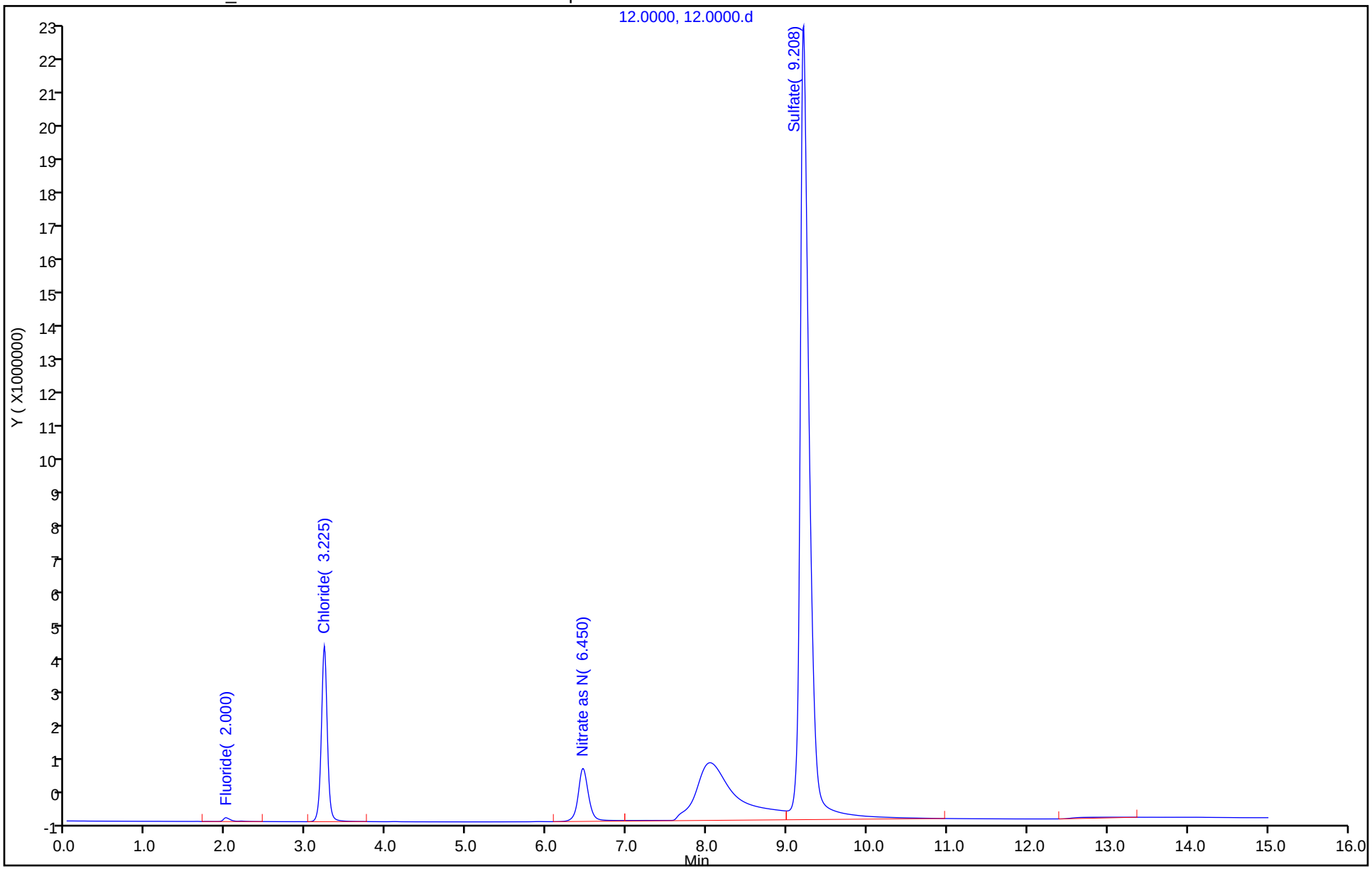
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	772561		-0.0116	
2 Chloride	3.225	3.200	0.025	26513898		1.53	
3 Nitrite as N		3.708				ND	
4 Bromide		5.900				ND	
5 Nitrate as N	6.450	6.342	0.108	13979229		0.3207	
6 Sulfate	9.208	8.967	0.241	184317800		14.4	
7 Orthophosphate as P		11.983				ND	

Report Date: 08-Oct-2018 16:15:50 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\12.0000.d

Injection Date:	24-Jun-2018 15:13:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10 DU			Worklist Smp#:	12
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\13.0000.d
Lims ID: 280-111344-J-10 MS
Client ID:
Sample Type: MS
Inject. Date: 24-Jun-2018 15:30:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-013
Misc. Info.: 26119 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	137855509	5.00	4.97	
2 Chloride	3.217	3.200	0.017	467547689	25.0	27.4	
3 Nitrite as N	3.725	3.708	0.017	193465016	5.00	4.62	
4 Bromide	5.867	5.900	-0.033	35554646	5.00	4.73	
5 Nitrate as N	6.300	6.342	-0.042	232114399	5.00	5.24	
6 Sulfate	9.108	8.967	0.141	508782058	25.0	40.0	
7 Orthophosphate as P	11.817	11.983	-0.166	52750140	5.00	3.23	

Reagents:

