010001

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
TASK ORDER: 060418-2
SRR: 29002
SDG: 277609
CASE: L. Yang
VTSR: April 17, 2006
PROJECT#: 06002.01.322

# FINAL REPORT

# *SOUTHWEST RESEARCH INSTITUTE*

## SAMPLE ANALYSIS DATA SHEET 010002

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Task Order: 060418-2

SRR: 29002

Method: SW846 6010B

| Client ID | Lab Sample ID | Potassium Result | Sodium Result | Units | Sample Collection Date |
|---|---|---|---|---|---|
| Prep Blank | ----- | <3.00 | <2.50 | mg/L | ----- |
| Prep Blank | ----- | <75.0 | <62.5 | mg/Kg | ----- |
| Lab Control | ----- | 20.7 | 20.5 | mg/L | ----- |
| True Value | ----- | 20.0 | 20.0 | mg/L | ----- |
| Recovery | ----- | 104% | 103% | ----- | ----- |
| Bubbler 170°C | 277609 | <3.00 | 3.72 | mg/L | 04/13/06 |
| Cond. 170°C-A | 277610 | <3.00 | 3.32 | mg/L | 04/10/06 |
| Cond. 170°C-B | 277611 | <3.00 | 4.92 | mg/L | 04/13/06 |
| Cond. 190°C-A | 277612 | <3.00 | 2.88 | mg/L | 04/17/06 |
| Salt 170°C | 277613 | 180000 | 126000 | mg/Kg | 04/13/06 |
| Duplicate result | 277613 | 181000 | 127000 | mg/Kg | ----- |
| RPD | ----- | 0.55% | 0.79% | ----- | ----- |
| Analytical spike result | 277613 | 301000 | 243000 | mg/Kg | ----- |
| Spike added | ----- | 116713 | 116713 | mg/Kg | ----- |
| Recovery | ----- | 104% | 100% | ----- | ----- |

| Reporting Limit: | 3.00 mg/L | 2.50 mg/L |
|---|---|---|
| | 75.0 mg/Kg | 62.5 mg/Kg |



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# *SOUTHWEST RESEARCH INSTITUTE*

## SAMPLE ANALYSIS DATA SHEET 010003

| Sample ID |
| --- |
| Bubbler 170°C |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277609

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Reporting Limit (mg/L) |
| --- | --- | --- |
| Chloride | 0.360 | 0.1 |
| Fluoride | <0.1 | 0.1 |
| Nitrate-N | 0.584 | 0.1 |
| Nitrite-N | 1.39 | 0.1 |
| Phosphate-P | <0.1 | 0.1 |
| Sulfate | <0.1 | 0.1 |



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# *SOUTHWEST RESEARCH INSTITUTE*

## DUPLICATE SUMMARY

010004

| Sample ID |
| --- |
| Bubbler 170°C |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277609

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Duplicate Result (mg/L) | RPD |
| --- | --- | --- | --- |
| Chloride | 0.360 | 0.346 | 3.97% |
| Fluoride | <0.1 | <0.1 | 0.00% |
| Nitrate-N | 0.584 | 0.573 | 1.90% |
| Nitrite-N | 1.39 | 1.38 | 0.72% |
| Phosphate-P | <0.1 | <0.1 | 0.00% |
| Sulfate | <0.1 | <0.1 | 0.00% |



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# *SOUTHWEST RESEARCH INSTITUTE*

## MATRIX SPIKE SUMMARY 010005

| Sample ID |
|---|
| Bubbler 170°C |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277609

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Spike Result (mg/L) | Spike Added (mg/L) | Recovery |
|---|---|---|---|---|
| Chloride | 0.360 | 0.986 | 0.750 | 83.5% |
| Fluoride | <0.1 | 0.465 | 0.500 | 93.0% |
| Nitrate-N | 0.584 | 1.05 | 0.565 | 82.5% |
| Nitrite-N | 1.39 | 2.14 | 0.885 | 84.7% |
| Phosphate-P | <0.1 | 1.06 | 1.21 | 87.6% |
| Sulfate | <0.1 | 3.54 | 3.75 | 94.4% |



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# *SOUTHWEST RESEARCH INSTITUTE*

## SAMPLE ANALYSIS DATA SHEET 010006

| Sample ID |
| --- |
| Cond. 170°C-A |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277610

SRR: 29002

Sample Collection Date: 04/10/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Reporting Limit (mg/L) |
| --- | --- | --- |
| Chloride | 1.67 | 0.1 |
| Fluoride | 0.131 | 0.1 |
| Nitrate-N | 1.36 | 0.1 |
| Nitrite-N | 0.554 | 0.1 |
| Phosphate-P | <0.1 | 0.1 |
| Sulfate | <0.1 | 0.1 |



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# *SOUTHWEST RESEARCH INSTITUTE*

## SAMPLE ANALYSIS DATA SHEET

010007

Sample ID
Cond. 170°C-B

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277611

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Reporting Limit (mg/L) |
|---|---|---|
| Chloride | 2.05 | 0.1 |
| Fluoride | 0.136 | 0.1 |
| Nitrate-N | 1.66 | 0.1 |
| Nitrite-N | 0.456 | 0.1 |
| Phosphate-P | <0.1 | 0.1 |
| Sulfate | <0.1 | 0.1 |


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# *SOUTHWEST RESEARCH INSTITUTE*

## SAMPLE ANALYSIS DATA SHEET 010008

| Sample ID |
| --- |
| Cond. 190°C-A |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277612

SRR: 29002

Sample Collection Date: 04/17/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Reporting Limit (mg/L) |
| --- | --- | --- |
| Chloride | 0.286 | 0.1 |
| Fluoride | <0.1 | 0.1 |
| Nitrate-N | 0.144 | 0.1 |
| Nitrite-N | 0.116 | 0.1 |
| Phosphate-P | <0.1 | 0.1 |
| Sulfate | <0.1 | 0.1 |



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# *SOUTHWEST RESEARCH INSTITUTE*

## LABORATORY CONTROL SAMPLE

010009

| Sample ID |
|---|
| LCS |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: NA

SRR: 29002

Sample Collection Date: NA

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | True Value (mg/L) | Recovery |
|---|---|---|---|
| Chloride | 31.4 | 30.0 | 105% |
| Fluoride | 18.7 | 20.0 | 93.5% |
| Nitrate-N | 21.7 | 22.6 | 96.0% |
| Nitrite-N | 33.3 | 35.4 | 94.1% |
| Phosphate-P | 47.4 | 48.4 | 97.9% |
| Sulfate | 148 | 150 | 98.7% |

NA- Not Applicable.



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# *SOUTHWEST RESEARCH INSTITUTE*

## BLANK SUMMARY

010010

| Sample ID |
|---|
| PB |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: NA

SRR: 29002

Sample Collection Date: NA

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/L) | Reporting Limit (mg/L) |
|---|---|---|
| Chloride | <0.1 | 0.1 |
| Fluoride | <0.1 | 0.1 |
| Nitrate-N | <0.1 | 0.1 |
| Nitrite-N | <0.1 | 0.1 |
| Phosphate-P | <0.1 | 0.1 |
| Sulfate | <0.1 | 0.1 |

NA- Not Applicable.



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# *SOUTHWEST RESEARCH INSTITUTE*

## SAMPLE ANALYSIS DATA SHEET

010011

| Sample ID |
| --- |
| Salt 170°C |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277613

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/Kg) | Reporting Limit (mg/Kg) |
| --- | --- | --- |
| Chloride | 21900 | 467 |
| Fluoride | <467 | 467 |
| Nitrate-N | 125000 | 2330 |
| Nitrite-N | <467 | 467 |
| Phosphate-P | 15800 | 467 |
| Sulfate | 647 | 467 |



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# *SOUTHWEST RESEARCH INSTITUTE*

## DUPLICATE SUMMARY

010012

| Sample ID |
| --- |
| Salt 170°C |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277613

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/Kg) | Duplicate Result (mg/Kg) | RPD |
| --- | --- | --- | --- |
| Chloride | 21900 | 22500 | 2.70% |
| Fluoride | <467 | <418 | 0.00% |
| Nitrate-N | 125000 | 125000 | 0.00% |
| Nitrite-N | <467 | <418 | 0.00% |
| Phosphate-P | 15800 | 16800 | 6.13% |
| Sulfate | 647 | 527 | 20.4% |



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# *SOUTHWEST RESEARCH INSTITUTE*

## ANALYTICAL SPIKE SUMMARY

010013

| Sample ID |
| --- |
| Salt 170°C |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: 04/17/06

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: 277613

SRR: 29002

Sample Collection Date: 04/13/06

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/Kg) | Spike Result (mg/Kg) | Spike Added (mg/Kg) | Recovery |
| --- | --- | --- | --- | --- |
| Chloride | 21900 | 28000 | 5600 | 109% |
| Fluoride | <467 | 3790 | 3730 | 102% |
| Nitrate-N | 125000 | 147000 | 21100 | 104% |
| Nitrite-N | <467 | 6280 | 6610 | 95.0% |
| Phosphate-P | 15800 | 25000 | 9040 | 102% |
| Sulfate | 647 | 28500 | 28000 | 99.5% |



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# *SOUTHWEST RESEARCH INSTITUTE*

## LABORATORY CONTROL SAMPLE

010014

Sample ID
LCS

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: NA

SRR: 29002

Sample Collection Date: NA

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/Kg) | True Value (mg/Kg) | Recovery |
|---|---|---|---|
| Chloride | 28.9 | 30.0 | 96.3% |
| Fluoride | 17.8 | 20.0 | 89.0% |
| Nitrate-N | 21.6 | 22.6 | 95.6% |
| Nitrite-N | 32.8 | 35.4 | 92.7% |
| Phosphate-P | 46.6 | 48.4 | 96.3% |
| Sulfate | 147 | 150 | 98.0% |

NA- Not Applicable.


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# *SOUTHWEST RESEARCH INSTITUTE*

## BLANK SUMMARY

010015

| Sample ID |
| --- |
| PB |

Lab Name: Southwest Research Institute

Client: Division 20

Lab Code: SwRI

Date Received: NA

Matrix: Liquid

Project No.: 06002.01.322

Lab System ID: NA

SRR: 29002

Sample Collection Date: NA

Task Order: 060418-2

Method: IC - EPA 300

| Analysis | Sample Result (mg/Kg) | Reporting Limit (mg/Kg) |
| --- | --- | --- |
| Chloride | <25 | 25 |
| Fluoride | <25 | 25 |
| Nitrate-N | <25 | 25 |
| Nitrite-N | <25 | 25 |
| Phosphate-P | <25 | 25 |
| Sulfate | <25 | 25 |

NA- Not Applicable.


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SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
TASK ORDER: 060418-2
SRR: 29002
SDG: 277609
CASE: L. Yang
VTSR: April 17, 2006
PROJECT#: 06002.01.322

010016

# Task Orders/01-QPP-015

Southwest Research Institute

# Laboratory Task Order

TO #: 060418-2 Revision: 1

SDG: 277609
VTSR: 04/17/06
CASE: CNWRA

SRR #'s: 29002
Client(s): Div. 20

Project(s): 06002.01.322
Manager(s): SPIES, RADONNA
To PM: 04/28/06
To QA: 06/08/06
To Client: 06/20/06

010017

## Instructions

DIVISION 20 - CNWRA. RUSH TAT.
Using 7-day TAT for PM/preliminary, 14-day TAT for DRG/QAU; 14-day TAT hardcopy; subject to change.

---

Work is 10 CFR 50 Appendix B, 10 CFR Part 21, contact MARK EHNSTROM (ext. 3530) or CHARLIE BUTCHER (ext. 5928, pager 271-5172) or JO ANN BOYD (ext. 2169) BEFORE STARTING ANY WORK ON THIS TASK ORDER.

---

** NOTE ** Somewhere on your data, please make a notation indicating WHO and WHEN Mark Ehnstrom or Charlie Butcher or Jo Ann Boyd were contacted. This will help facilitate the final package to QA.

---

FIVE samples received for NO3, NO2, CL and Na, K analysis. Point of Contact is LIETAI YANG (x2483, lietai.yang@swri.org).
CONTACT PM WITH ANY ADDITIONAL QUESTIONS.
Revision 1, 6/13/06: prelims sent 4/28/06, revised due dates. (jr)

Documents Related to this task order: 22610[COC 29002]

Test: DIL-DILUTION
Section: METALPREP
Holding: 28 days from CED
**Prep, Dilution**
Cnt: 5

| System ID | Type | Cont | Matrix | Customer ID | CED | Method Date |
|---|---|---|---|---|---|---|
| 277609 | | 1 | Liquid | Bubbler 170°C | 13 Apr 06 | 11 May 06 |
| 277610 | | 1 | Liquid | Cond. 170°C-A | 10 Apr 06 | 08 May 06 |
| 277611 | | 1 | Liquid | Cond. 170°C-B | 13 Apr 06 | 11 May 06 |
| 277612 | | 1 | Liquid | Cond. 190°C-A | 17 Apr 06 | 15 May 06 |
| 277613 | | 1 | Liquid | Salt 170°C | 13 Apr 06 | 11 May 06 |

Test: IC-SWRI
Section: WETCHEM
Holding: 28 days from CED
**Ion Chromatography by SwRI Method**
Cnt: 5

| System ID | Type | Cont | Matrix | Customer ID | CED | Method Date |
|---|---|---|---|---|---|---|
| 277609 | | 1 | Liquid | Bubbler 170°C | 13 Apr 06 | 11 May 06 |
| 277610 | | 1 | Liquid | Cond. 170°C-A | 10 Apr 06 | 08 May 06 |
| 277611 | | 1 | Liquid | Cond. 170°C-B | 13 Apr 06 | 11 May 06 |
| 277612 | | 1 | Liquid | Cond. 190°C-A | 17 Apr 06 | 15 May 06 |
| 277613 | | 1 | Liquid | Salt 170°C | 13 Apr 06 | 11 May 06 |

Test: ICP-SWRI
Section: METALS
Holding: 180 days from CED
**ICP Analysis by SwRI Method**
Cnt: 5

| System ID | Type | Cont | Matrix | Customer ID | CED | Method Date |
|---|---|---|---|---|---|---|
| 277609 | | 1 | Liquid | Bubbler 170°C | 13 Apr 06 | 10 Oct 06 |
| 277610 | | 1 | Liquid | Cond. 170°C-A | 10 Apr 06 | 07 Oct 06 |
| 277611 | | 1 | Liquid | Cond. 170°C-B | 13 Apr 06 | 10 Oct 06 |
| 277612 | | 1 | Liquid | Cond. 190°C-A | 17 Apr 06 | 14 Oct 06 |
| 277613 | | 1 | Liquid | Salt 170°C | 13 Apr 06 | 10 Oct 06 |

010018

01-QPP-015
Division 01
Revision 5
June 2004

Document No._____

Division 01

Chemistry and Chemical
Engineering Division

QUALITY PROJECT PLAN FOR

# PERFORMANCE OF CHEMICAL ANALYSES FOR COMMERCIAL NUCLEAR POWER PLANTS WITHIN THE DEPARTMENT OF ANALYTICAL AND ENVIRONMENTAL CHEMISTRY

SOUTHWEST RESEARCH INSTITUTE
Chemistry and Chemical Engineering Division
6220 CULEBRA ROAD, SAN ANTONIO, TEXAS 78238

010019

## QUALITY PROJECT PLAN FOR PERFORMANCE OF CHEMICAL ANALYSES FOR COMMERCIAL NUCLEAR POWER PLANTS WITHIN THE DEPARTMENT OF ANALYTICAL AND ENVIONMENTAL CHEMISTRY

### SwRI AUTHORIZATION SIGNATORIES

This is to certify that this Quality Project Plan of Southwest Research Institute (SwRI) has been reviewed and approved by the following personnel:

**JO ANN BOYD** (210) 522-2169 — DATE 6/4/04
Quality Assurance Manager

**REZA KARIMI** (210) 522-2412 — DATE 6/4/04
Director, Department of Analytical and Environmental Chemistry

**MICHAEL G. MACNAUGHTON** (210) 522-5162 — DATE 6/4/04
Vice President, Chemistry and Chemical Engineering Division

**CHRISTOPHER HOBSON** (210) 522-5838 — DATE 6/4/2004
Quality Assurance Engineer

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# PERFORMANCE OF CHEMICAL ANALYSES FOR COMMERCIAL NUCLEAR POWER PLANTS WITHIN THE DEPARTMENT OF ANALYTICAL AND ENVIRONMENTAL CHEMISTRY

## 1.0 INTRODUCTION

This Quality Project Plan (QPP) defines the Quality Assurance (QA) program requirements for personnel providing the chemical analyses for commercial nuclear power plants. Southwest Research Institute (SwRI) ***Program Quality Plan (PQP-Nuclear)***, *Nuclear Services* shall implement the QA requirements. Project activities controlled by the PQP-Nuclear shall be accomplished as specified by the appropriate sections of **01-QAP-004**, *Quality Assurance Plan for Analytical and Environmental Services* and/or nationally recognized testing methods as specified on individual purchase orders. This QPP shall be applied to all projects initiated for nuclear utilities in the Department of Analytical and Environmental Chemistry. If, as a result of complexity, duration, or other factors, it is determined that a unique, project-specific quality plan is required, the project QAE shall notify the Project Manager and a project-specific quality plan shall be generated in accordance with **SOP-01-4.2.1**, *Preparation and Revision of Documented Procedures*.

## 2.0 SCOPE

This Quality Project Plan shall be applied to the chemical analyses performed for commercial nuclear power plants by the Department of Analytical and Environmental Chemistry within the Chemistry and Chemical Engineering Division. Although the majority of the work performed for nuclear facilities resides within the Department of Analytical and Environmental Chemistry, other departments within the division may utilize this Quality Project Plan as deemed necessary when nuclear projects are conducted.

## 3.0 REFERENCES

3.1 *SwRI Quality System Manual – 2000*

3.2 *10 CFR 50, Appendix B, ASME NQA-1*

3.3 *SwRI Program Quality Plan (PQP-Nuclear), Nuclear Services*

3.4 01-QAP-004, *Quality Assurance Plan for Analytical and Environmental Services*

## 4.0 APPLICABLE SECTIONS OF SwRI PROGRAM QUALITY PLAN (PQP-NUCLEAR)

### 4.1 Indoctrination and Training

4.1.1 Personnel performing duties affecting quality shall receive quality training to the *SwRI Program Quality Plan (PQP-Nuclear), Nuclear Services* prior to performing any work on projects for nuclear utilities. This training will be conducted either by Institute Quality Systems (IQS) or Division 01 Quality Assurance personnel and documentation shall be evident in the personnel training files maintained in Division

01 Quality Assurance.

4.1.2 Indoctrination and training of personnel shall be conducted in accordance with **SOP-01-6.2.1**, *Qualification and Training*.

### 4.2 Qualification of Personnel

4.2.1 Testing personnel shall be designated as qualified to perform applicable project activities as specified in **SOP-01-6.2.1**, *Qualification and Training*.

4.2.2 During the performance of each testing process, testing personnel shall have access to the necessary documented procedures, i.e., QPP, QAP, Task Order, Division Quality System Standard Operating Procedures (SOPs), and applicable test/analytical procedures (TAPs) available for ready reference.

4.2.3 Any person who has not performed testing activities associated with any particular method being used for nuclear utilities projects for a period of one year shall be reevaluated prior to the conduct of the test.

4.2.4 Quality Assurance personnel witnessing the testing process for nuclear utilities shall have documented evidence of qualifications maintained by Institute Quality Systems or Division 01 Quality Assurance.

### 4.3 Design Control

Not applicable to activities conducted within the Department of Analytical and Environmental Chemistry.

### 4.4 Right of Access

4.4.1 Procurement documents shall provide for access to the suppliers' facilities and records for surveillance, inspection, or audit by SwRI and clients.

4.4.2 Where appropriate, quality clause **Q32** shall be noted on the procurement documents to indicate that right of access for inspection and surveillance of activities associated with the order shall be afforded to SwRI and clients.

### 4.5 Control of Supplier-Generated Documents

4.5.1 Client documents shall be controlled in accordance with **SOP-01-4.2.1**, *Preparation and Revision of Documented Procedures*. These procedures provide the requirements for the preparation, review, approval, issue, distribution, and revision of documents controlled by the Chemistry and Chemical Engineering Division.

4.5.2 Documents may be controlled as Plans or Work Instructions and shall be accessible through the Division Intranet link, ***Contract Requirements*** as PDF files.

4.5.3 Nationally recognized test methods shall be of the most current issue or as specified in the purchase order. Task orders shall identify the applicable test methods to be used on the nuclear project.

### 4.6 Acceptance of Services Only

Not applicable to activities conducted within the Department of Analytical and Environmental Chemistry.

### 4.7 Commercial Grade Items

4.7.1 Where an item is to be incorporated into a test or deliverable to a client, and that item is not subject to design or specification requirements that are unique to nuclear facilities, used in applications other then nuclear facilities, and procured from the supplier on the specifications set forth in the manufacturers' published product and description, the item shall be considered "commercial grade".

4.7.2 Chemical reagents and standards used for testing purposes shall be ordered to specific chemical grades and certificates of analysis shall be required with each lot.

4.7.3 Controls for procurement planning, supplier selection, supplier performance evaluation, and acceptance of procured items and services other than chemical reagents and standards shall be as identified in **SOP-01-7.4.1**, *Purchasing*, and any referenced document within that procedure.

4.7.4 Receipt inspection of chemical reagents, standards, and test items for use on nuclear safety-related projects shall be performed by department personnel and documented on the *SwRI Receipt Traveler* or **FRM-109**, *Item Receipt Report*, as specified in **SOP-01-8.2.4**, *Monitoring and Measurement*. Any discrepancy such as a damaged container or container label shall be documented on the form and the client shall be contacted for disposition.

4.7.5 Prior or acceptance of a commercial grade item, the receipt inspection shall determine the following:

(a) Damage was not sustained during shipment;

(b) The item has satisfied the specified acceptance criteria; and

(c) Specified documentation, as applicable to the item, was received and is acceptable.

4.7.6 Receipt inspection of chemical reagents and standards shall also consist of verification of chemical type, grade, container integrity, certificate of analysis, and shelf life, where applicable. Upon acceptance of chemical reagents and standards, the containers shall be labeled with the following:

(a) Chemical name;

(b) Chemical grade;

(c) Lot code;

(d) Date received; and

(e) Shelf life, when applicable.

4.7.7 Expired shelf life items shall not be used for testing purposes.

4.7.8 Lot codes of chemical reagents and standards used during equipment standardization and testing shall be recorded on the individual testing data sheets to provide traceability.

4.7.9 Samples supplied to SwRI for testing shall be received by the Sample Custodian and logged into the laboratory logbook. Sample documentation and sample custody shall be maintained in accordance with **TAP-01-0407-001**, *Sample Receipt Inspection*, and **TAP-01-0407-035**, *Organic and Inorganic Sample Security*.

4.7.10 Samples supplied to SwRI for testing shall be labeled with the following:

(a) Sample control number;

(b) Purchase order number;

(c) Purchase order line item number, as applicable;

(d) Task order number;

(e) Nuclear QA label; and

(f) Sample retention date, when applicable.

4.7.11 In the event that samples are damaged upon receipt, a ***Sample Discrepancy Record*** shall be generated from the Division Intranet.

4.7.12 The testing task order shall list the project number, tests required, test methods required, and shall be labeled *Nuclear Quality*.

4.7.13 Identification and traceability shall be maintained in accordance with **SOP-01-7.5.1**, *Item Identification and Traceability*.

### 4.8 Inspection

4.8.1 Inspection for acceptance shall be performed by qualified persons other than those who conduct or directly supervise the work being inspected.

4.8.2 Institute Quality System (IQS) personnel shall perform surveillance activities as required to ensure compliance with the contract and this Quality Project Plan. Specific areas in which IQS may perform surveillance activities include, but are not limited to, the following:

(a) Receiving inspection and labeling of chemical reagents, standards, and testing samples;

(b) Testing processes;

(c) Calibration and major equipment;

(d) Sample and record retention; and

(e) Test records.

### 4.9 Inspection and Testing

4.9.1 Required tests for acceptance shall be conducted under appropriate environmental conditions using the tools and equipment necessary to conduct the test in a manner to fulfill test requirements and acceptance criteria.

4.9.2 Tests shall be conducted, controlled, and verified in accordance with **SOP-01-8.2.4**, *Monitoring and Measurement.*

4.9.3 Controls for measuring and test equipment shall be as specified in **SOP-01-7.6.1**, *Control of Measuring and Test Equipment.*

4.9.4 Controls for identification, segregation, reporting, and resolution of nonconforming items and conditions shall be as specified in **SOP-01-8.3.1**, *Nonconformance Reporting.*

### 4.10 Handling, Storage, Packaging, Preservation, and Delivery

4.10.1 Controls for handling, storage, packaging, preservation, and delivery of items are identified in **SOP-01-7.5.3**, *Handling, Storage, Packaging, Protection, and Delivery of Items.*

4.10.2 Samples specified on the purchase order to be returned to the client shall be prepared and packaged as specified on the purchase order. Each package shall be marked legibly and indelibly with the purchase order/release number and line item number(s) relevant to the package.

### 4.11 Quality Assurance Records

4.11.1 Quality assurance records shall furnish documentary evidence that items or activities meet specified quality requirements. Documents that ensure this evidence include **TAP-01-0407-014**, *Inventory of Case File Purges*, and **SOP-01-4.2.4**, *Storage and Maintenance of Quality Records*. These documents and this QPP ensure that QA records shall be legible, identifiable, retrievable, and maintained in dual storage.

