Inorganics
Case Narrative

Colorado Oil & Gas Conservation Commission
TBAL

Work Order Number: 1312158

1. This report consists of 1 water sample.

2. The sample was received cool and intact by ALS on 12/13/13.

3. The sample was prepared for analysis based on Methods for the Chemical Analysis of Waters and Wastes (MCAWW), May 1994 procedures and Environmental Monitoring Systems Laboratory (EMSL) Rev 2.1 procedures.

4. The sample was analyzed following MCAWW and EMSL procedures for the current revisions of the following SOPs and methods:

Analyte	Method	SOP #
Alkalinity	310.1	1106
Bicarbonate	310.1	1106
Carbonate	310.1	1106
pH	150.1	1126
Specific conductance	120.1	1128
TDS	160.1	1101
Bromide	300.0 Revision 2.1	1113
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Nitrate as N	300.0 Revision 2.1	1113
Nitrite as N	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

5. All standards and solutions were used within their recommended shelf life.

6. The sample was prepared and analyzed within the established hold time for each analysis.

All in house quality control procedures were followed, as described below.

7. General quality control procedures.

n   A preparation (method) blank and laboratory control sample (LCS) were prepared and analyzed with the samples in each applicable preparation batch.

n   The method blank associated with each applicable batch was below the reporting limit for the requested analytes.

n   All laboratory control sample criteria were met.

n   All initial and continuing calibration blanks were below the reporting limit for the requested analytes.

n   All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.

8. Matrix specific quality control procedures.

Per method requirements, matrix QC was performed for each analysis. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

9. It was necessary to dilute the sample in order to bring the chloride concentration into the analytical range of the ion chromatograph (IC).

Reduced aliquots were taken of the sample for the alkalinity, bicarbonate, and carbonate analysis. Reporting limits were elevated accordingly.

A reduced aliquot was taken of the sample for the TDS analysis. Reporting limits were elevated accordingly

10. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939. Whenever manual integrations are performed, before and after chromatograms of the peak that were manually integrated are included in the report along with the reason why the re-integration was necessary.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Megan Johnstone
Inorganics Primary Data Reviewer

12/19/13
Date

Inorganics Final Data Reviewer

12/20/13
Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Concentration qualifier -- A "J" is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to ALS's Method Detection Limit. If the analyte was analyzed for but not detected a "U" is entered.

- QC qualifier -- Specified entries and their meanings are as follows:

    N -   Spiked sample recovery not within control limits.

    * -   Duplicate analysis (relative percent difference) not within control limits.

    Z -   Calibration spike recovery not within control limits.

Chain of Custody

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: TBAL
Client Project Number:
Client PO Number: PHA 14-22

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
285485 Molokai 13-36	1312158-1		WATER	12-Dec-13	10:03

ALS Laboratory Group

Chain-of-Custody

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1622

WORKORDER #: 1312158

PAGE 1 of 1

DISPOSAL: By Lab (circled) or Return to Client

Form 202r8

PROJECT NAME	Project TBAL
PROJECT No.	2130
COMPANY NAME	Colo Cel the Cas Con
SEND REPORT TO	Pot & Cintanter
ADDRESS	PO Box 106
CITY / STATE / ZIP	Trinidad CO 81082
PHONE	719-846-3091
FAX	
E-MAIL	peter.gintautas@state.co.us

SAMPLER: G. Mtauta

SITE ID
EDD FORMAT
PURCHASE ORDER
BILL TO COMPANY
INVOICE ATTN TO
ADDRESS
CITY / STATE / ZIP
PHONE
FAX

DATE: 12 Dec 13
TURNAROUND: 14

Analytes (columns, rotated): E2Ro + IICs, E2Ro + Lyd-Oxm-FICs, Dissolved metals, SAR Calc, Cations/Anion Balance, Anions #, Conductance, TDS, Alkalinity (T) Hardness

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC									
①	285485 Molybolum	W	12 Dec 13	10:03	3	1	X	X	X	X	X	X	X	X	X	X
	"	W	12 Dec 13	10:03	3	6										

For metals or anions, please detail analytes below.

Anions = Br, Cl, F, NO₂, NO₃, SO₄

200.7 _ Ca Ca 11, Be 200.7 - Co Ca
200.6 Co Ca 16 Na 200.6, Th 200.6

*Time Zone (Circle): EST CST MST PST Matrix: O= oil S = soil NS = non-soil/solid W = water L = liquid E = extract F = filter

QC PACKAGE (check below)
LEVEL II (Standard QC)
LEVEL III (Std QC + forms)
X LEVEL IV (Std QC forms + raw data) 20

Comments: filter + preserve metals upon receipt

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Pete Gintautas	12 Dec 13	14:50
RECEIVED BY		Jacob Roddy	12/13/13	1010
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC   Workorder No: 1312158

Project Manager: ARW   Initials: JLR   Date: 12/13/13

1. Does this project require any special handling in addition to standard ALS procedures?			YES	NO
2. Are custody seals on shipping containers intact?		NONE	YES	NO
3. Are Custody seals on sample containers intact?		NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?			YES	NO
5. Are the COC and bottle labels complete and legible?			YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)			YES	NO
7. Were airbills / shipping documents present and/or removable?		DROP OFF	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)		N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?		N/A	YES	NO
10. Is there sufficient sample for the requested analyses?			YES	NO
11. Were all samples placed in the proper containers for the requested analyses?			YES	NO
12. Are all samples within holding times for the requested analyses?			YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)			YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea		N/A	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy		N/A	YES	NO
16. Were the samples shipped on ice?			YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4		RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	5°							
No. of custody seals on cooler:	1							
External µR/hr reading:	10							
Background µR/hr reading:	10							

DOT Survey/ Acceptance Information

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

_____

_____

_____

_____

_____

_____

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: _____ 12-(?)-0

Form 201r24.xls (06/04/2012)
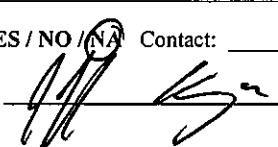
*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

Page 1 of 1

PETER GINTAUTAS
719-846-3091
COLORADO OIL & GAS CONSERVATIO
213 CORUNDUM RD
TRINIDAD CO 81082

21 LBS

1 OF 1

DWT: 14,13,12

10.
1-

SHIP TO:
AMY WOLF
970-490-1511
ALS LABORATORY GROUP
225 COMMERCE DRIVE
FORT COLLINS CO 80524-2762

CO 805 0-01

UPS NEXT DAY AIR

TRACKING #: 1Z 014 8WR 01 9135 4328

1

BILLING: P/P

Reference#1: Project T3AL Project 2130

UIS 15.6.12.   WNTIE70 45.0A 10/2013   ™
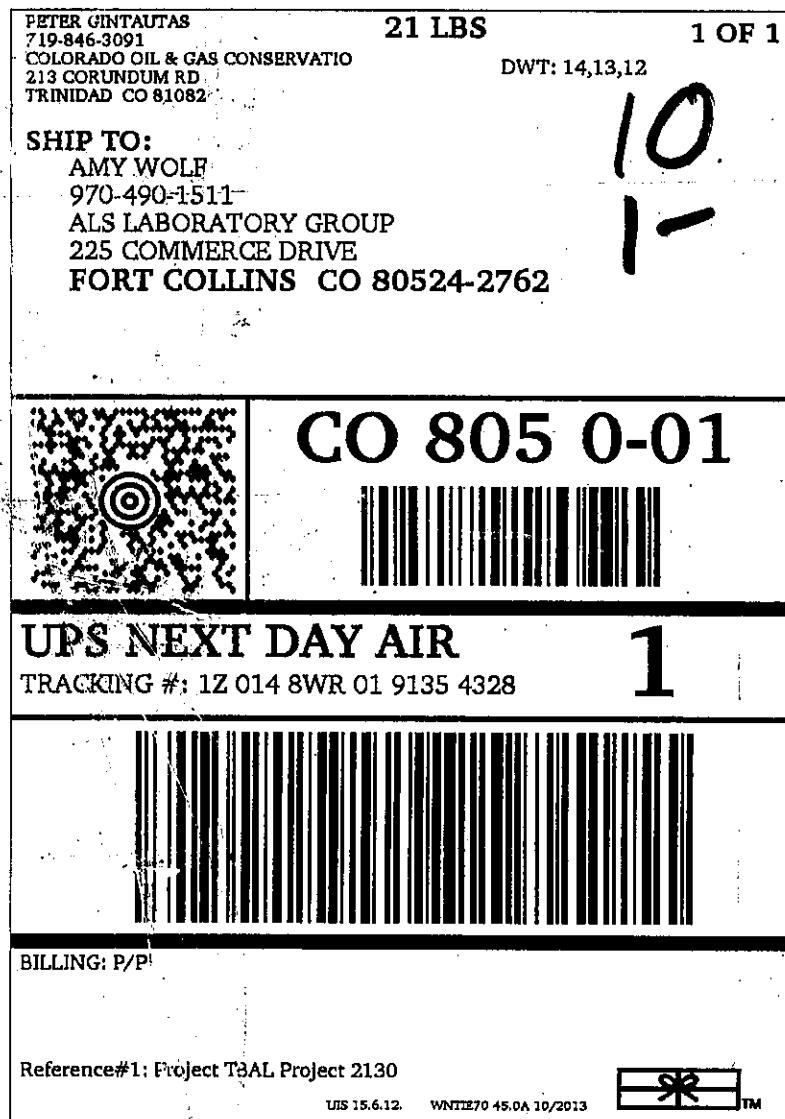
Temp = 5℃

Sample Results

BICARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Colorado Oil & Gas Conservation Commission
Client Project ID: TBAL
Work Order Number: 1312158
Reporting Basis: As Received
Prep Method: METHOD
Analyst: Kerry M. Petrie

Final Volume: 100 ml
Matrix: WATER
Result Units: MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ	Flag	Sample Aliquot
285485 Molokai 13-36	1312158-1	12/12/2013	12/17/2013	12/17/2013	N/A	1	750	20		25 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak1312158-1*

CARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Colorado Oil & Gas Conservation Commission
Client Project ID: TBAL
Work Order Number: 1312158
Reporting Basis: As Received
Prep Method: METHOD
Analyst: Kerry M. Petrie

Final Volume: 100 ml
Matrix: WATER
Result Units: MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ	Flag	Sample Aliquot
285485 Molokai 13-36	1312158-1	12/12/2013	12/17/2013	12/17/2013	N/A	1	39	20		25 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak1312158-1*

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Colorado Oil & Gas Conservation Commission
Client Project ID: TBAL
Work Order Number: 1312158
Reporting Basis: As Received
Prep Method: METHOD
Analyst: Kerry M. Petrie

Final Volume: 100 ml
Matrix: WATER
Result Units: MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ	Flag	Sample Aliquot
285485 Molokai 13-36	1312158-1	12/12/2013	12/17/2013	12/17/2013	N/A	1	790	20		25 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak1312158-1*

pH

Method EPA150.1
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Field ID: 285485 Molokai 13-36	**Sample Matrix:** WATER	**Prep Batch:** pH131216-1	**Analyst:** Kerry M. Petrie
Lab ID: 1312158-1	**% Moisture:** N/A	**QCBatchID:** pH131216-1-1	**Sample Aliquot:** 20 ML
	Date Collected: 12-Dec-13	**Run ID:** ph131216-1a	**Final Volume:** 20 ML
	Date Extracted: 16-Dec-13	**Cleanup:** NONE	**Result Units:** pH
	Date Analyzed: 16-Dec-13	**Basis:** As Received	**Clean DF:** 1
	Prep Method: METHOD	**File Name:**	

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ	Result Qualifier	EPA Qualifier
10-29-7	PH AnalysisTime: 14:00	1	8.45	0.1		

Data Package ID: *ph1312158-1*

Specific Conductance in Water

Method EPA120.1
Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Field ID: 285485 Molokai 13-36	
Lab ID: 1312158-1	

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Dec-13
Date Extracted: 16-Dec-13
Date Analyzed: 16-Dec-13
Prep Method: METHOD

Prep Batch: SC131216-1
QCBatchID: SC131216-1-1
Run ID: SC131216-1A
Cleanup: NONE
Basis: As Received
File Name:

Analyst: Kerry M. Petrie
Sample Aliquot: 45 ML
Final Volume: 45 ML
Result Units: umhos/cm
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ	Result Qualifier	EPA Qualifier
10-34-4	SPECIFIC CONDUCTIVITY AnalysisTime: 14:00	1	1653	1		

Data Package ID: *sc1312158-1*

Total Dissolved Solids

Method EPA160.1
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Field ID: 285485 Molokai 13-36
Lab ID: 1312158-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Dec-13
Date Extracted: 16-Dec-13
Date Analyzed: 17-Dec-13
Prep Method: METHOD

Prep Batch: TD131216-1
QCBatchID: TD131216-1-1
Run ID: TD131217-1A
Cleanup: NONE
Basis: As Received
File Name: Manual Entry

Analyst: Kerry M. Petrie
Sample Aliquot: 50 ML
Final Volume: 50 ML
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	1300	40		

Data Package ID: *td1312158-1*

Ion Chromatography

Method EPA300.0 Revision 2.1
Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Field ID: 285485 Molokai 13-36
Lab ID: 1312158-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Dec-13
Date Extracted: 13-Dec-13
Date Analyzed: 13-Dec-13
Prep Method: NONE

Prep Batch: IC131213-1
QCBatchID: IC131213-1-1
Run ID: IC131213-1A2
Cleanup: NONE
Basis: As Received
File Name: 31213_038.dxd

Analyst: Alex J. Devonald
Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ	MDL/ LOD/DL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE AnalysisTime: 20:52	1	5.1	0.1	0.03		
16887-00-6	CHLORIDE AnalysisTime: 21:06	10	99	2	0.6		
14797-65-0	NITRITE AS N AnalysisTime: 20:52	1	0.1	0.1	0.03	U	
24959-67-9	BROMIDE AnalysisTime: 20:52	1	0.91	0.2	0.06		
14797-55-8	NITRATE AS N AnalysisTime: 20:52	1	0.2	0.2	0.06	U	
14808-79-8	SULFATE AnalysisTime: 20:52	1	0.42	1	0.3	J	

Data Package ID: *ic1312158-1*

Summary Report Forms

BICARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: AK131216-1MB

Sample Matrix: WATER
% Moisture: N/A

Prep Batch: AK131216-1
QCBatchID: AK131216-1-1
Run ID: AK131217-1A
Cleanup: NONE
Basis: N/A

Sample Aliquot: 100 ml
Final Volume: 100 ml
Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ	Flag
AK131216-1MB	12/17/2013	12/17/2013	N/A	1	5	5	U

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak1312158-1*

CARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: AK131216-1MB

Sample Matrix: WATER	**Prep Batch:** AK131216-1	**Sample Aliquot:** 100 ml
% Moisture: N/A	**QCBatchID:** AK131216-1-1	**Final Volume:** 100 ml
	Run ID: AK131217-1A	**Result Units:** MG/L
	Cleanup: NONE	
	Basis: N/A	

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ	Flag
AK131216-1MB	12/17/2013	12/17/2013	N/A	1	5	5	U

Comments:

    1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak1312158-1*

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: AK131216-1MB	**Sample Matrix:** WATER **% Moisture:** N/A	**Prep Batch:** AK131216-1 **QCBatchID:** AK131216-1-1 **Run ID:** AK131217-1A **Cleanup:** NONE **Basis:** N/A	**Sample Aliquot:** 100 ml **Final Volume:** 100 ml **Result Units:** MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ	Flag
AK131216-1MB	12/17/2013	12/17/2013	N/A	1	5	5	U