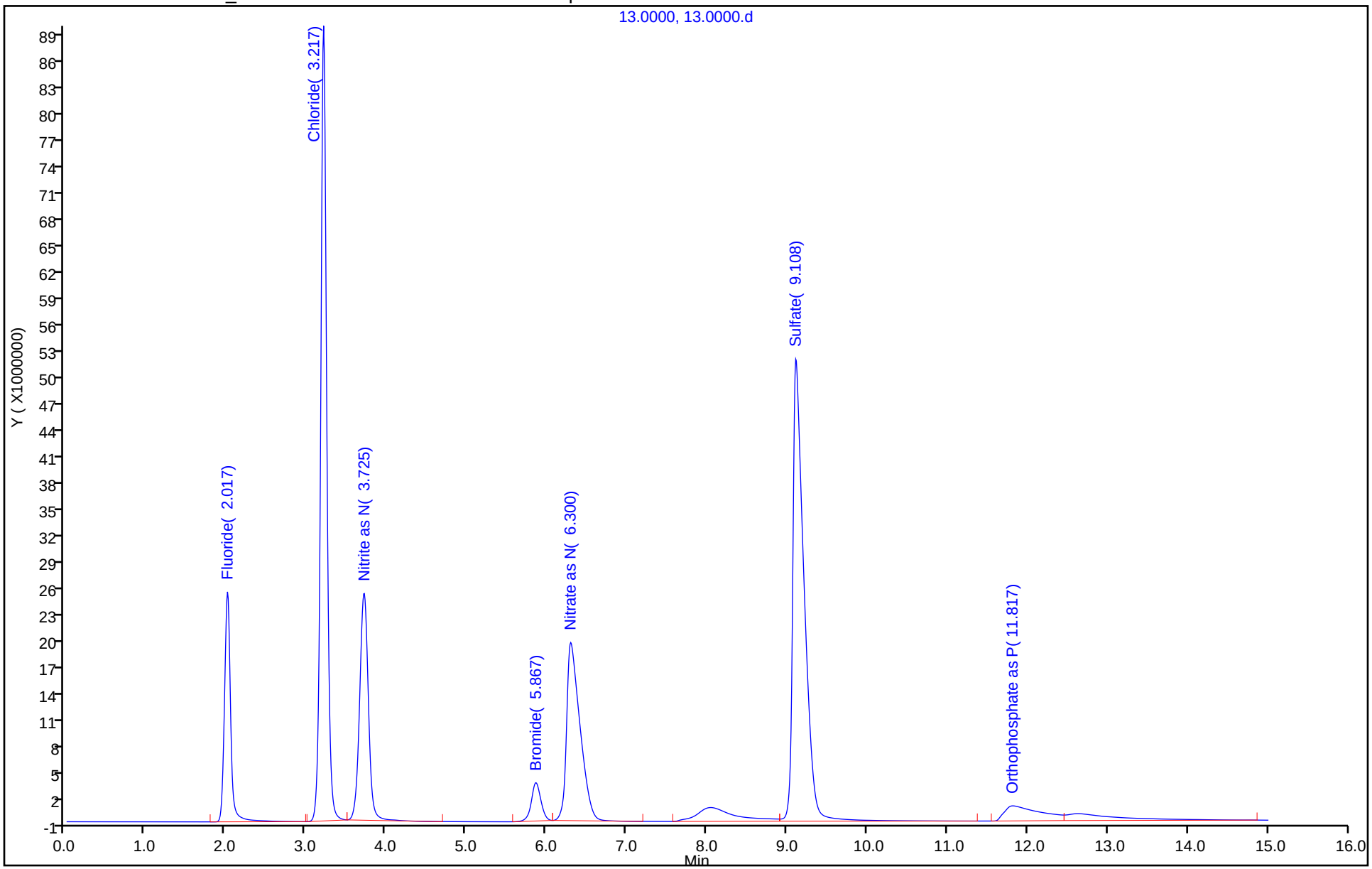
ICMS/MSD WEEK_00538 Amount Added: 0.05 Units: mL

Report Date: 08-Oct-2018 16:15:51 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\13.0000.d

Injection Date:	24-Jun-2018 15:30:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10 MS			Worklist Smp#:	13
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\13.0000.d
Lims ID: 280-111344-J-10 MS
Client ID:
Sample Type: MS
Inject. Date: 24-Jun-2018 15:30:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-013
Misc. Info.: 26119 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	137855509	5.00	4.97	
2 Chloride	3.217	3.200	0.017	467547689	25.0	27.4	
3 Nitrite as N	3.725	3.708	0.017	193465016	5.00	4.62	
4 Bromide	5.867	5.900	-0.033	35554646	5.00	4.73	
5 Nitrate as N	6.300	6.342	-0.042	232114399	5.00	5.24	
6 Sulfate	9.108	8.967	0.141	508782058	25.0	40.0	
7 Orthophosphate as P	11.817	11.983	-0.166	52750140	5.00	3.23	

Reagents:

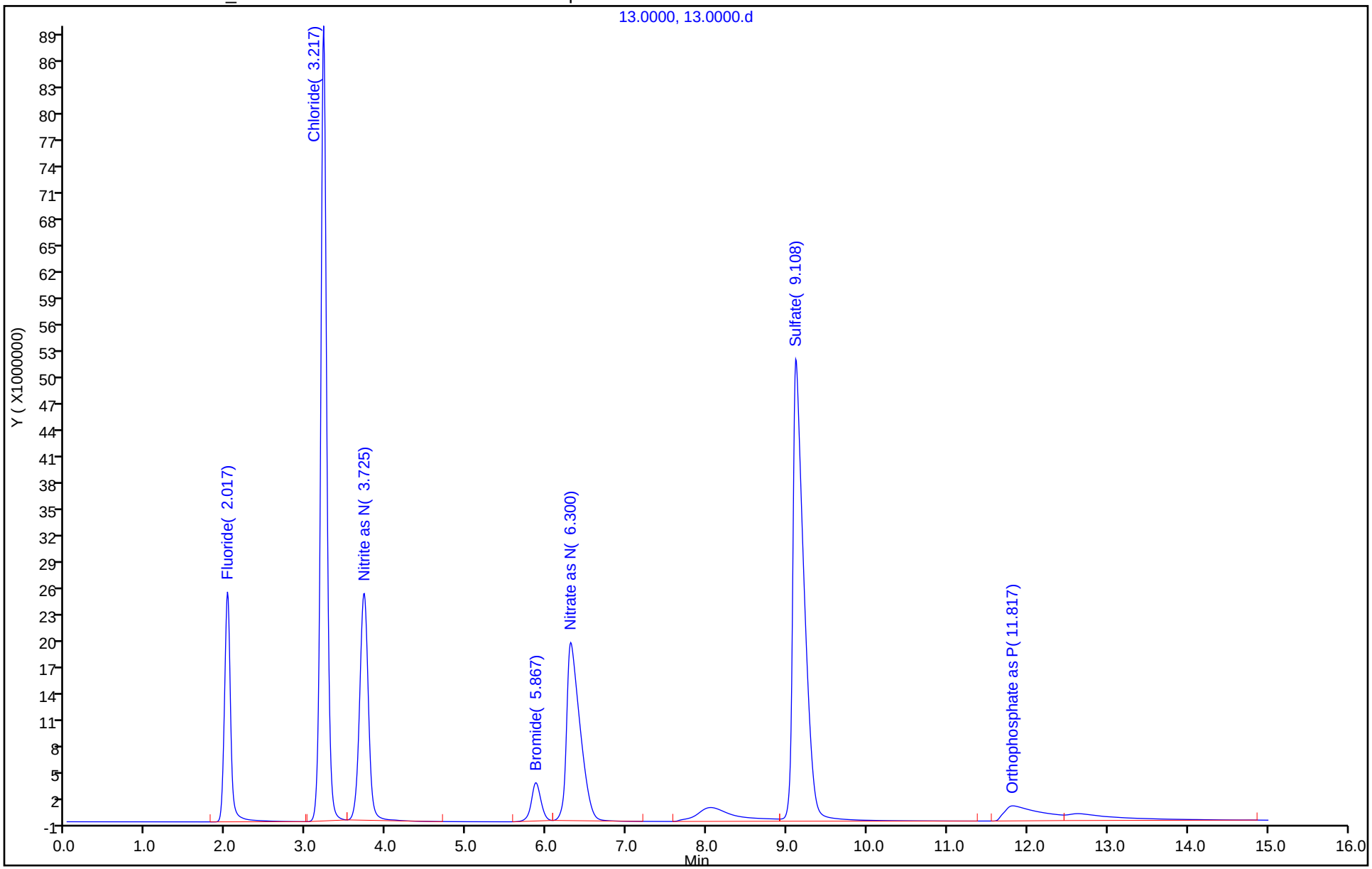
ICMS/MSD WEEK_00538 Amount Added: 0.05 Units: mL

Report Date: 08-Oct-2018 16:15:51 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\13.0000.d

