facility 755652
facility 755653
project 10243

# Inorganics

## Case Narrative

---

# COGCC

## PW NORM 2017 -- 10048

### Work Order Number: 1706286

1. This report consists of 2 water samples.

2. The samples were received intact ranging from 4.0° Celsius to ambient temperature by ALS on 06/13/17.

3. The samples were prepared for analysis based on SW-846, 3rd Edition procedures and Standard Methods for the Examination of Water and Wastewater, 20th Edition 1998 procedures.

4. The samples were analyzed following SW-846 and Standard Method procedures for the current revisions of the following SOPs and methods:

| Analyte | Method | SOP # |
|---|---|---|
| Alkalinity | SM2320B | 1106 |
| Bicarbonate | SM2320B | 1106 |
| Carbonate | SM2320B | 1106 |
| pH | 9040C | 1126 |
| Specific conductance | SM2510B | 1128 |
| TDS | SM2540C | 1101 |
| TSS | SM2540D | 1100 |
| Bromide | 9056 | 1113 |
| Chloride | 9056 | 1113 |
| Fluoride | 9056 | 1113 |
| Sulfate | 9056 | 1113 |

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

6. The samples were 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, laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with the samples in each applicable preparation batch.
   - The method blank associated with each applicable batch was below the reporting limit for the requested analytes with the exception of TDS. The associated samples contained more than ten times the concentration of TDS that was detected in the blank.
   - All laboratory control sample criteria were met.
   - All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
   - All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes with the exception of CCV5 for bromide on 06/14/17. The samples bracketed by this CCV were re-analyzed for bromide with acceptable CCVs.

8. Matrix specific quality control procedures.

   Sample 1706286-3 was designated as the quality control sample for the anion analysis. Per method requirements, matrix QC was performed for the remaining analyses. 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.

   Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

   - A matrix spike (MS) and matrix spike duplicate (MSD) were prepared and analyzed with the anion batch. In order to achieve lower reporting limits for bromide, fluoride and sulfate, the sample was reanalyzed at a lower dilution. The MS and MSD were not reanalyzed. All guidance criteria for precision and accuracy were met for chloride.

9. Electrical conductivity screening indicated that the concentration of dissolved salts was high in the samples. Therefore, it was necessary to dilute the samples prior to injection into the ion chromatograph in order to minimize the amount of salts loaded into the analytical column.

   It was necessary to further dilute the samples in order to bring the chloride concentrations into the analytical range of the ion chromatograph (IC).

   Reduced aliquots were taken of the samples for the alkalinity, bicarbonate, carbonate and TDS analyses. Reporting limits were elevated accordingly.

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

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

Megan Johnstone
Inorganics Primary Data Reviewer

7/11/17
Date

Inorganics Final Data Reviewer

7/11/17
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 -- Fort Collins

## Sample Number(s) Cross-Reference Table

**OrderNum:** 1706286
**Client Name:** COGCC
**Client Project Name:** PW NORM 2017
**Client Project Number:** 10048
**Client PO Number:** CT 2017-3066

| Client Sample Number | Lab Sample Number | COC Number | Matrix | Date Collected | Time Collected |
|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | | WATER | 13-Jun-17 | 10:16 |
| 755652 Coalview | 1706286-2 | | WATER | 13-Jun-17 | 10:16 |
| 755653 Oscar Y | 1706286-3 | | WATER | 13-Jun-17 | 11:36 |
| 755653 Oscar Y | 1706286-4 | | WATER | 13-Jun-17 | 11:36 |

# ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

# Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.
Turnaround time for samples received Saturday will be calculated beginning from the next business day.

| ALS WORKORDER # | |
|---|---|
| 1706286 | |
| PAGE | 2 of 3 |
| DISPOSAL | BY LAB or |

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NAME | PW NORM 2017 | TURNAROUND TIME | 45 days | SAMPLER | RC/PAG |
| PROJECT No. | 10048 | SITE ID | | | |
| | | EDD FORMAT | COGCC | | |
| COMPANY NAME | Colorado Oil & Gas Conservation Commission | PURCHASE ORDER | CT 2017-3066 | | |
| SEND REPORT TO | Peter Gintautas | BILL TO COMPANY | | | |
| ADDRESS | 1120 Lincoln St., Suite 801 | INVOICE ATTN TO | | | |
| CITY / STATE / ZIP | Denver, CO 80203 | ADDRESS | | | |
| PHONE | 719-679-1326 | CITY / STATE / ZIP | | | |
| FAX | | PHONE | | | |
| E-MAIL | peter.gintautas@state.co.us | FAX | | | |
| | | E-MAIL | | | |

| PARAMETER/METHOD REQUEST FOR ANALYSIS | |
|---|---|
| A | total metals SW6010/6020 |
| B | dissolved metals SW6010 |
| C | SW9040A pH |
| D | SM2510B specific conductance |
| E | SM2320C total, bicarbonate and carbonate alkalinity |
| F | SM2540C dissolved solids |
| G | SM2540D suspended solids |
| H | SW9056 anions (Br, Cl, F, SO4) |
| I | SAR calculation |
| J | |

| LAB ID | FIELD ID | MATRIX | SAMPLE DATE | SAMPLE TIME | # OF BOTTLES | PRESERVATIVE | QC | A | B | C | D | E | F | G | H | I | J | SEE NOTES SECTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 755652 Coalview | W | 6/13/17 | 10:16 | 1 | 2 | | X | | | | | | | | | | |
| | 755652 Coalview | W | 6/13/17 | 10:16 | 2 | 7 | | | X | X | X | X | X | X | X | X | | |
| 2 | 755653 Oscar Y | W | 6/13/17 | 11:36 | 1 | 2 | | X | | | | | | | | | | |
| | 755653 Oscar Y | W | 6/13/17 | 11:36 | 2 | 7 | | | X | X | X | X | X | X | X | X | | |

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

| NOTES | REPORT LEVEL / QC REQUIRED | |
|---|---|---|
| 6010 total = B, Be, Ca, Cr, Fe, K, Li, Mg, Na, Ni, P, S, Si, V | | Summary (Standard QC) |
| 6020 total = Al, Ag, As, Ba, Cd, Co, Cu, Mo, Mn, Na, Pb, Se, Sr, Th, Tl, U, Zn | | LEVEL II (Standard QC) |
| diss. 6010 = Ba, Ca, Fe, K, Mg, Na, Si, Sr | | LEVEL III (Std QC + forms) |
| Dissolved = filter and preserve upon receipt at lab | X | LEVEL IV (Std QC + forms + raw data) |
| PRESERVATION KEY | 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other | |

Form 202r9

| | SIGNATURE | PRINTED NAME | DATE | TIME |
|---|---|---|---|---|
| RELINQUISHED BY | | Peter Gintautas | 6/13/2017 | 14:20 |
| RECEIVED BY | C Trimble | C Trimble | 6-13-17 | 1420 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

# ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

# Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

| ALS WORKORDER # |
|---|
| 1706786 |

| TURNAROUND TIME | 45 days | SAMPLER | RC/PAG | PAGE | 1 of 3 |
|---|---|---|---|---|---|
| | | | | DISPOSAL | BY LAB or |

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NAME | PW NORM 2017 | SITE ID | | | |
| PROJECT No. | 10048 | EDD FORMAT | COGCC | PARAMETER/METHOD REQUEST FOR ANALYSIS | |
| | | PURCHASE ORDER | CT 2017-3066 | A | gross alpha/gross beta |
| COMPANY NAME | Colorado Oil & Gas Conservation Commission | BILL TO COMPANY | | B | 210Pb |
| SEND REPORT TO | Peter Gintautas | INVOICE ATTN TO | | C | 210Po |
| ADDRESS | 1120 Lincoln St., Suite 801 | ADDRESS | | D | 222Rn |
| CITY / STATE / ZIP | Denver, CO 80203 | CITY / STATE / ZIP | | E | 224Ra & 226Ra |
| PHONE | 719-679-1326 | PHONE | | F | 228Ra |
| FAX | | FAX | | G | gamma emitters |
| E-MAIL | peter.gintautas@state.co.us | E-MAIL | | H | *isotopic U |
| | | | | I | *isotopic Th |
| | | | | J | |

| LAB ID | FIELD ID | MATRIX | SAMPLE DATE | SAMPLE TIME | # OF BOTTLES | PRESERVATIVE | QC | A | B | C | D | E | F | G | H | I | J | SEE NOTES SECTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 755652 Coalview | W | 6/13/17 | 10:16 | 3 | 2 | | X | X | X | | X | X | X | * | * | | |
| | 755652 Coalview | W | 6/13/17 | 10:16 | 3 | 7 | | | | | X | | | | | | | |
| 2 | 755653 Oscar Y | W | 6/13/17 | 11:36 | 3 PAG | 2 | | X | X | X | | X | X | X | * | * | | |
| | 755653 Oscar Y | W | 6/13/17 | 11:36 | 3 | 7 | | | | | X | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | gamma emitters 40K, 137Cs, 212Pb, 212Bi, 214Pb, 224Bi, 226Ra/235U, 228Ac/228Ra, 234mPa, 234Th | | | | | | | | | | | | | | | | | |

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

| NOTES | REPORT LEVEL / QC REQUIRED | |
|---|---|---|
| GAB prepped (coprecip) and counted within 4 days of sampling | | Summary (Standard QC) |
| 224Ra prepped and counted within 4 days of sampling | | LEVEL II (Standard QC) |
| *iso U only if 6020 "total" U >3µg/l | | LEVEL III (Std QC + forms) |
| *iso Th only if 6020 "total" Th >3µg/l | | |
| gamma = 40K, 137Cs, 212Pb, 212Bi, 214Pb, 224Bi, 226Ra/235U | X | LEVEL IV (Std QC + forms + raw data) |
| PRESERVATION KEY | 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other | |

Form 202r9

| | SIGNATURE | PRINTED NAME | DATE | TIME |
|---|---|---|---|---|
| RELINQUISHED BY | | Peter Gintautas | 6/13/2017 | 14:20 |
| RECEIVED BY | C Trimble | C Trimble | 6-13-17 | 1420 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

01144

**ALS Environmental - Fort Collins**
**CONDITION OF SAMPLE UPON RECEIPT FORM**

Client: COGCC Workorder No: 1706286

Project Manager: SS Initials: JNS Date: 6/13/17

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

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cooler #: | 1 | 2 | 3 | 4 | | | | |
| Temperature (°C): | amb | amb | 4 | 3.6 | | | | |
| No. of custody seals on cooler: | 0 | 0 | 0 | 0 | | | | |
| DOT Survey/ Acceptance Information — External µR/hr reading: | n.a | | | | | | | |
| Background µR/hr reading: | 10 | | | | | | | |

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

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

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

**Project Manager Signature / Date:** Shilab Sumy

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

## Sample Results

# BICARBONATE AS CaCO3

## Method SM2320B

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** NONE
**Analyst:** Sara K. Chouinard

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

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/26/2017 | 06/26/2017 | N/A | 1 | 250 | 20 | | 25 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/26/2017 | 06/26/2017 | N/A | 1 | 150 | 20 | | 25 ml |

**Comments:**

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

**Data Package ID:** *AK1706286-1*

# CARBONATE AS CaCO3

## Method SM2320B

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** NONE
**Analyst:** Sara K. Chouinard

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

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/26/2017 | 06/26/2017 | N/A | 1 | 20 | 20 | U | 25 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/26/2017 | 06/26/2017 | 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:** *AK1706286-1*

# TOTAL ALKALINITY AS CaCO3

## Method SM2320B

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** NONE
**Analyst:** Sara K. Chouinard

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

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/26/2017 | 06/26/2017 | N/A | 1 | 250 | 20 | | 25 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/26/2017 | 06/26/2017 | N/A | 1 | 150 | 20 | | 25 ml |

**Comments:**

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

**Data Package ID:** *AK1706286-1*

# pH in water @25 Degrees Celsius

## Method SW9040

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** NONE
**Analyst:** Alyssa M. Gruziano

**Final Volume:** 20 ml
**Matrix:** WATER
**Result Units:** pH

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/16/2017 | 06/16/2017 | N/A | 1 | 6.54 | 0.1 | | 20 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/16/2017 | 06/16/2017 | N/A | 1 | 6.22 | 0.1 | | 20 ml |

**Comments:**

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

**Data Package ID:** *pH1706286-1*

# SPECIFIC CONDUCTIVITY

## Method SM2510B

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** NONE
**Analyst:** Alyssa M. Gruziano

**Final Volume:** 20 ml
**Matrix:** WATER
**Result Units:** umhos/cm

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/16/2017 | 06/16/2017 | N/A | 1 | 24200 | 1 | | 20 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/16/2017 | 06/16/2017 | N/A | 1 | 34200 | 1 | | 20 ml |

**Comments:**

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

**Data Package ID:** *SC1706286-1*

# TOTAL DISSOLVED SOLIDS

## Method SM2540C

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** METHOD
**Analyst:** Sara K. Chouinard

**Final Volume:** 5 ml
**Matrix:** WATER
**Result Units:** MG/L

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/14/2017 | 06/15/2017 | N/A | 1 | 15000 | 400 | | 5 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/14/2017 | 06/15/2017 | N/A | 1 | 23000 | 1000 | | 2 ml |

**Comments:**

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

**Data Package ID:** *TD1706286-1*

# TOTAL SUSPENDED SOLIDS

## Method SM2540D

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Client Name:** COGCC
**Client Project ID:** PW NORM 2017 10048
**Work Order Number:** 1706286
**Reporting Basis:** As Received
**Prep Method:** METHOD
**Analyst:** Sara K. Chouinard

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

| Client Sample ID | Lab ID | Date Collected | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ/LOD | Flag | Sample Aliquot |
|---|---|---|---|---|---|---|---|---|---|---|
| 755652 Coalview | 1706286-1 | 06/13/2017 | 06/16/2017 | 06/19/2017 | N/A | 1 | 160 | 20 | | 100 ml |
| 755653 Oscar Y | 1706286-3 | 06/13/2017 | 06/16/2017 | 06/19/2017 | N/A | 1 | 110 | 20 | | 100 ml |

**Comments:**

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

**Data Package ID:** *TS1706286-1*

# Ion Chromatography

## Method SW9056

## Sample Results

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Field ID:** 755652 Coalview
**Lab ID:** 1706286-1

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Jun-17
**Date Extracted:** 14-Jun-17
**Date Analyzed:** 14-Jun-17
**Prep Method:** NONE

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170614-2A2
**Cleanup:** NONE
**Basis:** As Received
**File Name:** 70614_055.DXD

**Analyst:** Alyssa M. Gruziano
**Sample Aliquot:** 5 ml
**Final Volume:** 5 ml
**Result Units:** MG/L
**Clean DF:** 1

| CASNO | Target Analyte | Dilution Factor | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE AnalysisTime: 20:13 | 25 | 0.75 | U | 2.5 | 0.75 |
| 16887-00-6 | CHLORIDE AnalysisTime: 15:56 | 500 | 9600 | | 100 | 30 |
| 24959-67-9 | BROMIDE AnalysisTime: 15:41 | 25 | 78 | | 5 | 1.5 |
| 14808-79-8 | SULFATE AnalysisTime: 20:13 | 25 | 9.5 | J | 25 | 3.8 |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Sample Results

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Field ID:** 755653 Oscar Y
**Lab ID:** 1706286-3

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Jun-17
**Date Extracted:** 14-Jun-17
**Date Analyzed:** 14-Jun-17
**Prep Method:** NONE

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170614-2A2
**Cleanup:** NONE
**Basis:** As Received
**File Name:** 70614_057.DXD

**Analyst:** Alyssa M. Gruziano
**Sample Aliquot:** 5 ml
**Final Volume:** 5 ml
**Result Units:** MG/L
**Clean DF:** 1

| CASNO | Target Analyte | Dilution Factor | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE AnalysisTime: 20:43 | 40 | 1.2 | U | 4 | 1.2 |
| 16887-00-6 | CHLORIDE AnalysisTime: 16:57 | 1000 | 13000 | | 200 | 60 |
| 24959-67-9 | BROMIDE AnalysisTime: 16:12 | 40 | 110 | | 8 | 2.4 |
| 14808-79-8 | SULFATE AnalysisTime: 20:43 | 40 | 230 | | 40 | 6 |

**Data Package ID:** *IC1706286-1*

# Summary Report Forms

# BICARBONATE AS CaCO3

## Method SM2320B

## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** AK170626-1MB

**Sample Matrix:** WATER
**% Moisture:** N/A

**Prep Batch:** AK170626-1
**QCBatchID:** AK170626-1-1
**Run ID:** AK170626-1A1
**Cleanup:** NONE
**Basis:** N/A

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

| Lab ID | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ | Flag |
|---|---|---|---|---|---|---|---|
| AK170626-1MB | 6/26/2017 | 06/26/2017 | N/A | 1 | 5 | 5 | U |

**Comments:**

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

**Data Package ID:** *AK1706286-1*

# CARBONATE AS CaCO3

## Method SM2320B

## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** AK170626-1MB

**Sample Matrix:** WATER
**% Moisture:** N/A

**Prep Batch:** AK170626-1
**QCBatchID:** AK170626-1-1
**Run ID:** AK170626-1A1
**Cleanup:** NONE
**Basis:** N/A

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

| Lab ID | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ | Flag |
|---|---|---|---|---|---|---|---|
| AK170626-1MB | 6/26/2017 | 06/26/2017 | N/A | 1 | 5 | 5 | U |

**Comments:**

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

**Data Package ID:** *AK1706286-1*

# TOTAL ALKALINITY AS CaCO3

## Method SM2320B

## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** AK170626-1MB

**Sample Matrix:** WATER
**% Moisture:** N/A

**Prep Batch:** AK170626-1
**QCBatchID:** AK170626-1-1
**Run ID:** AK170626-1A1
**Cleanup:** NONE
**Basis:** N/A

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

| Lab ID | Date Prepared | Date Analyzed | Percent Moisture | Dilution Factor | Result | RptLimit/ LOQ | Flag |
|---|---|---|---|---|---|---|---|
| AK170626-1MB | 6/26/2017 | 06/26/2017 | N/A | 1 | 5 | 5 | U |

**Comments:**

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

**Data Package ID:** *AK1706286-1*

# TOTAL ALKALINITY AS CaCO3

## Method SM2320B

## Laboratory Control Sample and Laboratory Control Sample Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** AK170626-1LCS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 26-Jun-17
**Date Analyzed:** 26-Jun-17
**Prep Method:** NONE

**Prep Batch:** AK170626-1
**QCBatchID:** AK170626-1-1
**Run ID:** AK170626-1A1
**Cleanup:** NONE
**Basis:** N/A

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

| CASNO | Target Analyte | Spike Added | LCS Result | Reporting Limit | Result Qualifier | LCS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| | TOTAL ALKALINITY AS CaCO3 | 100 | 101 | 5 | | 101 | 85 - 115 |

**Lab ID:** AK170626-1LCSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 26-Jun-17
**Date Analyzed:** 26-Jun-17
**Prep Method:** NONE

**Prep Batch:** AK170626-1
**QCBatchID:** AK170626-1-1
**Run ID:** AK170626-1A1
**Cleanup:** NONE
**Basis:** N/A

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

| CASNO | Target Analyte | Spike Added | LCSD Result | Reporting Limit | Result Qualifier | LCSD % Rec. | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| | TOTAL ALKALINITY AS CaCO3 | 100 | 98.8 | 5 | | 99 | 15 | 3 |

**Data Package ID:** *AK1706286-1*

# Prep Batch ID: AK170626-1

**Start Date:** 06/26/17
**Start Time:** 8:28
**Prep Analyst:** Sara K. Chouinard

**End Date:** 06/26/17
**End Time:** 9:00

**Concentration Method:** NONE
**Extract Method:** NONE
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** skc
**Date Created:** 06/26/17
**Time Created:** 8:28
**Validated By:** mmj
**Date Validated:** 06/27/17
**Time Validated:** 8:50

**Comments:**

**QC Batch ID:** AK170626-1-1

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| AK170626-1 | MB | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706305 |
| AK170626-1 | LCS | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706305 |
| AK170626-1 | LCSD | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706305 |
| 1706305-1 | DUP | XXXXXX | WATER | XXXXXX | 25 | 100 | NONE | 1 | 1706305 |
| 1706271-1 | SMP | XXXXXX | WATER | XXXXXX | 25 | 100 | NONE | 1 | 1706271 |
| 1706271-2 | SMP | XXXXXX | WATER | XXXXXX | 25 | 100 | NONE | 1 | 1706271 |
| 1706286-1 | SMP | 755652 Coalview | WATER | 6/13/2017 | 25 | 100 | NONE | 1 | 1706286 |
| 1706286-3 | SMP | 755653 Oscar Y | WATER | 6/13/2017 | 25 | 100 | NONE | 1 | 1706286 |
| 1706299-1 | SMP | XXXXXX | WATER | XXXXXX | 5 | 100 | NONE | 1 | 1706299 |
| 1706299-2 | SMP | XXXXXX | WATER | XXXXXX | 5 | 100 | NONE | 1 | 1706299 |
| 1706305-1 | SMP | XXXXXX | WATER | XXXXXX | 25 | 100 | NONE | 1 | 1706305 |
| 1706305-2 | SMP | XXXXXX | WATER | XXXXXX | 25 | 100 | NONE | 1 | 1706305 |
| 1706329-1 | SMP | XXXXXX | WATER | XXXXXX | 5 | 100 | NONE | 1 | 1706329 |
| 1706329-2 | SMP | XXXXXX | WATER | XXXXXX | 5 | 100 | NONE | 1 | 1706329 |
| 1706341-1 | SMP | XXXXXX | WATER | XXXXXX | 5 | 100 | NONE | 1 | 1706341 |
| 1706341-3 | SMP | XXXXXX | WATER | XXXXXX | 5 | 100 | NONE | 1 | 1706341 |

**QC Types**

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

# Prep Batch ID: PH170616-1

**Start Date:** 06/16/17
**Start Time:** 12:00
**Prep Analyst:** Alyssa M. Gruziano

**End Date:** 06/16/17
**End Time:** 12:15

**Concentration Method:** NONE
**Extract Method:** NONE
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** amg
**Date Created:** 06/16/17
**Time Created:** 13:14
**Validated By:** amg
**Date Validated:** 06/19/17
**Time Validated:** 10:52

**Comments:**

**QC Batch ID:** PH170616-1-3

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| CCV1 | CCV | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| CCV2 | CCV | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| ICV | ICV | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706271-1 | DUP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706299-1 | DUP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706299 |
| 1706271-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706271-2 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706286-1 | SMP | 755652 Coalview | WATER | 6/13/2017 | 20 | 20 | NONE | 1 | 1706286 |
| 1706286-3 | SMP | 755653 Oscar Y | WATER | 6/13/2017 | 20 | 20 | NONE | 1 | 1706286 |
| 1706289-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706289 |
| 1706299-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706299 |
| 1706299-2 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706299 |
| 1706329-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706329 |
| 1706329-2 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706329 |
| 1706341-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706341 |
| 1706341-3 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706341 |

**QC Types**

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

# PH

## Method SW9040

## Calibration Verifications

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Run ID:** PH170616-1a1
**Result Units:** pH

| Lab ID | Verification Type | Date Analyzed | Time Analyzed | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| ICV | Initial Calibration | 6/16/2017 | | 7 | 7.05 | 0.1 | N/A | | 6.95 - 7.05 |
| CCV2 | Continuing Calibration | 6/16/2017 | | 7 | 7.10 | 0.1 | N/A | | 6.9 - 7.1 |
| CCV1 | Continuing Calibration | 6/16/2017 | | 7 | 7.10 | 0.1 | N/A | | 6.9 - 7.1 |

**Data Package ID:** *pH1706286-1*

# Prep Batch ID: SC170616-1

**Start Date:** 06/16/17
**Start Time:** 12:00
**Prep Analyst:** Alyssa M. Gruziano

**End Date:** 06/16/17
**End Time:** 12:30

**Concentration Method:** NONE
**Extract Method:** NONE
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** amg
**Date Created:** 06/16/17
**Time Created:** 15:51
**Validated By:** amg
**Date Validated:** 06/19/17
**Time Validated:** 10:34

**Comments:**

**QC Batch ID:** SC170616-1-1

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| CCV1 | CCV | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| CCV2 | CCV | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| ICV | ICV | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706271-1 | DUP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706299-1 | DUP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706299 |
| 1706271-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706271-2 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706271 |
| 1706286-1 | SMP | 755652 Coalview | WATER | 6/13/2017 | 20 | 20 | NONE | 1 | 1706286 |
| 1706286-3 | SMP | 755653 Oscar Y | WATER | 6/13/2017 | 20 | 20 | NONE | 1 | 1706286 |
| 1706299-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706299 |
| 1706299-2 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706299 |
| 1706329-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706329 |
| 1706329-2 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706329 |
| 1706339-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706339 |
| 1706341-1 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706341 |
| 1706341-3 | SMP | XXXXXX | WATER | XXXXXX | 20 | 20 | NONE | 1 | 1706341 |

**QC Types**

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

# SPECIFIC CONDUCTIVITY

## Method SM2510B

## Calibration Verifications

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Run ID:** SC170616-1a1
**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 | 6/16/2017 | | 718 | 712 | 1 | N/A | 99 | 646.2 - 789.7 |
| CCV2 | Continuing Calibration | 6/16/2017 | | 1410 | 1390 | 1 | N/A | 99 | 1271.7 - 1554.3 |
| CCV1 | Continuing Calibration | 6/16/2017 | | 1410 | 1400 | 1 | N/A | 99 | 1271.7 - 1554.3 |

**Data Package ID:** *SC1706286-1*

# Total Dissolved Solids

## Method SM2540C

## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** TD170614-1MB

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 14-Jun-17
**Date Analyzed:** 15-Jun-17
**Prep Method:** METHOD

**Prep Batch:** TD170614-1
**QCBatchID:** TD170614-1-1
**Run ID:** TD170615-1a1
**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 | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 10-33-3 | TOTAL DISSOLVED SOLIDS | 1 | 48 | | 20 | |

**Data Package ID:** *TD1706286-1*

# Total Dissolved Solids

## Method SM2540C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** TD170614-1LCS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 06/14/2017
**Date Analyzed:** 06/15/2017
**Prep Method:** METHOD

**Prep Batch:** TD170614-1
**QCBatchID:** TD170614-1-1
**Run ID:** TD170615-1a1
**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 | 439 | 20 | | 110 | 85 - 115% |

**Lab ID:** TD170614-1LCSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 06/14/2017
**Date Analyzed:** 06/15/2017
**Prep Method:** METHOD

**Prep Batch:** TD170614-1
**QCBatchID:** TD170614-1-1
**Run ID:** TD170615-1a1
**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 | LCSD Result | Reporting Limit | Result Qualifier | LCSD % Rec. | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| 10-33-3 | TOTAL DISSOLVED SOLIDS | 400 | 460 | 20 | | 115 | 5 | 5 |

**Data Package ID:** *TD1706286-1*

# Prep Batch ID: TD170614-1

**Start Date:** 06/14/17
**Start Time:** 9:22
**Prep Analyst:** Sara K. Chouinard
**End Date:** 06/14/17
**End Time:** 10:00
**Concentration Method:** NONE
**Extract Method:** METHOD
**Initial Volume Units:** ml
**Final Volume Units:** ml
**Batch Created By:** skc
**Date Created:** 06/14/17
**Time Created:** 9:22
**Validated By:** amg
**Date Validated:** 06/16/17
**Time Validated:** 9:37

