



Inorganics Case Narrative

Colorado Oil & Gas Conservation Commission Complaint 200323492

Work Order Number: 1110046

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS on 10/05/11.
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 following methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	310.1	1106 Rev 10
Bicarbonate	310.1	1106 Rev 10
Carbonate	310.1	1106 Rev 10
pH	150.1	1126 Rev 18
Specific conductance	120.1	1128 Rev 10
Sulfide	376.1	1120 Rev 7
TDS	160.1	1101 Rev 11
Bromide	300.0 Revision 2.1	1113 Rev 12
Chloride	300.0 Revision 2.1	1113 Rev 12
Fluoride	300.0 Revision 2.1	1113 Rev 12
Nitrate as N	300.0 Revision 2.1	1113 Rev 12
Nitrite as N	300.0 Revision 2.1	1113 Rev 12
Sulfate	300.0 Revision 2.1	1113 Rev 12

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.



- A preparation (method) blank and laboratory control sample (LCS) were prepared and analyzed with the samples in each applicable preparation batch. There were not more than 20 samples in each preparation batch.
- The method blank associated with each applicable batch was below the reporting limit for the requested analytes. This indicates that no contaminants were introduced to the samples during preparation and analysis.
- The LCS was within the acceptance limits for each applicable analysis.
- All initial and continuing calibration blanks (ICB/CCB) associated with each applicable analytical batch were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications (ICV/CCV) associated with each applicable analytical batch were within the acceptance criteria for the requested.

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

10. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in SOP 939 Revision 4. 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 Johnson
Megan Johnson
Inorganics Primary Data Reviewer

10/26/11
Date

CAR
Inorganics Final Data Reviewer

10/26/11
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: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

Client Project Name: Complaint 200323492

Client Project Number:

Client PO Number: PHA 12-10

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
705323 Dahl	1110046-1		WATER	04-Oct-11	12:31
705323 Dahl	1110046-2		WATER	04-Oct-11	12:31



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCCWorkorder No: 1110046Project Manager: ARWInitials: LAS Date: 10/5/11

1. Does this project require any special handling in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	<input checked="" type="radio"/> YES
4. Is there a COC (Chain-of-Custody) present or other representative documents?	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
5. Are the COC and bottle labels complete and legible?	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES
10. Is there sufficient sample for the requested analyses?	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
11. Were all samples placed in the proper containers for the requested analyses?	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
12. Are all samples within holding times for the requested analyses?	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
13. Were all sample containers received intact? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: <u> </u> < green pea <u> </u> > green pea	N/A	<input checked="" type="radio"/> YES
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	<input checked="" type="radio"/> YES
16. Were samples checked for and free from the presence of residual chlorine? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	<input checked="" type="radio"/> YES
17. Were the samples shipped on ice?	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
18. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: <input checked="" type="radio"/> #2 <input checked="" type="radio"/> #4	<input checked="" type="radio"/> YES
Cooler #: <u>1</u>		
Temperature (°C): <u>5.2</u>		
No. of custody seals on cooler: <u>1</u>		
External µR/hr reading: <u>13</u>		
Background µR/hr reading: <u>12</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input checked="" type="radio"/> 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: ARW 10/7/11

1110046

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

40 LBS

DWT: 25.13

2 OF 2

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 9337 6560

BILLING: P/P

Reference#1: EPA frac Study

US 13.6.08 WNTZ90 18.0A 07/2011

TM

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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: Complaint 200323492

Work Order Number: 1110046

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: WATER

Prep Method: NONE

Result Units: MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
705323 Dahl	1110046-1	10/04/2011	10/11/2011	10/11/2011	N/A	1	210	20		25 ml

Comments:

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

Data Package ID: *ak1110046-1*

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

LIMS Version: 6.537

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CARBONATE AS CaCO₃

Method EPA310.1

Sample Results

Lab Name: ALS Environmental -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200323492

Work Order Number: 1110046

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: WATER

Prep Method: NONE

Result Units: MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
705323 Dahl	1110046-1	10/04/2011	10/11/2011	10/11/2011	N/A	1	20	20	U	25 ml

Comments:

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

Data Package ID: *ak1110046-1*

Date Printed: Tuesday, October 25, 2011

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TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Environmental -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200323492

Work Order Number: 1110046

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: WATER

Prep Method: NONE

Result Units: MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
705323 Dahl	1110046-1	10/04/2011	10/11/2011	10/11/2011	N/A	1	220	20		25 ml

Comments:

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

Data Package ID: *ak1110046-1*

Date Printed: Tuesday, October 25, 2011

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pH

Method EPA150.1

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Field ID:	705323 Dahl
Lab ID:	1110046-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 04-Oct-11
Date Extracted: 07-Oct-11
Date Analyzed: 07-Oct-11
Prep Method: METHOD

Prep Batch: PH111007-1
QCBatchID: PH111007-1-1
Run ID: pH111007-1a
Cleanup: NONE
Basis: As Received
File Name:

Sample Aliquot: 20 ml
Final Volume: 20 ml
Result Units: pH
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-29-7	PH AnalysisTime: 15:00	1	8.47	0.1		

Data Package ID: *ph1110046-1*

Specific Conductance in Water

Method EPA120.1

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Field ID:	705323 Dahl
Lab ID:	1110046-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 04-Oct-11

Date Extracted: 07-Oct-11

Date Analyzed: 07-Oct-11

Prep Method: NONE

Prep Batch: SC111007-1

QCBatchID: SC111007-1-1

Run ID: sc111007-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 45 ml

Final Volume: 45 ml

Result Units: umhos/cm

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-34-4	SPECIFIC CONDUCTIVITY AnalysisTime: 13:45	1	544	1		

Data Package ID: sc1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Sulfide

Method EPA376.1

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Field ID:	705323 Dahl
Lab ID:	1110046-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 04-Oct-11

Date Extracted: 10-Oct-11

Date Analyzed: 10-Oct-11

Prep Method: NONE

Prep Batch: S111010-1

QCBatchID: S111010-1-1

Run ID: s111010-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 200 ml

Final Volume: 200 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
18496-25-8	SULFIDE	1	2	2	U	

Data Package ID: s1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Total Dissolved Solids

Method EPA160.1

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Field ID:	705323 Dahl
Lab ID:	1110046-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 04-Oct-11

Date Extracted: 07-Oct-11

Date Analyzed: 10-Oct-11

Prep Method: METHOD

Prep Batch: TD111007-1

QCBatchID: TD111007-1-1

Run ID: td111010-1a

Cleanup: NONE

Basis: As Received

File Name: Manual Entry

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	330	20		

Data Package ID: *td1110046-1*

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Field ID: 705323 Dahl

Lab ID: 1110046-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 04-Oct-11

Date Extracted: 05-Oct-11

Date Analyzed: 06-Oct-11

Prep Method: NONE

Prep Batch: IC111005-3

QCBatchID: IC111005-3-1

Run ID: IC111005-2A

Cleanup: NONE

Basis: As Received

File Name: 11005_104.DXD

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	MDL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	0.48	0.1	0.013		
16887-00-6	CHLORIDE	1	9.3	0.2	0.065		
14797-65-0	NITRITE AS N	1	0.1	0.1	0.0093	U	
24959-67-9	BROMIDE	1	0.052	0.2	0.021	J	
14797-55-8	NITRATE AS N	1	0.1	0.2	0.041	J	
14808-79-8	SULFATE	1	55	1	0.076		

Data Package ID: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Summary Report Forms

BICARBONATE AS CaCO₃

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: AK111011-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK111011-1

QCBatchID: AK111011-1-1

Run ID: ak111011-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
AK111011-1MB	10/11/2011	10/11/2011	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1110046-1*

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CARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: AK111011-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK111011-1

QCBatchID: AK111011-1-1

Run ID: ak111011-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
AK111011-1MB	10/11/2011	10/11/2011	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1110046-1*

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TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: AK111011-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK111011-1

QCBatchID: AK111011-1-1

Run ID: ak111011-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
AK111011-1MB	10/11/2011	10/11/2011	N/A	1	5	5	U

Comments:

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

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TOTAL ALKALINITY AS CaCO₃

Method EPA310.1

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: AK111011-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/11/2011

Date Analyzed: 10/11/2011

Prep Batch: AK111011-1

QCBatchID: AK111011-1-1

Run ID: ak111011-1a

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 CaCO ₃	100	101	5		101	85 - 115

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Prep Batch ID: AK111011-1

Start Date: 10/11/11

End Date: 10/11/11

Concentration Method: NONE

Batch Created By: JBM

Start Time: 12:15

End Time: 13:30

Extract Method: NONE

Date Created: 10/11/11

Prep Analyst: Jason McNall

Initial Volume Units: ml

Time Created: 12:17

Comments:

Final Volume Units: ml

Validated By: JBM

Date Validated: 10/11/11

Time Validated: 14:20

QC Batch ID: AK111011-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
AK111011-1	MB	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
AK111011-1	LCS	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110039-3	DUP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110017-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1110017
1110017-4	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1110017
1110017-5	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1110017
1110026-1	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-10	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-11	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-12	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-2	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-3	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-4	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-5	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-6	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-7	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-8	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110026-9	SMP	XXXXXX	WATER	XXXXXX	50	100	NONE	1	1110026
1110039-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1110039
1110039-2	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1110039
1110039-3	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110041-1	SMP	XXXXXX	WATER	XXXXXX	25	100	NONE	1	1110041
1110046-1	SMP	705323 Dahl	WATER	10/4/2011	25	100	NONE	1	1110046

Prep Batch ID: PH111007-1

Start Date: 10/07/11

End Date: 10/07/11

Concentration Method: NONE

Batch Created By: SAM

Start Time: 10:00

End Time: 15:00

Extract Method: METHOD

Date Created: 10/07/11

Prep Analyst: Jason McNall

Initial Volume Units: ml

Time Created: 10:06

Comments:

Final Volume Units: ml

Validated By: JBM

Date Validated: 10/10/11

Time Validated: 14:50

QC Batch ID: PH111007-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
1110041-1	DUP	XXXXXX	WATER	XXXXXX	20	20	NONE	1	1110041
1110041-1	SMP	XXXXXX	WATER	XXXXXX	20	20	NONE	1	1110041
1110046-1	SMP	705323 Dahl	WATER	10/4/2011	20	20	NONE	1	1110046
1110062-1	SMP	XXXXXX	WATER	XXXXXX	20	20	NONE	1	1110062

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 Standar	SMP	Field Sample
SYS	Sample Yield Spike		

PH
Method EPA150.1
Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Run ID: pH111007-1a

Result Units: pH

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	10/7/2011		7	6.96	0.1	N/A		6.95 - 7.05
CCV1	Continuing Calibration	10/7/2011		7	6.90	0.1	N/A		6.9 - 7.1

Data Package ID: *ph1110046-1*

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Prep Batch ID: SC111007-1

Start Date: 10/07/11

End Date: 10/07/11

Concentration Method: NONE

Batch Created By: SAM

Start Time: 10:00

End Time: 13:45

Extract Method: NONE

Date Created: 10/07/11

Prep Analyst: Stacy A. Martin

Initial Volume Units: ml

Time Created: 10:20

Comments:

Final Volume Units: ml

Validated By: SAM

Date Validated: 10/07/11

Time Validated: 14:36

QC Batch ID: SC111007-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
1110041-1	DUP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110041
1110041-1	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110041
1110046-1	SMP	705323 Dahl	WATER	10/4/2011	45	45	NONE	1	1110046
1110049-1	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110049
1110049-3	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110049
1110049-4	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110049
1110049-5	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110049
1110049-6	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110049
1110049-9	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110049
1110062-1	SMP	XXXXXX	WATER	XXXXXX	45	45	NONE	1	1110062

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 Standar	SMP	Field Sample
SYS	Sample Yield Spike		

SPECIFIC CONDUCTIVITY

Method EPA120.1

Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Run ID: sc111007-1a

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	10/7/2011		718	724	1	N/A	101	646.2 - 789.7
CCV1	Continuing Calibration	10/7/2011		1410	1400	1	N/A	99	1271.7 - 1554.3

Data Package ID: sc1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

LIMS Version: 6.537

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Sulfide

Method EPA376.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: S111010-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10-Oct-11

Date Analyzed: 10-Oct-11

Prep Method: NONE

Prep Batch: S111010-1

QCBatchID: S111010-1-1

Run ID: s111010-1a

Cleanup: NONE

Basis: N/A

File Name:

Sample Aliquot: 200 ml

Final Volume: 200 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
18496-25-8	SULFIDE	1	2	2	U	

Data Package ID: s1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Sulfide

Method EPA376.1

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: S111010-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/10/2011

Date Analyzed: 10/10/2011

Prep Method: NONE

Prep Batch: S111010-1

QCBatchID: S111010-1-1

Run ID: s111010-1a

Cleanup: NONE

Basis: N/A

File Name:

Sample Aliquot: 200 ml

Final Volume: 200 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
18496-25-8	SULFIDE	8.61	8.92	2		104	80 - 120%

Data Package ID: s1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Prep Batch ID: S111010-1

Start Date: 10/10/11

End Date: 10/10/11

Concentration Method: NONE

Batch Created By: JBM

Start Time: 8:30

End Time: 10:00

Extract Method: NONE

Date Created: 10/10/11

Prep Analyst: Jason McNall

Initial Volume Units: ml

Time Created: 8:20

Comments:

Final Volume Units: ml

Validated By: JBM

Date Validated: 10/11/11

Time Validated: 11:16

QC Batch ID: S111010-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
S111010-1	MB	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110079
S111010-1	LCS	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110079
1110017-1	DUP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110017
1110062-1	DUP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110062
1110079-1	DUP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110079
1110017-1	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110017
1110040-1	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110040
1110040-3	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110040
1110046-1	SMP	705323 Dahl	WATER	10/4/2011	200	200	NONE	1	1110046
1110060-1	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110060
1110060-3	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110060
1110062-1	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110062
1110079-1	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110079
1110082-1	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110082
1110098-5	SMP	XXXXXX	WATER	XXXXXX	200	200	NONE	1	1110098

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 Standar	SMP	Field Sample
SYS	Sample Yield Spike		

Total Dissolved Solids

Method EPA160.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: TD111007-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07-Oct-11

Date Analyzed: 10-Oct-11

Prep Method: METHOD

Prep Batch: TD111007-1

QCBatchID: TD111007-1-1

Run ID: td111010-1a

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	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	20	20	U	

Data Package ID: *td1110046-1*

Total Dissolved Solids

Method EPA160.1

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: TD111007-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/07/2011

Date Analyzed: 10/10/2011

Prep Method: METHOD

Prep Batch: TD111007-1

QCBatchID: TD111007-1-1

Run ID: td111010-1a

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	367	20		92	85 - 115%

Data Package ID: *td1110046-1*

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ALS Environmental -- FC

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Prep Batch ID: TD111007-1

Start Date: 10/07/11

End Date: 10/07/11

Concentration Method: NONE

Batch Created By: JBM

Start Time: 13:00

End Time: 14:00

Extract Method: METHOD

Date Created: 10/07/11

Prep Analyst: Stacy A. Martin

Initial Volume Units: ml

Time Created: 13:59

Comments:

Final Volume Units: ml

Validated By: SAM

Date Validated: 10/07/11

Time Validated: 14:25

QC Batch ID: TD111007-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
TD111007-1	MB	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
TD111007-1	LCS	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110039-3	DUP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110049-9	DUP	XXXXXX	WATER	XXXXXX	10	10	NONE	1	1110049
1110017-1	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110017
1110017-4	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110017
1110017-5	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1110017
1110039-1	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110039-2	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110039-3	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110039
1110041-1	SMP	XXXXXX	WATER	XXXXXX	100	100	NONE	1	1110041
1110046-1	SMP	705323 Dahl	WATER	10/4/2011	100	100	NONE	1	1110046
1110049-9	SMP	XXXXXX	WATER	XXXXXX	10	10	NONE	1	1110049
1110062-1	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1110062
1110066-1	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1110066

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 Standar	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: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: IC111005-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05-Oct-11

Date Analyzed: 05-Oct-11

Prep Batch: IC111005-3

QCBatchID: IC111005-3-1

Run ID: IC111005-2A

Cleanup: NONE

Basis: N/A

File Name: 11005_072.DXD

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	MDL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	0.1	0.1	0.013	U	
16887-00-6	CHLORIDE	1	0.2	0.2	0.065	U	
14797-65-0	NITRITE AS N	1	0.1	0.1	0.0093	U	
24959-67-9	BROMIDE	1	0.2	0.2	0.021	U	
14797-55-8	NITRATE AS N	1	0.2	0.2	0.041	U	
14808-79-8	SULFATE	1	0.3	1	0.076	J	

Data Package ID: ic1110046-1

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Ion Chromatography

Method EPA300.0 Revision 2.1

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: IC111005-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/05/2011

Date Analyzed: 10/05/2011

Prep Method: NONE

Prep Batch: IC111005-3

QCBatchID: IC111005-3-1

Run ID: IC111005-2A

Cleanup: NONE

Basis: N/A

File Name: 11005_073.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	2.5	2.46	0.1		98	90 - 110%
16887-00-6	CHLORIDE	5	4.87	0.2		97	90 - 110%
14797-65-0	NITRITE AS N	2	1.97	0.1		98	90 - 110%
24959-67-9	BROMIDE	5	5.07	0.2		101	90 - 110%
14797-55-8	NITRATE AS N	5	4.92	0.2		98	90 - 110%
14808-79-8	SULFATE	25	24.5	1		98	90 - 110%

Data Package ID: *ic1110046-1*

Date Printed: Tuesday, October 25, 2011

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Prep Batch ID: IC111005-3

Start Date: 10/05/11

End Date: 10/05/11

Concentration Method: NONE

Batch Created By: EAL

Start Time: 10:00

End Time: 11:00

Extract Method: NONE

Date Created: 10/05/11

Prep Analyst: Eric Allen Lintner

Initial Volume Units: ml

Time Created: 13:22

Comments:

Final Volume Units: ml

Validated By: EAL

Date Validated: 10/10/11

Time Validated: 10:52

QC Batch ID: IC111005-3-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IC111005-3	MB	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110039
IC111005-3	LCS	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110039
1110040-1	MS	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110040
1110040-1	MSD	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110040
1110035-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110035
1110035-4	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110035
1110035-5	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110035
1110035-7	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110035
1110040-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110040
1110040-3	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110040
1110041-1	SMP	XXXXXX	WATER	XXXXXX	5	5	NONE	1	1110041
1110046-1	SMP	705323 Dahl	WATER	10/4/2011	5	5	NONE	1	1110046

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 Standar	SMP	Field Sample
SYS	Sample Yield Spike		

Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: ICV

QC Type: Initial Calibration

File Name: 10817_007.DXD

Run ID: IC111005-2A

Date Analyzed: 09/21/2011

Time Analyzed: 13:33

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	2.5	2.46	0.1		99	90 - 110%
16887-00-6	CHLORIDE	5	4.91	0.2		98	90 - 110%
14797-65-0	NITRITE AS N	2	2.02	0.1		101	90 - 110%
24959-67-9	BROMIDE	5	5.11	0.2		102	90 - 110%
14797-55-8	NITRATE AS N	5	4.94	0.2		99	90 - 110%
14808-79-8	SULFATE	25	24.6	1		99	90 - 110%

Data Package ID: *ic1110046-1*

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV1

QC Type: Continuing Calibration

File Name: 11005_009.DXD

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 11:30

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	5.07	0.1		101	90 - 110%
16887-00-6	CHLORIDE	10	10.4	0.2		104	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	10.3	0.2		103	90 - 110%
14808-79-8	SULFATE	50	51.3	1		103	90 - 110%

Data Package ID: *ic1110046-1*

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV2

QC Type: Continuing Calibration

File Name: 11005_021.DXD

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 13:42

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.99	0.1		100	90 - 110%
16887-00-6	CHLORIDE	10	10.0	0.2		100	90 - 110%
14797-65-0	NITRITE AS N	5	5.02	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		102	90 - 110%
14808-79-8	SULFATE	50	50.8	1		102	90 - 110%

Data Package ID: *ic1110046-1*

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV3

QC Type: Continuing Calibration

File Name: 11005_033.DXD

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 15:55

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	5.00	0.1		100	90 - 110%
16887-00-6	CHLORIDE	10	10.0	0.2		100	90 - 110%
14797-65-0	NITRITE AS N	5	5.01	0.1		100	90 - 110%
24959-67-9	BROMIDE	10	9.99	0.2		100	90 - 110%
14797-55-8	NITRATE AS N	10	10.1	0.2		101	90 - 110%
14808-79-8	SULFATE	50	50.7	1		101	90 - 110%

Data Package ID: *ic1110046-1*

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV4

QC Type: Continuing Calibration

File Name: 11005_045.DXD

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 18:07

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.88	0.1		98	90 - 110%
16887-00-6	CHLORIDE	10	9.82	0.2		98	90 - 110%
14797-65-0	NITRITE AS N	5	4.96	0.1		99	90 - 110%
24959-67-9	BROMIDE	10	9.76	0.2		98	90 - 110%
14797-55-8	NITRATE AS N	10	9.88	0.2		99	90 - 110%
14808-79-8	SULFATE	50	49.4	1		99	90 - 110%

Data Package ID: *ic1110046-1*

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV5

QC Type: Continuing Calibration

File Name: 11005_057.DXD

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 20:20

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	9.80	0.2		98	90 - 110%
14797-65-0	NITRITE AS N	5	4.86	0.1		97	90 - 110%
24959-67-9	BROMIDE	10	9.73	0.2		97	90 - 110%
14797-55-8	NITRATE AS N	10	9.89	0.2		99	90 - 110%
14808-79-8	SULFATE	50	49.3	1		99	90 - 110%

Data Package ID: *ic1110046-1*

Date Printed: Tuesday, October 25, 2011

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV6

QC Type: Continuing Calibration

File Name: 11005_069.DXD

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 22:32

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.86	0.1		97	90 - 110%
16887-00-6	CHLORIDE	10	9.86	0.2		99	90 - 110%
14797-65-0	NITRITE AS N	5	4.92	0.1		98	90 - 110%
24959-67-9	BROMIDE	10	9.79	0.2		98	90 - 110%
14797-55-8	NITRATE AS N	10	9.96	0.2		100	90 - 110%
14808-79-8	SULFATE	50	49.7	1		99	90 - 110%