Injection Date:	24-Jun-2018 15:30:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10 MS			Worklist Smp#:	13
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\14.0000.d
Lims ID: 280-111344-J-10 MSD
Client ID:
Sample Type: MSD
Inject. Date: 24-Jun-2018 15:48:00 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-014
Misc. Info.: 29942 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	143043513	5.00	5.16	
2 Chloride	3.217	3.200	0.017	484854164	25.0	28.5	
3 Nitrite as N	3.725	3.708	0.017	200760203	5.00	4.80	
4 Bromide	5.858	5.900	-0.042	37387810	5.00	4.97	
5 Nitrate as N	6.292	6.342	-0.050	240599229	5.00	5.43	
6 Sulfate	9.100	8.967	0.133	519291679	25.0	40.8	
7 Orthophosphate as P	11.758	11.983	-0.225	62839706	5.00	3.79	

Reagents:

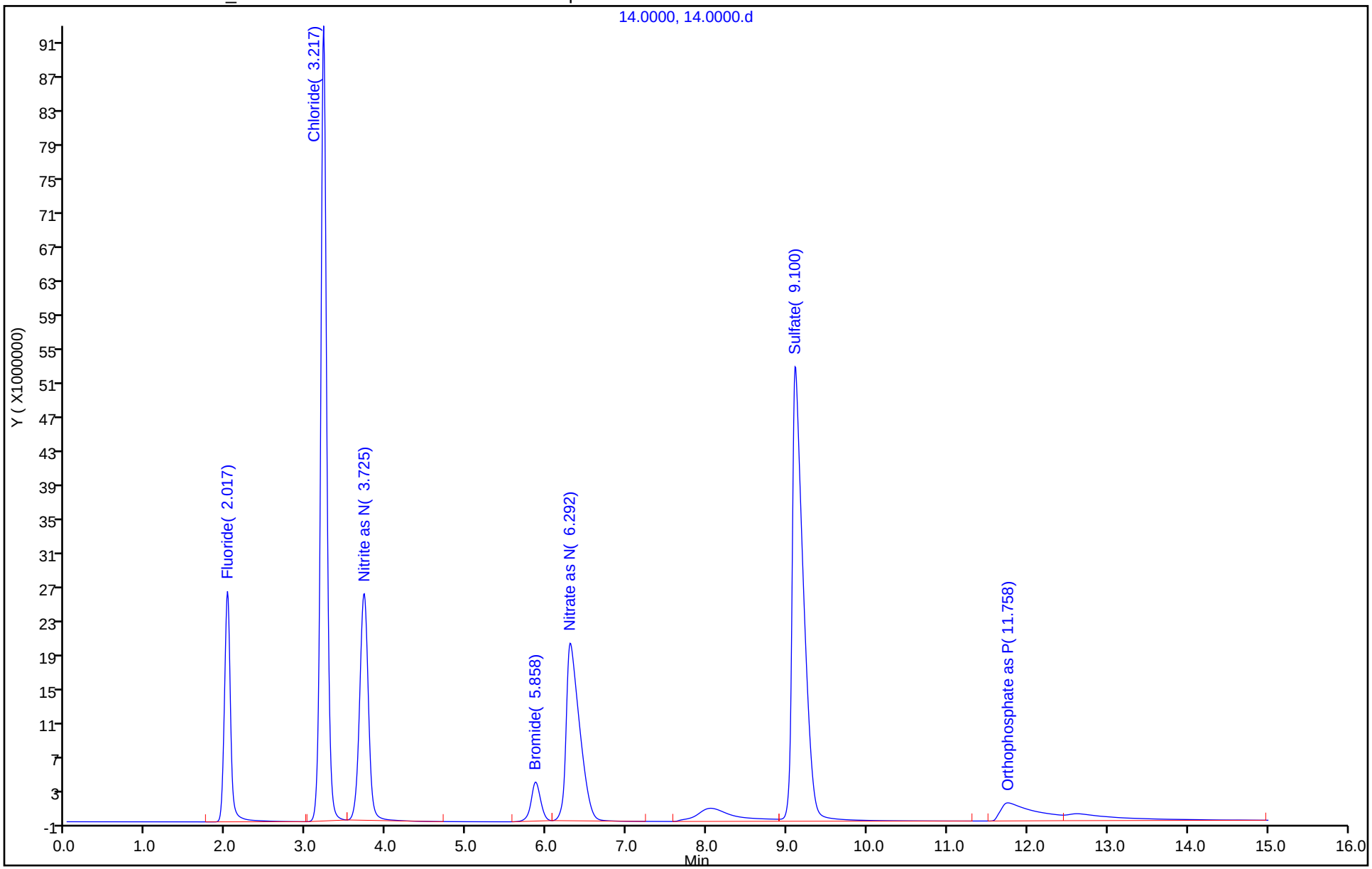
ICMS/MSD WEEK_00538 Amount Added: 0.05 Units: mL

Report Date: 08-Oct-2018 16:15:53 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\14.0000.d

Injection Date:	24-Jun-2018 15:48:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10 MSD			Worklist Smp#:	14
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\14.0000.d
Lims ID: 280-111344-J-10 MSD
Client ID:
Sample Type: MSD
Inject. Date: 24-Jun-2018 15:48:00 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-014
Misc. Info.: 29942 F
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2018 16:15:38 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0313

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	143043513	5.00	5.16	
2 Chloride	3.217	3.200	0.017	484854164	25.0	28.5	
3 Nitrite as N	3.725	3.708	0.017	200760203	5.00	4.80	
4 Bromide	5.858	5.900	-0.042	37387810	5.00	4.97	
5 Nitrate as N	6.292	6.342	-0.050	240599229	5.00	5.43	
6 Sulfate	9.100	8.967	0.133	519291679	25.0	40.8	
7 Orthophosphate as P	11.758	11.983	-0.225	62839706	5.00	3.79	

Reagents:

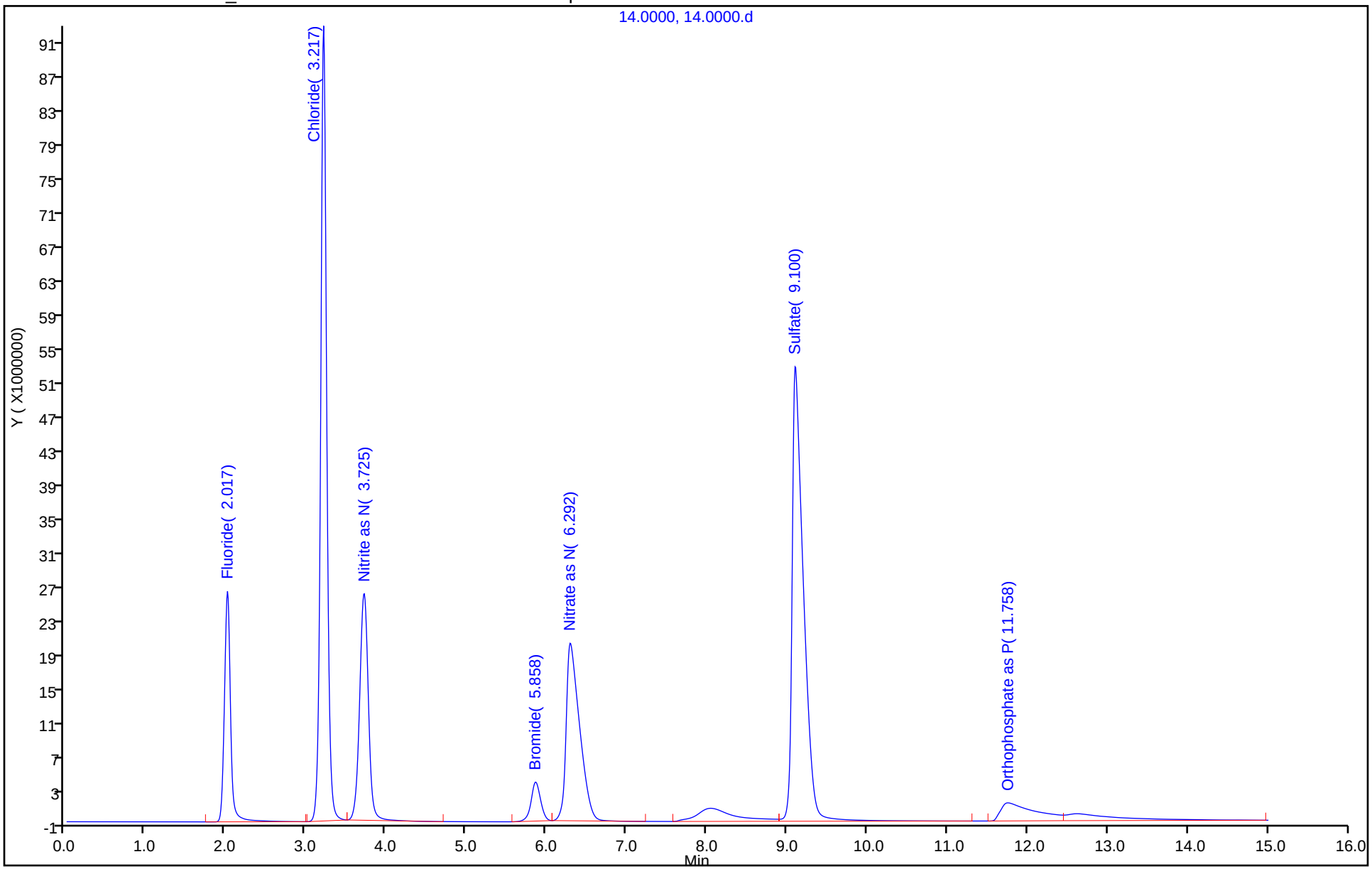
ICMS/MSD WEEK_00538 Amount Added: 0.05 Units: mL

Report Date: 08-Oct-2018 16:15:53 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\14.0000.d

Injection Date:	24-Jun-2018 15:48:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	280-111344-J-10 MSD			Worklist Smp#:	14
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\17.0000.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 24-Jun-2018 16:42:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-017
Misc. Info.: 17886
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:36:24 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	139663875	5.00	5.04	
2 Chloride	3.208	3.200	0.008	1632589754	100.0	95.9	
3 Nitrite as N	3.717	3.708	0.009	208166200	5.00	4.97	
4 Bromide	5.867	5.900	-0.033	36238919	5.00	4.82	
5 Nitrate as N	6.317	6.342	-0.025	214544299	5.00	4.84	
6 Sulfate	8.975	8.967	0.008	1222228123	100.0	96.4	
7 Orthophosphate as P	11.850	11.983	-0.133	46931427	5.00	2.91	

Reagents:

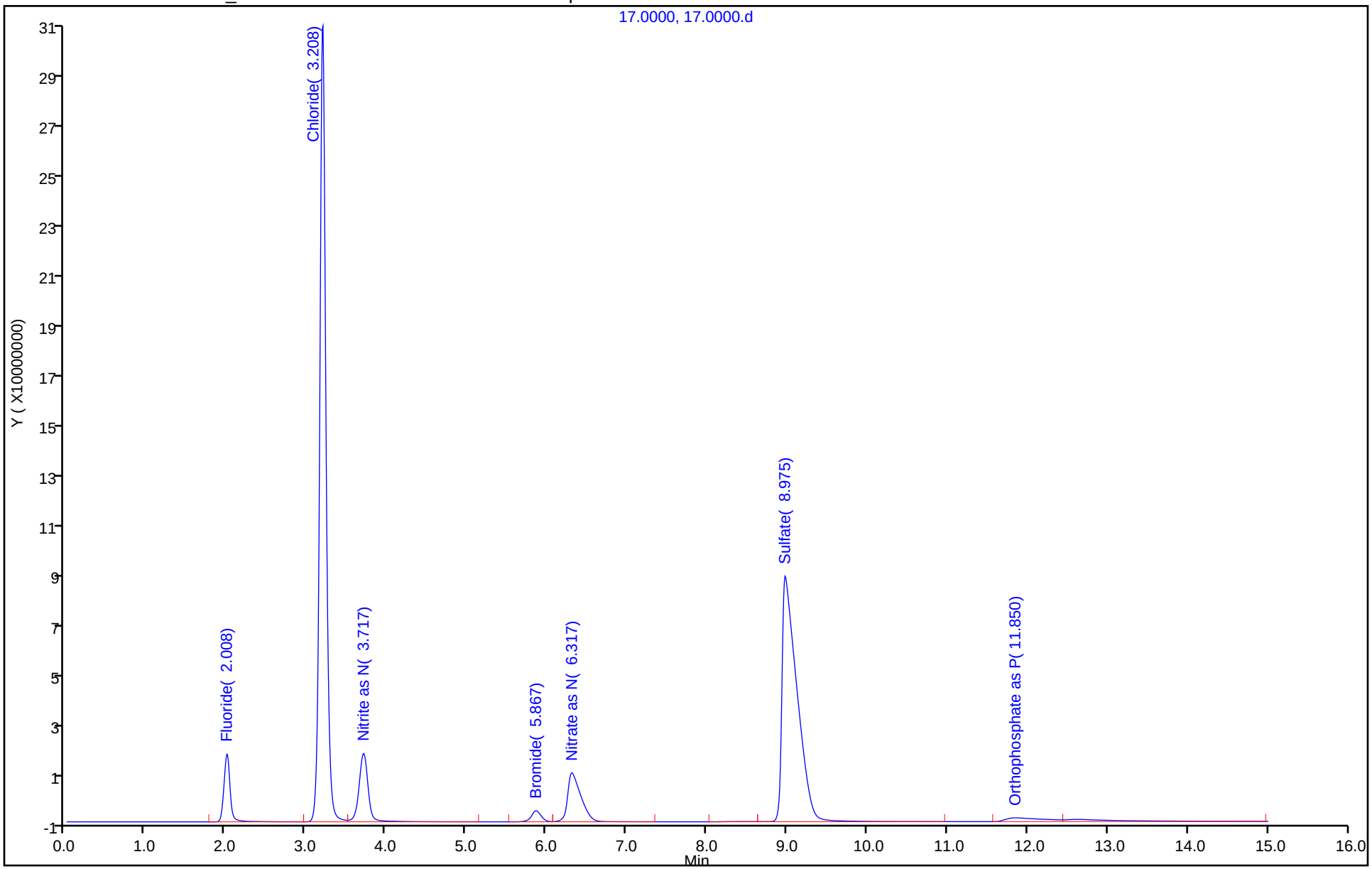
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:36:25 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\17.0000.d