**Comments:**

**QC Batch ID:** TD170614-1-1

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| TD170614-1 | MB | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706271 |
| TD170614-1 | LCS | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706271 |
| TD170614-1 | LCSD | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706271 |
| 1706271-2 | DUP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706271 |
| 1706199-1 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706199 |
| 1706225-5 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706225 |
| 1706271-1 | SMP | XXXXXX | WATER | XXXXXX | 1 | 1 | NONE | 1 | 1706271 |
| 1706271-2 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706271 |
| 1706280-1 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1706280 |
| 1706280-2 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706280 |
| 1706280-3 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706280 |
| 1706286-1 | SMP | 755652 Coalview | WATER | 6/13/2017 | 5 | 5 | NONE | 1 | 1706286 |
| 1706286-3 | SMP | 755653 Oscar Y | WATER | 6/13/2017 | 2 | 2 | NONE | 1 | 1706286 |

**Oven Number:** 22

| | Date | Time | Temp | Units |
|---|---|---|---|---|
| **In Oven:** | 6/14/2015 | 10:00 | 180 | CELSIUS |
| **Out of Oven:** | 6/15/2017 | 14:00 | 180 | CELSIUS |

**QC Types**

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

# Total Suspended Solids

## Method SM2540D

## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** TS170616-1MB

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 16-Jun-17
**Date Analyzed:** 19-Jun-17
**Prep Method:** METHOD

**Prep Batch:** TS170616-1
**QCBatchID:** TS170616-1-2
**Run ID:** TS170619-1A1
**Cleanup:** NONE
**Basis:** N/A
**File Name:** Manual Entry

**Sample Aliquot:** 500 ml
**Final Volume:** 500 ml
**Result Units:** MG/L
**Clean DF:** 1

| CASNO | Target Analyte | DF | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 10-32-2 | TOTAL SUSPENDED SOLIDS | 1 | 4 | U | 4 | |

**Data Package ID:** *TS1706286-1*

# Total Suspended Solids

## Method SM2540D

## Laboratory Control Sample and Laboratory Control Sample Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** TS170616-1LCS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 06/16/2017
**Date Analyzed:** 06/19/2017
**Prep Method:** METHOD

**Prep Batch:** TS170616-1
**QCBatchID:** TS170616-1-2
**Run ID:** TS170619-1A1
**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 |
|---|---|---|---|---|---|---|---|
| 10-32-2 | TOTAL SUSPENDED SOLIDS | 509 | 468 | 20 | | 92 | 85 - 115% |

**Lab ID:** TS170616-1LCSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 06/16/2017
**Date Analyzed:** 06/19/2017
**Prep Method:** METHOD

**Prep Batch:** TS170616-1
**QCBatchID:** TS170616-1-2
**Run ID:** TS170619-1A1
**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 | LCSD Result | Reporting Limit | Result Qualifier | LCSD % Rec. | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| 10-32-2 | TOTAL SUSPENDED SOLIDS | 502 | 459 | 20 | | 91 | 5 | 2 |

**Data Package ID:** *TS1706286-1*

# Prep Batch ID: TS170616-1

**Start Date:** 06/16/17
**Start Time:** 12:32
**Prep Analyst:** Sara K. Chouinard
**End Date:** 06/16/17
**End Time:** 13:00
**Concentration Method:** NONE
**Extract Method:** METHOD
**Initial Volume Units:** ml
**Final Volume Units:** ml
**Batch Created By:** skc
**Date Created:** 06/16/17
**Time Created:** 12:32
**Validated By:** hma
**Date Validated:** 06/22/17
**Time Validated:** 12:45

**Comments:**

**QC Batch ID:** TS170616-1-2

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| TS170616-1 | MB | XXXXXX | WATER | XXXXXX | 500 | 500 | NONE | 1 | 1706341 |
| TS170616-1 | LCS | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706341 |
| TS170616-1 | LCSD | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706341 |
| 1706341-1 | DUP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706341 |
| 1706286-1 | SMP | 755652 Coalview | WATER | 6/13/2017 | 100 | 100 | NONE | 1 | 1706286 |
| 1706286-3 | SMP | 755653 Oscar Y | WATER | 6/13/2017 | 100 | 100 | NONE | 1 | 1706286 |
| 1706299-1 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706299 |
| 1706299-2 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706299 |
| 1706329-1 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706329 |
| 1706329-2 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706329 |
| 1706339-1 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706339 |
| 1706341-1 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706341 |
| 1706341-3 | SMP | XXXXXX | WATER | XXXXXX | 100 | 100 | NONE | 1 | 1706341 |

**Oven Number:** 22

| | Date | Time | Temp | Units |
|---|---|---|---|---|
| **In Oven:** | 6/16/2017 | 15:30 | 85 | CELSIUS |
| **Out of Oven:** | 6/19/2017 | 9:00 | 85 | CELSIUS |

**QC Types**

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

# Ion Chromatography

## Method SW9056

## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** IC170614-1MB

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 14-Jun-17
**Date Analyzed:** 14-Jun-17

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170614-2A2
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 70614_014.dxd

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

| CASNO | Target Analyte | DF | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 1 | 0.03 | U | 0.1 | 0.03 |
| 16887-00-6 | CHLORIDE | 1 | 0.06 | U | 0.2 | 0.06 |
| 24959-67-9 | BROMIDE | 1 | 0.06 | U | 0.2 | 0.06 |
| 14808-79-8 | SULFATE | 1 | 0.15 | U | 1 | 0.15 |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Laboratory Control Sample and Laboratory Control Sample Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** IC170614-1LCS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 06/14/2017
**Date Analyzed:** 06/14/2017
**Prep Method:** NONE

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170614-2A2
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 70614_015.dxd

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

| CASNO | Target Analyte | Spike Added | LCS Result | Reporting Limit | Result Qualifier | LCS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 2 | 2.07 | 0.1 | | 103 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 5 | 5.06 | 0.2 | | 101 | 90 - 110% |
| 24959-67-9 | BROMIDE | 5 | 4.74 | 0.2 | | 95 | 90 - 110% |
| 14808-79-8 | SULFATE | 20 | 20.4 | 1 | | 102 | 90 - 110% |

**Lab ID:** IC170614-1LCSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 06/14/2017
**Date Analyzed:** 06/14/2017
**Prep Method:** NONE

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170614-2A2
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 70614_016.dxd

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

| CASNO | Target Analyte | Spike Added | LCSD Result | Reporting Limit | Result Qualifier | LCSD % Rec. | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 2 | 1.98 | 0.1 | | 99 | 15 | 4 |
| 16887-00-6 | CHLORIDE | 5 | 4.82 | 0.2 | | 96 | 15 | 5 |
| 24959-67-9 | BROMIDE | 5 | 4.5 | 0.2 | | 90 | 15 | 5 |
| 14808-79-8 | SULFATE | 20 | 19.4 | 1 | | 97 | 15 | 5 |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Matrix Spike And Matrix Spike Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Field ID:** 755653 Oscar Y
**LabID:** 1706286-3MS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Jun-17
**Date Extracted:** 14-Jun-17
**Date Analyzed:** 15-Jun-17
**Prep Method:** NONE

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170615-1A3
**Cleanup:** NONE
**Basis:** As Received

**Sample Aliquot:** 5 ml
**Final Volume:** 5 ml
**Result Units:** MG/L
**File Name:** 70615_027.DXD

| CASNO | Target Analyte | Sample Result | Samp Qual | MS Result | MS Qual | Reporting Limit | Spike Added | MS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 13000 | | 17200 | | 200 | 5000 | 85 | 85 - 115% |

**Field ID:** 755653 Oscar Y
**LabID:** 1706286-3MSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Jun-17
**Date Extracted:** 14-Jun-17
**Date Analyzed:** 15-Jun-17
**Prep Method:** NONE

**Prep Batch:** IC170614-1
**QCBatchID:** IC170614-1-2
**Run ID:** IC170615-1A3
**Cleanup:** NONE
**Basis:** As Received

**Sample Aliquot:** 5 ml
**Final Volume:** 5 ml
**Result Units:** MG/L
**File Name:** 70615_028.DXD

| CASNO | Target Analyte | MSD Result | MSD Qual | Spike Added | MSD % Rec. | Reporting Limit | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 17200 | | 5000 | 85 | 200 | 15 | 0 |

**Data Package ID:** *IC1706286-1*

# Prep Batch ID: IC170614-1

**Start Date:** 06/14/17
**Start Time:** 8:00
**Prep Analyst:** Alyssa M. Gruziano

**End Date:** 06/14/17
**End Time:** 8:30

**Concentration Method:** NONE
**Extract Method:** NONE
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** amg
**Date Created:** 06/14/17
**Time Created:** 10:34
**Validated By:** amg
**Date Validated:** 06/16/17
**Time Validated:** 11:37

**Comments:**

**QC Batch ID:** IC170614-1-2

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| IC170614-1 | MB | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706286 |
| IC170614-1 | LCS | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706286 |
| IC170614-1 | LCSD | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706286 |
| 1706286-3 | MS | 755653 Oscar Y | WATER | 6/13/2017 | 5 | 5 | NONE | 1 | 1706286 |
| 1706326-2 | MS | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706326 |
| 1706286-3 | MSD | 755653 Oscar Y | WATER | 6/13/2017 | 5 | 5 | NONE | 1 | 1706286 |
| 1706326-2 | MSD | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706326 |
| 1706185-1 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706185 |
| 1706185-3 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706185 |
| 1706271-1 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706271 |
| 1706271-2 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706271 |
| 1706286-1 | SMP | 755652 Coalview | WATER | 6/13/2017 | 5 | 5 | NONE | 1 | 1706286 |
| 1706286-3 | SMP | 755653 Oscar Y | WATER | 6/13/2017 | 5 | 5 | NONE | 1 | 1706286 |
| 1706299-1 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706299 |
| 1706299-2 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706299 |
| 1706326-2 | SMP | XXXXXX | WATER | XXXXXX | 5 | 5 | NONE | 1 | 1706326 |

**QC Types**

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

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** ICV
**QC Type:** Initial Calibration
**File Name:** 70516_009.dxd

**Run ID:** IC170614-2A2
**Date Analyzed:** 05/16/2017
**Time Analyzed:** 10:58
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 2.5 | 2.47 | 0.1 | | 99 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 5 | 4.68 | 0.2 | | 94 | 90 - 110% |
| 24959-67-9 | BROMIDE | 5 | 4.71 | 0.2 | | 94 | 90 - 110% |
| 14808-79-8 | SULFATE | 25 | 24.0 | 1 | | 96 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV1
**QC Type:** Continuing Calibration
**File Name:** 70614_012.dxd

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 9:23
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 5 | 5.20 | 0.1 | | 104 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 10 | 10.1 | 0.2 | | 101 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.35 | 0.2 | | 93 | 90 - 110% |
| 14808-79-8 | SULFATE | 50 | 52.1 | 1 | | 104 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV2
**QC Type:** Continuing Calibration
**File Name:** 70614_024.dxd

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 12:24
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 5 | 5.24 | 0.1 | | 105 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 10 | 9.93 | 0.2 | | 99 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.21 | 0.2 | | 92 | 90 - 110% |
| 14808-79-8 | SULFATE | 50 | 51.3 | 1 | | 103 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV3
**QC Type:** Continuing Calibration

**File Name:** 70614_036.dxd

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 15:25
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 5 | 5.37 | 0.1 | | 107 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 10 | 9.96 | 0.2 | | 100 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.27 | 0.2 | | 93 | 90 - 110% |
| 14808-79-8 | SULFATE | 50 | 51.5 | 1 | | 103 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV4
**QC Type:** Continuing Calibration
**File Name:** 70614_048.DXD

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 18:27
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 5 | 5.38 | 0.1 | | 108 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 10 | 9.96 | 0.2 | | 100 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.22 | 0.2 | | 92 | 90 - 110% |
| 14808-79-8 | SULFATE | 50 | 51.5 | 1 | | 103 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV5
**QC Type:** Continuing Calibration
**File Name:** 70614_060.DXD

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 21:28
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 5 | 5.20 | 0.1 | | 104 | 90 - 110% |
| 16887-00-6 | CHLORIDE | 10 | 9.57 | 0.2 | | 96 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 8.89 | 0.2 | Z | 89 | 90 - 110% |
| 14808-79-8 | SULFATE | 50 | 49.8 | 1 | | 100 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** ICV
**QC Type:** Initial Calibration
**File Name:** 70516_009.dxd

**Run ID:** IC170615-1A3
**Date Analyzed:** 05/16/2017
**Time Analyzed:** 10:58
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 5 | 4.68 | 0.2 | | 94 | 90 - 110% |
| 24959-67-9 | BROMIDE | 5 | 4.71 | 0.2 | | 94 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV1
**QC Type:** Continuing Calibration
**File Name:** 70615_012.dxd

**Run ID:** IC170615-1A3
**Date Analyzed:** 06/15/2017
**Time Analyzed:** 13:25
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 10 | 10.1 | 0.2 | | 101 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.44 | 0.2 | | 94 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV2
**QC Type:** Continuing Calibration
**File Name:** 70615_024.DXD

**Run ID:** IC170615-1A3
**Date Analyzed:** 06/15/2017
**Time Analyzed:** 16:27
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 10 | 10.1 | 0.2 | | 101 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.35 | 0.2 | | 93 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Verifications

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCV3
**QC Type:** Continuing Calibration
**File Name:** 70615_036.DXD

**Run ID:** IC170615-1A3
**Date Analyzed:** 06/15/2017
**Time Analyzed:** 19:28
**Result Units:** MG/L

| CASNO | Target Analyte | Spike Added | Result | Reporting Limit | Result Qualifier | % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 10 | 9.73 | 0.2 | | 97 | 90 - 110% |
| 24959-67-9 | BROMIDE | 10 | 9.01 | 0.2 | | 90 | 90 - 110% |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** ICB
**QC Type:** Initial Calibration

**Run ID:** IC170614-2A2
**Date Analyzed:** 05/16/2017
**Time Analyzed:** 11:13:57 AM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 0.03 | 0.1 | U |
| 16887-00-6 | CHLORIDE | 0.087 | 0.2 | J |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |
| 14808-79-8 | SULFATE | 0.15 | 1 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB1
**QC Type:** Continuing Calibration

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 9:38:19 AM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 0.03 | 0.1 | U |
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |
| 14808-79-8 | SULFATE | 0.15 | 1 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB2
**QC Type:** Continuing Calibration

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 12:39:41 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 0.03 | 0.1 | U |
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |
| 14808-79-8 | SULFATE | 0.15 | 1 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB3
**QC Type:** Continuing Calibration

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 3:41:01 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 0.03 | 0.1 | U |
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |
| 14808-79-8 | SULFATE | 0.15 | 1 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB4
**QC Type:** Continuing Calibration

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 6:42:23 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 0.03 | 0.1 | U |
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |
| 14808-79-8 | SULFATE | 0.15 | 1 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB5
**QC Type:** Continuing Calibration

**Run ID:** IC170614-2A2
**Date Analyzed:** 06/14/2017
**Time Analyzed:** 9:43:44 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16984-48-8 | FLUORIDE | 0.03 | 0.1 | U |
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |
| 14808-79-8 | SULFATE | 0.15 | 1 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** ICB
**QC Type:** Initial Calibration

**Run ID:** IC170615-1A3
**Date Analyzed:** 05/16/2017
**Time Analyzed:** 11:13:57 AM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 0.087 | 0.2 | J |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB1
**QC Type:** Continuing Calibration

**Run ID:** IC170615-1A3
**Date Analyzed:** 06/15/2017
**Time Analyzed:** 1:40:53 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB2
**QC Type:** Continuing Calibration

**Run ID:** IC170615-1A3
**Date Analyzed:** 06/15/2017
**Time Analyzed:** 4:42:16 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |

**Data Package ID:** *IC1706286-1*

# Ion Chromatography

## Method SW9056

## Calibration Blanks

**Lab Name:** **ALS -- Fort Collins**
**Work Order Number:** 1706286
**Client Name:** COGCC
**ClientProject ID:** PW NORM 2017 10048

**Lab ID:** CCB3
**QC Type:** Continuing Calibration

**Run ID:** IC170615-1A3
**Date Analyzed:** 06/15/2017
**Time Analyzed:** 7:43:44 PM
**Result Units:** MG/L

| CASNO | Target Analyte | Result | Reporting Limit | Result Qualifier |
|---|---|---|---|---|
| 16887-00-6 | CHLORIDE | 0.06 | 0.2 | U |
| 24959-67-9 | BROMIDE | 0.06 | 0.2 | U |

**Data Package ID:** *IC1706286-1*

## Raw Data

# Alkalinity Raw Data Worksheet

Anal Run ID **AK170626-1A1**

Anal Start Date **6/26/2017**

Standardization Ref ID **AlkalinityCAL170626-1**

**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 | 10.36 | 0.0193050 | N |
| 2 | 0.2 | 1 | 10.27 | 0.0194742 | N |
| 3 | 0.2 | 1 | 10.26 | 0.0194932 | N |

Avg HCl Conc: 0.01942413

| Num | Don't Use | ReRun Num | Lab ID | QC Type | Anal Dil | Aliq Titrated (mL) | vol to pH 8.3(mL) | vol to pH 4.5(mL) | total vol(mL) | HCO3 (mg/L as CaCO3) | CO3 (mg/L as CaCO3) | OH (mg/L as CaCO3) | Total Alk (mg/L as CaCO3) | Expected | %Rec | vol to LL pH(mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0 | AK170626-1 | MB | 1 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | NA |
| 2 | ☐ | 0 | AK170626-1 | LCS | 1 | 100 | 4.84 | 5.6 | 10.44 | 7.381172 | 94.01279 | 0 | 101.394 | | | NA |
| 3 | ☐ | 0 | AK170626-1 | LCSD | 1 | 100 | 4.88 | 5.29 | 10.17 | 3.981946 | 94.78976 | 0 | 98.77171 | | | NA |
| 4 | ☐ | 0 | 1706326-2 | SMP | 1 | 25 | 0 | 10.41 | 10.41 | 404.4104 | 0 | 0 | 404.4104 | | | NA |
| 5 | ☐ | 0 | 1706326-2 | DUP | 1 | 25 | 0 | 10.35 | 10.35 | 402.0795 | 0 | 0 | 402.0795 | | | NA |
| 6 | ☐ | 0 | 1706326-3 | SMP | 1 | 25 | 0 | 10.22 | 10.22 | 397.0292 | 0 | 0 | 397.0292 | | | NA |
| 7 | ☐ | 0 | 1706326-4 | SMP | 1 | 25 | 0 | 0.1 | 0.1 | 3.884826 | 0 | 0 | 3.884826 | | | NA |
| 8 | ☐ | 0 | 1706337-1 | SMP | 1 | 25 | 0 | 10.19 | 10.19 | 395.8638 | 0 | 0 | 395.8638 | | | NA |
| 9 | ☐ | 0 | 1706337-2 | SMP | 1 | 25 | 0 | 9.06 | 9.06 | 351.9653 | 0 | 0 | 351.9653 | | | NA |
| 10 | ☐ | 0 | 1706337-3 | SMP | 1 | 25 | 0 | 5.75 | 5.75 | 223.3775 | 0 | 0 | 223.3775 | | | NA |
| 11 | ☐ | 0 | 1706337-4 | SMP | 1 | 25 | 0 | 6.87 | 6.87 | 266.8875 | 0 | 0 | 266.8875 | | | NA |
| 12 | ☐ | 0 | 1706415-1 | SMP | 1 | 1.089 | 0 | 0.22 | 0.22 | 196.2034 | 0 | 0 | 196.2034 | | | NA |
| 13 | ☐ | 0 | 1706271-1 | SMP | 1 | 25 | 0 | 3.64 | 3.64 | 141.4077 | 0 | 0 | 141.4077 | | | NA |
| 14 | ☐ | 0 | 1706271-2 | SMP | 1 | 25 | 0 | 19.91 | 19.91 | 773.4689 | 0 | 0 | 773.4689 | | | NA |
| 15 | ☐ | 0 | 1706286-1 | SMP | 1 | 25 | 0 | 6.42 | 6.42 | 249.4059 | 0 | 0 | 249.4059 | | | NA |
| 16 | ☐ | 0 | 1706286-3 | SMP | 1 | 25 | 0 | 3.88 | 3.88 | 150.7313 | 0 | 0 | 150.7313 | | | NA |
| 17 | ☐ | 0 | 1706299-1 | SMP | 1 | 5 | 0 | 7.69 | 7.69 | 1493.716 | 0 | 0 | 1493.716 | | | NA |
| 18 | ☐ | 0 | 1706299-2 | SMP | 1 | 5 | 0 | 4.19 | 4.19 | 813.8711 | 0 | 0 | 813.8711 | | | NA |
| 19 | ☐ | 0 | 1706305-1 | SMP | 1 | 25 | 0 | 5.95 | 5.95 | 231.1472 | 0 | 0 | 231.1472 | | | NA |
| 20 | ☐ | 0 | 1706305-1 | DUP | 1 | 25 | 0 | 6.01 | 6.01 | 233.4781 | 0 | 0 | 233.4781 | | | NA |
| 21 | ☐ | 0 | 1706305-2 | SMP | 1 | 25 | 0 | 6.26 | 6.26 | 243.1901 | 0 | 0 | 243.1901 | | | NA |
| 22 | ☐ | 0 | 1706329-1 | SMP | 1 | 5 | 0 | 13.74 | 13.74 | 2668.875 | 0 | 0 | 2668.875 | | | NA |
| 23 | ☐ | 0 | 1706329-2 | SMP | 1 | 5 | 0 | 18.07 | 18.07 | 3509.94 | 0 | 0 | 3509.94 | | | NA |
| 24 | ☐ | 0 | 1706341-1 | SMP | 1 | 5 | 0 | 17.69 | 17.69 | 3436.129 | 0 | 0 | 3436.129 | | | NA |
| 25 | ☐ | 0 | 1706341-3 | SMP | 1 | 5 | 0 | 13.69 | 13.69 | 2659.164 | 0 | 0 | 2659.164 | | | NA |

**Comments:**

**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 | **RG161102-1** |
| Phenolphthalein Indicator | **RG141105-2** |
| Bromocresol Green Indicator | **RG160628-1** |
| 0.20 N Std. THAM | **ST161228-1** |
| 0.20 N NaCO3 (ICV, LCS, CCV's - 1.0 mL) | **ST161028-2** |

# pH Calculations and Quality Control Results

Prep & Analysis Date: 06/16/2017
Prep & Analysis Time: 12:30
Analyst: AMG

**Reagent List:**

| | |
|---|---|
| 4.01: ST160428-1 | 10.01: ST160428-3 |
| 7.00 (CCV): ST170317-4 | 7.00 (ICV): ST160428-5 |

| ID | Temp. (°C) | Method | sample vol (g) | sample vol (mL) | pH Value | QC Accdeptance Range (pH units) |
|---|---|---|---|---|---|---|
| pH 4.01 | 25.0 | NA | NA | NA | 4.01 | |
| pH 7.00 | 25.0 | NA | NA | NA | 7.00 | |
| pH 10.01 | 25.0 | NA | NA | NA | 10.01 | |
| ICV - pH 7.00 | 25.0 | NA | NA | NA | 7.05 | +/- 0.05 |
| 1706271-1 | 25.0 | SW9040 | NA | 20.0 | 6.12 | |
| 1706271-1DUP | 25.0 | SW9040 | NA | 20.0 | 6.13 | |
| 1706271-2 | 25.0 | SW9040 | NA | 20.0 | 6.82 | |
| 1706286-1 | 25.0 | SW9040 | NA | 20.0 | 6.54 | |
| 1706286-3 | 25.0 | SW9040 | NA | 20.0 | 6.22 | |
| 1706289-1 | 25.0 | SW9040 | NA | 20.0 | 7.83 | |
| 1706299-1 | 25.0 | SW9040 | NA | 20.0 | 7.97 | |
| 1706299-1DUP | 25.0 | SW9040 | NA | 20.0 | 7.97 | |
| 1706299-2 | 25.0 | SW9040 | NA | 20.0 | 7.99 | |
| 1706329-1 | 25.0 | SW9040 | NA | 20.0 | 6.65 | |
| CCV- pH 7.00 | 25.0 | NA | NA | NA | 7.10 | +/- 0.10 |
| 1706329-2 | 25.0 | SW9040 | NA | 20.0 | 7.02 | |
| 1706341-1 | 25.0 | SW9040 | NA | 20.0 | 6.86 | |
| 1706341-3 | 25.0 | SW9040 | NA | 20.0 | 6.79 | |
| 1706338-1 | 25.0 | SM4500-H | NA | 20.0 | 7.94 | |
| 1706339-1 | 25.0 | SM4500-H | NA | 20.0 | 8.17 | |
| CCV- pH 7.00 | 25.0 | NA | NA | NA | 7.10 | +/- 0.10 |

**DUPLICATE SUMMARY (Aq)**

| ID | native pH Value | duplic pH Value | difference of native - dup | accept. limit |
|---|---|---|---|---|
| 1706271-1 | 6.12 | 6.13 | 0.01 | 0.2 pH units |
| 1706299-1 | 7.97 | 7.97 | 0.00 | 0.2 pH units |

**pH INFORMATION:**

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

# Specific Conductivity Calculations & Quality Control Results

Prep & Analysis Date: 6/16/2017
Prep & Analysis Time: 15:10
Analyst: AMG

| ID | Prep Dilution Factor | Initial Sample Volume (mL) | Final Sample Volume (mL) | Temp. °C | Conductivity Instrument Reading | Instrument Units | Calcated Conductivity (umhos/cm) | % Recovery | Recovery Limit |
|---|---|---|---|---|---|---|---|---|---|
| Calibration Standard ( * ) | | 30 | 30 | | 1413 | umhos/cm | 1413 | | |
| ICV-2nd Source ( ** ) | | 30 | 30 | | 712 | umhos/cm | 712 | 99 | 646.2 - 789.8 |
| 1706271-1 | 1 | 30 | 30 | | 237000 | umhos/cm | 237000 | | |
| 1706271-1DUP | 1 | 30 | 30 | | 239000 | umhos/cm | 239000 | | |
| 1706271-2 | 1 | 30 | 30 | | 22500 | umhos/cm | 22500 | | |
| 1706286-1 | 1 | 30 | 30 | | 24200 | umhos/cm | 24200 | | |
| 1706286-3 | 1 | 30 | 30 | | 34200 | umhos/cm | 34200 | | |
| 1706299-1 | 1 | 30 | 30 | | 4770 | umhos/cm | 4770 | | |
| 1706299-1DUP | 1 | 30 | 30 | | 4830 | umhos/cm | 4830 | | |
| 1706299-2 | 1 | 30 | 30 | | 3700 | umhos/cm | 3700 | | |
| 1706329-1 | 1 | 30 | 30 | | 38300 | umhos/cm | 38300 | | |
| 1706329-2 | 1 | 30 | 30 | | 36100 | umhos/cm | 36100 | | |
| CCV-1 ( * ) | | 30 | 30 | | 1398 | umhos/cm | 1398 | 99 | 1271.7 - 1554.3 |
| 1706341-1 | 1 | 30 | 30 | | 36300 | umhos/cm | 36300 | | |
| 1706341-3 | 1 | 30 | 30 | | 38400 | umhos/cm | 38400 | | |
| 1706338-1 | 1 | 30 | 30 | | 1480 | umhos/cm | 1480 | | |
| 1706339-1 | 1 | 30 | 30 | | 296 | umhos/cm | 296 | | |
| CCV-2 ( * ) | | 30 | 30 | | 1394 | umhos/cm | 1394 | 99 | 1271.7 - 1554.3 |

**DUPLICATE SUMMARY**

| ID | native Spec. Cond. Value | duplic Spec. Cond. Value | RPD % | RPD accept. limit |
|---|---|---|---|---|
| 1706271-1 | 237000 | 239000 | 1 | 0-10% |
| 1706299-1 | 4770 | 4830 | 1 | 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] ( * ): ST170201-4