4.11.2 Records shall be traceable to associated items and activities and shall accurately reflect the work accomplished or information required.

4.11.3 Documents shall be considered valid records only if stamped, initialed or signed and dated by authorized personnel or otherwise authenticated.

4.11.4 Records of test analyses performed by the Department of Analytical and Environmental Chemistry are classified as *nonpermanent* and shall be retained for a minimum of five years. Nonpermanent records are those required to show evidence that an activity was performed in accordance with the applicable requirements, but need not be retained for the life of the item. Based on the use of the final data, the client shall be responsible for determining and implementing permanent storage requirements.

4.11.5 In order to satisfy duplicate storage requirements, one copy of the QA record shall maintained by the Project Manager in Building 70 and a separate copy shall be maintained in the Division Quality Assurance Archives in Building 201. Storage requirements shall be as stated in **SOP-01-4.2.4**, *Storage and Maintenance of Quality Records*, to ensure protection against the risk of damage or destruction.

### 4.12 10 CFR, Part 21

4.12.1 SwRI procurement documents shall include requirements for reporting and approving disposition of supplier nonconformances and, when required, compliance to 10 CFR, Part 21.

4.12.2 The Manager of Institute Quality Assurance or Director of Institute Quality Systems shall determine if a nonconforming condition is reportable under 10 CFR, Part 21, and initiate reporting and condition in accordance with the SwRI Operating Policies and Procedures (OPP). Safety hazards or defects that could create a substantial safety hazard shall be reported. Substantial safety hazard means a loss of safety function to the extent that there is a major reduction in the degree of protection provided to public health and safety.

### 4.13 Certified Test Report

The Project Manager and Institute Quality Assurance Manager as complying with all contractual requirements shall certify test reports. The certified test report shall reference the purchase order/release number, the test methods performed, and the purchase

order/release line item number.

**4.14 Valid Documents List**

The Department of Analytical and Environmental Chemistry task order shall specify all applicable documents and appropriate document revision level for each document. The task order shall then serve as the Valid Documents List (VDL) for each individual project.

## 5.0 HISTORY OF REVISIONS

Versions 0 through 3 of this plan are maintained on record in Division 01 Quality Assurance.

Revision 4
Title of document changed from the Standard Project Quality Plan *SPQP-CH/AN* to Quality Project Plan, *QPP-015*
Extensive revision to comply with Project Quality Plan PQP-Nuclear, *Nuclear Services*, which replaces SwRI NQAPM, *Nuclear Quality Assurance Program Manual*.

Revision 5
Revised 4.1.1 to include designated Division 01 QA staff to conduct pertinent nuclear training sessions to the SwRI Program Quality Plan (PQP-Nuclear), *Nuclear Services*
Revised step 4.2.4 to include Division QA as an entity along with IQS, to maintain documented evidence of qualifications

010028

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
TASK ORDER: 060418-2
SRR: 29002
SDG: 277609
CASE: L. Yang
VTSR: April 17, 2006
PROJECT#: 06002.01.322

# Chain of Custody/Login Paperwork

22610

# SAMPLE LIST/CHAIN OF CUSTODY

**Southwest Research Institute**
Chemistry and Chemical Engineering Division
6220 Culebra Road
San Antonio, Texas 78238-5166

Shipper Name/ Address:

Client: Lietai Yang, Div. 20

Client Purchase Order/Other ID: 06002.01.322.1.20

Site/Zone ID:

Requested Turnaround:
- [ ] 2 Weeks
- [ ] 3 Weeks
- [ ] Other: ASAP

SwRI Contact: Spies

**Analyses Requested**

| Sample ID | Sample Collection Date (mm/dd/yy) | Sample Collection Time | Matrix Type | Sample Type | # of Containers | $Na^+$ | $K^+$ | $Cl^-$ | $NO_3^-$ | $NO_2^-$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Cond. 190°C-A | 4/17/06 | | | | 1 | ↓ | ↓ | ↓ | ↓ | |
| Cond. 170°C-A | 4/10/06 | | | | 1 | ↓ | ↓ | ↓ | ↓ | ↓ |
| Cond. 170°C-B | 4/13/06 | | | | 1 | ↓ | ↓ | ↓ | ↓ | ↓ |
| Bubbler 170°C | 4/13/06 | | | | 1 | ↓ | ↓ | ↓ | ↓ | ↓ |
| Salt 170°C | 4/13/06 | | | | 1 | ↓ | ↓ | ↓ | ↓ | |
| | | | | | | | | | Return used Samples | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

REMARKS
Preservation
- **a** = HCl to pH <2
- **b** = $HNO_3$ to pH <2
- **c** = $H_2SO_4$ to pH <2
- **d** = NaOH to pH >12
- **e** = Cool (4°C±2°C)
- **f** = Other (specify)

***Matrix Types:***
- **A** – Air
- **B** – Biota
- **D** - Dust
- **E** – Emission/Stack
- **L** - Liquid
- **P** – Product
- **Sd** - Solid
- **S** – Soil
- **SED** – Sediment
- **T** - Tissue
- **W** - Water
- **WP** - Wipe

***Sample Types:***
- **D** - Duplicate
- **ER** – Equipment Rinsate
- **ES** – Environmental Sample
- **FB** – Field Blank
- **FD** – Field Duplicate
- **MS** – Matrix Spike
- **MSD** – Matrix Spike Dup
- **TB** – Trip Blank

Temp: 22.0°C

Therm #: 027

| | Date | Time |
|---|---|---|
| Relinquished by (Print/Signature): Steve Young x2511 | 4/17/06 | 1330 |
| Received by (Print/Signature): | | |
| Relinquished by (Print/Signature): | | |
| Received by (Print/Signature): | | |
| Relinquished by (Print/Signature): | | |

SwRI Project#: See Above

Received by SwRI Lab: (Signature)

Date: 4/17/06 Time: 1330

Samples Disposed: Date / Time

Samples Disposed by:

Shift 29002

010029

# SAMPLE LOG-IN SHEET

010030

Lab Name: Southwest Research Institute



Received By (Print Name): DINO ROMAN

Received By (Signature):

Log-in Date: 04/17/2006

Case Number: L. Yang

Sample Delivery Group No.

SAS Number: N/A

Remarks: 06002.01.322

| | | | Corresponding | | Remarks: Condition of Sample Shipment, etc |
|---|---|---|---|---|---|
| | | EPA Sample # | Sample Tag # | Assigned Lab # | |
| 1. | Custody Seal(s) | Present/Absent* Intact/Broken | Bubbler 170°C | None | 277609 | Intact |
| 2. | Custody Seal Nos. | N/A | Cond. 170°C-A | None | 277610 | Intact |
| | | | Cond. 170°C-B | None | 277611 | Intact |
| 3. | Chain-of Custody Records | Present/Absent* | Cond. 190°C-A | None | 277612 | Intact |
| 4. | Traffic Reports or Packing Lists | Present/Absent* | Salt 170°C | None | 277613 | Intact |
| 5. | Airbill | Airbill/Sticker Present/Absent* | | | | |
| 6. | Airbill No. | HAND DELIVERED | | | | |
| 7. | Sample Tags | Present/Absent* | | | | |
| | Sample Tag Numbers | Listed/Not listed on Chain of Custody | | | | |
| 8. | Sample Condition | Intact/Broken*/ Leaking | | | | |
| 9. | Cooler Temperature | 22.0C | | | | |
| 10. | Does Information on custody records, traffic reports, and sample tags agree? | Yes/No* | | | | |
| 11. | Date Received at Lab | 04/17/2006 | | | | |
| 12. | Time Received | 13:30:00 | | | | |

Sample Transfer

| Fraction | Fraction |
|---|---|
| Area # Inorg Cab #2 | Area # |
| By DINO ROMAN | By |
| On 04/17/2006 | On |

* Contact SMO and attach record of resolution

Reviewed By

Date 04.19.05

Logbook No. Sample Receipt (29002)

Logbook Page No. 5775 Section 1 of 1

010031

SOUTHWEST RESEARCH INSTITUTE
NUCLEAR PROJECT
CLIENT: Division 20
TASK ORDER: 060418-2
SRR: 29002
SDG: 277609
CASE: L. Yang
VTSR: April 17, 2006
PROJECT#: 06002.01.322

# Copies of Login Book

# Sample Login Book

010032

Apr 17, 2006

SwRI Login Area
Division 1

| Sample Receipt: 29001 | Project: 01.01446.003 | Client: W.L. GORE |
|---|---|---|
| VTSR Date: Apr 15, 2006 | VTSR Time: 14:30:00 | Manager: DAMMANN, MIKE |

| System ID | Customer Sample ID | Matrix |
|---|---|---|
| 277596 | #9078-MT2 4/3/06 | Liquid |
| 277597 | #9078-MT2 4/10/06 | Liquid |

| Sample Receipt: 29002 | Project: 06002.01.322 | Client: Div. 20 |
|---|---|---|
| VTSR Date: Apr 17, 2006 | VTSR Time: 13:30:00 | Manager: SPIES, RADONNA |

| System ID | Customer Sample ID | Matrix |
|---|---|---|
| 277609 | Bubbler 170°C | Liquid |
| 277610 | Cond. 170°C-A | Liquid |
| 277611 | Cond. 170°C-B | Liquid |
| 277612 | Cond. 190°C-A | Liquid |
| 277613 | Salt 170°C | Liquid |

| Sample Receipt: 29003 | Project: 10192.03.10X | Client: Lynx, LTD. |
|---|---|---|
| VTSR Date: Apr 18, 2006 | VTSR Time: 15:00:00 | Manager: SUN, GANG |

| System ID | Customer Sample ID | Matrix |
|---|---|---|
| 277614 | P0604130956C | Aqueous |
| 277615 | P0604130957C | Aqueous |
| 277616 | P0604131535 | Aqueous |
| 277617 | P0604140740 | Aqueous |
| 277618 | P0604141351 | Aqueous |
| 277619 | P0604170937 | Aqueous |

| Sample Receipt: 29004 | Project: 10192.03.10X | Client: Lynx, LTD. |
|---|---|---|
| VTSR Date: Apr 18, 2006 | VTSR Time: 15:00:00 | Manager: SUN, GANG |

| System ID | Customer Sample ID | Matrix |
|---|---|---|
| 277620 | 0604131438C | Aqueous |
| 277621 | 0604131439C | Aqueous |

Number of samples for today: 15

Number of Containers for today: 15

010033

**SOUTHWEST RESEARCH INSTITUTE**
**NUCLEAR PROJECT**
**CLIENT: Division 20**
**TASK ORDER: 060418-2**
**SRR: 29002**
**SDG: 277609**
**CASE: L. Yang**
**VTSR: April 17, 2006**
**PROJECT#: 06002.01.322**

# RAW DATA

DIV. 20
TO#060418-2
Project No. 06002.01.322
Prep. Page 63-079

4-27-06

| Sample ID | Element | Result | Qual (C) | Qual (Q) | Units | RL | %RPD | %Recovery | TV | rl | mg/L | sigwt | Dilution | Calc RL | ug/ml | Date | Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pbw-D21H1 | K_766 | 3.00 | U | | mg/L | 3 | | | | 0.300 | 0.083306938 | 0.0833 | 1 | 3 | 0.008330694 | 04/21/06 | 12:26 PM |
| pbw-D21H1 | Na589 | 2.50 | U | | mg/L | 2.5 | | | | 0.250 | 1.17800952 | 1.18 | 1 | 2.5 | 0.117800952 | 04/21/06 | 12:26 PM |
| pbw-D21H2 | K_766 | 75.0 | U | | mg/kg | 75 | | | | 0.300 | -63.09256765 | -63.1 | 1 | 75 | -0.252370271 | 04/21/06 | 12:28 PM |
| pbw-D21H2 | Na589 | 62.5 | U | | mg/kg | 62.5 | | | | 0.250 | -4.139722148 | -4.14 | 1 | 62.5 | -0.016558889 | 04/21/06 | 12:28 PM |
| lcsw-D21H1 | K_766 | 20.7 | | | mg/L | 3 | | 103.5% | 20 | 0.300 | 20.67137671 | 20.7 | 1 | 0.3 | 20.67137671 | 04/21/06 | 12:31 PM |
| lcsw-D21H1 | Na589 | 20.5 | ✓ | | mg/L | 2.5 | | 102.5% | 20 | 0.250 | 20.50264814 | ✓ 20.5 | 1 | 0.25 | 20.50264814 | 04/21/06 | 12:31 PM |
| 277613 | K_766 | 180000 | ✓ | | mg/kg | 1750 | | | | 0.300 | 179814.0468 | 180000 | 25 | 1750.7 | 30.81293505 | 04/21/06 | 12:34 PM |
| 277613 | Na589 | 126000 | | | mg/kg | 1460 | | | | 0.250 | 125590.7135 | 126000 | 25 | 1458.92 | 21.52122467 | 04/21/06 | 12:34 PM |
| 277613d | K_766 | 181000 | | | mg/kg | 1570 | 0.6% | | | 0.300 | 181183.1452 | 181000 | 25 | 1566.42 | 34.70019597 | 04/21/06 | 12:37 PM |
| 277613d | Na589 | 127000 | | | mg/kg | 1310 | 0.8% | | | 0.250 | 126966.8203 | 127000 | 25 | 1305.35 | 24.31668543 | 04/21/06 | 12:37 PM |
| 277613aspk | K_766 | 301000 | | | mg/kg | 1750 | | 103.7% | 116713 | 0.300 | 300876.3394 | 301000 | 25 | 1750.7 | 51.55816951 | 04/21/06 | 12:40 PM |
| 277613aspk | Na589 | 243000 | | | mg/kg | 1460 | | 100.2% | 116713 | 0.250 | 243117.0926 | 243000 | 25 | 1458.92 | 41.66054498 | 04/21/06 | 12:40 PM |
| 277609 | K_766 | 3.00 | U | | mg/L | 3 | | | | 0.300 | 0.785556513 | 0.786 | 1 | 3 | 0.078555651 | 04/21/06 | 2:06 PM |
| 277609 | Na589 | 3.72 | | | mg/L | 2.5 | | | | 0.250 | 3.717189368 | 3.72 | 1 | 2.5 | 0.371718937 | 04/21/06 | 2:06 PM |
| 277610 | K_766 | 3.00 | U | | mg/L | 3 | | | | 0.300 | -1.866041167 | -1.87 | 1 | 3 | -0.186604117 | 04/21/06 | 2:09 PM |
| 277610 | Na589 | 3.32 | | | mg/L | 2.5 | | | | 0.250 | 3.321621302 | 3.32 | 1 | 2.5 | 0.33216213 | 04/21/06 | 2:09 PM |
| 277611 | K_766 | 3.00 | U | | mg/L | 3 | | | | 0.300 | -1.136332835 | -1.14 | 1 | 3 | -0.113633284 | 04/21/06 | 2:12 PM |
| 277611 | Na589 | 4.92 | | | mg/L | 2.5 | | | | 0.250 | 4.917964745 | 4.92 | 1 | 2.5 | 0.491796475 | 04/21/06 | 2:12 PM |
| 277612 | K_766 | 3.00 | U | | mg/L | 3 | | | | 0.300 | 1.213961446 | 1.21 | 1 | 3 | 0.121396145 | 04/21/06 | 2:14 PM |
| 277612 | Na589 | 2.88 | ✓ | | mg/L | 2.5 | | | | 0.250 | 2.883638548 | 2.88 | 1 | 2.5 | 0.288363855 | 04/21/06 | 2:14 PM |

277613 for K

$$\frac{30.8129\ \text{ug/ml} \times df25 \times 25\text{ml}}{0.1071\text{g}} = 179814\ \text{mg/kg} = 180000\ \text{mg/kg}$$

277612 for Na

$$\frac{0.28836\ \text{ug/ml} \times 2.5\text{ml}}{0.25\text{ml}} = 2.88\ \text{mg/L}$$

010034

4/27/06

| QC STD. ID's | |
|---|---|
| CCV | 06003 |
| CRI | |
| ICSA | |
| ICSAB | 06003 |

| ICP CAL.STD. ID's | |
|---|---|
| Std0 | 06003 |
| Std1 | |
| Std2 | |
| Std3 | |
| Std4 | |
| Std5 | |
| Std6 | 06003 |

☐ 200.7 TAP No. 01-0406-028 Rev3/Jan06

☑ 6010B TAP No. 01-0406-130 Rev5/Jan06

☐ Other_____

010035

K Na

| PROJ. NO. | PROJECT | TO# | DATE | MATRIX | LOGBK PG |
|---|---|---|---|---|---|
| 06002.01.322 | Div. 20 | 060418-2 | 4-21-06 | Liquid | 63-079 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

INSTRUMENT: Spectro FILENAME: 060421

4-21-06

File converted to wsl? ☐

EVOLUTION by Micro-Active Australia Pty Ltd  12:00:30 PM April 21, 2006  010036

Keep last result visible enabled ...
Starting run ...
Creating high priority queue entries ...
BACKGROUND CORRECTED INTENSITIES
Identity 1 : BLK_SC  Identity 2 :  Type : STD
Weight : 1.0000  Volume : 1.00  Printed : 11:59:54 AM April 21, 2006

| | K_766 | Na589 | Sc361 |
|---|---|---|---|
| # 1 | 33.5 | 87.5 | 3704.0 |
| # 2 | 17.5 | 91.5 | 3587.0 |
| Mean | 25.5 | 89.5 | 3645.5 |
| SD | 11.3 | 2.8 | 82.7 |
| CRSD | 44.4 | 3.2 | 2.3 |

INTENSITIES
Identity 1 : BLK_SC  Identity 2 :  Type : STD
Weight : 1.0000  Volume : 1.00  Printed : 11:59:54 AM April 21, 2006

| | K_766 | Na589 | Sc361 |
|---|---|---|---|
| # 1 | 0.0 | 0.0 | 3704.0 |
| # 2 | 0.0 | 0.0 | 3587.0 |
| Mean | 0.0 | 0.0 | 3645.5 |
| SD | 0.0 | 0.0 | 82.7 |
| CRSD | 42.3 | 5.4 | 2.3 |

4/21/06

4-21-06

EVOLUTION by Micro-Active Australia Pty Ltd  12:09:00 PM April 21, 2006  010037

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CLP_STD1_SC  Identity 2 :  Type : STD
Weight : 1.0000  Volume : 1.00  Printed : 12:02:48 PM April 21, 2006

| | K_766 | Na589 |
|---|---|---|
| # 1 | 3505.0 | 19802.0 |
| # 2 | 3468.0 | 19483.0 |
| Mean | 3486.5 | 19642.5 |
| SD | 26.2 | 225.6 |
| %RSD | 0.8 | 1.1 |

INTENSITIES
Identity 1 : CLP_STD1_SC  Identity 2 :  Type : STD
Weight : 1.0000  Volume : 1.00  Printed : 12:02:50 PM April 21, 2006

| | K_766 | Na589 |
|---|---|---|
| # 1 | 0.9 | 5.3 |
| # 2 | 0.9 | 5.3 |
| Mean | 0.9 | 5.3 |
| SD | 0.0 | 0.0 |
| %RSD | 0.6 | 0.2 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CLP_CCV_SC  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed : 12:05:42 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1439.0 | 11993.5 | 3770.5 | 3770.5 |
| # 2 | 1416.0 | 11941.5 | 3710.5 | 3710.5 |
| Mean | 1427.5 | 11967.5 | 3740.5 | 3740.5 |
| SD | 16.3 | 36.8 | 42.4 | 42.4 |
| %RSD | 1.1 | 0.3 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS
Identity 1 : CLP_CCV_SC  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed : 12:05:42 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 20.0393 | 29.8817 | 3770.500 H | 103.4345 |
| # 2 | 20.0378 | 30.2360 | 3710.500 H | 101.7860 |
| Mean | 20.0386 | 30.0589 | 3740.500 H | 102.6102 |
| SD | 0.0010 | 0.2505 | 42.426 | 1.1657 |
| %RSD | 0.0051 | 0.8334 | 1.134 | 1.1361 |

Checking calibration verification ...
Identity 1 : CLP_CCV_SC  Identity 2 :

| Report name | Low limit | Value | High limit |
|---|---|---|---|
| K_766 | 18.000 | 20.039 | 22.000 |
| Na589 | 27.000 | 30.059 | 33.000 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed : 12:08:34 PM April 21, 2006

| | | | | |
|---|---|---|---|---|
| # 1 | 21.5 | 142.0 | 3726.0 | 3726.0 |
| # 2 | 23.5 | 123.0 | 3721.0 | 3721.0 |
| Mean | 22.5 | 132.5 | 3723.5 | 3723.5 |



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| | | | | |
|---|---|---|---|---|
| SD | 1.4 | 13.4 | 3.5 | 3.5 |
| %RSD | 6.3 | 10.1 | 0.1 | 0.1 |

APPARENT CONCENTRATIONS
Identity 1 : Calibration blank Identity 2 : Type : CB
Weight : 1.0000 Volume : 1.00 Printed : 12:08:34 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | L | -0.0655 | 0.1284 | 3726.000 H | 102.2118 |
| # 2 | L | -0.0363 | 0.0805 | 3721.000 H | 102.0745 |
| Mean | L | -0.0509 | 0.1044 | 3723.500 H | 102.1432 |
| SD | | 0.0206 | 0.0338 | 3.536 | 0.0971 |
| %RSD | | 40.4967 | 32.3993 | 0.095 | 0.0951 |

Checking calibration blank ...
Identity 1 : Calibration blank Identity 2 :

| Report name | CRDL | Value |
|---|---|---|
| K_766 | 0.250 | -0.051 |
| Na589 | 0.250 | 0.104 |
| Sc361 | 0.000 | 102.143 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CRI Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 12:11:28 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 26.5 | 134.5 | 3806.0 | 3806.0 |
| # 2 | 29.5 | 118.5 | 3759.0 | 3759.0 |
| Mean | 28.0 | 126.5 | 3782.5 | 3782.5 |
| SD | 2.1 | 11.3 | 33.2 | 33.2 |
| %RSD | 7.6 | 8.9 | 0.9 | 0.9 |

APPARENT CONCENTRATIONS
Identity 1 : CRI Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 12:11:28 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | L | -0.0017 | 0.1021 | 3806.000 H | 104.4099 |
| # 2 | | 0.0456 | 0.0660 | 3759.000 H | 103.1186 |
| Mean | | 0.0219 | 0.0841 | 3782.500 H | 103.7643 |
| SD | | 0.0335 | 0.0255 | 33.234 | 0.9131 |
| %RSD | | 152.5310 | 30.3725 | 0.879 | 0.8800 |

Checking calibration verification ...
Identity 1 : CRI Identity 2 :

| Report name | Low limit | Value | High limit | |
|---|---|---|---|---|
| K_766 | 0.900 | 0.022 | 1.100 | Failed |
| Na589 | 0.900 | 0.084 | 1.100 | Failed |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : ICSA Identity 2 : Type : INTRF
Weight : 1.0000 Volume : 1.00 Printed : 12:14:32 PM April 21, 2006

| | | | | |
|---|---|---|---|---|
| # 2 | 25.5 | 114.0 | 3604.5 | 3604.5 |
| lean | 24.5 | 128.5 | 3618.5 | 3618.5 |
| SD | 1.4 | 20.5 | 19.8 | 19.8 |

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EVOLUTION by Micro-Active Australia Pty Ltd 12:20:30 PM April 21, 2006

| | | | | |
|---|---|---|---|---|
| RSD | 5.8 | 16.0 | 0.5 | 0.5 |

APPARENT CONCENTRATIONS
Identity 1 : ICSA Identity 2 : Type : INTRF
Weight : 1.0000 Volume : 1.00 Printed : 12:14:32 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | L | -0.0281 | 0.1403 | 3632.500 | 99.6428 |
| # 2 | | 0.0043 | 0.0670 | 3604.500 | 98.8735 |
| lean | L | -0.0119 | 0.1036 | 3618.500 | 99.2581 |
| SD | | 0.0229 | 0.0518 | 19.799 | 0.5440 |
| RSD | | 191.8811 | 49.9973 | 0.547 | 0.5481 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : ICSAB Identity 2 : Type : ICSAB
Weight : 1.0000 Volume : 1.00 Printed : 12:17:24 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 22.5 | 121.0 | 3619.0 | 3619.0 |
| # 2 | 21.5 | 127.0 | 3592.0 | 3592.0 |
| lean | 22.0 | 124.0 | 3605.5 | 3605.5 |
| SD | 0.7 | 4.2 | 19.1 | 19.1 |
| RSD | 3.2 | 3.4 | 0.5 | 0.5 |

APPARENT CONCENTRATIONS
Identity 1 : ICSAB Identity 2 : Type : ICSAB
Weight : 1.0000 Volume : 1.00 Printed : 12:17:24 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | L | -0.0416 | 0.0841 | 3619.000 | 99.2719 |
| # 2 | L | -0.0540 | 0.1023 | 3592.000 | 98.5300 |
| Mean | L | -0.0478 | 0.0932 | 3605.500 | 98.9009 |
| SD | | 0.0088 | 0.0129 | 19.092 | 0.5246 |
| %RSD | | 18.3322 | 13.8028 | 0.530 | 0.5304 |