Data Package ID: *ic1110046-1*

Date Printed: Tuesday, October 25, 2011

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV7

QC Type: Continuing Calibration

File Name: 11005_081.DXD

Run ID: IC111005-2A

Date Analyzed: 10/06/2011

Time Analyzed: 0:45

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.90	0.1		98	90 - 110%
16887-00-6	CHLORIDE	10	9.87	0.2		99	90 - 110%
14797-65-0	NITRITE AS N	5	4.92	0.1		99	90 - 110%
24959-67-9	BROMIDE	10	9.81	0.2		98	90 - 110%
14797-55-8	NITRATE AS N	10	9.94	0.2		99	90 - 110%
14808-79-8	SULFATE	50	49.8	1		100	90 - 110%

Data Package ID: *ic1110046-1*

Date Printed: Tuesday, October 25, 2011

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Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV8

QC Type: Continuing Calibration

File Name: 11005_093.DXD

Run ID: IC111005-2A

Date Analyzed: 10/06/2011

Time Analyzed: 2:57

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	4.92	0.1		98	90 - 110%
16887-00-6	CHLORIDE	10	9.87	0.2		99	90 - 110%
14797-65-0	NITRITE AS N	5	4.92	0.1		98	90 - 110%
24959-67-9	BROMIDE	10	9.82	0.2		98	90 - 110%
14797-55-8	NITRATE AS N	10	9.96	0.2		100	90 - 110%
14808-79-8	SULFATE	50	49.8	1		100	90 - 110%

Data Package ID: *ic1110046-1*

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0 Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCV9

QC Type: Continuing Calibration

File Name: 11005_105.DXD

Run ID: IC111005-2A

Date Analyzed: 10/06/2011

Time Analyzed: 5:10

Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
16984-48-8	FLUORIDE	5	5.00	0.1		100	90 - 110%
16887-00-6	CHLORIDE	10	10.1	0.2		101	90 - 110%
14797-65-0	NITRITE AS N	5	5.01	0.1		100	90 - 110%
24959-67-9	BROMIDE	10	10.0	0.2		100	90 - 110%
14797-55-8	NITRATE AS N	10	10.2	0.2		102	90 - 110%
14808-79-8	SULFATE	50	50.8	1		102	90 - 110%

Data Package ID: *ic1110046-1*

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: ICB

QC Type: Initial Calibration

Run ID: IC111005-2A

Date Analyzed: 09/21/2011

Time Analyzed: 1:44:24 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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB1

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 11:41:14 AM

Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
16984-48-8	FLUORIDE	0.0311	0.1	J
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	0.321	1	J

Data Package ID: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB2

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 1:53:46 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	0.0827	0.2	J
14808-79-8	SULFATE	1	1	U

Data Package ID: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

LIMS Version: 6.537

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Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB3

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 4:06:20 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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB4

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 6:18:56 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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB5

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 8:31:26 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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB6

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/05/2011

Time Analyzed: 10:43:56 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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB7

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/06/2011

Time Analyzed: 12:56:26 AM

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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB8

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/06/2011

Time Analyzed: 3:08:56 AM

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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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LIMS Version: 6.537

Ion Chromatography

Method EPA300.0

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1110046

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200323492

Lab ID: CCB9

QC Type: Continuing Calibration

Run ID: IC111005-2A

Date Analyzed: 10/06/2011

Time Analyzed: 5:21:27 AM

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: ic1110046-1

Date Printed: Tuesday, October 25, 2011

ALS Environmental -- FC

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Raw Data

Alkalinity Raw Data Worksheet

Anal Run ID AK111011-1A

Anal Start Date 10/11/2011

2.10/11/11

Standardization Ref ID AlkalinityCAL111011-1

Standardization Of Alkalinity

Rep Num	THAM Conc	Aliq Titrated (mL)	vol to pH 4.5(mL)	HCl Conc(N)	Conc Units
1	0.2	1	9.83	0.0203459	N
2	0.2	1	9.87	0.0202634	N
3	0.2	1	9.88	0.0202429	N

Avg HCl Conc
0.02028407

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)	HCO ₃ (mg/L as CaCO ₃)	CO ₃ (mg/L as CaCO ₃)	OH (mg/L as CaCO ₃)	Total Alk (mg/L as CaCO ₃)	Expected	% Rec	vol to LL pH(mL)
1	<input type="checkbox"/>	0	AK111011-1	MB	1	100	0	0.21	0.21	2.129828	0	0	2.129828			NA
2	<input type="checkbox"/>	0	AK111011-1	LCS	1	100	4.69	5.3	9.99	6.186639	95.13231	0	101.3189			NA
3	<input type="checkbox"/>	0	1110026-1	SMP	1	50	0	4.1	4.1	83.1647	0	0	83.1647			NA
4	<input type="checkbox"/>	0	1110026-2	SMP	1	50	0	4.2	4.2	85.19311	0	0	85.19311			NA
5	<input type="checkbox"/>	0	1110026-3	SMP	1	50	0	4.09	4.09	82.96187	0	0	82.96187			NA
6	<input type="checkbox"/>	0	1110026-4	SMP	1	50	0.66	3.94	4.6	66.53175	26.77498	0	93.30673			NA
7	<input type="checkbox"/>	0	1110026-5	SMP	1	50	0.54	4.04	4.58	70.99426	21.9068	0	92.90105			NA
8	<input type="checkbox"/>	0	1110026-6	SMP	1	50	0.61	3.93	4.54	67.34312	24.74657	0	92.08969			NA
9	<input type="checkbox"/>	0	1110026-7	SMP	1	50	0	4.09	4.09	82.96187	0	0	82.96187			NA
10	<input type="checkbox"/>	0	1110026-8	SMP	1	50	0	4.07	4.07	82.55618	0	0	82.55618			NA
11	<input type="checkbox"/>	0	1110026-9	SMP	1	50	0	4.05	4.05	82.15051	0	0	82.15051			NA
12	<input type="checkbox"/>	0	1110026-10	SMP	1	50	0	4.03	4.03	81.74482	0	0	81.74482			NA
13	<input type="checkbox"/>	0	1110026-11	SMP	1	50	0	3.89	3.89	78.90504	0	0	78.90504			NA
14	<input type="checkbox"/>	0	1110026-12	SMP	1	50	0	3.87	3.87	78.49936	0	0	78.49936			NA
15	<input type="checkbox"/>	0	1110017-1	SMP	1	25	0	3.52	3.52	142.7999	0	0	142.7999			NA
16	<input type="checkbox"/>	0	1110017-4	SMP	1	25	0.08	12.3	12.38	495.7428	6.490903	0	502.2337			NA
17	<input type="checkbox"/>	0	1110017-5	SMP	1	25	0.33	20.68	21.01	825.5618	26.77498	0	852.3368			NA
18	<input type="checkbox"/>	0	1110039-1	SMP	1	25	0.24	7.87	8.11	309.5349	19.47271	0	329.0077			NA
19	<input type="checkbox"/>	0	1110039-2	SMP	1	25	0	8.45	8.45	342.8008	0	0	342.8008			NA
20	<input type="checkbox"/>	0	1110039-3	SMP	1	100	0	3.88	3.88	39.3511	0	0	39.3511			NA
21	<input type="checkbox"/>	0	1110039-3 DMP SMP	SMP	1	100	0	3.88	3.88	39.3511	0	0	39.3511			NA
22	<input type="checkbox"/>	0	1110041-1 MGY	SMP	1	25	0.05	11.96	12.01	483.1666	4.056815	0	487.2234			NA
23	<input type="checkbox"/>	0	1110046-1 10/12/11 SMP	SMP	1	25	0.05	5.27	5.32	211.7657	4.056815	0	215.8225			NA

Comments: PREPPED AND ANALYZED 10/11/2011 1215-1330 (JBM)

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 RG110916-2
 Phenolphthalein Indicator RG110923-1
 Bromocresol Green Indicator RG111005-4
 0.20 N Std. THAM ST101202-2
 0.20 N NaCO₃ (ICV, LCS, CCV's - 1.0 mL) ST101202-3

pH Calculations and Quality Control Results

2/10/10/11

Prep & Analysis Date: 10/7/2011
Prep & Analysis Time: 1000-1500
Analyst: JBM

Reagent List:

4.00: ST110920-1
7.00 (CCV): ST110902-5
10.00: ST110920-2
7.00 (ICV): ST110913-2

ID	Temp. (°C)	Method	sample vol (g)	sample vol (mL)	pH Value	QC Acceptance Range (pH units)
pH 4.00	25.2	NA	NA	NA	4.00	+/- 0.05
pH 7.00	25.2	NA	NA	NA	7.00	
pH 10.00	25.2	NA	NA	NA	10.00	
ICV - pH 7.00	25.2	NA	NA	NA	6.96	
1110041-1	25.2	EPA150.1	NA	20.0	8.39	
1110041-1DUP	25.2	EPA150.1	NA	20.0	8.38	+/- 0.10
1110046-1	25.2	EPA150.1	NA	20.0	8.47	
1110049-1	25.2	SM4500-H	NA	20.0	6.36	
1110049-3	25.2	SM4500-H	NA	20.0	7.08	
1110049-4	25.2	SM4500-H	NA	20.0	6.34	
1110049-5	25.2	SM4500-H	NA	20.0	6.58	
1110049-6	25.2	SM4500-H	NA	20.0	6.50	
1110049-9	25.2	SM4500-H	NA	20.0	7.04	
1110062-1	25.2	EPA150.1	NA	20.0	7.53	
CCV- pH 7.00	25.2	NA	NA	NA	6.90	
1110017-1	25.2	EPA150.1	NA	20.0	7.93	
1110017-4	25.2	EPA150.1	NA	20.0	8.39	
1110017-5	25.2	EPA150.1	NA	20.0	8.50	
1110044-3	25.2	EPA150.1	NA	20.0	6.92	
1110045-3	25.2	EPA150.1	NA	20.0	5.19	
1110066-1	25.2	EPA150.1	NA	20.0	7.58	
1110039-1	25.2	SW9040	NA	20.0	8.22	+/- 0.10
1110039-2	25.2	SW9040	NA	20.0	7.73	
1110039-3	25.2	SW9040	NA	20.0	7.66	
1110039-3DUP	25.2	SW9040	NA	20.0	7.55	
CCV- pH 7.00	25.2	NA	NA	NA	6.74	

*= DO NOT USE, CCV OOC., RERUN ON 10/10/2011

DUPLICATE SUMMARY (Aq)

ID	native pH Value	duplic pH Value	difference of native - dup	accept. limit
1110041-1	8.39	8.38	0.01	0.2 pH units
1110039-3	7.66	7.55	0.11	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

JBM
10/10/11

Specific Conductivity Calculations & Quality Control Results

2/10/11

Prep & Analysis Date: 10/07/2011
Prep & Analysis Time: 1000-1345
Analyst: SAM, JBM

ID	sample vol (mL)	Temp. °C	Conductivity Reading (umhos/cm)	% Recovery	recovery limit
Calibration Standard (*)	NA	25.2	1413		
ICV-2nd Source (**)	NA	25.2	724		
1110041-1	45	25.2	1090	101	646.2 - 789.8
1110041-1DUP	45	25.2	1070		
1110046-1	45	25.2	544		
1110049-1	45	25.2	0		
1110049-3	45	25.2	10100		
1110049-4	45	25.2	0		
1110049-5	45	25.2	11700		
1110049-6	45	25.2	11600		
1110049-9	45	25.2	5600		
1110062-1	45	25.2	1210		
CCV-1 (*)	NA	25.2	1400	99	1271.7 - 1554.3

DUPLICATE SUMMARY

ID	native Spec. Cond. Value	duplic Spec. Cond. Value	RPD %	RPD accept. limit
1110041-1	1090	1070	2'	0-10%

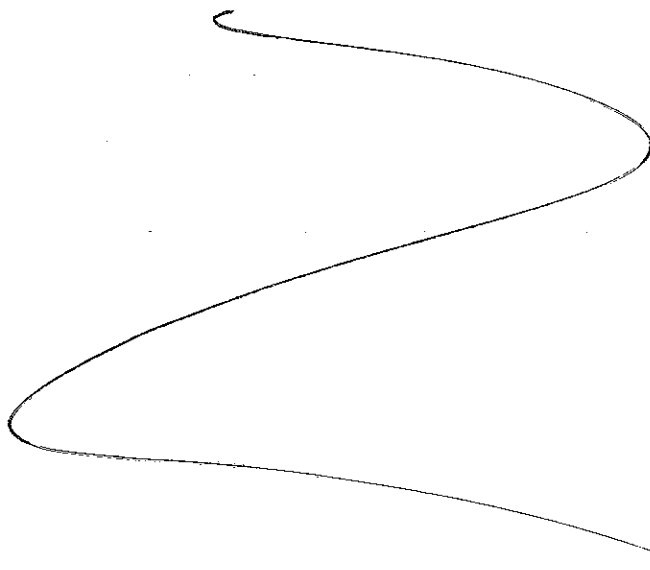
Specific Conductivity - EPA Method 120.1/9050A/SM2510B - SOP 1128

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] (*):
ST110811-2
0.005 M KCl Solution [718umhos/cm] (**):
ST110811-3

JBM

10/7/11



Sulfide in Water Calculations

Prep and Analysis Date: 10/10/2011
Prep and Analysis Time: 0830-1000
Analyst: JBM

$$F = \text{sulfide (mg/L)} = (B \cdot C \cdot D \cdot E) \cdot 16 \cdot 1000 / A$$

$$G = DL = 2 \cdot 200 / A$$

10/10/11

sample ID:	A sample aliquot titrated mL	B conc std I2 meq/mL	C vol std I2 mL	D thiosulf conc (meq/mL)	E thiosulf vol (mL)	F sulfide conc mg/L	G Detection Limit mg/L
S111010-1MB	200	0.0216	2.74	0.02063	2.76	0.18	2
S111010-1LCS	200	0.0216	7.77	0.02063	2.74	8.92	2
1110017-1	200	0.0216	5.43	0.02063	5.53	0.26	2
1110017-1DUP	200	0.0216	3.62	0.02063	3.61	0.30	2
1110046-1	200	0.0216	3.23	0.02063	3.37	0.02	2
1110062-1	200	0.0216	3.55	0.02063	2.48	2.05	2
1110079-1	200	0.0216	5.32	0.02063	2.57	4.96	2
1110098-5	200	0.0216	4.41	0.02063	4.68	-0.10	2
1110040-1	200	0.0216	4.21	0.02063	4.54	-0.21	2
1110040-3	200	0.0216	3.81	0.02063	3.84	-0.09	2
1110060-1	200	0.0216	3.56	0.02063	3.85	-0.20	2
1110060-3	200	0.0216	3.21	0.02063	3.47	-0.18	2
1110082-1	200	0.0216	3.17	0.02063	3.35	-0.05	2
1110062-1DUP	200	0.0216	7.53	0.02063	6.68	2.00	2
1110079-1DUP	200	0.0216	7.69	0.02063	5.03	5.00	2

Concentration of Sodium Thiosulfate =

0.02063

Standardization of Iodine solution:

Iodine vol titrated (mL)	thiosulf vol (mL)	thiosulf conc (meq/mL)	calc Iodine conc (meq/mL)
2.65	2.75	0.02063	0.0214
2.64	2.79	0.02063	0.0218
2.84	2.98	0.02063	0.0216
mean =			0.0216

Reagent List:

Sulfide Spike Solution:

ST101110-2

6 N HCl:

RG110915-5

Sodium Thiosulfate Solution:

RG110606-5

Iodine (I2) Solution:

RG110913-3

Starch Indicator:

RG110405-1

Standardization of sulfide spike

S std vol titrated (mL)	Iodine vol titrated (mL)	Iodine conc (meq/mL)	thiosulf vol (mL)	calc S std conc (meq/mL)	std conc (mg/L)
0.25	9.64	0.0216	4.89	0.4301	6882
0.25	9.04	0.0216	4.28	0.4286	6857
0.25	8.99	0.0216	4.17	0.4333	6933
mean =					6891

Sulfide Quality Control Results

Prep and Analysis Date: 10/10/2011

BLANK SUMMARY

	blank S conc (mg/L)	blank reporting limit (mg/L)
S111010-1MB	0.2	2.0

LCS (BLANK SPIKE) SUMMARY

	vol spike S std added (mL)	spike added S conc (mg/L)	S conc found (mg/L)	recovery %	recovery accept limit
S111010-1LCS	0.25	8.613	8.916	104	80-120 %

DUPLICATE SUMMARY

	sample conc (mg/L)	duplic conc (mg/L)	RPD %	RPD accept. limit
1110017-1	ND	ND	NA	0-20%
1110082-1	2.05	2.00	2	0-20%
1110079-1	4.96	5.00	1	0-20%

ND = Not Detected

NA = Not Applicable

Sulfide Method 376.1 / SOP 1120

10/10/11

TDS Raw Data Worksheet

Anal Run ID TD111010-1A

Anal Start Date 10/10/2011 *Sm 10/10/2011*

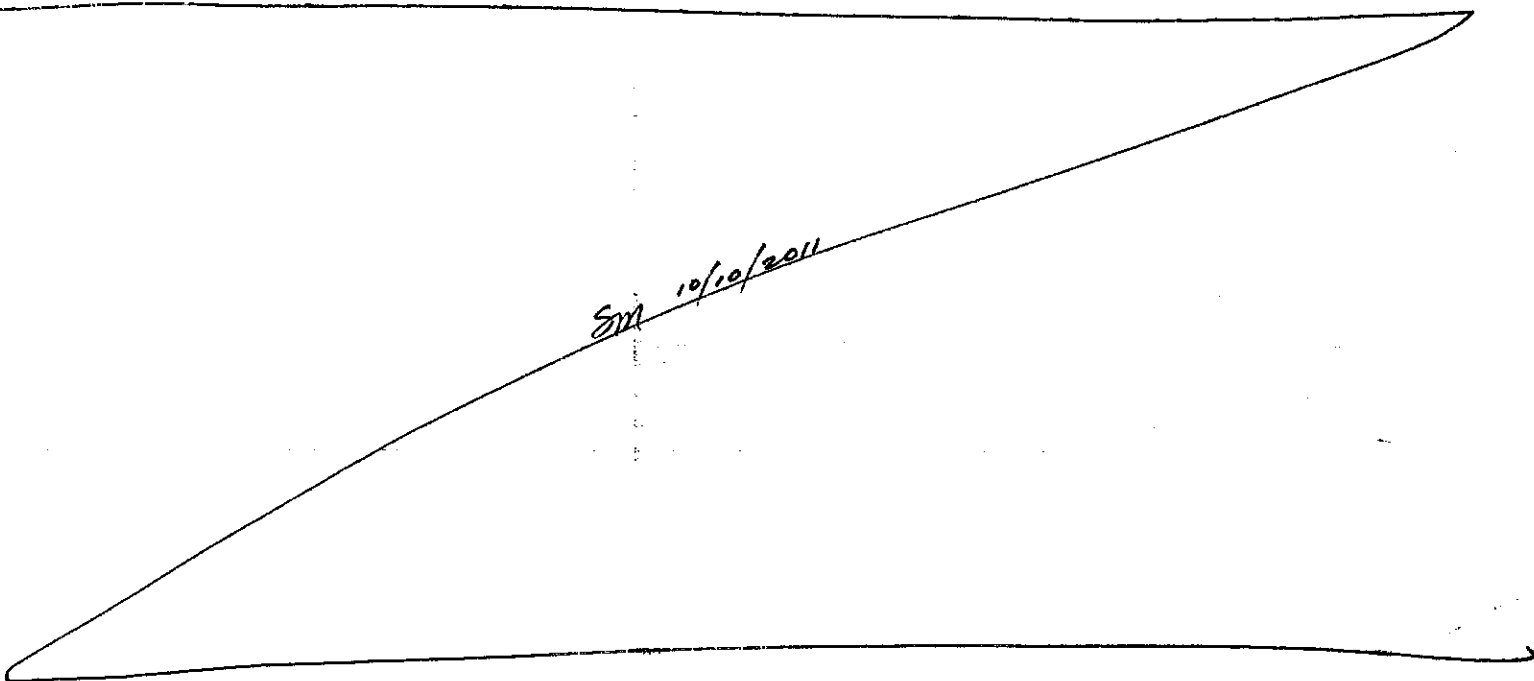
C 10/10/11

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)	gross A vs gross B (+/- 0.5mg)	% mass loss (<= 4%)	calculated conc (mg/L)	DL (mg/L)
1	<input type="checkbox"/>	0	TD111007-1	MB	100	79.1755	79.1753	-0.2	79.1748	-0.7	0.5	NA	-7	20
2	<input type="checkbox"/>	0	TD111007-1	LCS	100	76.5579	76.595	37.1	76.5946	36.7	0.4	1.08%	367	20
3	<input type="checkbox"/>	0	1110017-1	SMP	100	78.9762	79.0206	44.4	79.0203	44.1	0.3	0.68%	441	20
4	<input type="checkbox"/>	0	1110017-4	SMP	100	77.0153	77.0784	63.1	77.0781	62.8	0.3	0.48%	628	20
5	<input type="checkbox"/>	0	1110017-5	SMP	50	76.8029	76.8579	55	76.8577	54.8	0.2	0.36%	1096	40
6	<input type="checkbox"/>	0	1110039-1	SMP	100	74.8014	74.8774	76	74.8766	75.2	0.8	1.06%	752	20
7	<input type="checkbox"/>	0	1110039-2	SMP	100	78.791	78.8381	47.1	78.8379	46.9	0.2	0.43%	469	20
8	<input type="checkbox"/>	0	1110039-3	SMP	100	78.6723	78.6788	6.5	78.6786	6.3	0.2	3.13%	63	20
9	<input type="checkbox"/>	0	1110039-3	DUP	100	78.409	78.4156	6.6	78.4153	6.3	0.3	4.65%	63	20
10	<input type="checkbox"/>	0	1110041-1	SMP	100	75.8991	75.9627	63.6	75.9626	63.5	0.1	0.16%	635	20
11	<input type="checkbox"/>	0	1110046-1	SMP	100	78.2751	78.308	32.9	78.3077	32.6	0.3	0.92%	326	20
12	<input type="checkbox"/>	0	1110062-1	SMP	50	78.2028	78.2438	41	78.2433	40.5	0.5	1.23%	810	40
13	<input type="checkbox"/>	0	1110066-1	SMP	50	78.0619	78.1353	73.4	78.1335	71.6	1.8	2.48%	1432	40
14	<input type="checkbox"/>	0	1110049-1	SMP	100	77.7666	77.7679	1.3	77.7674	0.8	0.5	NA	8	20
15	<input type="checkbox"/>	0	1110049-3	SMP	10	21.6362	21.7427	106.5	21.7419	105.7	0.8	0.75%	10570	200
16	<input type="checkbox"/>	0	1110049-4	SMP	100	78.2312	78.2316	0.4	78.2311	-0.1	0.5	NA	-1	20
17	<input type="checkbox"/>	0	1110049-5	SMP	10	21.5694	21.7171	147.7	21.716	146.6	1.1	0.75%	14660	200
18	<input type="checkbox"/>	0	1110049-6	SMP	10	21.6292	21.7742	145	21.7731	143.9	1.1	0.76%	14390	200
19	<input type="checkbox"/>	0	1110049-9	SMP	10	21.4145	21.4691	54.6	21.4681	53.6	1	1.85%	5360	200
20	<input type="checkbox"/>	0	1110049-9	DUP	10	21.4857	21.5393	53.6	21.5389	53.2	0.4	0.75%	5320	200