0.005 M KCl Solu+C21tion [718umhos/cm] ( ** ): ST170201-1

# TDS Raw Data Worksheet

Anal Run ID **TD170615-1a1**

Anal Start Date **6/15/2017**

| Num | Don't Use | ReRun Num | Lab ID | QC Type | Samp Vol (ml) | Empty Beaker (g) | A - Beaker + Residue gross (g) | A - Net mass (mg) | B - Beaker + Residue gross (g) | B - Net mass (mg) | Constant Wt (+/- 0.5mg) | Constant Wt (+/- 4%) | calculated conc (mg/L) | DL (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0 | TD170614-1 | MB | 100 | 3.3409 | 3.3459 | 5 | 3.3457 | 4.8 | 0.2 | 4.08% | 48 | 20 |
| 2 | ☐ | 0 | TD170614-1 | LCS | 100 | 3.376 | 3.4205 | 44.5 | 3.4199 | 43.9 | 0.6 | 1.36% | 439 | 20 |
| 3 | ☐ | 0 | TD170614-1 | LCSD | 100 | 3.3546 | 3.4008 | 46.2 | 3.4006 | 46 | 0.2 | 0.43% | 460 | 20 |
| 4 | ☐ | 0 | 1706199-1 | SMP | 100 | 3.3738 | 3.4355 | 61.7 | 3.4358 | 62 | 0.3 | 0.49% | 620 | 20 |
| 5 | ☐ | 0 | 1706225-5 | SMP | 25 | 3.3649 | 3.4389 | 74 | 3.4392 | 74.3 | 0.3 | 0.40% | 2972 | 80 |
| 6 | ☐ | 0 | 1706271-1 | SMP | 1 | 3.3862 | 3.6223 | 236.1 | 3.6221 | 235.9 | 0.2 | 0.08% | 235900 | 2000 |
| 7 | ☐ | 0 | 1706271-2 | SMP | 5 | 3.4032 | 3.4723 | 69.1 | 3.4731 | 69.9 | 0.8 | 1.15% | 13980 | 400 |
| 8 | ☐ | 0 | 1706271-2 | DUP | 5 | 3.3943 | 3.464 | 69.7 | 3.4647 | 70.4 | 0.7 | 1.00% | 14080 | 400 |
| 9 | ☐ | 0 | 1706280-1 | SMP | 50 | 3.4189 | 3.4809 | 62 | 3.4807 | 61.8 | 0.2 | 0.32% | 1236 | 40 |
| 10 | ☐ | 0 | 1706280-2 | SMP | 100 | 3.3953 | 3.4598 | 64.5 | 3.4601 | 64.8 | 0.3 | 0.46% | 648 | 20 |
| 11 | ☐ | 0 | 1706280-3 | SMP | 100 | 3.3962 | 3.4819 | 85.7 | 3.4817 | 85.5 | 0.2 | 0.23% | 855 | 20 |
| 12 | ☐ | 0 | 1706286-1 | SMP | 5 | 3.3898 | 3.4643 | 74.5 | 3.4645 | 74.7 | 0.2 | 0.27% | 14940 | 400 |
| 13 | ☐ | 0 | 1706286-3 | SMP | 2 | 3.4247 | 3.4697 | 45 | 3.4703 | 45.6 | 0.6 | 1.32% | 22800 | 1000 |

**Comments:**

**Standards, Batch QC, and Matrix Spike Information**

| ID | Parent ID | Parent Conc | Parent Vol. | Final Vol. |
|---|---|---|---|---|
| LCS | ST161028-3 | 40000 | 1 | 100 |

**Reagent List:**

TDS Spike Solution: 40.0 mg NaCl/mL **ST161028-3**

Shaded values used to to determine the calculated concentration

# TSS Raw Data Worksheet

Anal Run ID **TS170619-1A1**

Anal Start Date **6/19/2017**

| Num | Don't Use | ReRun Num | Lab ID | QC Type | Samp Vol (ml) | Filter + Boat (g) | A - Filer + Boat gross (g) | A - Net mass (mg) | B - Filer + Boat gross (g) | B - Net mass (mg) | Constant Wt (+/- 0.5mg) | Constant Wt (+/- 4%) | calculated conc (mg/L) | DL (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ☐ | 0 | TS170616-1 | MB | 500 | 1.3708 | 1.3708 | 0 | 1.3705 | -0.3 | 0.3 | NA | -0.6 | 4 |
| 2 | ☐ | 0 | TS170616-1 | LCS | 100 | 1.3763 | 1.4235 | 47.2 | 1.4231 | 46.8 | 0.4 | 0.85% | 468 | 20 |
| 3 | ☐ | 0 | TS170616-1 | LCSD | 100 | 1.3867 | 1.433 | 46.3 | 1.4326 | 45.9 | 0.4 | 0.87% | 459 | 20 |
| 4 | ☐ | 0 | 1706289-1 | SMP | 100 | 1.3833 | 1.3838 | 0.5 | 1.3833 | 0 | 0.5 | NA | 0 | 20 |
| 5 | ☐ | 0 | 1706289-1 | DUP | 100 | 1.36 | 1.36 | 0 | 1.3597 | -0.3 | 0.3 | NA | -3 | 20 |
| 6 | ☐ | 0 | 1706286-1 | SMP | 100 | 1.3719 | 1.3885 | 16.6 | 1.388 | 16.1 | 0.5 | 3.06% | 161 | 20 |
| 7 | ☐ | 0 | 1706286-3 | SMP | 100 | 1.3502 | 1.3611 | 10.9 | 1.3608 | 10.6 | 0.3 | 2.79% | 106 | 20 |
| 8 | ☐ | 0 | 1706299-1 | SMP | 100 | 1.3624 | 1.3629 | 0.5 | 1.3625 | 0.1 | 0.4 | NA | 1 | 20 |
| 9 | ☐ | 0 | 1706299-2 | SMP | 100 | 1.3575 | 1.3568 | -0.7 | 1.3565 | -1 | 0.3 | NA | -10 | 20 |
| 10 | ☐ | 0 | 1706329-1 | SMP | 100 | 1.3722 | 1.3741 | 1.9 | 1.3739 | 1.7 | 0.2 | NA | 17 | 20 |
| 11 | ☐ | 0 | 1706329-2 | SMP | 100 | 1.3797 | 1.3814 | 1.7 | 1.381 | 1.3 | 0.4 | NA | 13 | 20 |
| 12 | ☐ | 0 | 1706339-1 | SMP | 100 | 1.3638 | 1.3688 | 5 | 1.3688 | 5 | 0 | 0.00% | 50 | 20 |
| 13 | ☐ | 0 | 1706341-1 | SMP | 100 | 1.3579 | 1.3592 | 1.3 | 1.359 | 1.1 | 0.2 | NA | 11 | 20 |
| 14 | ☐ | 0 | 1706341-1 | DUP | 100 | 1.3706 | 1.3717 | 1.1 | 1.3714 | 0.8 | 0.3 | NA | 8 | 20 |
| 15 | ☐ | 0 | 1706341-3 | SMP | 100 | 1.3848 | 1.386 | 1.2 | 1.3857 | 0.9 | 0.3 | NA | 9 | 20 |
| 16 | ☐ | 0 | 1706317-1 | SMP | 500 | 1.3888 | 1.3897 | 0.9 | 1.3896 | 0.8 | 0.1 | NA | 1.6 | 4 |
| 17 | ☐ | 0 | 1706357-1 | SMP | 500 | 1.3784 | 1.3783 | -0.1 | 1.3783 | -0.1 | 0 | NA | -0.2 | 4 |
| 18 | ☐ | 0 | 1706357-2 | SMP | 500 | 1.3759 | 1.381 | 5.1 | 1.381 | 5.1 | 0 | 0.00% | 10.2 | 4 |
| 19 | ☐ | 0 | 1706357-3 | SMP | 500 | 1.3736 | 1.3758 | 2.2 | 1.3757 | 2.1 | 0.1 | 4.65% | 4.2 | 4 |
| 20 | ☐ | 0 | 1706357-4 | SMP | 500 | 1.3755 | 1.3772 | 1.7 | 1.3772 | 1.7 | 0 | NA | 3.4 | 4 |

**Comments:**

**Standards, Batch QC, and Matrix Spike Information**

| ID | Parent ID | Parent Conc | Parent Vol. | Final Vol. |
|---|---|---|---|---|
| | | | | |

**Reagent List:**

TSS Spike Material: pottery clay **ST050502-4**

Shaded values used to to determine the calculated concentration

Schedule File: C:\PeakNet2\schedule02\170614ic2.SCH

| Line | Sample | Sample Type | Level | Method | Data File | Comment |
|---|---|---|---|---|---|---|
| 1 | Blank | Sample | | 170516ic2.met | 170516_001.dxd | Water |
| 2 | 0 STD | Calibration | 7 | 170516ic2.met | 170516_002.dxd | |
| 3 | 1000X STD | Calibration | 6 | 170516ic2.met | 170516_003.dxd | |
| 4 | 500X STD | Calibration | 5 | 170516ic2.met | 170516_004.dxd | |
| 5 | 100X STD | Calibration | 4 | 170516ic2.met | 170516_005.dxd | |
| 6 | 25X STD | Calibration | 3 | 170516ic2.met | 170516_006.dxd | |
| 7 | 10X STD | Calibration | 2 | 170516ic2.met | 170516_007.dxd | |
| 8 | 5X STD | Calibration | 1 | 170516ic2.met | 170516_008.dxd | |
| 9 | ICV | Sample | | 170516ic2.met | 170516_009.dxd | ICV |
| 10 | ICB | Sample | | 170516ic2.met | 170516_010.dxd | ICB |
| 11 | Blank | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_011.dxd | Blank |
| 12 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_012.dxd | CCV |
| 13 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_013.dxd | CCB |
| 14 | IC170614-1MB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_014.dxd | MB |
| 15 | IC170614-1LCS | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_015.dxd | LCS |
| 16 | IC170614-1LCSD | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_016.dxd | LCSD |
| 17 | 1706160-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_017.dxd | RRing SO4 |
| 18 | 1706179-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_018.dxd | RRing Cl |
| 19 | 1706180-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_019.dxd | RRing Cl |
| 20 | 1706180-2 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_020.dxd | RRing Cl |
| 21 | 1706182-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_021.dxd | RRing Cl |
| 22 | 1706082-1 100x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_022.dxd | RRing Cl |
| 23 | 1706083-1 500x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_023.dxd | RRing Cl |
| 24 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_024.dxd | CCV |
| 25 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_025.dxd | CCB |
| 26 | 1706103-1 50x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_026.dxd | RRing Cl |
| 27 | 1706175-1 200x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_027.dxd | RRing Cl |
| 28 | 1706175-2 200x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_028.dxd | RRing Cl |
| 29 | 1706176-1 50x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_029.dxd | RRing Cl |
| 30 | 1706177-1 100x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_030.dxd | RRing Cl |
| 31 | IC170614-2MB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_031.dxd | MB |
| 32 | IC170614-2LCS | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_032.dxd | LCS |
| 33 | IC170614-2LCSD | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_033.dxd | LCS |
| 34 | 1706097-1 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_034.dxd | F, NO3 |
| 35 | 1706097-1MS 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_035.dxd | F, NO3 |
| 36 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_036.dxd | CCV |
| 37 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_037.dxd | CCB |
| 38 | 1706097-1MSD | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_038.dxd | F, NO3 |
| 39 | 1706084-1 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_039.dxd | F, ~~Cl,~~ Br, SO4 |
| 40 | 1706084-2 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_040.dxd | F, ~~Cl,~~ Br, SO4 |
| 41 | 1706185-1 50x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_041.dxd | F, ~~Cl,~~ Br, SO4 |
| 42 | ~~1706185-1 500x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_042.dxd | ~~F, Cl, Br, SO4~~ |
| 43 | 1706185-3 50x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_043.dxd | F, ~~Cl,~~ Br, SO4 |
| 44 | ~~1706185-3 500x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_044.dxd | ~~F, Cl, Br, SO4~~ |
| 45 | 1706271-1 250x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_045.dxd | F, ~~Cl,~~ Br, SO4 |
| 46 | 1706271-2 25x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_046.dxd | F, ~~Cl,~~ Br, SO4 |
| 47 | 1706280-1 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_047.dxd | ~~Cl, SO4~~, F |
| 48 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_048.dxd | CCV |
| 49 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_049.dxd | CCB |
| 50 | 1706280-1 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_050.dxd | ~~F,~~ Cl, SO4 |
| 51 | 1706280-2 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_051.dxd | F, ~~Cl, SO4~~ |
| 52 | 1706280-2 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_052.dxd | ~~F,~~ Cl, SO4 |
| 53 | 1706280-3 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_053.dxd | F, ~~Cl, SO4~~ |
| 54 | 1706280-3 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_054.dxd | ~~F,~~ Cl, SO4 |
| 55 | 1706286-1 25x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_055.dxd | F, ~~Cl, Br,~~ SO4 |
| 56 | ~~1706286-1 250x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_056.dxd | ~~F, Cl, Br, SO4~~ |
| 57 | 1706286-3 40x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_057.dxd | F, ~~Cl, Br,~~ SO4 |
| 58 | ~~1706286-3 500x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_058.dxd | ~~F, Cl, Br, SO4~~ |
| 59 | ~~1706286-3MS 500x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_059.dxd | ~~F, Cl, Br, SO4~~ |
| 60 | CCV FAIL BR | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_060.dxd | CCV |
| 61 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_061.dxd | CCB |
| 62 | ~~1706286-3MSD 500x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_062.dxd | ~~F, Cl, Br, SO4~~ |
| 63 | 1706299-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_063.dxd | F, ~~Cl, Br,~~ SO4 |
| 64 | 1706299-1 50x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_064.dxd | ~~F,~~ Cl, ~~Br, SO4~~ |
| 65 | 1706299-2 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_065.dxd | F, ~~Cl, Br,~~ SO4 |
| 66 | 1706299-2 50x | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_066.dxd | ~~F,~~ Cl, ~~Br, SO4~~ |
| 67 | 1706326-2 | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_067.dxd | OPhos, F, SO4 |
| 68 | 1706326-2MS | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_068.dxd | OPhos, F, SO4 |
| 69 | 1706326-2MSD | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_069.dxd | OPhos, F, SO4 |
| 70 | 1706326-3 | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_070.dxd | OPhos, F, SO4 |
| 71 | 1706326-4 | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_071.dxd | OPhos, F, SO4 |
| 72 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_072.dxd | CCV |
| 73 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170614ic2\170614_073.dxd | CCB |
| 74 | STOP | Sample | | stop.met | c:\peaknet2\data02\170614ic2\170614_074.dxd | STOP |

Default Method Path: C:\PEAKNET2\METHOD02
Default Data Path: C:\PEAKNET2\DATA02\170516IC2

Schedule File: C:\PeakNet2\schedule02\170614ic2.SCH

Comment:

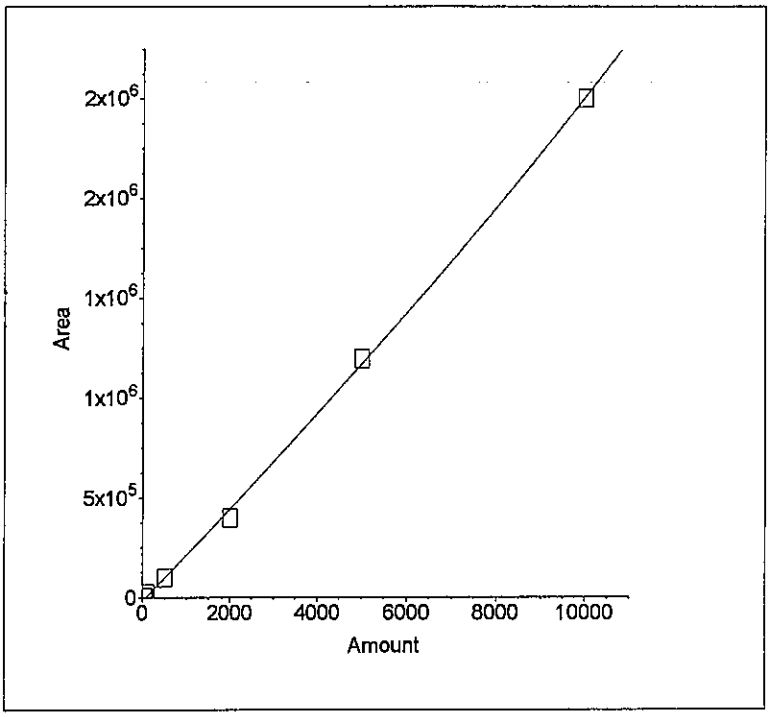
BatchDx created schedule. Analyst:_____
Instrument #2: DIONEX DX-120. ID Serial Number: 99060762
Analytical Column: Dionex IonPac AS14
Methods: EPA 300.0 and SW9056. ALS SOP 1113

| Final_ID_ | Aliq | | |
|---|---|---|---|
| ICAL std level 7 (0x) | | | |
| ICAL std level 6 (1000x) | 50.00 | ST170207-8, ST170515-3 | 0.05 |
| ICAL std level 5 (500x) | 5.00 | " | 0.01 |
| ICAL std level 4 (100x) | 5.00 | " | 0.05 |
| ICAL std level 3 (25x) | 5.00 | " | 0.20 |
| ICAL std level 2 (10x) | 5.00 | " | 0.50 |
| ICAL std level 1 (5x) | 5.00 | " | 1.00 |
| | | | |
| CCV | 5.00 | ST170207-8, ST170317-2 | 0.50 |
| RVS | 5.00 | ST160920-1, ST170116-9 | 0.01 |
| ICV | 5.00 | ST160707-6 | 0.25 |
| | | ST170427-1 | 0.08 |
| LCS & MS/D | 5.00 | ST160809-2 | 0.05 |
| | | ST170116-8 | 0.05 |

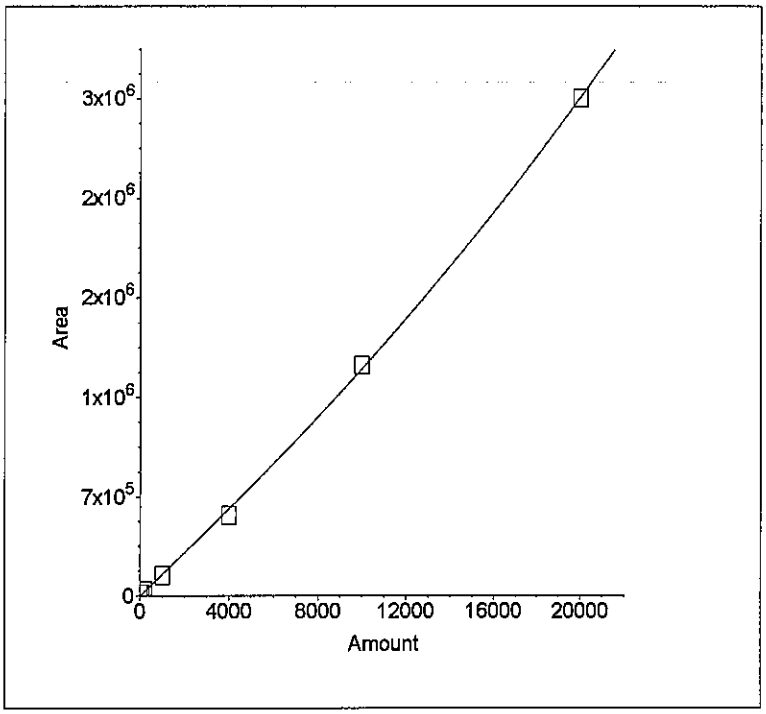
Dilutions Table: All to 5mL Final Volume (FV) unless specified otherwise:

| | | | |
|---|---|---|---|
| 2x (2.5mL) | 4x (1.25mL) | 5x (1mL) | 8x (0.625mL) |
| 10x (0.5mL) | 12.5x (0.4mL) | 20x (0.25mL) | 25x (0.2mL) |
| 40x (0.125mL) | 50x (0.1mL) | 62.5x (0.08mL) | 100x (0.05mL) |
| 125x (0.04mL) | 200x (0.025mL) | 250x (0.02mL) | 500x (0.01mL) |
| 1000x (100uL to 100mL FV) | | 2000x (50uL to 100mL FV) | |
| 2500x (40uL to 100mL FV) | | 4000x (25uL to 100mL FV) | |
| 5000x (50uL to 250mL FV) | | 10000x (25uL to 250mL FV) | |

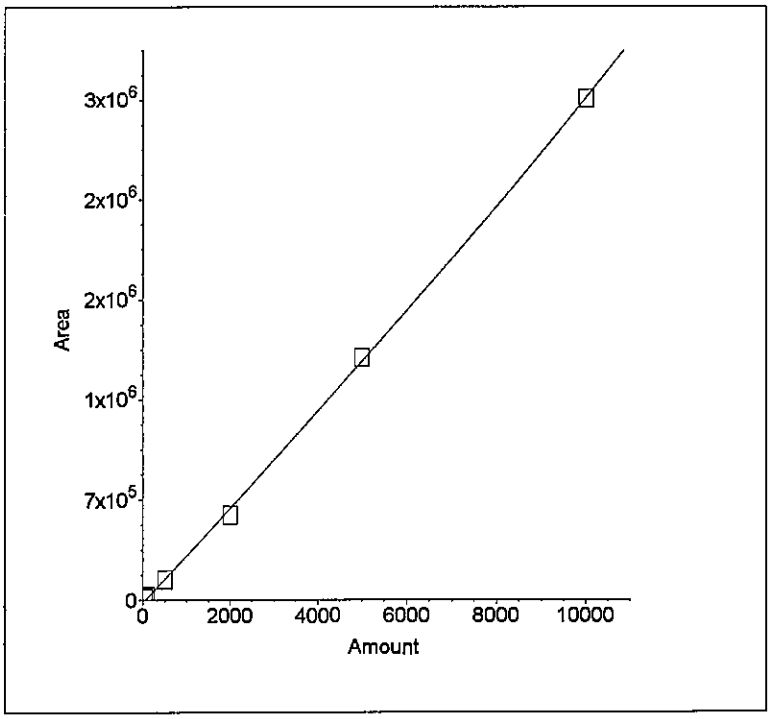
1. Component:Fluoride
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999293
Amt=-1.833807e-010*Resp$^2$+
4.405363e-003*Resp+71.44



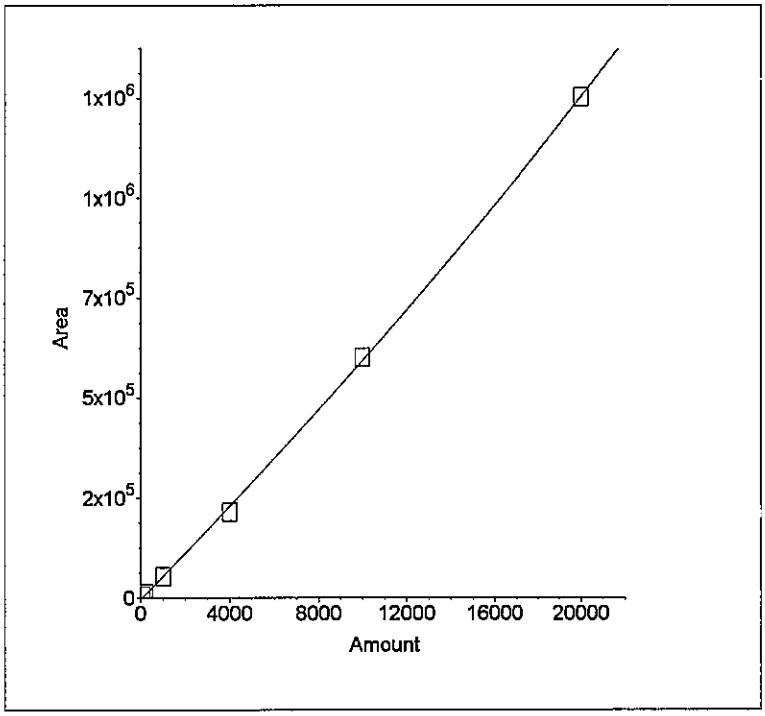

2. Component:Chloride
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999684
Amt=-2.748118e-010*Resp$^2$+
6.602077e-003*Resp+16



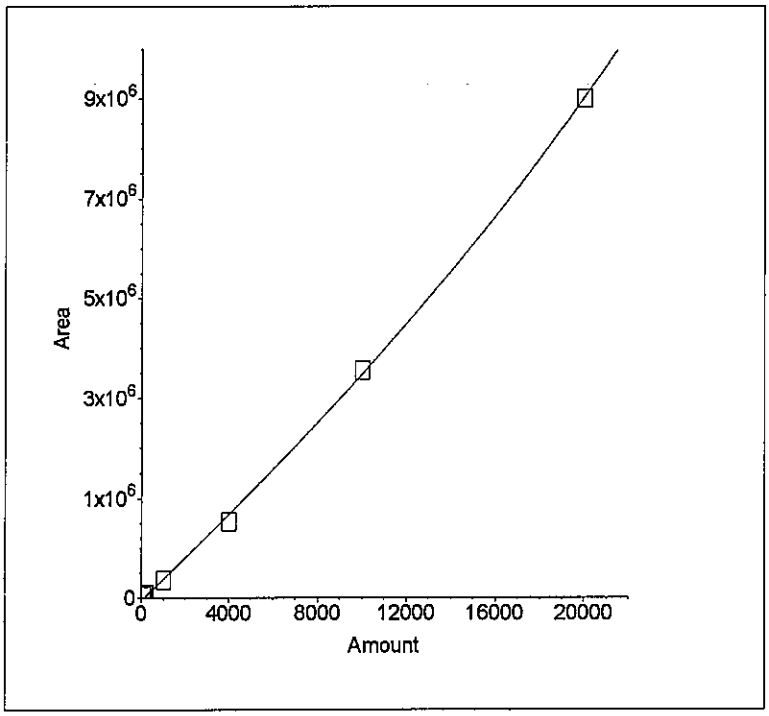

3. Component:Nitrite as N
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999626
Amt=-7.002681e-011*Resp$^2$+
3.010826e-003*Resp+54



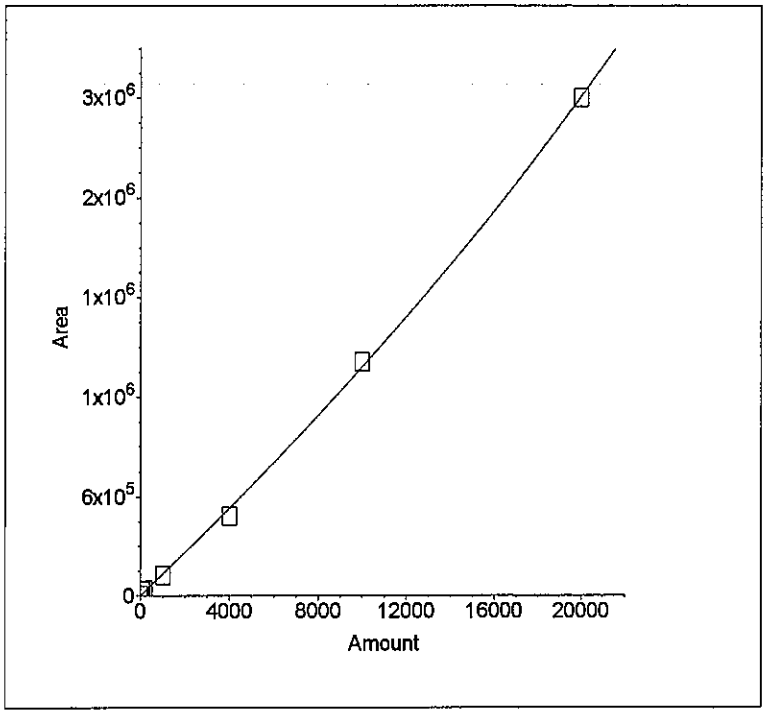

4. Component:Bromide
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999767
Amt=-1.126898e-009*Resp$^2$+
1.649409e-002*Resp+71.09



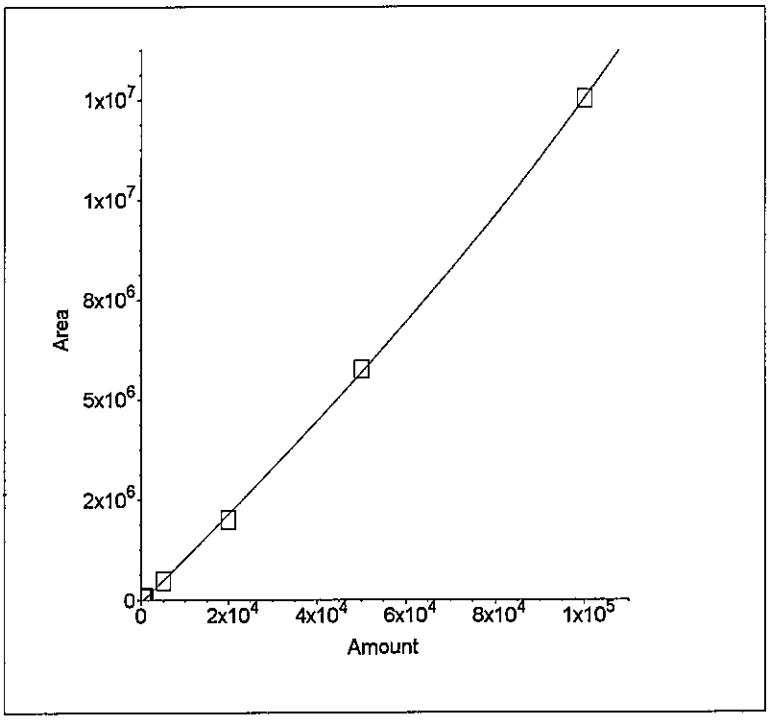
5. Component:Nitrate as N
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999535
Amt=-4.713629e-011*Resp$^2$+
2.592663e-003*Resp+117.5




6. Component:Orthophosphate as P
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999459
Amt=-3.163691e-010*Resp$^2$+
7.218814e-003*Resp+-4.352




7. Component:Sulfate
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999699
Amt=-9.412835e-011*Resp$^2$+
8.473892e-003*Resp+444.4




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

(No Levels Component)

# Calibration Update Report

**Sample Name : 0 STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_002.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch
Date Time Acquired : 5/16/17 9:13:01 AM
Calibration Date : 5/16/17 9:28:04 AM

System Operator : amg
Datafile Updated : 5/16/17 9:28:04 AM
Method Comment : Flow rate = 1.2 mL/min, Eluent = ...