Checking interference check standard ...
Identity 1 : ICSAB Identity 2 :

| Report name | Low limit | Value | High limit | |
|---|---|---|---|---|
| K_766 | 0.000 | -0.048 | 0.000 | Failed |
| Na589 | 0.000 | 0.093 | 0.000 | Failed |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CLP_CCV_SC Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 12:20:18 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1428.0 | 11957.5 | 3773.0 | 3773.0 |
| # 2 | 1412.0 | 11884.5 | 3714.0 | 3714.0 |
| Mean | 1420.0 | 11921.0 | 3743.5 | 3743.5 |
| SD | 11.3 | 51.6 | 41.7 | 41.7 |
| %RSD | 0.8 | 0.4 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS

leight : 1.0000  Volume : 1.00  Printed : 12:20:18 PM April 21, 2006

| | K_766 ppm | Na589 ppm | Sc | | Sc361 ppm |
|---|---|---|---|---|---|
| VOLUTION by Micro-Active Australia Pty Ltd 12:26:30 PM April 21, 2006 | | | | | |
| # 1 | 19.8698 | 29.7715 | 3773.000 | H | 103.5032 |
| # 2 | 19.9610 | 30.0620 | 3714.000 | H | 101.8821 |
| lean | 19.9154 | 29.9167 | 3743.500 | H | 102.6927 |
| D | 0.0645 | 0.2055 | 41.719 | | 1.1463 |
| RSD | 0.3237 | 0.6867 | 1.114 | | 1.1162 |

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hecking calibration verification ...
dentity 1 : CLP_CCV_SC  Identity 2 :

| eport name | Low limit | Value | High limit |
|---|---|---|---|
| _766 | 18.000 | 19.915 | 22.000 |
| a589 | 27.000 | 29.917 | 33.000 |

ACKGROUND CORRECTED INTENSITIES
dentity 1 : Calibration blank  Identity 2 :  Type : CB
leight : 1.0000  Volume : 1.00  Printed : 12:23:10 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 19.0 | 136.0 | 3762.0 | 3762.0 |
| # 2 | 37.0 | 165.0 | 3745.0 | 3745.0 |
| lean | 28.0 | 150.5 | 3753.5 | 3753.5 |
| D | 12.7 | 20.5 | 12.0 | 12.0 |
| RSD | 45.5 | 13.6 | 0.3 | 0.3 |

PPARENT CONCENTRATIONS
dentity 1 : Calibration blank  Identity 2 :  Type : CB
leight : 1.0000  Volume : 1.00  Printed : 12:23:10 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | | Sc361 ppm |
|---|---|---|---|---|---|---|
| # 1 | L | -0.1040 | 0.1098 | 3762.000 | H | 103.2010 |
| # 2 | | 0.1543 | 0.1847 | 3745.000 | H | 102.7339 |
| lean | | 0.0252 | 0.1473 | 3753.500 | H | 102.9674 |
| D | | 0.1827 | 0.0529 | 12.021 | | 0.3303 |
| RSD | | 726.1831 | 35.9497 | 0.320 | | 0.3208 |

hecking calibration blank ...
dentity 1 : Calibration blank  Identity 2 :

| eport name | CRDL | Value |
|---|---|---|
| _766 | 0.250 | 0.025 |
| a589 | 0.250 | 0.147 |
| c361 | 0.000 | 102.967 |

ACKGROUND CORRECTED INTENSITIES
dentity 1 : pbw-D21H1  Identity 2 : pg63-079  Type : SAMPLE
leight : 1.0000  Volume : 1.00  Printed : 12:26:02 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 25.5 | 130.0 | 3656.0 | 3656.0 |
| # 2 | 26.5 | 139.0 | 3617.0 | 3617.0 |
| lean | 26.0 | 134.5 | 3636.5 | 3636.5 |
| D | 0.7 | 6.4 | 27.6 | 27.6 |
| RSD | 2.7 | 4.7 | 0.8 | 0.8 |

PPARENT CONCENTRATIONS

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 L | -0.0011 | 0.1042 | 3656.000 H | 100.2885 |



| | | | | |
|---|---|---|---|---|
| # 2 | 0.0177 | 0.1314 | 3617.000 | 99.2169 |
| Mean | 0.0083 | 0.1178 | 3636.500 | 99.7527 |
| SD | 0.0133 | 0.0192 | 27.577 | 0.7577 |
| %RSD | 159.6626 | 16.3189 | 0.758 | 0.7596 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : pbw-D21H2 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:28:56 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 13.5 | 100.0 | 4183.0 | 4183.0 |
| # 2 | 5.5 | 90.0 | 4148.0 | 4148.0 |
| Mean | 9.5 | 95.0 | 4165.5 | 4165.5 |
| SD | 5.7 | 7.1 | 24.7 | 24.7 |
| %RSD | 59.5 | 7.4 | 0.6 | 0.6 |

APPARENT CONCENTRATIONS
Identity 1 : pbw-D21H2 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:28:56 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 L | -0.2015 L | -0.0061 | 4183.000 H | 114.7685 |
| # 2 L | -0.3032 L | -0.0270 | 4148.000 H | 113.8068 |
| Mean L | -0.2524 L | -0.0166 | 4165.500 H | 114.2877 |
| SD | 0.0719 | 0.0148 | 24.749 | 0.6800 |
| %RSD | 28.4955 | 89.3079 | 0.594 | 0.5950 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : lcsw-D21H1 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:31:48 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1408.5 | 7856.0 | 3597.0 | 3597.0 |
| # 2 | 1403.5 | 7797.0 | 3550.0 | 3550.0 |
| Mean | 1406.0 | 7826.5 | 3573.5 | 3573.5 |
| SD | 3.5 | 41.7 | 33.2 | 33.2 |
| %RSD | 0.3 | 0.5 | 0.9 | 0.9 |

APPARENT CONCENTRATIONS
Identity 1 : lcsw-D21H1 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:31:48 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 20.5704 | 20.4444 | 3597.000 | 98.6674 |
| # 2 | 20.7724 | 20.5609 | 3550.000 | 97.3760 |
| Mean | 20.6714 | 20.5026 | 3573.500 | 98.0217 |
| SD | 0.1428 | 0.0823 | 33.234 | 0.9131 |
| %RSD | 0.6908 | 0.4015 | 0.930 | 0.9316 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277613 df25 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:34:42 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 2125.5 | 8398.5 | 3642.0 | 3642.0 |
| # 2 | 2117.5 | 8322.5 | 3635.0 | 3635.0 |

VOLUTION by Micro-Active Australia Pty Ltd 12:40:36 PM April 21, 2006

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| | | | | |
|---|---|---|---|---|
| ean | 2121.5 | 8360.5 | 3638.5 | 3638.5 |
| D | 5.7 | 53.7 | 4.9 | 4.9 |
| RSD | 0.3 | 0.6 | 0.1 | 0.1 |

PPARENT CONCENTRATIONS
dentity 1 : 277613 df25 Identity 2 : pg63-079 Type : SAMPLE
eight : 1.0000 Volume : 1.00 Printed : 12:34:42 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 30.8417 | 21.5992 | 3642.000 | 99.9038 |
| # 2 | 30.7841 | 21.4433 | 3635.000 | 99.7115 |
| ean | 30.8129 | 21.5212 | 3638.500 | 99.8077 |
| D | 0.0407 | 0.1102 | 4.950 | 0.1360 |
| RSD | 0.1322 | 0.5122 | 0.136 | 0.1363 |

ACKGROUND CORRECTED INTENSITIES
dentity 1 : 277613d df25 Identity 2 : pg63-079 Type : SAMPLE
eight : 1.0000 Volume : 1.00 Printed : 12:37:34 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 2406.0 | 9483.5 | 3660.5 | 3660.5 |
| # 2 | 2362.0 | 9370.5 | 3610.5 | 3610.5 |
| ean | 2384.0 | 9427.0 | 3635.5 | 3635.5 |
| D | 31.1 | 79.9 | 35.4 | 35.4 |
| RSD | 1.3 | 0.8 | 1.0 | 1.0 |

PPARENT CONCENTRATIONS
dentity 1 : 277613d df25 Identity 2 : pg63-079 Type : SAMPLE
eight : 1.0000 Volume : 1.00 Printed : 12:37:34 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 34.7827 | 24.2950 | 3660.500 H | 100.4121 |
| # 2 | 34.6177 | 24.3384 | 3610.500 | 99.0383 |
| ean | 34.7002 | 24.3167 | 3635.500 | 99.7252 |
| D | 0.1167 | 0.0307 | 35.355 | 0.9714 |
| RSD | 0.3362 | 0.1261 | 0.973 | 0.9741 |

ACKGROUND CORRECTED INTENSITIES
dentity 1 : 277613s df25 Identity 2 : pg63-079 Type : SAMPLE
eight : 1.0000 Volume : 1.00 Printed : 12:40:26 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 3569.5 | 16324.0 | 3681.0 | 3681.0 |
| # 2 | 3505.5 | 15922.0 | 3606.0 | 3606.0 |
| ean | 3537.5 | 16123.0 | 3643.5 | 3643.5 |
| D | 45.3 | 284.3 | 53.0 | 53.0 |
| RSD | 1.3 | 1.8 | 1.5 | 1.5 |

After making df25 dilution, 5mL sample spiked with 20L ICALH #5529
[signature] 4-21-06

PPARENT CONCENTRATIONS
dentity 1 : 277613s df25 Identity 2 : pg63-079 Type : SAMPLE
eight : 1.0000 Volume : 1.00 Printed : 12:40:26 PM April 21, 2006

| | | | | | |
|---|---|---|---|---|---|
| # 1 | H | 51.4934 | 41.7516 | 3681.000 H | 100.9754 |
| # 2 | H | 51.6229 | 41.5694 | 3606.000 | 98.9147 |
| Mean | H | 51.5582 | 41.6605 | 3643.500 | 99.9450 |

EVOLUTION by Micro-Active Australia Pty Ltd 12:49:30 PM April 21, 2006

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| | | | | |
|---|---|---|---|---|
| SD | 0.0915 | 0.1288 | 53.033 | 1.4572 |
| %RSD | 0.1776 | 0.3093 | 1.456 | 1.4580 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277609 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:43:26 PM April 21, 2006

df25s
- Reran @ df10

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 38.0 | 198.0 | 3621.5 | 3621.5 |
| # 2 | 26.0 | 179.0 | 3590.5 | 3590.5 |
| Mean | 32.0 | 188.5 | 3606.0 | 3606.0 |
| SD | 8.5 | 13.4 | 21.9 | 21.9 |
| %RSD | 26.5 | 7.1 | 0.6 | 0.6 |

APPARENT CONCENTRATIONS
Identity 1 : 277609 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:43:26 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 0.1871 | 0.2852 | 3621.500 | 99.3406 |
| # 2 | 0.0132 | 0.2395 | 3590.500 | 98.4888 |
| Mean | 0.1001 | 0.2624 | 3606.000 | 98.9147 |
| SD | 0.1230 | 0.0323 | 21.920 | 0.6023 |
| %RSD | 122.8083 | 12.2977 | 0.608 | 0.6089 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277610 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:46:20 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 18.5 | 169.0 | 3601.5 | 3601.5 |
| # 2 | 22.5 | 160.0 | 3544.5 | 3544.5 |
| Mean | 20.5 | 164.5 | 3573.0 | 3573.0 |
| SD | 2.8 | 6.4 | 40.3 | 40.3 |
| %RSD | 13.8 | 3.9 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS
Identity 1 : 277610 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:46:20 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 L | -0.0994 | 0.2118 | 3601.500 | 98.7910 |
| # 2 L | -0.0346 | 0.1949 | 3544.500 | 97.2249 |
| Mean L | -0.0670 | 0.2034 | 3573.000 | 98.0080 |
| SD | 0.0458 | 0.0119 | 40.305 | 1.1074 |
| %RSD | 68.3677 | 5.8741 | 1.128 | 1.1299 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277611 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:49:14 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | [illegible] | [illegible] | [illegible] | [illegible] |

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| | | | | |
|---|---|---|---|---|
| Mean | 29.5 | 191.0 | 3582.0 | 3582.0 |
| SD | 9.9 | 9.2 | 30.4 | 30.4 |
| %RSD | 33.6 | 4.8 | 0.8 | 0.8 |

EVOLUTION by Micro-Active Australia Pty Ltd 12:55:30 PM April 21, 2006

APPARENT CONCENTRATIONS
Identity 1 : 277611 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:49:14 PM April 21, 2006

| | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|
| # 1 | 0.1676 | 0.2865 | 3603.500 | 98.8460 |
| # 2 L | -0.0361 | 0.2582 | 3560.500 | 97.6645 |
| Mean | 0.0658 | 0.2723 | 3582.000 | 98.2553 |
| SD | 0.1441 | 0.0200 | 30.406 | 0.8354 |
| %RSD | 219.1448 | 7.3489 | 0.849 | 0.8503 |

SP 4/27/06

df25s

Revan@dfp

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277612 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:52:06 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 22.0 | 172.5 | 3557.5 | 3557.5 |
| # 2 | 6.0 | 137.5 | 3560.5 | 3560.5 |
| Mean | 14.0 | 155.0 | 3559.0 | 3559.0 |
| SD | 11.3 | 24.7 | 2.1 | 2.1 |
| %RSD | 80.8 | 16.0 | 0.1 | 0.1 |

APPARENT CONCENTRATIONS
Identity 1 : 277612 Identity 2 : pg63-079 Type : SAMPLE
Weight : 1.0000 Volume : 1.00 Printed : 12:52:06 PM April 21, 2006

| | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|
| # 1 L | -0.0434 | 0.2266 | 3557.500 | 97.5821 |
| # 2 L | -0.2840 | 0.1332 | 3560.500 | 97.6645 |
| Mean L | -0.1637 | 0.1799 | 3559.000 | 97.6233 |
| SD | 0.1702 | 0.0661 | 2.121 | 0.0583 |
| %RSD | 103.9525 | 36.7304 | 0.060 | 0.0597 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CLP_CCV_SC Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 12:54:58 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1404.5 | 11903.0 | 3705.5 | 3705.5 |
| # 2 | 1423.5 | 11814.0 | 3705.5 | 3705.5 |
| Mean | 1414.0 | 11858.5 | 3705.5 | 3705.5 |
| SD | 13.4 | 62.9 | 0.0 | 0.0 |
| %RSD | 1.0 | 0.5 | 0.0 | 0.0 |

APPARENT CONCENTRATIONS
Identity 1 : CLP_CCV_SC Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 12:54:58 PM April 21, 2006

| | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|
| # 1 | 19.8994 | 30.1788 | 3705.500 H | 101.6486 |
| # 2 | [illegible] | [illegible] | [illegible] H | [illegible] |

| | | | | |
|---|---|---|---|---|
| Mean | 20.0365 | 30.0651 | 3705.500 H | 101.6486 |
| SD | 0.1939 | 0.1608 | 0.000 | 0.0000 |
| %RSD | 0.9679 | 0.5348 | 0.000 | 0.0000 |

EVOLUTION by Micro-Active Australia Pty Ltd  1:01:00 PM April 21, 2006  010045

Checking calibration verification ...
Identity 1 : CLP_CCV_SC  Identity 2 :

| Report name | Low limit | Value | High limit |
|---|---|---|---|
| K_766 | 18.000 | 20.037 | 22.000 |
| Na589 | 27.000 | 30.065 | 33.000 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed : 12:57:52 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 29.0 | 146.0 | 3730.0 | 3730.0 |
| # 2 | 34.0 | 136.0 | 3673.0 | 3673.0 |
| Mean | 31.5 | 141.0 | 3701.5 | 3701.5 |
| SD | 3.5 | 7.1 | 40.3 | 40.3 |
| %RSD | 11.2 | 5.0 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed : 12:57:52 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 0.0417 | 0.1381 | 3730.000 H | 102.3217 |
| # 2 | 0.1210 | 0.1181 | 3673.000 H | 100.7556 |
| Mean | 0.0813 | 0.1281 | 3701.500 H | 101.5387 |
| SD | 0.0560 | 0.0142 | 40.305 | 1.1074 |
| %RSD | 68.9019 | 11.0511 | 1.089 | 1.0907 |

Checking calibration blank ...
Identity 1 : Calibration blank  Identity 2 :

| Report name | CRDL | Value |
|---|---|---|
| K_766 | 0.250 | 0.081 |
| Na589 | 0.250 | 0.128 |
| Sc361 | 0.000 | 101.539 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CRI  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  1:00:44 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 15.5 | 137.0 | 3770.0 | 3770.0 |
| # 2 | 22.5 | 110.0 | 3725.0 | 3725.0 |
| Mean | 19.0 | 123.5 | 3747.5 | 3747.5 |
| SD | 4.9 | 19.1 | 31.8 | 31.8 |
| %RSD | 26.1 | 15.5 | 0.8 | 0.8 |

APPARENT CONCENTRATIONS
Identity 1 : CRI  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  1:00:44 PM April 21, 2006

| | | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|---|
| | | ppm | ppm | | ppm |
| # 1 | L | -0.1542 | 0.1116 | 3770.000 H | 103.4208 |
| # 2 | L | -0.0511 | 0.0471 | 3725.000 H | 102.1844 |

| | | | | |
|---|---|---|---|---|
| SD | 0.0730 | 0.0456 | 31.820 | 0.8743 |
| %RSD | 71.0708 | 57.4295 | 0.849 | 0.8505 |

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EVOLUTION by Micro-Active Australia Pty Ltd 1:09:32 PM April 21, 2006

Checking calibration verification ...
Identity 1 : CRI Identity 2 :

| Report name | Low limit | Value | High limit | |
|---|---|---|---|---|
| K_766 | 0.900 | -0.103 | 1.100 | Failed |
| Na589 | 0.900 | 0.079 | 1.100 | Failed |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : ICSA Identity 2 : Type : INTRF
Weight : 1.0000 Volume : 1.00 Printed : 1:03:36 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 27.5 | 167.5 | 3613.0 | 3613.0 |
| # 2 | 36.5 | 156.5 | 3559.0 | 3559.0 |
| Mean | 32.0 | 162.0 | 3586.0 | 3586.0 |
| SD | 6.4 | 7.8 | 38.2 | 38.2 |
| %RSD | 19.9 | 4.8 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS
Identity 1 : ICSA Identity 2 : Type : INTRF
Weight : 1.0000 Volume : 1.00 Printed : 1:03:36 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 0.0330 | 0.2065 | 3613.000 | 99.1070 |
| # 2 | 0.1744 | 0.1839 | 3559.000 | 97.6233 |
| Mean | 0.1037 | 0.1952 | 3586.000 | 98.3652 |
| SD | 0.1000 | 0.0160 | 38.184 | 1.0491 |
| %RSD | 96.4496 | 8.1884 | 1.065 | 1.0666 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : ICSAB Identity 2 : Type : ICSAB
Weight : 1.0000 Volume : 1.00 Printed : 1:06:30 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 4.0 | 137.5 | 3613.0 | 3613.0 |
| # 2 | 30.0 | 118.5 | 3540.0 | 3540.0 |
| Mean | 17.0 | 128.0 | 3576.5 | 3576.5 |
| SD | 18.4 | 13.4 | 51.6 | 51.6 |
| %RSD | 108.1 | 10.5 | 1.4 | 1.4 |

APPARENT CONCENTRATIONS
Identity 1 : ICSAB Identity 2 : Type : ICSAB
Weight : 1.0000 Volume : 1.00 Printed : 1:06:30 PM April 21, 2006

| | | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|---|
| | | ppm | ppm | | ppm |
| # 1 | L | -0.3149 | 0.1279 | 3613.000 | 99.1070 |
| # 2 | | 0.0791 | 0.0845 | 3540.000 | 97.1013 |
| Mean | L | -0.1179 | 0.1062 | 3576.500 | 98.1041 |
| SD | | 0.2786 | 0.0307 | 51.619 | 1.4183 |
| %RSD | | 236.3608 | 28.8924 | 1.443 | 1.4457 |

Checking interference check standard ...
Identity 1 : ICSAB Identity 2 :

Na589 0.000 0.106 0.000 Failed
BACKGROUND CORRECTED INTENSITIES
Identity 1 : CLP_CCV_SC Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 1:09:22 PM April 21, 2006
EVOLUTION by Micro-Active Australia Pty Ltd 1:20:00 PM April 21, 2006

010047

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1426.5 | 11952.5 | 3724.0 | 3724.0 |
| # 2 | 1414.5 | 11818.5 | 3696.0 | 3696.0 |
| Mean | 1420.5 | 11885.5 | 3710.0 | 3710.0 |
| SD | 8.5 | 94.8 | 19.8 | 19.8 |
| %RSD | 0.6 | 0.8 | 0.5 | 0.5 |

APPARENT CONCENTRATIONS
Identity 1 : CLP_CCV_SC Identity 2 : Type : CV
Weight : 1.0000 Volume : 1.00 Printed : 1:09:22 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 20.1147 | 30.1535 | 3724.000 H | 102.1569 |
| # 2 | 20.0962 | 30.0405 | 3696.000 H | 101.3876 |
| Mean | 20.1054 | 30.0970 | 3710.000 H | 101.7722 |
| SD | 0.0130 | 0.0799 | 19.799 | 0.5440 |
| %RSD | 0.0649 | 0.2656 | 0.534 | 0.5345 |

Checking calibration verification ...
Identity 1 : CLP_CCV_SC Identity 2 :

| Report name | Low limit | Value | High limit |
|---|---|---|---|
| K_766 | 18.000 | 20.105 | 22.000 |
| Na589 | 27.000 | 30.097 | 33.000 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : Calibration blank Identity 2 : Type : CB
Weight : 1.0000 Volume : 1.00 Printed : 1:12:16 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 35.0 | 116.0 | 3690.0 | 3690.0 |
| # 2 | 42.0 | 90.0 | 3694.0 | 3694.0 |
| Mean | 38.5 | 103.0 | 3692.0 | 3692.0 |
| SD | 4.9 | 18.4 | 2.8 | 2.8 |
| %RSD | 12.9 | 17.8 | 0.1 | 0.1 |

APPARENT CONCENTRATIONS
Identity 1 : Calibration blank Identity 2 : Type : CB
Weight : 1.0000 Volume : 1.00 Printed : 1:12:16 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 0.1332 | 0.0652 | 3690.000 H | 101.2227 |
| # 2 | 0.2340 L | -0.0018 | 3694.000 H | 101.3326 |
| Mean | 0.1836 | 0.0317 | 3692.000 H | 101.2776 |
| SD | 0.0713 | 0.0473 | 2.828 | 0.0777 |
| %RSD | 38.8252 | 149.3166 | 0.077 | 0.0767 |

Checking calibration blank ...
Identity 1 : Calibration blank Identity 2 :

| Report name | CRDL | Value |
|---|---|---|
| K_766 | 0.250 | 0.184 |
| Na589 | 0.250 | 0.022 |

VOLUTION by Micro-Active Australia Pty Ltd  2:00:32 PM April 21, 2006

eep last result visible enabled ...
tarting run ...
reating high priority queue entries ...