Comments: PREPPED 10/07/2011 1300-1400 (SAM)
ANALYZED 10/10/2011 1130-1430 (SAM)

Standards, Batch QC, and Matrix Spike Information				
ID	Parent ID	Parent Conc	Parent Vol.	Final Vol.
LCS	ST110315-2	40000	1	100

Reagent List:	
TDS Spike Solution: 40.0 mg NaCl/mL	ST110315-2 <i>Sm 10/10/2011</i>



Line	Sample	Sample Type	Level	Method	Data File	Comment
1	5X STD	Calibration	1	110921.met	110817_001.dxd	
2	10X STD	Calibration	2	110921.met	110817_002.dxd	
3	25X STD	Calibration	3	110921.met	110817_003.dxd	
4	100X STD	Calibration	4	110921.met	110817_004.dxd	
5	1000X STD	Calibration	5	110921.met	110817_005.dxd	
6	0 STD	Calibration	6	110921.met	110817_006.dxd	
7	ICV	Sample		110921.met	110817_007.dxd	ICV
8	ICB	Sample		110921.met	110817_008.dxd	ICB
9	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_009.dxd	CCV1
10	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_010.dxd	CCB
11	1109239-6 20X	Sample		110921.met	c:\peaknet\data\111005\111005_011.dxd	CL,SO4-9056
12	IC111005-1MB	Sample		110921.met	c:\peaknet\data\111005\111005_012.dxd	WATER
13	IC111005-1LCS	Sample		110921.met	c:\peaknet\data\111005\111005_013.dxd	WATER
14	IC111005-2MB	Sample		110921.met	c:\peaknet\data\111005\111005_014.dxd	WATER
15	IC111005-2LCS	Sample		110921.met	c:\peaknet\data\111005\111005_015.dxd	WATER
16	1109239-41 2X	Sample		110921.met	c:\peaknet\data\111005\111005_016.dxd	CL,SO4-9056
17	1109239-41MS 2X	Sample		110921.met	c:\peaknet\data\111005\111005_017.dxd	CL,SO4-9056
18	1109239-41MSD 2X	Sample		110921.met	c:\peaknet\data\111005\111005_018.dxd	CL,SO4-9056
19	1109239-42 2X	Sample		110921.met	c:\peaknet\data\111005\111005_019.dxd	CL,SO4-9056
20	1109239-43 2X	Sample		110921.met	c:\peaknet\data\111005\111005_020.dxd	CL,SO4-9056
21	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_021.dxd	CCV2
22	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_022.dxd	CCB
23	1109239-44 2X	Sample		110921.met	c:\peaknet\data\111005\111005_023.dxd	CL,SO4-9056
24	1109239-45 2X	Sample		110921.met	c:\peaknet\data\111005\111005_024.dxd	CL,SO4-9056
25	1109239-46 2X	Sample		110921.met	c:\peaknet\data\111005\111005_025.dxd	CL,SO4-9056
26	1109239-47 2X	Sample		110921.met	c:\peaknet\data\111005\111005_026.dxd	CL,SO4-9056
27	1109239-48 2X	Sample		110921.met	c:\peaknet\data\111005\111005_027.dxd	CL,SO4-9056
28	1109239-49 200X	Sample		110921.met	c:\peaknet\data\111005\111005_028.dxd	CL,SO4-9056
29	1109239-50 50X	Sample		110921.met	c:\peaknet\data\111005\111005_029.dxd	CL,SO4-9056
30	1109239-51 100X	Sample		110921.met	c:\peaknet\data\111005\111005_030.dxd	CL,SO4-9056
31	1109239-52 200X	Sample		110921.met	c:\peaknet\data\111005\111005_031.dxd	CL,SO4-9056
32	1109239-53 200X	Sample		110921.met	c:\peaknet\data\111005\111005_032.dxd	CL,SO4-9056
33	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_033.dxd	CCV3
34	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_034.dxd	CCB
35	1109239-54 20X	Sample		110921.met	c:\peaknet\data\111005\111005_035.dxd	CL,SO4-9056
36	1109239-55 200X	Sample		110921.met	c:\peaknet\data\111005\111005_036.dxd	CL,SO4-9056
37	1109239-56 200X	Sample		110921.met	c:\peaknet\data\111005\111005_037.dxd	CL,SO4-9056
38	1109239-57 200X	Sample		110921.met	c:\peaknet\data\111005\111005_038.dxd	CL,SO4-9056
39	1109239-58 100X	Sample		110921.met	c:\peaknet\data\111005\111005_039.dxd	CL,SO4-9056
40	1109239-59 200X	Sample		110921.met	c:\peaknet\data\111005\111005_040.dxd	CL,SO4-9056
41	1109239-60 200X	Sample		110921.met	c:\peaknet\data\111005\111005_041.dxd	CL,SO4-9056
42	1109239-60MS 200X	Sample		110921.met	c:\peaknet\data\111005\111005_042.dxd	CL,SO4-9056
43	1109239-61 2X	Sample		110921.met	c:\peaknet\data\111005\111005_043.dxd	CL,SO4-9056
44	1109239-61MS 2X	Sample		110921.met	c:\peaknet\data\111005\111005_044.dxd	CL,SO4-9056
45	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_045.dxd	CCV4
46	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_046.dxd	CCB
47	1109239-61MSD 2X	Sample		110921.met	c:\peaknet\data\111005\111005_047.dxd	CL,SO4-9056
48	1109239-62 200X	Sample		110921.met	c:\peaknet\data\111005\111005_048.dxd	CL,SO4-9056
49	1109239-63 200X	Sample		110921.met	c:\peaknet\data\111005\111005_049.dxd	CL,SO4-9056
50	1109239-64 5X	Sample		110921.met	c:\peaknet\data\111005\111005_050.dxd	CL,SO4-9056
51	1109239-65 5X	Sample		110921.met	c:\peaknet\data\111005\111005_051.dxd	CL,SO4-9056
52	1109239-66 100X	Sample		110921.met	c:\peaknet\data\111005\111005_052.dxd	CL,SO4-9056
53	1109239-67 20X	Sample		110921.met	c:\peaknet\data\111005\111005_053.dxd	CL,SO4-9056
54	1109239-68 50X	Sample		110921.met	c:\peaknet\data\111005\111005_054.dxd	CL,SO4-9056
55	1109239-69 50X	Sample		110921.met	c:\peaknet\data\111005\111005_055.dxd	CL,SO4-9056
56	1109239-70 50X	Sample		110921.met	c:\peaknet\data\111005\111005_056.dxd	CL,SO4-9056
57	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_057.dxd	CCV5
58	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_058.dxd	CCB
59	1109239-71 200X	Sample		110921.met	c:\peaknet\data\111005\111005_059.dxd	CL,SO4-9056
60	1109239-72 100X	Sample		110921.met	c:\peaknet\data\111005\111005_060.dxd	CL,SO4-9056
61	1109239-73 2X	Sample		110921.met	c:\peaknet\data\111005\111005_061.dxd	CL,SO4-9056
62	1109239-74 50X	Sample		110921.met	c:\peaknet\data\111005\111005_062.dxd	CL,SO4-9056
63	1109239-75 2X	Sample		110921.met	c:\peaknet\data\111005\111005_063.dxd	CL,SO4-9056
64	1109239-76 2X	Sample		110921.met	c:\peaknet\data\111005\111005_064.dxd	CL,SO4-9056
65	1109239-77 5X	Sample		110921.met	c:\peaknet\data\111005\111005_065.dxd	CL,SO4-9056
66	1109239-78 5X	Sample		110921.met	c:\peaknet\data\111005\111005_066.dxd	CL,SO4-9056
67	1109239-79 100X	Sample		110921.met	c:\peaknet\data\111005\111005_067.dxd	CL,SO4-9056
68	1109239-80 200X	Sample		110921.met	c:\peaknet\data\111005\111005_068.dxd	CL,SO4-9056
69	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_069.dxd	CCV6
70	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_070.dxd	CCB
71	1109239-80MS 200X	Sample		110921.met	c:\peaknet\data\111005\111005_071.dxd	CL,SO4-9056
72	IC111005-3MB	Sample		110921.met	c:\peaknet\data\111005\111005_072.dxd	WATER
73	IC111005-3LCS	Sample		110921.met	c:\peaknet\data\111005\111005_073.dxd	WATER
74	1109239-81 200X	Sample		110921.met	c:\peaknet\data\111005\111005_074.dxd	CL,SO4-9056
75	1109239-81MS 200X	Sample		110921.met	c:\peaknet\data\111005\111005_075.dxd	CL,SO4-9056
76	1109239-81MSD 200X	Sample		110921.met	c:\peaknet\data\111005\111005_076.dxd	CL,SO4-9056
77	1109239-82	Sample		110921.met	c:\peaknet\data\111005\111005_077.dxd	CL,SO4-9056
78	1110035-1	Sample		110921.met	c:\peaknet\data\111005\111005_078.dxd	F,CL,BR,SO4-300.0
79	1110035-4	Sample		110921.met	c:\peaknet\data\111005\111005_079.dxd	F,CL,BR,SO4-300.0
80	1110035-5	Sample		110921.met	c:\peaknet\data\111005\111005_080.dxd	F,CL,BR,SO4-300.0
81	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_081.dxd	CCV7
82	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_082.dxd	CCB
83	1110035-7	Sample		110921.met	c:\peaknet\data\111005\111005_083.dxd	F,CL,BR,SO4-300.0
84	1110035-1 5X	Sample		110921.met	c:\peaknet\data\111005\111005_084.dxd	F,CL,BR,SO4-300.0
85	1110035-4 5X	Sample		110921.met	c:\peaknet\data\111005\111005_085.dxd	F,CL,BR,SO4-300.0
86	1110035-5 20X	Sample		110921.met	c:\peaknet\data\111005\111005_086.dxd	F,CL,BR,SO4-300.0
87	1110035-7 5X	Sample		110921.met	c:\peaknet\data\111005\111005_087.dxd	F,CL,BR,SO4-300.0
88	1110039-1	Sample		110921.met	c:\peaknet\data\111005\111005_088.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0

Line	Sample	Sample Type	Level	Method	Data File	Comment
89	1110039-2	Sample		110921.met	c:\peaknet\data\111005\111005_089.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
90	1110039-3	Sample		110921.met	c:\peaknet\data\111005\111005_090.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
91	1110039-3MS	Sample		110921.met	c:\peaknet\data\111005\111005_091.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
92	1110039-3MSD	Sample		110921.met	c:\peaknet\data\111005\111005_092.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
93	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_093.dxd	CCV8
94	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_094.dxd	CCB
95	1110039-1 10X	Sample		110921.met	c:\peaknet\data\111005\111005_095.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
96	1110039-2 5X	Sample		110921.met	c:\peaknet\data\111005\111005_096.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
97	1110040-1 10X	Sample		110921.met	c:\peaknet\data\111005\111005_097.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
98	1110040-3 5X	Sample		110921.met	c:\peaknet\data\111005\111005_098.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
99	1110040-1MS 10X	Sample		110921.met	c:\peaknet\data\111005\111005_099.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
100	1110040-1MSD 10X	Sample		110921.met	c:\peaknet\data\111005\111005_100.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
101	1110040-1 200X	Sample		110921.met	c:\peaknet\data\111005\111005_101.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
102	1110040-3 100X	Sample		110921.met	c:\peaknet\data\111005\111005_102.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
103	1110041-1	Sample		110921.met	c:\peaknet\data\111005\111005_103.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
104	1110046-1	Sample		110921.met	c:\peaknet\data\111005\111005_104.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
105	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_105.dxd	CCV9
106	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_106.dxd	CCB
107	1110041-1 20X	Sample		110921.met	c:\peaknet\data\111005\111005_107.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
108	1110046-1 5X	Sample		110921.met	c:\peaknet\data\111005\111005_108.dxd	F,CL,NO2,BR,NO3,PO4,SO4-300.0
109	CCV	Sample		110921.met	c:\peaknet\data\111005\111005_109.dxd	CCV10
110	CCB	Sample		110921.met	c:\peaknet\data\111005\111005_110.dxd	CCB
111	STOP.MET	Sample		stop.met		

Default Method Path: C:\PEAKNET\METHOD

Default Data Path: C:\PEAKNET\DATA\110921

Comment:

BatchDx created schedule.

Analyst: *C 10/10/11*

Instrument #1: DIONEX DX-120. ID Serial Number: 99060762

Analytical Column: Dionex IonPac AS14 S/N 026988

Methods: EPA 300.0 and SW9056. ALS SOP 1113 rev.11

Eluent: Made daily, 10mL of Eluent Concentrate ID: RG100922-5 to 1000mL of DI water.

Final_ID_Aliq

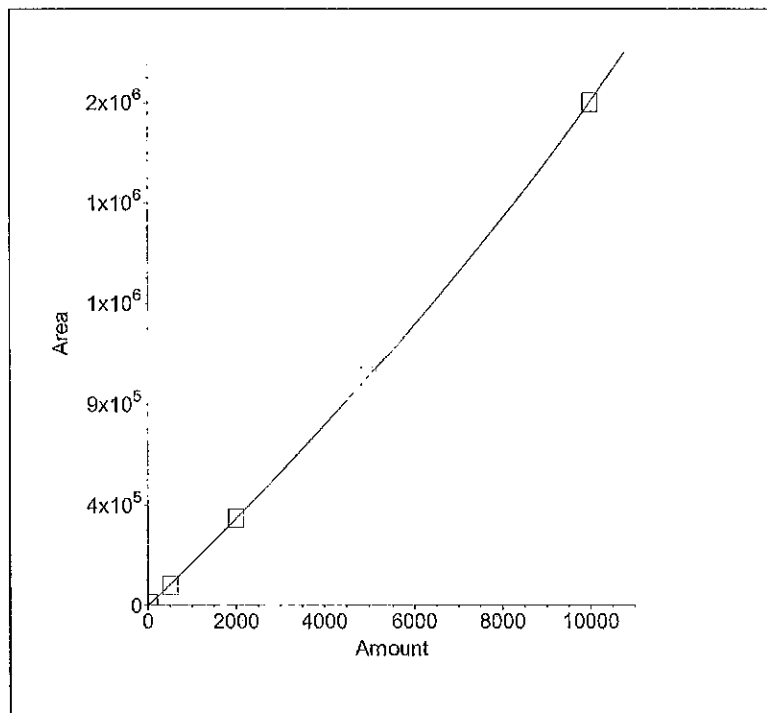
cal std level 1 (1000x)	10.00	ST110817-1, ST110815-9	0.01
cal std level 2 (100x)	5.00	"	0.05
cal std level 3 (25x)	5.00	"	0.20
cal std level 4 (10x)	5.00	"	0.50
cal std level 5 (5x)	5.00	"	1.00
cal std level 6 (2.5x)	5.00	"	2.00

CCV	5.00	ST110817-1, ST110916-6	0.50
RVS	5.00	ST110817-1, ST110916-6	0.01
ICV	5.00	ST101230-7	0.25
		ST110815-8	0.05
LCS(aq)	5.00	ST101230-7	0.25
		ST110916-5	0.05
MS/MSD (waters)	5.00	ST110222-9	0.05
		ST110916-4	0.05

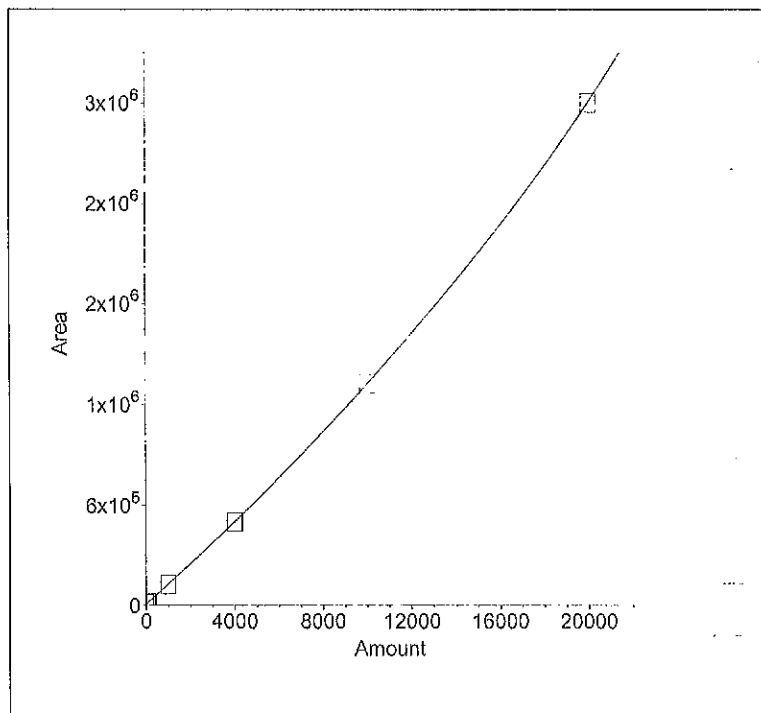
Dilutions Table: All to 5mL Final Volume

10X	0.5mL
20X	0.25mL
25X	0.2mL
50X	0.1mL
100X	0.05mL
200X	0.025mL
500X	0.01mL

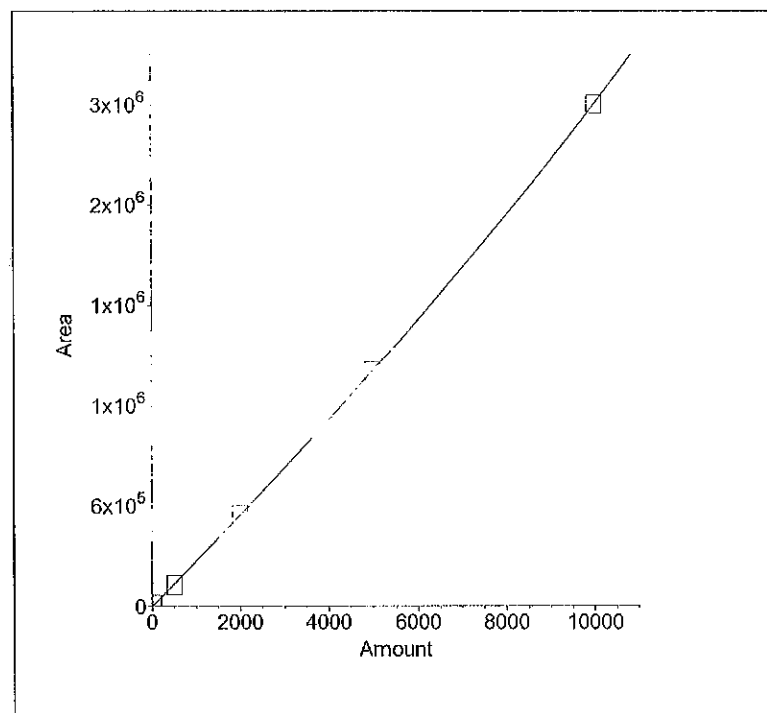
1. Component:Fluoride
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999992$
 $Amt=-3.339287e-010*Resp^2+$
 $5.083252e-003*Resp+20.21$



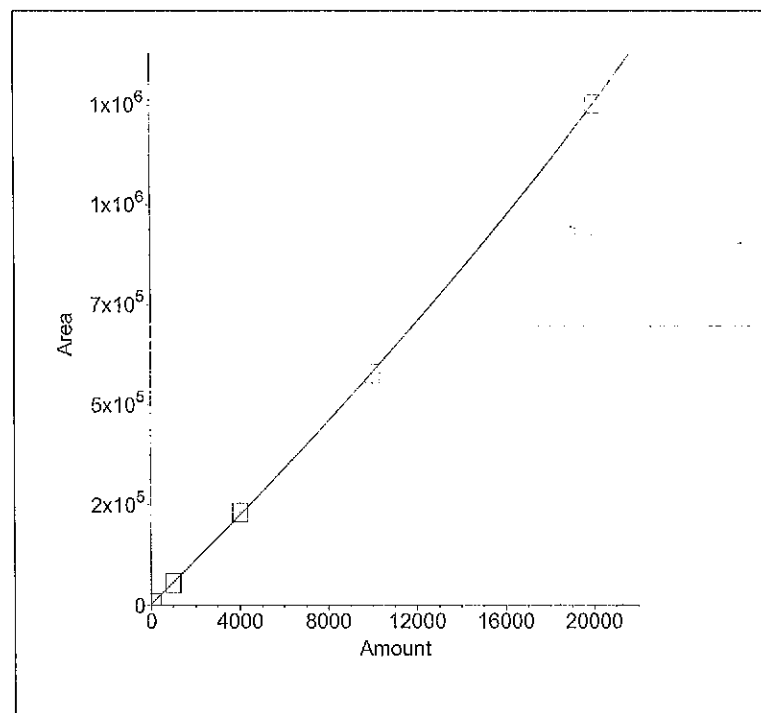
2. Component:Chloride
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999994$
 $Amt=-4.362893e-010*Resp^2+$
 $7.430059e-003*Resp+-37.48$