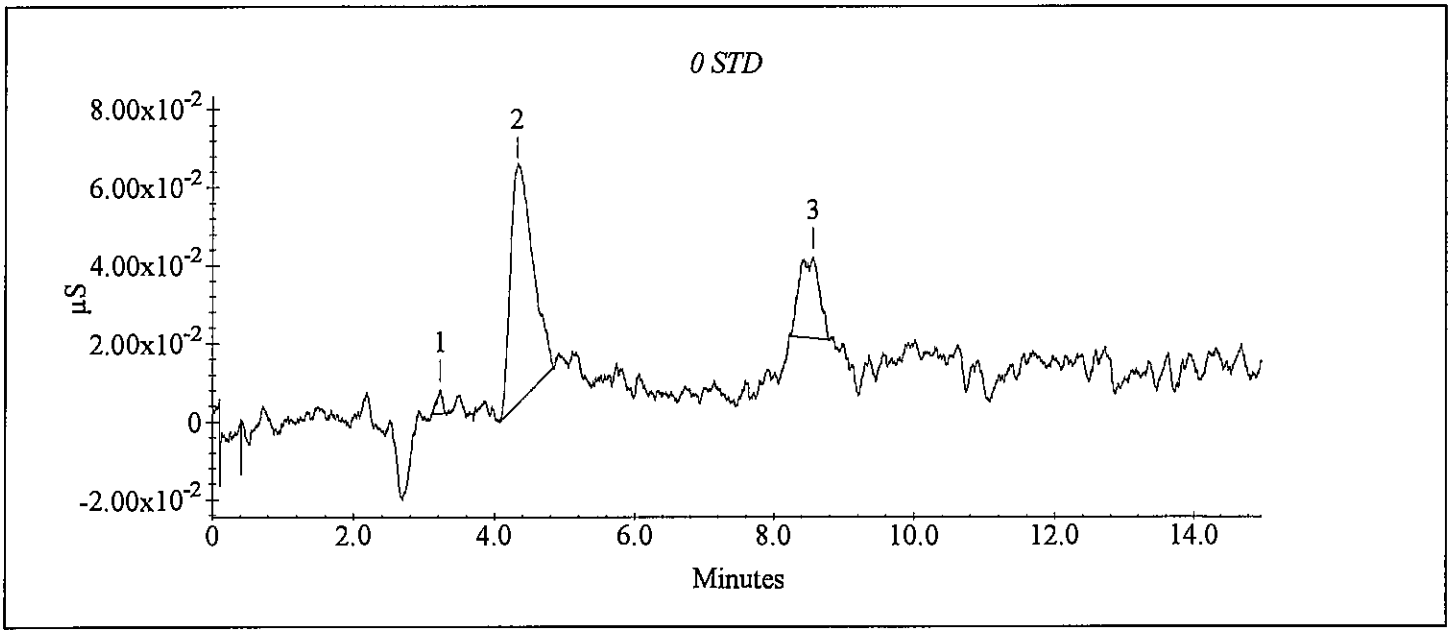
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 1 | | 3.23 | 0 | |
| 2 | Chloride | 4.32 | 0 | 13490 |
| | Nitrite as N | | | |
| | Bromide | | | |
| | Nitrate as N | | | |
| 3 | Orthophosphate as P | 8.56 | 0 | 4123 |
| | Sulfate | | | |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 0 STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_002.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 9:28:04 AM |
| Date Time Acquired : 5/16/17 9:13:01 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 9:28:04 AM | Eluent = ... |



# Calibration Update Report

**Sample Name : 1000X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_003.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch
Date Time Acquired : 5/16/17 9:28:07 AM
Calibration Date : 5/16/17 9:43:13 AM
System Operator : amg
Datafile Updated : 5/16/17 9:43:13 AM
Method Comment : Flow rate = 1.2 mL/min, Eluent = ...

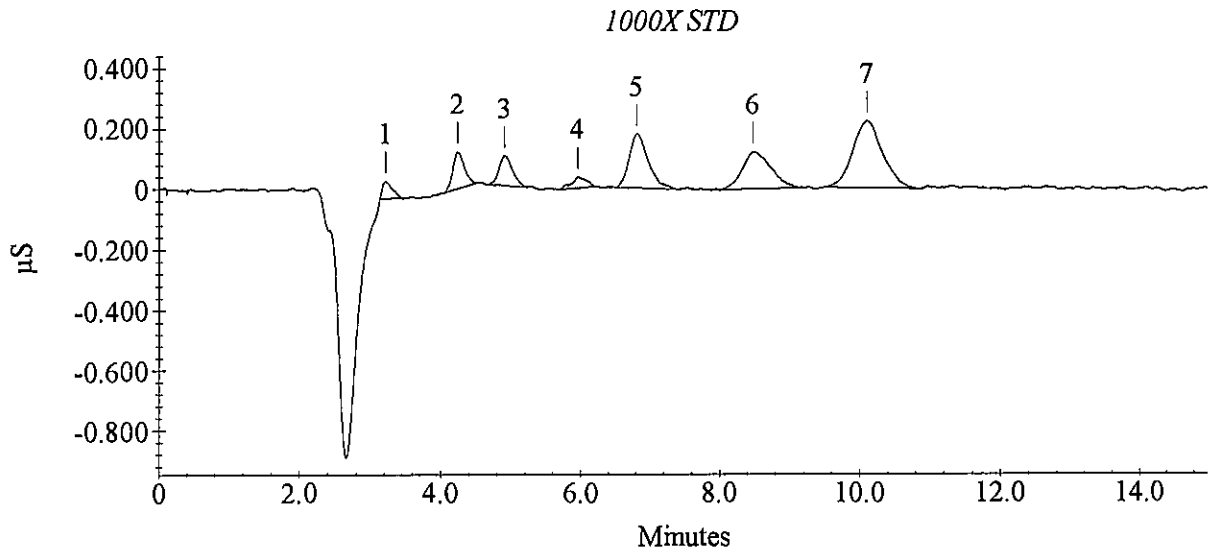
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 1 | Fluoride | 3.21 | 50 | 5393 |
| 2 | Chloride | 4.24 | 100 | 13816 |
| 3 | Nitrite as N | 4.91 | 50 | 13057 |
| 4 | Bromide | 5.96 | 100 | 5303 |
| 5 | Nitrate as N | 6.81 | 100 | 33982 |
| 6 | Orthophosphate as P | 8.48 | 100 | 34405 |
| 7 | Sulfate | 10.11 | 500 | 64785 |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 1000X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_003.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 9:43:13 AM |
| Date Time Acquired : 5/16/17 9:28:07 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 9:43:13 AM | Eluent = ... |



# Calibration Update Report

**Sample Name : 500X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_004.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch
Date Time Acquired : 5/16/17 9:43:15 AM
Calibration Date : 5/16/17 9:58:19 AM
System Operator : amg
Datafile Updated : 5/16/17 9:58:19 AM
Method Comment : Flow rate = 1.2 mL/min, Eluent = ...

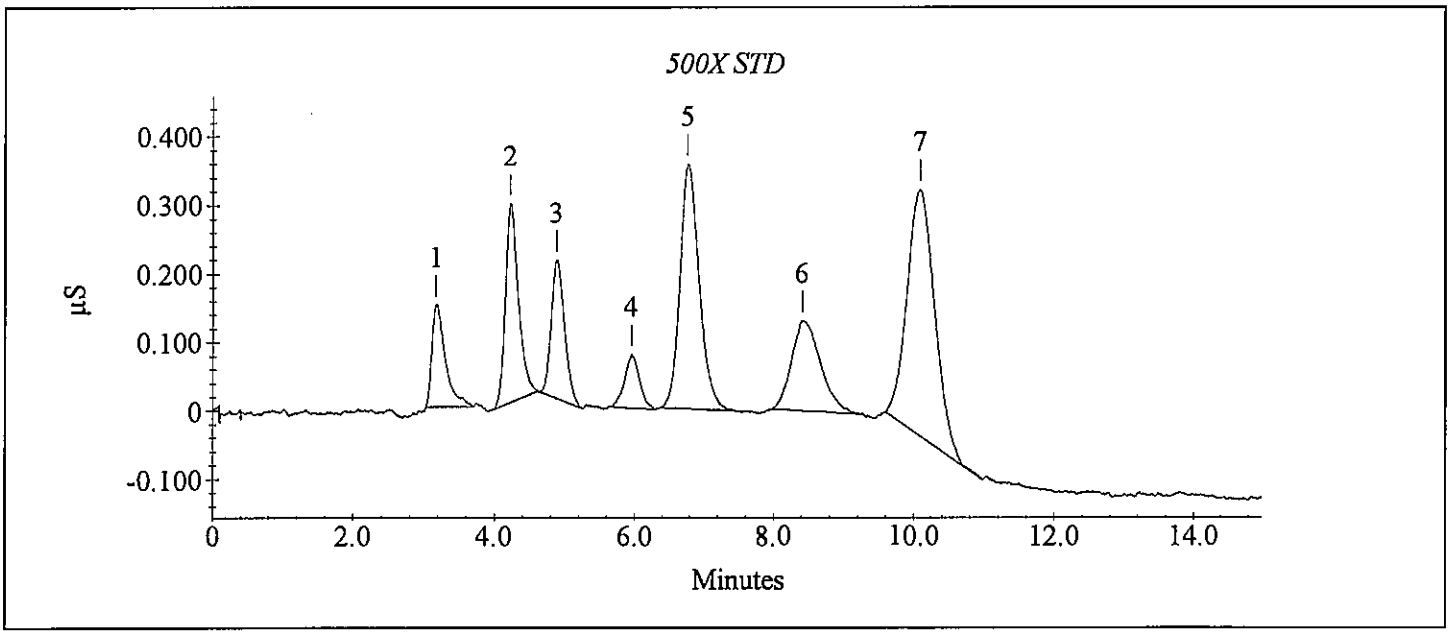
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 1 | Fluoride | 3.17 | 100 | 19812 |
| 2 | Chloride | 4.23 | 200 | 36869 |
| 3 | Nitrite as N | 4.88 | 100 | 26887 |
| 4 | Bromide | 5.96 | 200 | 11731 |
| 5 | Nitrate as N | 6.77 | 200 | 68770 |
| 6 | Orthophosphate as P | 8.41 | 200 | 37790 |
| 7 | Sulfate | 10.09 | 1000 | 99003 |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 500X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_004.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 9:58:19 AM |
| Date Time Acquired : 5/16/17 9:43:15 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 9:58:19 AM | Eluent = ... |



# Calibration Update Report

**Sample Name : 100X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_005.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch
Date Time Acquired : 5/16/17 9:58:23 AM
Calibration Date : 5/16/17 10:13:27 AM

System Operator : amg
Datafile Updated : 5/16/17 10:13:27 AM
Method Comment : Flow rate = 1.2 mL/min, Eluent = ...

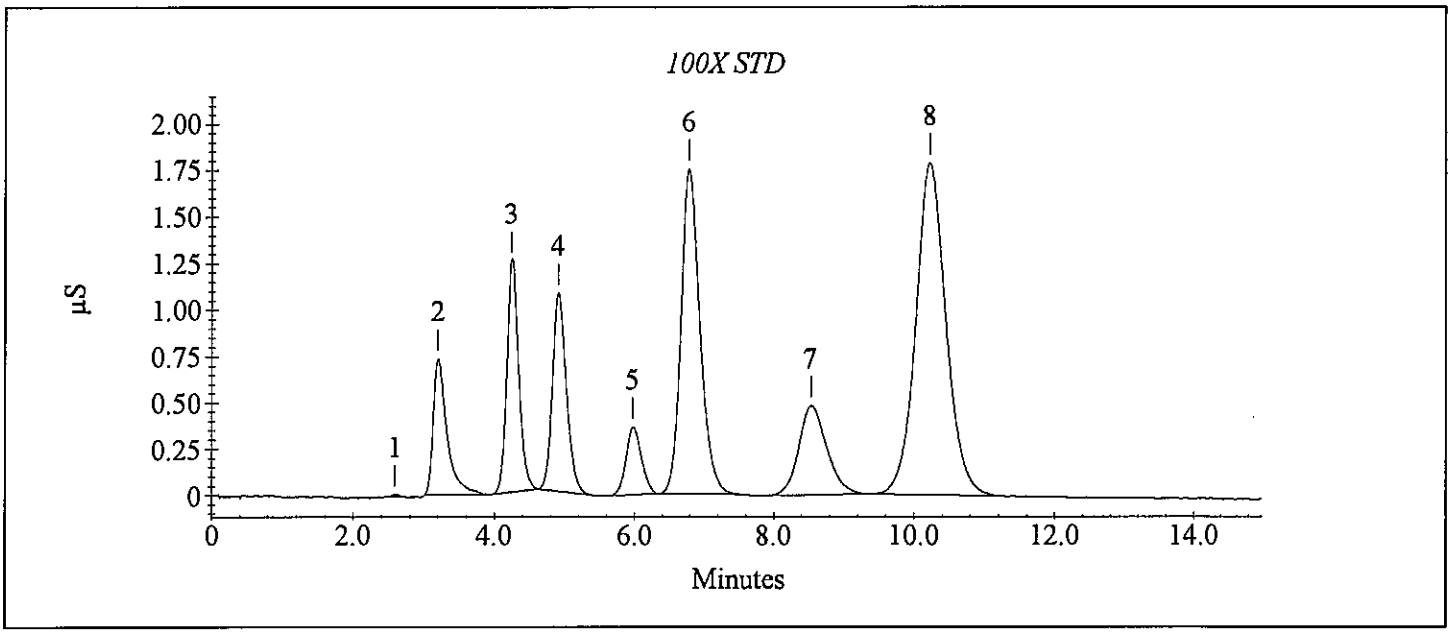
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 2 | Fluoride | 3.20 | 500 | 99745 |
| 3 | Chloride | 4.24 | 1000 | 145792 |
| 4 | Nitrite as N | 4.91 | 500 | 148195 |
| 5 | Bromide | 5.97 | 1000 | 56315 |
| 6 | Nitrate as N | 6.79 | 1000 | 332020 |
| 7 | Orthophosphate as P | 8.53 | 1000 | 133798 |
| 8 | Sulfate | 10.23 | 5000 | 529777 |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 100X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_005.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 10:13:27 AM |
| Date Time Acquired : 5/16/17 9:58:23 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 10:13:27 AM | Eluent = ... |



# Calibration Update Report

**Sample Name : 25X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_006.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch
Date Time Acquired : 5/16/17 10:13:31 AM
Calibration Date : 5/16/17 10:28:34 AM
System Operator : amg
Datafile Updated : 5/16/17 10:28:34 AM
Method Comment : Flow rate = 1.2 mL/min, Eluent = ...

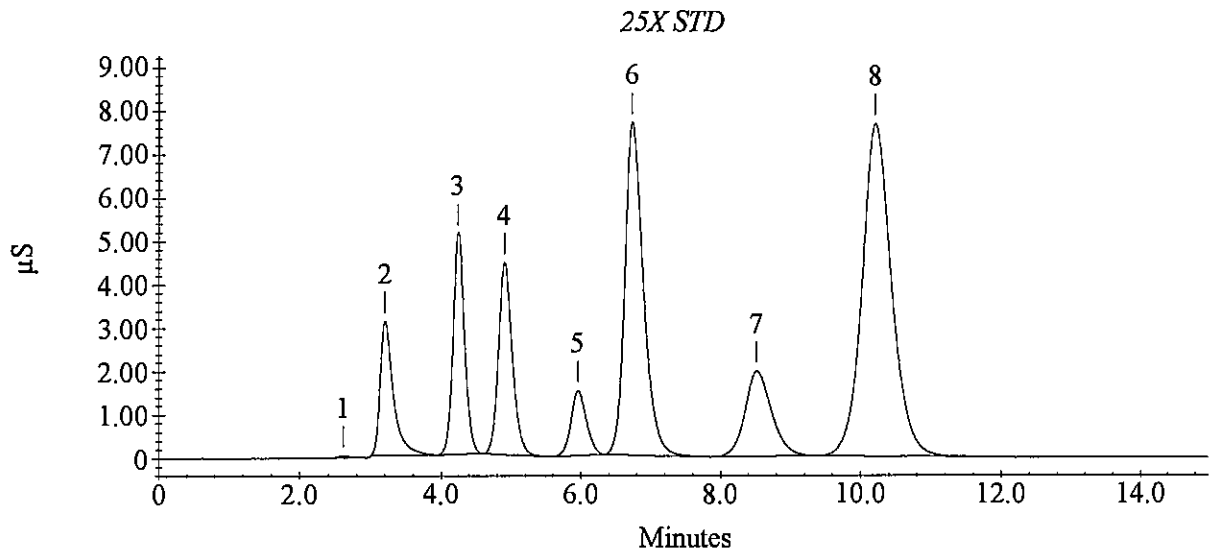
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 2 | Fluoride | 3.20 | 2000 | 399901 |
| 3 | Chloride | 4.24 | 4000 | 577192 |
| 4 | Nitrite as N | 4.91 | 2000 | 608367 |
| 5 | Bromide | 5.96 | 4000 | 228373 |
| 6 | Nitrate as N | 6.73 | 4000 | 1414335 |
| 7 | Orthophosphate as P | 8.52 | 4000 | 518467 |
| 8 | Sulfate | 10.21 | 20000 | 2215950 |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 25X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_006.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 10:28:34 AM |
| Date Time Acquired : 5/16/17 10:13:31 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 10:28:34 AM | Eluent = ... |



# Calibration Update Report

**Sample Name : 10X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_007.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch
Date Time Acquired : 5/16/17 10:28:38 AM
Calibration Date : 5/16/17 10:43:42 AM

System Operator : amg
Datafile Updated : 5/16/17 10:43:42 AM
Method Comment : Flow rate = 1.2 mL/min, Eluent = ...

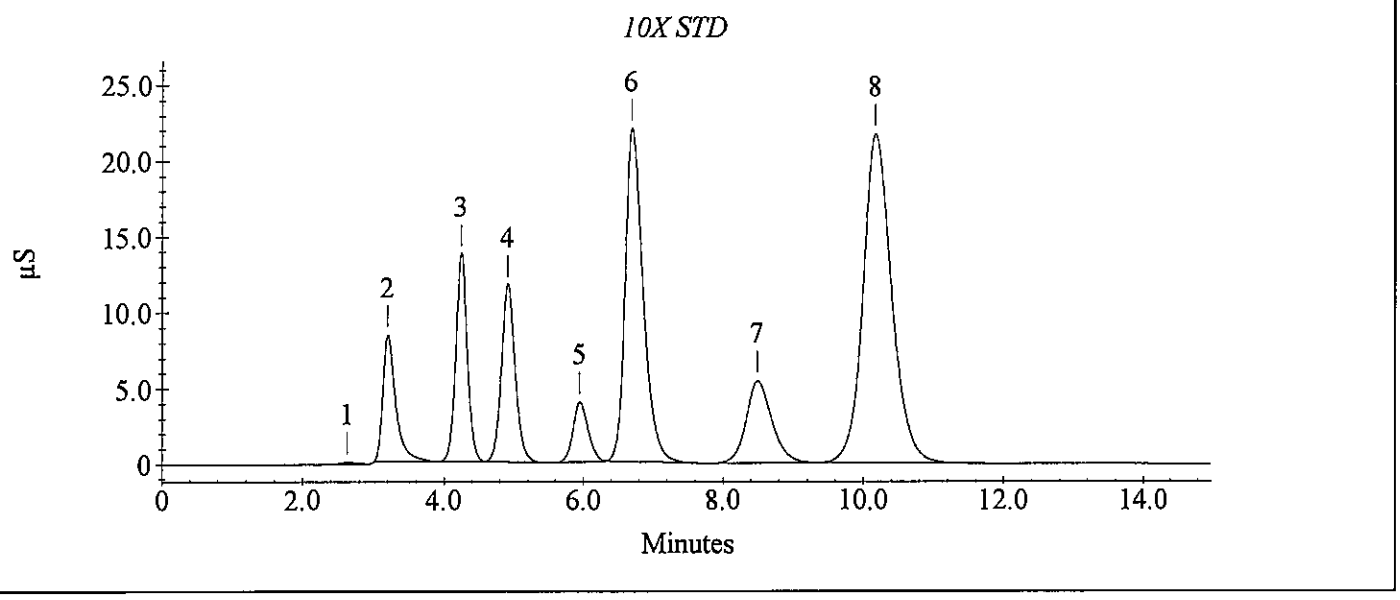
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 2 | Fluoride | 3.20 | 5000 | 1069377 |
| 3 | Chloride | 4.24 | 10000 | 1564327 |
| 4 | Nitrite as N | 4.91 | 5000 | 1614531 |
| 5 | Bromide | 5.95 | 10000 | 592981 |
| 6 | Nitrate as N | 6.69 | 10000 | 3956320 |
| 7 | Orthophosphate as P | 8.49 | 10000 | 1377208 |
| 8 | Sulfate | 10.17 | 50000 | 6144636 |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 10X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_007.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 10:43:42 AM |
| Date Time Acquired : 5/16/17 10:28:38 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 10:43:42 AM | Eluent = ... |



# Calibration Update Report

**Sample Name : 5X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_008.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 10:58:49 AM |
| Date Time Acquired : 5/16/17 10:43:45 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 10:58:49 AM | Eluent = ... |

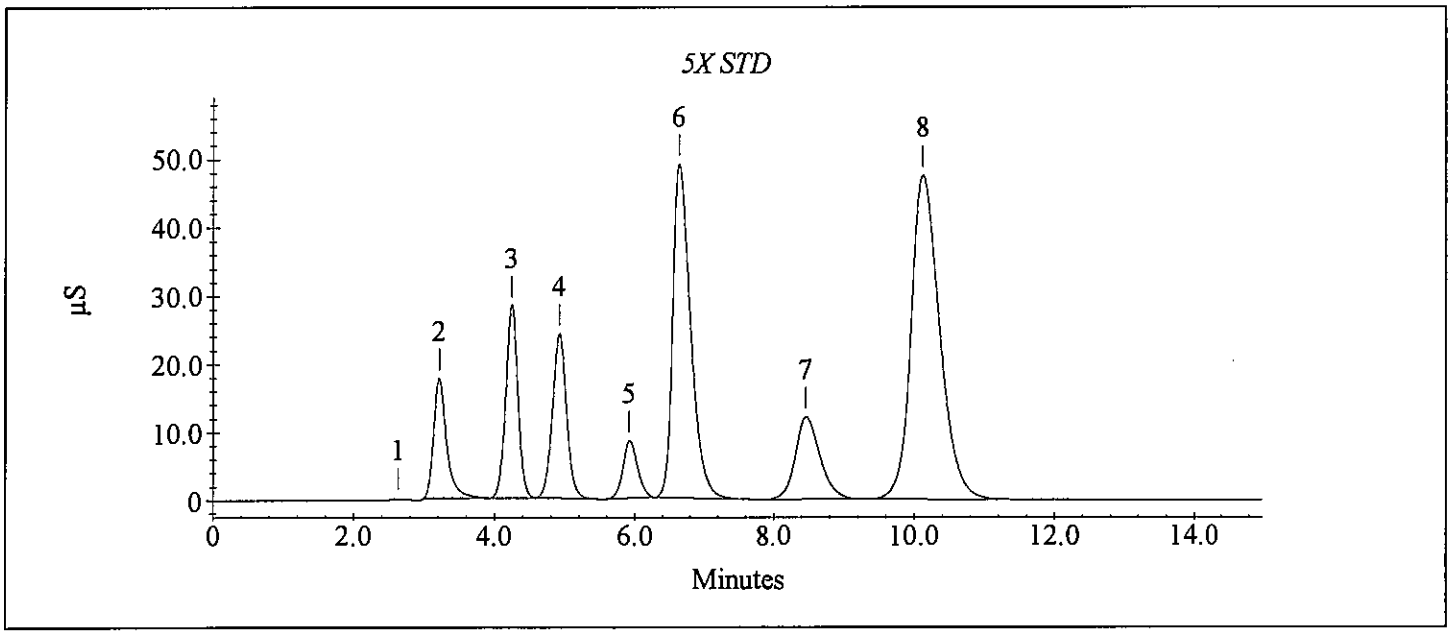
Peak Information : All Components

| Peak # | Analyte | Retention Time (min.) | Concentration | Peak Area |
|---|---|---|---|---|
| 2 | Fluoride | 3.21 | 10000 | 2272493 |
| 3 | Chloride | 4.24 | 20000 | 3382494 |
| 4 | Nitrite as N | 4.92 | 10000 | 3405290 |
| 5 | Bromide | 5.92 | 20000 | 1233589 |
| 6 | Nitrate as N | 6.64 | 20000 | 8766053 |
| 7 | Orthophosphate as P | 8.47 | 20000 | 2977409 |
| 8 | Sulfate | 10.12 | 100000 | 13502144 |
| | Nitrate/Nitrite as N | | | |

# Calibration Update Report

**Sample Name : 5X STD**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_008.DXD**

| | |
|---|---|
| Method File Name : c:\peaknet2\method02\170516ic2.met | System Operator : amg |
| Schedule File Name : c:\peaknet2\schedule02\170516ic2.sch | Datafile Updated : 5/16/17 10:58:49 AM |
| Date Time Acquired : 5/16/17 10:43:45 AM | Method Comment : Flow rate = 1.2 mL/min, |
| Calibration Date : 5/16/17 10:58:49 AM | Eluent = ... |