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak1312158-1*

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Laboratory Control Sample

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: AK131216-1LCS	**Sample Matrix:** WATER **% Moisture:** N/A **Date Collected:** N/A **Date Extracted:** 12/17/2013 **Date Analyzed:** 12/17/2013	**Prep Batch:** AK131216-1 **QCBatchID:** AK131216-1-1 **Run ID:** AK131217-1A **Cleanup:** NONE **Basis:** N/A	**Sample Aliquot:** 100 ml **Final Volume:** 100 ml **Result Units:** MG/L

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
	TOTAL ALKALINITY AS CaCO3	100	99.1	5		99	85 - 115

Data Package ID: *ak1312158-1*

Prep Batch ID: AK131216-1

Start Date: 12/17/13   **End Date:** 12/17/13   **Concentration Method:** NONE   **Batch Created By:** KMP

Start Time: 9:00   **End Time:** 13:45   **Extract Method:** METHOD   **Date Created:** 12/16/13

Prep Analyst: Kerry M. Petrie   **Initial Volume Units:** ml   **Time Created:** 9:19

Final Volume Units: ml   **Validated By:** mmj

Comments:

Date Validated: 12/18/13

Time Validated: 7:21

QC Batch ID: AK131216-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
AK131216-1	MB	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312116
AK131216-1	LCS	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312116
1312116-2	DUP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312116
1312116-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312116
1312116-2	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312116
1312116-3	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312116
1312120-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312120
1312120-3	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312120
1312134-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312134
1312153-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312153
1312153-2	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312153
1312155-1	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312155
1312157-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312157
1312158-1	SMP	285485 Molokai 13-36	WATER	12/12/2013	25	100	NONE	1	1312158
1312181-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312181
1312181-2	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1312181

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicate
MB	Method Blank		MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate
RVS	Reporting Level Verification Standard		SMP	Field Sample
SYS	Sample Yield Spike			

Prep Batch ID: pH131216-1

Start Date: 12/16/13   **End Date:** 12/16/13   **Concentration Method:** NONE   **Batch Created By:** KMP

Start Time: 12:30   **End Time:** 14:00   **Extract Method:** METHOD   **Date Created:** 12/16/13

Prep Analyst: Kerry M. Petrie   **Initial Volume Units:** ml   **Time Created:** 10:46

                                                          Final Volume Units: ml   **Validated By:** KMP

Comments: **Date Validated:** 12/16/13

                                                                                            Time Validated: 14:12

QC Batch ID: pH131216-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
1312150-1	DUP	XXXXXX	WATER	XXXXXX	20	20	NONE	1	1312150
1312150-1	SMP	XXXXXX	WATER	XXXXXX	20	20	NONE	1	1312150
1312158-1	SMP	285485 Molokai 13-36	WATER	12/12/2013	20	20	NONE	1	1312158

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicate
MB	Method Blank		MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate
RVS	Reporting Level Verification Standard		SMP	Field Sample
SYS	Sample Yield Spike			

PH

Method EPA150.1

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Run ID: ph131216-1a
Result Units: pH

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	12/16/2013		7	7.02	0.1	N/A		6.95 - 7.05
CCV1	Continuing Calibration	12/16/2013		7	7.00	0.1	N/A		6.9 - 7.1

Data Package ID: *ph1312158-1*

Prep Batch ID: SC131216-1

Start Date: 12/16/13   **End Date:** 12/16/13   **Concentration Method:** NONE   **Batch Created By:** KMP

Start Time: 12:30   **End Time:** 14:00   **Extract Method:** METHOD   **Date Created:** 12/16/13

Prep Analyst: Kerry M. Petrie   **Initial Volume Units:** ml   **Time Created:** 10:47

Final Volume Units: ml   **Validated By:** KMP

Comments:

Date Validated: 12/16/13

Time Validated: 14:08

QC Batch ID: SC131216-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
1312150-1	DUP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1312150
1312150-1	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1312150
1312158-1	SMP	285485 Molokai 13-36	WATER	12/12/2013	45	45	NONE	1	1312158

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicate
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standard	SMP	Field Sample
SYS	Sample Yield Spike		

SPECIFIC CONDUCTIVITY

Method EPA120.1

Calibration Verifications

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Run ID: SC131216-1A
Result Units: umhos/c

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	12/16/2013		718	714	1	N/A	99	646.2 - 789.7
CCV1	Continuing Calibration	12/16/2013		1410	1420	1	N/A	100	1271.7 - 1554.3

Data Package ID: *sc1312158-1*

Total Dissolved Solids

Method EPA160.1
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: TD131216-1MB	**Sample Matrix:** WATER	**Prep Batch:** TD131216-1

Lab ID: TD131216-1MB

Sample Matrix: WATER	**Prep Batch:** TD131216-1	**Sample Aliquot:** 100 ml
% Moisture: N/A	**QCBatchID:** TD131216-1-1	**Final Volume:** 100 ml
Date Collected: N/A	**Run ID:** TD131217-1A	**Result Units:** MG/L
Date Extracted: 16-Dec-13	**Cleanup:** NONE	**Clean DF:** 1
Date Analyzed: 17-Dec-13	**Basis:** N/A	
Prep Method: METHOD	**File Name:** Manual Entry	

CASNO	Target Analyte	DF	Result	RptLimit/LOQ	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	20	20	U	

Data Package ID: *td1312158-1*

Total Dissolved Solids

Method EPA160.1
Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: TD131216-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12/16/2013
Date Analyzed: 12/17/2013
Prep Method: METHOD

Prep Batch: TD131216-1
QCBatchID: TD131216-1-1
Run ID: TD131217-1A
Cleanup: NONE
Basis: N/A
File Name: Manual Entry

Sample Aliquot: 100 ml
Final Volume: 100 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-33-3	TOTAL DISSOLVED SOLIDS	400	406	20		102	85 - 115%

Data Package ID: *td1312158-1*

Prep Batch ID: TD131216-1

Start Date: 12/16/13   **End Date:** 12/16/13   **Concentration Method:** NONE   **Batch Created By:** KMP

Start Time: 8:30   **End Time:** 13:00   **Extract Method:** METHOD   **Date Created:** 12/16/13

Prep Analyst: Kerry M. Petrie   **Initial Volume Units:** ml   **Time Created:** 8:51

Final Volume Units: ml   **Validated By:** KMP

Comments: **Date Validated:** 12/16/13

Time Validated: 13:20

QC Batch ID: TD131216-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
TD131216-1	MB	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312153
TD131216-1	LCS	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312153
1312153-1	DUP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312153
1312153-1	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312153
1312153-2	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312153
1312155-1	SMP	XXXXXX	WATER	XXXXXX	10	10	NONE	1	1312155
1312157-1	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1312157
1312158-1	SMP	285485 Molokai 13-36	WATER	12/12/2013	50	50	NONE	1	1312158
1312190-1	SMP	XXXXXX	WATER	XXXXXX	25	25	NONE	1	1312190

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicate
MB	Method Blank		MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate
RVS	Reporting Level Verification Standard		SMP	Field Sample
SYS	Sample Yield Spike			

Ion Chromatography

Method EPA300.0 Revision 2.1
Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID: IC131213-1MB	**Sample Matrix:** WATER	**Prep Batch:** IC131213-1

Sample Matrix: WATER **Prep Batch:** IC131213-1 **Sample Aliquot:** 5 ml
% Moisture: N/A **QCBatchID:** IC131213-1-1 **Final Volume:** 5 ml
Date Collected: N/A **Run ID:** IC131213-1A2 **Result Units:** MG/L
Date Extracted: 13-Dec-13 **Cleanup:** NONE **Clean DF:** 1
Date Analyzed: 13-Dec-13 **Basis:** N/A
File Name: 31213_014.dxd

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ	MDL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	0.1	0.1	0.03	U	
16887-00-6	CHLORIDE	1	0.17	0.2	0.06	J	
14797-65-0	NITRITE AS N	1	0.1	0.1	0.03	U	
24959-67-9	BROMIDE	1	0.2	0.2	0.06	U	
14797-55-8	NITRATE AS N	1	0.067	0.2	0.06	J	
14808-79-8	SULFATE	1	1	1	0.3	U	

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0 Revision 2.1
Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID: IC131213-1LCS	**Sample Matrix:** WATER **% Moisture:** N/A **Date Collected:** N/A **Date Extracted:** 12/13/2013 **Date Analyzed:** 12/13/2013 **Prep Method:** NONE	**Prep Batch:** IC131213-1 **QCBatchID:** IC131213-1-1 **Run ID:** IC131213-1A2 **Cleanup:** NONE **Basis:** N/A **File Name:** 31213_048.dxd

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
16984-48-8	FLUORIDE	2	2.04	0.1		102	90 - 110%
16887-00-6	CHLORIDE	5	5.12	0.2		102	90 - 110%
14797-65-0	NITRITE AS N	2	1.92	0.1		96	90 - 110%
24959-67-9	BROMIDE	5	5.41	0.2		108	90 - 110%
14797-55-8	NITRATE AS N	5	5.23	0.2		105	90 - 110%
14808-79-8	SULFATE	20	19.4	1		97	90 - 110%

Data Package ID: *ic1312158-1*

Prep Batch ID: IC131213-1

Start Date: 12/13/13 **End Date:** 12/13/13 **Concentration Method:** NONE **Batch Created By:** ajd
Start Time: 13:30 **End Time:** 14:00 **Extract Method:** NONE **Date Created:** 12/13/13
Prep Analyst: Alex J. Devonald **Initial Volume Units:** ml **Time Created:** 12:40
Final Volume Units: ml **Validated By:** ajd

Comments: **Date Validated:** 12/13/13
Time Validated: 15:27

QC Batch ID: IC131213-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IC131213-1	RVS	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312160
IC131213-1	MB	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312160
IC131213-1	LCS	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312160
1312160-3	MS	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312160
1312160-3	MSD	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312160
1312150-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312150
1312151-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312151
1312153-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312153
1312153-2	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312153
1312155-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312155
1312156-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312156
1312157-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312157
1312158-1	SMP	285485 Molokai 13-36	WATER	12/12/2013	5	5	NONE	1	1312158
1312160-3	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1312160

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicate
MB	Method Blank		MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate
RVS	Reporting Level Verification Standard		SMP	Field Sample
SYS	Sample Yield Spike			

ALS Environmental -- FC
LIMS Version: 6.682

Date Printed: Thursday, December 19, 2013

Ion Chromatography

Method EPA300.0
Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: ICV	
QC Type: Initial Calibration	

File Name: 31211_009.dxd

Run ID: IC131213-1A2
Date Analyzed: 12/11/2013
Time Analyzed: 17:02
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	2.5	2.41	0.1		96	90 - 110%
16887-00-6	CHLORIDE	5	4.73	0.2		95	90 - 110%
14797-65-0	NITRITE AS N	4	4.04	0.1		101	90 - 110%
24959-67-9	BROMIDE	5	4.75	0.2		95	90 - 110%
14797-55-8	NITRATE AS N	5	4.66	0.2		93	90 - 110%
14808-79-8	SULFATE	25	23.5	1		94	90 - 110%

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID:	CCV1
QC Type:	Continuing Calibration

File Name: 31213_011.dxd

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 14:46
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.85	0.1		97	90 - 110%
16887-00-6	CHLORIDE	10	10.0	0.2		100	90 - 110%
14797-65-0	NITRITE AS N	5	5.00	0.1		100	90 - 110%
24959-67-9	BROMIDE	10	10.0	0.2		100	90 - 110%
14797-55-8	NITRATE AS N	10	10.1	0.2		101	90 - 110%
14808-79-8	SULFATE	50	48.7	1		97	90 - 110%

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID:	CCV2
QC Type:	Continuing Calibration

File Name: 31213_023.dxd

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 17:35
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.96	0.1		99	90 - 110%
16887-00-6	CHLORIDE	10	10.2	0.2		102	90 - 110%
14797-65-0	NITRITE AS N	5	5.01	0.1		100	90 - 110%
24959-67-9	BROMIDE	10	10.1	0.2		101	90 - 110%
14797-55-8	NITRATE AS N	10	10.1	0.2		101	90 - 110%
14808-79-8	SULFATE	50	49.0	1		98	90 - 110%

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID: CCV3	
QC Type: Continuing Calibration	

File Name: 31213_035.dxd

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 20:24
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	5.03	0.1		101	90 - 110%
16887-00-6	CHLORIDE	10	10.3	0.2		103	90 - 110%
14797-65-0	NITRITE AS N	5	5.03	0.1		101	90 - 110%
24959-67-9	BROMIDE	10	10.1	0.2		101	90 - 110%
14797-55-8	NITRATE AS N	10	10.2	0.2		102	90 - 110%
14808-79-8	SULFATE	50	49.3	1		99	90 - 110%

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: CCV4
QC Type: Continuing Calibration

File Name: 31213_046.dxd

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 22:59
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	5.09	0.1		102	90 - 110%
16887-00-6	CHLORIDE	10	10.3	0.2		103	90 - 110%
14797-65-0	NITRITE AS N	5	5.05	0.1		101	90 - 110%
24959-67-9	BROMIDE	10	10.1	0.2		101	90 - 110%
14797-55-8	NITRATE AS N	10	10.2	0.2		102	90 - 110%
14808-79-8	SULFATE	50	49.4	1		99	90 - 110%

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: CCV5
QC Type: Continuing Calibration

File Name: 31213_049.dxd

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 23:41
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	5.09	0.1		102	90 - 110%
16887-00-6	CHLORIDE	10	10.2	0.2		102	90 - 110%
14797-65-0	NITRITE AS N	5	5.02	0.1		100	90 - 110%
24959-67-9	BROMIDE	10	10.1	0.2		101	90 - 110%
14797-55-8	NITRATE AS N	10	10.2	0.2		102	90 - 110%
14808-79-8	SULFATE	50	49.2	1		98	90 - 110%

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID:	ICB
QC Type:	Initial Calibration

Run ID: IC131213-1A2
Date Analyzed: 12/11/2013
Time Analyzed: 5:17:01 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.1	0.1	U
16887-00-6	CHLORIDE	0.2	0.2	U
14797-65-0	NITRITE AS N	0.1	0.1	U
24959-67-9	BROMIDE	0.2	0.2	U
14797-55-8	NITRATE AS N	0.2	0.2	U
14808-79-8	SULFATE	1	1	U

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID:	CCB1
QC Type:	Continuing Calibration

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 3:00:29 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.0497	0.1	J
16887-00-6	CHLORIDE	0.11	0.2	J
14797-65-0	NITRITE AS N	0.1	0.1	U
24959-67-9	BROMIDE	0.2	0.2	U
14797-55-8	NITRATE AS N	0.0915	0.2	J
14808-79-8	SULFATE	0.427	1	J

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID: CCB2	
QC Type: Continuing Calibration	

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 5:49:30 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.1	0.1	U
16887-00-6	CHLORIDE	0.117	0.2	J
14797-65-0	NITRITE AS N	0.1	0.1	U
24959-67-9	BROMIDE	0.2	0.2	U
14797-55-8	NITRATE AS N	0.0677	0.2	J
14808-79-8	SULFATE	1	1	U

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID:	CCB3
QC Type:	Continuing Calibration

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 8:38:27 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.1	0.1	U
16887-00-6	CHLORIDE	0.102	0.2	J
14797-65-0	NITRITE AS N	0.1	0.1	U
24959-67-9	BROMIDE	0.2	0.2	U
14797-55-8	NITRATE AS N	0.2	0.2	U
14808-79-8	SULFATE	1	1	U

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1312158
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: TBAL

Lab ID:	CCB4
QC Type:	Continuing Calibration

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 11:13:20 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.0345	0.1	J
16887-00-6	CHLORIDE	0.16	0.2	J
14797-65-0	NITRITE AS N	0.1	0.1	U
24959-67-9	BROMIDE	0.2	0.2	U
14797-55-8	NITRATE AS N	0.065	0.2	J
14808-79-8	SULFATE	1	1	U