Injection Date:	24-Jun-2018 16:42:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	17
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\17.0000.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 24-Jun-2018 16:42:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-017
Misc. Info.: 17886
Operator ID: Instrument ID: WC_IonChrom7
Sublist: chrom-Anions_IC7*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:36:24 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	139663875	5.00	5.04	
2 Chloride	3.208	3.200	0.008	1632589754	100.0	95.9	
3 Nitrite as N	3.717	3.708	0.009	208166200	5.00	4.97	
4 Bromide	5.867	5.900	-0.033	36238919	5.00	4.82	
5 Nitrate as N	6.317	6.342	-0.025	214544299	5.00	4.84	
6 Sulfate	8.975	8.967	0.008	1222228123	100.0	96.4	
7 Orthophosphate as P	11.850	11.983	-0.133	46931427	5.00	2.91	

Reagents:

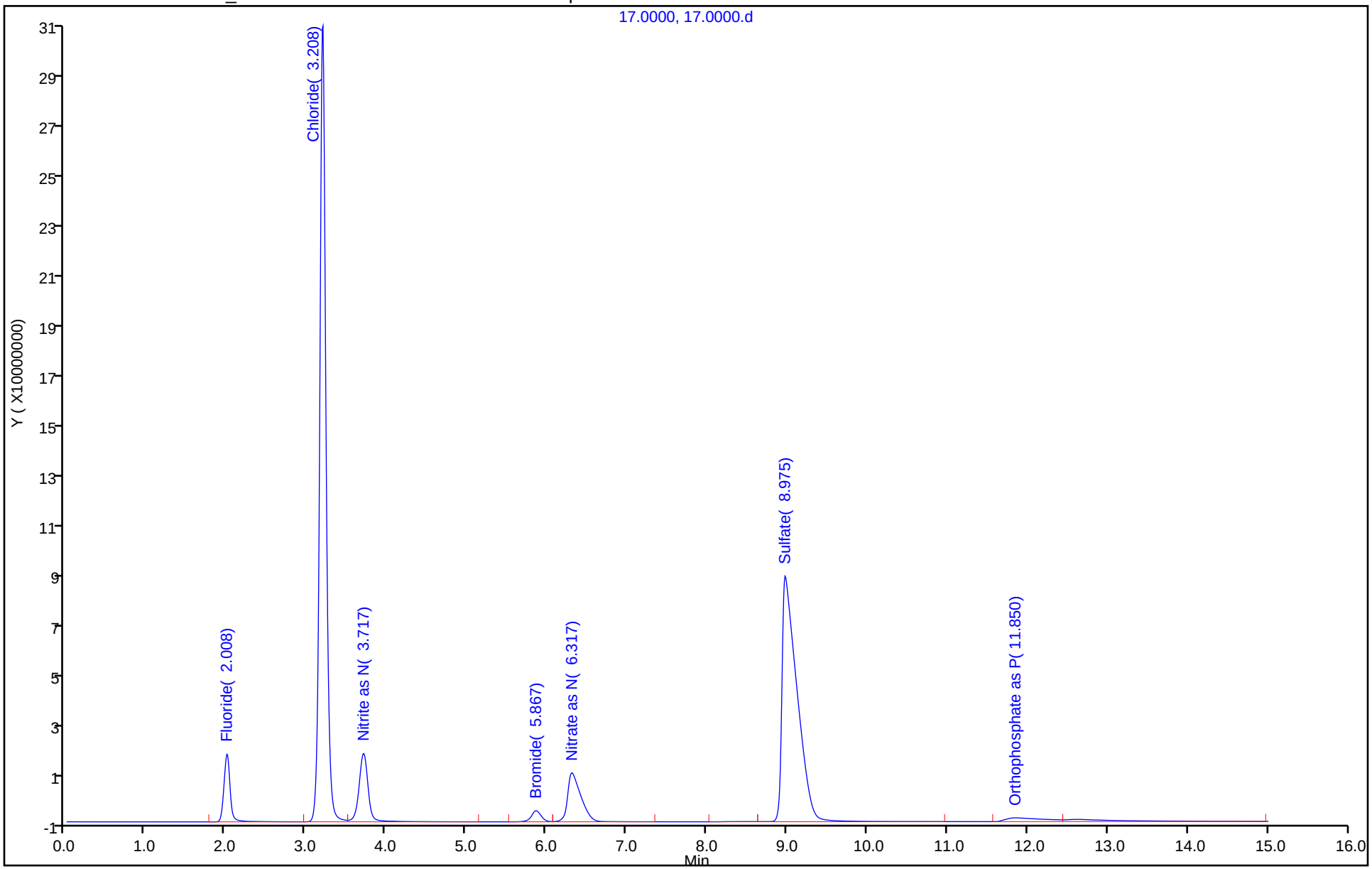
IC LCS_01265 Amount Added: 5.00 Units: mL

Report Date: 25-Jun-2018 07:36:25 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\17.0000.d

Injection Date:	24-Jun-2018 16:42:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	17
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\18.0000.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 24-Jun-2018 16:59:00 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-018
Misc. Info.: 9017
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions
Last Update: 25-Jun-2018 07:36:24 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