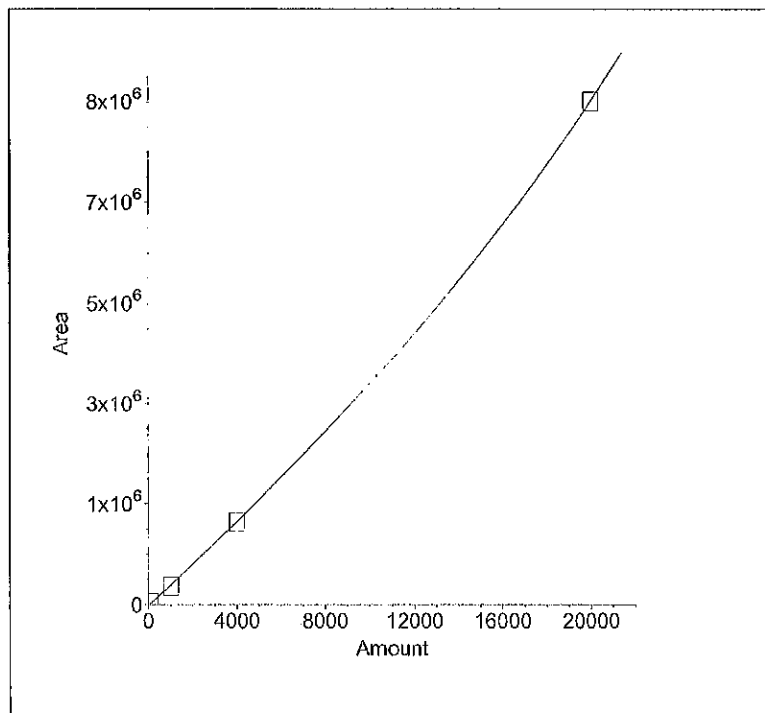
3. Component:Nitrite as N
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999990$
 $Amt=-1.145861e-010*Resp^2+$
 $3.432192e-003*Resp+16.08$



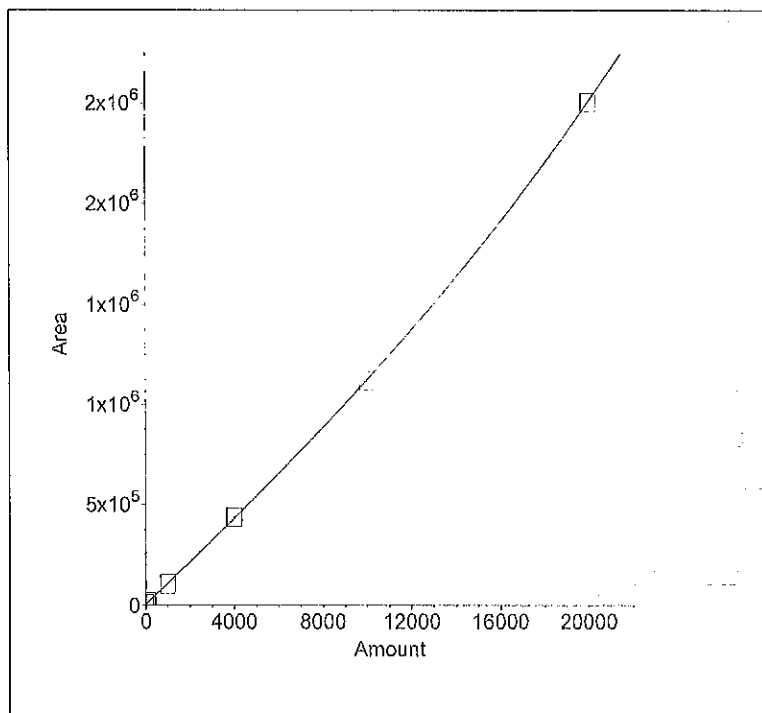
4. Component:Bromide
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999929$
 $Amt=-1.863164e-009*Resp^2+$
 $1.827109e-002*Resp+-26.94$



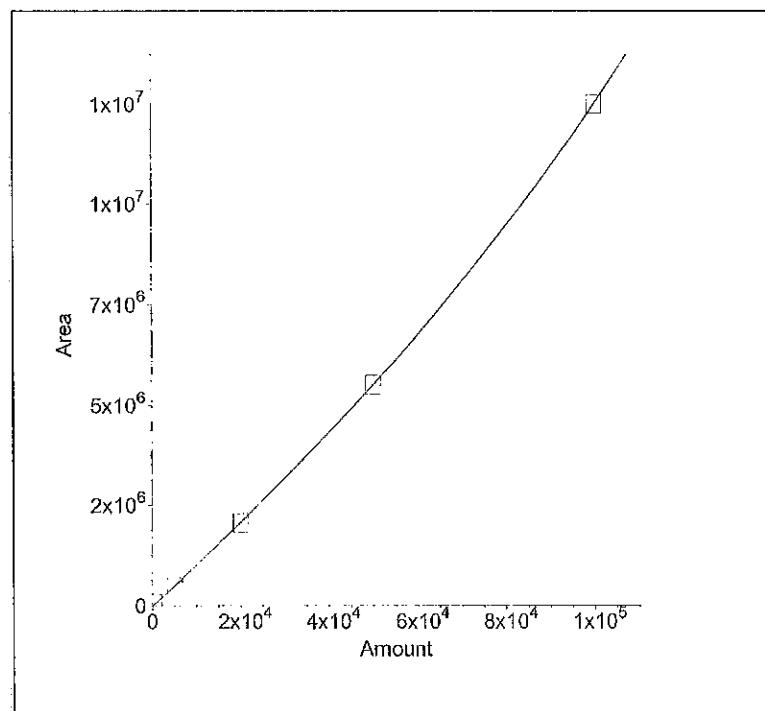
5. Component:Nitrate as N
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999979$
 $Amt=-6.325397e-011*Resp^2+$
 $2.831440e-003*Resp+62.2$



6. Component:Orthophosphate as P
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999978$
 $Amt=-5.660033e-010*Resp^2+$
 $8.882440e-003*Resp+37.06$



7. Component:Sulfate
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area
 $r^2=0.999985$
 $Amt=-1.438092e-010*Resp^2+$
 $9.606924e-003*Resp+281.9$



8. Component:Nitrate/Nitrite as N
 Standard:External Fit Type:Quadratic
 Origin:Ignore Calibration:Area

(No Levels Component)

Method Report - 110921.met

Method Information : Select Module(s)

System Name : DX-120 Anions
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	
8.80		Load	High	Low	Off	
8.90		Load	Low	Low	Off	

DX-120 Detector Parameters

Detector Type : DX-120
Data collection time (minutes) : 11.00
Data Collection Rate : 5.00
Real time plot scale maximum (μ S) : 40.000
Real time plot scale minimum (μ S) : -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	2.71 min	5.00 %	
Chloride	3.69 min	5.00 %	
Nitrite as N	4.35 min	4.90 %	
Bromide	5.40 min	7.30 %	
Nitrate as N	6.21 min	10.00 %	
Orthophosphate as P	7.68 min	4.10 %	
Sulfate	9.13 min	4.10 %	
Nitrate/Nitrite as N	20.00 min	5.00 %	

DX-120 Component Quantitation Table

Component	Retention	Low Limit	High Limit
Fluoride	2.71 min	100	10000
Chloride	3.69 min	200	20000
Nitrite as N	4.35 min	100	10000
Bromide	5.40 min	200	20000
Nitrate as N	6.21 min	200	20000
Orthophosphate as P	7.68 min	300	20000
Sulfate	9.13 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	2.71 min	Quadratic	Ignore	Area		0.00
Chloride	3.69 min	Quadratic	Ignore	Area		0.00
Nitrite as N	4.35 min	Quadratic	Ignore	Area		0.00
Bromide	5.40 min	Quadratic	Ignore	Area		0.00
Nitrate as N	6.21 min	Quadratic	Ignore	Area		0.00
Orthophosphate as P	7.68 min	Quadratic	Ignore	Area		0.00
Sulfate	9.13 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 : 2.71 min

Amount units :

Replicate unit type : Area

Number of levels : 6

Number of replicates : 1

Level	Amount	Replicate 1
1	10000.00	2.3156e+006
2	5000.00	1.05155e+006
3	2000.00	402263
4	500.00	91377.4
5	50.00	7906.4
6	0.00	0

DX-120 Component = Chloride Levels Table

Retention Time : 3.69 min

Amount units :

Replicate unit type : Area

Number of levels : 6

Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	3.35928e+006
2	10000.00	1.48082e+006
3	4000.00	560221
4	1000.00	139378
5	100.00	15864.8
6	0.00	9752.2

DX-120 Component = Nitrite as N Levels Table**Retention Time : 4.35 min****Amount units :****Replicate unit type : Area****Number of levels : 6****Number of replicates : 1**

Level	Amount	Replicate 1
1	10000.00	3.26504e+006
2	5000.00	1.5285e+006
3	2000.00	593920
4	500.00	136070
5	50.00	12703.2
6	0.00	0

DX-120 Component = Bromide Levels Table**Retention Time : 5.40 min****Amount units :****Replicate unit type : Area****Number of levels : 6****Number of replicates : 1**

Level	Amount	Replicate 1
1	20000.00	1.258e+006
2	10000.00	579586
3	4000.00	232172
4	1000.00	54597
5	100.00	5521
6	0.00	0

DX-120 Component = Nitrate as N Levels Table

Retention Time : 6.21 min

Amount units :

Replicate unit type : Area

Number of levels : 6

Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	8.75159e+006
2	10000.00	3.84678e+006
3	4000.00	1.42845e+006
4	1000.00	317115
5	100.00	32189.2
6	0.00	0

DX-120 Component = Orthophosphate as P Levels Table

Retention Time : 7.68 min

Amount units :

Replicate unit type : Area

Number of levels : 6

Number of replicates : 1

Level	Amount	Replicate 1
1	20000.00	2.73193e+006
2	10000.00	1.22119e+006
3	4000.00	476569
4	1000.00	113930
5	100.00	14832.8
6	0.00	4120.8

DX-120 Component = Sulfate Levels Table

Retention Time : 9.13 min

Amount units :

Replicate unit type : Area

Number of levels : 6

Number of replicates : 1

Level	Amount	Replicate 1
1	100000.00	1.28505e+007
2	50000.00	5.6634e+006
3	20000.00	2.10936e+006
4	5000.00	473981
5	500.00	46213.3
6	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\110921\110817_001.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 12:27:01 PM
Calibration Date : 9/21/11 12:38:04 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 12:38:04 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.76	10000	2315602
3	Chloride	3.76	20000	3359276
4	Nitrite as N	4.43	10000	3265038
5	Bromide	5.47	20000	1258004
6	Nitrate as N	6.20	20000	8751587
7	Orthophosphate as P	7.75	20000	2731925
8	Sulfate	9.16	100000	12850524
	Nitrate/Nitrite as N			

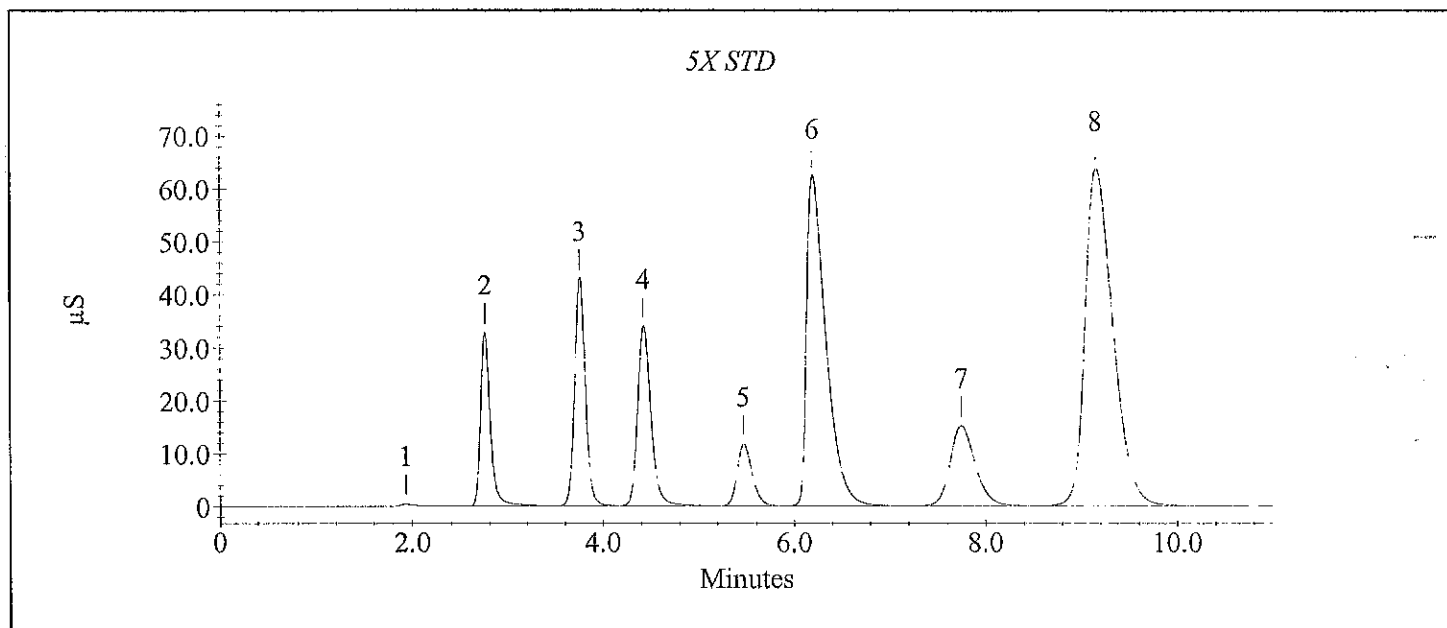
Calibration Update Report

Sample Name : 5X STD

Data File Name : c:\peaknet\data\110921\110817_001.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 12:27:01 PM
Calibration Date : 9/21/11 12:38:04 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 12:38:04 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...



Calibration Update Report

Sample Name : 10X STD

Data File Name : c:\peaknet\data\110921\110817_002.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 12:38:08 PM
Calibration Date : 9/21/11 12:49:08 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 12:49:08 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
1	Fluoride	2.72	5000	1051552
2	Chloride	3.71	10000	1480817
3	Nitrite as N	4.37	5000	1528496
4	Bromide	5.41	10000	579586
5	Nitrate as N	6.19	10000	3846784
6	Orthophosphate as P	7.71	10000	1221195
7	Sulfate	9.15	50000	5663402
	Nitrate/Nitrite as N			

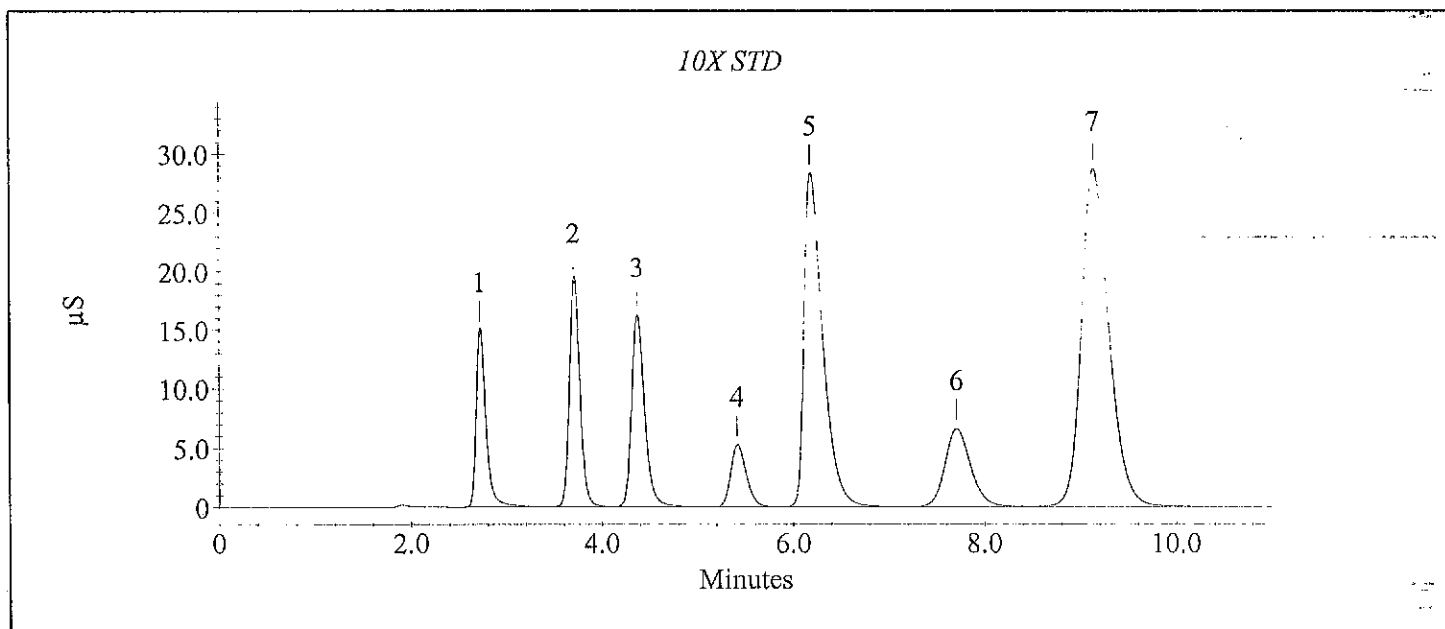
Calibration Update Report

Sample Name : 10X STD

Data File Name : c:\peaknet\data\110921\110817_002.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 12:38:08 PM
Calibration Date : 9/21/11 12:49:08 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 12:49:08 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...



Calibration Update Report

Sample Name : 25X STD

Data File Name : c:\peaknet\data\110921\110817_003.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 12:49:11 PM
Calibration Date : 9/21/11 1:00:11 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:00:11 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
1	Fluoride	2.71	2000	402263
2	Chloride	3.69	4000	560221
3	Nitrite as N	4.35	2000	593920
4	Bromide	5.40	4000	232172
5	Nitrate as N	6.21	4000	1428454
6	Orthophosphate as P	7.68	4000	476569
7	Sulfate	9.13	20000	2109358
	Nitrate/Nitrite as N			

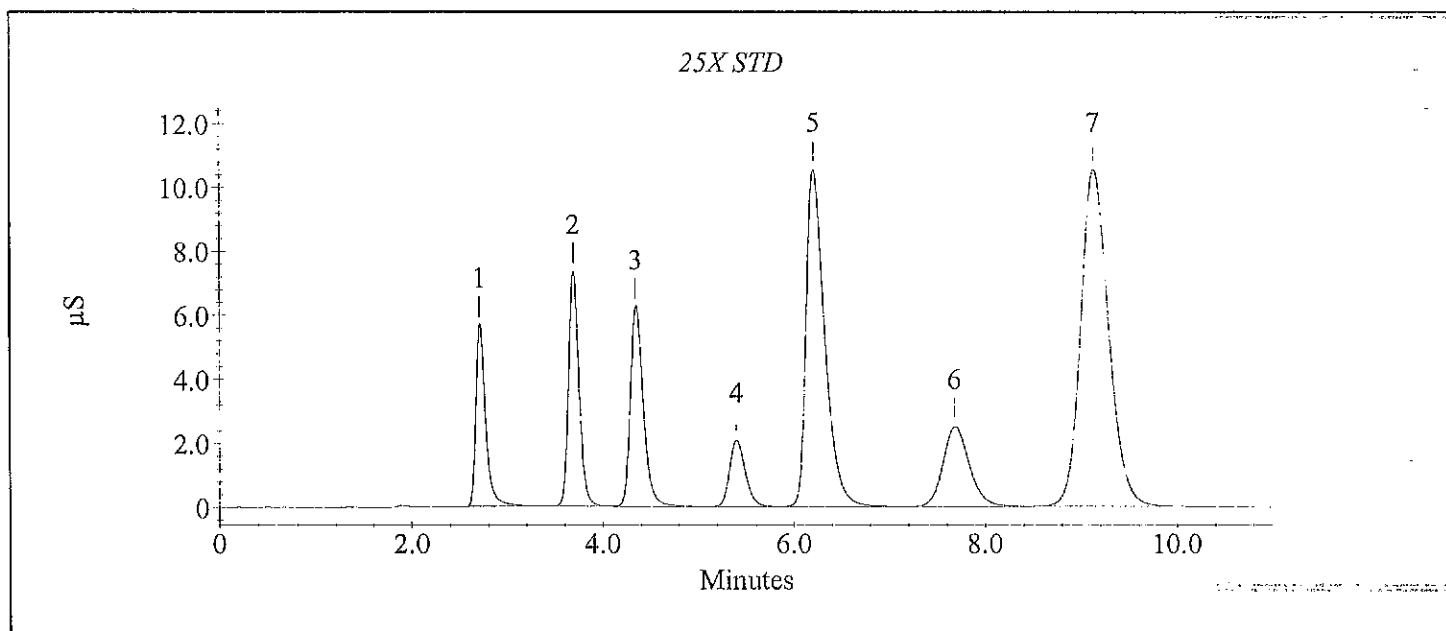
Calibration Update Report

Sample Name : 25X STD

Data File Name : c:\peaknet\data\110921\110817_003.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 12:49:11 PM
Calibration Date : 9/21/11 1:00:11 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:00:11 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...



Calibration Update Report

Sample Name : 100X STD

Data File Name : c:\peaknet\data\110921\110817_004.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 1:00:13 PM
Calibration Date : 9/21/11 1:11:13 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:11:13 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...