Data Package ID: *ic1312158-1*

Ion Chromatography

Method EPA300.0
Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1312158

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID:	CCB5
QC Type:	Continuing Calibration

Run ID: IC131213-1A2
Date Analyzed: 12/13/2013
Time Analyzed: 11:55:33 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.1	0.1	U
16887-00-6	CHLORIDE	0.128	0.2	J
14797-65-0	NITRITE AS N	0.1	0.1	U
24959-67-9	BROMIDE	0.2	0.2	U
14797-55-8	NITRATE AS N	0.0637	0.2	J
14808-79-8	SULFATE	1	1	U

Data Package ID: *ic1312158-1*

Raw Data

Alkalinity Raw Data Worksheet

Anal Run ID **AK131217-1A**

Anal Start Date **12/17/2013**

Standardization Ref ID **AlkalinityCAL131217-1**

Standardization Of Alkalinity

Rep Num	THAM Conc	Aliq Titrated (mL)	vol to pH 4.5(mL)	HCl Conc(N)	Conc Units	Avg HCl Conc
						0.0192938
1	0.2	1	10.27	0.0194742	N	
2	0.2	1	10.36	0.0193050	N	
3	0.2	1	10.47	0.0191022	N	

Num	Don't Use	ReRun Num	Lab ID	QC Type	Anal Dil	Aliq Titrated (mL)	vol to pH 8.3(mL)	vol to pH 4.5(mL)	total vol(mL)	HCO3 (mg/L as CaCO3)	CO3 (mg/L as CaCO3)	OH (mg/L as CaCO3)	Total Alk (mg/L as CaCO3)	Expected	%Rec	vol to LL pH(mL)
1	☐	0	AK131216-1	MB	1	100	0	0.25	0.25	2.411726	0	0	2.411726			NA
2	☐	0	AK131216-1	LCS	1	100	5.09	5.18	10.27	0.8682227	98.20547	0	99.07368			NA
3	☐	0	1312116-1	SMP	1	25	0	1.38	1.38	53.2509	0	0	53.2509			NA
4	☐	0	1312116-2	SMP	1	25	0	2.87	2.87	110.7464	0	0	110.7464			NA
5	☐	0	1312116-2	DUP	1	25	0	2.93	2.93	113.0617	0	0	113.0617			NA
6	☐	0	1312116-3	SMP	1	25	0.29	9.11	9.4	340.3427	22.38081	0	362.7235			NA
7	☐	0	1312120-1	SMP	1	25	0	5.69	5.69	219.5635	0	0	219.5635			NA
8	☐	0	1312120-3	SMP	1	25	0	2.68	2.68	103.4148	0	0	103.4148			NA
9	☐	0	1312134-1	SMP	1	25	0	3.5	3.5	135.0566	0	0	135.0566			NA
10	☐	0	1312153-1	SMP	1	25	0	7.35	7.35	283.6189	0	0	283.6189			NA
11	☐	0	1312153-2	SMP	1	25	0	9.4	9.4	362.7235	0	0	362.7235			NA
12	☐	0	1312155-1	SMP	1	100	0	0	0	0	0	0	0			NA
13	☐	0	1312157-1	SMP	1	25	0	5.44	5.44	209.9166	0	0	209.9166			NA
14	☐	0	1312158-1	SMP	1	25	0.51	19.89	20.4	747.8278	39.35936	0	787.1871			NA
15	☐	0	1312181-1	SMP	1	25	0	2.86	2.86	110.3606	0	0	110.3606			NA
16	☐	0	1312181-2	SMP	1	25	0	8.9	8.9	343.4297	0	0	343.4297			NA
17	☐	0	AK131216-2	MB	1	100	0	0.22	0.22	2.122318	0	0	2.122318			NA
18	☐	0	AK131216-2	LCS	1	100	5.19	5.33	10.52	1.35057	100.1348	0	101.4854			NA
19	☐	0	1312101-1	SMP	1	25	0.97	13.5	14.47	483.5027	74.85996	0	558.3627			NA
20	☐	0	1312102-1	SMP	1	25	0.78	14.99	15.77	548.3299	60.19667	0	608.5266			NA
21	☐	0	1312139-2	SMP	1	25	0	6.7	6.7	258.537	0	0	258.537			NA
22	☐	0	1312139-2	DUP	1	25	0	6.68	6.68	257.7652	0	0	257.7652			NA
23	☐	0	1312141-1	SMP	1	25	0	11.74	11.74	453.0185	0	0	453.0185			NA
24	☐	0	1312143-1	SMP	1	25	0.85	14.78	15.63	537.5254	65.59894	0	603.1243			NA
25	☐	0	1312145-1	SMP	1	25	0.43	15.67	16.1	588.0752	33.18534	0	621.2605			NA
26	☐	0	1312147-1	SMP	1	25	0	8.47	8.47	326.837	0	0	326.837			NA
27	☐	0	1312150-1	SMP	1	25	0	6.16	6.16	237.6997	0	0	237.6997			NA
28	☐	0	1312151-1	SMP	1	25	0	6.46	6.46	249.276	0	0	249.276			NA
29	☐	0	1312201-1	SMP	1	25	0	11.34	11.34	437.5835	0	0	437.5835			NA

Comments: Prepped and analyzed 12/17/13 from 0900-1345 by KMP.

Standards, Batch QC, and Matrix Spike Information

ID	Parent ID	Parent Conc	Parent Vol.	Final Vol.
ICV	ST101202-3	10000	1	100
CCV	ST101202-3	10000	1	100

Reagent List:

0.020 N HCl Titrant	RG131115-2
Phenolphthalein Indicator	RG130531-5
Bromocresol Green Indicator	RG131217-2
0.20 N Std. THAM	ST131001-1
0.20 N NaCO3 (ICV, LCS, CCV's - 1.0 mL)	ST131216-3

pH Calculations and Quality Control Results

Prep & Analysis Date: 12/16/2013
Prep & Analysis Time: 1230-1400
Analyst: KMP

Reagent List:			
4.01:		10.00:	2.00:
ST131202-6		ST131202-3	ST130725-1
7.00 (CCV):		7.00 (ICV):	12.45:
ST130523-1		ST131202-4	ST131108-1

ID	Temp. (°C)	Method	sample vol (g)	sample vol (mL)	pH Value	QC Accdeptance Range (pH units)
pH 4.01	23.9	NA	NA	NA	4.01	
pH 7.00	23.9	NA	NA	NA	7.00	
pH 10.00	23.9	NA	NA	NA	10.00	
ICV - pH 7.00	23.9	NA	NA	NA	7.02	+/- 0.05
1312150-1	23.9	4500H_pH	NA	20	7.77	
1312150-1DUP	23.9	4500H_pH	NA	20	7.78	
1312151-1	23.9	4500H_pH	NA	20	7.49	
1312153-1	23.9	9040pH	NA	20	7.91	
1312153-2	23.9	9040pH	NA	20	7.95	
13157-1 1312157	23.9	9040pH	NA	20	7.94	
1312158-1	23.9	150.1pH	NA	20	8.45	
CCV- pH 7.00	23.9	NA	NA	NA	7.00	+/- 0.10

(handwritten near 1312151-1: mg 12/17/13)

DUPLICATE SUMMARY (Aq)

ID	native pH Value	duplic pH Value	difference of native - dup	accept. limit
1312150-1	7.77	7.78	0.01	0.2 pH units

pH INFORMATION:
SOP 1126 rev.17 / EPA Method 150.1, 9040C, 9045D, and SM4500-H+ B
Instrument : Fisher Scientific pH / mV meter model 50 (SN C0000643)
Electrode : Orion - Ross Sure-Flow Electrode Model 81-72BN

Specific Conductivity Calculations & Quality Control Results

Prep & Analysis Date: 12/16/13
Prep & Analysis Time: 1230-1400
Analyst: KMP

ID	sample vol (mL)	Temp. °C	Conductivity Reading (umhos/cm)	% Recovery	recovery limit
Calibration Standard (*)	NA	24.0	1413		
ICV-2nd Source (**)	NA	24.0	714	99	646.2 - 789.8
1312150-1	45	24.0	1258		
1312150-1DUP	45	24.0	1262		
1312151-1	45	24.0	1319		
1312158-1	45	24.0	1653		
CCV-1 (*)	45	24.0	1415	100	1271.7 - 1554.3

DUPLICATE SUMMARY

ID	native Spec. Cond. Value	duplic Spec. Cond. Value	RPD %	RPD accept. limit
1312150-1	1258	1262	0	0-10%

Specific Conductivity - EPA Method 120.1/9050A/SM2510B - SOP 1128	
Instrument :	Fisher Scientific Conductivity/pH/mV meter model accumet 50 (SN C0000643) Electrode : YSI Incorporated. Model 3440 (Cell K = 10/cm) OR VWR Digital Conductivity Meter w/ electrode NIST (SN A22036)
Reagent List:	0.010 M KCl Solution [1413umhos/cm] (*): ST131004-3 0.005 M KCl Solu+C21tion [718umhos/cm] (**): ST130903-1

121613SC

TDS Raw Data Worksheet

Anal Run ID **TD131217-1A**

Anal Start Date **12/17/2013**

Num	Don't Use	ReRun Num	Lab ID	QC Type	Samp Vol (ml)	Empty Beaker (g)	A - Beaker + Residue gross (g)	A - Net mass (mg)	B - Beaker + Residue gross (g)	B - Net mass (mg)	Constant Wt (+/- 0.5mg)	Constant Wt (+/- 4%)	calculated conc (mg/L)	DL (mg/L)
1	☐	0	TD131216-1	MB	100	81.4586	81.4586	0	81.4586	0	0	NA	0	20
2	☐	0	TD131216-1	LCS	100	77.4598	77.501	41.2	77.5004	40.6	0.6	1.47%	406	20
3	☐	0	1312150-1	SMP	100	80.7335	80.8187	85.2	80.8178	84.3	0.9	1.06%	843	20
4	☐	0	1312151-1	SMP	50	80.853	80.8916	38.6	80.8911	38.1	0.5	1.30%	762	40
5	☐	0	1312183-2	SMP	100	83.1037	83.121	17.3	83.121	17.3	0	0.00%	173	20
6	☐	0	1312183-4	SMP	100	78.0018	78.0146	12.8	78.0142	12.4	0.4	3.17%	124	20
7	☐	0	1312183-5	SMP	100	78.262	78.2793	17.3	78.2797	17.7	0.4	2.29%	177	20
8	☐	0	1312183-5	DUP	100	71.8217	71.8379	16.2	71.8384	16.7	0.5	3.04%	167	20
9	☐	0	1312183-7	SMP	100	78.3453	78.3643	19	78.364	18.7	0.3	1.59%	187	20
10	☐	0	1312183-10	SMP	100	78.6742	78.6898	15.6	78.6897	15.5	0.1	0.64%	155	20
11	☐	0	1312183-12	SMP	100	66.2248	66.2418	17	66.2415	16.7	0.3	1.78%	167	20
12	☐	0	1312183-14	SMP	100	77.2692	77.2905	21.3	77.2905	21.3	0	0.00%	213	20
13	☐	0	1312153-1	SMP	100	86.4236	86.4569	33.3	86.4575	33.9	0.6	1.79%	339	20
14	☐	0	1312153-1	DUP	100	65.3788	65.4105	31.7	65.4111	32.3	0.6	1.88%	323	20
15	☐	0	1312153-2	SMP	100	78.3625	78.4032	40.7	78.4041	41.6	0.9	2.19%	416	20
16	☐	0	1312155-1	SMP	10	69.6811	69.7298	48.7	69.7307	49.6	0.9	1.83%	4960	200
17	☐	0	1312157-1	SMP	100	77.7712	77.7967	25.5	77.7968	25.6	0.1	0.39%	256	20
18	☐	0	1312158-1	SMP	50	77.8755	77.941	65.5	77.9426	67.1	1.6	2.41%	1342	40
19	☐	0	1312190-1	SMP	25	77.6663	77.7318	65.5	77.7328	66.5	1	1.52%	2660	80
20	☐	0	1312183-16	SMP	100	72.4802	72.4987	18.5	72.499	18.8	0.3	1.61%	188	20

Comments: Prepped on 12/16/13 from 0830-1300 and analyzed 12/17/13 from 1000-1615 by KMP.

Standards, Batch QC, and Matrix Spike Information

ID	Parent ID	Parent Conc	Parent Vol.	Final Vol.
LCS	ST130318-1	40000	1	100

Reagent List:

TDS Spike Solution: 40.0 mg NaCl/mL **ST130318-1**

Shaded values used to to determine the calculated concentration

Schedule File: C:\PeakNet\schedule\131213IC1.SCH

Line	Sample	Sample Type	Method	Data File	Comment
1	5X STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_002.dxd	
2	10X STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_003.dxd	
3	25X STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_004.dxd	
4	100X STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_005.dxd	
5	500X STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_006.dxd	
6	1000X STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_007.dxd	
7	0 STD	Calibration	131211ic1.met	c:\peaknet\data\131211ic1\131211_008.dxd	
8	ICV	Sample	131211ic1.met	c:\peaknet\data\131211ic1\131211_009.dxd	
9	ICB	Sample	131211ic1.met	c:\peaknet\data\131211ic1\131211_010.dxd	
10	Blank	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_010.dxd	
11	CCV	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_011.dxd	CCV1
12	CCB	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_012.dxd	CCB – Fail for CCB
13	~~IC131213-1LCS~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_013.dxd	~~Water~~
14	IC131213-1MB	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_014.dxd	Water
15	IC131213-1RVS	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_015.dxd	Water
16	1312150-1	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_016.dxd	Br,~~Cl~~,F,NO2,NO3,~~SO4~~
17	1312150-1 10x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_017.dxd	~~Br~~,Cl,F,~~NO2,NO3~~,SO4
18	1312151-1	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_018.dxd	Br,~~Cl~~,F,NO2,NO3,~~SO4~~
19	1312151-1 10x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_019.dxd	~~Br~~,Cl,F,~~NO2,NO3~~,SO4
20	~~1312153-1~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_020.dxd	~~Br,Cl,F,NO2,NO3,PO4,SO4~~
21	~~1312153-2~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_021.dxd	~~Br,Cl,F,NO2,NO3,PO4,SO4~~
22	Blank	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_022.dxd	
23	CCV	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_023.dxd	CCV2 All pass
24	CCB	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_024.dxd	CCB
25	~~1312153-1 5x~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_025.dxd	~~Br,Cl,F,NO2,NO3,PO4,SO4~~
26	~~1312153-2 5x~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_026.dxd	~~Br,Cl,F,NO2,NO3,PO4,SO4~~
27	1312155-1 5x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_027.dxd	Cl,F,NO3,~~SO4~~
28	1312155-1 100x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_028.dxd	~~Cl,F,NO3~~,SO4
29	1312156-1 50x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_029.dxd	SO4
30	~~1312156-1 100x~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_030.dxd	~~SO4~~
31	~~1312156-1 200x~~	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_031.dxd	~~SO4~~
32	Blank	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_032.dxd	
33	1312157-1	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_033.dxd	Br,Cl,F,NO2,NO3,PO4,SO4
34	Blank	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_034.dxd	
35	CCV	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_035.dxd	CCV3 All pass
36	CCB	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_036.dxd	CCB
37	1312158-1	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_037.dxd	Br,~~Cl~~,F,NO2,NO3,SO4
38	1312158-1 10x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_038.dxd	~~Br~~,Cl,F,~~NO2,NO3,SO4~~
39	1312160-3	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_039.dxd	Br,Cl,F,~~SO4~~
40	1312160-3MS	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_040.dxd	Br,Cl,F,SO4
41	1312160-3MSD	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_041.dxd	Br,Cl,F,SO4
42	1312160-3 5x	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_042.dxd	~~Br,Cl,F,SO4~~
43	1312153-1	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_043.dxd	Br,Cl,F,NO2,NO3,PO4,SO4
44	1312153-2	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_044.dxd	Br,Cl,F,NO2,NO3,PO4,SO4
45	Blank	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_045.dxd	
46	CCV	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_046.dxd	CCV4 All pass
47	CCB	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_047.dxd	CCB
48	IC131213-1LCS	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_048.dxd	Water – Fail for opus @ 116%
49	CCV	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_049.dxd	CCV5 All pass
50	CCB	Sample	131211ic1.met	c:\peaknet\data\131213ic1\131213_050.dxd	CCB
51	Stop	Sample	stop.met	c:\peaknet\data\131213ic1\131213_051.dxd	