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CLP_CCV_SC  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  2:00:34 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1400.5 | 11797.0 | 3685.0 | 3685.0 |
| # 2 | 1406.5 | 11639.0 | 3627.0 | 3627.0 |
| Mean | 1403.5 | 11718.0 | 3656.0 | 3656.0 |
| SD | 4.2 | 111.7 | 41.0 | 41.0 |
| %RSD | 0.3 | 1.0 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS
Identity 1 : CLP_CCV_SC  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  2:00:34 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 19.9541 | 30.0756 | 3685.000 H | 101.0853 |
| # 2 | 20.3677 | 30.1479 | 3627.000 | 99.4917 |
| Mean | 20.1609 | 30.1117 | 3656.000 H | 100.2885 |
| SD | 0.2924 | 0.0511 | 41.012 | 1.1269 |
| %RSD | 1.4505 | 0.1697 | 1.122 | 1.1236 |

Checking calibration verification ...
Identity 1 : CLP_CCV_SC  Identity 2 :

| Report name | Low limit | Value | High limit |
|---|---|---|---|
| K_766 | 18.000 | 20.161 | 22.000 |
| Na589 | 27.000 | 30.112 | 33.000 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed :  2:03:26 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 41.0 | 127.0 | 3693.0 | 3693.0 |
| # 2 | 27.0 | 137.0 | 3626.0 | 3626.0 |
| Mean | 34.0 | 132.0 | 3659.5 | 3659.5 |
| SD | 9.9 | 7.1 | 47.4 | 47.4 |
| %RSD | 29.1 | 5.4 | 1.3 | 1.3 |

APPARENT CONCENTRATIONS
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed :  2:03:26 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 0.2197 | 0.0931 | 3693.000 H | 101.3051 |
| # 2 | 0.0241 | 0.1253 | 3626.000 | 99.4642 |
| Mean | 0.1219 | 0.1092 | 3659.500 H | 100.3847 |
| SD | 0.1383 | 0.0227 | 47.376 | 1.3017 |
| %RSD | 113.4193 | 20.8008 | 1.295 | 1.2967 |

Checking calibration blank ...
Identity 1 : Calibration blank  Identity 2 :

| | | |
|---|---|---|
| K_766 | 0.250 | 0.122 |
| Na589 | 0.250 | 0.109 |
| Sc361 | 0.000 | 100.385 |

BACKGROUND CORRECTED INTENSITIES

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EVOLUTION by Micro-Active Australia Pty Ltd  2:12:32 PM April 21, 2006

Identity 1 : 277609  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:06:18 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 29.0 | 226.5 | 3620.0 | 3620.0 |
| # 2 | 32.0 | 233.5 | 3589.0 | 3589.0 |
| Mean | 30.5 | 230.0 | 3604.5 | 3604.5 |
| SD | 2.1 | 4.9 | 21.9 | 21.9 |
| %RSD | 7.0 | 2.2 | 0.6 | 0.6 |

APPARENT CONCENTRATIONS
Identity 1 : 277609  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:06:18 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 0.0544 | 0.3599 | 3620.000 | 99.2994 |
| # 2 | 0.1028 | 0.3835 | 3589.000 | 98.4476 |
| Mean | 0.0786 | 0.3717 | 3604.500 | 98.8735 |
| SD | 0.0342 | 0.0167 | 21.920 | 0.6023 |
| %RSD | 43.5763 | 4.4858 | 0.608 | 0.6092 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277610  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:09:12 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 14.0 | 221.0 | 3585.5 | 3585.5 |
| # 2 | 11.0 | 204.0 | 3539.5 | 3539.5 |
| Mean | 12.5 | 212.5 | 3562.5 | 3562.5 |
| SD | 2.1 | 12.0 | 32.5 | 32.5 |
| %RSD | 17.0 | 5.7 | 0.9 | 0.9 |

APPARENT CONCENTRATIONS
Identity 1 : 277610  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:09:12 PM April 21, 2006

| | | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|---|
| | | ppm | ppm | | ppm |
| # 1 | L | -0.1653 | 0.3511 | 3585.500 | 98.3514 |
| # 2 | L | -0.2079 | 0.3132 | 3539.500 | 97.0875 |
| Mean | L | -0.1866 | 0.3322 | 3562.500 | 97.7195 |
| SD | | 0.0301 | 0.0268 | 32.527 | 0.8937 |
| %RSD | | 16.1505 | 8.0654 | 0.913 | 0.9146 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277611  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:12:04 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 24.5 | 279.0 | 3611.0 | 3611.0 |
| # 2 | 10.5 | 269.0 | 3552.0 | 3552.0 |
| Mean | 17.5 | 274.0 | 3581.5 | 3581.5 |
| SD | 9.9 | 7.1 | 41.7 | 41.7 |

APPARENT CONCENTRATIONS
Identity 1 : 277611  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:12:04 PM April 21, 2006
EVOLUTION by Micro-Active Australia Pty Ltd  2:18:02 PM April 21, 2006

010051

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | L | -0.0112 | 0.4990 | 3611.000 | 99.0521 |
| # 2 | L | -0.2160 | 0.4845 | 3552.000 | 97.4310 |
| Mean | L | -0.1136 | 0.4918 | 3581.500 | 98.2415 |
| SD | | 0.1448 | 0.0103 | 41.719 | 1.1463 |
| %RSD | | 127.4354 | 2.0853 | 1.165 | 1.1668 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : 277612  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:14:58 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 25.5 | 196.0 | 3567.5 | 3567.5 |
| # 2 | 40.5 | 196.0 | 3558.5 | 3558.5 |
| Mean | 33.0 | 196.0 | 3563.0 | 3563.0 |
| SD | 10.6 | 0.0 | 6.4 | 6.4 |
| %RSD | 32.1 | 0.0 | 0.2 | 0.2 |

APPARENT CONCENTRATIONS
Identity 1 : 277612  Identity 2 : pg63-079  Type : SAMPLE
Weight : 1.0000  Volume : 1.00  Printed :  2:14:58 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | | 0.0082 | 0.2877 | 3567.500 | 97.8568 |
| # 2 | | 0.2346 | 0.2890 | 3558.500 | 97.6096 |
| Mean | | 0.1214 | 0.2884 | 3563.000 | 97.7332 |
| SD | | 0.1601 | 0.0009 | 6.364 | 0.1749 |
| %RSD | | 131.8917 | 0.3226 | 0.179 | 0.1789 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : CRI  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  2:17:50 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 16.0 | 122.0 | 3687.0 | 3687.0 |
| # 2 | 16.0 | 117.0 | 3639.0 | 3639.0 |
| Mean | 16.0 | 119.5 | 3663.0 | 3663.0 |
| SD | 0.0 | 3.5 | 33.9 | 33.9 |
| %RSD | 0.0 | 3.0 | 0.9 | 0.9 |

APPARENT CONCENTRATIONS
Identity 1 : CRI  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  2:17:50 PM April 21, 2006

| | | K_766 ppm | Na589 ppm | Sc | Sc361 ppm |
|---|---|---|---|---|---|
| # 1 | L | -0.1420 | 0.0808 | 3687.000 H | 101.1403 |
| # 2 | L | -0.1390 | 0.0720 | 3639.000 | 99.8214 |
| Mean | L | -0.1405 | 0.0764 | 3663.000 H | 100.4808 |
| SD | | 0.0022 | 0.0063 | 33.941 | 0.9326 |
| %RSD | | 1.5409 | 8.2152 | 0.927 | 0.9291 |

Checking calibration verification ...
Identity 1 : CRI  Identity 2 :
Report name  Low limit  Value  High limit
EVOLUTION by Micro-Active Australia Pty Ltd  2:26:38 PM April 21, 2006

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| | | | | |
|---|---|---|---|---|
| K_766 | 0.900 | -0.140 | 1.100 | Failed |
| Na589 | 0.900 | 0.076 | 1.100 | Failed |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : ICSA  Identity 2 :  Type : INTRF
Weight : 1.0000  Volume : 1.00  Printed :  2:20:44 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 21.0 | 138.5 | 3576.0 | 3576.0 |
| # 2 | 9.0 | 122.5 | 3540.0 | 3540.0 |
| Mean | 15.0 | 130.5 | 3558.0 | 3558.0 |
| SD | 8.5 | 11.3 | 25.5 | 25.5 |
| %RSD | 56.6 | 8.7 | 0.7 | 0.7 |

APPARENT CONCENTRATIONS
Identity 1 : ICSA  Identity 2 :  Type : INTRF
Weight : 1.0000  Volume : 1.00  Printed :  2:20:44 PM April 21, 2006

| | | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|---|
| | | ppm | ppm | | ppm |
| # 1 | L | -0.0600 | 0.1342 | 3576.000 | 98.0904 |
| # 2 | L | -0.2382 | 0.0952 | 3540.000 | 97.1013 |
| Mean | L | -0.1491 | 0.1147 | 3558.000 | 97.5958 |
| SD | | 0.1259 | 0.0276 | 25.456 | 0.6994 |
| %RSD | | 84.4752 | 24.0781 | 0.715 | 0.7167 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : ICSAB  Identity 2 :  Type : ICSAB
Weight : 1.0000  Volume : 1.00  Printed :  2:23:36 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 4.0 | 157.5 | 3535.5 | 3535.5 |
| # 2 | 21.0 | 166.5 | 3495.5 | 3495.5 |
| Mean | 12.5 | 162.0 | 3515.5 | 3515.5 |
| SD | 12.0 | 6.4 | 28.3 | 28.3 |
| %RSD | 96.2 | 3.9 | 0.8 | 0.8 |

APPARENT CONCENTRATIONS
Identity 1 : ICSAB  Identity 2 :  Type : ICSAB
Weight : 1.0000  Volume : 1.00  Printed :  2:23:36 PM April 21, 2006

| | | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|---|
| | | ppm | ppm | | ppm |
| # 1 | L | -0.3136 | 0.1893 | 3535.500 | 96.9776 |
| # 2 | L | -0.0528 | 0.2185 | 3495.500 | 95.8786 |
| Mean | L | -0.1832 | 0.2039 | 3515.500 | 96.4281 |
| SD | | 0.1844 | 0.0206 | 28.284 | 0.7771 |
| %RSD | | 100.6634 | 10.1259 | 0.805 | 0.8059 |

Checking interference check standard ...
Identity 1 : ICSAB  Identity 2 :
Report name  Low limit  Value  High limit

| | | | | |
|---|---|---|---|---|
| K_766 | 0.000 | -0.183 | 0.000 | Failed |
| Na589 | 0.000 | 0.204 | 0.000 | Failed |

BACKGROUND CORRECTED INTENSITIES

Weight : 1.0000  Volume : 1.00  Printed :  2:26:28 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 1421.5 | 11807.5 | 3682.0 | 3682.0 |

EVOLUTION by Micro-Active Australia Pty Ltd  2:37:02 PM April 21, 2006

010053

| | | | | |
|---|---|---|---|---|
| # 2 | 1381.5 | 11633.5 | 3626.0 | 3626.0 |
| Mean | 1401.5 | 11720.5 | 3654.0 | 3654.0 |
| SD | 28.3 | 123.0 | 39.6 | 39.6 |
| %RSD | 2.0 | 1.0 | 1.1 | 1.1 |

APPARENT CONCENTRATIONS
Identity 1 : CLP_CCV_SC  Identity 2 :  Type : CV
Weight : 1.0000  Volume : 1.00  Printed :  2:26:28 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| | ppm | ppm | | ppm |
| # 1 | 20.2757 | 30.1273 | 3682.000 H | 101.0029 |
| # 2 | 20.0046 | 30.1419 | 3626.000 | 99.4642 |
| Mean | 20.1402 | 30.1346 | 3654.000 H | 100.2335 |
| SD | 0.1917 | 0.0103 | 39.598 | 1.0880 |
| %RSD | 0.9519 | 0.0342 | 1.084 | 1.0855 |

Checking calibration verification ...
Identity 1 : CLP_CCV_SC  Identity 2 :

| Report name | Low limit | Value | High limit |
|---|---|---|---|
| K_766 | 18.000 | 20.140 | 22.000 |
| Na589 | 27.000 | 30.135 | 33.000 |

BACKGROUND CORRECTED INTENSITIES
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed :  2:29:20 PM April 21, 2006

| | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|
| # 1 | 36.5 | 127.0 | 3669.5 | 3669.5 |
| # 2 | 25.5 | 140.0 | 3661.5 | 3661.5 |
| Mean | 31.0 | 133.5 | 3665.5 | 3665.5 |
| SD | 7.8 | 9.2 | 5.7 | 5.7 |
| %RSD | 25.1 | 6.9 | 0.2 | 0.2 |

APPARENT CONCENTRATIONS
Identity 1 : Calibration blank  Identity 2 :  Type : CB
Weight : 1.0000  Volume : 1.00  Printed :  2:29:22 PM April 21, 2006

| | | K_766 | Na589 | Sc | Sc361 |
|---|---|---|---|---|---|
| | | ppm | ppm | | ppm |
| # 1 | | 0.1579 | 0.0952 | 3669.500 H | 100.6594 |
| # 2 | L | -0.0016 | 0.1296 | 3661.500 H | 100.4396 |
| Mean | | 0.0781 | 0.1124 | 3665.500 H | 100.5495 |
| SD | | 0.1128 | 0.0243 | 5.657 | 0.1554 |
| %RSD | | 144.3808 | 21.5975 | 0.154 | 0.1546 |

Checking calibration blank ...
Identity 1 : Calibration blank  Identity 2 :

| Report name | CRDL | Value |
|---|---|---|
| K_766 | 0.250 | 0.078 |
| Na589 | 0.250 | 0.112 |
| Sc361 | 0.000 | 100.550 |

DIV 20
06002.01.322
TO# 060418-2

✓ Warren A. Naegeli
04/25/06

Analyst: RSS RSS-
Method: EPA 300
TAP 01-0406-042 Rev4
Sig Fig: 3

| Date Analyzed | System ID | Analyte | Conc. mg/L | Weight g | FV ml | RESULT | Units | Qual | DL | TV | %REC %RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04/20/06 | PB 09 188 | Fluoride | 0.000 | 0.1000 | 25 | 25 | mg/Kg | U | 25 | | |
| 04/20/06 | PB 09 188 | Chloride | 0.048 | 0.1000 | 25 | 25 | mg/Kg | U | 25 | | |
| 04/20/06 | PB 09 188 | Nitrite-N | 0.000 | 0.1000 | 25 | 25 | mg/Kg | U | 25 | | |
| 04/20/06 | PB 09 188 | Nitrate-N | 0.000 | 0.1000 | 25 | 25 | mg/Kg | U | 25 | | |
| 04/20/06 | PB 09 188 | Phosphate-P | 0.000 | 0.1000 | 25 | 25 | mg/Kg | U | 25 | | |
| 04/20/06 | PB 09 188 | Sulfate | 0.000 | 0.1000 | 25 | 25 | mg/Kg | U | 25 | | |
| 04/20/06 | LCS 09 188 | Fluoride | 1.422 | 2.0000 | 25 | 17.8 | mg/Kg | | 1.25 | 20 | 89.0% |
| 04/20/06 | LCS 09 188 | Chloride | 2.314 | 2.0000 | 25 | 28.9 | mg/Kg | | 1.25 | 30 | 96.3% |
| 04/20/06 | LCS 09 188 | Nitrite-N | 2.622 | 2.0000 | 25 | 32.8 | mg/Kg | | 1.25 | 35.4 | 92.7% |
| 04/20/06 | LCS 09 188 | Nitrate-N | 1.730 | 2.0000 | 25 | 21.6 | mg/Kg | | 1.25 | 22.6 | 95.6% |
| 04/20/06 | LCS 09 188 | Phosphate-P | 3.730 | 2.0000 | 25 | 46.6 | mg/Kg | | 1.25 | 48.4 | 96.3% |
| 04/20/06 | LCS 09 188 | Sulfate | 11.772 | 2.0000 | 25 | 147 | mg/Kg | | 1.25 | 150 | 98.0% |
| 04/20/06 | 277613 | Fluoride | 0.000 | 0.1071 | 25 | 467 | mg/Kg | U | 467 | | |
| 04/20/06 | 277613 | Chloride | 93.833 | 0.1071 | 25 | 21900 | mg/Kg | | 467 | | |
| 04/20/06 | 277613 | Nitrite-N | 0.000 | 0.1071 | 25 | 467 | mg/Kg | U | 467 | | |
| 04/20/06 | 277613 | Nitrate-N | 535.877 | 0.1071 | 25 | 125000 | mg/Kg | | 2330 | | |
| 04/20/06 | 277613 | Phosphate-P | 67.687 | 0.1071 | 25 | 15800 | mg/Kg | | 467 | | |
| 04/20/06 | 277613 | Sulfate | 2.770 | 0.1071 | 25 | 647 | mg/Kg | | 467 | | |
| 04/20/06 | 277613D | Fluoride | 0.000 | 0.1197 | 25 | 418 | mg/Kg | U | 418 | | 0.00% |
| 04/20/06 | 277613D | Chloride | 107.700 | 0.1197 | 25 | 22500 | mg/Kg | | 418 | | 2.70% |
| 04/20/06 | 277613D | Nitrite-N | 0.000 | 0.1197 | 25 | 418 | mg/Kg | U | 418 | | 0.00% |
| 04/20/06 | 277613D | Nitrate-N | 597.477 | 0.1197 | 25 | 125000 | mg/Kg | | 2090 | | 0.00% |
| 04/20/06 | 277613D | Phosphate-P | 80.350 | 0.1197 | 25 | 16800 | mg/Kg | | 418 | | 6.13% |
| 04/20/06 | 277613D | Sulfate | 2.525 | 0.1197 | 25 | 527 | mg/Kg | | 418 | | 20.4% |
| 04/20/06 | 277613AS | Fluoride | 16.222 | 0.1071 | 25 | 3790 | mg/Kg | | 467 | 3730 | 102% |
| 04/20/06 | 277613AS | Chloride | 120.103 | 0.1071 | 25 | 28000 | mg/Kg | | 467 | 5600 | 109% |
| 04/20/06 | 277613AS | Nitrite-N | 26.893 | 0.1071 | 25 | 6280 | mg/Kg | | 467 | 6610 | 95.0% |
| 04/20/06 | 277613AS | Nitrate-N | 631.738 | 0.1071 | 25 | 147000 | mg/Kg | | 2330 | 21100 | 104% |
| 04/20/06 | 277613AS | Phosphate-P | 107.001 | 0.1071 | 25 | 25000 | mg/Kg | | 467 | 9040 | 102% |
| 04/20/06 | 277613AS | Sulfate | 122.307 | 0.1071 | 25 | 28500 | mg/Kg | | 467 | 28000 | 99.5% |

Sample Calc: 277913 (Chloride)

$$93.833\,\frac{mg}{L} \times \frac{25\,mL}{0.1071\,g} \times \frac{1\,L}{1000\,mL} \times \frac{1000\,g}{1\,Kg} = 21{,}900\,\frac{mg}{Kg}\ Cl^-$$

U = Undetected

010054

DIV 20
06002.01.322
TO# 060418-2

Analyst: RSS
Method: 300
Sig Fig: 3
TAP: 01-0406-042 Rev. 4

010055

| Date Analyzed | System ID | Analyte | Conc. mg/L | RESULT mg/L | Qual | DL | TV | %REC %RPD |
|---|---|---|---|---|---|---|---|---|
| 04/20/06 | 277609 | Fluoride | 0.086 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277609 | Chloride | 0.360 | 0.360 | | 0.1 | | |
| 04/20/06 | 277609 | Nitrite-N | 1.393 | 1.39 | | 0.1 | | |
| 04/20/06 | 277609 | Nitrate-N | 0.584 | 0.584 | | 0.1 | | |
| 04/20/06 | 277609 | Phosphate-P | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277609 | Sulfate | 0.097 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277609D | Fluoride | 0.086 | 0.1 | U | 0.1 | | 0.00% |
| 04/20/06 | 277609D | Chloride | 0.346 | 0.346 | | 0.1 | | 3.97% |
| 04/20/06 | 277609D | Nitrite-N | 1.384 | 1.38 | | 0.1 | | 0.72% |
| 04/20/06 | 277609D | Nitrate-N | 0.573 | 0.573 | | 0.1 | | 1.90% |
| 04/20/06 | 277609D | Phosphate-P | 0.000 | 0.1 | U | 0.1 | | 0.00% |
| 04/20/06 | 277609D | Sulfate | 0.041 | 0.1 | U | 0.1 | | 0.00% |
| 04/20/06 | 277609S | Fluoride | 0.465 | 0.465 | | 0.1 | 0.5 | 93.0% |
| 04/20/06 | 277609S | Chloride | 0.986 | 0.986 | | 0.1 | 0.75 | 83.5% |
| 04/20/06 | 277609S | Nitrite-N | 2.135 | 2.14 | | 0.1 | 0.885 | 84.7% |
| 04/20/06 | 277609S | Nitrate-N | 1.047 | 1.05 | | 0.1 | 0.565 | 82.5% |
| 04/20/06 | 277609S | Phosphate-P | 1.060 | 1.06 | | 0.1 | 1.21 | 87.6% |
| 04/20/06 | 277609S | Sulfate | 3.535 | 3.54 | | 0.1 | 3.75 | 94.4% |
| 04/20/06 | 277610 | Fluoride | 0.131 | 0.131 | | 0.1 | | |
| 04/20/06 | 277610 | Chloride | 1.665 | 1.67 | | 0.1 | | |
| 04/20/06 | 277610 | Nitrite-N | 0.554 | 0.554 | | 0.1 | | |
| 04/20/06 | 277610 | Nitrate-N | 1.358 | 1.36 | | 0.1 | | |
| 04/20/06 | 277610 | Phosphate-P | 0.045 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277610 | Sulfate | 0.048 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277611 | Fluoride | 0.136 | 0.136 | | 0.1 | | |
| 04/20/06 | 277611 | Chloride | 2.049 | 2.05 | | 0.1 | | |
| 04/20/06 | 277611 | Nitrite-N | 0.456 | 0.456 | | 0.1 | | |
| 04/20/06 | 277611 | Nitrate-N | 1.657 | 1.66 | | 0.1 | | |
| 04/20/06 | 277611 | Phosphate-P | 0.094 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277611 | Sulfate | 0.037 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277612 | Fluoride | 0.084 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277612 | Chloride | 0.286 | 0.286 | | 0.1 | | |
| 04/20/06 | 277612 | Nitrite-N | 0.116 | 0.116 | | 0.1 | | |
| 04/20/06 | 277612 | Nitrate-N | 0.144 | 0.144 | | 0.1 | | |
| 04/20/06 | 277612 | Phosphate-P | 0.039 | 0.1 | U | 0.1 | | |
| 04/20/06 | 277612 | Sulfate | 0.080 | 0.1 | U | 0.1 | | |

U = Undetected

DIV 20
06002.01.322
TO# 060418-2

Analyst: RSS
Method: 300
Sig Fig: 3
TAP: 01-0406-042 Rev. 4

010056

| Date Analyzed | System ID | Analyte | Conc. mg/L | RESULT mg/L | Qual | DL | TV | %REC %RPD |
|---|---|---|---|---|---|---|---|---|
| 04/20/06 | ICV (LCS) | Fluoride | 18.714 | 18.7 | | 0 | 20 | 93.5% |
| 04/20/06 | ICV (LCS) | Chloride | 31.382 | 31.4 | | 0.1 | 30 | 105% |
| 04/20/06 | ICV (LCS) | Nitrite-N | 33.282 | 33.3 | | 0.1 | 35.4 | 94.1% |
| 04/20/06 | ICV (LCS) | Nitrate-N | 21.659 | 21.7 | | 0.1 | 22.6 | 96.0% |
| 04/20/06 | ICV (LCS) | Phosphate-P | 47.382 | 47.4 | | 0.1 | 48.4 | 97.9% |
| 04/20/06 | ICV (LCS) | Sulfate | 148.127 | 148 | | 0.1 | 150 | 98.7% |
| 04/20/06 | ICB (PB) | Fluoride | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | ICB (PB) | Chloride | 0.035 | 0.1 | U | 0.1 | | |
| 04/20/06 | ICB (PB) | Nitrite-N | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | ICB (PB) | Nitrate-N | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | ICB (PB) | Phosphate-P | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | ICB (PB) | Sulfate | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCV | Fluoride | 18.449 | 18.4 | | 0.1 | 20 | 92.0% |
| 04/20/06 | CCV | Chloride | 28.907 | 28.9 | | 0.1 | 30 | 96.3% |
| 04/20/06 | CCV | Nitrite-N | 33.149 | 33.1 | | 0.1 | 35.4 | 93.5% |
| 04/20/06 | CCV | Nitrate-N | 21.672 | 21.7 | | 0.1 | 22.6 | 96.0% |
| 04/20/06 | CCV | Phosphate-P | 47.426 | 47.4 | | 0.1 | 48.4 | 97.9% |
| 04/20/06 | CCV | Sulfate | 148.264 | 148 | | 0.1 | 150 | 98.7% |
| 04/20/06 | CCB | Fluoride | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Chloride | 0.047 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Nitrite-N | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Nitrate-N | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Phosphate-P | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Sulfate | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCV | Fluoride | 18.663 | 18.7 | | 0.1 | 20 | 93.5% |
| 04/20/06 | CCV | Chloride | 29.000 | 29.0 | | 0.1 | 30 | 96.7% |
| 04/20/06 | CCV | Nitrite-N | 33.355 | 33.4 | | 0.1 | 35.4 | 94.4% |
| 04/20/06 | CCV | Nitrate-N | 21.560 | 21.6 | | 0.1 | 22.6 | 95.6% |
| 04/20/06 | CCV | Phosphate-P | 47.546 | 47.5 | | 0.1 | 48.4 | 98.1% |
| 04/20/06 | CCV | Sulfate | 147.395 | 147 | | 0.1 | 150 | 98.0% |
| 04/20/06 | CCB | Fluoride | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Chloride | 0.047 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Nitrite-N | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Nitrate-N | 0.087 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Phosphate-P | 0.000 | 0.1 | U | 0.1 | | |
| 04/20/06 | CCB | Sulfate | 0.036 | 0.1 | U | 0.1 | | |

U = Undetected

Schedule File: C:\PeakNet\schedule\20apr06.SCH

010057

| Line | Sample | Sample Type | Level | Method | Data File | Dilution |
|---|---|---|---|---|---|---|
| 1 | ICV | Sample | | anions060405.met | 060420_001.dxd | 10 |
| 2 | ICB | Sample | | anions060405.met | 060420_002.dxd | 1 |
| 3 | 277609 | Sample | | anions060405.met | 060420_003.dxd | 1 |
| 4 | 277609D | Sample | | anions060405.met | 060420_004.dxd | 1 |
| 5 | 277609S 50uL->2mL | Sample | | anions060405.met | 060420_005.dxd | 1 |
| 6 | 277610 | Sample | | anions060405.met | 060420_006.dxd | 1 |
| 7 | 277611 | Sample | | anions060405.met | 060420_007.dxd | 1 |
| 8 | 277612 | Sample | | anions060405.met | 060420_008.dxd | 1 |
| 9 | CCV | Sample | | anions060405.met | 060420_009.dxd | 10 |
| 10 | CCB | Sample | | anions060405.met | 060420_010.dxd | 1 |
| 11 | PB 09188 RSS 4/24/06 | Sample | | anions060405.met | 060420_011.dxd | 1 |
| 12 | LCS 09188 | Sample | | anions060405.met | 060420_012.dxd | 1 |
| 13 | 277613 DF20 | Sample | | anions060405.met | 060420_013.dxd | 20 |
| 14 | 277613D DF20 | Sample | | anions060405.met | 060420_014.dxd | 20 |
| 15 | 277613AS DF20 200uL->5mL | Sample | | anions060405.met | 060420_015.dxd | 20 |
| 16 | 277613 DF100 | Sample | | anions060405.met | 060420_016.dxd | 100 |
| 17 | 277613D DF100 | Sample | | anions060405.met | 060420_017.dxd | 100 |
| 18 | 277613AS DF100 200uL->5mL | Sample | | anions060405.met | 060420_018.dxd | 100 |
| 19 | CCV | Sample | | anions060405.met | 060420_019.dxd | 10 |
| 20 | CCB | Sample | | anions060405.met | 060420_020.dxd | 1 |
| 21 | BLK | Sample | | anions060405.met | 060420_021.dxd | 1 |

Default Method Path: C:\PEAKNET\METHOD
Default Data Path: C:\PEAKNET\DATA\060420
Comment:
DIV 20 06002.01.322 TO#060418-2

COND = 17.5 uS

R Spres 4/24/06

ICV Sources:
1) SPEX LOT#32-55AS (INORG#5708)
   F = 20 mg/L
   Cl = 30 mg/L
   NO3N = 100 mg/L
   PO4P = 48.4 mg/L
   SO4 = 150 mg/L
2) NITRITE-N 157-01-IC5 TV = 35.4 mg/L

Spiked with SPEX + $NO_2N$.