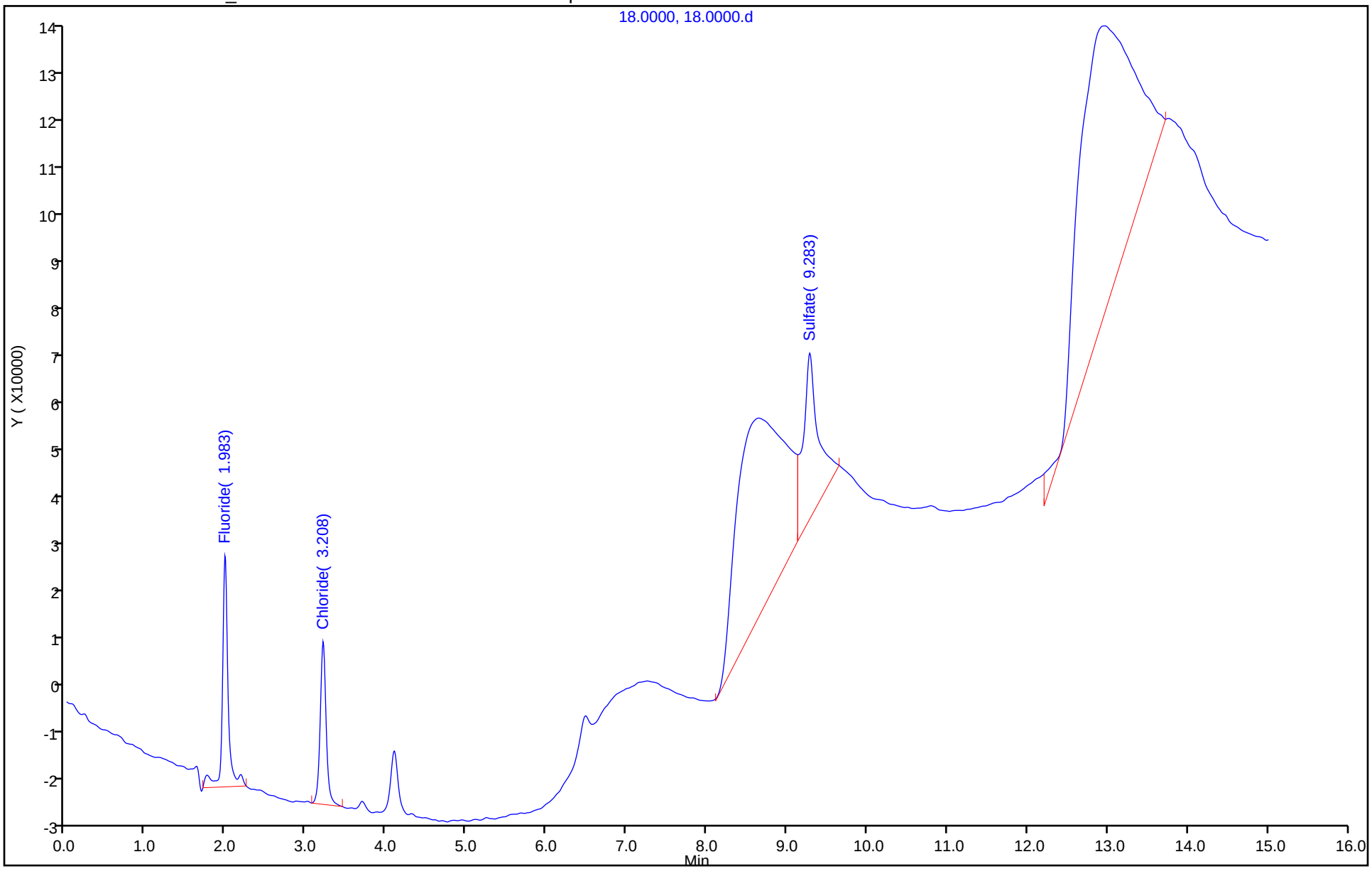
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.983	2.008	-0.025	234635		-0.0311	
2 Chloride	3.208	3.200	0.008	171310		-0.0189	
3 Nitrite as N		3.708				ND	
4 Bromide		5.900				ND	
5 Nitrate as N		6.342				ND	
6 Sulfate	9.283	8.967	0.316	436603		-0.1467	
7 Orthophosphate as P		11.983				ND	

Report Date: 25-Jun-2018 07:36:26 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\18.0000.d

Injection Date:	24-Jun-2018 16:59:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	18
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\18.0000.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 24-Jun-2018 16:59:00 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0071311-018
Misc. Info.: 9017
Operator ID: Instrument ID: WC_IonChrom7

Method: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\Anions_IC7.m
Limit Group: Wet - Anions 28D
Last Update: 25-Jun-2018 07:36:24 Calib Date: 05-Jun-2018 12:02:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180605-70676.b\07.0000.d

Column 1 : Det: 0005
Process Host: CTX0304

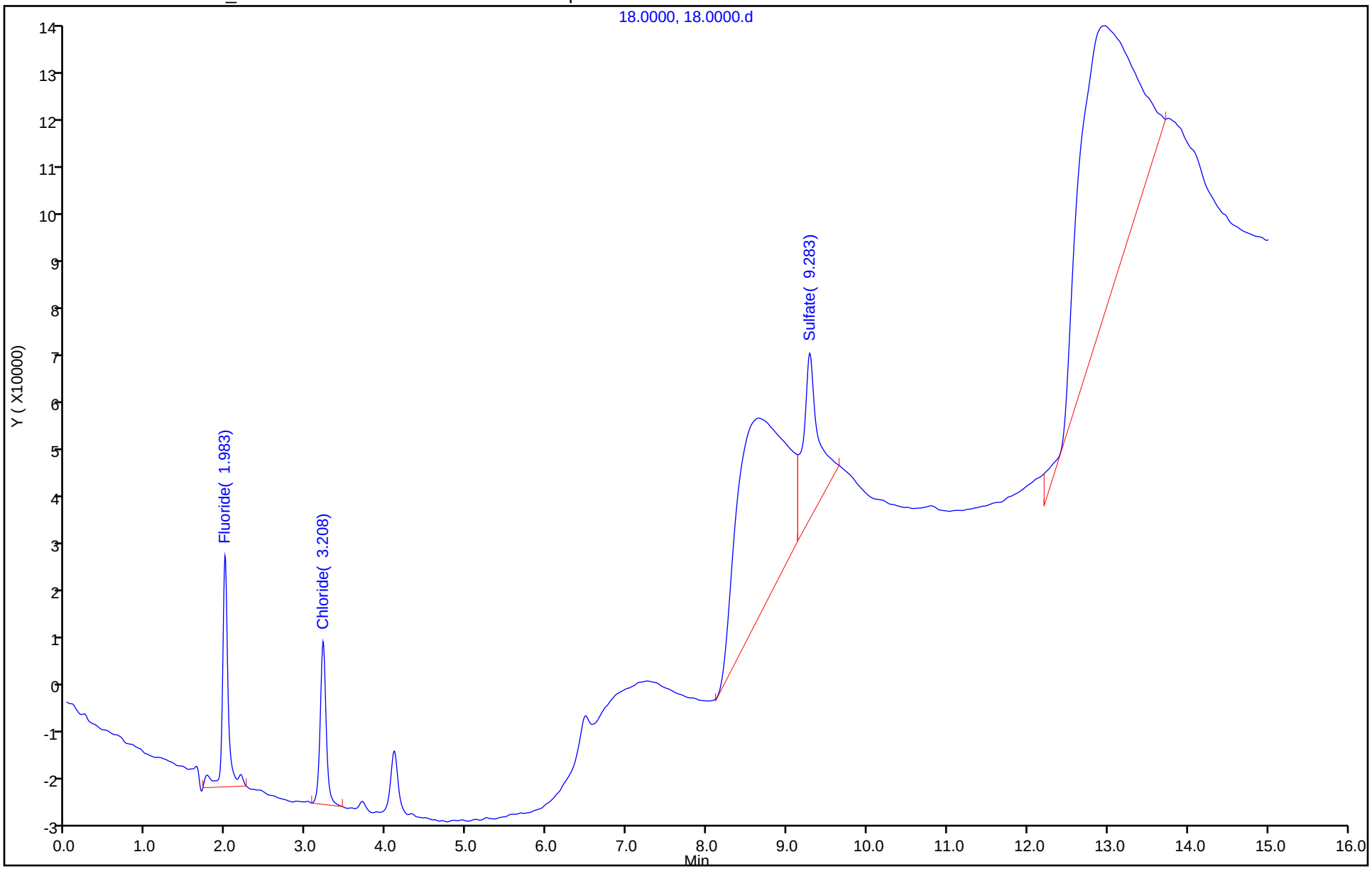
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.983	2.008	-0.025	234635		-0.0311	
2 Chloride	3.208	3.200	0.008	171310		-0.0189	
3 Nitrite as N		3.708				ND	
4 Bromide		5.900				ND	
5 Nitrate as N		6.342				ND	
6 Sulfate	9.283	8.967	0.316	436603		-0.1467	
7 Orthophosphate as P		11.983				ND	