Default Method Path: C:\PEAKNET\METHOD
Default Data Path: C:\PEAKNET\DATA\130814BIC1
Comment:

BatchDx created schedule.   Analyst:_____
Instrument #1: DIONEX DX-120. ID Serial Number: 99060762
Analytical Column: Dionex IonPac AS14 S/N 029999
Methods: EPA 300.0 and SW9056. ALS SOP 1113
Eluent: Made daily, 10mL of Eluent Concentrate ID: RG130924-1 to 1000mL of DI water.
Final_ ID_ Aliq
cal std level 7 (0x)
cal std level 6 (1000x)_10.00____ ST131210-13, ST131211-3 _____0.01
cal std level 5 (500x)__5.00_____ "   "_____0.01
cal std level 4 (100x)___5.00_____ "   "_____0.05
cal std level 3 (25x)___5.00_____ "   "_____0.20
cal std level 2 (10x)____5.00_____ "   "_____0.50
cal std level 1 (5x)____5.00_____ "   "_____1.00

CCV_____5.00____ST131210-13, ST131211-3 _____0.50
RVS_____5.00____ST131210-13, ST131211-3 _____0.01
ICV_____5.00____ST130502-5_____0.25
_____ST131211-5_____0.10
LCS & MS/D _____5.00____ST130208-9, ST131211-2_____0.05

Dilutions Table: All to 5mL Final Volume
10X   0.5mL
20X   0.25mL

PeakNet 5.1

Method Information : Select Module(s)

System Name : DX-120 IC-1
System Number : 1
Method Type : Ion Chromatography
Column : AS14 4-MM
Analyst : WETCHEM
Comment : Flow rate = 1.2 mL/min,
Eluent = 3.5mM Na2CO3 / 1.0 mM NaHCO3

DX-120 Timed Events

Module Name : DX-120 #1
Module Serial Number : 99060762
System Mode : Column
Column : A
Pump : On
SRS / Cell : On
Eluent Pressure : On
Pressure Unit : psi
TTL 1 Label : TTL 1
TTL 2 Label : TTL 2
Comment :

Time	Offset	Valve	TTL1	TTL2	AC	Collect
Init	*	Load	Low	Low	Off	
0.00		Load	Low	Low	Off	Begin
0.10		Inject	Low	Low	Off	
0.40		Load	Low	Low	Off	
11.80		Load	High	Low	Off	
11.90		Load	Low	Low	Off	

DX-120 Detector Parameters

Detector Type : DX-120
Data collection time (minutes) : 14.00
Data Collection Rate : 5.00
Real time plot scale maximum (μS) : 40.000
Real time plot scale minimum (μS) : -3.000

DX-120 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 8.00
Peak threshold : 0.50
Peak area reject (area counts) : 800.00
Reference peak area reject (area counts) : 1000.00

DX-120 Smoothing Parameters

Filter Type : No filter

DX-120 Report Data

Report Format File : C:\PeakNet\method\IC Report_std.rpt
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : Yes
System Suitability Tests :
No system suitability tests selected.

DX-120 Integration Data Events

Time	Description
0.00	Stop peak detection
0.05	Force baseline at start of all peaks
1.90	Start peak detection
2.20	Void volume treatment for this peak
3.00	Void volume treatment for this peak

DX-120 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Calibration standard volume : 1.00
Default sample volume : 1.00
Amount units :
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.00
Default response factor for unknown peaks : 0.00
Calculate unknowns by area or height : Area

DX-120 Component Identification Table

Component	Retention	Tolerance	Reference
Fluoride	2.81 min	5.00 %	
Chloride	3.92 min	5.00 %	
Nitrite as N	4.60 min	4.90 %	
Bromide	5.73 min	7.30 %	
Nitrate as N	6.61 min	10.00 %	
Orthophosphate as P	9.57 min	4.10 %	
Sulfate	11.80 min	4.10 %	
Nitrate/Nitrite as N	20.00 min	5.00 %	

DX-120 Component Quantitation Table

Component	Retention	Low Limit	High Limit
Fluoride	2.81 min	100	10000
Chloride	3.92 min	200	20000
Nitrite as N	4.60 min	100	10000
Bromide	5.73 min	200	20000
Nitrate as N	6.61 min	200	20000
Orthophosphate as P	9.57 min	300	20000
Sulfate	11.80 min	500	100000
Nitrate/Nitrite as N	20.00 min	1	10

DX-120 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
Fluoride	2.81 min	Quadratic	Ignore	Area		0.00
Chloride	3.92 min	Quadratic	Ignore	Area		0.00
Nitrite as N	4.60 min	Quadratic	Ignore	Area		0.00
Bromide	5.73 min	Quadratic	Ignore	Area		0.00
Nitrate as N	6.61 min	Quadratic	Ignore	Area		0.00
Orthophosphate as P	9.57 min	Quadratic	Ignore	Area		0.00
Sulfate	11.80 min	Quadratic	Ignore	Area		0.00
Nitrate/Nitrite as N	20.00 min	Quadratic	Ignore	Area		0.00

DX-120 Component = Fluoride Levels Table

Retention Time : 2.81 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	10000.00	2.08291e+006
2	5000.00	984326
3	2000.00	368191
4	500.00	89097.9
5	100.00	15823.2
6	50.00	6201
7	0.00	0

DX-120 Component = Chloride Levels Table

Retention Time : 3.92 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	3.20627e+006
2	10000.00	1.46196e+006
3	4000.00	537250
4	1000.00	129583
5	200.00	28813
6	100.00	14875.8
7	0.00	998

DX-120 Component = Nitrite as N Levels Table

Retention Time : 4.60 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	10000.00	3.19724e+006
2	5000.00	1.51412e+006
3	2000.00	571245
4	500.00	138803
5	100.00	31418.9
6	50.00	12075.8
7	0.00	0

DX-120 Component = Bromide Levels Table

Retention Time : 5.73 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	1.14406e+006
2	10000.00	540926
3	4000.00	209011
4	1000.00	50364.3
5	200.00	9325.6
6	100.00	4311.1
7	0.00	0

DX-120 Component = Nitrate as N Levels Table

Retention Time : 6.61 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	8.28848e+006
2	10000.00	3.70022e+006
3	4000.00	1.31163e+006
4	1000.00	297754
5	200.00	63958.6
6	100.00	23986.9
7	0.00	3470

DX-120 Component = Orthophosphate as P Levels Table

Retention Time : 9.57 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	2.64127e+006
2	10000.00	1.24533e+006
3	4000.00	483234
4	1000.00	125579
5	200.00	28834
6	100.00	22750
7	0.00	19394

DX-120 Component = Sulfate Levels Table

Retention Time : 11.80 min
Amount units :
Replicate unit type : Area
Number of levels : 7
Number of replicates : 1

Level	Amount	Replicate 1
1	100000.00	1.28899e+007
2	50000.00	5.80606e+006
3	20000.00	2.10124e+006
4	5000.00	489614
5	1000.00	100489
6	500.00	52968
7	0.00	0

DX-120 Component = Nitrate/Nitrite as N Levels Table

Retention Time : 20.00 min
Amount units :
Replicate unit type : Area
Number of levels : 0
Number of replicates : 1

DX-120 XY Data Parameters

Calibration Update Report

Sample Name : 5X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_002.DXD

Method File Name : C:\peaknet\method\131211ic1.met	System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch	Datafile Updated : 12/11/13 3:39:15 PM
Date Time Acquired : 12/11/13 3:24:06 PM	Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 3:39:10 PM	Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.81	10000	2082914
3	Chloride	3.91	20000	3206273
4	Nitrite as N	4.59	10000	3197242
5	Bromide	5.68	20000	1144058
6	Nitrate as N	6.37	20000	8288482
7	Orthophosphate as P	9.41	20000	2752757
8	Sulfate	11.65	100000	12495514
	Nitrate/Nitrite as N			

Calibration Update Report

Sample Name : 5X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_002.DXD

Method File Name : C:\peaknet\method\131211ic1.met   System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch   Datafile Updated : 12/11/13 3:39:15 PM
Date Time Acquired : 12/11/13 3:24:06 PM   Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 3:39:10 PM   Eluent =...

Calibration Update Report

Sample Name : 10X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_003.DXD

Method File Name : C:\PeakNet\method\131211ic1.met	System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch	Datafile Updated : 12/11/13 3:53:31 PM
Date Time Acquired : 12/11/13 3:38:13 PM	Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 3:53:22 PM	Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.81	5000	984326
3	Chloride	3.91	10000	1461959
4	Nitrite as N	4.59	5000	1514119
5	Bromide	5.69	10000	540926
6	Nitrate as N	6.43	10000	3700217
7	Orthophosphate as P	9.45	10000	1326794
8	Sulfate	11.71	50000	5649719
	Nitrate/Nitrite as N			

Calibration Update Report

Sample Name : 10X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_003.DXD

Method File Name : C:\PeakNet\method\131211ic1.met	System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch	Datafile Updated : 12/11/13 3:53:31 PM
Date Time Acquired : 12/11/13 3:38:13 PM	Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 3:53:22 PM	Eluent =...

Calibration Update Report

Sample Name : 25X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_004.DXD

Method File Name : C:\peaknet\method\131211ic1.met	System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch	Datafile Updated : 12/11/13 4:07:16 PM
Date Time Acquired : 12/11/13 3:52:20 PM	Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 4:07:08 PM	Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.81	2000	368191
3	Chloride	3.89	4000	537250
4	Nitrite as N	4.59	2000	571245
5	Bromide	5.71	4000	209011
6	Nitrate as N	6.48	4000	1311629
7	Orthophosphate as P	9.48	4000	527769
8	Sulfate	11.76	20000	2046858
	Nitrate/Nitrite as N			

Calibration Update Report

Sample Name : 25X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_004.DXD

Method File Name : C:\peaknet\method\131211ic1.met   System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch   Datafile Updated : 12/11/13 4:07:16 PM
Date Time Acquired : 12/11/13 3:52:20 PM   Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 4:07:08 PM   Eluent =...

Calibration Update Report

Sample Name : 100X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_005.DXD

Method File Name : C:\peaknet\method\131211ic1.met
Schedule File Name : c:\peaknet\schedule\131211ic1.sch
Date Time Acquired : 12/11/13 4:06:27 PM
Calibration Date : 12/11/13 4:21:23 PM

System Operator : AJD
Datafile Updated : 12/11/13 4:21:34 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.81	500	89098
3	Chloride	3.89	1000	129583
4	Nitrite as N	4.59	500	138803
5	Bromide	5.72	1000	50364
6	Nitrate as N	6.53	1000	297754
7	Orthophosphate as P	9.52	1000	150311
8	Sulfate Nitrate/Nitrite as N	11.79	5000	472205
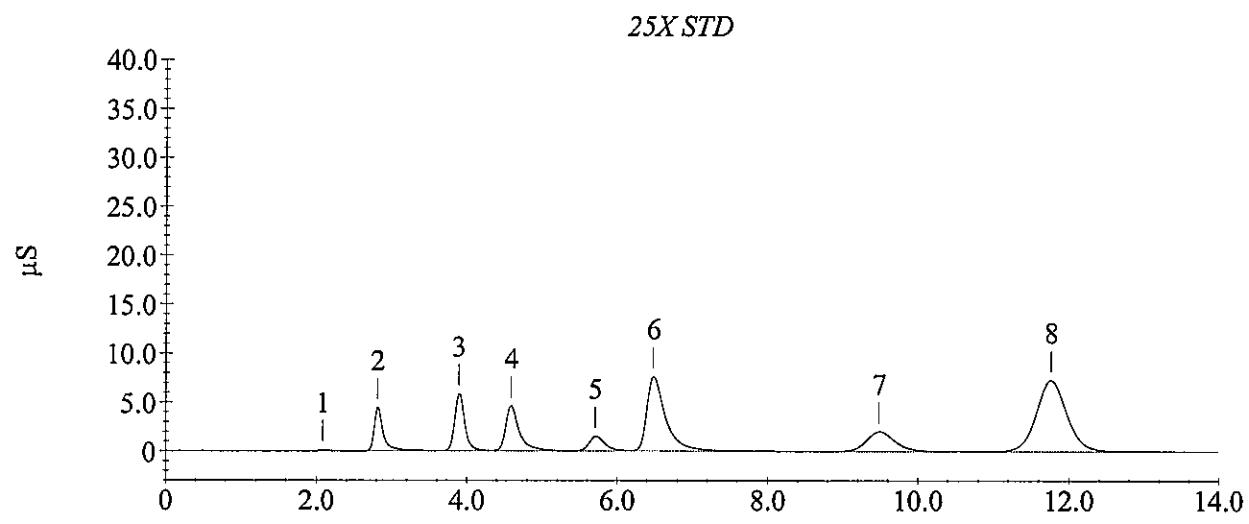
Calibration Update Report

Sample Name : 100X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_005.DXD

Method File Name : C:\peaknet\method\131211ic1.met   System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch   Datafile Updated : 12/11/13 4:21:34 PM
Date Time Acquired : 12/11/13 4:06:27 PM   Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 4:21:23 PM   Eluent =...

Calibration Update Report

Sample Name : 500X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_006.DXD

Method File Name : C:\peaknet\method\131211ic1.met	System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch	Datafile Updated : 12/11/13 4:36:07 PM
Date Time Acquired : 12/11/13 4:20:38 PM	Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/11/13 4:36:00 PM	Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.81	100	15823
3	Chloride	3.89	200	28813
4	Nitrite as N	4.60	100	31419
5	Bromide	5.73	200	9326
6	Nitrate as N	6.59	200	63959
7	Orthophosphate as P	9.55	200	54027
8	Sulfate	11.80	1000	93617
	Nitrate/Nitrite as N			

Calibration Update Report

Sample Name : 500X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_006.DXD

Method File Name : C:\peaknet\method\131211ic1.met
Schedule File Name : c:\peaknet\schedule\131211ic1.sch
Date Time Acquired : 12/11/13 4:20:38 PM
Calibration Date : 12/11/13 4:36:00 PM

System Operator : AJD
Datafile Updated : 12/11/13 4:36:07 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent =...

500X STD

Calibration Update Report

Sample Name : 1000X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_007.DXD

Method File Name : C:\peaknet\method\131211ic1.met
Schedule File Name : c:\peaknet\schedule\131211ic1.sch
Date Time Acquired : 12/11/13 4:34:44 PM
Calibration Date : 12/12/13 9:58:59 AM

System Operator : AJD
Datafile Updated : 12/12/13 9:59:07 AM
Method Comment : Flow rate = 1.2 mL/min,
Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.81	50	6201
3	Chloride	3.89	100	14876
4	Nitrite as N	4.60	50	12076
5	Bromide	5.73	100	4311
6	Nitrate as N	6.61	100	23987
7	Orthophosphate as P	9.57	100	31216
8	Sulfate	11.77	500	45533
	Nitrate/Nitrite as N			

Calibration Update Report

Sample Name : 1000X STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_007.DXD

Method File Name : C:\peaknet\method\131211ic1.met   System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch   Datafile Updated : 12/12/13 9:59:07 AM
Date Time Acquired : 12/11/13 4:34:44 PM   Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/12/13 9:58:59 AM   Eluent =...