Sample Name : ICV
Dilution Factor : 10.00
Injection Number : 1
Data File Name : c:\peaknet\data\060420\060420_001.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

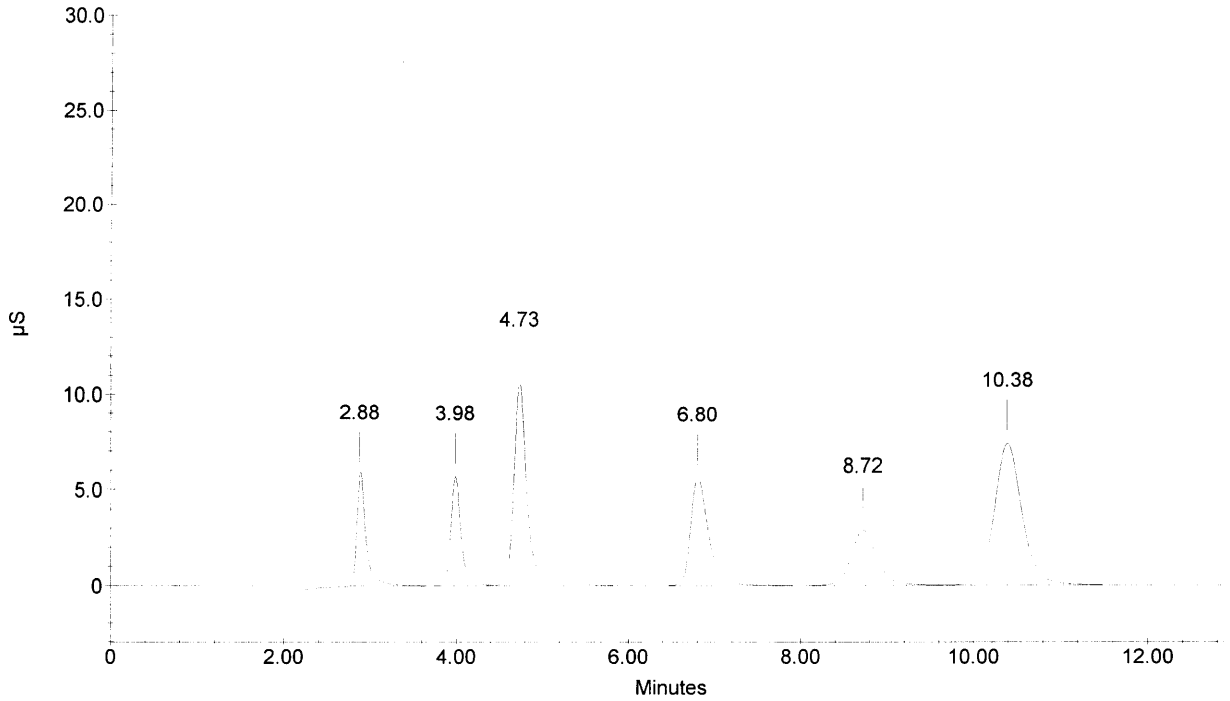
Date Time Collected : 4/20/06 4:36:58 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010058

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.88 | FLUORIDE | 18.714 | 57121 | 436751 | 1 | -1.48 |
| 2 | 3.98 | CHLORIDE | 31.382 | 56437 | 472372 | 2 | -1.40 |
| 3 | 4.73 | NITRITE-N<br>BROMIDE | 33.282 | 105956 | 1131821 | 2 | -1.66 |
| 4 | 6.80 | NITRATE-N | 21.659 | 55937 | 805004 | 2 | 1.14 |
| 5 | 8.72 | PHOSPHATE-P | 47.382 | 28968 | 603912 | 2 | -0.27 |
| 6 | 10.38 | SULFATE | 148.127 | 74192 | 1656872 | 2 | -1.86 |
| | 0.00 | ---total(s)--- | 300.546 | | 5106732 | | |

## ICV



Sample Name : ICB
Dilution Factor : 1.00
Injection Number : 2
Data File Name : c:\peaknet\data\060420\060420_002.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

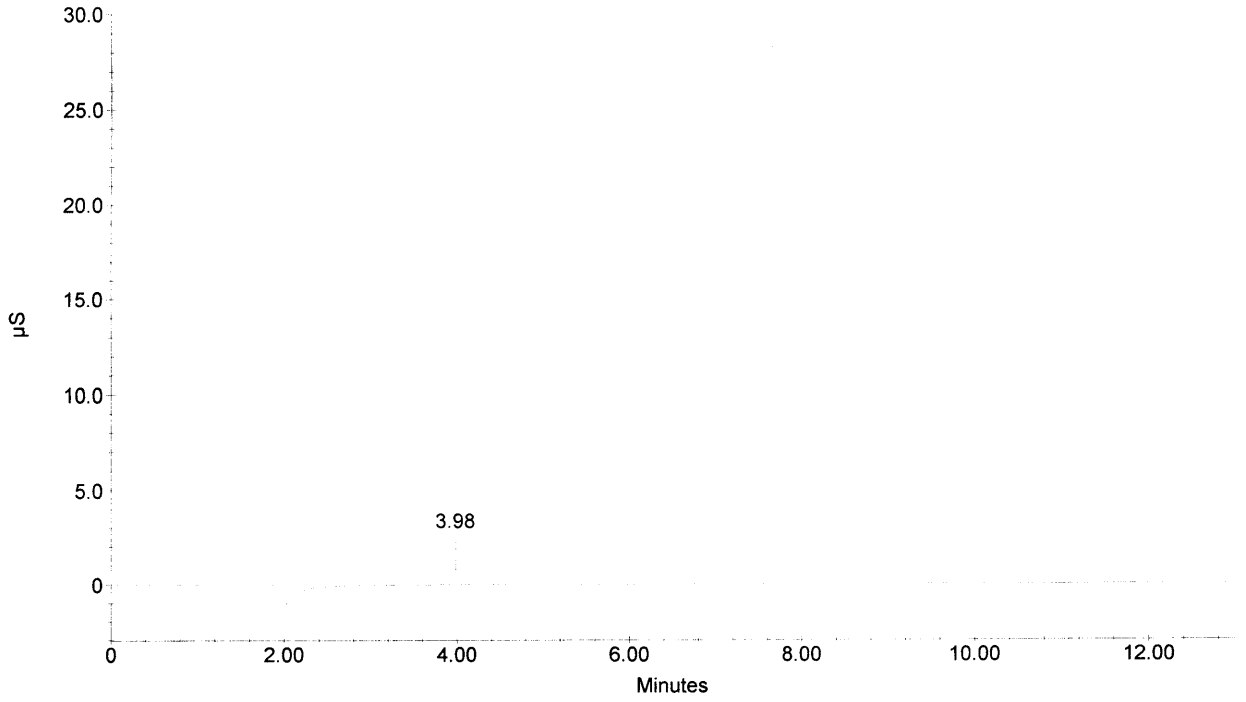
Date Time Collected : 4/20/06 4:52:38 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010059

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 3.98 | CHLORIDE | 0.035 | 46 | 649 | 1 | -1.40 |
| 1 | 3.98 | CHLORIDE | 0.035 | 46 | 649 | 1 | -1.40 |
| | | NITRITE-N | | | | | |
| | | BROMIDE | | | | | |
| | | NITRATE-N | | | | | |
| | | PHOSPHATE-P | | | | | |
| | | SULFATE | | | | | |
| | | ---total(s)--- | | | | | |
| | 0.00 | | 0.071 | | 1299 | | |

## ICB



Sample Name : 277609
Dilution Factor : 1.00
Injection Number : 3
Data File Name : ...\060420_003.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

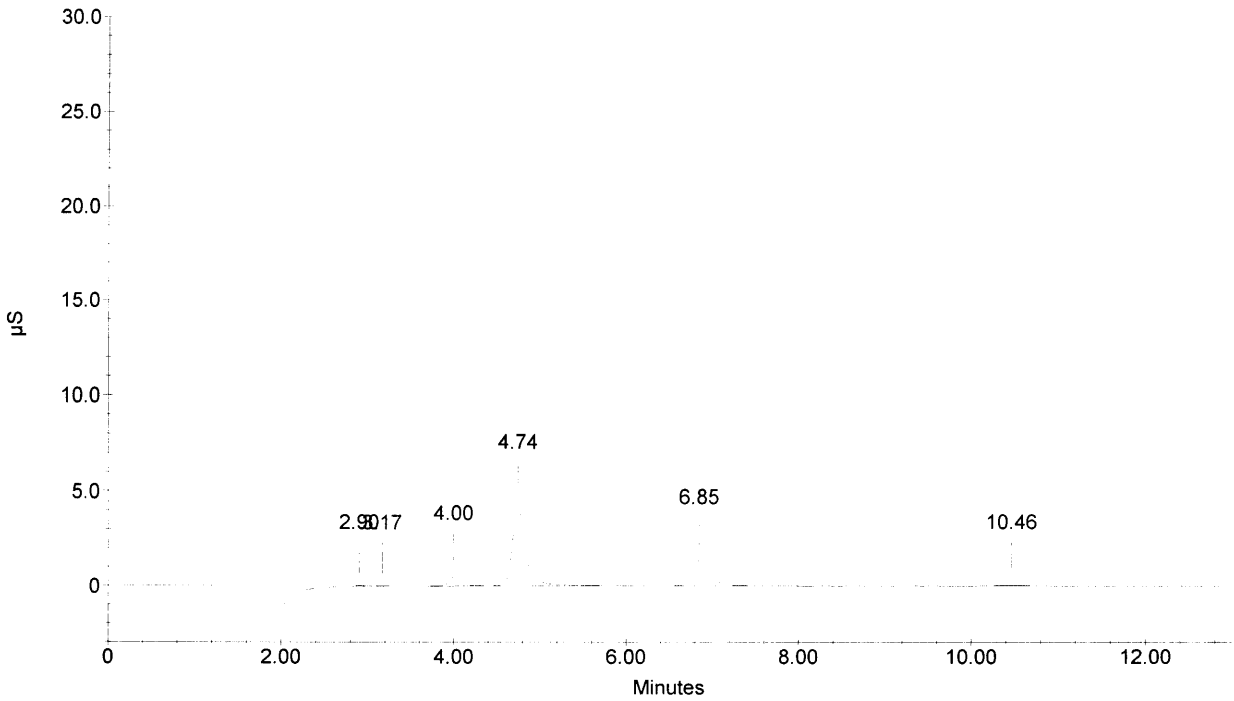
Date Time Collected : 4/20/06 5:08:29 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010060

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | FLUORIDE | 0.086 | 386 | 1903 | 1 | -0.57 |
| 3 | 4.00 | CHLORIDE | 0.360 | 5216 | 49131 | 2 | -1.07 |
| 4 | 4.74 | NITRITE-N<br>BROMIDE | 1.393 | 42475 | 456843 | 2 | -1.39 |
| 5 | 6.85 | NITRATE-N<br>PHOSPHATE-P | 0.584 | 13433 | 192723 | 1 | 1.93 |
| 6 | 10.46 | SULFATE | 0.097 | 411 | 7743 | 1 | -1.10 |
| | 0.00 | | ---total(s)---<br>2.521 | | 708343 | | |

**277609**



Sample Name : 277609D
Dilution Factor : 1.00
Injection Number : 4
Data File Name : c:\peaknet\data\060420\060420_004.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

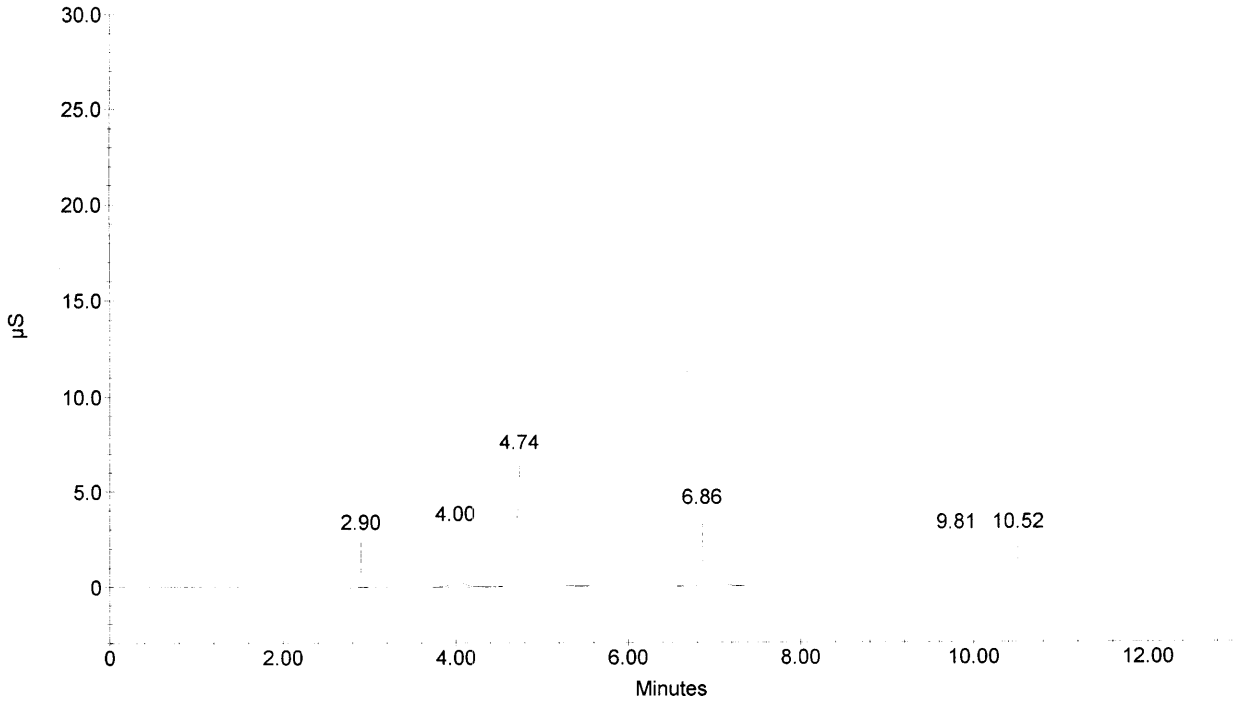
Date Time Collected : 4/20/06 5:24:04 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010061

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | FLUORIDE | 0.086 | 350 | 1812 | 1 | -0.57 |
| 2 | 4.00 | CHLORIDE | 0.346 | 4758 | 46915 | 2 | -1.07 |
| 3 | 4.74 | NITRITE-N<br>BROMIDE | 1.384 | 42461 | 453777 | 2 | -1.39 |
| 4 | 6.86 | NITRATE-N<br>PHOSPHATE-P | 0.573 | 13298 | 188476 | 1 | 2.13 |
| 6 | 10.52 | SULFATE | 0.041 | 106 | 1931 | 1 | -0.60 |
| | 0.00 | ---total(s)--- | 2.430 | | 692911 | | |

## 277609D



Sample Name : 277609S 50uL->2mL
Dilution Factor : 1.00
Injection Number : 5
Data File Name : c:\peaknet\data\060420\060420_005.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

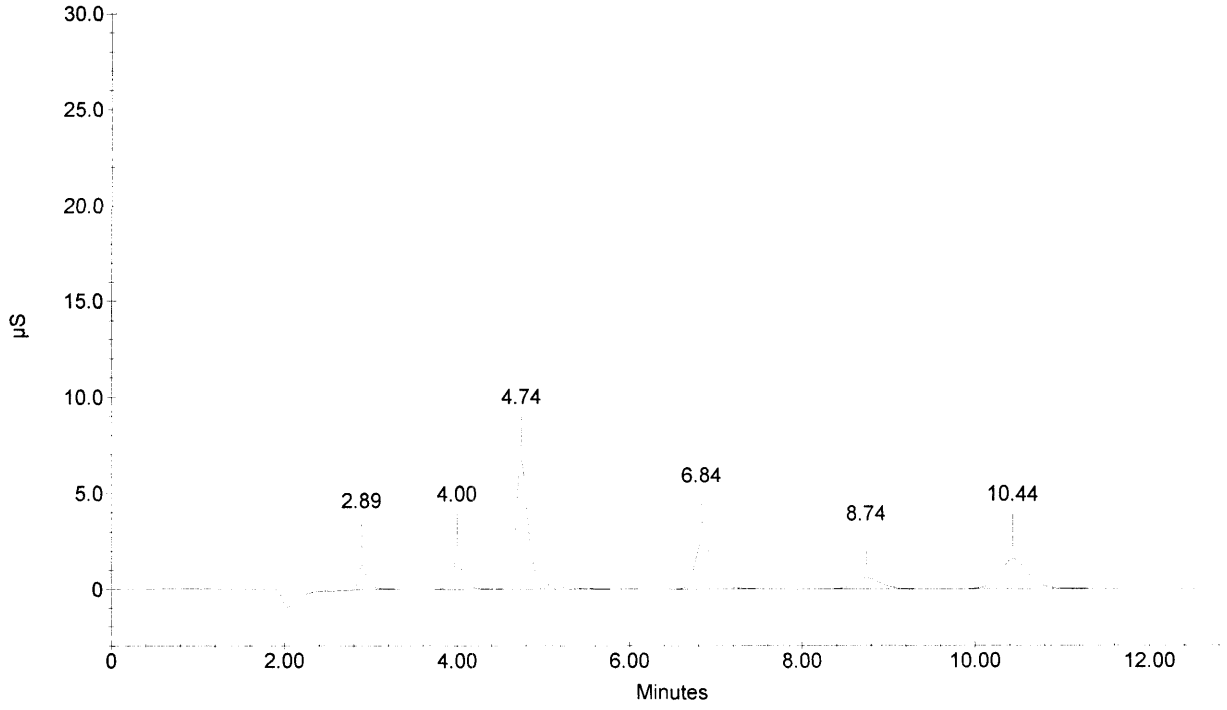
Date Time Collected : 4/20/06 5:39:38 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010062

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 0.465 | 12790 | 93508 | 1 | -1.03 |
| 2 | 4.00 | CHLORIDE | 0.986 | 16362 | 143054 | 2 | -1.07 |
| 3 | 4.74 | NITRITE-N<br>BROMIDE | 2.135 | 66692 | 715016 | 2 | -1.39 |
| 4 | 6.84 | NITRATE-N | 1.047 | 25657 | 369723 | 1 | 1.74 |
| 5 | 8.74 | PHOSPHATE-P | 1.060 | 6035 | 127983 | 1 | 0.04 |
| 6 | 10.44 | SULFATE | 3.535 | 16053 | 369436 | 1 | -1.35 |
| | 0.00 | | ---total(s)---<br>9.228 | | 1818719 | | |

## 277609S 50uL->2mL



Sample Name : 277610
Dilution Factor : 1.00
Injection Number : 6
Data File Name : c:\peaknet\data\060420\060420_006.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

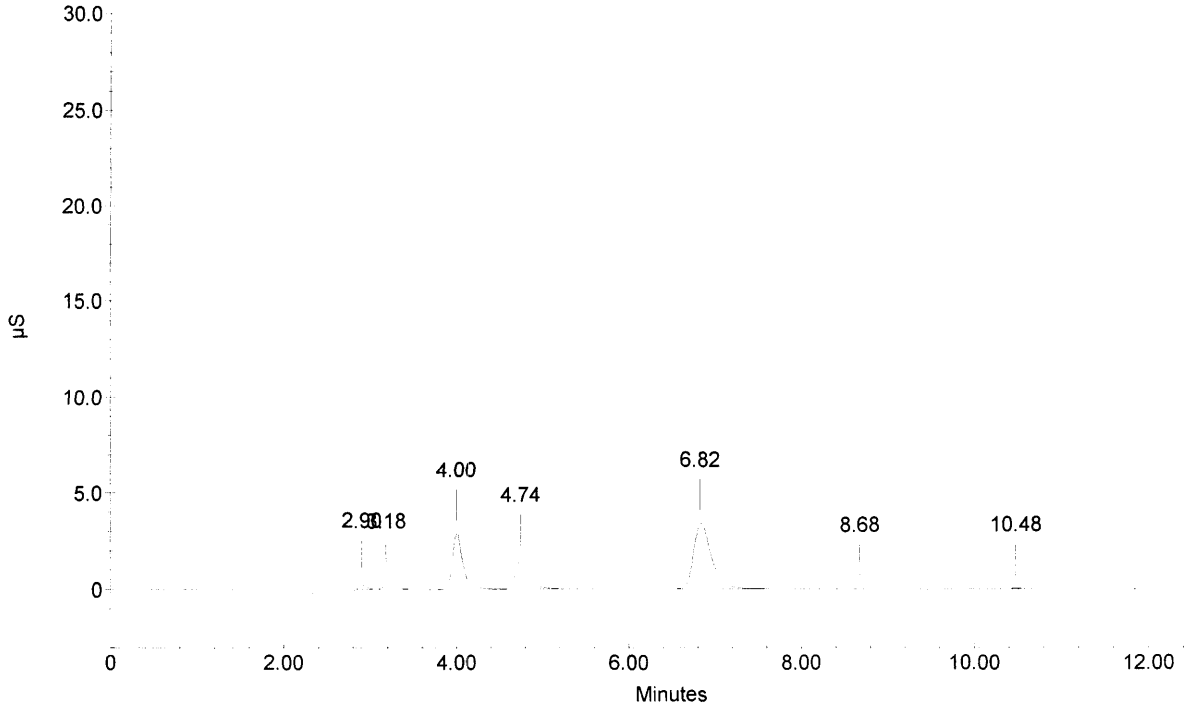
Date Time Collected : 4/20/06 5:55:13 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010063

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | FLUORIDE | 0.131 ✓ | 2192 | 12779 | 2 | -0.57 |
| 3 | 4.00 | CHLORIDE | 1.665 ✓ | 28757 | 245900 | 2 | -1.07 |
| 4 | 4.74 | NITRITE-N | 0.554 ✓ | 15534 | 166185 | 2 | -1.39 |
| | | BROMIDE | | | | | |
| 5 | 6.82 | NITRATE-N | 1.358 ✓ | 33961 | 489682 | 1 | 1.54 |
| 6 | 8.68 | PHOSPHATE-P | 0.045 ✓ | 67 | 1008 | 1 | -0.72 |
| 7 | 10.48 | SULFATE | 0.048 ✓ | 143 | 2700 | 1 | -0.98 |
| | 0.00 | | ---total(s)--- 3.801 | | 918256 | | |

## 277610



Sample Name : 277611
Dilution Factor : 1.00
Injection Number : 7
Data File Name : c:\peaknet\data\060420\060420_007.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

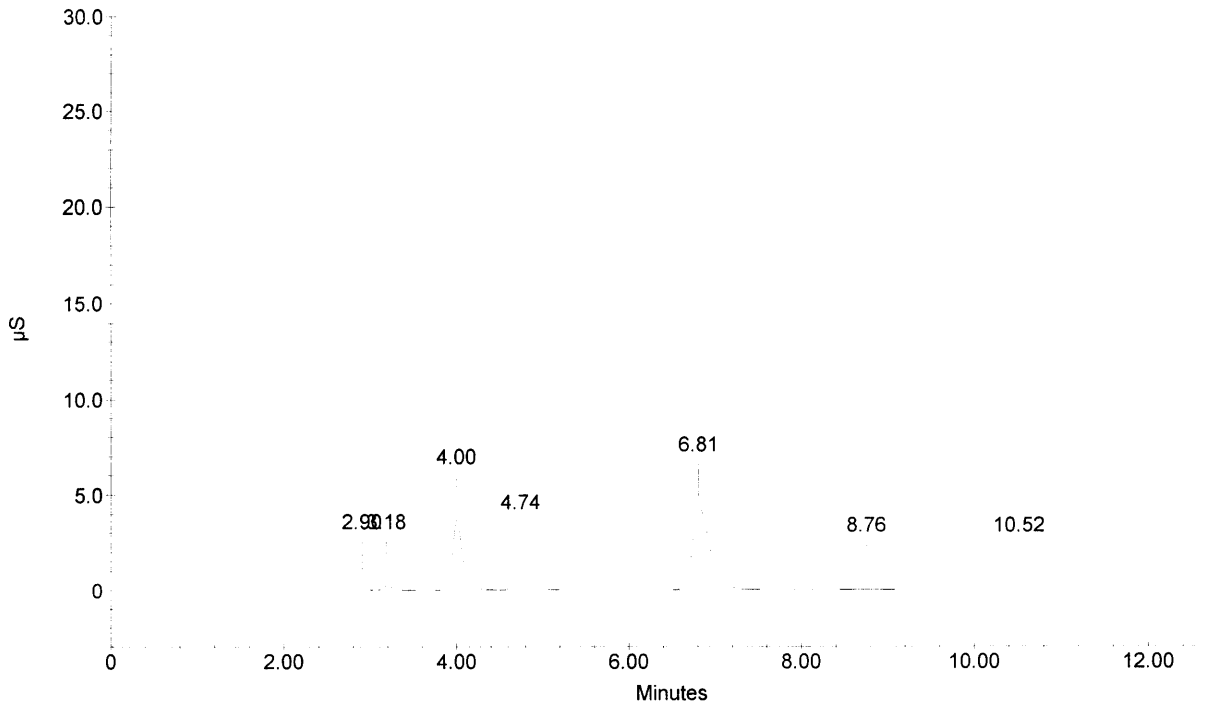
Date Time Collected : 4/20/06 6:10:48 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010064