Peak Information : All Components

Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.69	500	91377
3	Chloride	3.67	1000	139378
4	Nitrite as N	4.33	500	136070
5	Bromide	5.39	1000	54597
6	Nitrate as N	6.23	1000	317115
7	Orthophosphate as P	7.68	1000	113930
8	Sulfate	9.13	5000	473981
	Nitrate/Nitrite as N			

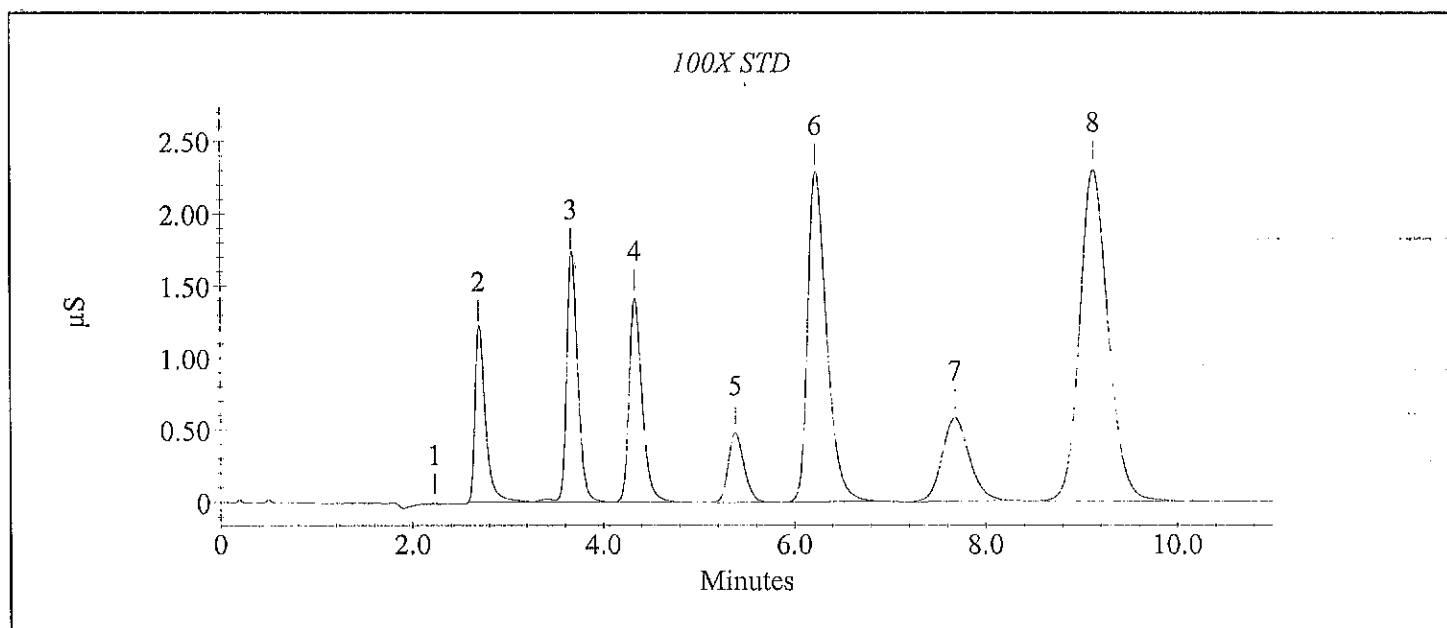
Calibration Update Report

Sample Name : 100X STD

Data File Name : c:\peaknet\data\110921\110817_004.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 1:00:13 PM
Calibration Date : 9/21/11 1:11:13 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:11:13 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...



Calibration Update Report

Sample Name : 1000X STD

Data File Name : c:\peaknet\data\110921\110817_005.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 1:11:16 PM
Calibration Date : 9/21/11 1:22:16 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:22:16 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...

Peak Information : All Components				
Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
2	Fluoride	2.69	50	7906
4	Chloride	3.67	100	15865
5	Nitrite as N	4.32	50	12703
6	Bromide	5.37	100	5521
7	Nitrate as N	6.25	100	32189
8	Orthophosphate as P	7.68	100	14833
9	Sulfate	9.13	500	46213
	Nitrate/Nitrite as N			

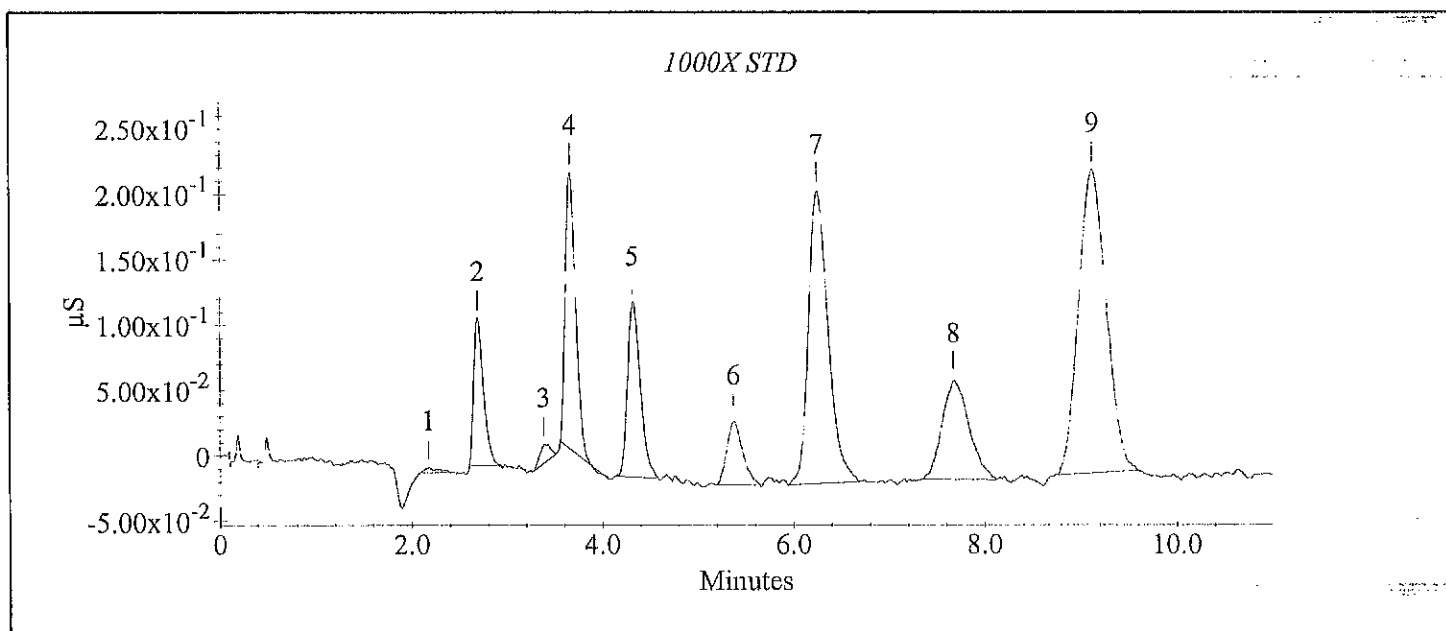
Calibration Update Report

Sample Name : 1000X STD

Data File Name : c:\peaknet\data\110921\110817_005.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 1:11:16 PM
Calibration Date : 9/21/11 1:22:16 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:22:16 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...



Calibration Update Report

Sample Name : 0 STD

Data File Name : c:\peaknet\data\110921\110817_006.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 1:22:18 PM
Calibration Date : 9/21/11 1:33:18 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:33:18 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...

Peak Information : All Components				
Peak #	Analyte	Retention Time (min.)	Concentration	Peak Area
1		3.41	0	
2	Chloride	3.67	0	9752
	Nitrite as N			
	Bromide			
	Nitrate as N			
3	Orthophosphate as P	7.75	0	4121
	Sulfate			
	Nitrate/Nitrite as N			

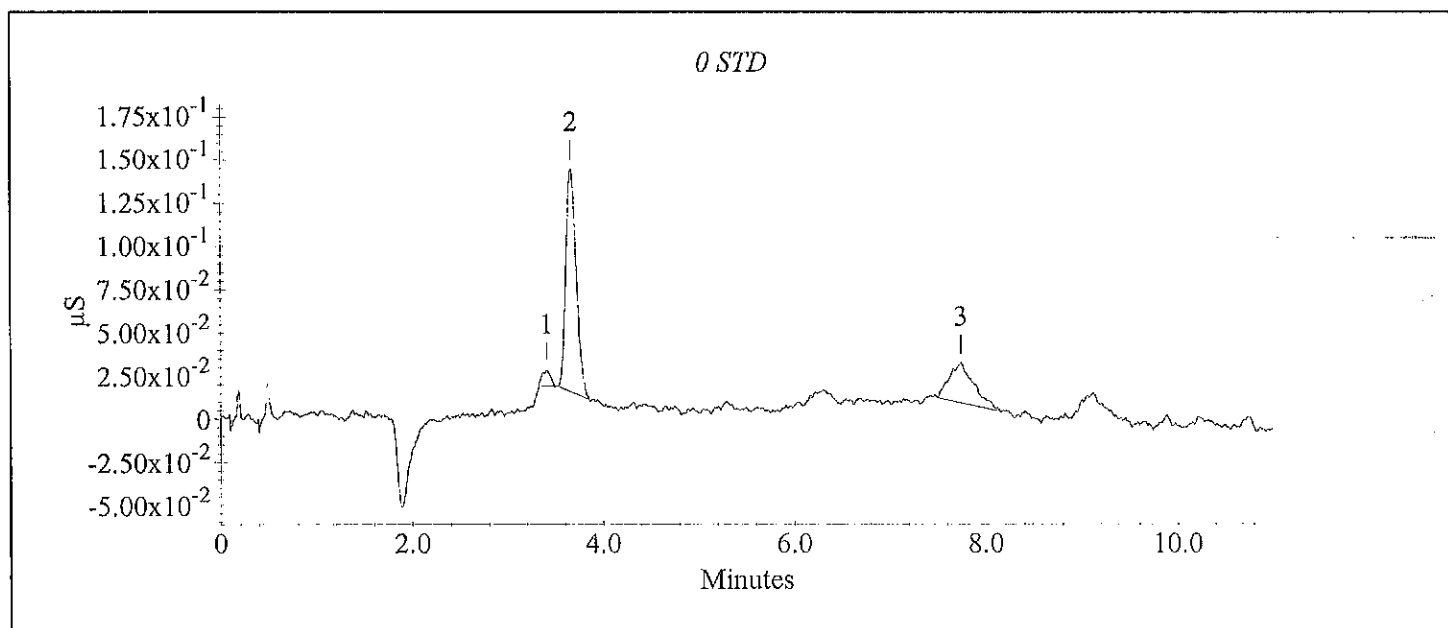
Calibration Update Report

Sample Name : 0 STD

Data File Name : c:\peaknet\data\110921\110817_006.DXD

Method File Name : c:\peaknet\method\110921.met
Schedule File Name : c:\peaknet\schedule\110921.sch
Date Time Acquired : 9/21/11 1:22:18 PM
Calibration Date : 9/21/11 1:33:18 PM

System Operator : WETCHEM
Datafile Updated : 9/21/11 1:33:18 PM
Method Comment : Flow rate = 1.2 mL/min,
Eluent = ...



11/23/11
 JBM

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

Analysis Date: 09/21/2011
 Analyst Name: EAL
 Filename for CV: 110921/110921_007.DXD
 Calibration Date: 09/21/11
 Method ID: 110921.met
 Updated Method date: NA

Calibration Equation Verification

Analyte	calibration type:	1st regression coefficient	2nd regression coefficient	Intercept	A conc reported by PeakNet ug/L	B conc calc by spread-sheet ug/L	A/B *100 agreement %
Cl	quad. incl. 0.0	4.362893E-10	7.430059E-03	37.480	4909.9	4909.9	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	2.71	2.69	0.7	5.00 %
Cl	3.69	3.68	0.3	5.00 %
NO2-N	4.35	4.33	0.5	4.90 %
Br	5.40	5.37	0.6	7.30 %
NO3-N	6.21	6.17	0.6	10.00 %
PO4-P	7.68	7.65	0.4	4.10 %
SO4	9.13	9.09	0.4	4.10 %

Sample Analysis Report

Sample Name : ICV

Data File Name : c:\peaknet\data\110921\110817_007.DXD

Method File Name : C:\PEAKNET\METHOD\110921.met Current Date : 9/21/11

Date, Time Analyzed : 9/21/11 1:33:21 PM

Current Time : 1:44:51 PM

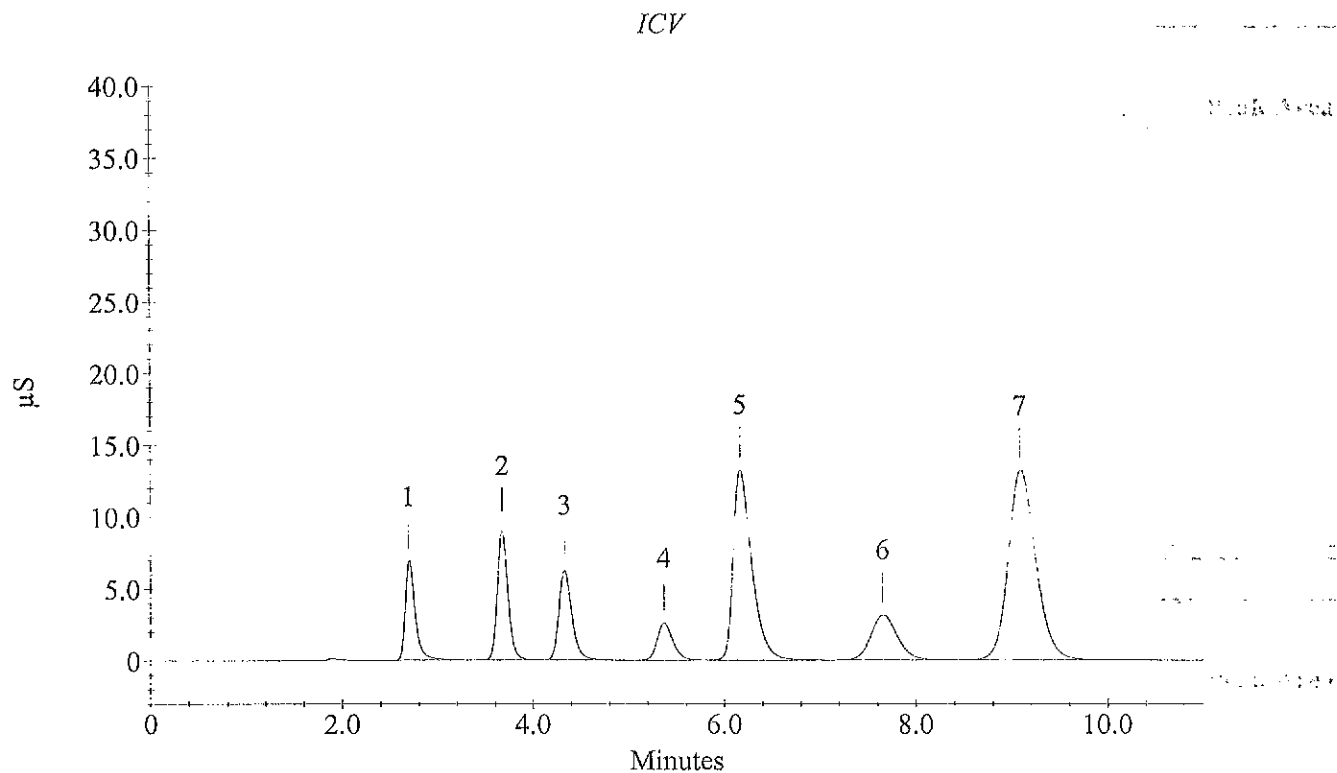
System Operator : WETCHEM

Datafile Updated : 9/21/11 1:44:51 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.69	2464.6		497111
2	Chloride	3.68	4909.9		694161
3	Nitrite as N	4.33	2022.3		596397
4	Bromide	5.37	5113.1		289893
5	Nitrate as N	6.17	4943.9		1796171
6	Orthophosphate as P	7.65	5064.7		597087
7	Sulfate	9.09	24646.7		2640544
	Nitrate/Nitrite as N				



Sample Analysis Report

Sample Name : ICB

Data File Name : c:\peaknet\data\110921\110817_008.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 9/21/11

Date, Time Analyzed : 9/21/11 1:44:24 PM

Current Time : 1:55:24 PM

System Operator : WETCHEM

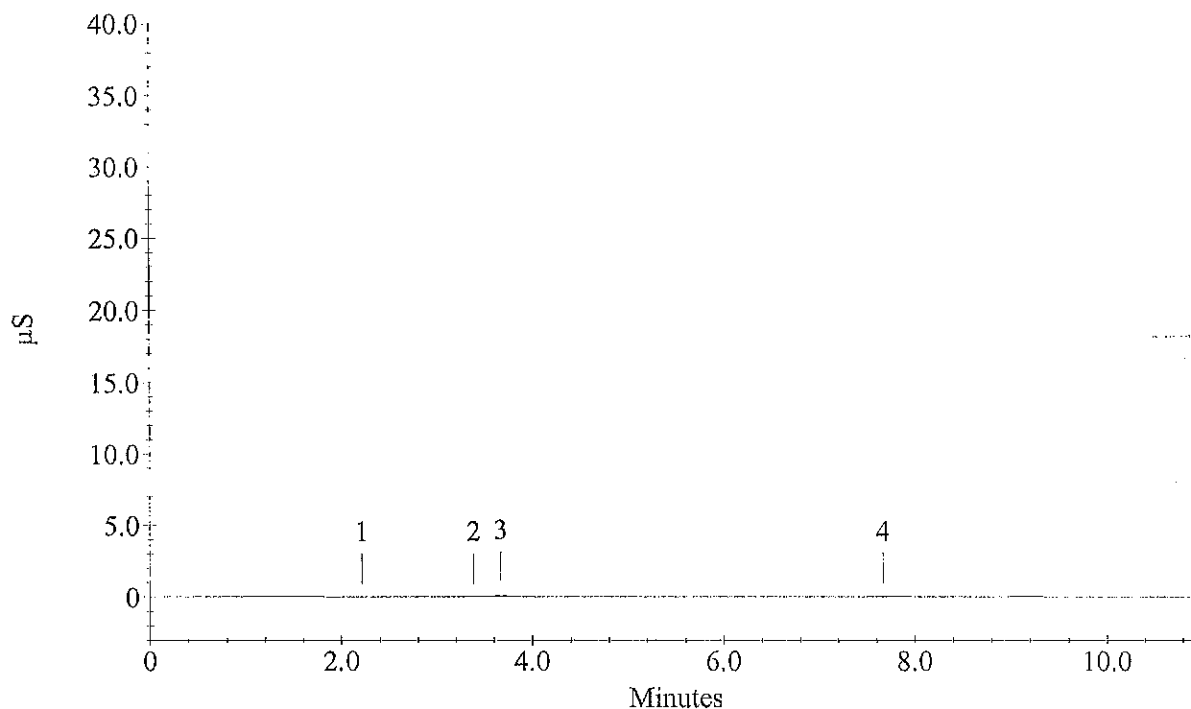
Datafile Updated : 9/21/11 1:55:24 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.21	0.0		285
3	Chloride	3.67	30.3	-	9129
	Nitrite as N				
	Bromide				
	Nitrate as N				
4	Orthophosphate as P	7.67	10.5	-	5356
	Sulfate				
	Nitrate/Nitrite as N				

ICB



36M
10/12/11

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

Analysis Date: 10/05/2011
Analyst Name: EAL
Filename for CV: 111005/111005_009.DXD
Calibration Date: 09/21/11
Method ID: 110921.met
Updated Method date: NA

Calibration Equation Verification

Analyte	calibration type:	1st regression coefficient	2nd regression coefficient	intercept	A conc reported by PeakNet ug/L	B conc calc by spread-sheet ug/L	A/B *100 agreement %
Cl	quad. incl. 0,0	-4.362893E-10	7.430059E-03	37.450	10360.8	10360.8	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	2.71	2.69	0.7	5.00 %
Cl	3.69	3.68	0.3	5.00 %
NO2-N	4.85	4.83	0.5	4.90 %
Br	5.40	5.37	0.6	7.30 %
NO3-N	6.21	6.17	0.6	10.00%
PO4-P	7.68	7.65	0.4	4.10 %
SO4	9.13	9.09	0.4	4.10 %

Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_009.DXD

Method File Name : c:\peaknet\method\110921.met

Date, Time Analyzed : 10/5/11 11:30:08 AM

System Operator : WETCHEM

Calibration Updated : 9/21/11 1:34:54 PM

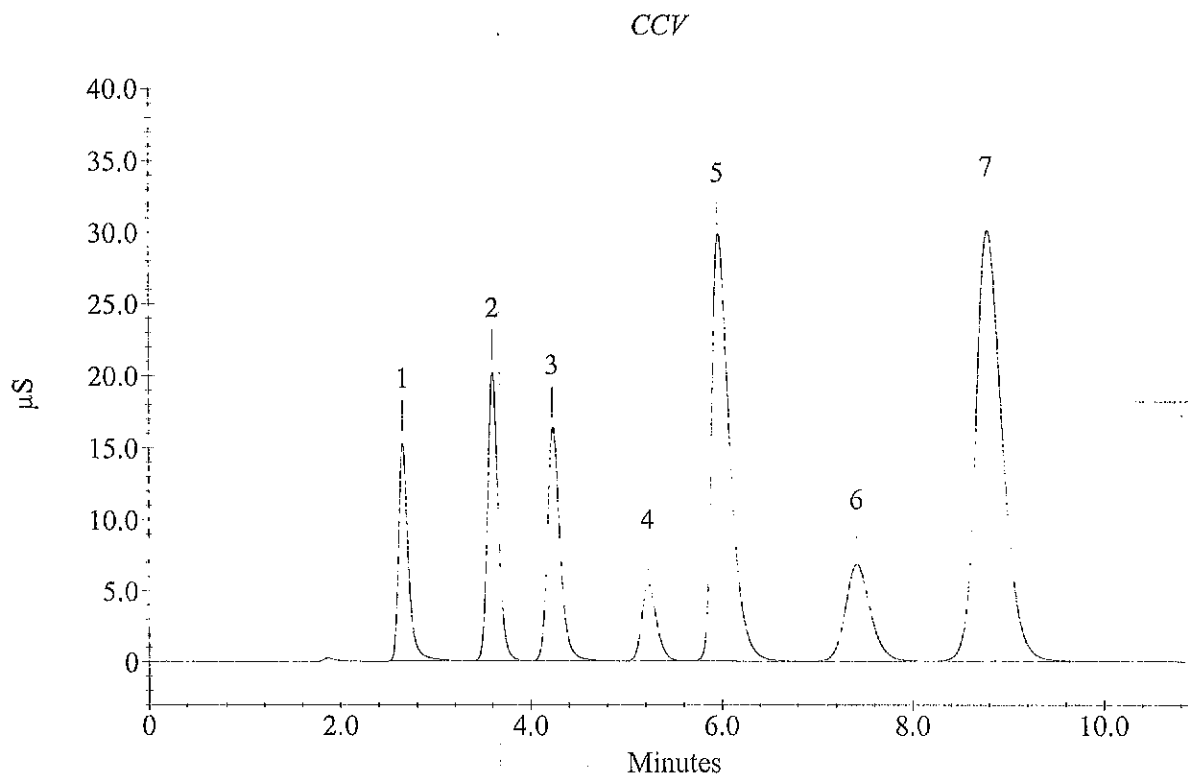
Current Date : 10/5/11

Current Time : 11:41:12 AM

Datafile Updated : 10/5/11 11:41:11 AM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	5067.5		1067843
2	Chloride	3.60	10360.8		1538473
3	Nitrite as N	4.23	5010.1		1533576
4	Bromide	5.23	10123.9		591209
5	Nitrate as N	5.96	10268.5		3953857
6	Orthophosphate as P	7.41	10135.9		1243877
7	Sulfate	8.79	51347.7		5823120
	Nitrate/Nitrite as N				