# Sample Analysis Report

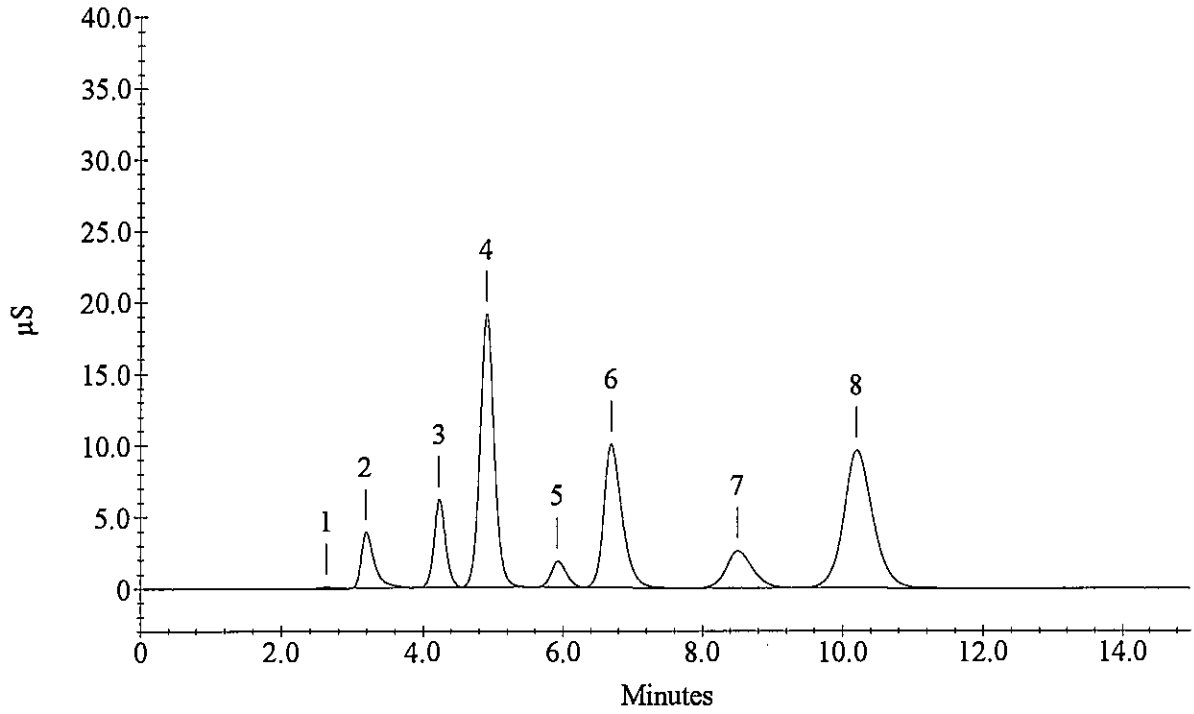
**Sample Name : ICV**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_009.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Date, Time Analyzed : 5/16/17 10:58:51 AM
System Operator : amg
Calibration Updated : 5/16/17 10:58:49 AM

Current Date : 5/16/17
Current Time : 11:13:56 AM
Datafile Updated : 5/16/17 11:13:56 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.19 | 2467.1 | | 508336 |
| 3 | Chloride | 4.23 | 4682.0 | | 701032 |
| 4 | Nitrite as N | 4.91 | 8034.8 | | 2672957 |
| 5 | Bromide | 5.92 | 4709.8 | | 272632 |
| 6 | Nitrate as N | 6.69 | 4926.3 | | 1835666 |
| 7 | Orthophosphate as P | 8.51 | 5170.9 | | 688640 |
| 8 | Sulfate | 10.20 | 23958.3 | | 2781988 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

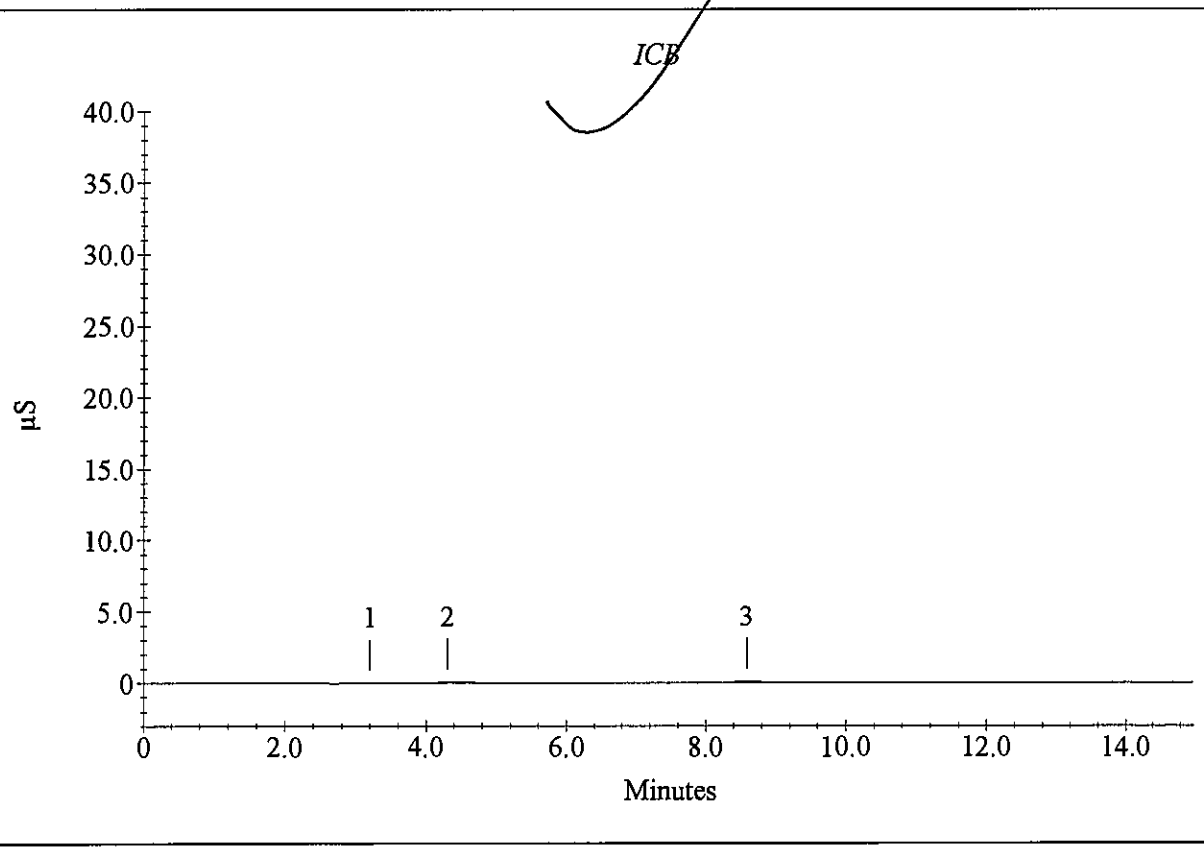
**Sample Name : ICB**
**Data File Name : c:\peaknet2\data02\170516ic2\170516_010.DXD**

Method File Name : c:\peaknet2\method02\170516ic2.met
Date, Time Analyzed : 5/16/17 11:13:57 AM
System Operator : amg
Calibration Updated : 5/16/17 10:58:49 AM

Current Date : 5/16/17
Current Time : 11:29:02 AM
Datafile Updated : 5/16/17 11:29:02 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Fluoride | 3.20 | 26.2 | - | 1220 |
| 2 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.31 | 87.0 | - | 15442 |
| 3 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.59 | 160.4 | - | 29934 |



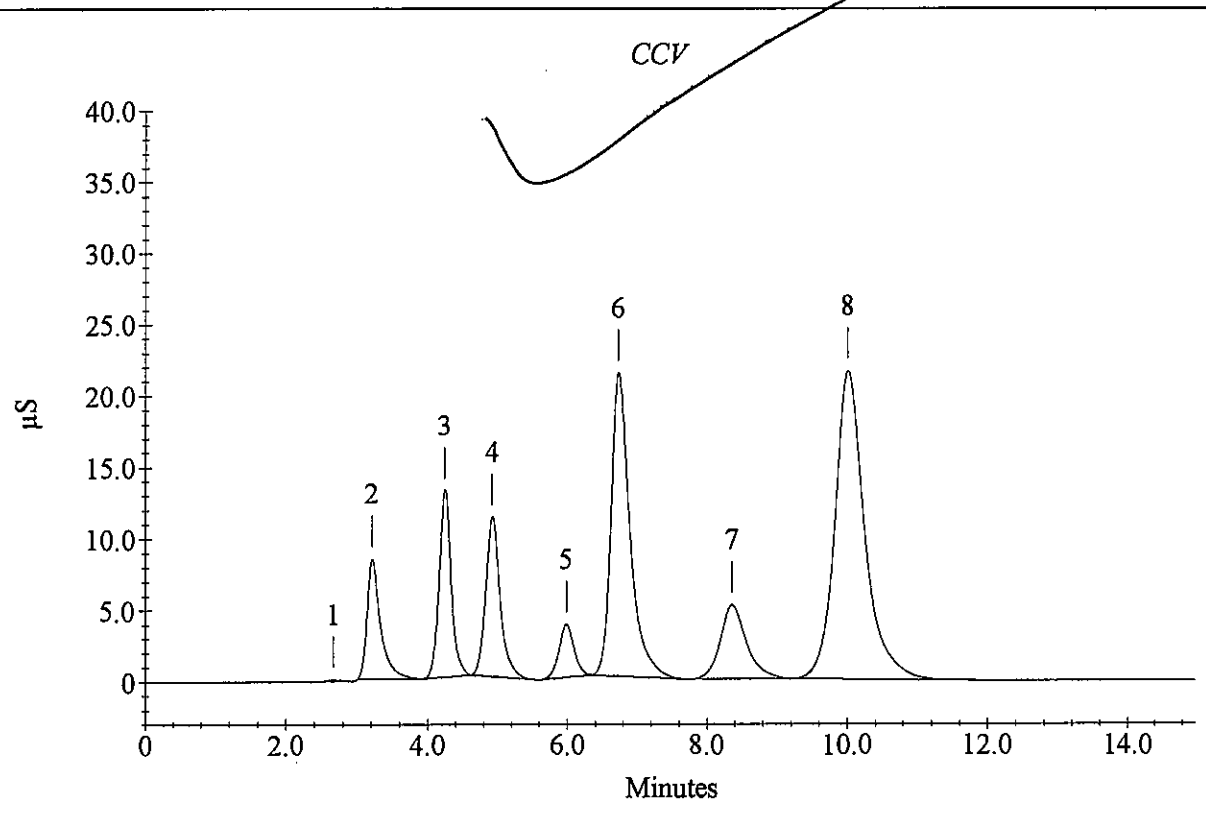
# Sample Analysis Report

**Sample Name : CCV**
**Data File Name : C:\PEAKNET2\DATA02\170614IC2\170614_012.DXD**

Method File Name : C:\peaknet2\method02\170516nic2.met Current Date : 6/14/17
Date, Time Analyzed : 6/14/17 9:23:12 AM Current Time : 9:39:33 AM
System Operator : amg Datafile Updated : 6/14/17 9:39:30 AM
Calibration Updated : 6/14/17 9:39:16 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.21 | 5204.0 | | 1110262 |
| 3 | Chloride | 4.24 | 10092.7 | | 1567583 |
| 4 | Nitrite as N | 4.92 | 5044.3 | | 1622165 |
| 5 | Bromide | 5.99 | 9348.1 | | 551433 |
| 6 | Nitrate as N | 6.73 | 10215.3 | | 4011511 |
| 7 | Orthophosphate as P | 8.36 | 9835.9 | | 1345539 |
| 8 | Sulfate | 10.01 | 52083.4 | | 6368607 |
| | Nitrate/Nitrite as N | | | | |



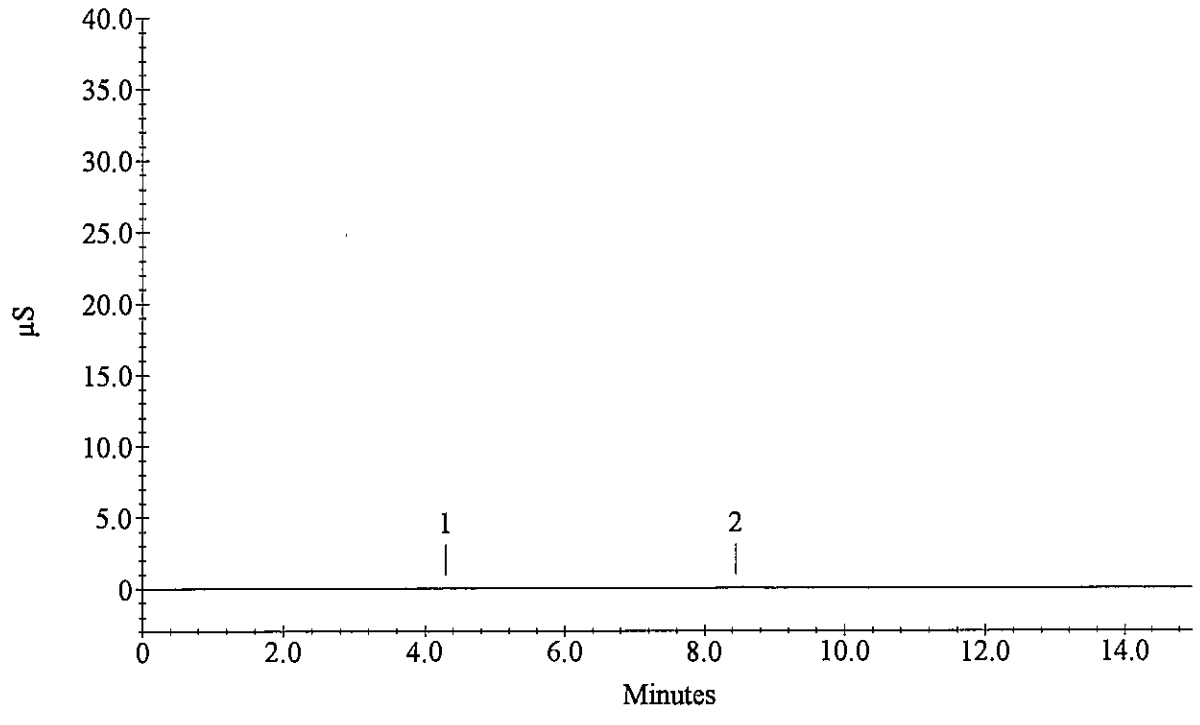
# Sample Analysis Report

**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_013.DXD**

Method File Name : c:\peaknet2\method02\170516mic2.met Current Date : 6/14/17
Date, Time Analyzed : 6/14/17 9:38:19 AM Current Time : 9:53:24 AM
System Operator : amg Datafile Updated : 6/14/17 9:53:23 AM
Calibration Updated : 6/13/17 10:51:24 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride | 4.29 | 2.9 | - | 3270 |
| 1 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.29 | 2.9 | - | 3270 |
| 2 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.45 | 59.2 | - | 17068 |



# Sample Analysis Report

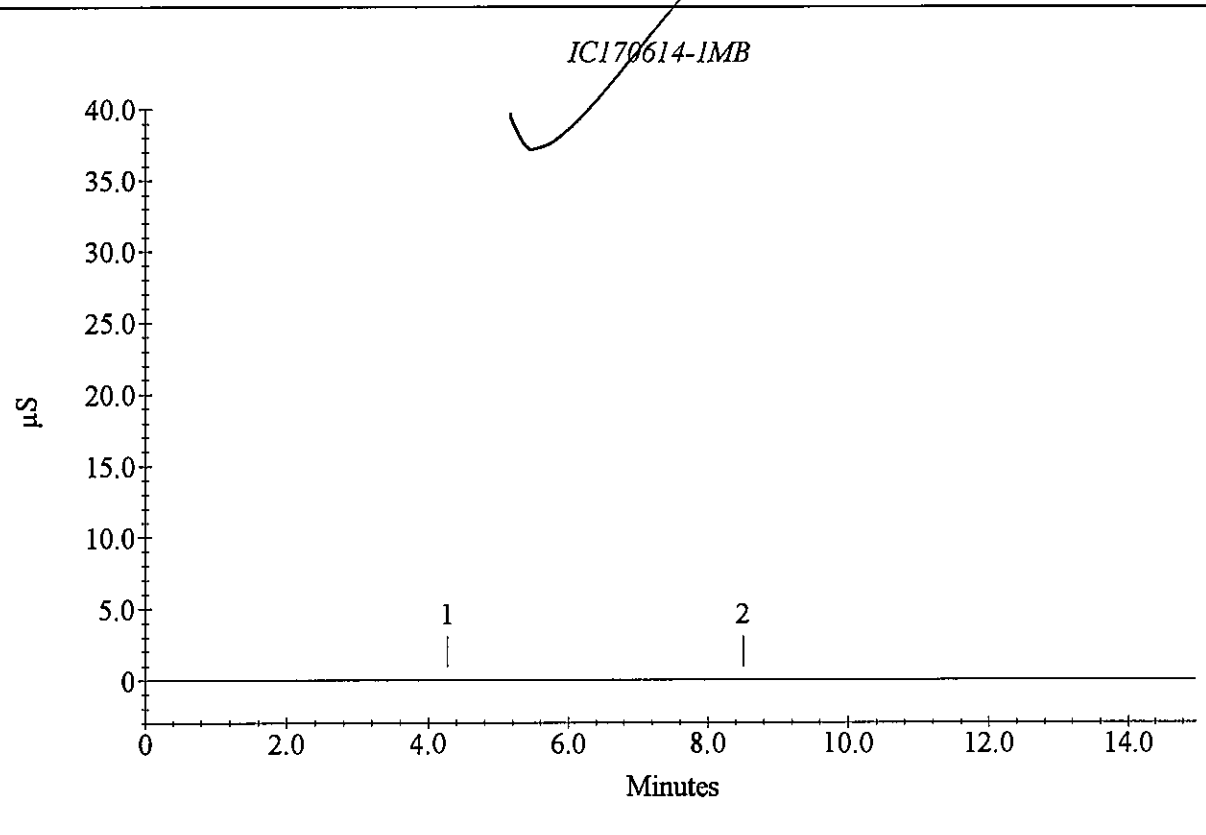
**Sample Name : IC170614-1MB**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_014.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 9:53:27 AM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 10:08:31 AM
Datafile Updated : 6/14/17 10:08:31 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride | 4.27 | -6.0 | - | 1974 |
| 1 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.27 | -6.0 | - | 1974 |
| 2 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.51 | -28.2 | - | 5969 |



# Sample Analysis Report

**Sample Name : IC170614-1LCS**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_015.DXD**

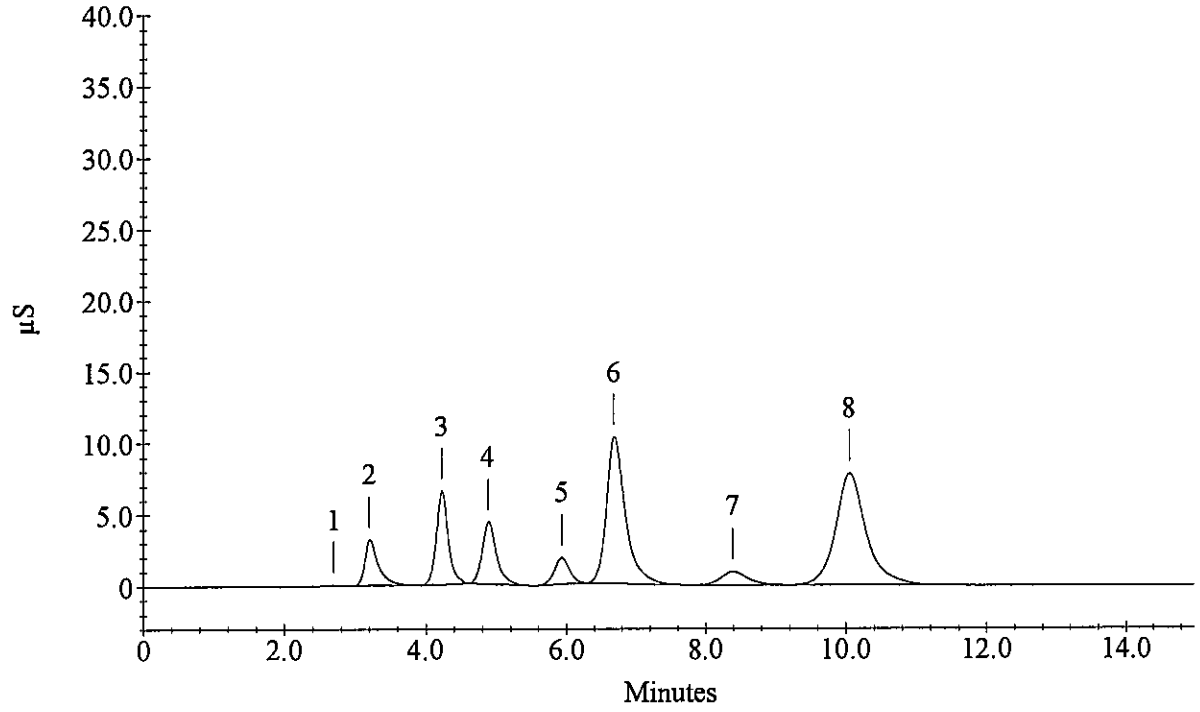
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 10:08:33 AM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 10:23:38 AM
Datafile Updated : 6/14/17 10:23:37 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.20 | 2069.1 | | 423880 |
| 3 | Chloride | 4.23 | 5062.7 | | 759757 |
| 4 | Nitrite as N | 4.88 | 1972.1 | | 611491 |
| 5 | Bromide | 5.93 | 4742.5 | | 274562 |
| 6 | Nitrate as N | 6.68 | 5190.6 | | 1939594 |
| 7 | Orthophosphate as P | 8.39 | 1868.6 | | 249640 |
| 8 | Sulfate | 10.05 | 20363.5 | | 2347148 |
| | Nitrate/Nitrite as N | | | | |

*IC170614-1LCS*



# Sample Analysis Report

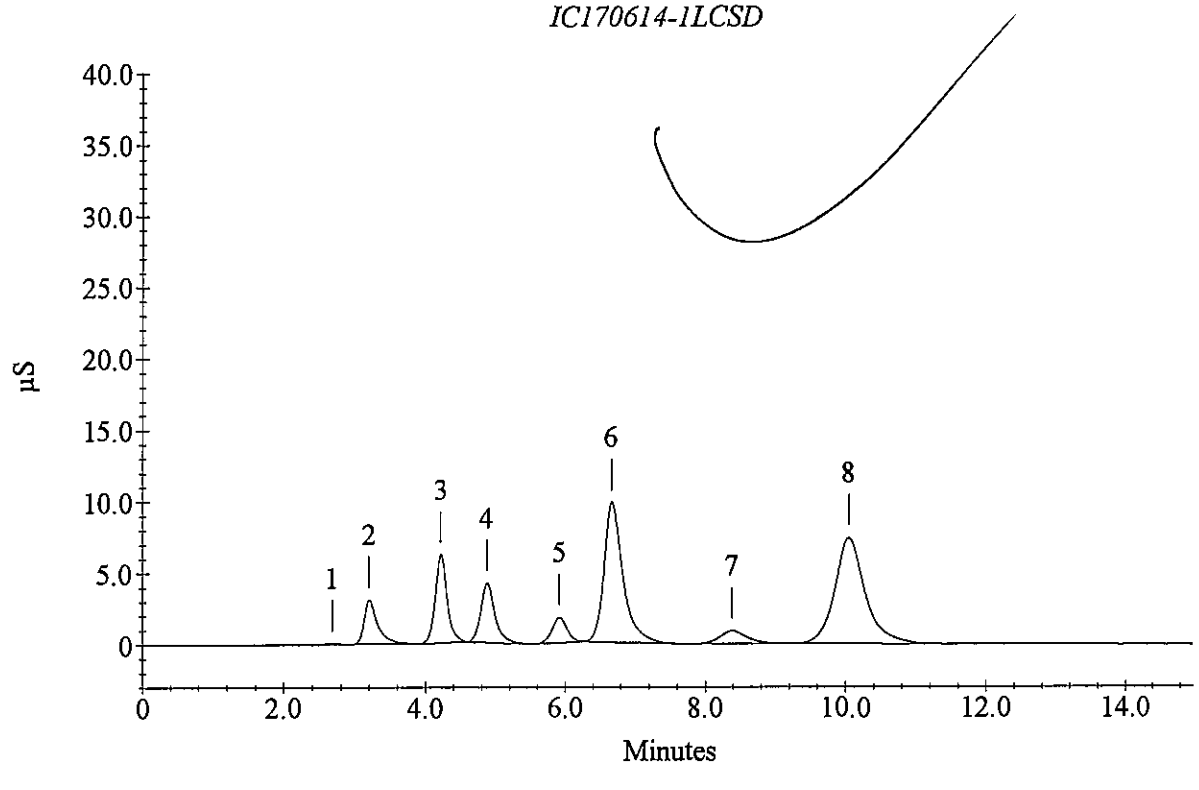
**Sample Name : IC170614-1LCSD**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_016.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 10:23:40 AM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 10:38:45 AM
Datafile Updated : 6/14/17 10:38:44 AM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.20 | 1984.2 | | 405954 |
| 3 | Chloride | 4.21 | 4821.2 | | 722465 |
| 4 | Nitrite as N | 4.88 | 1891.2 | | 585709 |
| 5 | Bromide | 5.92 | 4500.8 | | 260300 |
| 6 | Nitrate as N | 6.67 | 4943.5 | | 1842405 |
| 7 | Orthophosphate as P | 8.39 | 1811.1 | | 242167 |
| 8 | Sulfate | 10.05 | 19405.0 | | 2232009 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

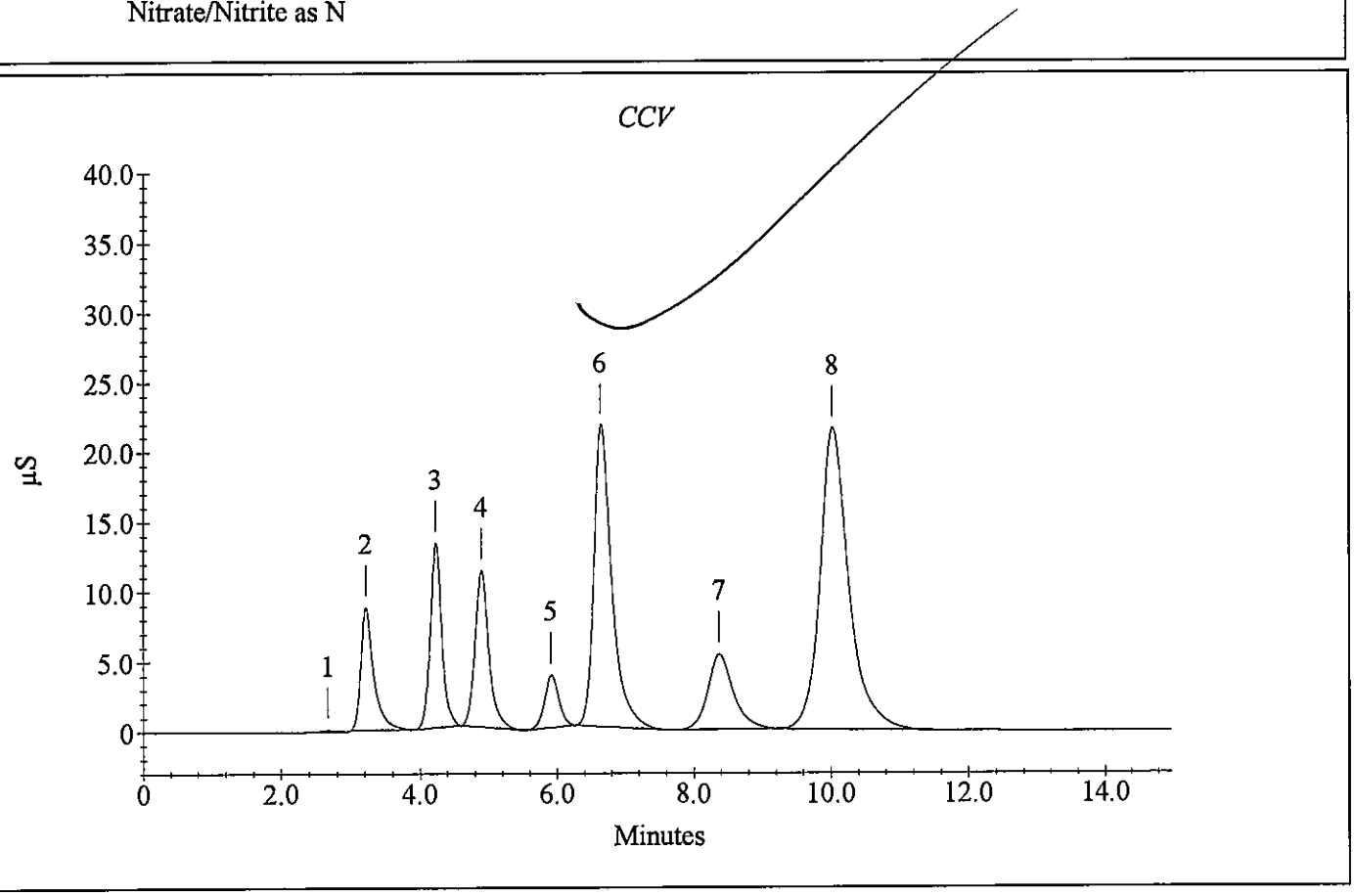
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_024.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 12:24:35 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 12:39:38 PM
Datafile Updated : 6/14/17 12:39:38 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.21 | 5241.5 | | 1118787 |
| 3 | Chloride | 4.23 | 9933.1 | | 1540954 |
| 4 | Nitrite as N | 4.89 | 4897.6 | | 1572420 |
| 5 | Bromide | 5.91 | 9211.2 | | 543055 |
| 6 | Nitrate as N | 6.64 | 10082.1 | | 3954007 |
| 7 | Orthophosphate as P | 8.37 | 10174.6 | | 1395120 |
| 8 | Sulfate | 10.03 | 51343.0 | | 6269530 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