1000X STD

Calibration Update Report

Sample Name : 0 STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_008.DXD

Method File Name : C:\PeakNet\method\131211ic1.met	System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch	Datafile Updated : 12/12/13 9:59:50 AM
Date Time Acquired : 12/11/13 4:48:50 PM	Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/12/13 9:58:59 AM	Eluent =...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
1	Chloride	3.92	0	998
1	Chloride	3.92	0	998
	Nitrite as N			
	Bromide			
2	Nitrate as N	6.61	0	3470
3	Orthophosphate as P	9.57	0	19394
	Sulfate			
	Nitrate/Nitrite as N			

Calibration Update Report

Sample Name : 0 STD
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_008.DXD

Method File Name : C:\PeakNet\method\131211ic1.met   System Operator : AJD
Schedule File Name : c:\peaknet\schedule\131211ic1.sch   Datafile Updated : 12/12/13 9:59:50 AM
Date Time Acquired : 12/11/13 4:48:50 PM   Method Comment : Flow rate = 1.2 mL/min,
Calibration Date : 12/12/13 9:58:59 AM   Eluent =...

0 STD

1. Component:Fluoride
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
r^2=0.999964
$Amt=-2.649910e-010*Resp^2+$
$\quad 5.337829e-003*Resp+27.27$

2. Component:Chloride
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
r^2=0.999944
$Amt=-3.683026e-010*Resp^2+$
$\quad 7.410058e-003*Resp+17.43$
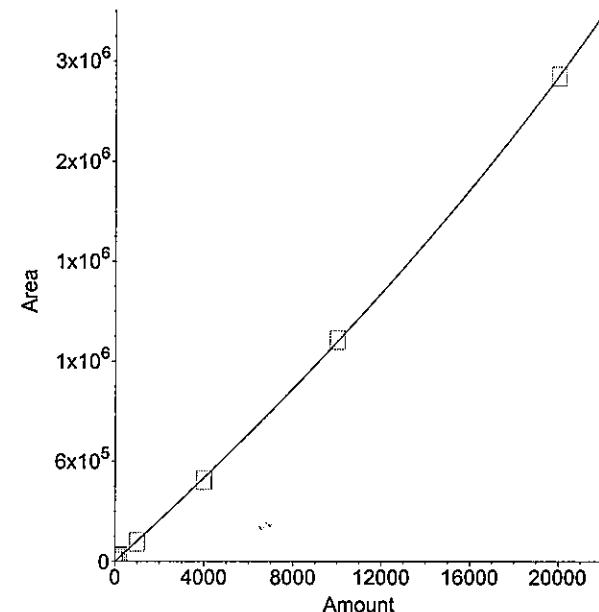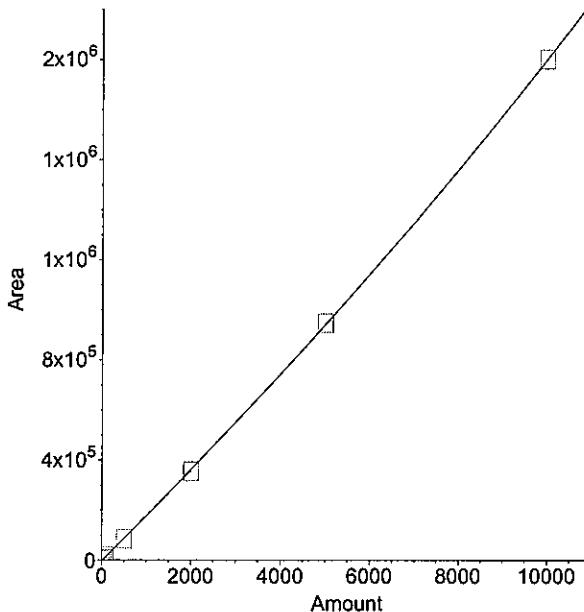
3. Component:Nitrite as N
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
r^2=0.999968
$Amt=-1.106467e-010*Resp^2+$
$\quad 3.476343e-003*Resp+12.54$

4. Component:Bromide
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
r^2=0.999999
$Amt=-1.645100e-009*Resp^2+$
$\quad 1.934300e-002*Resp+22.88$
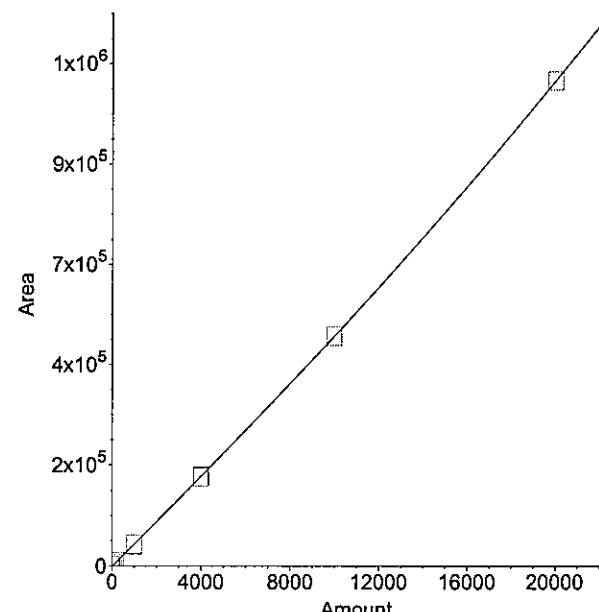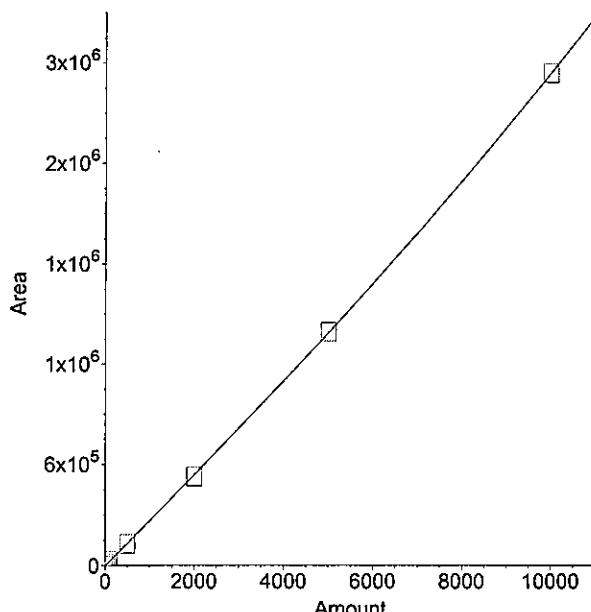
5. Component:Nitrate as N
Standard:External Fit Type:Quadratic
Origin:Ignore   Calibration:Area
r^2=0.999848
Amt=-6.737002e-011*Resp²+
   2.962280e-003*Resp+60.1

6. Component:Orthophosphate as P
Standard:External Fit Type:Quadratic
Origin:Ignore   Calibration:Area
r^2=0.999972
Amt=-3.696180e-010*Resp²+
   8.581697e-003*Resp+-91.83
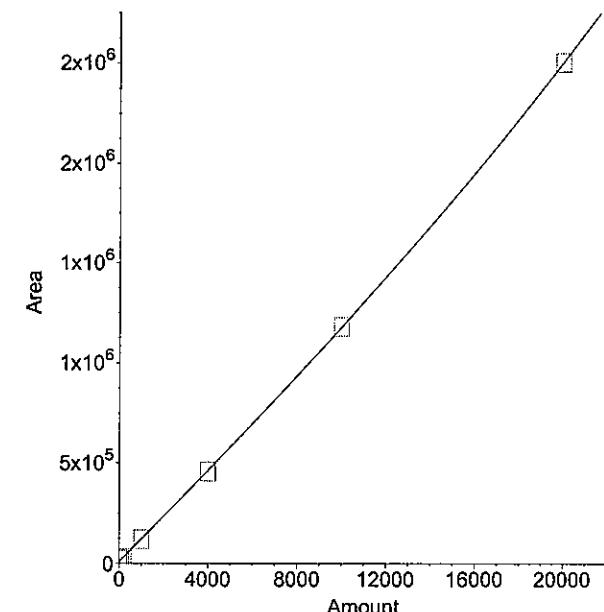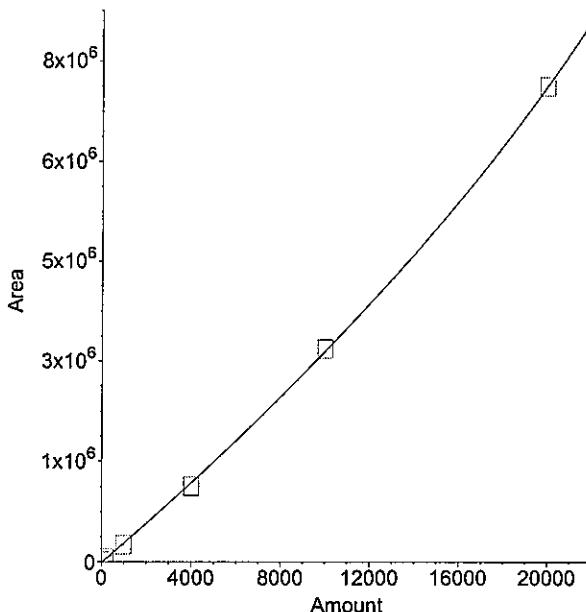
7. Component:Sulfate
Standard:External Fit Type:Quadratic
Origin:Ignore   Calibration:Area
r^2=0.999914
Amt=-1.260247e-010*Resp²+
   9.356626e-003*Resp+277.9

8. Component:Nitrate/Nitrite as N
Standard:External Fit Type:Quadratic
Origin:Ignore   Calibration:Area
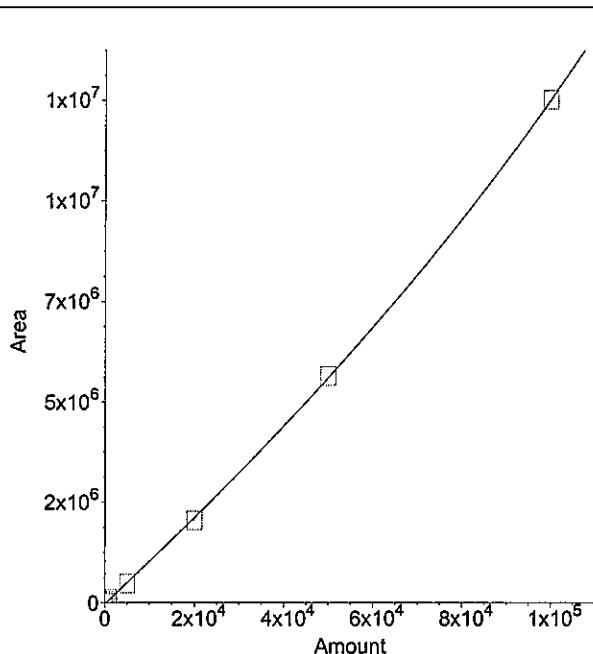
(No Levels Component)

DAILY VERIFICATION FOR ION CHROMATOGRAPH-1
(Used internally for comparative check purposes)

Analysis Date: 12/11/2013
Analyst Name: AJD
Filename for CCV: 131211ic1/131211_009.DXD
Calibration Date: 12/11/2013
Method ID: 131211ic1.met
Updated Method date: NA

Calibration Equation Verification (ICV)

Analyte	calibration type:	1st regression coefficient	2nd regression coefficient	intercept	A conc reported by PeakNet ug/L	observed peak area	B conc calc by spreadsheet ug/L	A/B *100 agreement %
Ophos	quad. ignore 0,0	-2.617353E-10	7.322904E-03	-3.342	4810.6	673604	4810.6	100.0

Retention Time (RT) Verification

Analyte	RT at calibration	RT in updated method (1st ICV or CCV)	deviation % (calibration vs. update) 10% tolerance	window width tolerance (NA)
F	2.81	2.81	0.0	5.00 %
Cl	3.89	3.89	0.0	5.00 %
NO2-N	4.59	4.57	0.4	4.90 %
Br	5.72	5.69	0.5	7.30 %
NO3-N	6.53	6.45	1.2	10.00%
PO4-P	9.52	9.48	0.4	4.10 %
SO4	11.79	11.75	0.3	4.10 %

Sample Analysis Report

Sample Name : ICV
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_009.DXD

Method File Name : C:\PeakNet\method\131211ic1.met   Current Date : 12/12/13
Date, Time Analyzed : 12/11/13 5:02:54 PM   Current Time : 11:31:54 AM
System Operator : AJD   Datafile Updated : 12/12/13 11:31:50 AM
Calibration Updated : 12/12/13 11:31:26 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	2405.8	96%	455925
3	Chloride	3.89	4727.4	95%	657076
4	Nitrite as N	4.57	4044.0	101%	1205972
5	Bromide	5.69	4749.4	95%	249653
6	Nitrate as N	6.45	4656.9	93%	1610800
7	Orthophosphate as P	9.48	4953.9	99%	603656
8	Sulfate	11.75	23533.9	94%	2574808
	Nitrate/Nitrite as N				

ICV
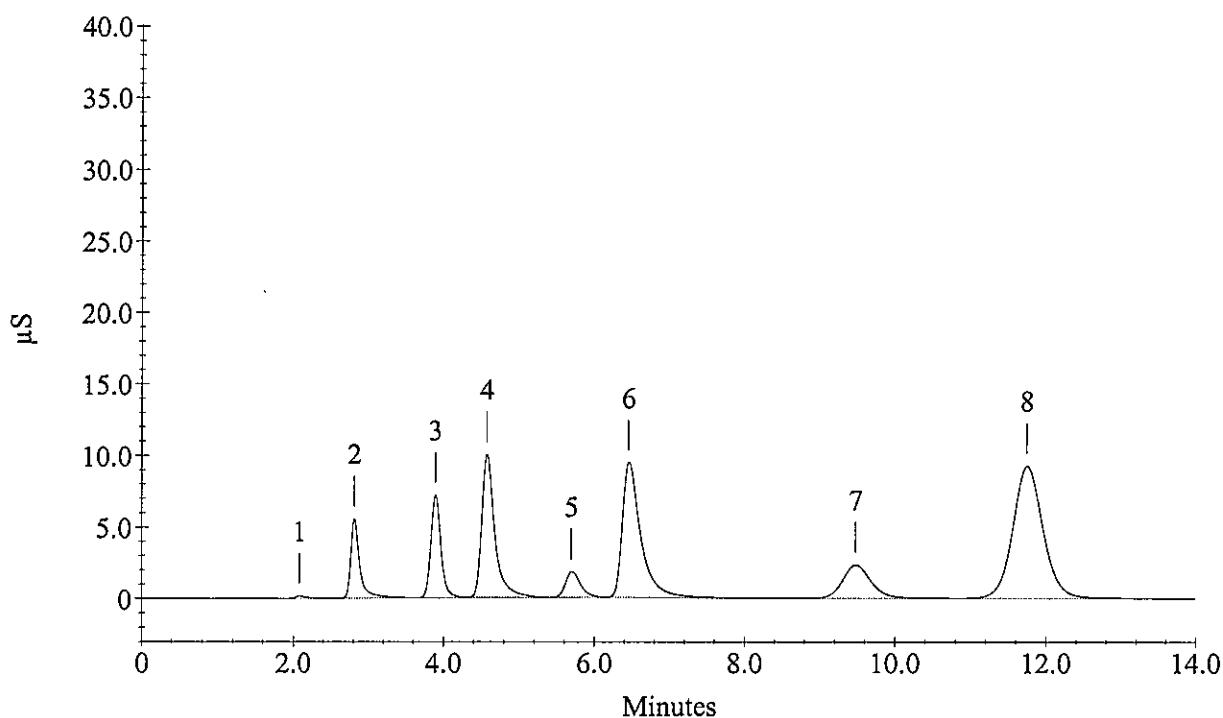
Sample Analysis Report

Sample Name : ICB
Data File Name : C:\PEAKNET\DATA\131211IC1\131211_010.DXD

Method File Name : C:\PeakNet\method\131211ic1.met   Current Date : 12/12/13
Date, Time Analyzed : 12/11/13 5:17:01 PM   Current Time : 11:33:16 AM
System Operator : AJD   Datafile Updated : 12/12/13 11:33:12 AM
Calibration Updated : 12/12/13 11:31:26 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.09	0.0		1393
	Chloride				
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	9.60	163.1	-	29739
	Sulfate				
	Nitrate/Nitrite as N				