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.90 | FLUORIDE | 0.136 | 2359 | 13947 | 2 | -0.57 |
| 3 | 4.00 | CHLORIDE | 2.049 | 36166 | 304522 | 2 | -1.07 |
| 4 | 4.74 | NITRITE-N BROMIDE | 0.456 | 12399 | 132281 | 2 | -1.39 |
| 5 | 6.81 | NITRATE-N | 1.657 | 42334 | 605753 | 1 | 1.34 |
| 6 | 8.76 | PHOSPHATE-P | 0.094 | 320 | 7132 | 1 | 0.19 |
| 7 | 10.52 | SULFATE | 0.037 | 106 | 1525 | 1 | -0.60 |
| | 0.00 | | ---total(s)--- 4.429 | | 1065160 | | |

**277611**



Sample Name : 277612
Dilution Factor : 1.00
Injection Number : 8
Data File Name : c:\peaknet\data\060420\060420_008.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

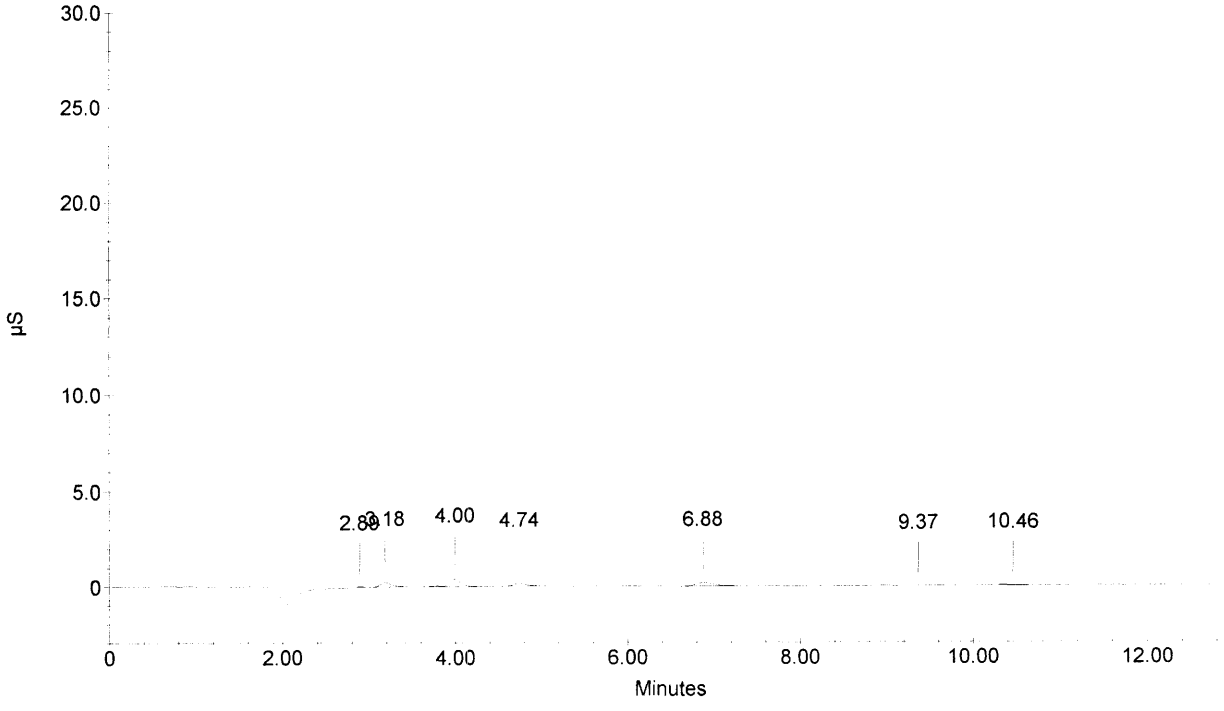
Date Time Collected : 4/20/06 6:26:23 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010065

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 0.084 | 264 | 1256 | 1 | -1.03 |
| 3 | 4.00 | CHLORIDE | 0.286 | 4114 | 38072 | 1 | -1.07 |
| 4 | 4.74 | NITRITE-N<br>BROMIDE | 0.116 | 1524 | 14770 | 1 | -1.39 |
| 5 | 6.88 | NITRATE-N | 0.144 | 1844 | 25749 | 1 | 2.33 |
| 6 | 9.37 | PHOSPHATE-P | 0.039 | 33 | 329 | 1 | 7.21 |
| 7 | 10.46 | SULFATE | 0.080 | 282 | 5940 | 1 | -1.10 |
| | 0.00 | ---total(s)--- | 0.749 | | 86115 | | |

**277612**



Sample Name : CCV
Dilution Factor : 10.00
Injection Number : 9
Data File Name : c:\peaknet\data\060420\060420_009.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

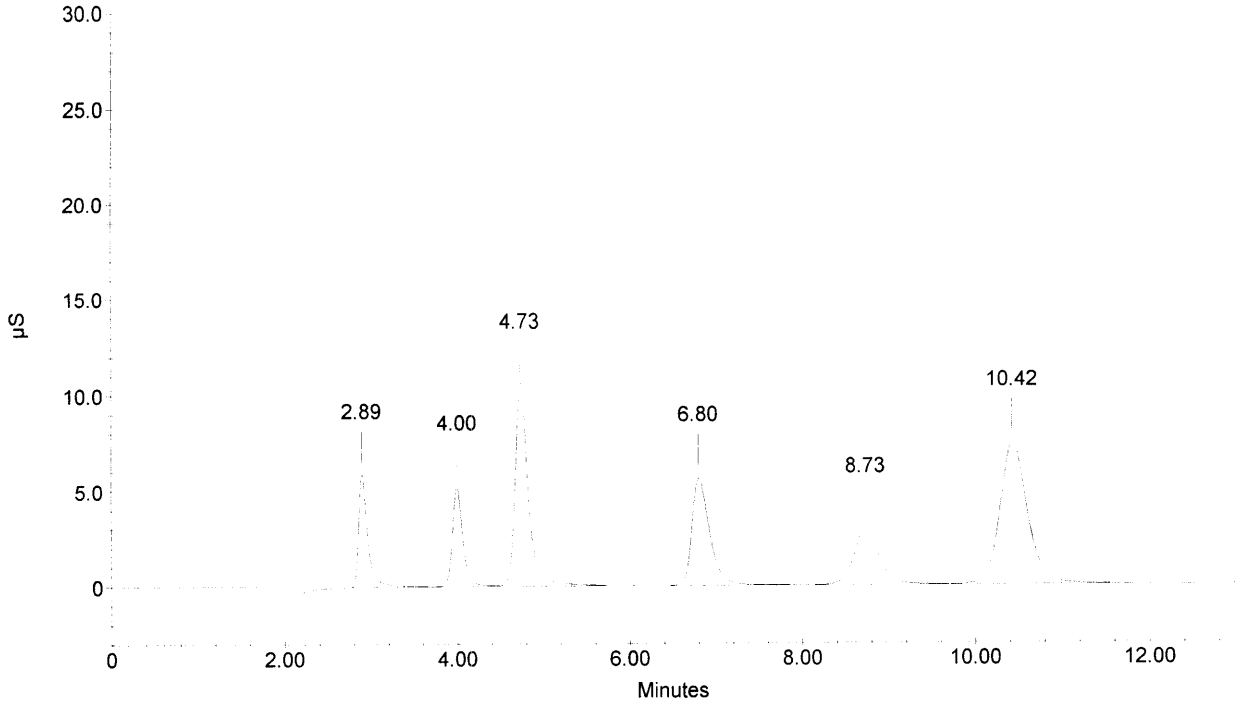
Date Time Collected : 4/20/06 6:42:02 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010066

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 18.449 | 58046 | 430257 | 1 | -1.03 |
| 2 | 4.00 | CHLORIDE | 28.907 | 51994 | 433988 | 2 | -1.07 |
| 3 | 4.73 | NITRITE-N<br>BROMIDE | 33.149 | 104523 | 1127168 | 2 | -1.66 |
| 4 | 6.80 | NITRATE-N | 21.672 | 56014 | 805531 | 1 | 1.14 |
| 5 | 8.73 | PHOSPHATE-P | 47.426 | 29034 | 604492 | 2 | -0.11 |
| 6 | 10.42 | SULFATE | 148.264 | 74023 | 1658544 | 2 | -1.48 |
| | 0.00 | | ---total(s)---<br>297.868 | | 5059981 | | |

## CCV



Sample Name : CCB
Dilution Factor : 1.00
Injection Number : 10
Data File Name : c:\peaknet\data\060420\060420_010.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

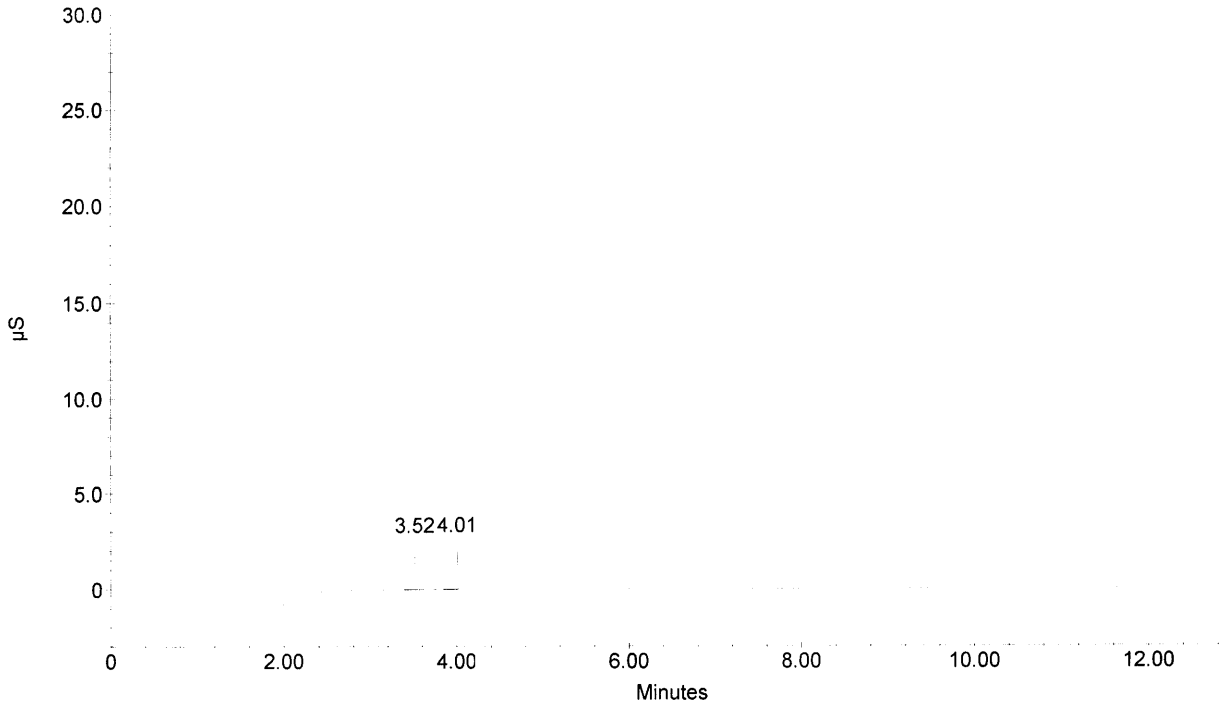
Date Time Collected : 4/20/06 6:57:37 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010067

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 3.52 | | 0.000 | 94 | 1344 | 1 | |
| 2 | 4.01 | CHLORIDE<br>NITRITE-N<br>BROMIDE<br>NITRATE-N<br>PHOSPHATE-P<br>SULFATE | 0.047 | 169 | 2426 | 1 | -0.74 |
| | | ---total(s)--- | | | | | |
| | 0.00 | | 0.047 | | 3770 | | |

## CCB



Sample Name : PB 09 188 RSS 4/24/06
Dilution Factor : 1.00
Injection Number : 11
Data File Name : c:\peaknet\data\060420\060420_011.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

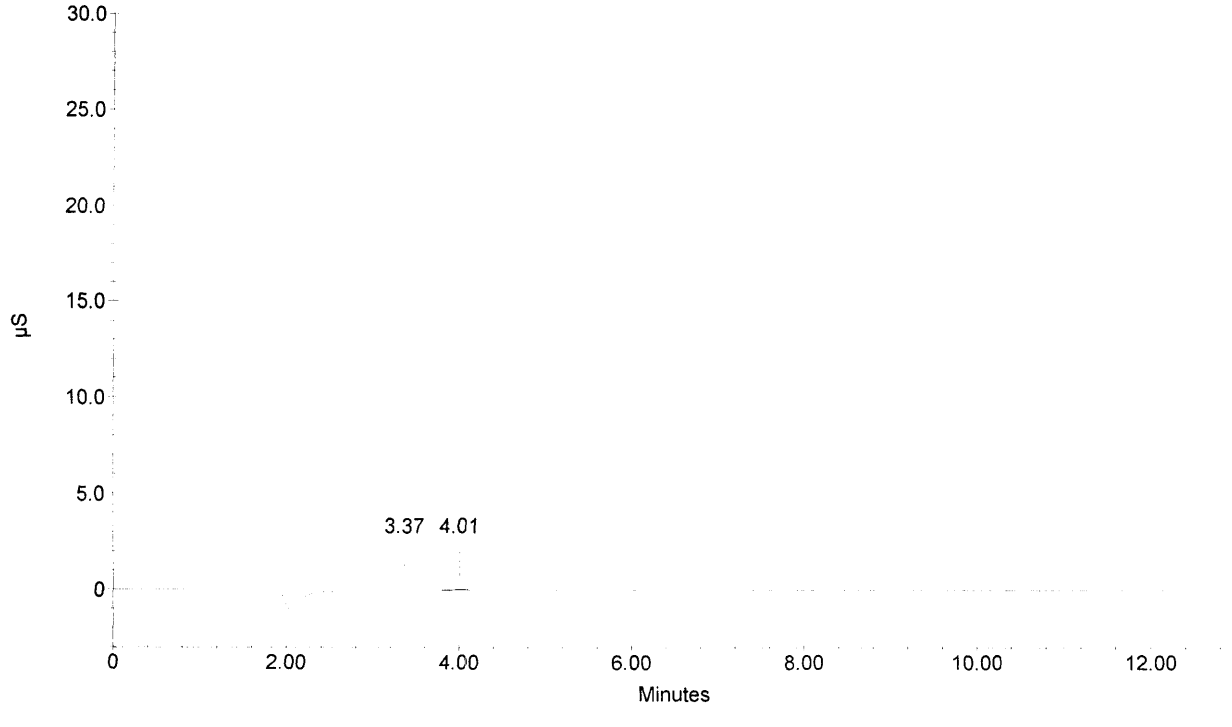
Date Time Collected : 4/20/06 7:13:16 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010068

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 3.37 | | 0.000 ✓ | 98 | 1867 | 1 | |
| 2 | 4.01 | CHLORIDE | 0.048 ✓ | 188 | 2553 | 1 | -0.74 |
| | | NITRITE-N | | | | | |
| | | BROMIDE | | | | | |
| | | NITRATE-N ✓ | | | | | |
| | | PHOSPHATE-P ✓ | | | | | |
| | | SULFATE ✓ | | | | | |
| | 0.00 | ---total(s)--- | 0.048 | | 4419 | | |

PB 09 188 RSS 4/24/06



Sample Name : LCS 09 188 RS 4/24/06
Dilution Factor : 1.00
Injection Number : 12
Data File Name : c:\peaknet\data\060420\060420_012.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

Date Time Collected : 4/20/06 7:28:50 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

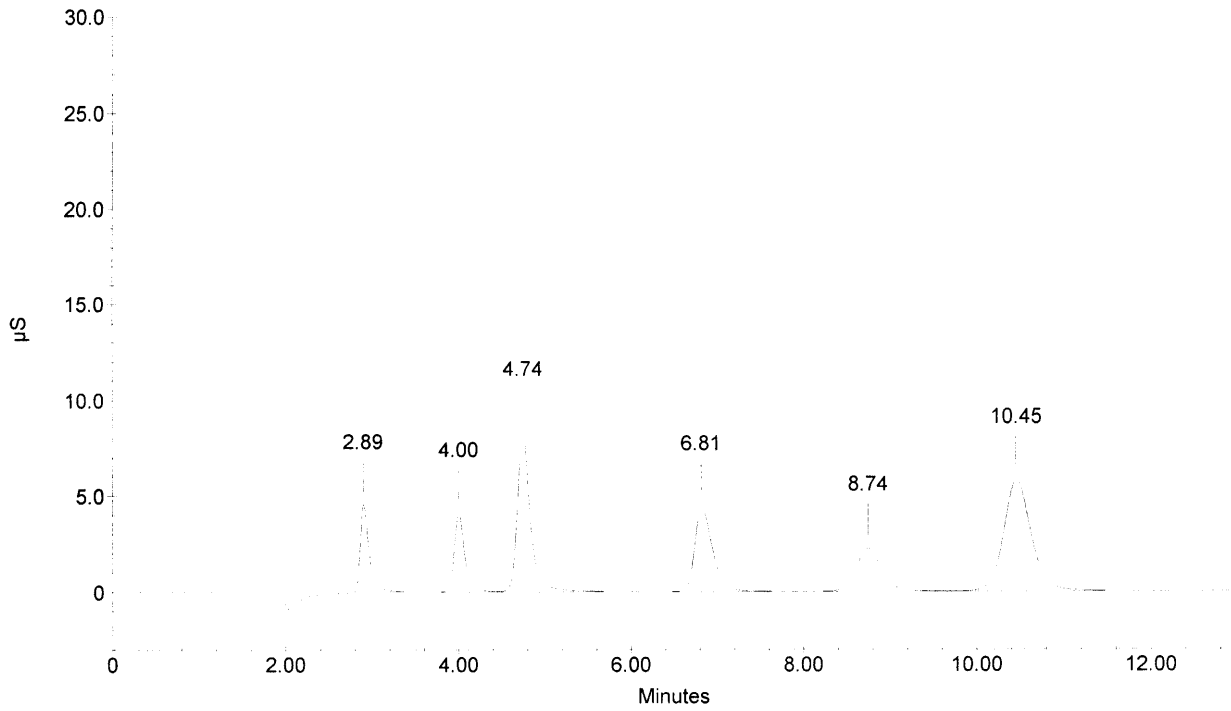
010069

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 1.422 ✓ | 44578 | 326570 | 1 | -1.03 |
| 2 | 4.00 | CHLORIDE | 2.314 ✓ | 40715 | 345096 | 2 | -1.07 |
| 3 | 4.74 | NITRITE-N<br>BROMIDE | 2.622 ✓ | 82739 | 884905 | 2 | -1.39 |
| 4 | 6.81 | NITRATE-N | 1.730 ✓ | 43887 | 634422 | 1 | 1.34 |
| 5 | 8.74 | PHOSPHATE-P | 3.730 ✓ | 22649 | 470837 | 2 | 0.04 |
| 6 | 10.45 | SULFATE | 11.772 ✓ | 57678 | 1292450 | 2 | -1.23 |
| | 0.00 | | ---total(s)---<br>23.591 | | 3954280 | | |

RS 4/24/06

LCS 09 188



Sample Name : 277613 DF20
Dilution Factor : 20.00
Injection Number : 13
Data File Name : c:\peaknet\data\060420\060420_013.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

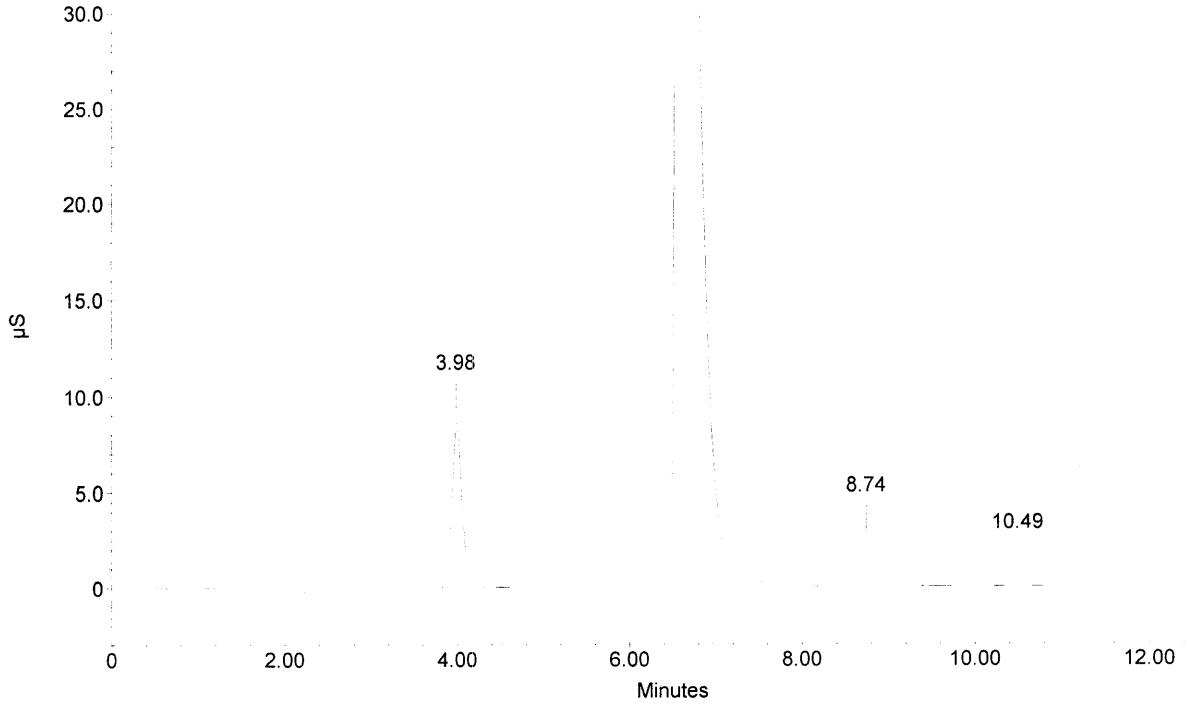
Date Time Collected : 4/20/06 7:44:25 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010070

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 3.98 | CHLORIDE | 93.833 | 84077 | 716492 | 1 | -1.40 |
| 1 | 3.98 | CHLORIDE<br>NITRITE-N<br>BROMIDE | 93.833 | 84077 | 716492 | 1 | -1.40 |
| 2 | 6.61 | NITRATE-N | 471.118 | 866475 | 13329796 | 2 | -1.64 |
| 3 | 8.74 | PHOSPHATE-P | 67.687 | 19854 | 425614 | 2 | 0.04 |
| 4 | 10.49 | SULFATE | 2.770 | 525 | 12033 | 2 | -0.85 |
| | | ---total(s)--- | | | | | |
| | 0.00 | | 729.241 | | 15200426 | | |

## 277613 DF20



Sample Name : 277613D DF20
Dilution Factor : 20.00
Injection Number : 14
Data File Name : c:\peaknet\data\060420\060420_014.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

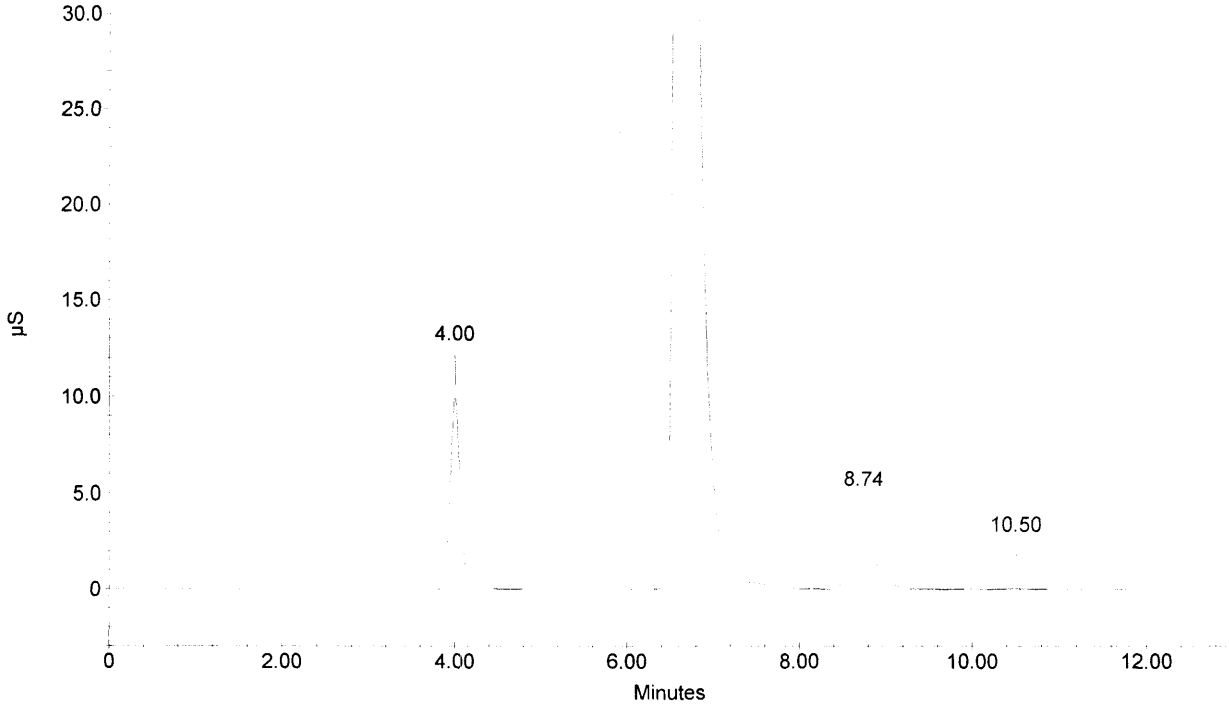
Date Time Collected : 4/20/06 7:59:58 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010071