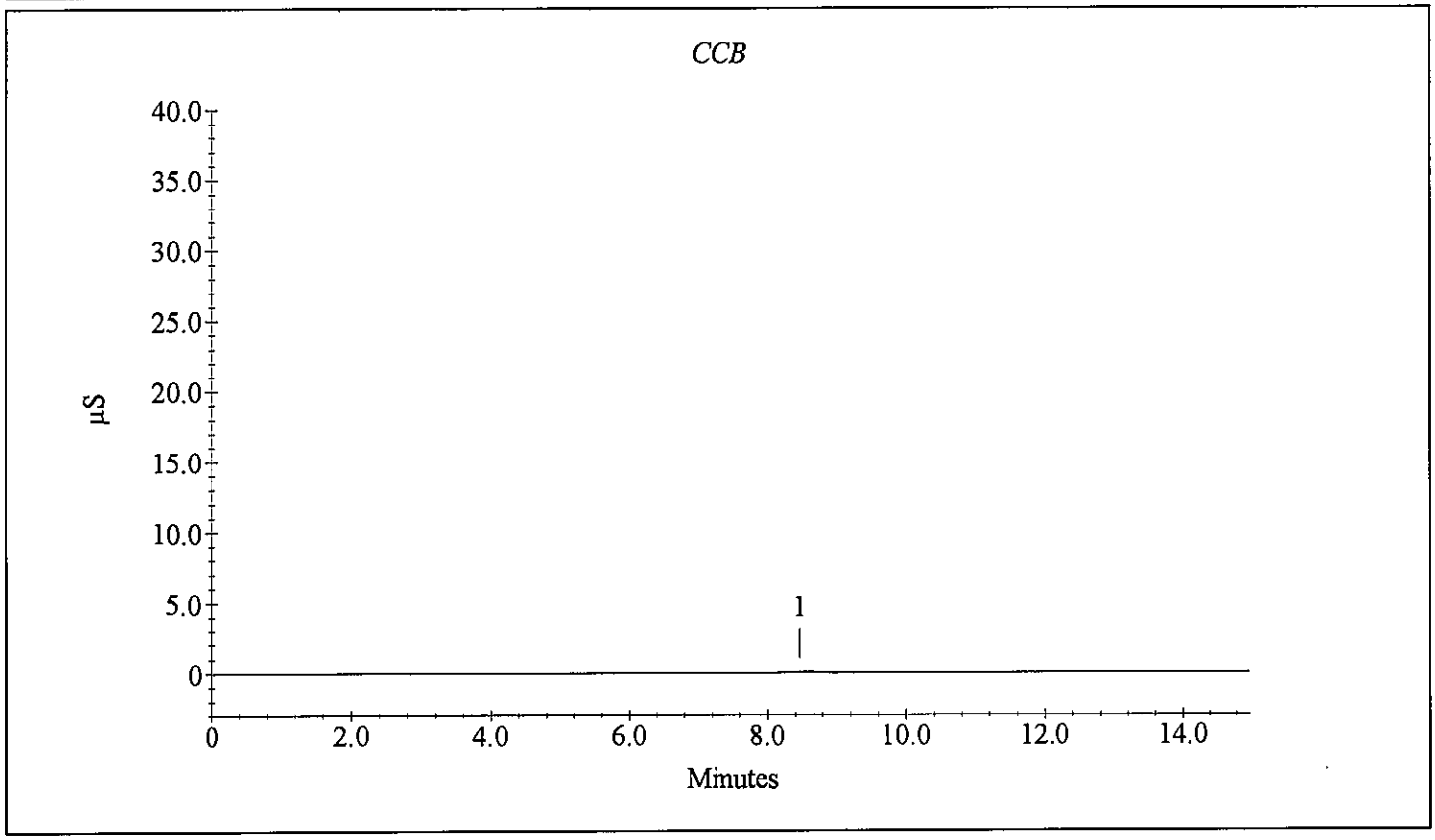
**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_025.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 12:39:41 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 12:54:45 PM
Datafile Updated : 6/14/17 12:54:45 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Orthophosphate as P<br>Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 8.47 | 186.8 | - | 33292 |
| 1 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.47 | 186.8 | - | 33292 |



# Sample Analysis Report

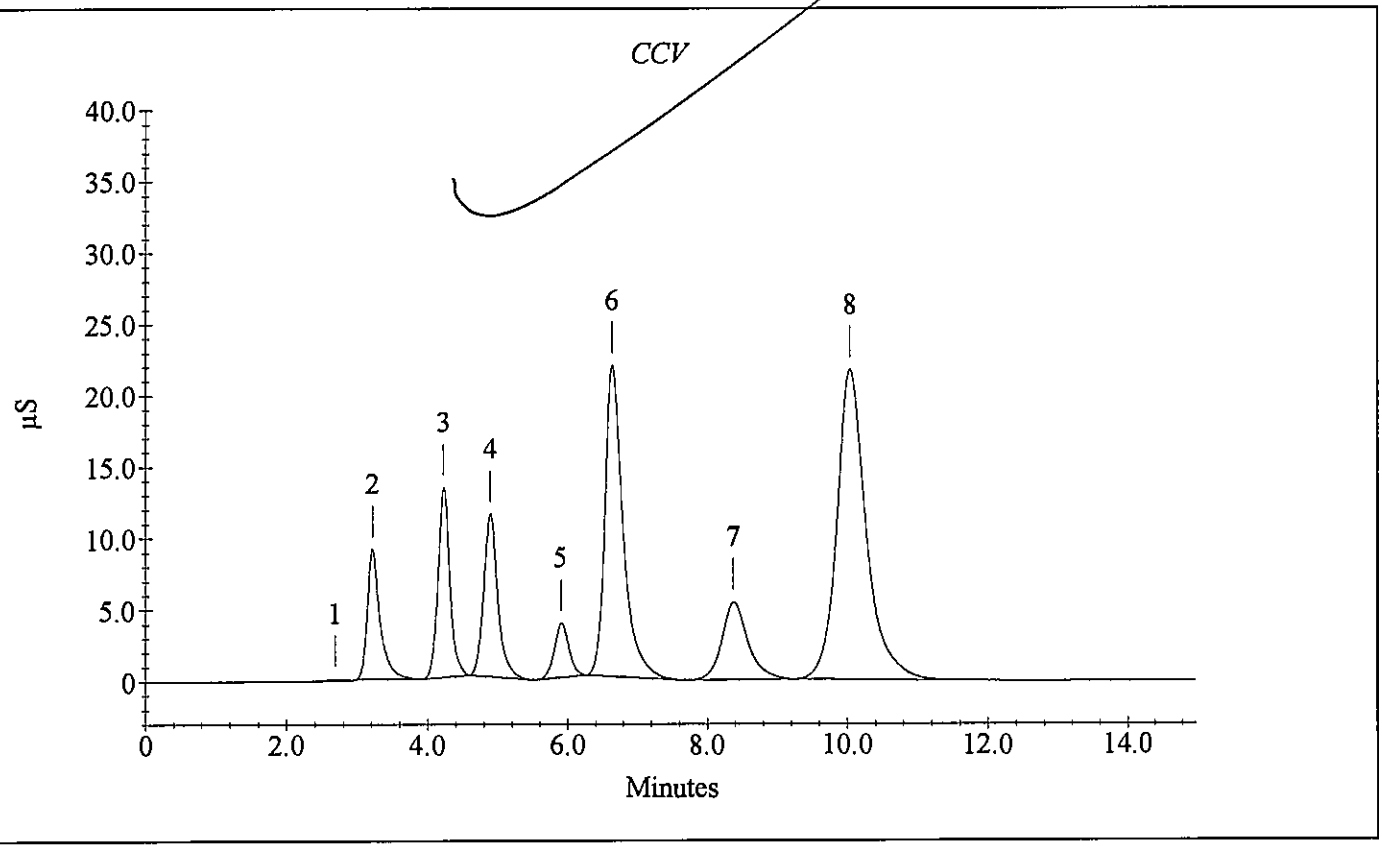
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_036.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 3:25:56 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 3:41:00 PM
Datafile Updated : 6/14/17 3:40:59 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.21 | 5371.4 | | 1148358 |
| 3 | Chloride | 4.23 | 9963.1 | | 1545953 |
| 4 | Nitrite as N | 4.89 | 4951.8 | | 1590792 |
| 5 | Bromide | 5.91 | 9266.3 | | 546425 |
| 6 | Nitrate as N | 6.64 | 10095.4 | | 3959705 |
| 7 | Orthophosphate as P | 8.37 | 10149.0 | | 1391358 |
| 8 | Sulfate | 10.04 | 51494.8 | | 6289815 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

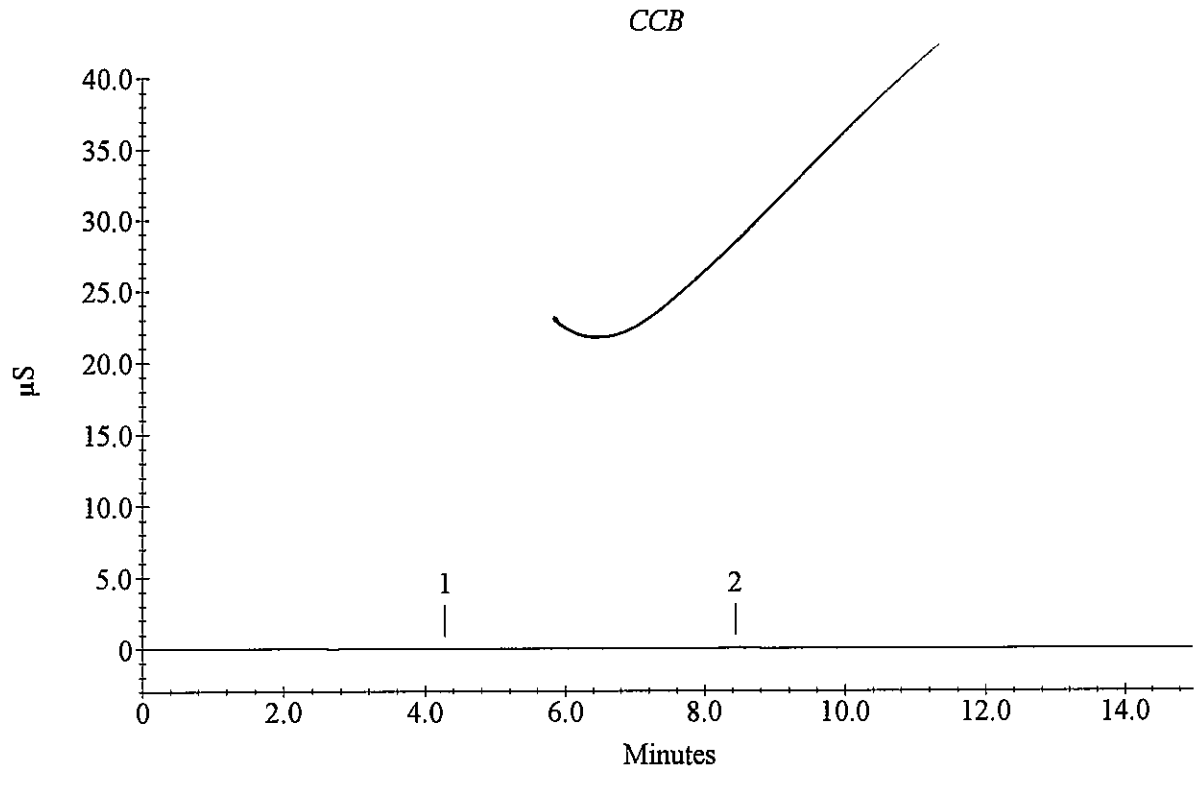
**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_037.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 3:41:01 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 3:56:05 PM
Datafile Updated : 6/14/17 3:56:05 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride | 4.28 | -6.0 | - | 1974 |
| 1 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.28 | -6.0 | - | 1974 |
| 2 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.44 | 104.5 | - | 22817 |



# Sample Analysis Report

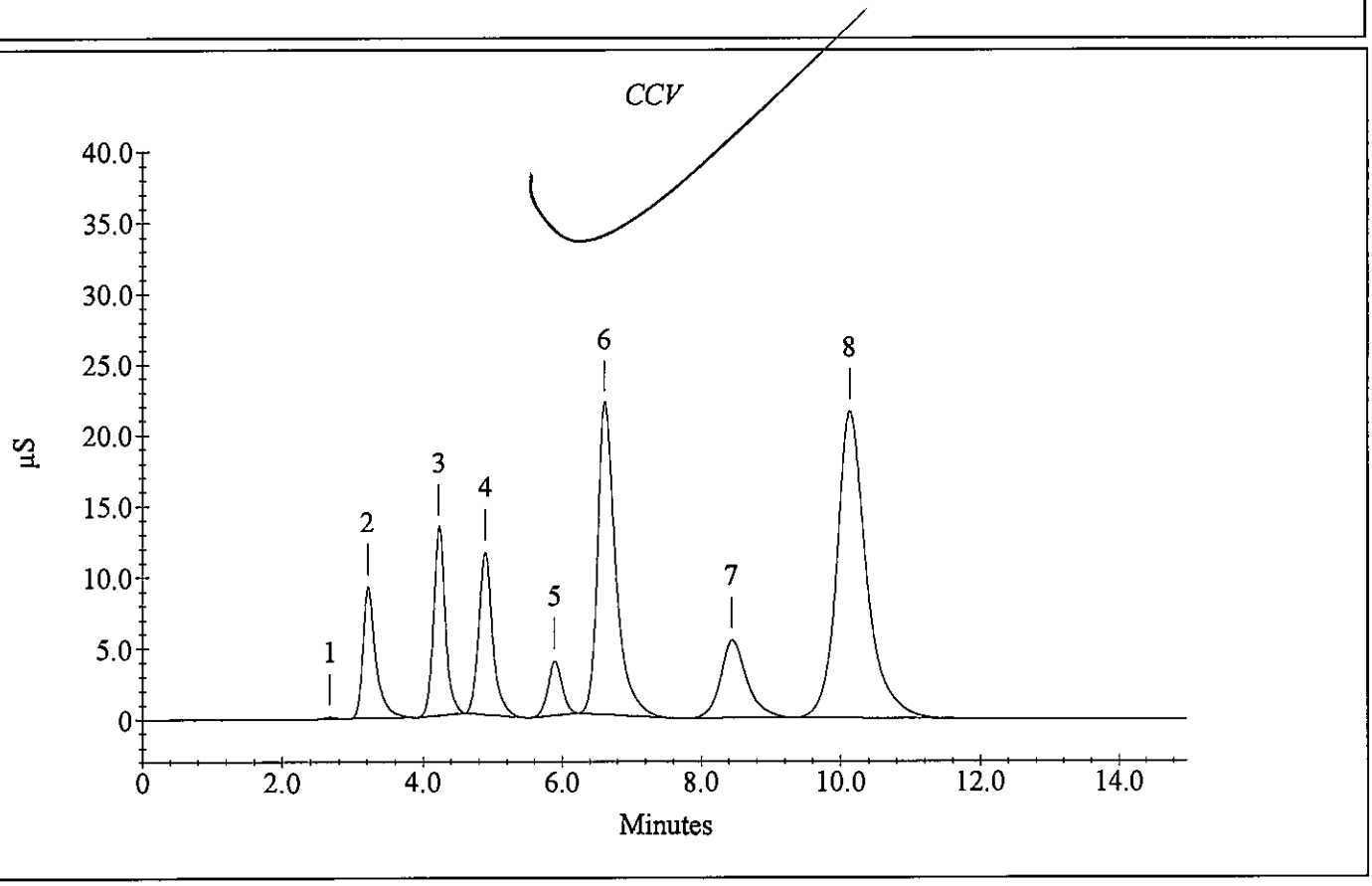
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_048.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 6:27:16 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 6:42:21 PM
Datafile Updated : 6/14/17 6:42:20 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.21 | 5384.3 | | 1151306 |
| 3 | Chloride | 4.23 | 9962.1 | | 1545796 |
| 4 | Nitrite as N | 4.89 | 4958.0 | | 1592876 |
| 5 | Bromide | 5.89 | 9222.8 | | 543765 |
| 6 | Nitrate as N | 6.61 | 10109.4 | | 3965757 |
| 7 | Orthophosphate as P | 8.44 | 10434.8 | | 1433398 |
| 8 | Sulfate | 10.13 | 51541.4 | | 6296041 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

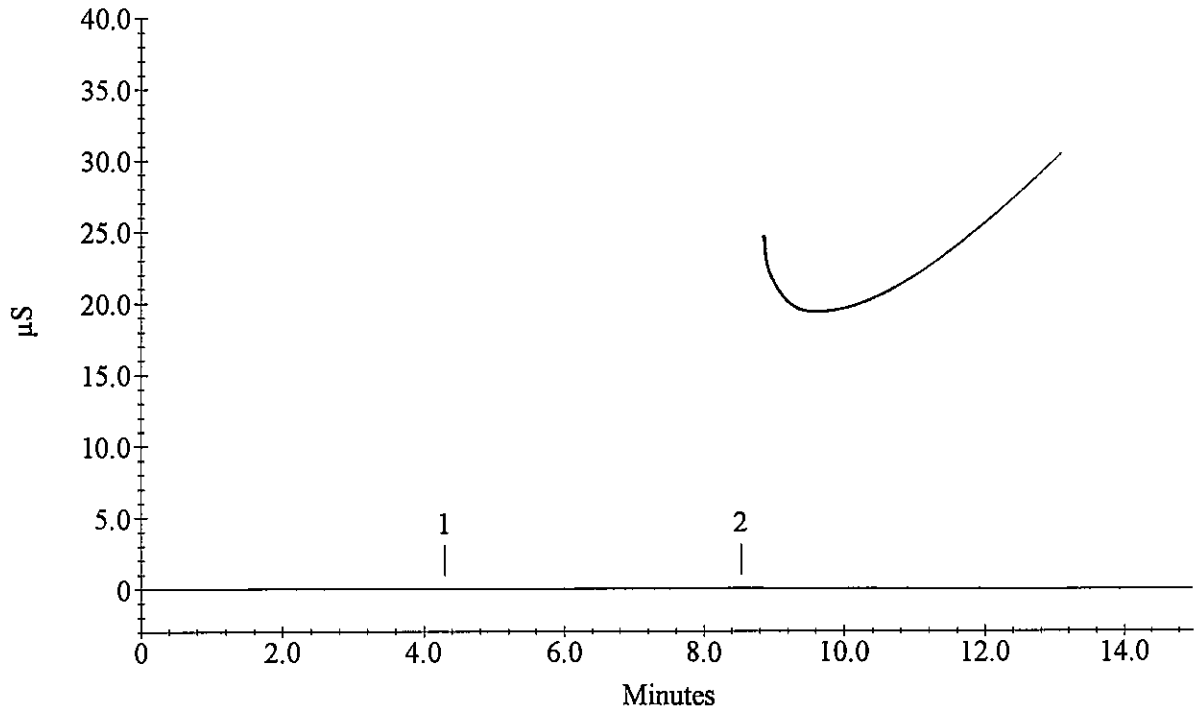
**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_049.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 6:42:23 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 6:57:28 PM
Datafile Updated : 6/14/17 6:57:27 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride | 4.29 | -10.4 | - | 1349 |
| 1 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.29 | -10.4 | - | 1349 |
| 2 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.53 | 133.9 | - | 26555 |



# Sample Analysis Report

**Sample Name : 1706286-1 25x**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_055.DXD**

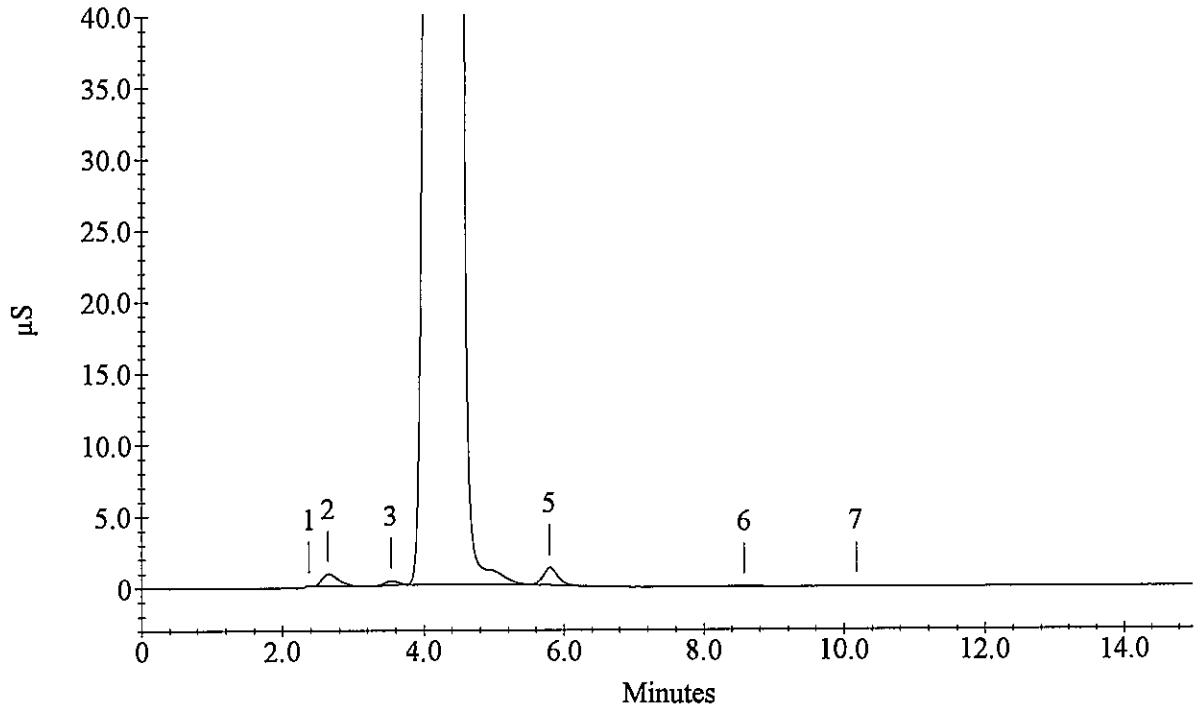
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 8:13:03 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 8:28:08 PM
Datafile Updated : 6/14/17 8:28:08 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride<br>Nitrite as N | 2.37 | 0.0 | | 736 |
| 5 | Bromide<br>Nitrate as N | 5.79 | 3060.0 | | 175806 |
| 6 | Orthophosphate as P | 8.57 | -32.4 | - | 5431 |
| 7 | Sulfate<br>Nitrate/Nitrite as N | 10.17 | 379.8 | - | 12539 |

*1706286-1 25x*



# Sample Analysis Report

**Sample Name : 1706286-3 40x**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_057.DXD**

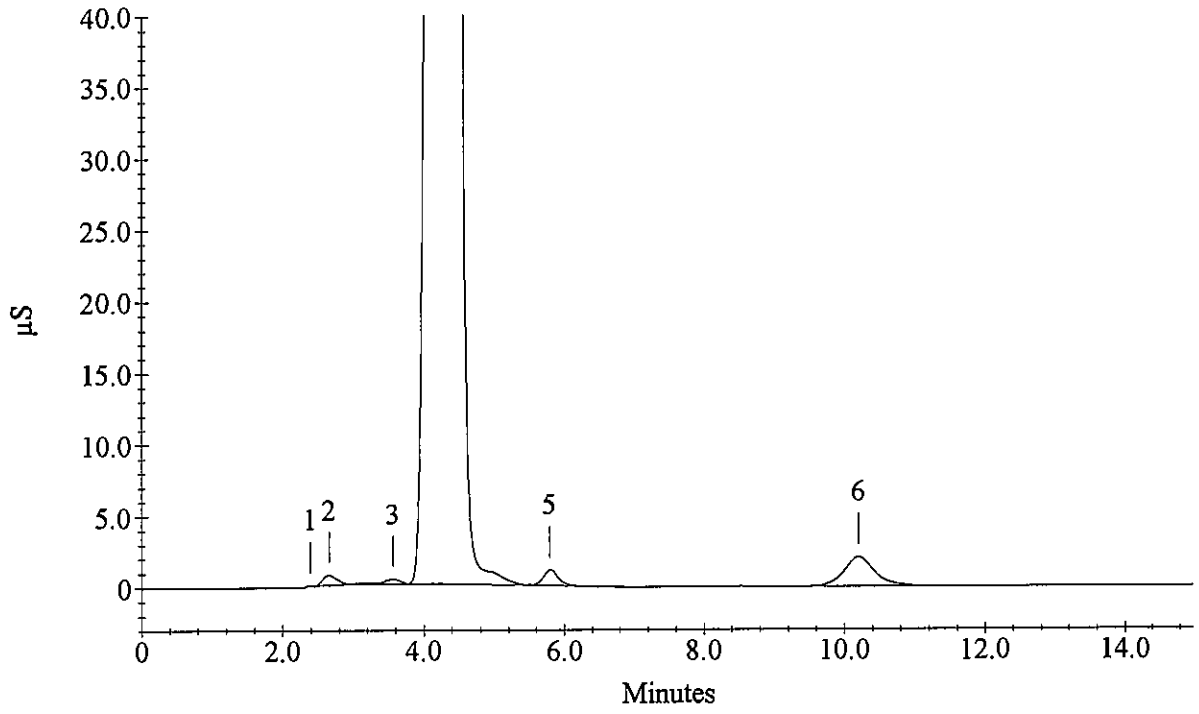
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 8:43:17 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 8:58:22 PM
Datafile Updated : 6/14/17 8:58:22 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride<br>Nitrite as N | 2.39 | 0.0 | | 967 |
| 5 | Bromide<br>Nitrate as N | 5.79 | 2582.2 | | 147980 |
| 6 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 10.20 | 5713.9 | | 622703 |