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_010.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 11:41:14 AM

Current Time : 11:52:15 AM

System Operator : WETCHEM

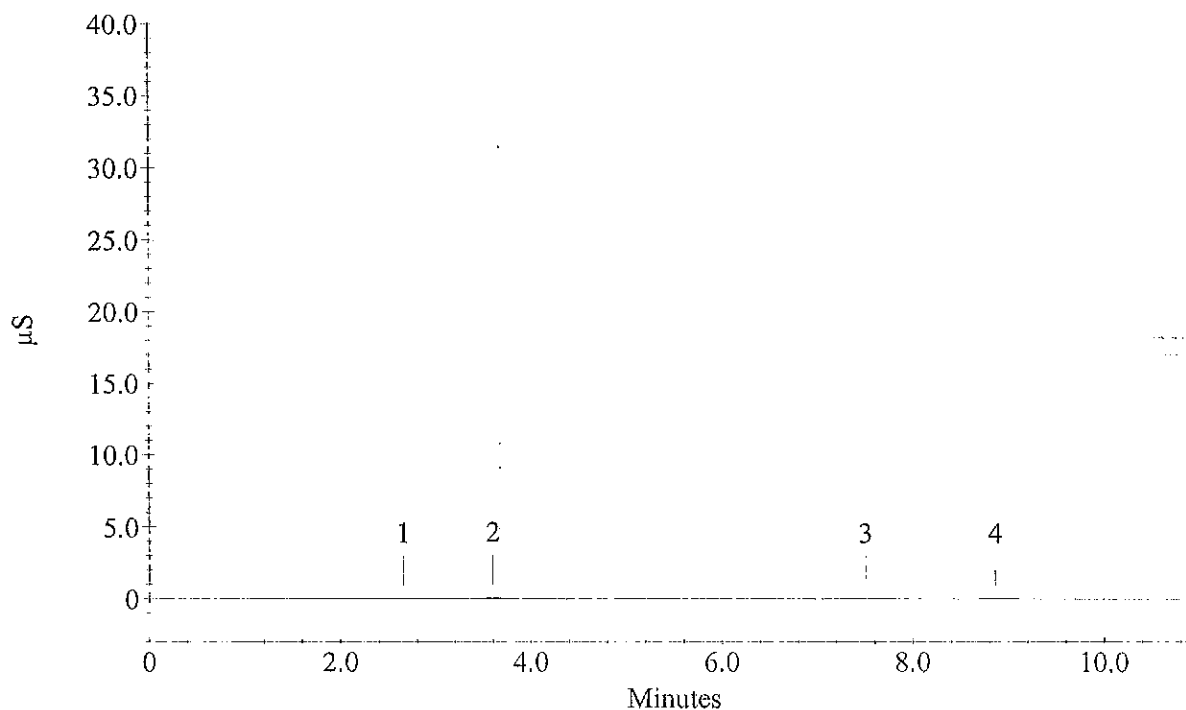
Datafile Updated : 10/5/11 11:52:15 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	31.1	-	2134
2	Chloride	3.60	16.6	-	7283
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.51	13.7	-	5722
4	Sulfate	8.87	321.4	-	4112
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_021.DXD

Method File Name : c:\peaknet\method\110921.met

Date, Time Analyzed : 10/5/11 1:42:43 PM

System Operator : WETCHEM

Calibration Updated : 9/21/11 1:34:54 PM

Current Date : 10/5/11

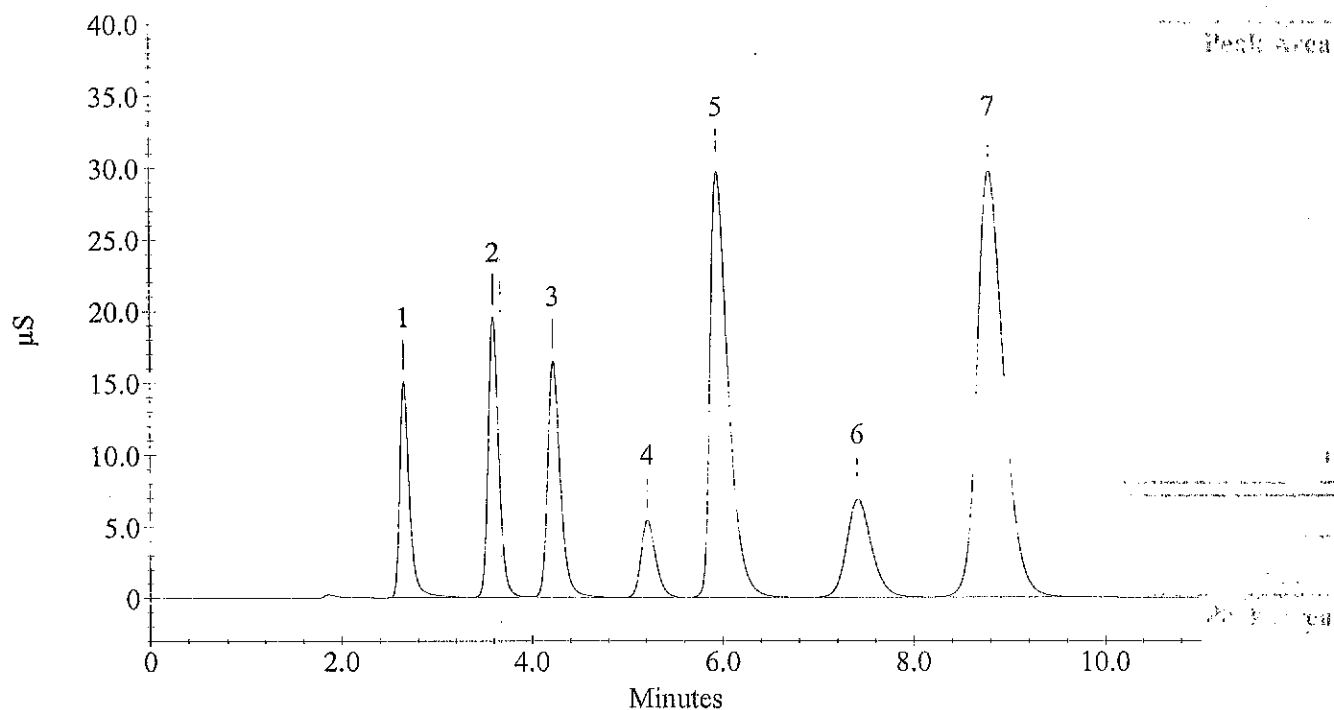
Current Time : 1:53:44 PM

Datafile Updated : 10/5/11 1:53:44 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	4993.5		1050927
2	Chloride	3.60	10041.8		1486270
3	Nitrite as N	4.23	5015.3		1535273
4	Bromide	5.21	10019.5		584721
5	Nitrate as N	5.95	10147.4		3901991
6	Orthophosphate as P	7.41	10175.1		1249123
7	Sulfate	8.80	50778.4		5751430
	Nitrate/Nitrite as N				

CCV



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_022.DXD

Method File Name : c:\peaknet\method\110921.met

Date, Time Analyzed : 10/5/11 1:53:46 PM

System Operator : WETCHEM

Calibration Updated : 9/21/11 1:34:54 PM

Current Date : 10/5/11

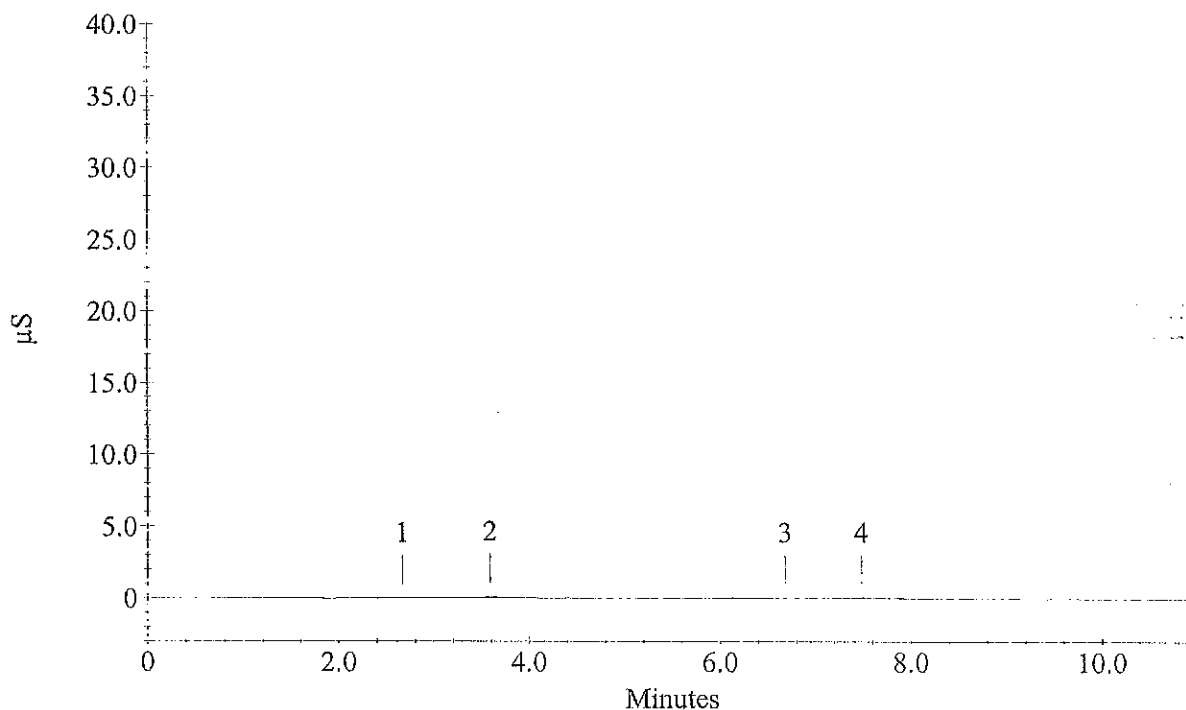
Current Time : 2:04:47 PM

Datafile Updated : 10/5/11 2:04:47 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.67	0.0		554
2	Chloride	3.59	57.0	-	12732
	Nitrite as N				
	Bromide				
3	Nitrate as N	6.68	82.7	-	7248
4	Orthophosphate as P	7.48	46.6	-	9420
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_033.DXD

Method File Name : c:\peaknet\method\110921.met

Date, Time Analyzed : 10/5/11 3:55:17 PM

System Operator : WETCHEM

Calibration Updated : 9/21/11 1:34:54 PM

Current Date : 10/5/11

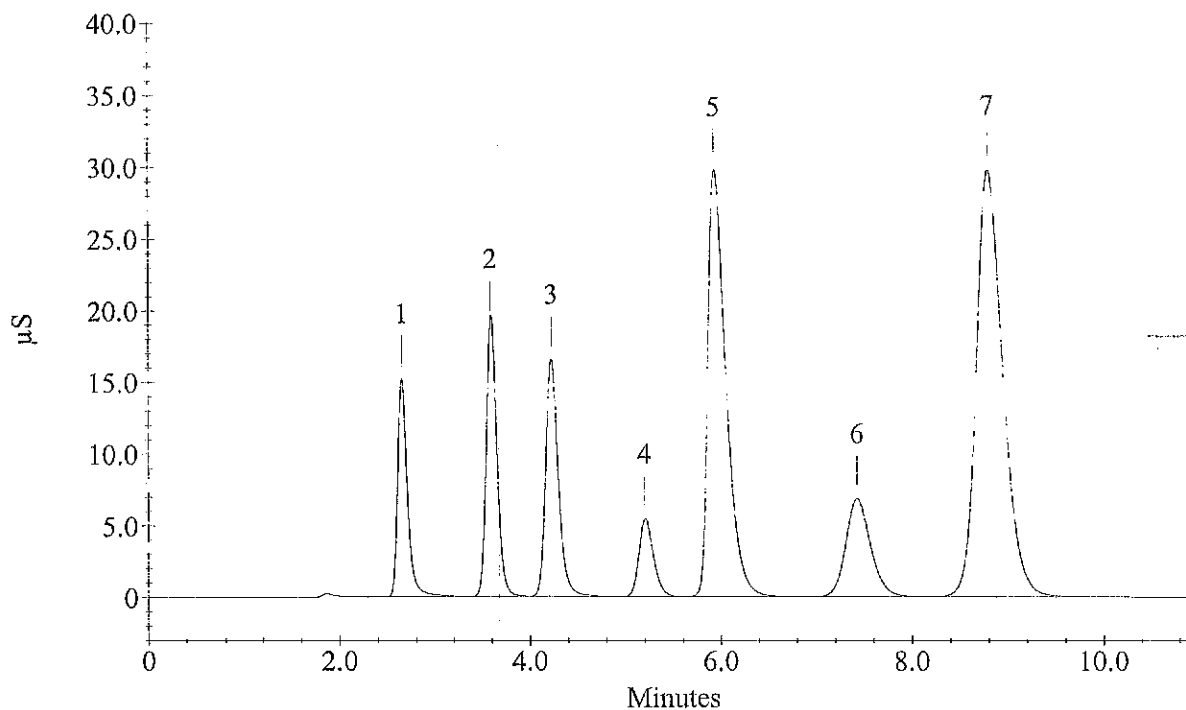
Current Time : 4:06:19 PM

Datafile Updated : 10/5/11 4:06:18 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	5003.6		1053221
2	Chloride	3.59	10031.6		1484608
3	Nitrite as N	4.23	5008.7		1533129
4	Bromide	5.20	9990.4		582913
5	Nitrate as N	5.93	10136.2		3897229
6	Orthophosphate as P	7.43	10070.8		1235174
7	Sulfate	8.80	50702.3		5741874
	Nitrate/Nitrite as N				

CCV



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_034.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 4:06:20 PM

Current Time : 4:17:22 PM

System Operator : WETCHEM

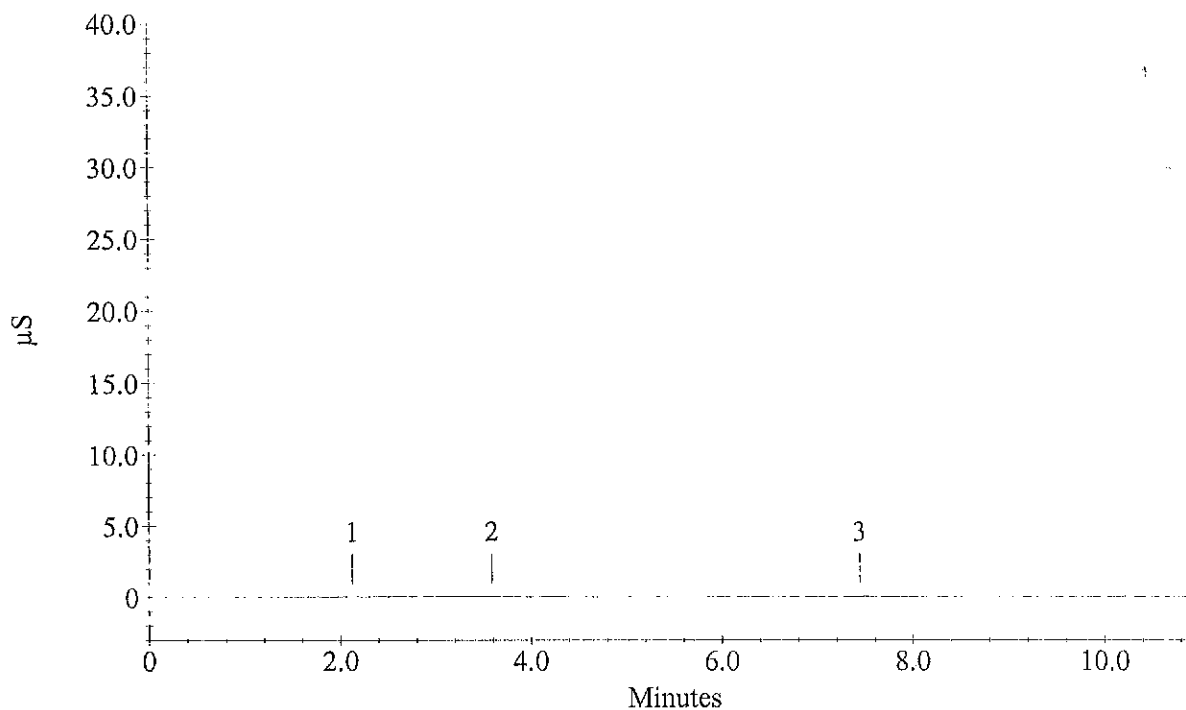
Datafile Updated : 10/5/11 4:17:21 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.12	0.0		366
2	Chloride	3.59	-13.3	-	3252
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.44	7.7	-	5042
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_045.DXD

Method File Name : c:\peaknet\method\110921.met

Date, Time Analyzed : 10/5/11 6:07:53 PM

System Operator : WETCHEM

Calibration Updated : 9/21/11 1:34:54 PM

Current Date : 10/5/11

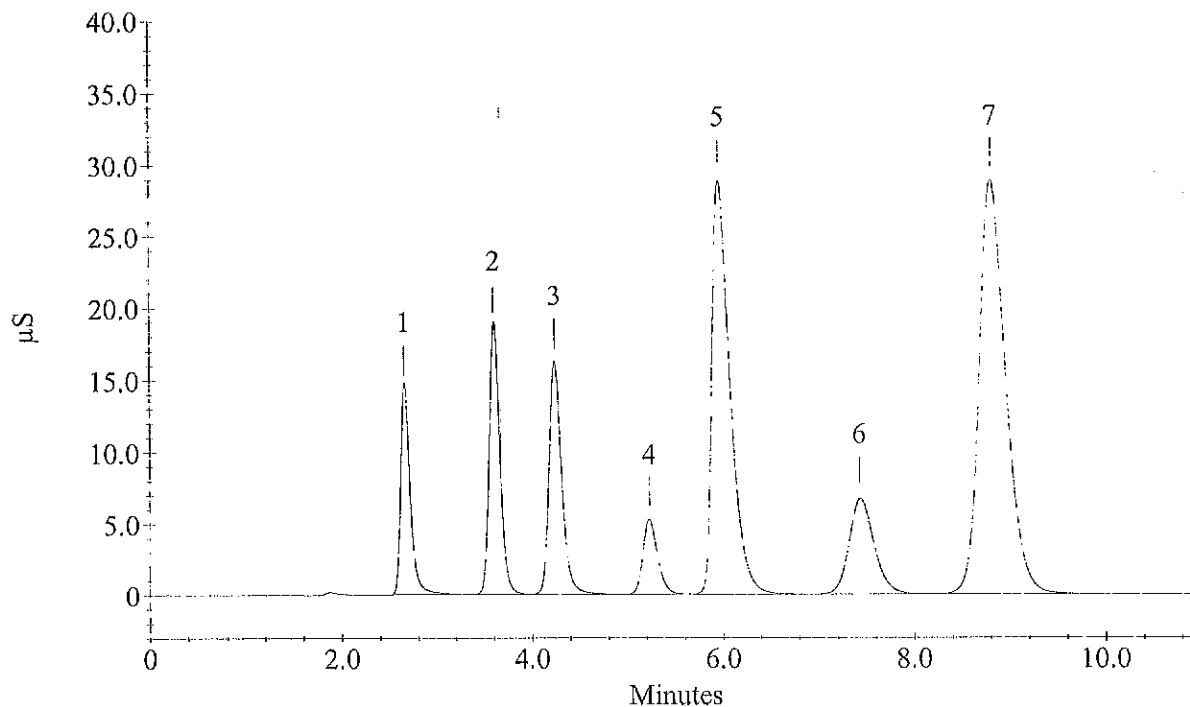
Current Time : 6:18:54 PM

Datafile Updated : 10/5/11 6:18:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	4882.4		1025604
2	Chloride	3.60	9819.5		1450106
3	Nitrite as N	4.24	4957.9		1516625
4	Bromide	5.23	9759.2		568572
5	Nitrate as N	5.96	9884.2		3789738
6	Orthophosphate as P	7.43	9994.1		1224932
7	Sulfate	8.81	49427.1		5582033
	Nitrate/Nitrite as N				

CCV



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_046.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 6:18:56 PM