ICB
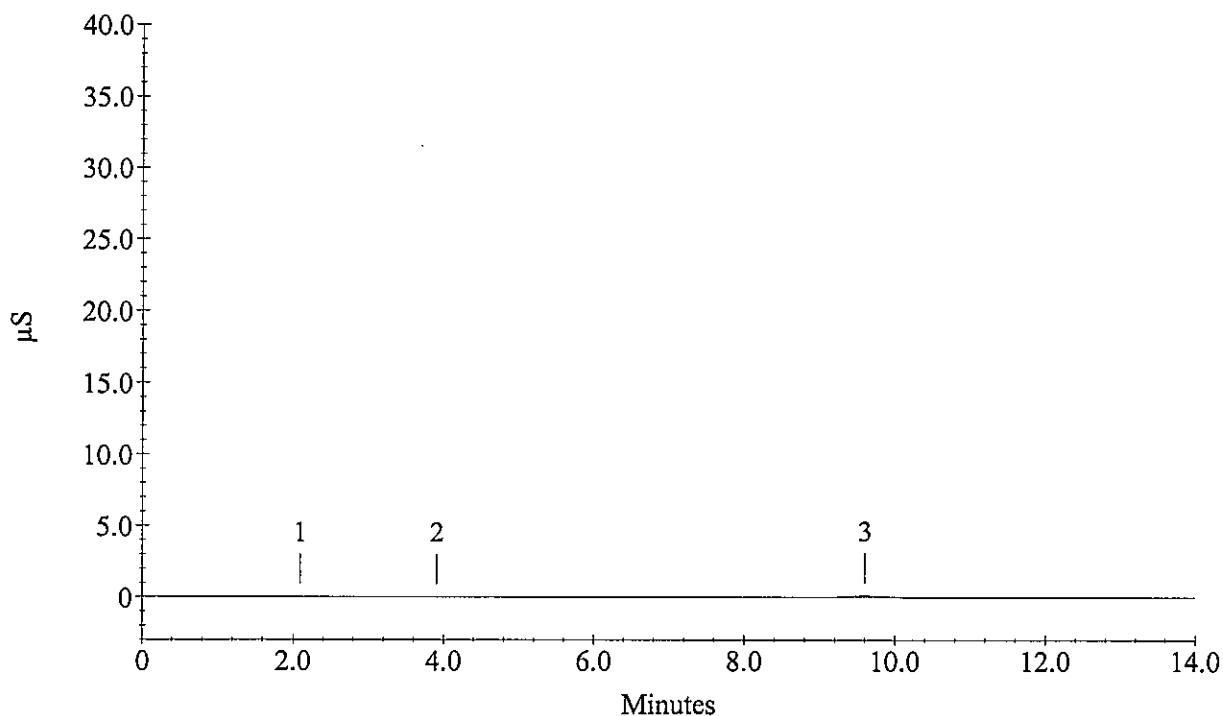
DAILY VERIFICATION FOR ION CHROMATOGRAPH-1
(Used internally for comparative check purposes)

Analysis Date: 12/13/2013
Analyst Name: AJD
Filename for CCV: 131213ic1/131213_011.DXD
Calibration Date: 12/11/2013
Method ID: 131211ic1.met
Updated Method date: NA

Calibration Equation Verification (ICV)

Analyte	calibration type:	1st regression coefficient	2nd regression coefficient	intercept	A conc reported by PeakNet ug/L	observed peak area	B conc calc by spreadsheet ug/L	A/B *100 agreement %
Ophos	quad. ignore 0,0	-2.617353E-10	7.322904E-03	-3.342	4810.6	673604	4810.6	100.0

Retention Time (RT) Verification

Analyte	RT at calibration	RT in updated method (1st ICV or CCV)	deviation % (calibration vs. update) 10% tolerance	window width tolerance (NA)
F	2.81	2.80	0.4	5.00 %
Cl	3.89	3.89	0.0	5.00 %
NO2-N	4.59	4.57	0.4	4.90 %
Br	5.72	5.69	0.5	7.30 %
NO3-N	6.53	6.43	1.5	10.00%
PO4-P	9.52	9.37	1.6	4.10 %
SO4	11.79	11.61	1.5	4.10 %

Sample Analysis Report

Sample Name : CCV
Data File Name : c:\peaknet\data\131213ic1\131213_011.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 2:46:24 PM   Current Time : 3:00:26 PM
System Operator : AJD   Datafile Updated : 12/13/13 3:00:26 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.80	4847.7 ✓		947652
3	Chloride	3.89	10048.0 ✓		1459527
4	Nitrite as N	4.57	4995.3 ✓		1505464
5	Bromide	5.69	10044.3 ✓		543186
6	Nitrate as N	6.43	10114.7 ✓		3706674
7	Orthophosphate as P	9.37	10023.7 ✓		1245557
8	Sulfate Nitrate/Nitrite as N	11.61	48732.7 ✓		5601242

CCV
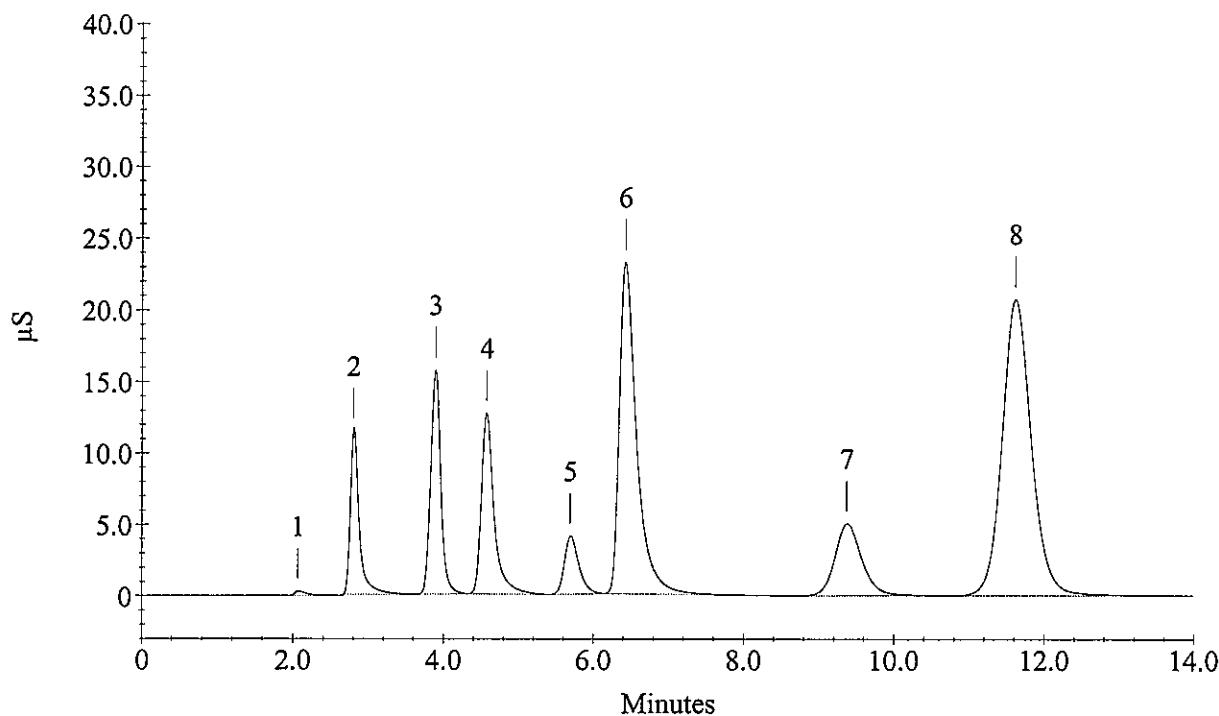
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\peaknet\data\131213ic1\131213_012.DXD

Method File Name : c:\peaknet\method\131211ic1.met
Date, Time Analyzed : 12/13/13 3:00:29 PM
System Operator : AJD
Calibration Updated : 12/12/13 11:43:10 AM

Current Date : 12/13/13
Current Time : 3:14:32 PM
Datafile Updated : 12/13/13 3:14:31 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	49.7	-	4197
3	Chloride	3.91	110.1	-	12516
4	Nitrite as N	4.61	29.0	-	4731
	Bromide				
5	Nitrate as N	6.68	91.5	-	10594
6	Orthophosphate as P	9.47	538.2		73654
7	Sulfate	11.75	427.4	-	15983
	Nitrate/Nitrite as N				

CCB
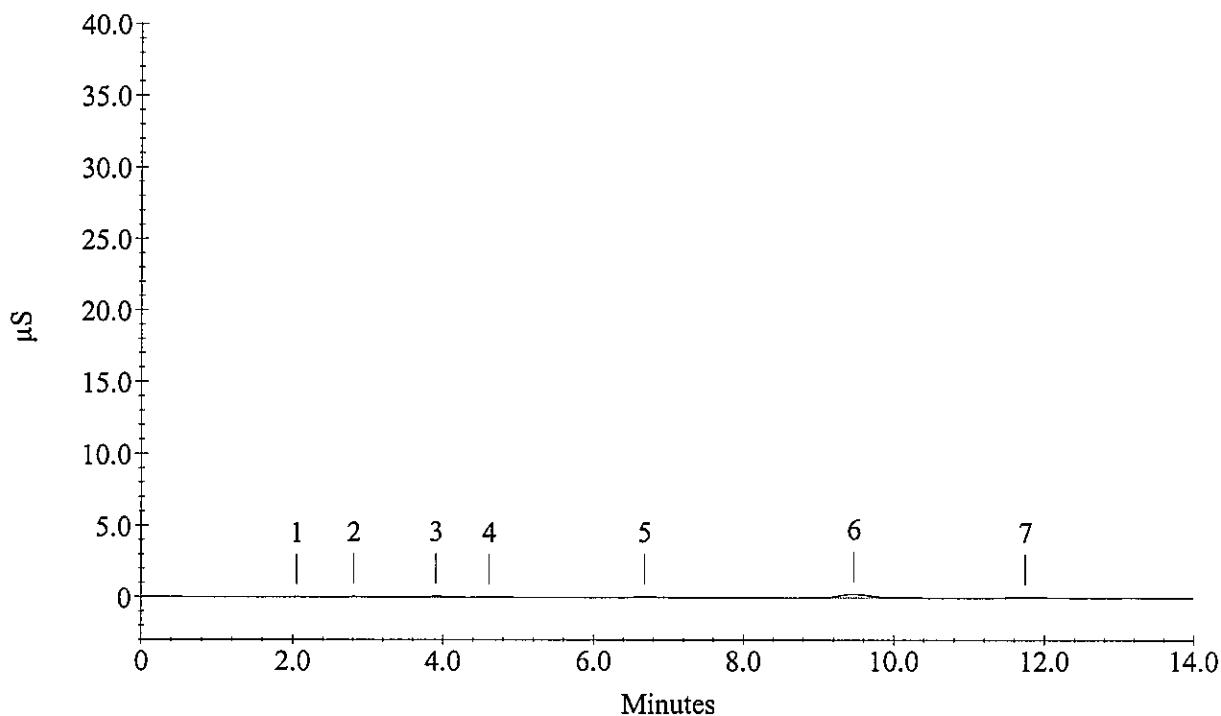
Sample Analysis Report

Sample Name : IC131213-1MB
Data File Name : c:\peaknet\data\131213ic1\131213_014.DXD

Method File Name : c:\peaknet\method\131211ic1.met
Date, Time Analyzed : 12/13/13 3:28:41 PM
System Operator : AJD
Calibration Updated : 12/12/13 11:43:10 AM

Current Date : 12/13/13
Current Time : 3:42:44 PM
Datafile Updated : 12/13/13 3:42:43 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.81	0.0		294
2	Chloride Nitrite as N Bromide	3.88	166.2	-	20103
3	Nitrate as N	6.59	66.9	-	2296
4	Orthophosphate as P Sulfate Nitrate/Nitrite as N	9.52	77.7	-	19770
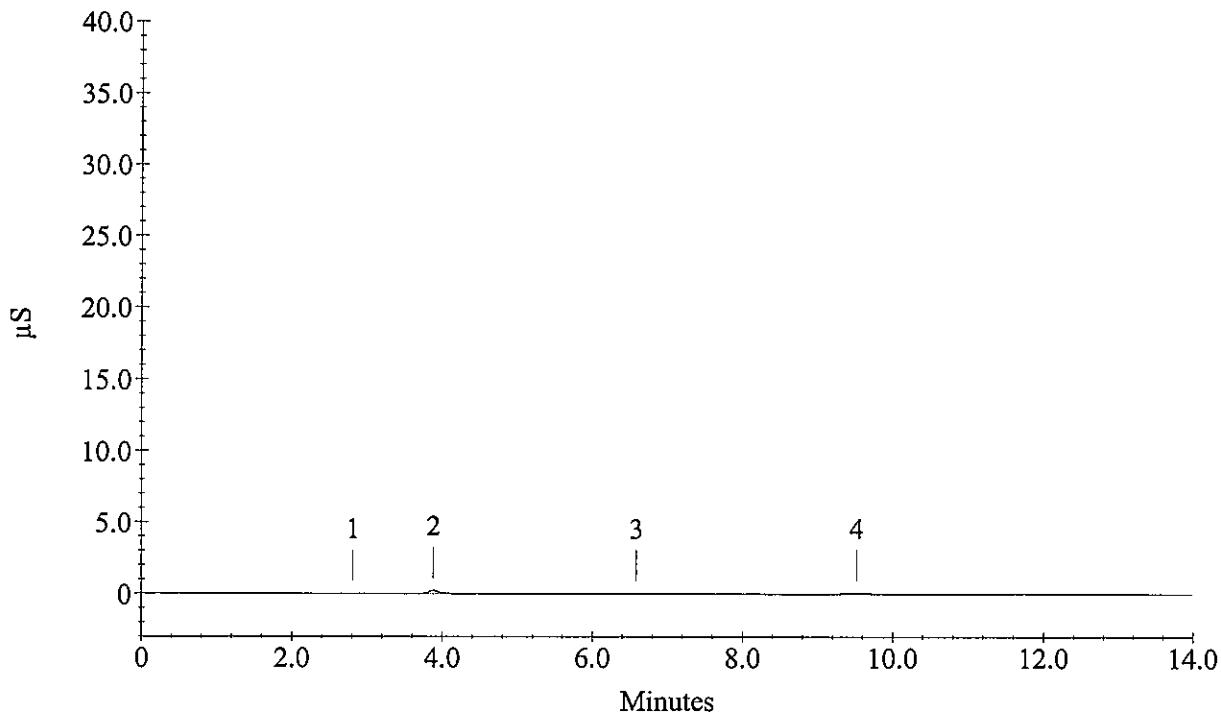
IC131213-1MB

Sample Analysis Report

Sample Name : CCV
Data File Name : c:\peaknet\data\131213ic1\131213_023.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 5:35:24 PM   Current Time : 5:49:27 PM
System Operator : AJD   Datafile Updated : 12/13/13 5:49:26 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	4963.0 ✓		971528
3	Chloride	3.89	10192.2 ✓		1482314
4	Nitrite as N	4.57	5012.1 ✓		1510818
5	Bromide	5.69	10073.0 ✓		544820
6	Nitrate as N	6.41	10131.1 ✓		3713342
7	Orthophosphate as P	9.39	10286.3 ✓		1279889
8	Sulfate Nitrate/Nitrite as N	11.63	49030.2 ✓		5638710