*1706286-3 40x*



# Sample Analysis Report

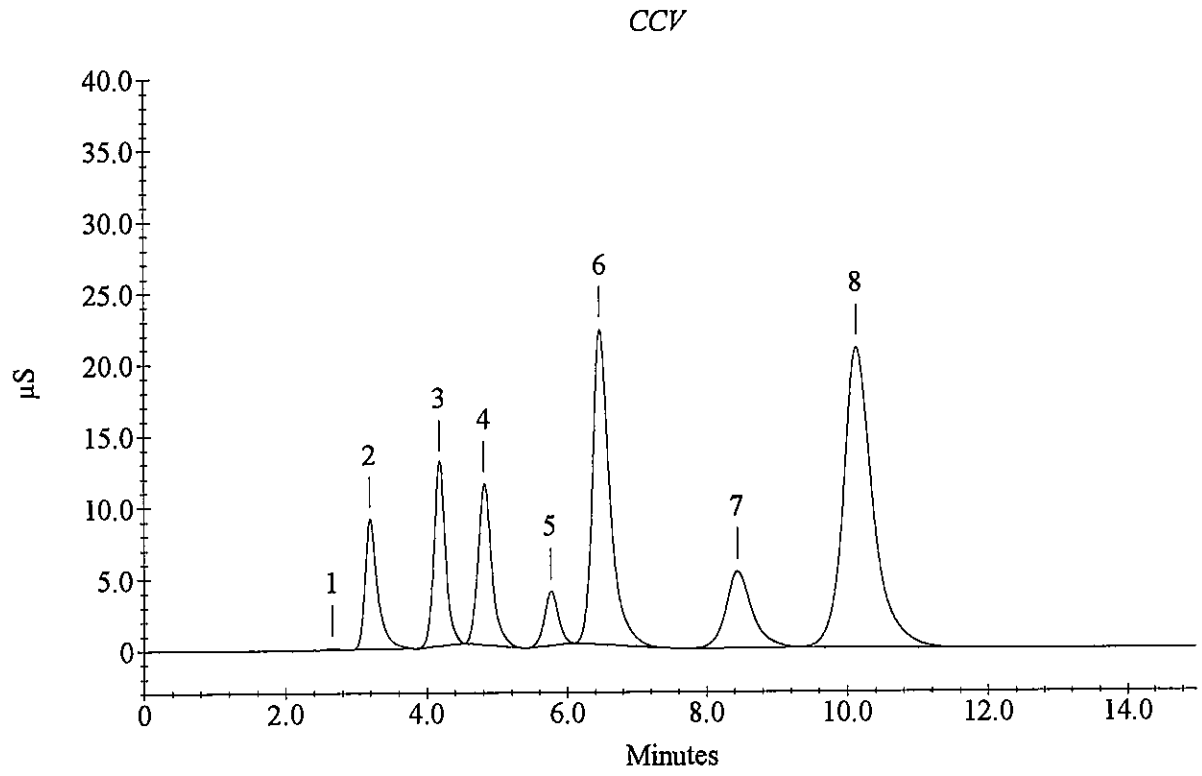
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_060.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 9:28:37 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 9:43:42 PM
Datafile Updated : 6/14/17 9:43:42 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.19 | 5199.2 | | 1109173 |
| 3 | Chloride | 4.17 | 9573.6 | | 1481252 |
| 4 | Nitrite as N | 4.81 | 4772.2 | | 1530050 |
| 5 | Bromide | 5.76 | 8893.9 | | 523685 |
| 6 | Nitrate as N | 6.47 | 9788.0 | | 3827545 |
| 7 | Orthophosphate as P | 8.44 | 10125.0 | | 1387834 |
| 8 | Sulfate | 10.13 | 49823.4 | | 6067041 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

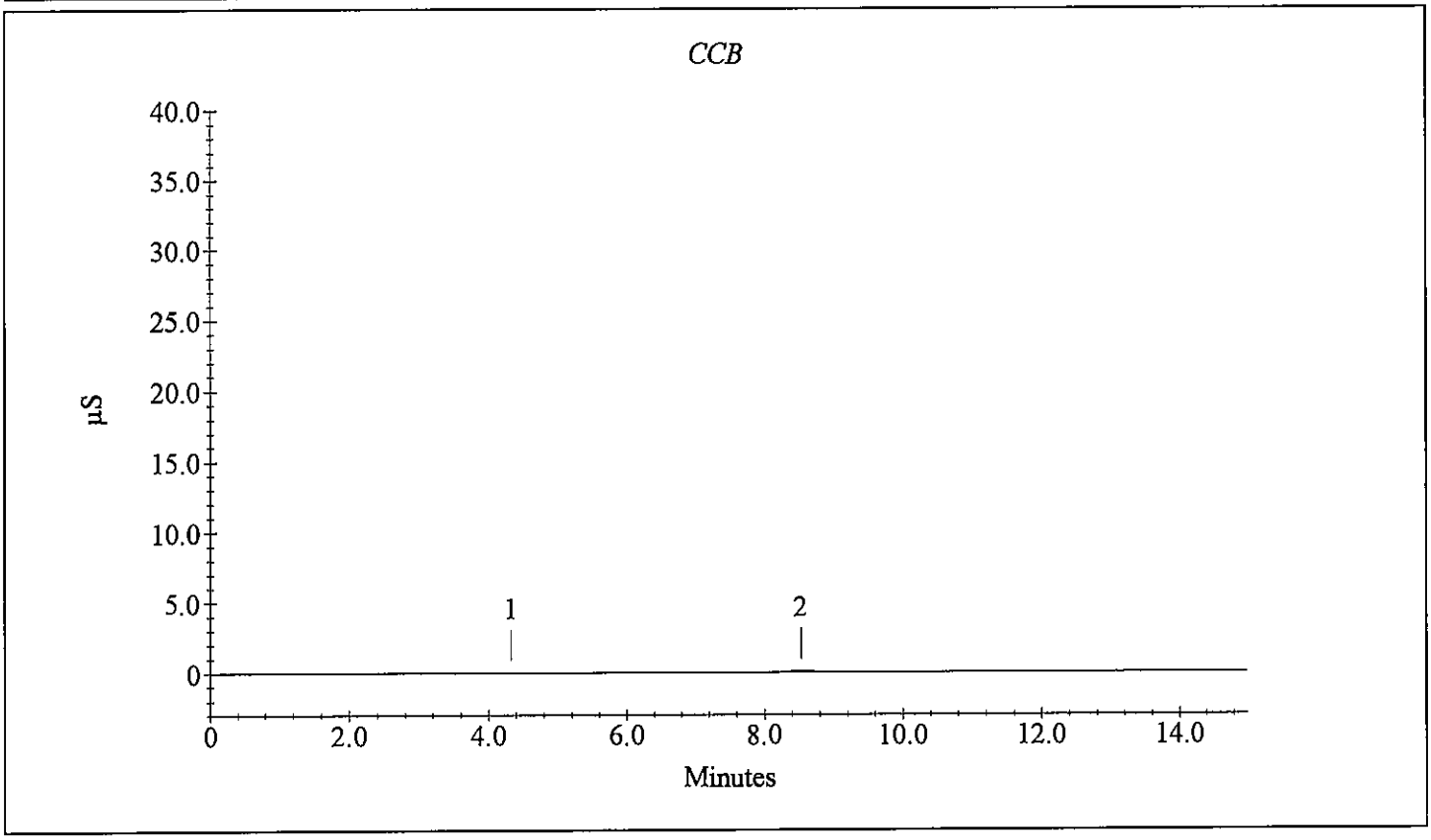
**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170614ic2\170614_061.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/14/17 9:43:44 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/14/17
Current Time : 9:58:48 PM
Datafile Updated : 6/14/17 9:58:48 PM

Peak Information : All Components

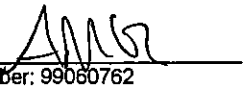
| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride | 4.32 | -0.4 | - | 2797 |
| 1 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.32 | -0.4 | - | 2797 |
| 2 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.53 | 170.3 | - | 31195 |



Schedule File: C:\PeakNet2\schedule02\170615ic2.SCH

| Line | Sample | Sample Type | Level | Method | Data File | Comment |
|---|---|---|---|---|---|---|
| 1 | Blank | Sample | | 170516ic2.met | 170516_001.dxd | Water |
| 2 | 0 STD | Calibration | 7 | 170516ic2.met | 170516_002.dxd | |
| 3 | 1000X STD | Calibration | 6 | 170516ic2.met | 170516_003.dxd | |
| 4 | 500X STD | Calibration | 5 | 170516ic2.met | 170516_004.dxd | |
| 5 | 100X STD | Calibration | 4 | 170516ic2.met | 170516_005.dxd | |
| 6 | 25X STD | Calibration | 3 | 170516ic2.met | 170516_006.dxd | |
| 7 | 10X STD | Calibration | 2 | 170516ic2.met | 170516_007.dxd | |
| 8 | 5X STD | Calibration | 1 | 170516ic2.met | 170516_008.dxd | |
| 9 | ICV | Sample | | 170516ic2.met | 170516_009.dxd | ICV |
| 10 | ICB | Sample | | 170516ic2.met | 170516_010.dxd | ICB |
| 11 | Blank | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_011.dxd | Blank |
| 12 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_012.dxd | CCV |
| 13 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_013.dxd | CCB |
| 14 | IC170615-1MB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_014.dxd | MB |
| 15 | IC170615-1LCS | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_015.dxd | LCS |
| 16 | IC170615-1LCSD | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_016.dxd | LCSD |
| 17 | 1706084-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_017.dxd | RRing Cl |
| 18 | 1706084-2 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_018.dxd | RRing Cl |
| 19 | 1706299-1 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_019.dxd | RRing Br |
| 20 | 1706299-2 5x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_020.dxd | RRing Br |
| 21 | 1706286-1 25x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_021.dxd | RRing Br |
| 22 | 1706286-1 500x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_022.dxd | RRing Cl |
| 23 | 1706286-3 40x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_023.dxd | RRing Br |
| 24 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_024.dxd | CCV |
| 25 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_025.dxd | CCB |
| 26 | 1706286-3 1000x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_026.dxd | RRing Cl |
| 27 | 1706286-3MS 1000x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_027.dxd | RRing Cl |
| 28 | 1706286-3MSD 1000x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_028.dxd | RRing Cl |
| 29 | ~~1706185-1 1000x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_029.dxd | ~~RRing Cl~~ |
| 30 | ~~1706271-1 1000x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_030.dxd | ~~RRing Cl~~ |
| 31 | ~~1706271-2 500x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_031.dxd | ~~RRing Cl~~ |
| 32 | 1706338-1 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_032.dxd | Br, ~~Cl,~~ F, NO2, NO3, ~~SO4~~ |
| 33 | 1706338-1 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_033.dxd | ~~Br~~, Cl, ~~F, NO2, NO3~~, SO4 |
| 34 | 1706338-1MS 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_034.dxd | ~~Br~~, Cl, ~~F, NO2, NO3~~, SO4 |
| 35 | 1706338-1MSD 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_035.dxd | ~~Br~~, Cl, ~~F, NO2, NO3~~, SO4 |
| 36 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_036.dxd | CCV |
| 37 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_037.dxd | CCB |
| 38 | 1706305-1 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_038.dxd | F, ~~Cl, SO4~~ |
| 39 | 1706305-1 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_039.dxd | ~~F~~, Cl, SO4 |
| 40 | 1706305-2 1x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_040.dxd | F, ~~Cl, SO4~~ |
| 41 | 1706305-2 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_041.dxd | ~~F~~, Cl, SO4 |
| 42 | ~~1706331-1 5x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_042.dxd | ~~SO4~~ |
| 43 | ~~1706331-2 5x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_043.dxd | ~~SO4~~ |
| 44 | ~~1706331-3 200x~~ | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_044.dxd | ~~Cl~~ |
| 45 | 1706270-1 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_045.dxd | ~~Cl~~, SO4 |
| 46 | 1706270-1 250x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_046.dxd | Cl, ~~SO4~~ |
| 47 | 1706270-2 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_047.dxd | ~~Cl~~, SO4 |
| 48 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_048.dxd | CCV |
| 49 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_049.dxd | CCB |
| 50 | 1706270-2 250x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_050.dxd | Cl, ~~SO4~~ |
| 51 | 1706270-3 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_051.dxd | ~~Cl~~, SO4 |
| 52 | 1706270-3 250x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_052.dxd | Cl, ~~SO4~~ |
| 53 | IC170615-2MB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_053.dxd | MB |
| 54 | IC170615-2LCS | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_054.dxd | LCS |
| 55 | IC170615-2LCSD | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_055.dxd | LCSD |
| 56 | 1706275-1 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_056.dxd | SO4 |
| 57 | 1706275-2 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_057.dxd | SO4 |
| 58 | 1706275-3 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_058.dxd | SO4 |
| 59 | 1706275-3MS 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_059.dxd | SO4 |
| 60 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_060.dxd | CCV |
| 61 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_061.dxd | CCB |
| 62 | 1706275-3MSD 10x | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_062.dxd | SO4 |
| 63 | CCV | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_063.dxd | CCV |
| 64 | CCB | Sample | | 170516nic2.met | c:\peaknet2\data02\170615ic2\170615_064.dxd | CCB |
| 65 | STOP | Sample | | stop.met | c:\peaknet2\data02\170615ic2\170615_065.dxd | STOP |

Default Method Path: C:\PEAKNET2\METHOD02
Default Data Path: C:\PEAKNET2\DATA02\170516IC2
Comment:

BatchDx created schedule. Analyst: 
Instrument #2: DIONEX DX-120. ID Serial Number: 99060762
Analytical Column: Dionex IonPac AS14
Methods: EPA 300.0 and SW9056. ALS SOP 1113
Final_ ID_ Aliq
ICAL std level 7 (0x)
ICAL std level 6 (1000x)_50.00____ ST170207-8, ST170515-3_____0.05

| | | | |
|---|---|---|---|
| ICAL std level 5 (500x) | 5.00 | " | 0.01 |
| ICAL std level 4 (100x) | 5.00 | " | 0.05 |
| ICAL std level 3 (25x) | 5.00 | " | 0.20 |
| ICAL std level 2 (10x) | 5.00 | " | 0.50 |
| ICAL std level 1 (5x) | 5.00 | " | 1.00 |

| | | | |
|---|---|---|---|
| CCV | 5.00 | ST170207-8, ST170317-2 | 0.50 |
| RVS | 5.00 | ST160920-1, ST170116-9 | 0.01 |
| ICV | 5.00 | ST160707-6 | 0.25 |
| | | ST170427-1 | 0.08 |
| LCS & MS/D | 5.00 | ST160809-2 | 0.05 |
| | | ST170116-8 | 0.05 |

Dilutions Table: All to 5mL Final Volume (FV) unless specified otherwise:

| | | | |
|---|---|---|---|
| 2x (2.5mL) | 4x (1.25mL) | 5x (1mL) | 8x (0.625mL) |
| 10x (0.5mL) | 12.5x (0.4mL) | 20x (0.25mL) | 25x (0.2mL) |
| 40x (0.125mL) | 50x (0.1mL) | 62.5x (0.08mL) | 100x (0.05mL) |
| 125x (0.04mL) | 200x (0.025mL) | 250x (0.02mL) | 500x (0.01mL) |
| 1000x (100uL to 100mL FV) | | 2000x (50uL to 100mL FV) | |
| 2500x (40uL to 100mL FV) | | 4000x (25uL to 100mL FV) | |
| 5000x (50uL to 250mL FV) | | 10000x (25uL to 250mL FV) | |

# Sample Analysis Report

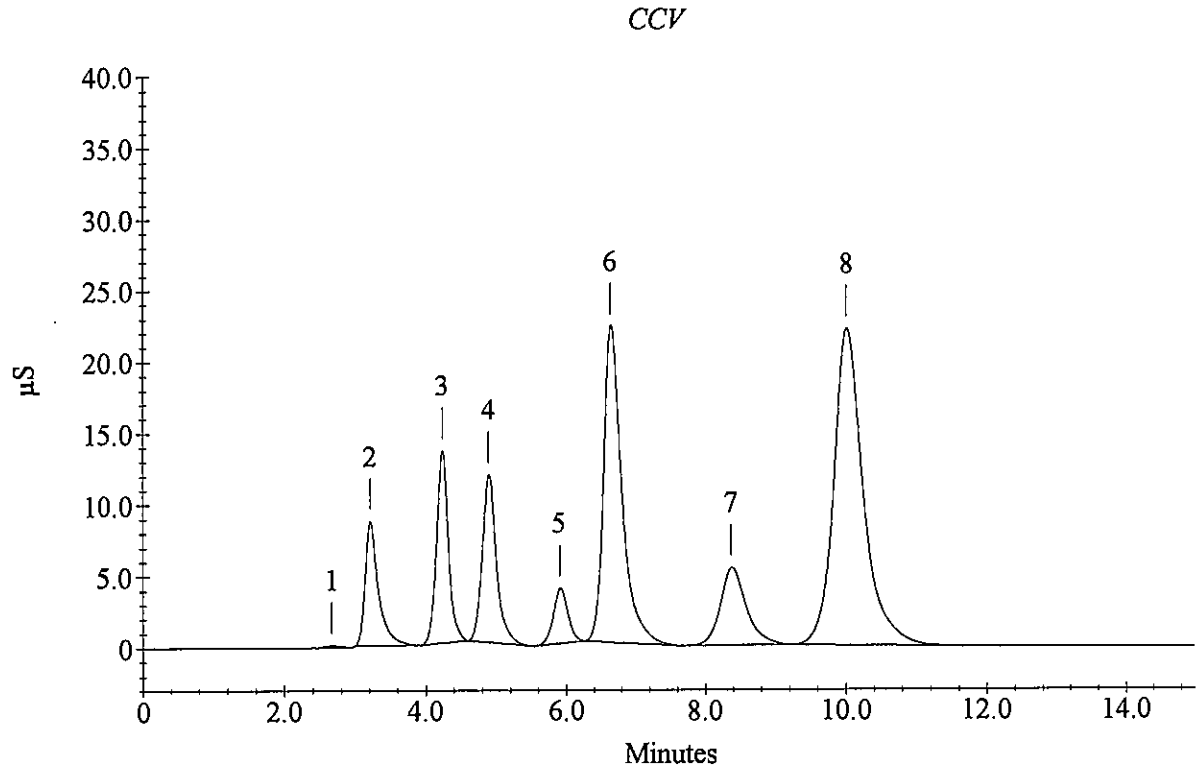
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_012.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 1:25:45 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 1:40:51 PM
Datafile Updated : 6/15/17 1:40:50 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.21 | 5297.4 | | 1131516 |
| 3 | Chloride | 4.24 | 10141.7 | | 1575755 |
| 4 | Nitrite as N | 4.89 | 5105.9 | | 1643105 |
| 5 | Bromide | 5.91 | 9436.5 | | 556844 |
| 6 | Nitrate as N | 6.64 | 10334.4 | | 4063046 |
| 7 | Orthophosphate as P | 8.37 | 10201.0 | | 1398993 |
| 8 | Sulfate | 10.01 | 52554.6 | | 6431807 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

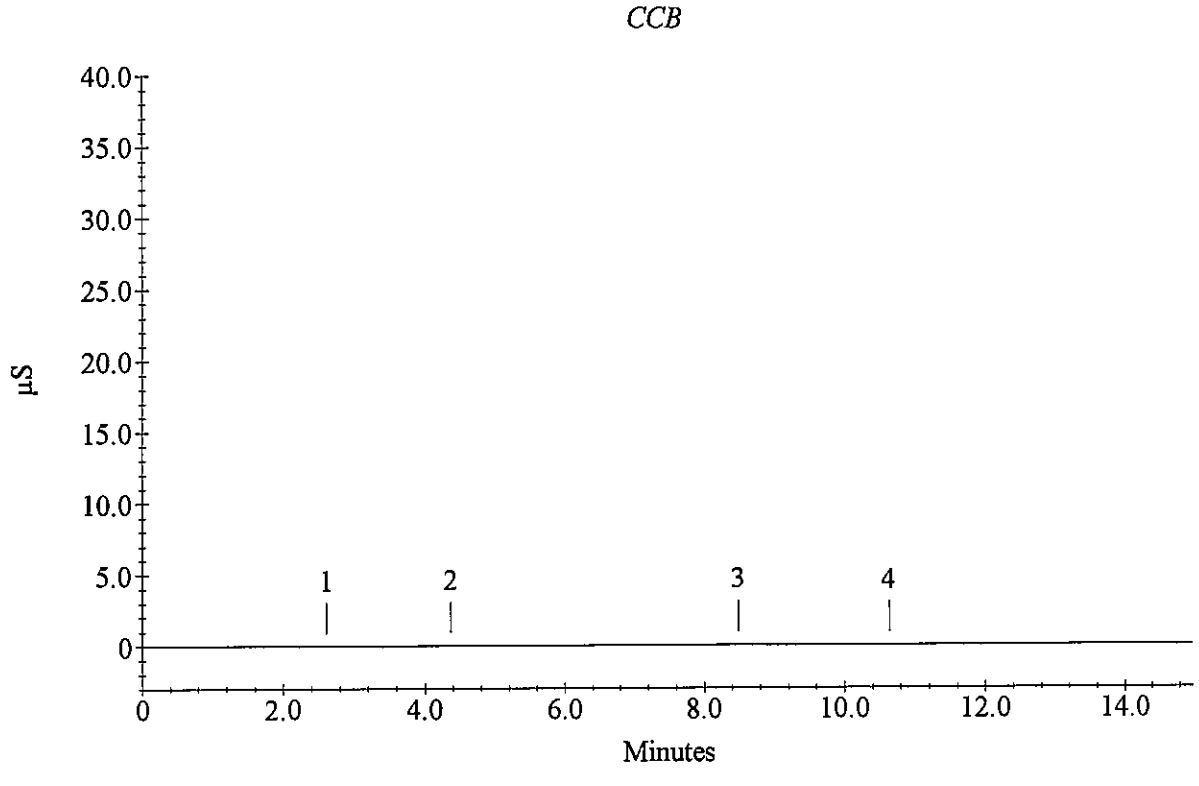
**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_013.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 1:40:53 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 1:55:58 PM
Datafile Updated : 6/15/17 1:55:58 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | | 2.61 | 0.0 | | 1631 |
| 2 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.37 | 21.2 | - | 5917 |
| 3 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.49 | 148.5 | - | 28413 |



# Sample Analysis Report

**Sample Name : 1706286-1 25x**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_021.DXD**

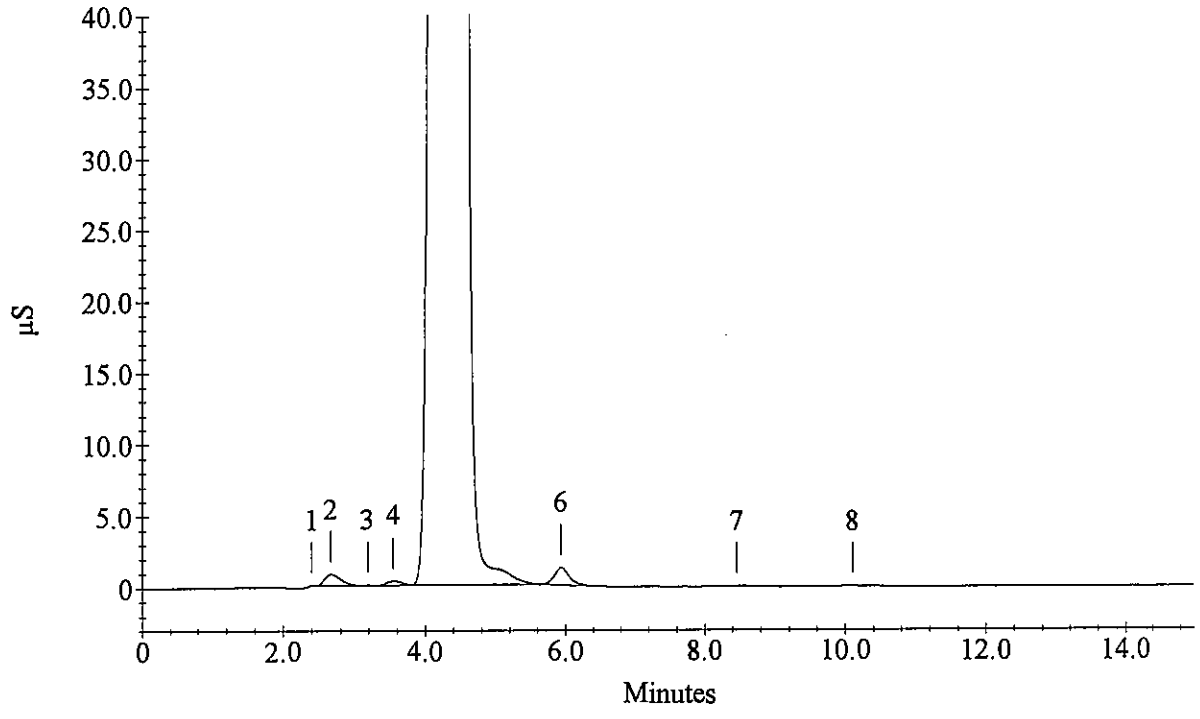
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 3:41:48 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 3:56:53 PM
Datafile Updated : 6/15/17 3:56:52 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 3 | Fluoride<br>Chloride<br>Nitrite as N | 3.19 | 29.7 | - | 1927 |
| 6 | Bromide<br>Nitrate as N | 5.93 | 3121.9 | | 179417 |
| 7 | Orthophosphate as P | 8.47 | 33.7 | - | 13818 |
| 8 | Sulfate<br>Nitrate/Nitrite as N | 10.11 | 336.4 | - | 7611 |

*1706286-1 25x*



# Sample Analysis Report

**Sample Name : 1706286-1 500x**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_022.DXD**

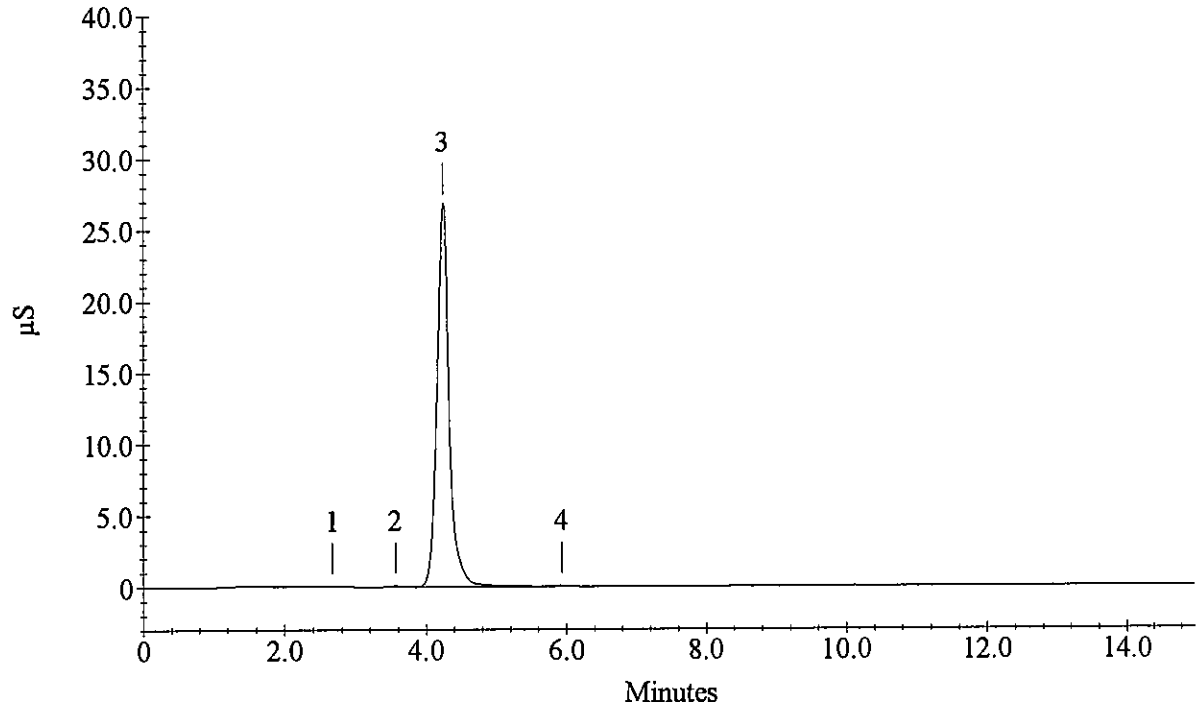
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 3:56:55 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 4:12:00 PM
Datafile Updated : 6/15/17 4:11:59 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | | 2.67 | 0.0 | | 7022 |
| 3 | Chloride<br>Nitrite as N | 4.24 | 19217.4 | | 3227179 |
| 4 | Bromide<br>Nitrate as N<br>Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 5.93 | 170.7 | - | 8993 |