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 4.00 | CHLORIDE | 107.700 | 99040 | 827303 | 1 | -1.07 |
| 1 | 4.00 | CHLORIDE<br>NITRITE-N<br>BROMIDE | 107.700 | 99040 | 827303 | 1 | -1.07 |
| 2 | 6.61 | NITRATE-N | 497.101 | 973675 | 15040139 | 2 | -1.64 |
| 3 | 8.74 | PHOSPHATE-P | 80.350 | 24016 | 508524 | 2 | 0.04 |
| 4 | 10.50 | SULFATE | 2.525 | 502 | 10764 | 2 | -0.72 |
| | 0.00 | | ---total(s)---<br>795.376 | | 17214031 | | |

## 277613D DF20



Sample Name : 277613AS DF20 200uL->5mL
Dilution Factor : 20.00
Injection Number : 15
Data File Name : c:\peaknet\data\060420\060420_015.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

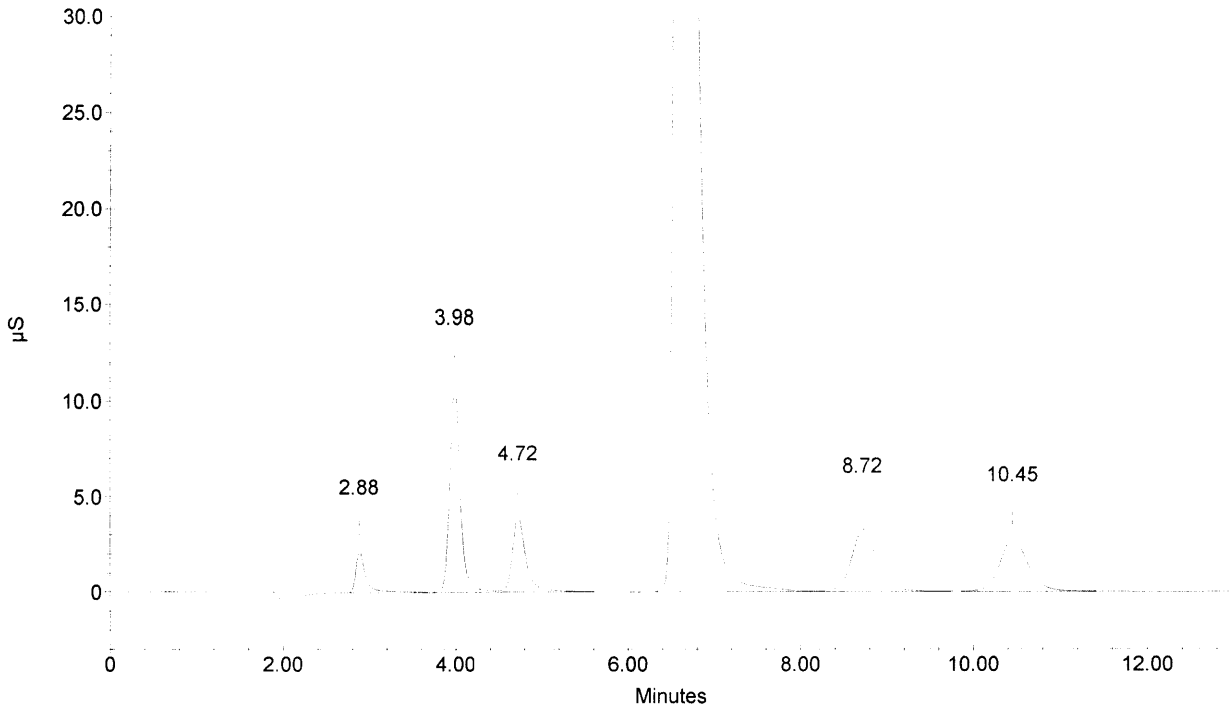
Date Time Collected : 4/20/06 8:15:33 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010072

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.88 | FLUORIDE | 16.222 | 21685 | 177547 | 1 | -1.48 |
| 2 | 3.98 | CHLORIDE | 120.103 | 109988 | 927420 | 2 | -1.40 |
| 3 | 4.72 | NITRITE-N<br>BROMIDE | 26.893 | 39381 | 440076 | 2 | -1.94 |
| 4 | 6.60 | NITRATE-N | 479.546 | 894733 | 13831405 | 2 | -1.84 |
| 5 | 8.72 | PHOSPHATE-P | 107.001 | 32722 | 685748 | 2 | -0.27 |
| 6 | 10.45 | SULFATE | 122.307 | 28304 | 649502 | 2 | -1.23 |
| | 0.00 | ---total(s)--- | 872.073 | | 16711698 | | |

## 277613AS DF20 200uL->5mL



Sample Name : 277613 DF100
Dilution Factor : 100.00
Injection Number : 16
Data File Name : c:\peaknet\data\060420\060420_016.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

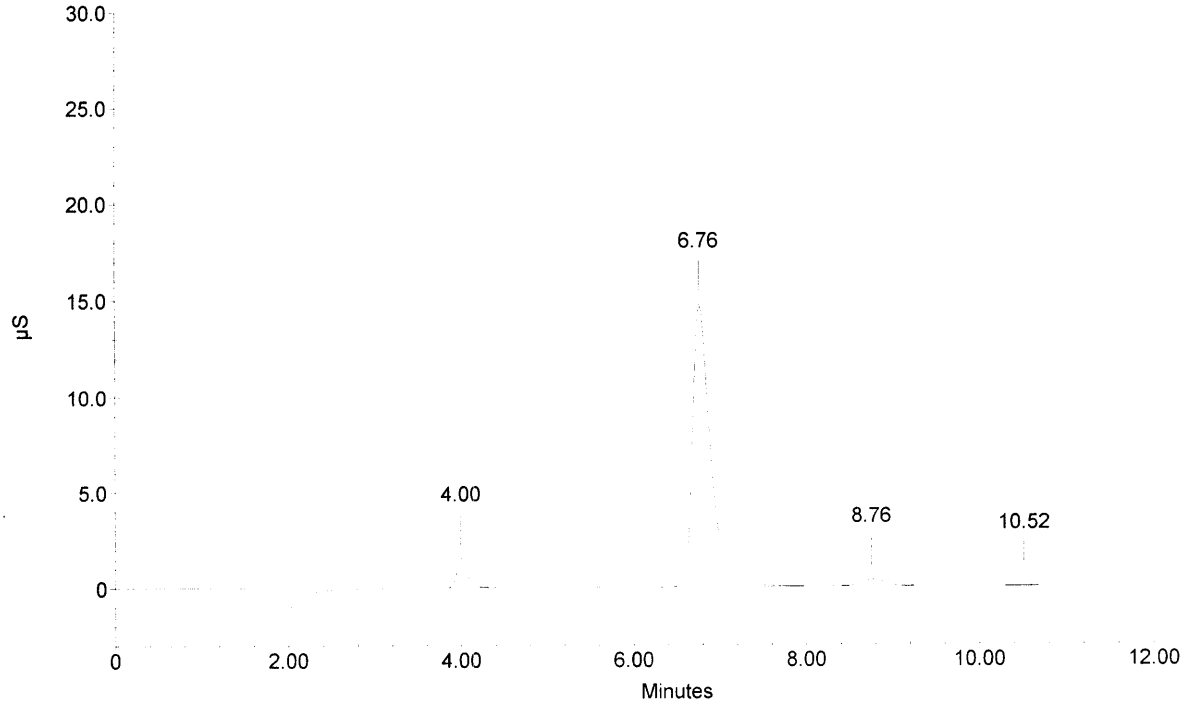
Date Time Collected : 4/20/06 8:31:08 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010073

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 4.00 | CHLORIDE | 86.524 | 15401 | 124839 | 1 | -1.07 |
| 1 | 4.00 | CHLORIDE<br>NITRITE-N<br>BROMIDE | 86.524 | 15401 | 124839 | 1 | -1.07 |
| 2 | 6.76 | NITRATE-N | 535.877 ✓ | 146716 | 2105310 | 2 | 0.55 |
| 3 | 8.76 | PHOSPHATE-P | 64.228 | 3561 | 75505 | 2 | 0.19 |
| 4 | 10.52 | SULFATE | 4.581 | 124 | 2445 | 1 | -0.60 |
| | 0.00 | | ---total(s)---<br>777.735 | | 2432939 | | |

## 277613 DF100



Sample Name : 277613D DF100
Dilution Factor : 100.00
Injection Number : 17
Data File Name : c:\peaknet\data\060420\060420_017.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

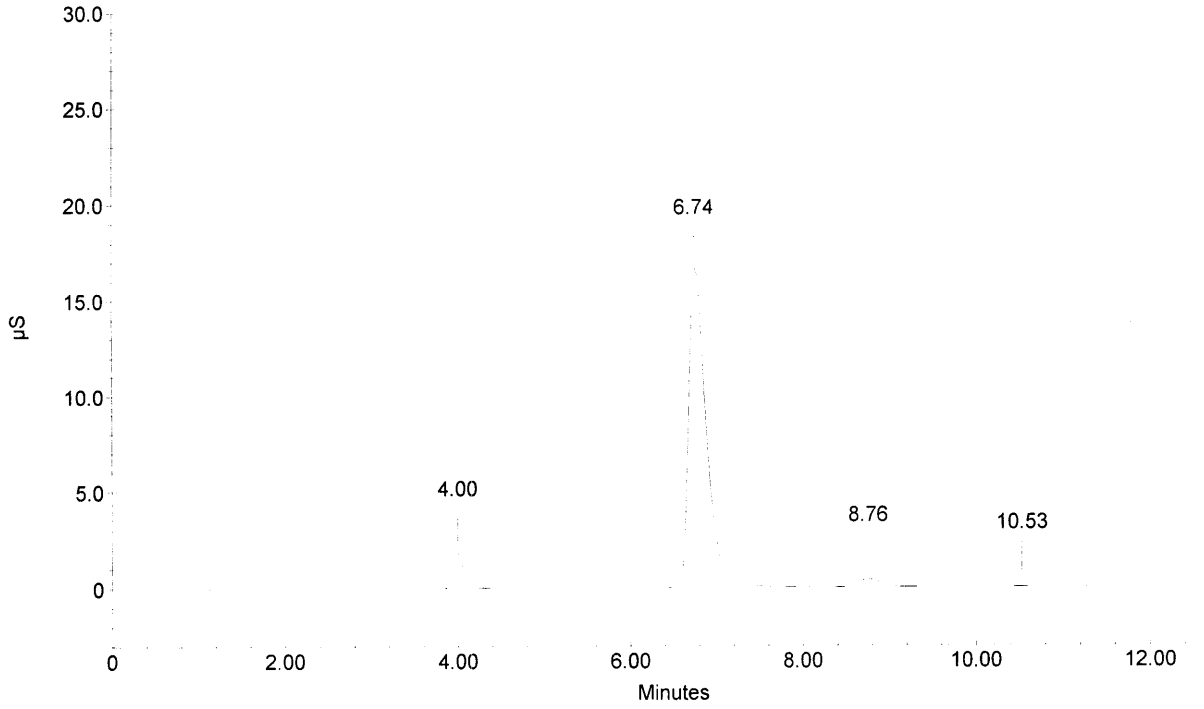
Date Time Collected : 4/20/06 8:46:41 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010074

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 4.00 | CHLORIDE | 103.376 | 17907 | 150232 | 1 | -1.07 |
| 1 | 4.00 | CHLORIDE<br>NITRITE-N<br>BROMIDE | 103.376 | 17907 | 150232 | 1 | -1.07 |
| 2 | 6.74 | NITRATE-N | 597.477 | 164801 | 2367277 | 2 | 0.35 |
| 3 | 8.76 | PHOSPHATE-P | 74.634 | 4198 | 88538 | 2 | 0.19 |
| 4 | 10.53 | SULFATE | 3.892 | 109 | 1733 | 1 | -0.47 |
| | 0.00 | ---total(s)--- | 882.756 | | 2758012 | | |

## 277613D DF100



Sample Name : 277613AS DF100 200uL->5mL
Dilution Factor : 100.00
Injection Number : 18
Data File Name : c:\peaknet\data\060420\060420_018.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

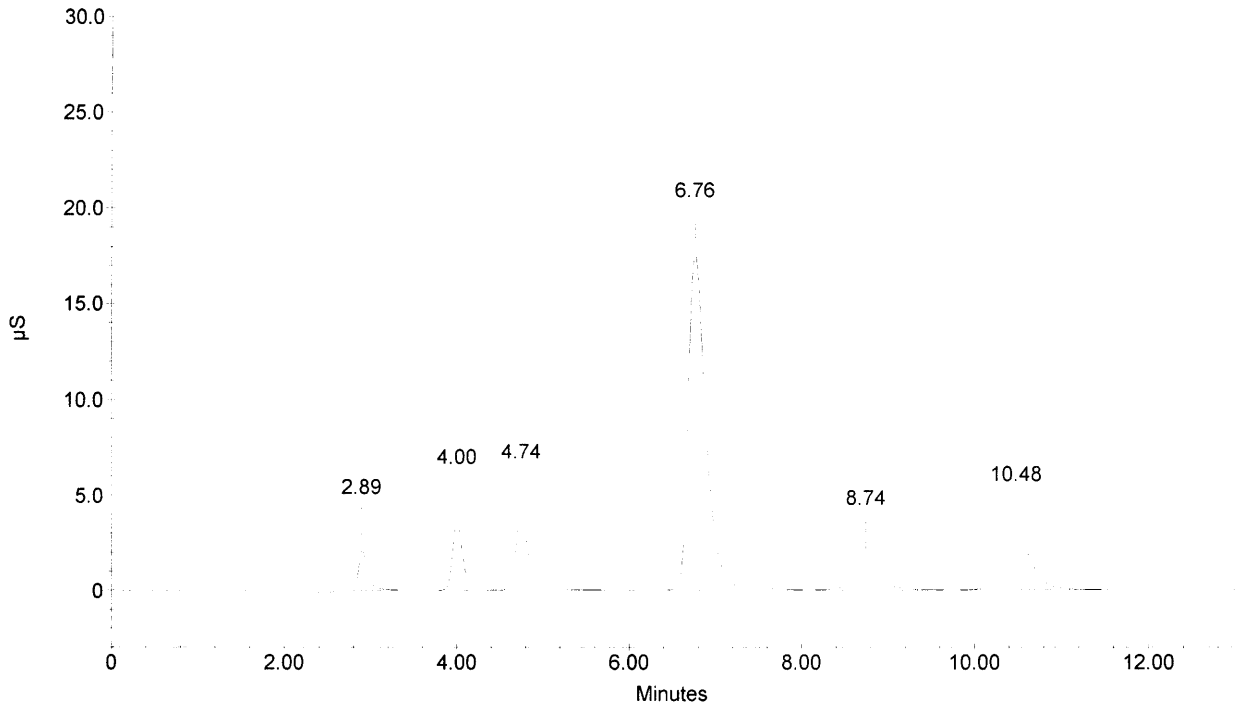
Date Time Collected : 4/20/06 9:02:15 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010075

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 71.654 | 20852 | 154563 | 1 | -1.03 |
| 2 | 4.00 | CHLORIDE | 209.996 | 36532 | 312252 | 2 | -1.07 |
| 3 | 4.74 | NITRITE-N<br>BROMIDE | 131.416 | 39384 | 429499 | 2 | -1.39 |
| 4 | 6.76 | NITRATE-N | 631.738 ✓ | 175725 | 2514687 | 2 | 0.55 |
| 5 | 8.74 | PHOSPHATE-P | 258.768 | 14938 | 322427 | 2 | 0.04 |
| 6 | 10.48 | SULFATE | 594.398 | 27369 | 630663 | 2 | -0.98 |
| | 0.00 | | ---total(s)---<br>1897.970 | | 4364093 | | |

## 277613AS DF100 200uL->5mL



Sample Name : CCV
Dilution Factor : 10.00
Injection Number : 19
Data File Name : c:\peaknet\data\060420\060420_019.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

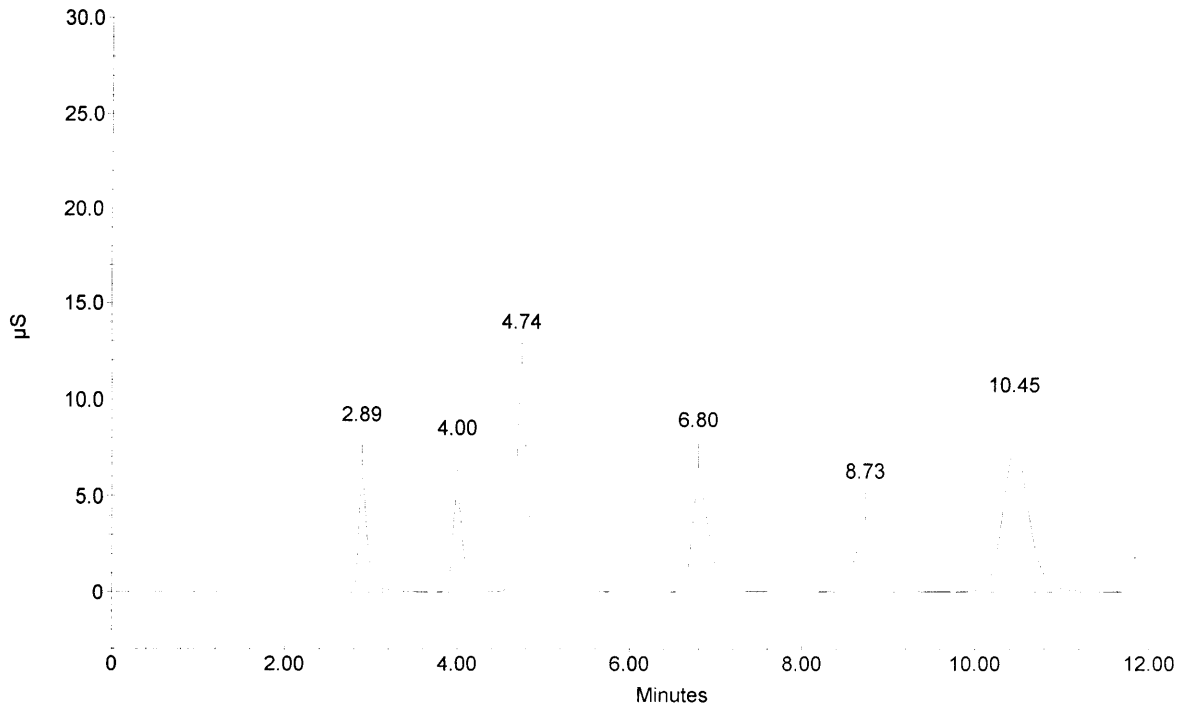
Date Time Collected : 4/20/06 9:17:51 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010076

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 18.663 | 58836 | 435502 | 1 | -1.03 |
| 2 | 4.00 | CHLORIDE | 29.000 | 51726 | 435431 | 2 | -1.07 |
| 3 | 4.74 | NITRITE-N<br>BROMIDE | 33.355 | 106505 | 1134386 | 2 | -1.39 |
| 4 | 6.80 | NITRATE-N | 21.560 | 55738 | 801136 | 1 | 1.14 |
| 5 | 8.73 | PHOSPHATE-P | 47.546 | 29218 | 606084 | 2 | -0.11 |
| 6 | 10.45 | SULFATE | 147.395 | 73889 | 1647922 | 2 | -1.23 |
| | 0.00 | | ---total(s)---<br>297.519 | | 5060461 | | |

## CCV



Sample Name : CCB
Dilution Factor : 1.00
Injection Number : 20
Data File Name : c:\peaknet\data\060420\060420_020.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\20apr06.sch

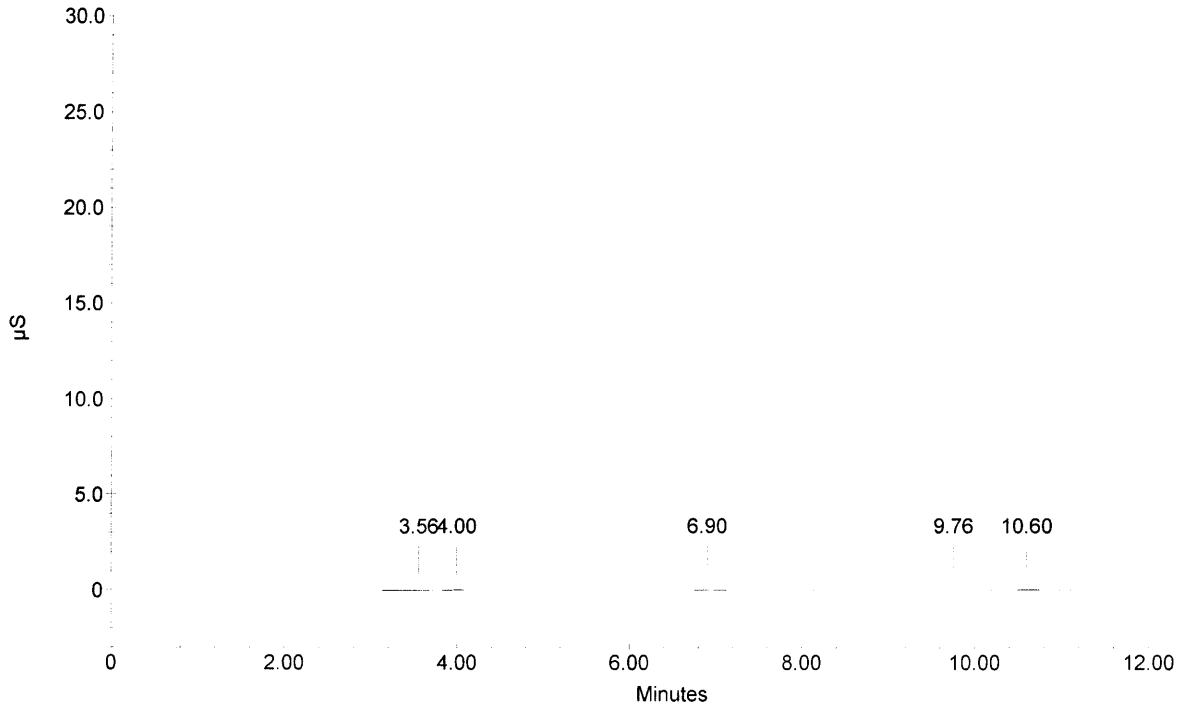
Date Time Collected : 4/20/06 9:33:31 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010077

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 3.56 | | 0.000 | 111 | 2360 | 1 | |
| 2 | 4.00 | CHLORIDE<br>NITRITE-N<br>BROMIDE | 0.047 | 209 | 2435 | 1 | -1.07 |
| 3 | 6.90 | NITRATE-N<br>PHOSPHATE-P | 0.087 | 283 | 3953 | 1 | 2.73 |
| 5 | 10.60 | SULFATE | 0.036 | 78 | 1476 | 1 | 0.16 |
| | 0.00 | | ---total(s)---<br>0.171 | | 10223 | | |

## CCB



Schedule File: C:\PeakNet\schedule\05APR06A.sch

| Line | Sample | Sample Type | Level | Method | Data File | Dilution |
|---|---|---|---|---|---|---|
| 1 | BLK | Sample | | anions060405.met | 060405_001.dxd | 1 |
| 2 | 0PPM 151-08-IC5 | Calibration St | 1 | anions060405.met | 060405_002.dxd | 1 |
| 3 | 0.1PPM 151-07-IC5 | Calibration St | 2 | anions060405.met | 060405_003.dxd | 1 |
| 4 | 0.5PPM 151-06-IC5 | Calibration St | 3 | anions060405.met | 060405_004.dxd | 1 |
| 5 | 1PPM 151-05-IC5 | Calibration St | 4 | anions060405.met | 060405_005.dxd | 1 |
| 6 | 5PPM 151-04-IC5 | Calibration St | 5 | anions060405.met | 060405_006.dxd | 1 |
| 7 | 10PPM 151-03-IC5 | Calibration St | 6 | anions060405.met | 060405_007.dxd | 1 |
| 8 | 15PPM 151-02-IC5 | Calibration St | 7 | anions060405.met | 060405_008.dxd | 1 |
| 9 | 20PPM 151-01-IC5 | Calibration St | 8 | anions060405.met | 060405_009.dxd | 1 |
| 10 | ICV (QCS/IPC) | Sample | | anions060405.met | 060405_010.dxd | 20 |
| 11 | ICB (LRB) | Sample | | anions060405.met | 060405_011.dxd | 1 |

010078

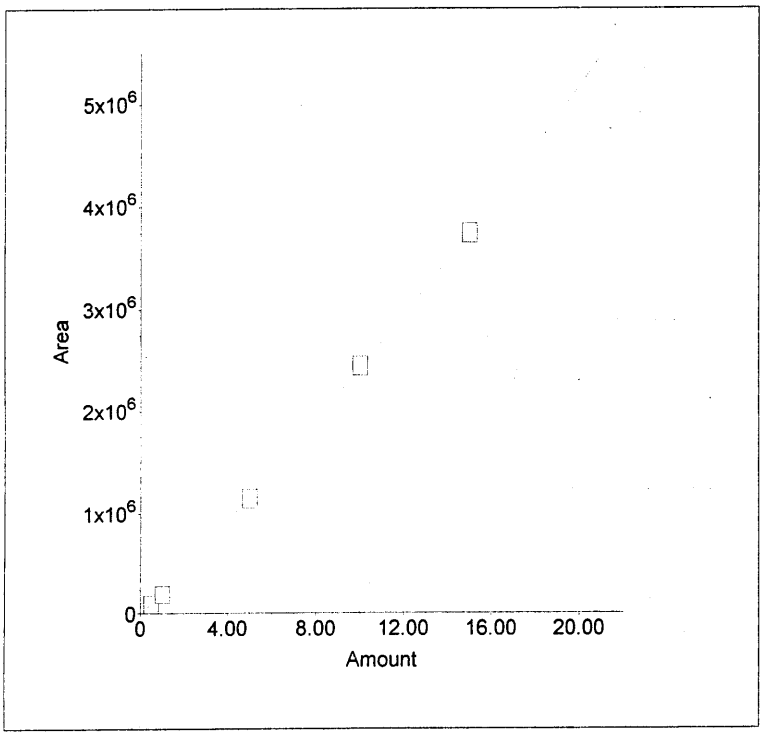
Default Method Path: C:\PEAKNET\METHOD
Default Data Path: c:\peaknet\data\060405A
Comment:
METHODS EPA 300 & 9056