CCV
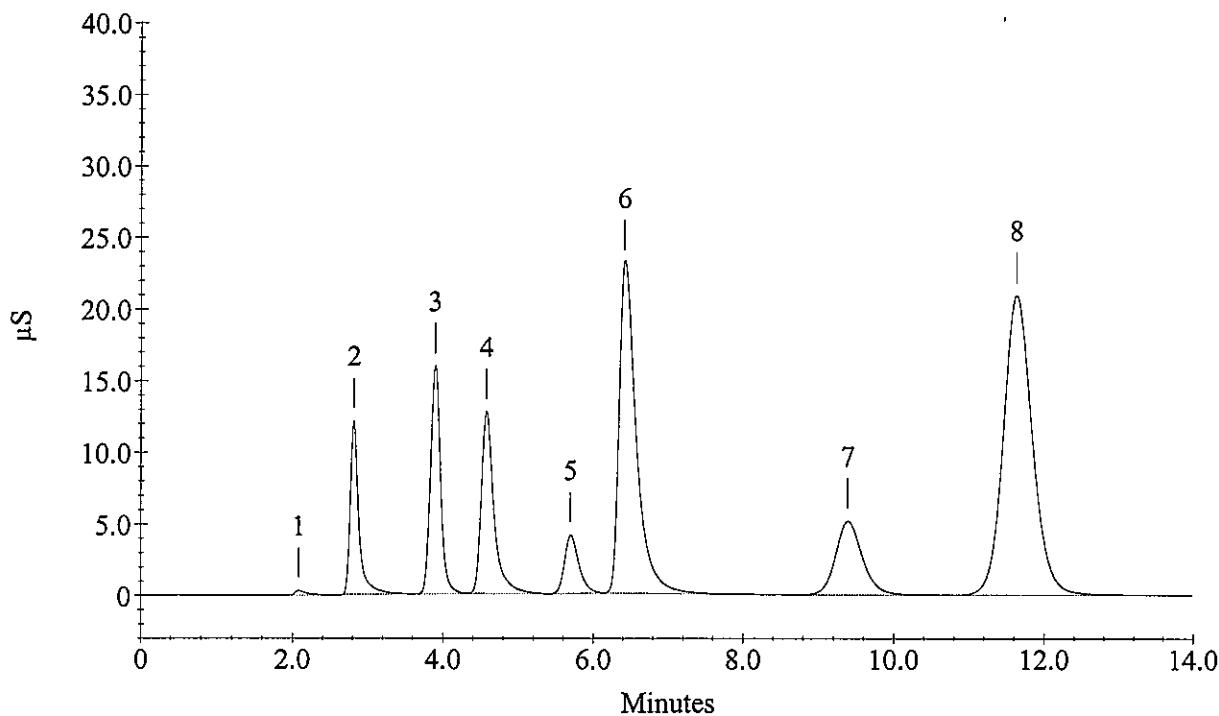
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\peaknet\data\131213ic1\131213_024.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 5:49:30 PM   Current Time : 6:03:32 PM
System Operator : AJD   Datafile Updated : 12/13/13 6:03:31 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.83	0.0		630
2	Chloride	3.89	117.3	-	13490
	Nitrite as N				
	Bromide				
3	Nitrate as N	6.63	67.7	-	2557
4	Orthophosphate as P	9.51	207.0	-	34876
	Sulfate				
	Nitrate/Nitrite as N				

CCB
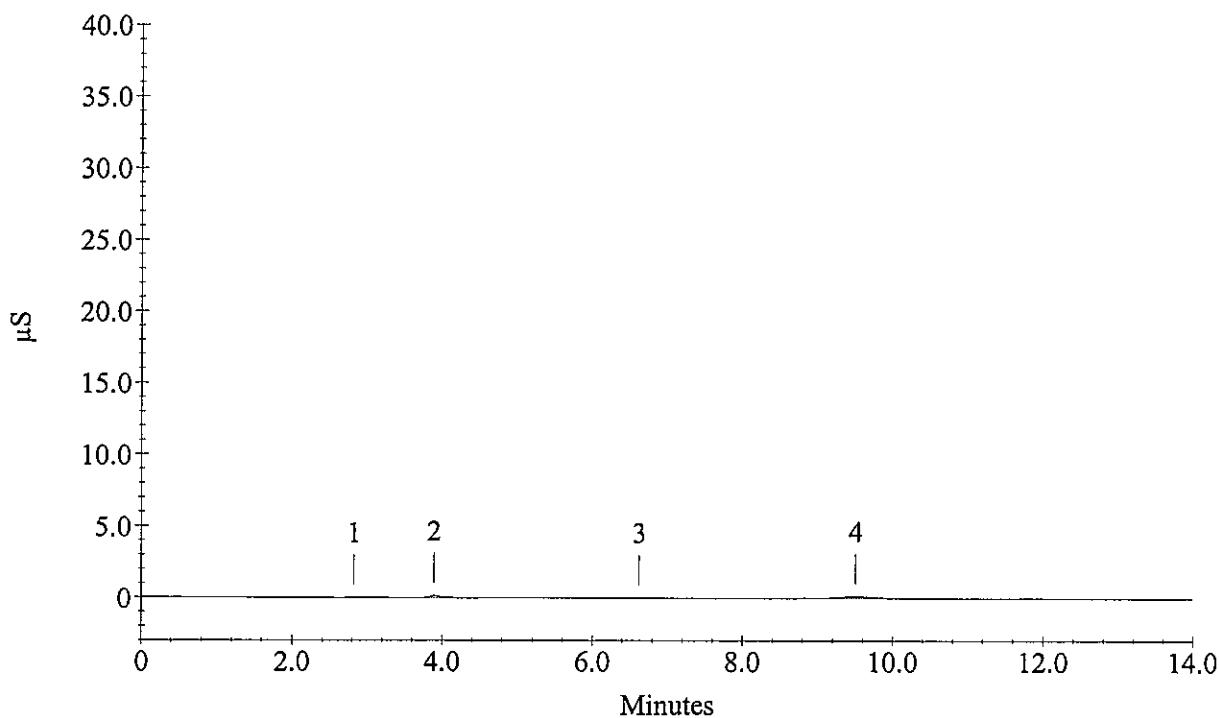
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\peaknet\data\131213ic1\131213_035.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 8:24:21 PM   Current Time : 8:38:24 PM
System Operator : AJD   Datafile Updated : 12/13/13 8:38:23 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	5035.0 ✓		986459
3	Chloride	3.91	10298.6 ✓		1499172
4	Nitrite as N	4.60	5034.1 ✓		1517816
5	Bromide	5.75	10139.2 ✓		548594
6	Nitrate as N	6.47	10229.3 ✓		3753256
7	Orthophosphate as P	9.39	10781.9 ✓		1345001
8	Sulfate	11.61	49339.6 ✓		5677725
	Nitrate/Nitrite as N				

CCV
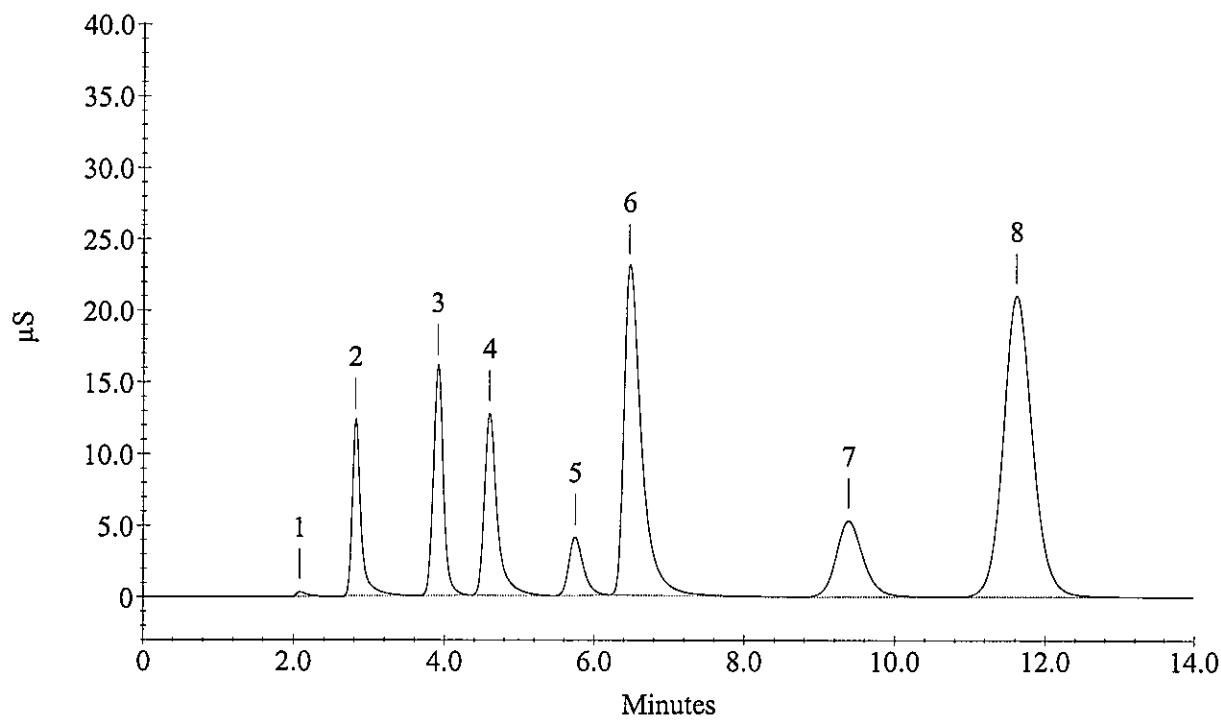
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\peaknet\data\131213ic1\131213_036.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 8:38:27 PM   Current Time : 8:52:28 PM
System Operator : AJD   Datafile Updated : 12/13/13 8:52:28 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.83	0.0		618
2	Chloride Nitrite as N Bromide Nitrate as N	3.91	101.9	-	11403
3	Orthophosphate as P Sulfate Nitrate/Nitrite as N	9.49	237.0	-	38382

CCB

Sample Analysis Report

Sample Name : 1312158-1
Data File Name : c:\peaknet\data\131213ic1\131213_037.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 8:52:30 PM   Current Time : 9:06:33 PM
System Operator : AJD   Datafile Updated : 12/13/13 9:06:32 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	5053.5		990307
	Chloride				
	Nitrite as N				
4	Bromide	5.81	913.6		46232
	Nitrate as N				
5	Orthophosphate as P	9.53	194.6	-	33428
6	Sulfate	11.73	423.9	-	15612
	Nitrate/Nitrite as N				
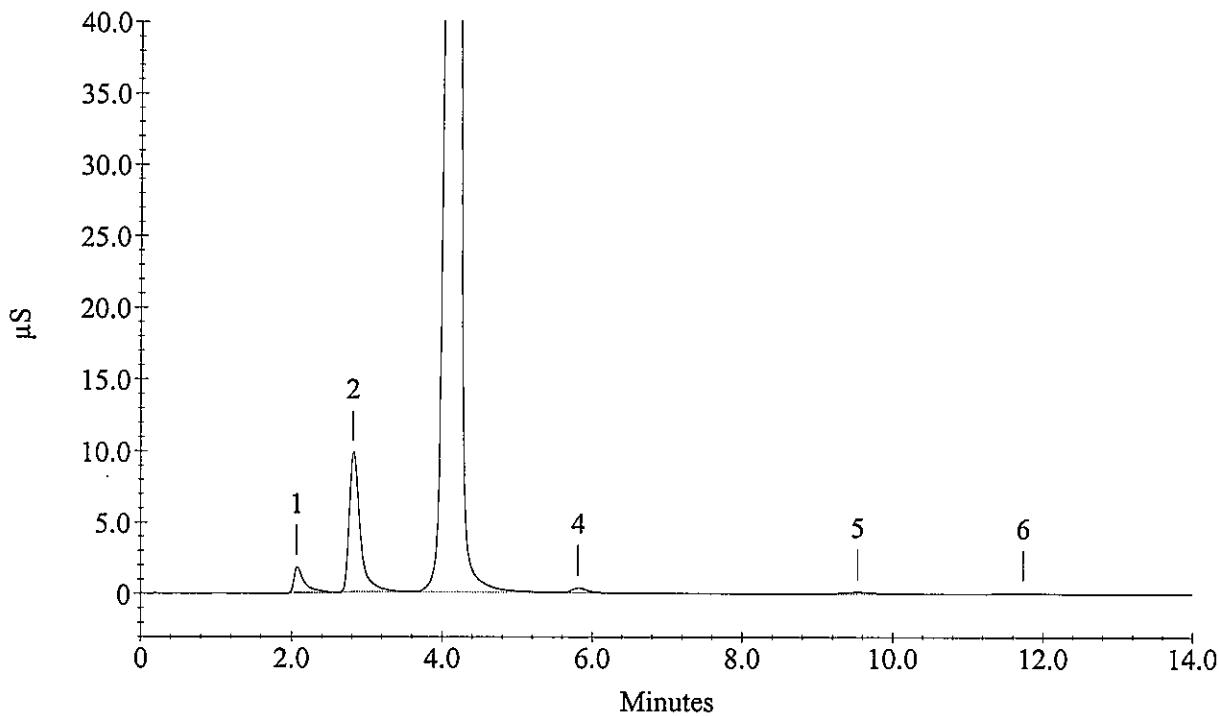
1312158-1

Sample Analysis Report

Sample Name : 1312158-1 10x
Data File Name : c:\peaknet\data\131213ic1\131213_038.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 9:06:35 PM   Current Time : 9:20:38 PM
System Operator : AJD   Datafile Updated : 12/13/13 9:20:37 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	482.8		85706
3	Chloride	3.93	9948.2		1443779
	Nitrite as N				
4	Bromide	5.77	96.9	-	3829
	Nitrate as N				
5	Orthophosphate as P	9.48	43.4	-	15770
	Sulfate				
	Nitrate/Nitrite as N				