Report Date: 25-Jun-2018 07:36:26 Chrom Revision: 2.2 07-Jun-2018 07:41:54

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom7\20180624-71311.b\18.0000.d

Injection Date:	24-Jun-2018 16:59:00	Instrument ID:	WC_IonChrom7	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	18
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC7	Limit Group:	Wet - Anions 28D		



Shipping and Receiving Documents

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Danyelle Phillips	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):	COC No:
Client Contact: Danyelle Phillips	Phone: 434-906-2085	E-Mail: patrick.mcentee@testamericainc.com		Page:
Company: Cardno TEC, Inc				Job #:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:			
City: Golden	TAT Requested (days): 20 Business Days			
State, Zip: CO 80401				
Phone: 434-906-2085	PO #:			
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011			
Project Name: Ravenna, OH -	Project #: 28014271			
Site: Ravenna	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

QC'd Drep

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wwater, Ssolid, Owaste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	8270D - SVOCs List 1	8270D - SVOCs List 2	8270D - SVOCs List 3	8270D - SVOCs Full Suite	8270D SIM - PAHs (LVI)	8082A - PCBs	8330B - Explosives/Propellants	8151B - Pesticides (LVI)	9012B - Cyanide	6010C/6020A/7470A - Total Metals	6010C/6020A/7470A - Dissolved Metals	6020A - Arsenic	7196A - Hexavalent Chromium (24 HOUR HOLD TIME)	2320B - Alkalinity	9056A - Anions (Chloride and Sulfate)	9034 - Sulfide	9056A - Nitrate (48 HOUR HOLD TIME)	6860 - Perchlorate	6010C - Phosphorous	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	N	N	N	N	N	N	N	N	B	D	D	D	N	N	N	C/B	N	N	D	X	
FWGmw-020-062118-GW	6-21-18	1415	G	W	Y	N	X		X	X		X		X	X		X	X						X	X		15	Perchlorate filtered, A, B, D
TB-062118-03	6-21-18	1436	G	W	N	N	X																				2	

280-111344 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6-21-18 / 1745	Cardno		06-22-18 0850	TAEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6-22-18	240			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		2.9, 2.8, 1.5, 0.2, 2.9, 1.4, 1.8, 0.4, 2.8, 2.6, 0.6 400 XFERED BY KD 06-23-18

3.4/C3.4 4.8/C4.8

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Danyelle Phillips (DEP) Katie Bryant (KLB)	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):	COC No:
Client Contact: Danyelle Phillips	Phone: 434-906-2085	E-Mail: patrick.mcentee@testamericainc.com		Page:
Company: Cardno TEC, Inc				Job #:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Golden	TAT Requested (days): 20 Business Days			Other:
State, Zip: CO 80401				
Phone: 434-906-2085	PO #:			
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011			
Project Name: Ravenna, OH -	Project #: 28014271			
Site: Ravenna	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wwater, Ssolid, Owaste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	8270D - SVOCs List 1	8270D - SVOCs List 2	8270D - SVOCs List 3	8270D - SVOCs List 4	8270D - SVOCs Full Suite	8270D_SIM - PAHs (LVI)	8082A - PCBs	8330B - Explosives/Propellants	8081B - Pesticides (LVI)	9012B - Cyanide	6010C/6020A/7470A - Total Metals	6010C/6020A/7470A - Dissolved Metals	6020A - Arsenic	7196A - Hexavalent Chromium (24 HOUR HOLD TIME)	2320B - Alkalinity	9056A - Anions, Chloride and Sulfate	9034 - Sulfide	9056A - Nitrate (48 HOUR HOLD TIME)	6860 - Perchlorate	6010C - Phosphorous	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	N	N	N	N	N	N	N	N	N	B	D	D	D	N	N	N	C/B	N	N	D		
CBLmw-001-062018-GW	6-2018	1628	G	W		N						X		X	X			X						X	X		9		B&E, D
CBLmw-001-D-062018-GW	6-2018	1628	G	W		N						X		X	X			X						X	X		9		B&E, D
CBLmw-002-062018-GW	6-2018	1733	G	W		N						X		X	X			X						X	X		9		B&E, D

DUP

DUP

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6-20-18/1903			6-20-18 1903	TAL
2	Relinquished by:	Date/Time: 6-20-18 1920	Company: DTC	Received by:	Date/Time: 6/21/18 800	Company: TTC
3	Relinquished by:	Date/Time: 6-22-18	Company: 240	Received by:	Date/Time: 06-23-18 0850	Company: TA DEN

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: KMB & DEP	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):	COC No:
Client Contact: Danyelle Phillips	Phone: 434-906-2085	E-Mail: patrick.mcentee@testamericainc.com		Page:
Company: Cardno TEC, Inc				Job #:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:			
City: Golden	TAT Requested (days): 20 Business Days			
State, Zip: CO 80401				
Phone: 434-906-2085	PO #:			
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011			
Project Name: Ravenna, OH -	Project #: 28014271			
Site: Ravenna	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
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2SO3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
Other:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	8270D - SVOCs List 1	~~8270D - SVOCs List 2~~ 8330B Nitroguanidine	~~8270D - SVOCs List 3~~ 353.2 Nitrocellulose	8270D - SVOCs List 4	8270D - SVOCs Full Suite	8270D_SIM - PAHs (LVI)	8082A - PCBs	8330B - Explosives/Propellants	8081B - Pesticides (LVI)	9012B - Cyanide	6010C/6020A/7470A - Total Metals	6010C/6020A/7470A - Dissolved Metals	6020A - Arsenic	7196A - Hexavalent Chromium (24 HOUR HOLD TIME)	2320B - Alkalinity	9056A - Anions (Chloride and Sulfate)	9034 - Sulfide	9056A - Nitrate (48 HOUR HOLD TIME)	6860 - Perchlorate	6010C - Phosphorous	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	A	N	N	N	N	N	N	N	N	N	B	D	D	D	N	N	N	C/B	N	N	D	X	
LLmw-088-062118-GW	06/21/18	0810	G	W	N	N					X				X	X		X				X						8	D
FWGmw-021-062118-GW	6-21-18	1155	G	W	Y	M	X		X	X	X			X	X	X	X	X								X		15	Perchlorate Filtered, A, D, B
TB-062118-01	06/21/18	1735		W	N	N	X																					1	trip blank

sca KMB
ace KMB
and KMB

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Katy Burgt	Date/Time: 06/21/18 1745	Company: Cardno	Received by: KA Du	Date/Time: 06-23-18 0850	Company: TA DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by: Charles Mont	Date/Time: 6-22-18 16:00	Company: 240	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Chain of Custody Record