*1706286-1 500x*



# Sample Analysis Report

**Sample Name : 1706286-3 40x**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_023.DXD**

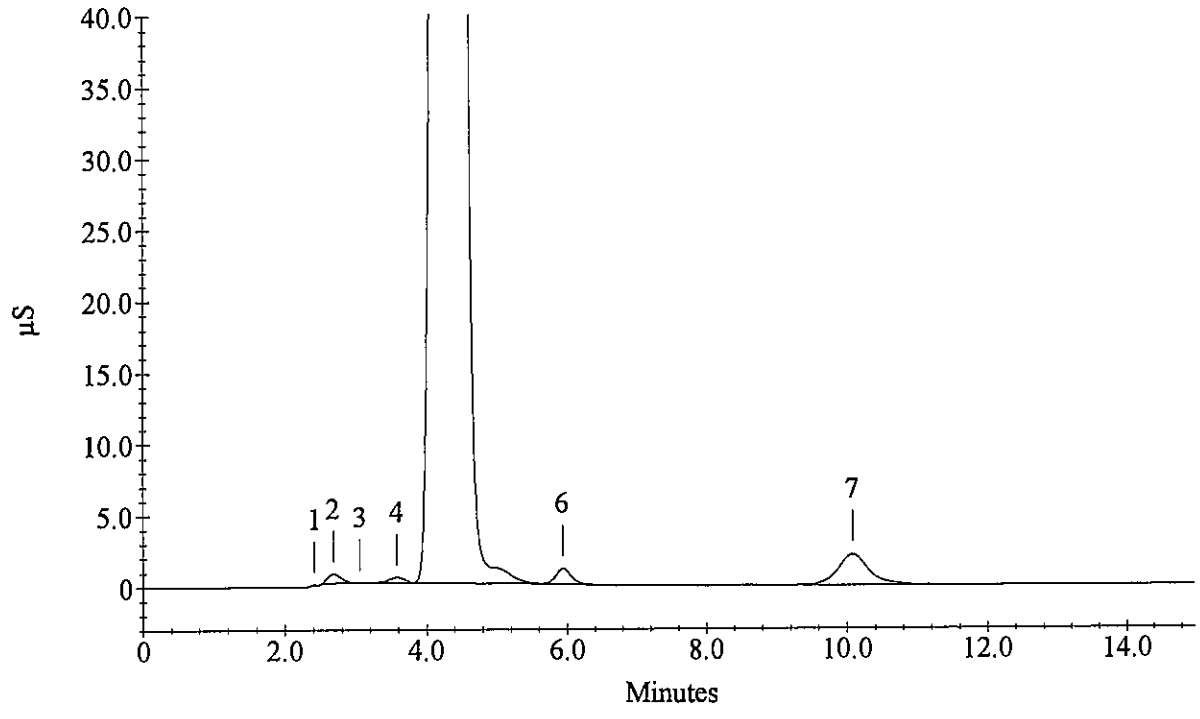
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 4:12:02 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 4:27:07 PM
Datafile Updated : 6/15/17 4:27:06 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride<br>Nitrite as N | 2.41 | 0.0 | | 629 |
| 6 | Bromide<br>Nitrate as N | 5.93 | 2823.9 | | 162047 |
| 7 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 10.08 | 6044.4 | | 660807 |

*1706286-3 40x*



# Sample Analysis Report

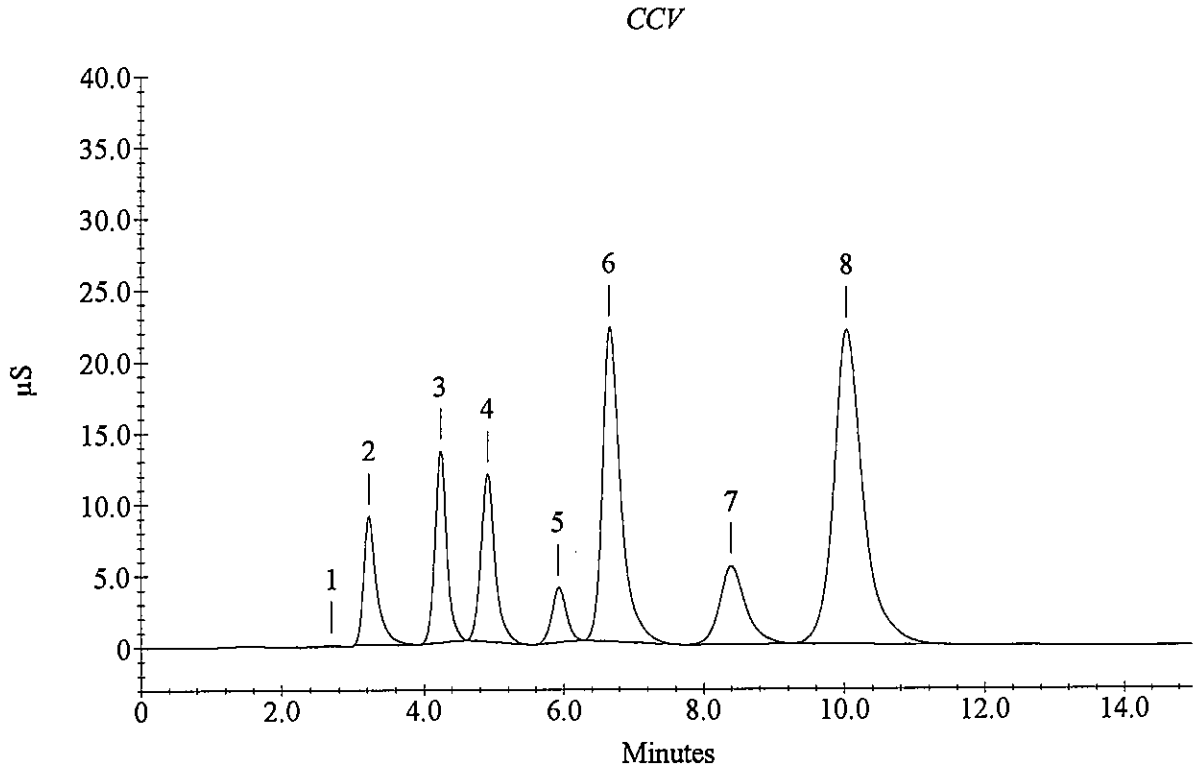
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_024.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 4:27:10 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 4:42:14 PM
Datafile Updated : 6/15/17 4:42:14 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.23 | 5357.2 | | 1145123 |
| 3 | Chloride | 4.24 | 10060.7 | | 1562237 |
| 4 | Nitrite as N | 4.91 | 5137.2 | | 1653745 |
| 5 | Bromide | 5.92 | 9345.1 | | 551249 |
| 6 | Nitrate as N | 6.65 | 10223.0 | | 4014851 |
| 7 | Orthophosphate as P | 8.40 | 10302.4 | | 1413895 |
| 8 | Sulfate | 10.04 | 52063.4 | | 6365922 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

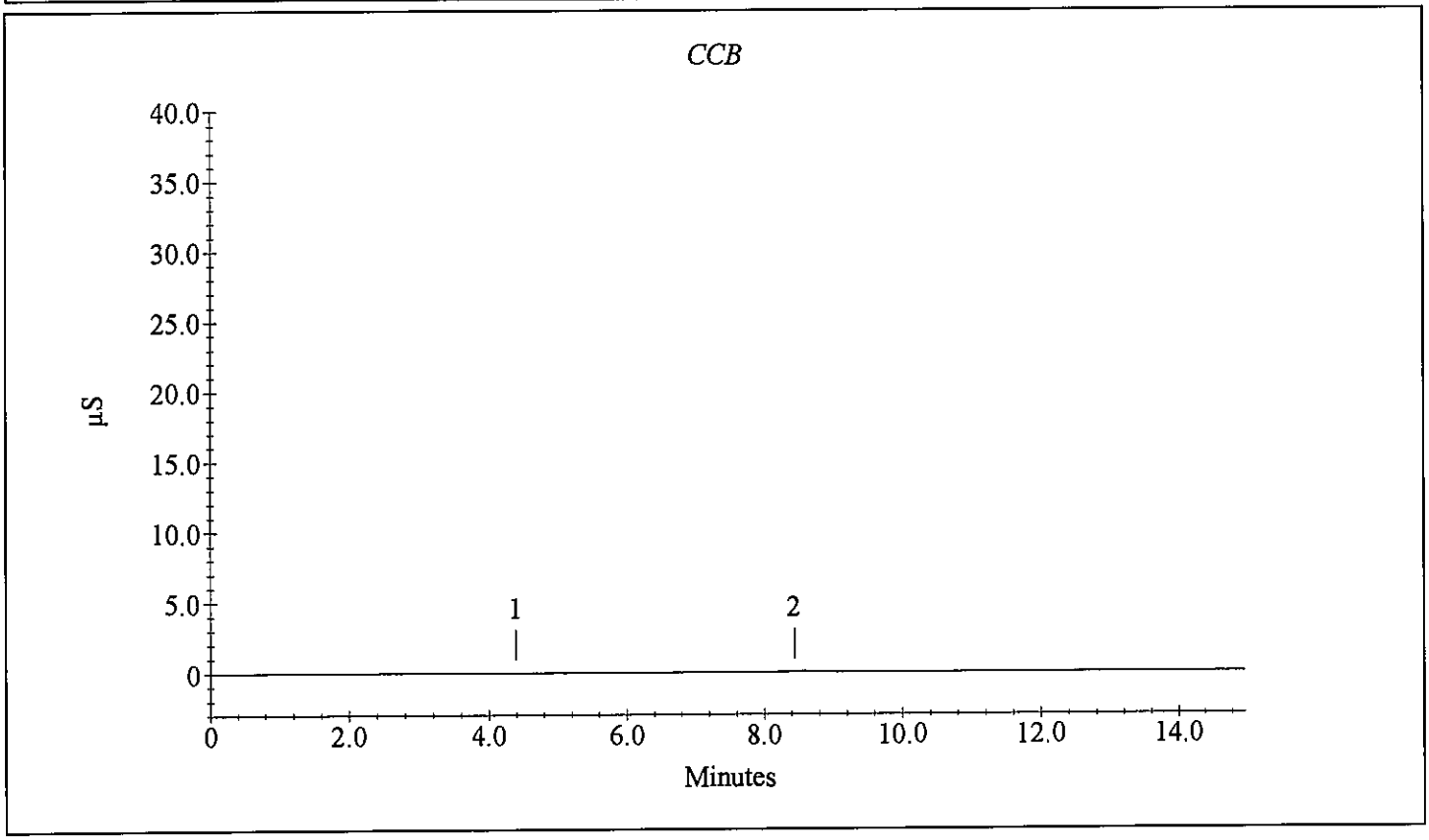
**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_025.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 4:42:16 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 4:57:21 PM
Datafile Updated : 6/15/17 4:57:21 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Chloride | 4.39 | 1.5 | - | 3060 |
| 1 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.39 | 1.5 | - | 3060 |
| 2 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.44 | 94.9 | - | 21602 |



# Sample Analysis Report

**Sample Name : 1706286-3 1000x**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_026.DXD**

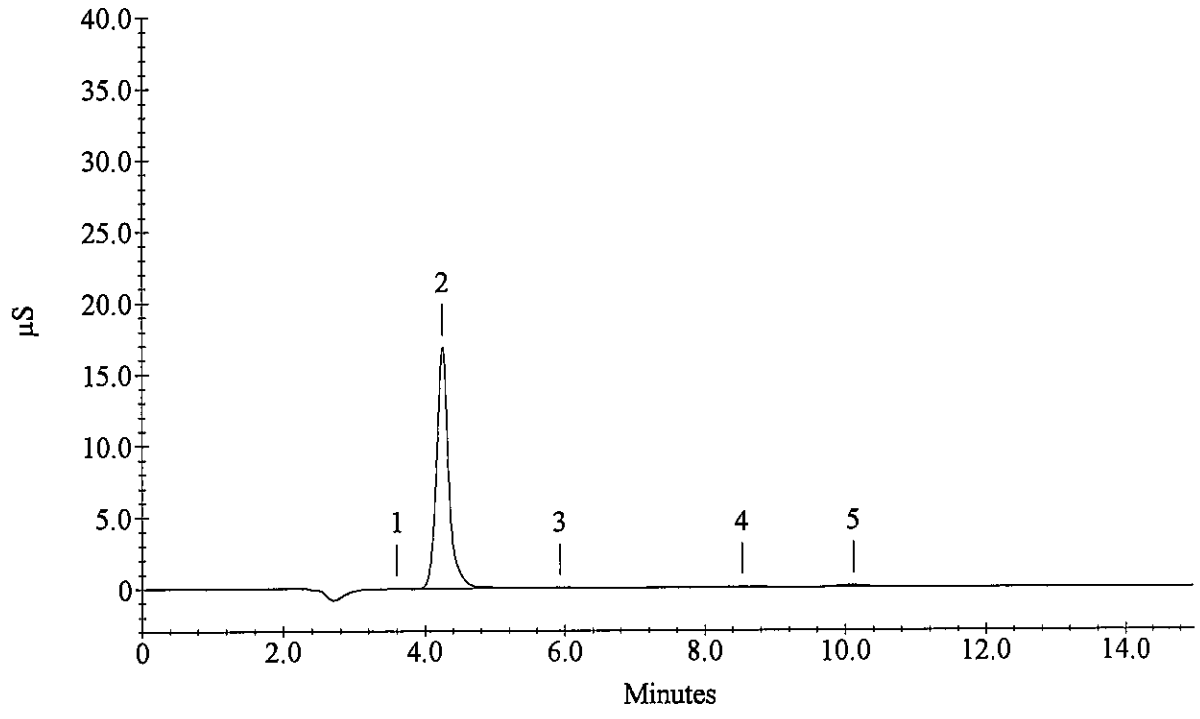
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 4:57:24 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 5:12:28 PM
Datafile Updated : 6/15/17 5:12:28 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | | 3.60 | 0.0 | | 3092 |
| 2 | Chloride<br>Nitrite as N | 4.25 | 12916.3 | | 2050613 |
| 3 | Bromide<br>Nitrate as N | 5.93 | 129.4 | - | 6635 |
| 4 | Orthophosphate as P | 8.53 | 30.8 | - | 13459 |
| 5 | Sulfate<br>Nitrate/Nitrite as N | 10.12 | 594.6 | | 36942 |

*1706286-3 1000x*



# Sample Analysis Report

**Sample Name : 1706286-3MS 1000x**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_027.DXD**

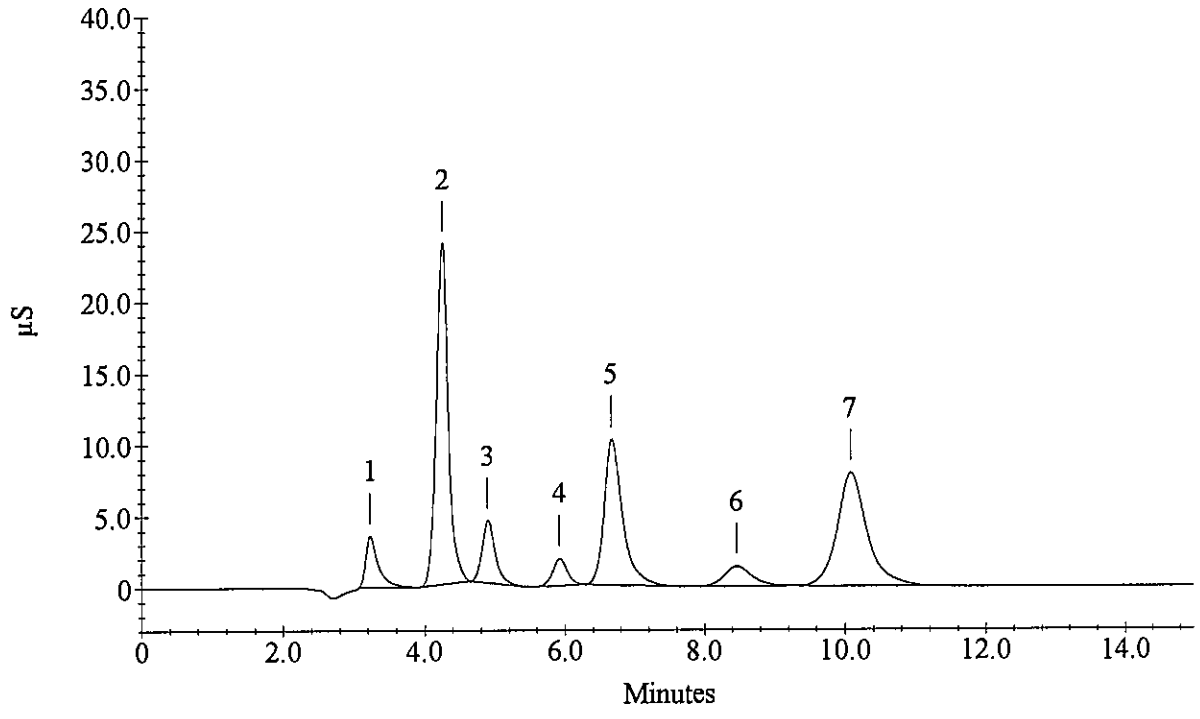
Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 5:12:31 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 5:27:36 PM
Datafile Updated : 6/15/17 5:27:35 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Fluoride | 3.23 | 2152.6 | | 441534 |
| 2 | Chloride | 4.25 | 17189.6 | | 2831505 |
| 3 | Nitrite as N | 4.89 | 1858.7 | | 575337 |
| 4 | Bromide | 5.92 | 4707.5 | | 272496 |
| 5 | Nitrate as N | 6.67 | 5022.2 | | 1873332 |
| 6 | Orthophosphate as P | 8.47 | 2910.0 | | 385971 |
| 7 | Sulfate | 10.08 | 20364.0 | | 2347205 |
| | Nitrate/Nitrite as N | | | | |

*1706286-3MS 1000x*



# Sample Analysis Report

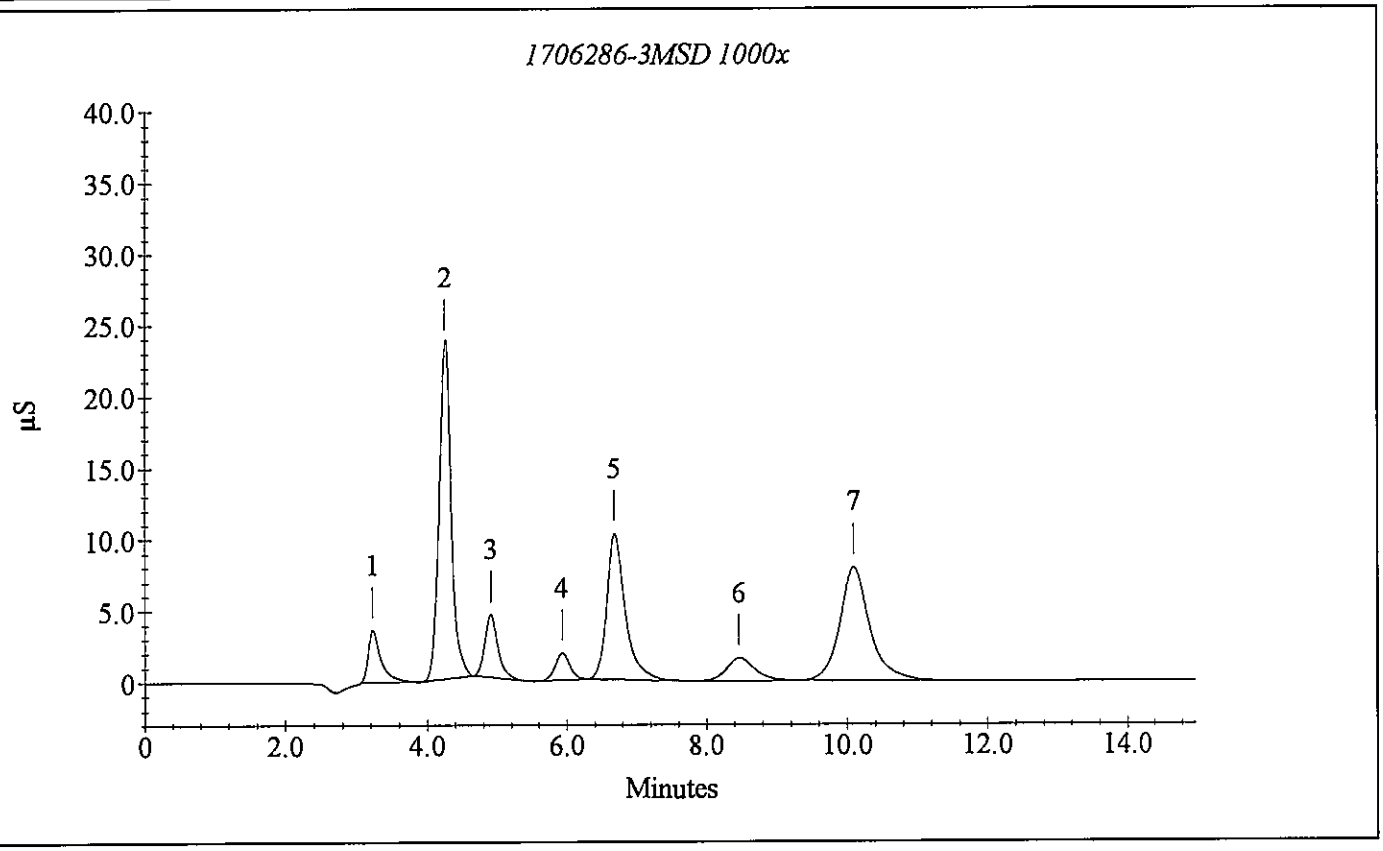
**Sample Name : 1706286-3MSD 1000x**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_028.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 5:27:38 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 5:42:43 PM
Datafile Updated : 6/15/17 5:42:43 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | Fluoride | 3.23 | 2179.2 | | 447156 |
| 2 | Chloride | 4.25 | 17190.4 | | 2831654 |
| 3 | Nitrite as N | 4.91 | 1865.1 | | 577378 |
| 4 | Bromide | 5.93 | 4734.1 | | 274066 |
| 5 | Nitrate as N | 6.68 | 5042.1 | | 1881128 |
| 6 | Orthophosphate as P | 8.47 | 3354.3 | | 444716 |
| 7 | Sulfate | 10.09 | 20383.8 | | 2349584 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

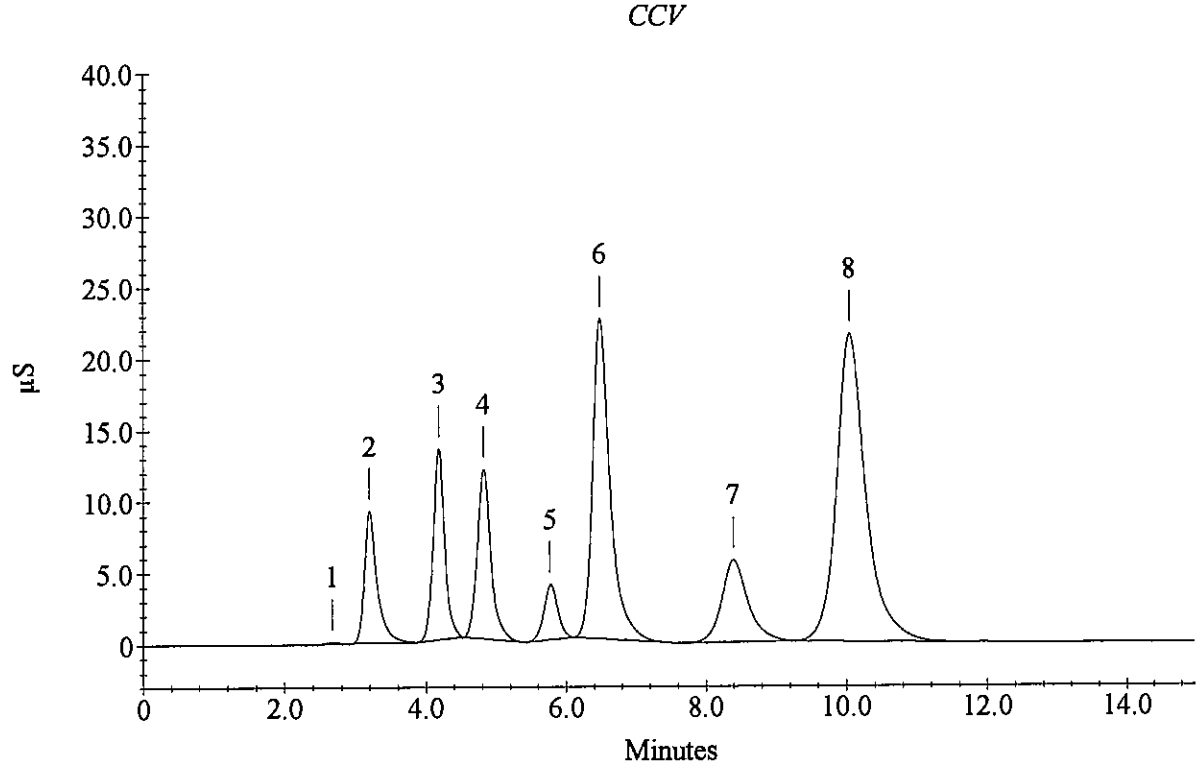
**Sample Name : CCV**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_036.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 7:28:36 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 7:43:41 PM
Datafile Updated : 6/15/17 7:43:41 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 2 | Fluoride | 3.20 | 5294.6 | | 1130870 |
| 3 | Chloride | 4.19 | 9725.2 | | 1506384 |
| 4 | Nitrite as N | 4.83 | 4994.6 | | 1605311 |
| 5 | Bromide | 5.77 | 9014.9 | | 531068 |
| 6 | Nitrate as N | 6.48 | 9964.9 | | 3903501 |
| 7 | Orthophosphate as P | 8.40 | 10805.3 | | 1488195 |
| 8 | Sulfate | 10.05 | 50703.1 | | 6184117 |
| | Nitrate/Nitrite as N | | | | |



# Sample Analysis Report

**Sample Name : CCB**
**Data File Name : c:\peaknet2\data02\170615ic2\170615_037.DXD**

Method File Name : c:\peaknet2\method02\170516nic2.met
Date, Time Analyzed : 6/15/17 7:43:44 PM
System Operator : amg
Calibration Updated : 6/14/17 9:39:16 AM

Current Date : 6/15/17
Current Time : 7:58:48 PM
Datafile Updated : 6/15/17 7:58:48 PM

Peak Information : All Components

| Peak Number | Analyte | Retention Time (min.) | Concentration (ug/L) | Limit Exceeded | Peak Area |
|---|---|---|---|---|---|
| 1 | | 2.64 | 0.0 | | 1756 |
| 3 | Chloride<br>Nitrite as N<br>Bromide<br>Nitrate as N | 4.24 | 24.7 | - | 6420 |
| 4 | Orthophosphate as P<br>Sulfate<br>Nitrate/Nitrite as N | 8.48 | 381.8 | | 58141 |