1312158-1 10x
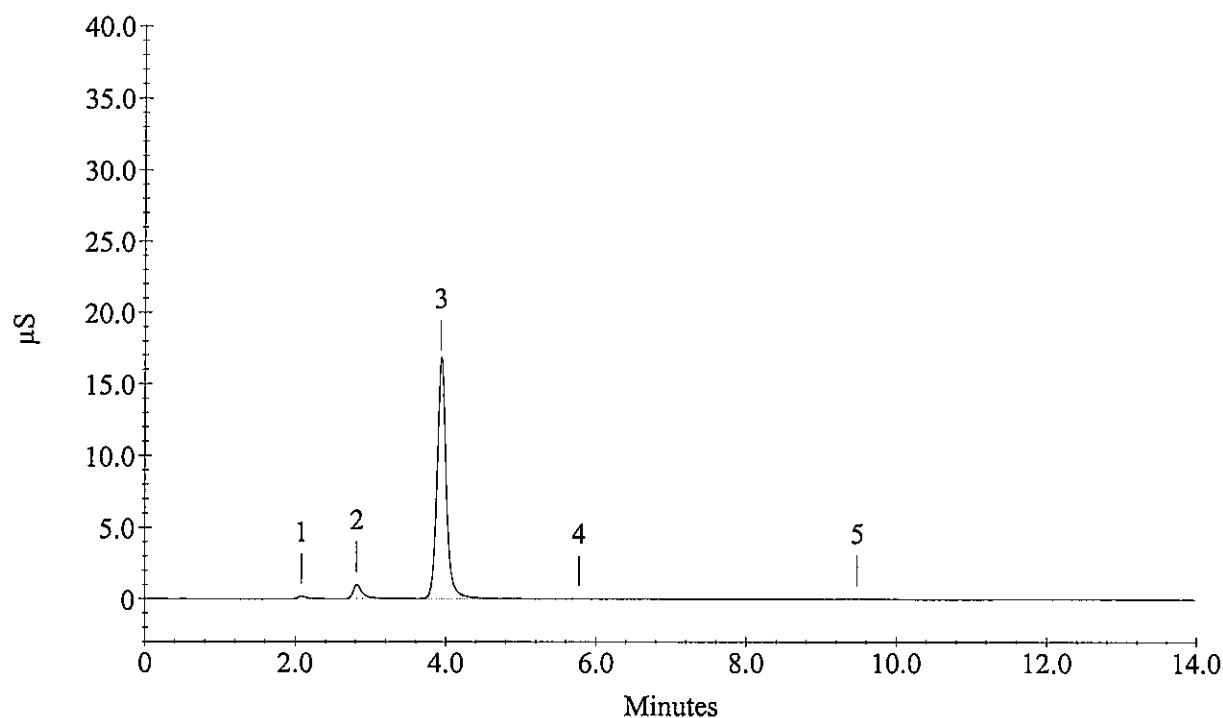
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\peaknet\data\131213ic1\131213_046.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 10:59:14 PM   Current Time : 11:13:17 PM
System Operator : AJD   Datafile Updated : 12/13/13 11:13:16 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	5093.3 ✓		998581
3	Chloride	3.91	10282.9 ✓		1496684
4	Nitrite as N	4.59	5052.6 ✓		1523719
5	Bromide	5.73	10143.4 ✓		548831
6	Nitrate as N	6.47	10205.2 ✓		3743445
7	Orthophosphate as P	9.37	10822.8 ✓		1350397
8	Sulfate	11.60	49445.1 ✓		5691044
	Nitrate/Nitrite as N				

CCV
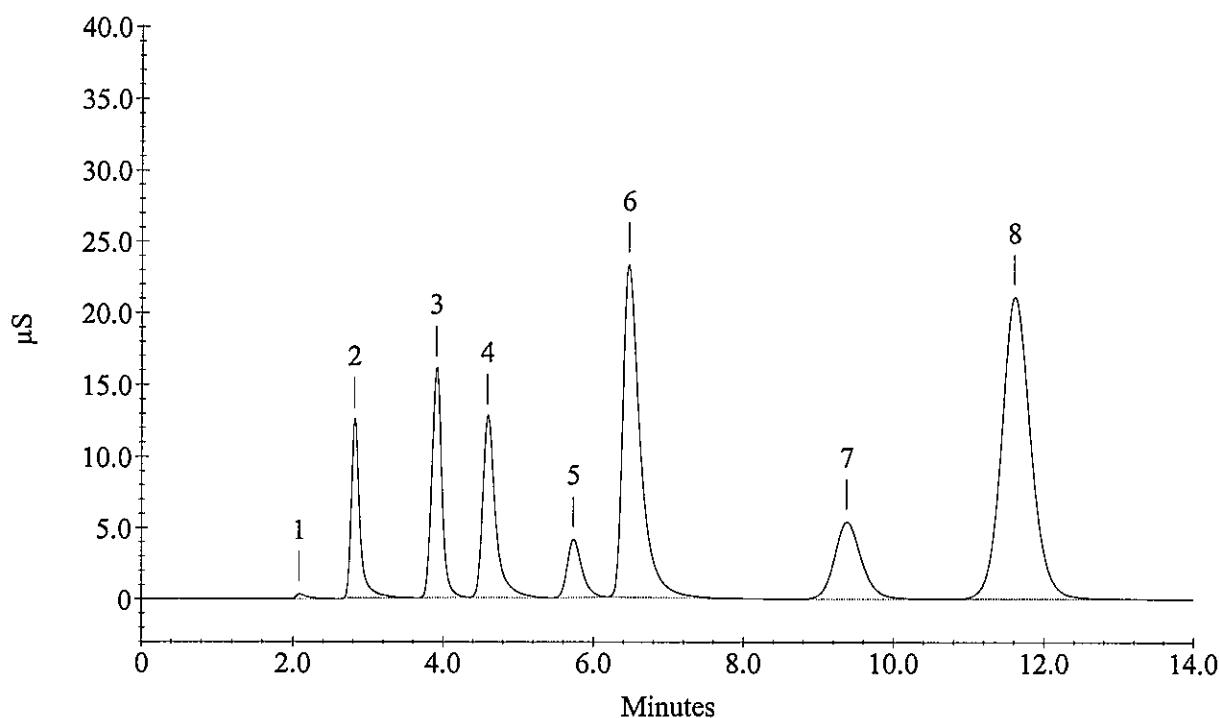
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\peaknet\data\131213ic1\131213_047.DXD

Method File Name : c:\peaknet\method\131211ic1.met	Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 11:13:20 PM	Current Time : 11:27:22 PM
System Operator : AJD	Datafile Updated : 12/13/13 11:27:21 PM
Calibration Updated : 12/12/13 11:43:10 AM	

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.81	34.5	-	1358
2	Chloride	3.89	160.3	-	19305
	Nitrite as N				
	Bromide				
3	Nitrate as N	6.65	65.0	-	1645
4	Orthophosphate as P	9.47	281.8	-	43620
	Sulfate				
	Nitrate/Nitrite as N				

CCB
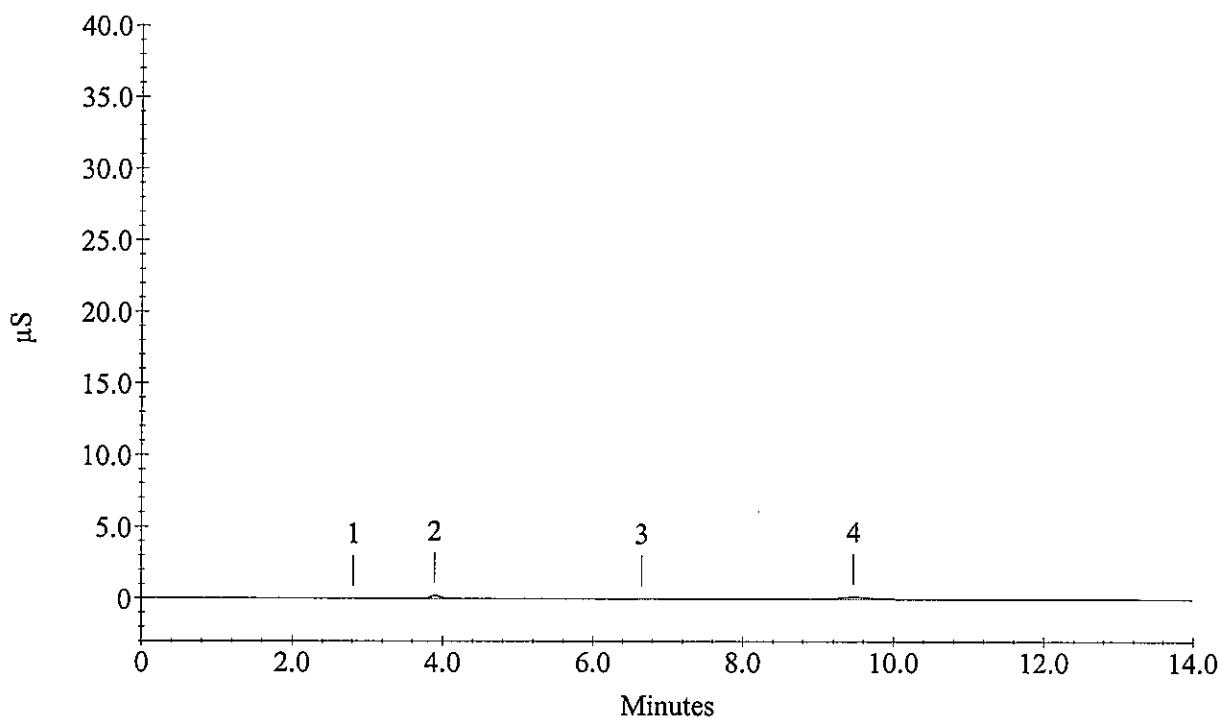
Sample Analysis Report

Sample Name : IC131213-1LCS
Data File Name : c:\peaknet\data\131213ic1\131213_048.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 11:27:24 PM   Current Time : 11:41:26 PM
System Operator : AJD   Datafile Updated : 12/13/13 11:41:25 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.81	2044.3		385239
3	Chloride	3.91	5122.2		714257
4	Nitrite as N	4.59	1920.1		558656
5	Bromide	5.73	5407.7		285310
6	Nitrate as N	6.49	5225.5		1818984
7	Orthophosphate as P	9.41	2330.9 Fail @ 116%		285833
8	Sulfate	11.64	19439.7		2107779
	Nitrate/Nitrite as N				

IC131213-1LCS

89 of 91
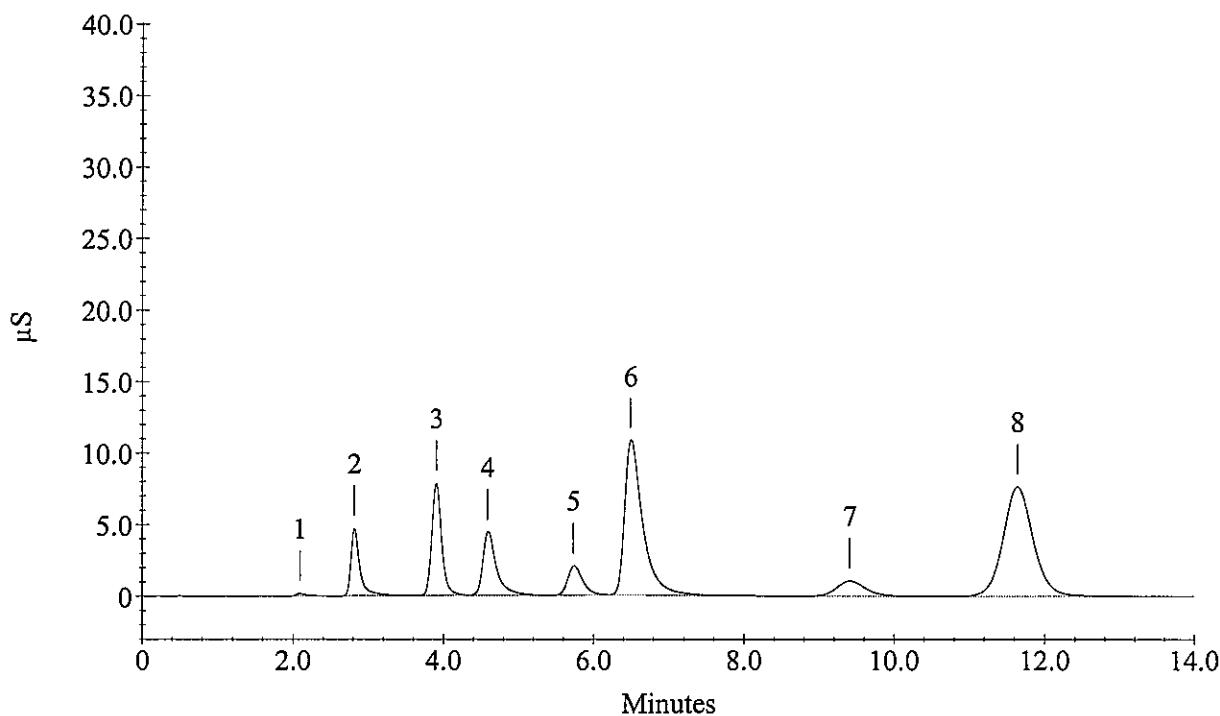
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\peaknet\data\131213ic1\131213_049.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/13/13
Date, Time Analyzed : 12/13/13 11:41:29 PM   Current Time : 11:55:31 PM
System Operator : AJD   Datafile Updated : 12/13/13 11:55:30 PM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
2	Fluoride	2.80	5087.4		997349
3	Chloride	3.89	10188.5		1481735
4	Nitrite as N	4.57	5022.6		1514147
5	Bromide	5.71	10103.2		546540
6	Nitrate as N	6.44	10151.1		3721484
7	Orthophosphate as P	9.35	10790.0		1346061
8	Sulfate	11.56	49172.1		5656595
	Nitrate/Nitrite as N				

CCV
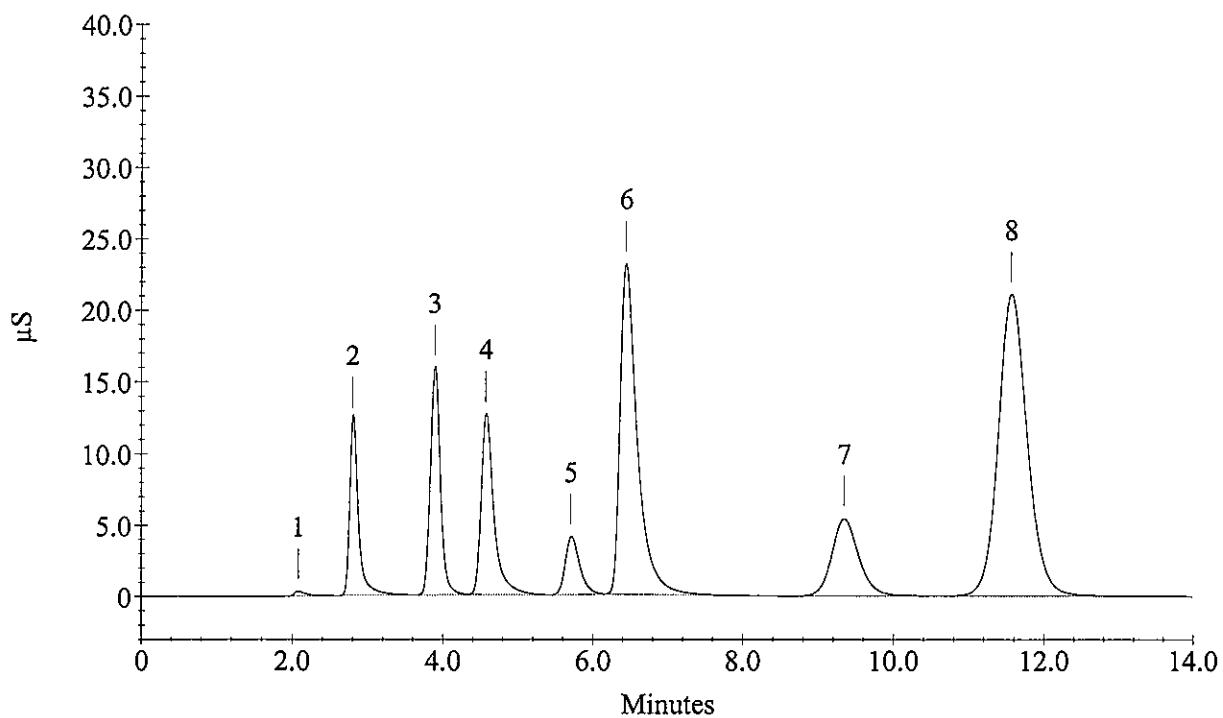
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\peaknet\data\131213ic1\131213_050.DXD

Method File Name : c:\peaknet\method\131211ic1.met   Current Date : 12/14/13
Date, Time Analyzed : 12/13/13 11:55:33 PM   Current Time : 12:09:36 AM
System Operator : AJD   Datafile Updated : 12/14/13 12:09:35 AM
Calibration Updated : 12/12/13 11:43:10 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.83	0.0		765
2	Chloride	3.88	128.4	-	14988
	Nitrite as N				
	Bromide				
3	Nitrate as N	6.72	63.7	-	1212
4	Orthophosphate as P	9.44	258.8	-	40935
5	Sulfate	11.73	298.8	-	2236
	Nitrate/Nitrite as N				

CCB