Current Time : 6:29:57 PM

System Operator : WETCHEM

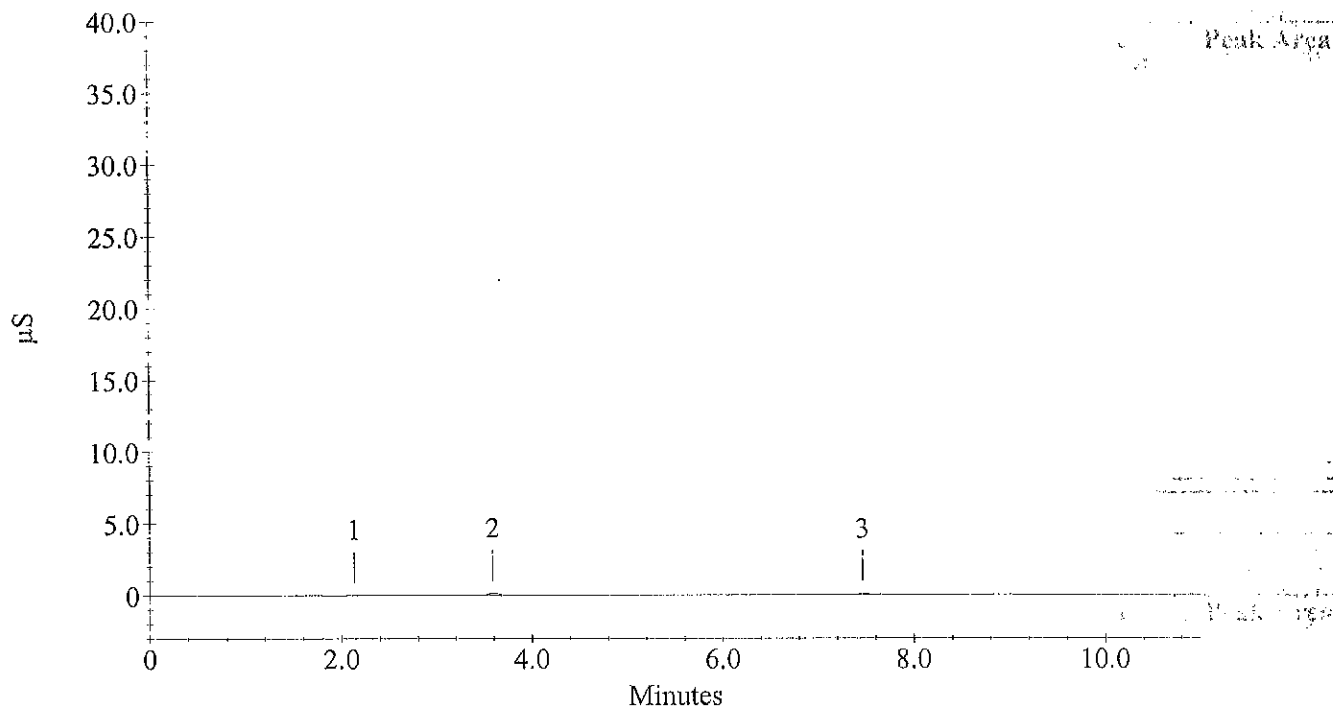
Datafile Updated : 10/5/11 6:29:56 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.13	0.0		447
2	Chloride	3.59	47.6	-	11457
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.47	53.9	-	10251
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_057.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 8:20:24 PM

Current Time : 8:31:25 PM

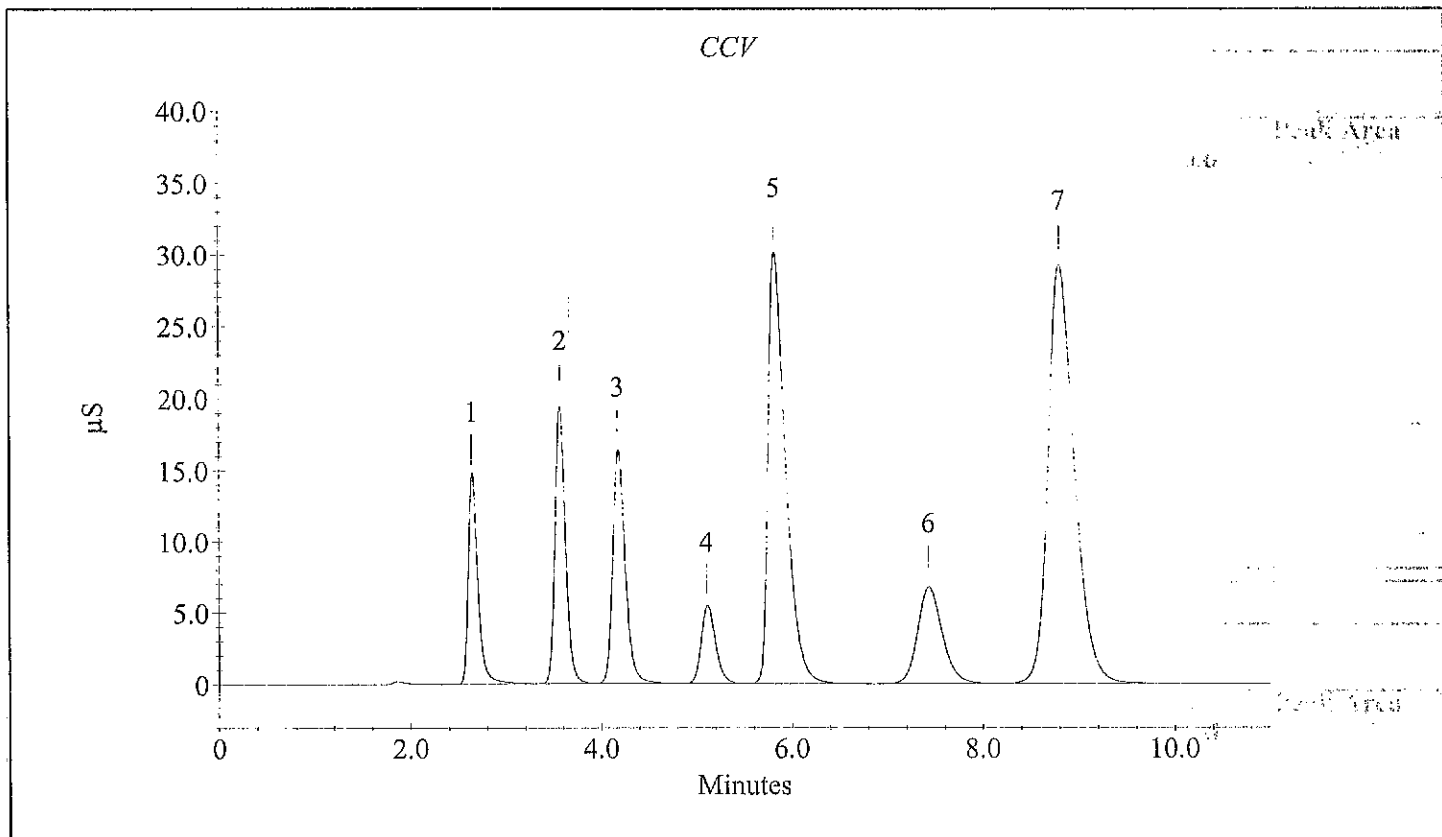
System Operator : WETCHEM

Datafile Updated : 10/5/11 8:31:24 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.64	4850.4		1018335
2	Chloride	3.57	9801.0		1447109
3	Nitrite as N	4.17	4855.7		1483544
4	Bromide	5.11	9725.3		566475
5	Nitrate as N	5.83	9889.2		3791891
6	Orthophosphate as P	7.43	9821.6		1201970
7	Sulfate	8.81	49287.7		5564615
	Nitrate/Nitrite as N				



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_058.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 8:31:26 PM

Current Time : 8:42:27 PM

System Operator : WETCHEM

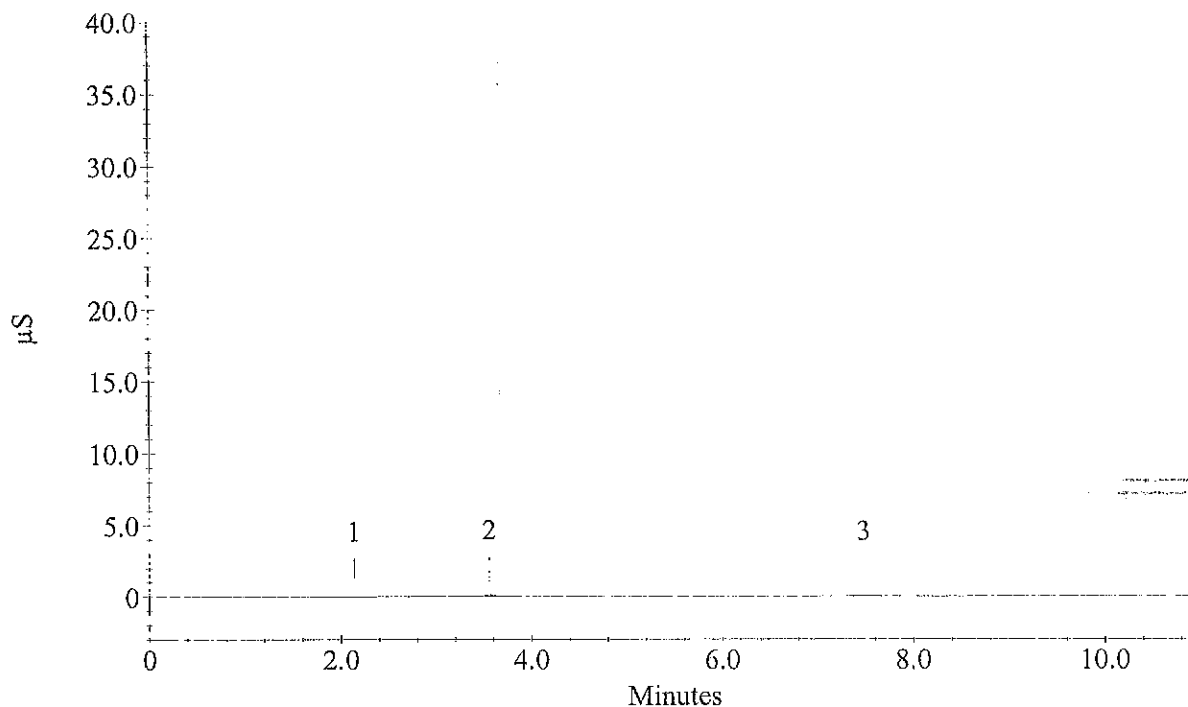
Datafile Updated : 10/5/11 8:42:27 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.13	0.0		203
2	Chloride	3.56	46.7	-	11341
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.48	28.8	-	7419
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_069.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 10:32:54 PM

Current Time : 10:43:55 PM

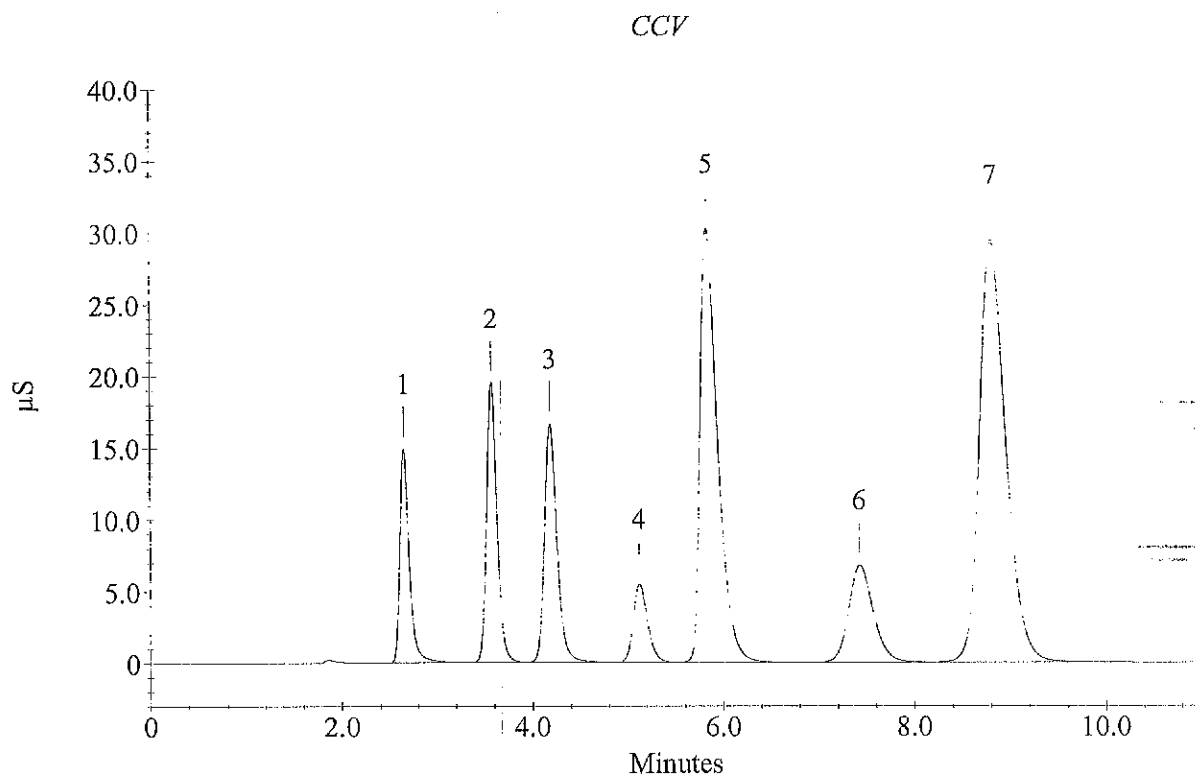
System Operator : WETCHEM

Datafile Updated : 10/5/11 10:43:55 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	4864.4		1021513
2	Chloride	3.57	9857.4		1456269
3	Nitrite as N	4.19	4918.7		1503938
4	Bromide	5.12	9791.5		570574
5	Nitrate as N	5.84	9957.2		3820833
6	Orthophosphate as P	7.43	9882.7		1210096
7	Sulfate	8.81	49674.6		5612981
	Nitrate/Nitrite as N				



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_070.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 10:43:56 PM

Current Time : 10:54:57 PM

System Operator : WETCHEM

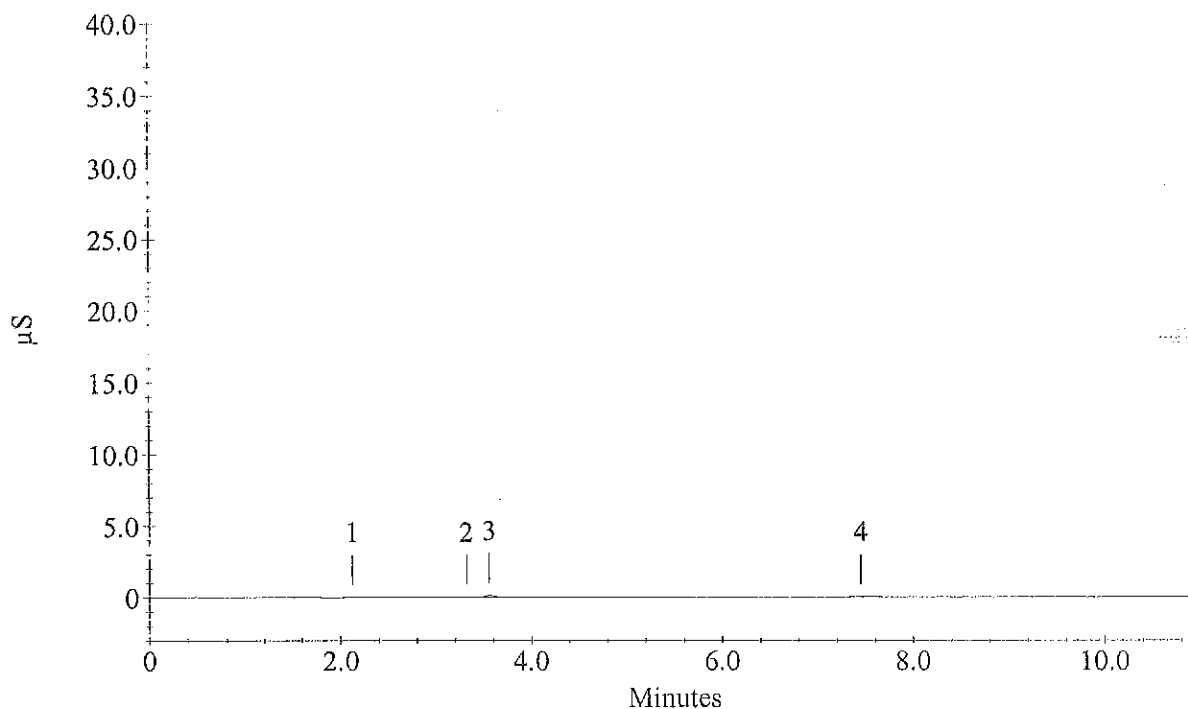
Datafile Updated : 10/5/11 10:54:57 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.12	0.0		485
3	Chloride	3.56	26.3	-	8591
	Nitrite as N				
	Bromide				
	Nitrate as N				
4	Orthophosphate as P	7.45	33.7	-	7973
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : IC111005-3MB

Data File Name : c:\peaknet\data\111005\111005_072.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/5/11

Date, Time Analyzed : 10/5/11 11:06:01 PM

Current Time : 11:17:03 PM

System Operator : WETCHEM

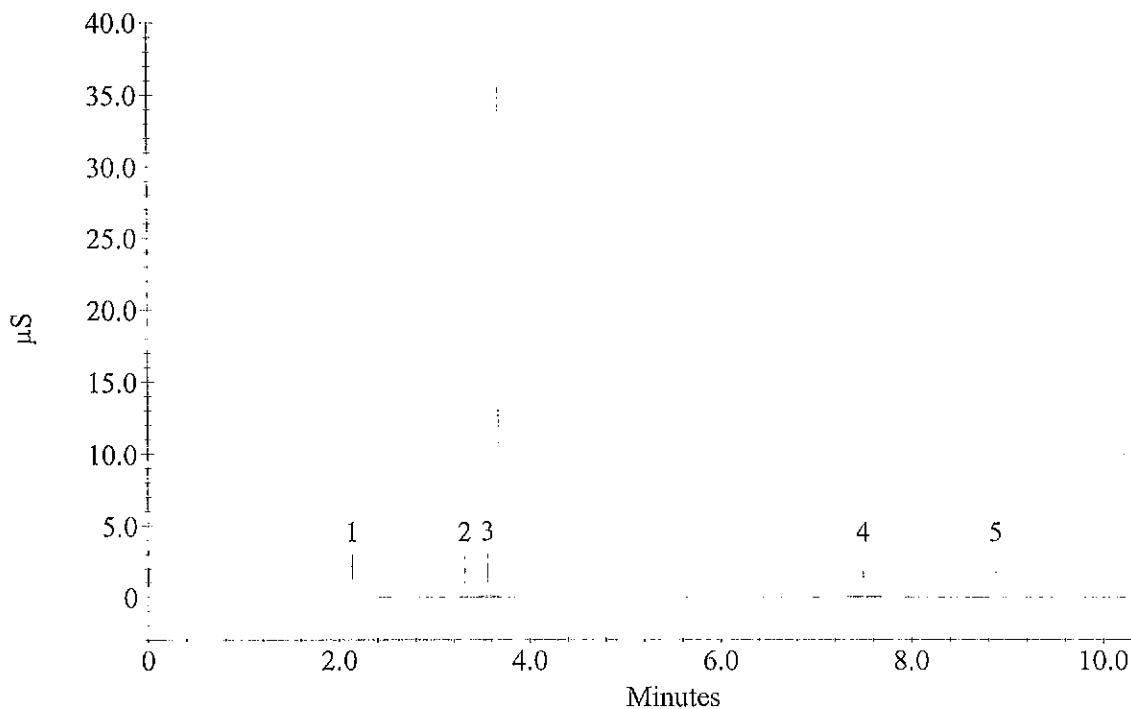
Datafile Updated : 10/5/11 11:17:02 PM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.13	0.0		727
3	Chloride	3.56	14.5	-	6997
	Nitrite as N				
	Bromide				
	Nitrate as N				
4	Orthophosphate as P	7.49	49.8	-	9788
5	Sulfate	8.88	304.1	-	2319
	Nitrate/Nitrite as N				

IC111005-3MB



Sample Analysis Report

Sample Name : IC111005-3LCS

Data File Name : c:\peaknet\data\111005\111005_073.DXD

Method File Name : c:\peaknet\method\110921.met

Date, Time Analyzed : 10/5/11 11:17:04 PM

System Operator : WETCHEM

Calibration Updated : 9/21/11 1:34:54 PM

Current Date : 10/5/11

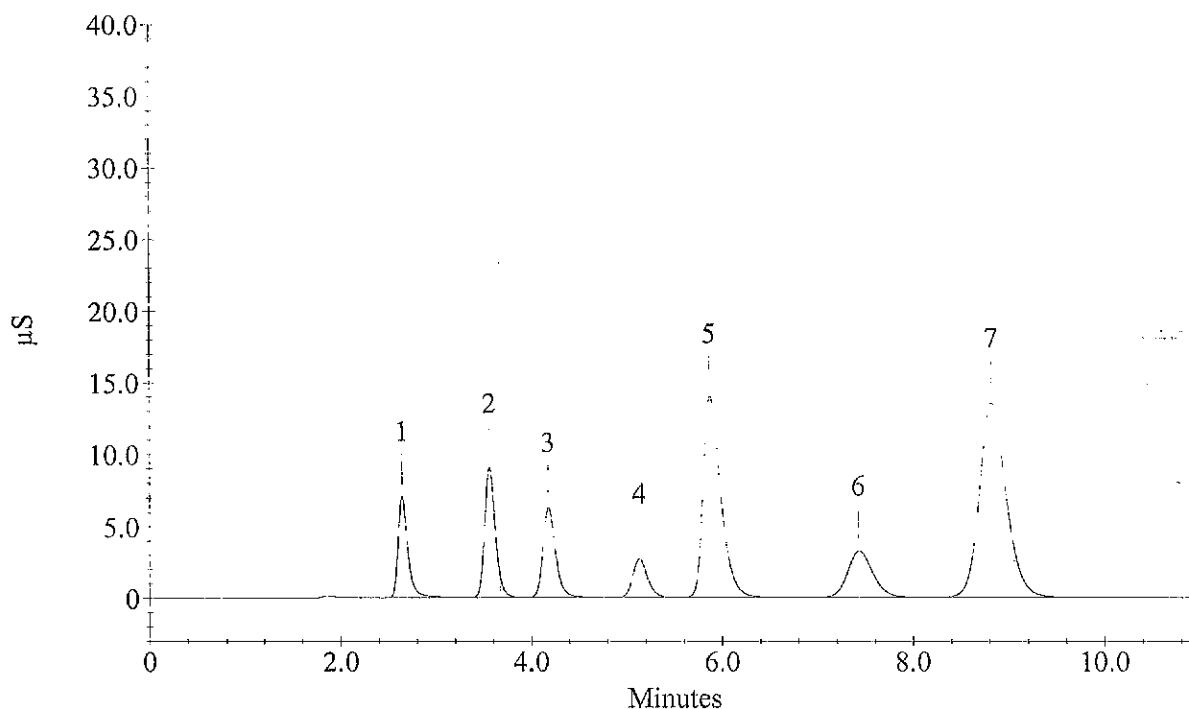
Current Time : 11:28:05 PM

Datafile Updated : 10/5/11 11:28:05 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.64	2461.2		496400
2	Chloride	3.56	4867.5		687949
3	Nitrite as N	4.17	1967.2		579706
4	Bromide	5.13	5069.7		287364
5	Nitrate as N	5.87	4924.3		1788650
6	Orthophosphate as P	7.43	5066.5		597300
7	Sulfate	8.83	24487.1		2622520
	Nitrate/Nitrite as N				