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information			
Client Contact: Danyelle Phillips	Sampler: Danyelle Phillips	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):
Company: Cardno TEC, Inc	Phone: 434-906-2085	E-Mail: patrick.mcentee@testamericainc.com	COC No:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:		Page:
City: Golden	TAT Requested (days): 20 Business Days		Job #:
State, Zip: CO 80401			
Phone: 434-906-2085	PO #:		
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011		
Project Name: Ravenna, OH -	Project #: 28014271		
Site: Ravenna	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	8270D - SVOCs List 1	8270D - SVOCs List 2	8270D - SVOCs List 3	8270D - SVOCs List 4	8270D - SVOCs Full Suite	8270D_SIM - PAHs (LVI)	8082A - PCBs	8330B - Explosives/Propellants	8081B - Pesticides (LVI)	9012B - Cyanide *	6010C/6020A/7470A - Total Metals	6010C/6020A/7470A - Dissolved Metals	6020A - Arsenic	7196A - Hexavalent Chromium (24 HOUR HOLD TIME)	2320B - Alkalinity	9056A - Anions (Chloride and Sulfate)	9034 - Sulfide	9056A - Nitrate (48 HOUR HOLD TIME)	6860 - Perchlorate	6010C - Phosphorous	Total Number of containers	Special Instructions/Note: QC'ed Dep
				Preservation Code:			A	N	N	N	N	N	N	N	N	N	B	D	D	D	N	N	N	C/B	N	N	D		
CBLmw-003-062118-GW	6-21-18	1630	G	W	N	N						X		X	X		X	X				X		X	X			11	B, D
CBLmw-004-062118-GW	6-21-18	1640	G	W	N	N						X		X	X		X	X	MB			X		X	X			10 dup	D, B&C

dup

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

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 6-21-18/1745	Company: Cardno	Received by: [signature]	Date/Time: 6-22-18 1530	Company:
Relinquished by: [signature]	Date/Time: 6-22-18/1600	Company:	Received by: [signature]	Date/Time: 06-23-18 0850	Company: TADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Denver

4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: KMB&DEP	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):	COC No:
Client Contact: Danyelle Phillips	Phone:	E-Mail: patrick.mcentee@testamericainc.com		Page:
Company: Cardno TEC, Inc				Job #:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:			
City: Golden	TAT Requested (days): 20 Business Days			
State, Zip: CO 80401				
Phone: 434-906-2085	PO #:			
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011			
Project Name: Ravenna, OH -	Project #: 28014271			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	~~8270D - SVOCs List 1~~ KMB 8330B Nitroguanidine	~~8270D - SVOCs List 2~~ KMB Colorimetric Cadmium Red. 353.2 Nitrocellulose	8270D - SVOCs List 3	8270D - SVOCs List 4	8270D - SVOCs Full Suite	8270D_SIM - PAHs (LVI)	8082A - PCBs	8330B - Explosives/Propellants	8081B - Pesticides (LVI)	9012B - Cyanide	6010C/6020A/7470A - Total Metals	6010C/6020A/7470A - Dissolved Metals	6020A - Arsenic	7196A - Hexavalent Chromium (24 HOUR HOLD TIME)	2320B - Alkalinity	9056A - Anions (Chloride and Sulfate)	9034 - Sulfide	9056A - Nitrate (48 HOUR HOLD TIME)	6860 - Perchlorate	6010C - Phosphorous	Total Number of containers	Special Instructions/Note:
				Preservation Code:			A	N	N	N	N	N	N	N	N	N	B	D	D	D	N	N	N	C/B	N	N	D		
LL3mw-246-D-062118-GW	6-21-18	1235	G	W	Y	N					X				X			X								X		6	Perchlorate Filtered acl KMB
FWGmw-018-062118-GW	6-21-18	1420	G	W	N	N	X	X	X			X		X	X		X	X								X		5	Perchlorate Filtered acl KMB
~~TB-018-062118-02~~ KMB TB-062118-02	6-21-18	1535		W	N	N	X																					1	trip blank acl KMB

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Kaly Byt	Date/Time: 06/21/18 17:45	Company: Cardno	Received by: KH Du	Date/Time: 06-23-18 0850	Company: TADEN
Relinquished by: Charlie Gantt	Date/Time: 6-22-18 16:00	Company: 240	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

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

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10/09/2018

Client Information	Sampler:	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):	COC No:
Client Contact: Danyelle Phillips	Phone:	E-Mail: patrick.mcentee@testamericainc.com		Page: Page:
Company: Cardno TEC, Inc				Job #:

Address: 1658 Cole Boulevard Suite 190	Due Date Requested:	Analysis Requested
City: Golden	TAT Requested (days):	
State, Zip: CO, 80401		
Phone: 434-906-2085	PO #:	
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011	
Project Name: Ravenna, OH	TestAmerica Project #: 28014271	
Site:	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B VOCs	8270D SVOCs Full Suite	8330B Explosives/Propellants	6010C/6020A/7470A - Total Metals	6860 - Perchlorate	8330B - Nitroguanidine	353.2 - Nitrocellulose	Total Number of containers	Special Instructions/Note:
			Preservation Code:												QC'd Dep
FWGmw-024-062118-GW	6-21-18	0955	G	W	Y	N	X	X	X	X	X	X	X	11	Perchlorate Filtered, A+B
FWGmw-017-062118-GW	6-21-18	1000	G	W	Y	N	X	X	X	X	X	X	X	11	Perchlorate Filtered, A,D
TB-062118-04	6-21-18	1735	G	W	N	N	T							1	It
															dep

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6-21-18 / 1745	Cardno		06-23-18 0850	TADEN
Relinquished by: Charles Gantt	Date/Time: 6-22-18 16:00	Company 240	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: KMB & DEP	Lab PM: McEntee, Patrick J	Carrier Tracking No(s):	COC No:
Client Contact: Danyelle Phillips	Phone:	E-Mail: patrick.mcentee@testamericainc.com		Page:
Company: Cardno TEC, Inc				Job #:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:			
City: Golden	TAT Requested (days): 20 Business Days			
State, Zip: CO 80401				
Phone: 434-906-2085	PO #:			
Email: Danyelle.Phillips@cardno-gs.com	WO #: 076003.009.011			
Project Name: Ravenna, OH -	Project #: 28014271			
Site:	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
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2SO3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note
			Preservation Code:					
LL3mw-246-062118-GW	6-21-18	1235	G	W	Y	N	18	MS/MSD, Perchlorate filtered
~~LL3mw-246~~								6oz

Analysis Requested

Analysis	Preservation Code	LL3mw-246-062118-GW
8260B - VOCs	A	
8270D - SVOCs List 1	N	
8270D - SVOCs List 2	N	
8270D - SVOCs List 3	N	
8270D - SVOCs List 4	N	X
8270D - SVOCs Full Suite	N	
8270D_SIM - PAHs (LVI)	N	
8082A - PCBs	N	
8330B - Explosives/Propellants	N	X
8081B - Pesticides (LVI)	N	
9012B - Cyanide	B	
6010C/6020A/7470A - Total Metals	D	X
6010C/6020A/7470A - Dissolved Metals	D	
6020A - Arsenic	D	
7196A - Hexavalent Chromium (24 HOUR HOLD TIME)	N	
2320B - Alkalinity	N	
9056A - Anions (Chloride and Sulfate)	N	
9034 - Sulfide	C/B	
9056A - Nitrate (48 HOUR HOLD TIME)	N	
6860 - Perchlorate	N	X
6010C - Phosphorous	D	

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Kat Bot	06/21/18 17:45		Kit Du	06-23-18 0850	TA DEN
Charles Gault	6-22-18 16:00	240			

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Cardno GS, Inc

Job Number: 280-111344-2

Login Number: 111344
List Number: 1
Creator: Dunlap, Krista M

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	False	Not present
Sample custody seals, if present, are intact.	N/A	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	