IC111005-3LCS



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_081.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 12:45:24 AM

Current Time : 12:56:25 AM

System Operator : WETCHEM

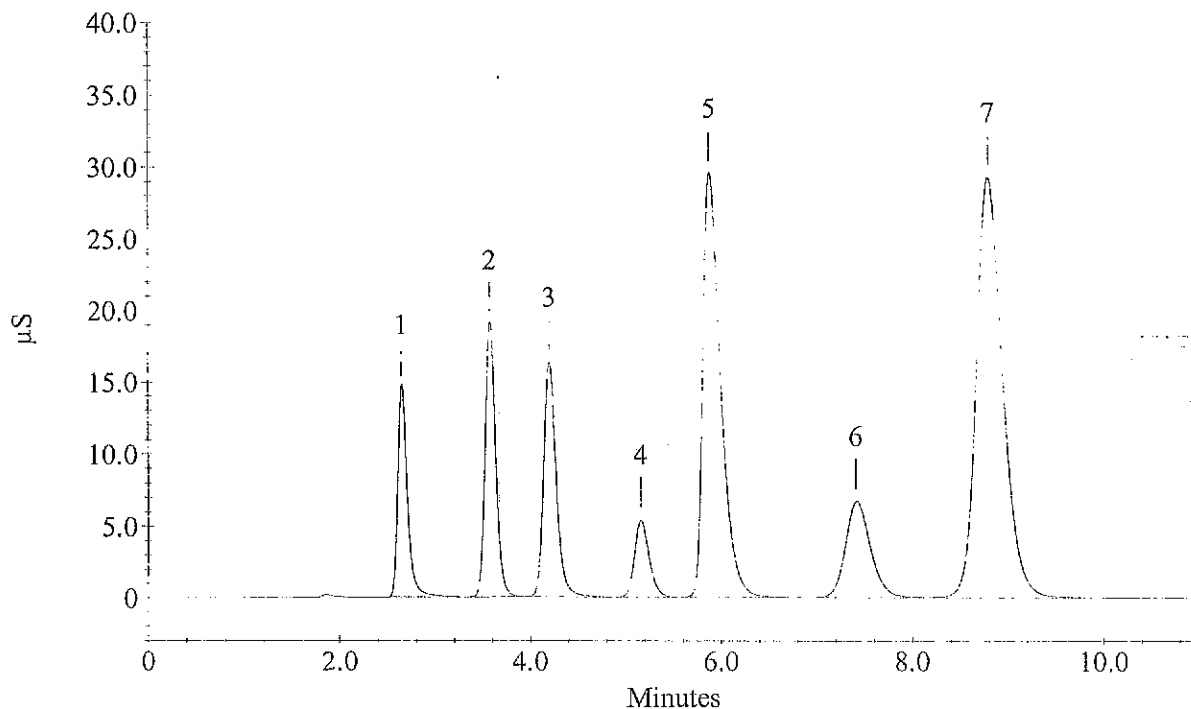
Datafile Updated : 10/6/11 12:56:25 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.64	4897.5		1029045
2	Chloride	3.57	9870.8		1458445
3	Nitrite as N	4.20	4925.0		1505964
4	Bromide	5.16	9811.7		571822
5	Nitrate as N	5.88	9943.2		3814873
6	Orthophosphate as P	7.41	9867.6		1208088
7	Sulfate	8.80	49759.3		5623585
	Nitrate/Nitrite as N				

CCV



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_082.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 12:56:26 AM

Current Time : 1:07:28 AM

System Operator : WETCHEM

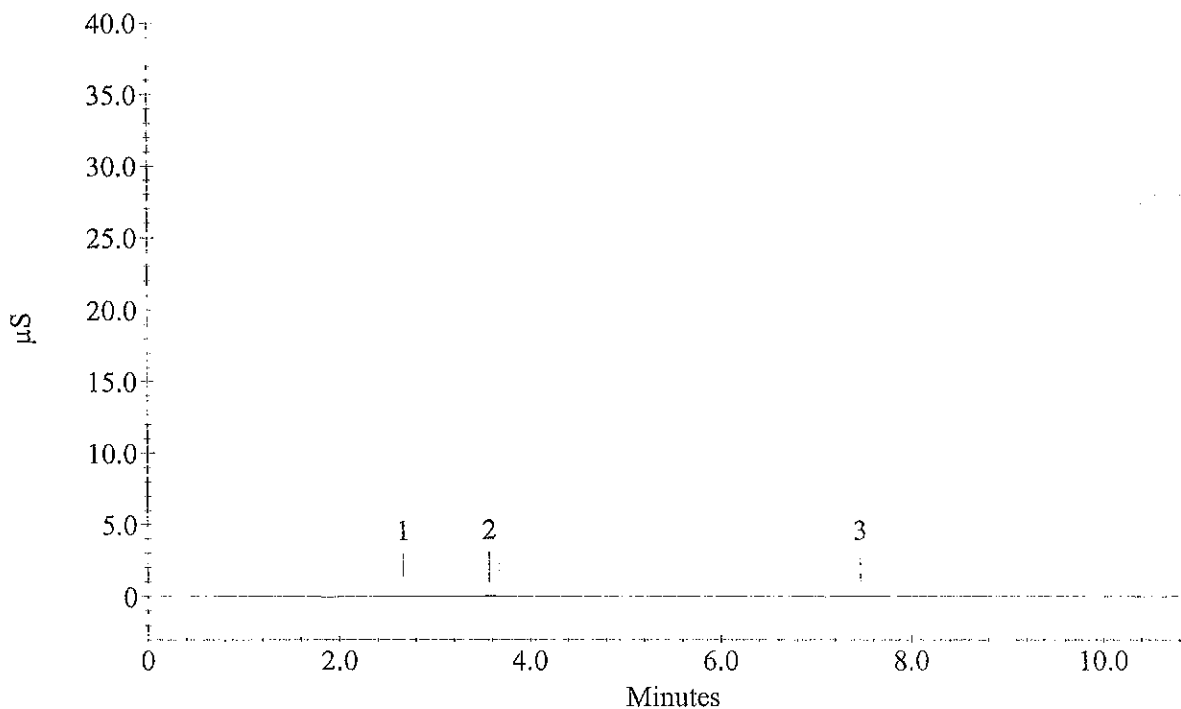
Datafile Updated : 10/6/11 1:07:27 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.67	0.0		177
2	Chloride	3.57	15.3	-	7106
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.47	36.6	-	8297
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_093.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 2:57:54 AM

Current Time : 3:08:55 AM

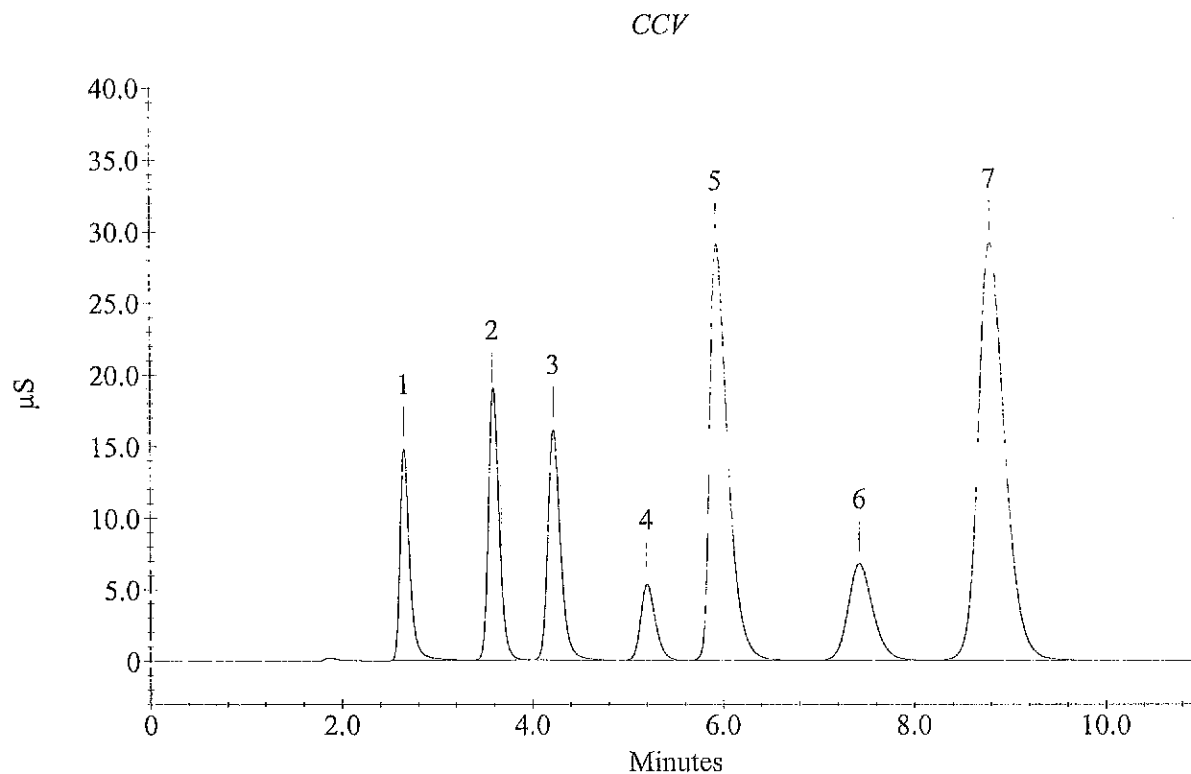
System Operator : WETCHEM

Datafile Updated : 10/6/11 3:08:55 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	4916.9		1033457
2	Chloride	3.59	9866.8		1457795
3	Nitrite as N	4.23	4918.4		1503831
4	Bromide	5.20	9824.4		572615
5	Nitrate as N	5.93	9960.3		3822147
6	Orthophosphate as P	7.43	9998.5		1225518
7	Sulfate	8.80	49833.9		5632921
	Nitrate/Nitrite as N				



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_094.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 3:08:56 AM

Current Time : 3:19:57 AM

System Operator : WETCHEM

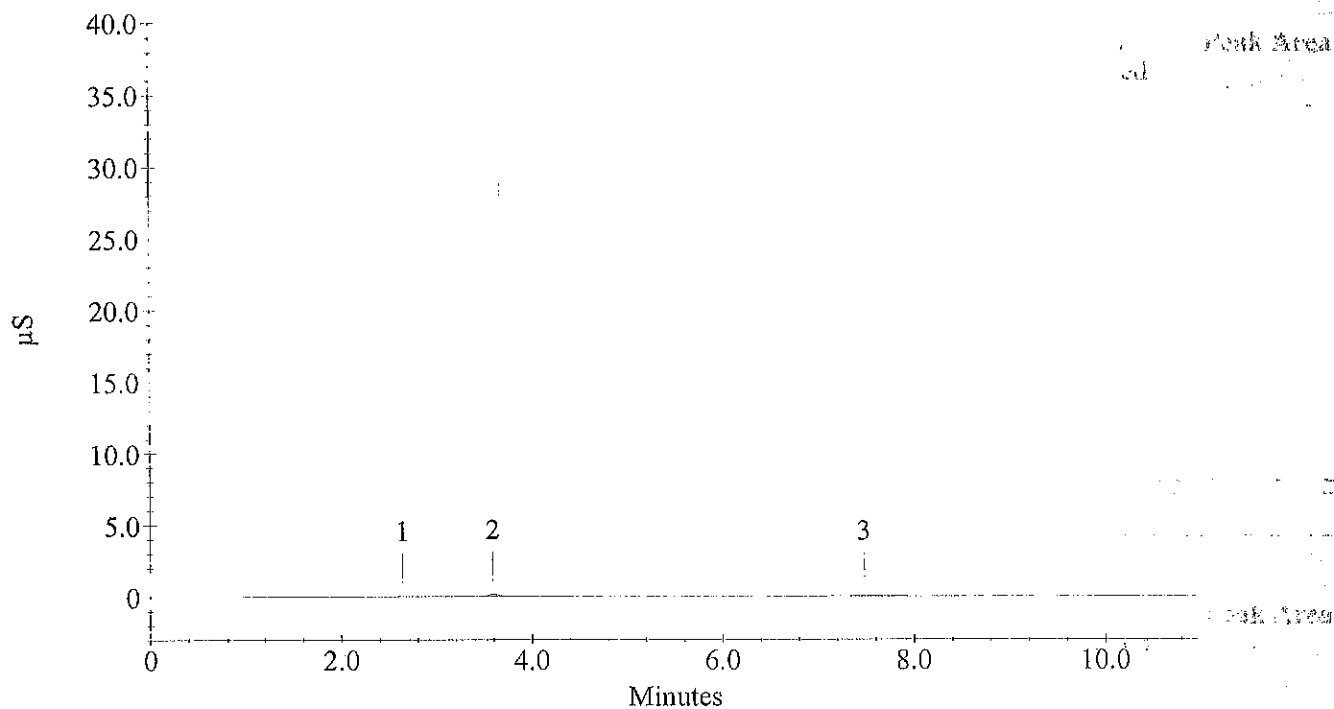
Datafile Updated : 10/6/11 3:19:57 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.64	0.0		619
2	Chloride	3.59	51.1	-	11934
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.48	40.2	-	8705
	Sulfate				
	Nitrate/Nitrite as N				

CCB



Sample Analysis Report

Sample Name : 1110046-1

Data File Name : c:\peaknet\data\111005\111005_104.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 4:59:21 AM

Current Time : 5:10:23 AM

System Operator : WETCHEM

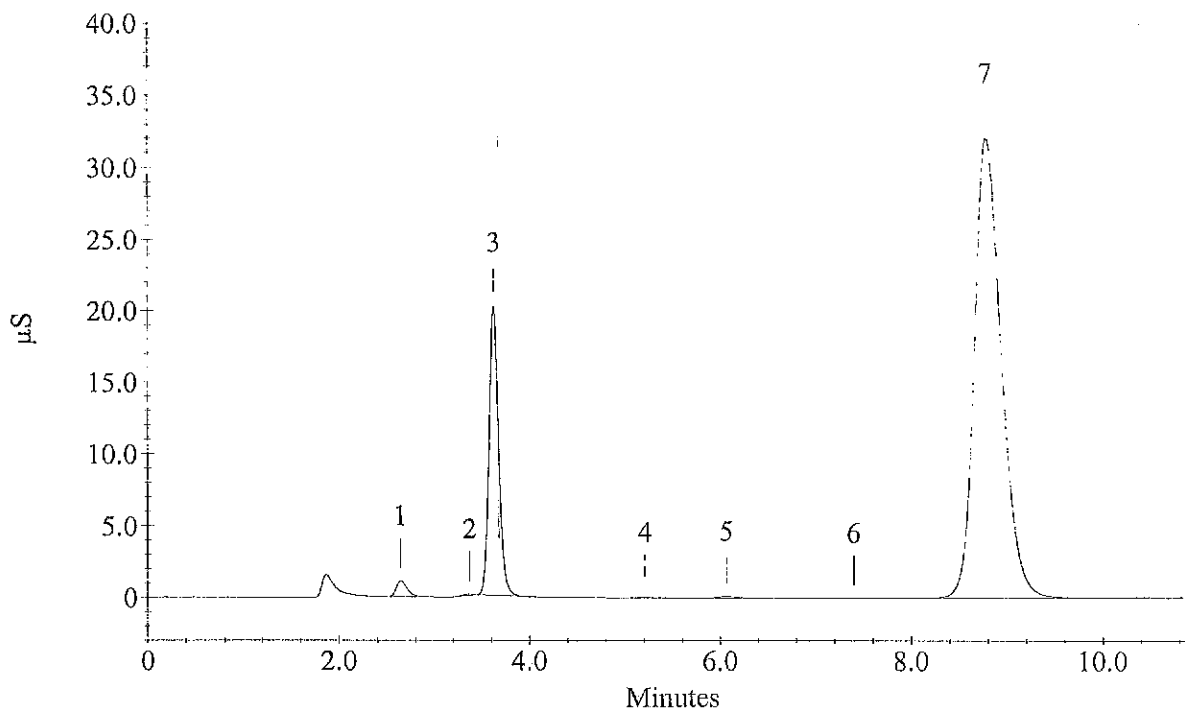
Datafile Updated : 10/6/11 5:10:22 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.64	477.1		90428
3	Chloride	3.63	9319.0		1369390
	Nitrite as N				
4	Bromide	5.21	52.3	-	4337
5	Nitrate as N	6.07	104.3	-	14890
6	Orthophosphate as P	7.40	-15.7	-	2406
7	Sulfate	8.79	54841.2		6267118
	Nitrate/Nitrite as N				

1110046-1



Sample Analysis Report

Sample Name : CCV

Data File Name : c:\peaknet\data\111005\111005_105.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 5:10:24 AM

Current Time : 5:21:25 AM

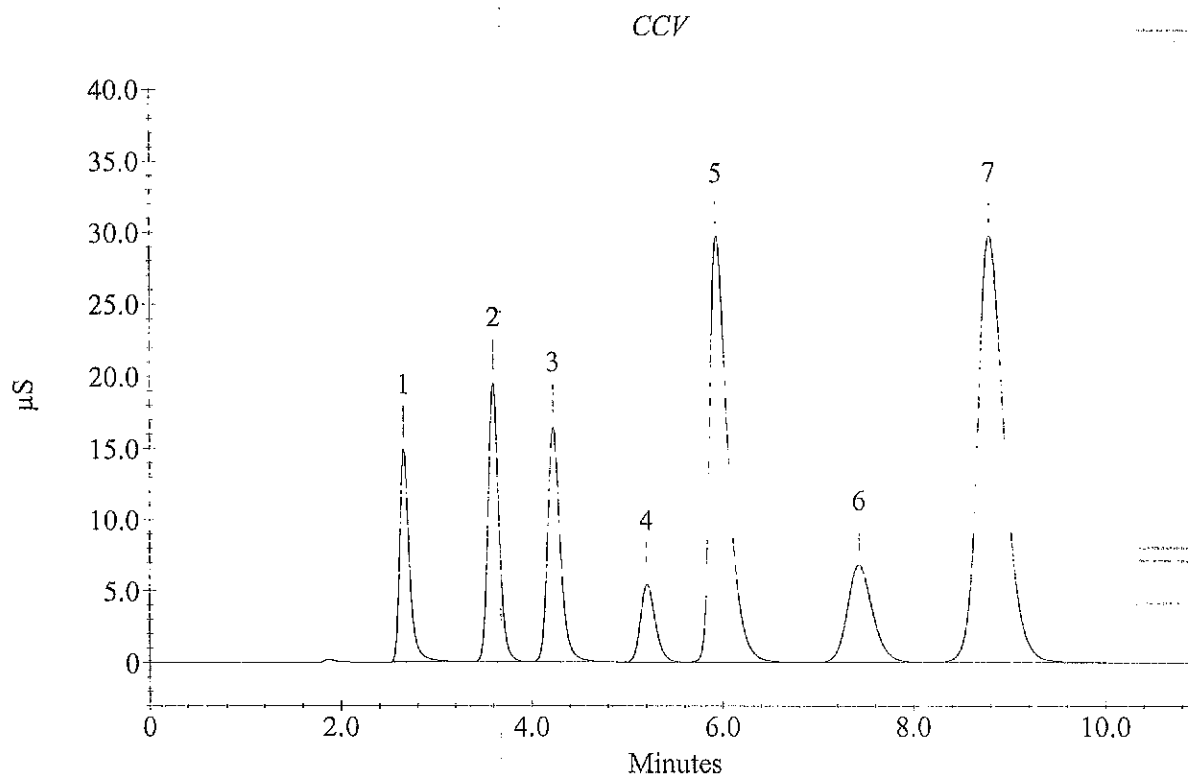
System Operator : WETCHEM

Datafile Updated : 10/6/11 5:21:25 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1	Fluoride	2.65	4996.6		1051636
2	Chloride	3.60	10106.6		1496843
3	Nitrite as N	4.23	5014.7		1535075
4	Bromide	5.20	10033.1		585565
5	Nitrate as N	5.93	10158.0		3906535
6	Orthophosphate as P	7.43	10066.7		1234635
7	Sulfate	8.80	50824.4		5757226
	Nitrate/Nitrite as N				



Sample Analysis Report

Sample Name : CCB

Data File Name : c:\peaknet\data\111005\111005_106.DXD

Method File Name : c:\peaknet\method\110921.met

Current Date : 10/6/11

Date, Time Analyzed : 10/6/11 5:21:27 AM

Current Time : 5:32:28 AM

System Operator : WETCHEM

Datafile Updated : 10/6/11 5:32:27 AM

Calibration Updated : 9/21/11 1:34:54 PM

Peak Information : All Components

Peak Number	Analyte	Retention Time (min.)	Concentration (ug/L)	Limit Exceeded	Peak Area
1		2.13	0.0		317
2	Chloride	3.59	10.9	-	6511
	Nitrite as N				
	Bromide				
	Nitrate as N				
3	Orthophosphate as P	7.48	26.3	-	7138
	Sulfate				
	Nitrate/Nitrite as N				

CCB