R Spies 4/5/06

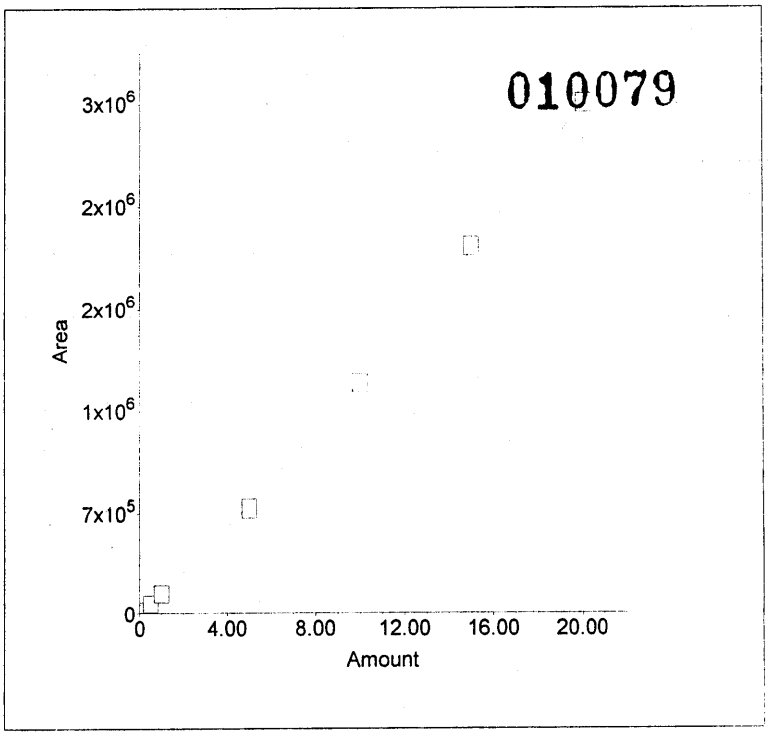
ICV Sources:
1) SPEX LOT#28-164AS (INORG#5467)
   F = 100 mg/L
   Cl = 200 mg/L
   Br = 400 mg/L
   NO3N = 90.4 mg/L
   PO4P = 191 mg/L
   SO4 = 400 mg/L
2) 142-01-IC5
   NO2N 157 mg/L

Method:C:\PEAKNET\METHOD\ANIONS060405.MET Updated:4/6/06 9:40:29 AM Total:7

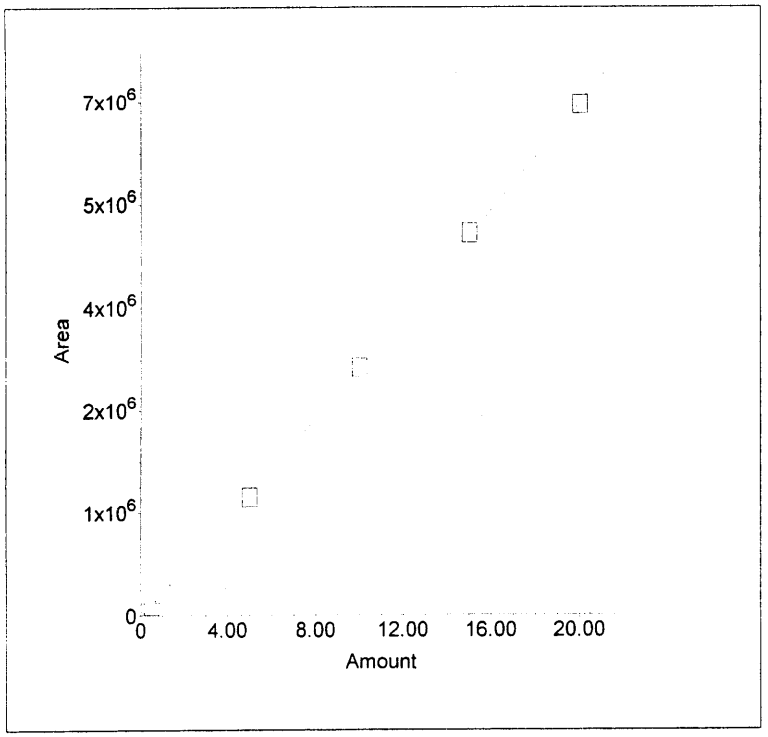
1. Component:FLUORIDE
Standard:External Fit Type:Quadratic
Origin:Include Calibration:Area
$r^2$=0.999835
Amt=-8.436846e-014*Resp$^2$+
4.142313e-006*Resp+0.0783



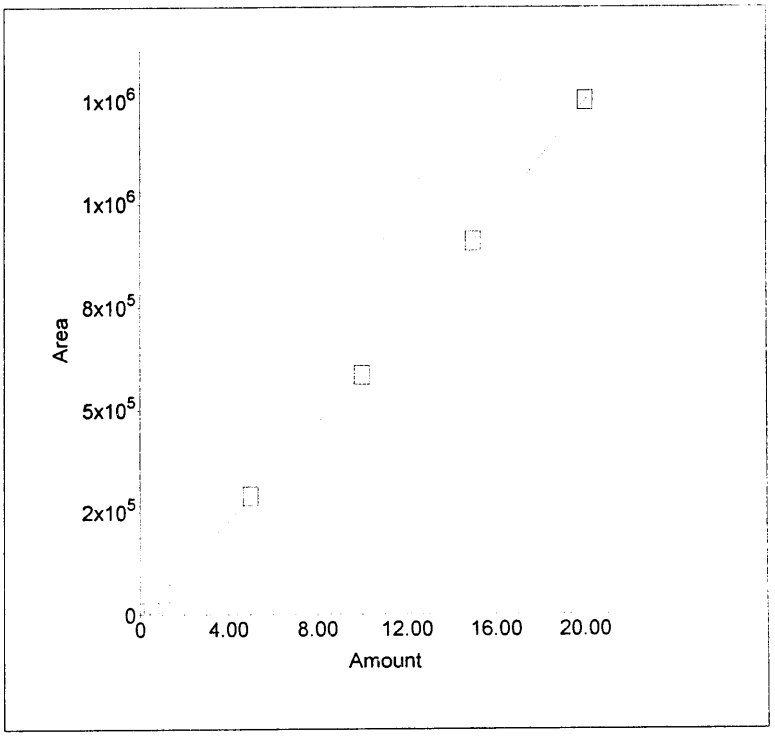

2. Component:CHLORIDE
Standard:External Fit Type:Quadratic
Origin:Include Calibration:Area
$r^2$=0.999863
Amt=-2.990479e-013*Resp$^2$+
6.718927e-006*Resp+0.03112



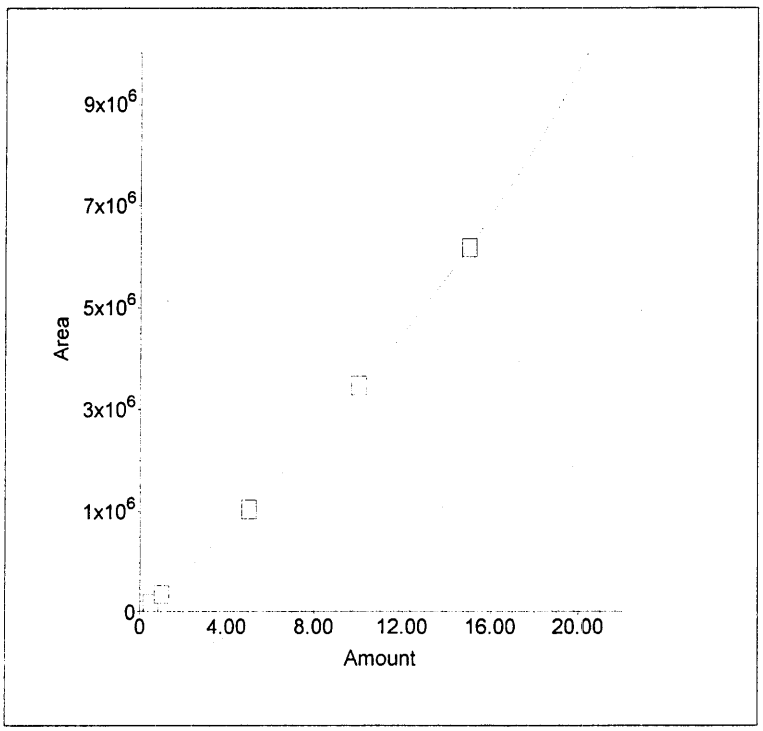

3. Component:NITRITE-N
Standard:External Fit Type:Quadratic
Origin:Include Calibration:Area
$r^2$=0.999877
Amt=-1.991938e-014*Resp$^2$+
2.898814e-006*Resp+0.0728




4. Component:BROMIDE
Standard:External Fit Type:Quadratic
Origin:Include Calibration:Area
$r^2$=0.999984
Amt=-1.219419e-012*Resp$^2$+
1.619821e-005*Resp+0.0269

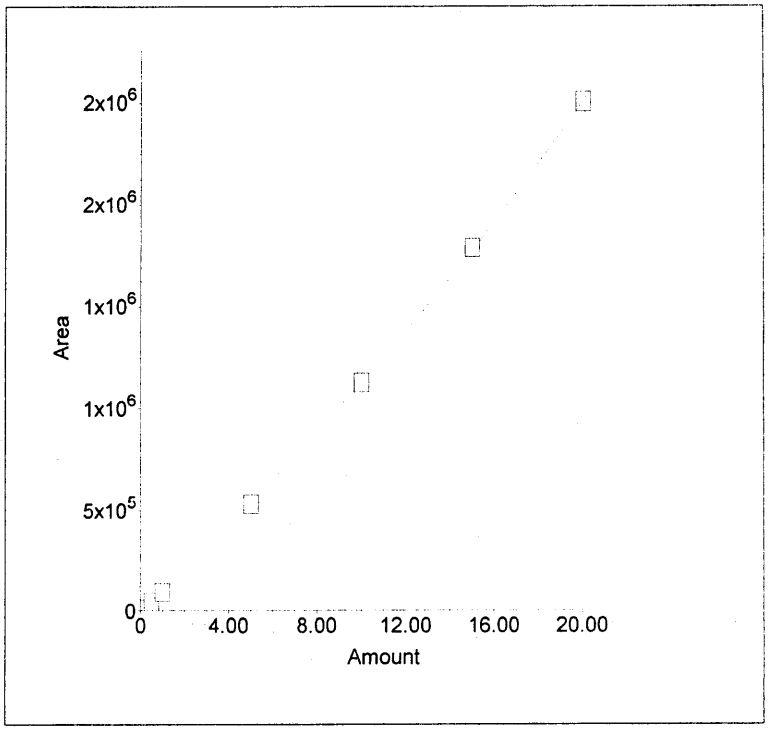


5. Component:NITRATE-N
Standard:External Fit Type:Quadratic
Origin:Ignore Calibration:Area
$r^2$=0.999912
Amt=-6.661278e-014*Resp$^2$+
2.649375e-006*Resp+0.07627

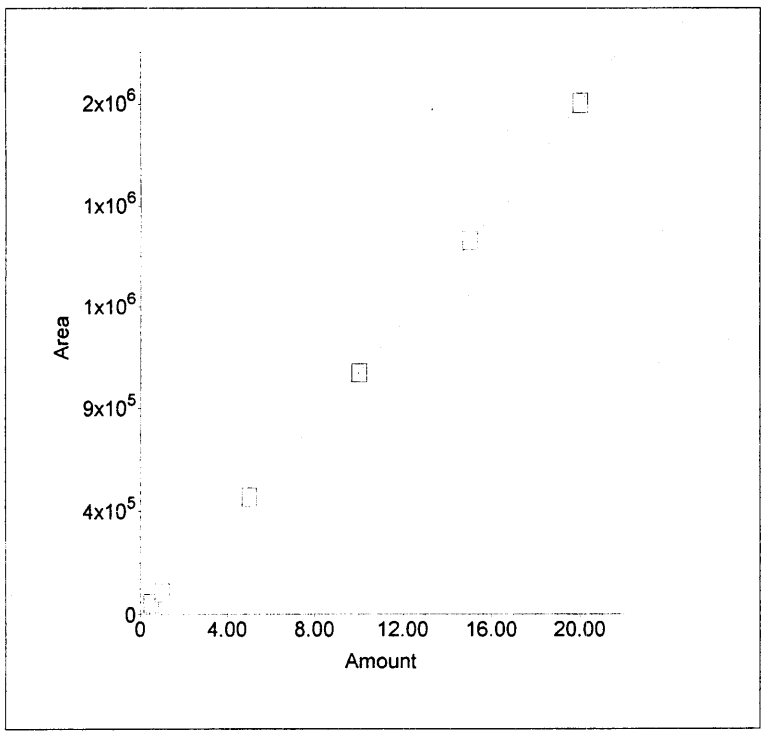



6. Component:PHOSPHATE-P
Standard:External Fit Type:Quadratic
Origin:Include Calibration:Area
$r^2$=0.999952
Amt=-4.513213e-013*Resp$^2$+
8.058177e-006*Resp+0.03642

010080




7. Component:SULFATE
Standard:External Fit Type:Quadratic
Origin:Include Calibration:Area
$r^2$=0.999980
Amt=-4.512253e-013*Resp$^2$+
9.674402e-006*Resp+0.02216



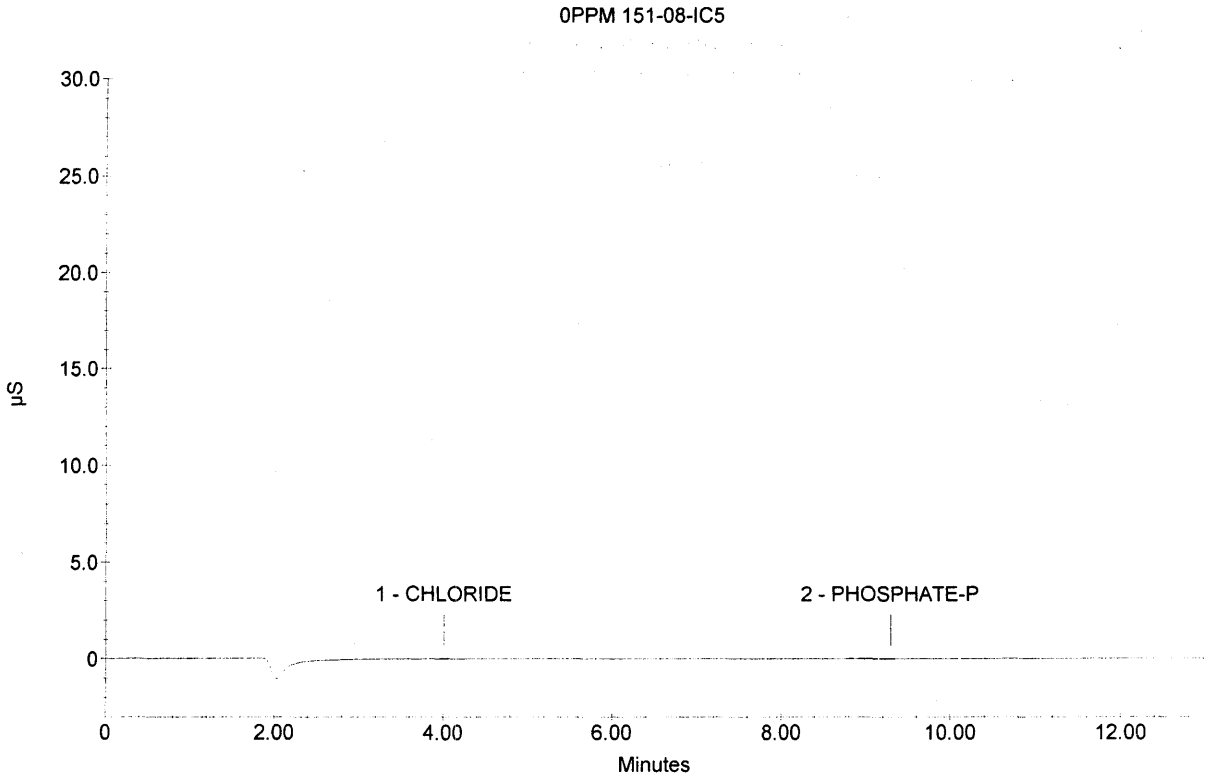
Sample Name : 0PPM 151-08-IC5
Dilution Factor : 1.00
Injection Number : 2
Data File Name : c:\peaknet\data\060405a\060405_002.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 6:27:00 PM
Date Time Updated : 4/5/06 6:42:29 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010081

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 4.01 | CHLORIDE | 0.00 | 732 | 103 |
| 1 | 4.01 | CHLORIDE<br>NITRITE-N<br>BROMIDE<br>NITRATE-N | 0.00 | 732 | 103 |
| 2 | 9.29 | PHOSPHATE-P<br>SULFATE | 0.00 | 2256 | 51 |



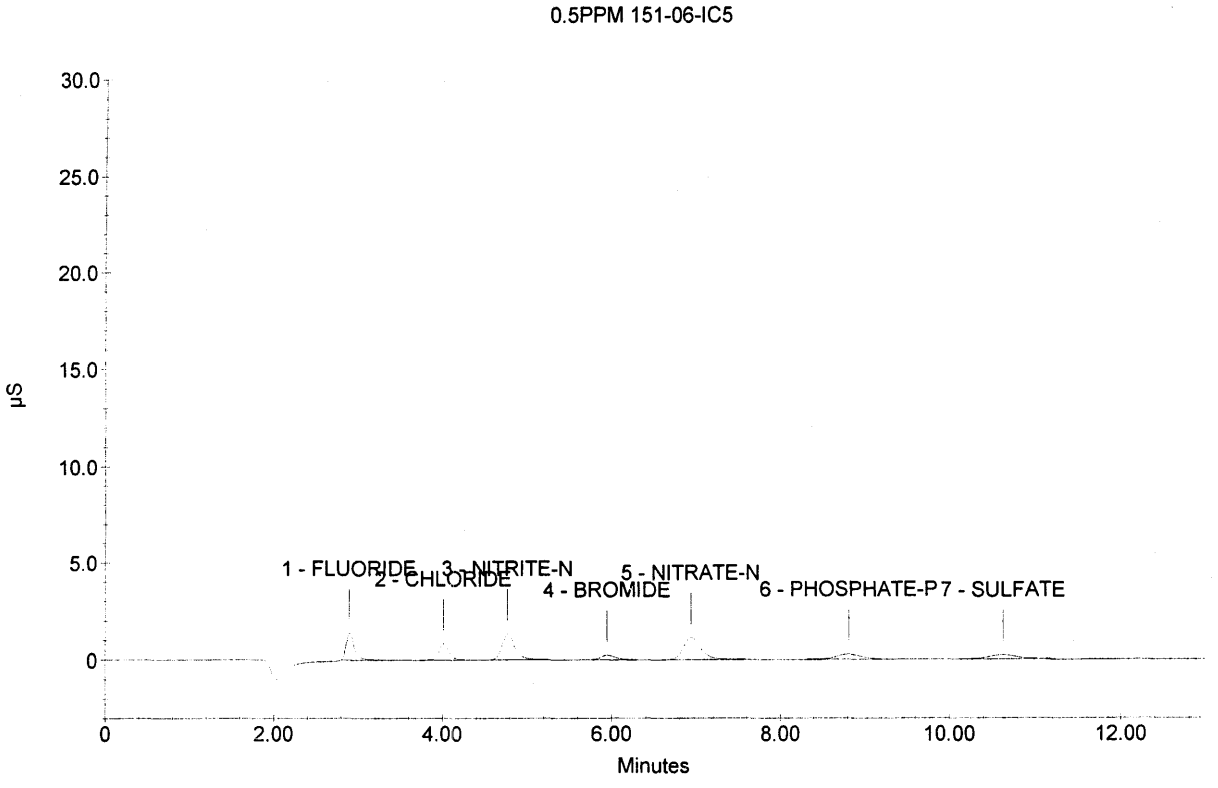
Sample Name : 0.5PPM 151-06-IC5
Dilution Factor : 1.00
Injection Number : 4
Data File Name : c:\peaknet\data\060405a\060405_004.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 6:58:22 PM
Date Time Updated : 4/5/06 7:13:52 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010082

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 0.50 | 96934 | 13531 |
| 2 | 4.01 | CHLORIDE | 0.50 | 69531 | 8129 |
| 3 | 4.77 | NITRITE-N | 0.50 | 143774 | 13358 |
| 4 | 5.94 | BROMIDE | 0.50 | 28894 | 2367 |
| 5 | 6.93 | NITRATE-N | 0.50 | 163460 | 11221 |
| 6 | 8.81 | PHOSPHATE-P | 0.50 | 54378 | 2555 |
| 7 | 10.62 | SULFATE | 0.50 | 50331 | 2162 |



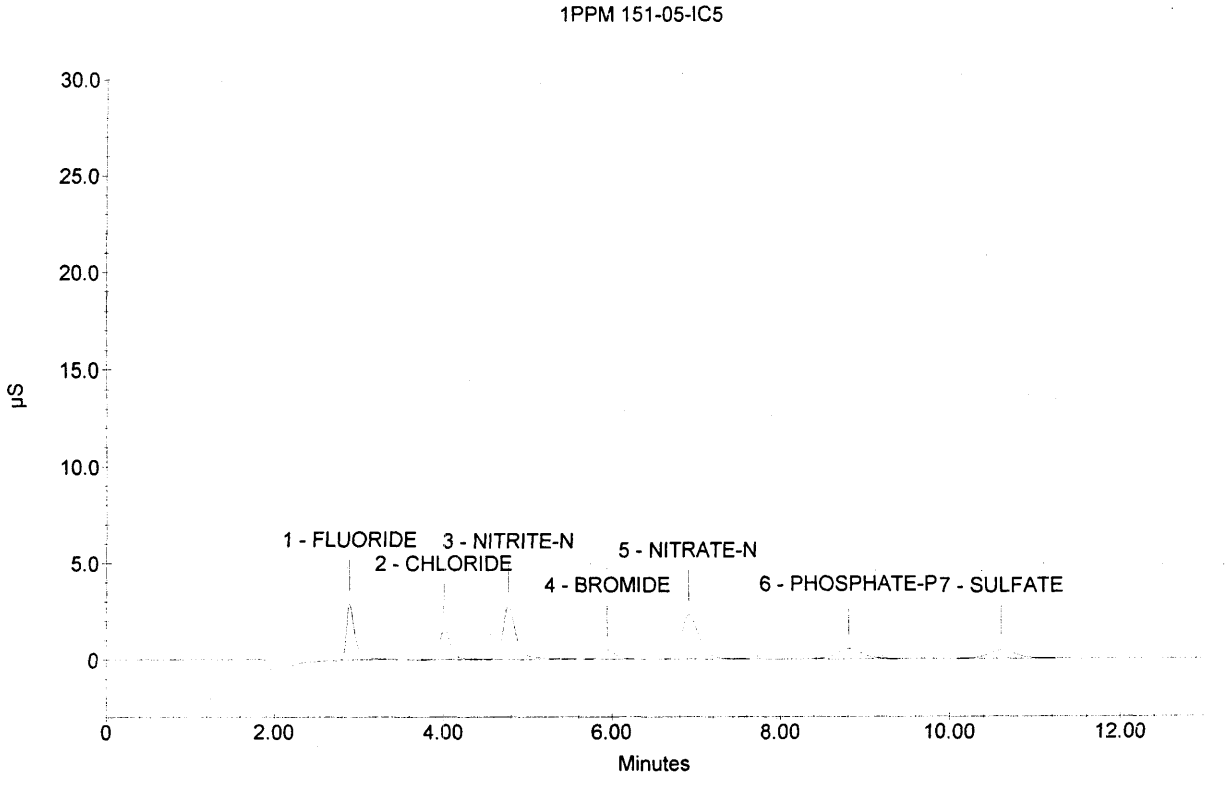
Sample Name : 1PPM 151-05-IC5
Dilution Factor : 1.00
Injection Number : 5
Data File Name : c:\peaknet\data\060405a\060405_005.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 7:14:02 PM
Date Time Updated : 4/5/06 7:29:32 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010083

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 1.00 | 204808 | 28561 |
| 2 | 4.01 | CHLORIDE | 1.00 | 144871 | 16258 |
| 3 | 4.77 | NITRITE-N | 1.00 | 307643 | 27762 |
| 4 | 5.94 | BROMIDE | 1.00 | 57356 | 4771 |
| 5 | 6.90 | NITRATE-N | 1.00 | 336568 | 22911 |
| 6 | 8.81 | PHOSPHATE-P | 1.00 | 113872 | 5351 |
| 7 | 10.61 | SULFATE | 1.00 | 98528 | 4266 |



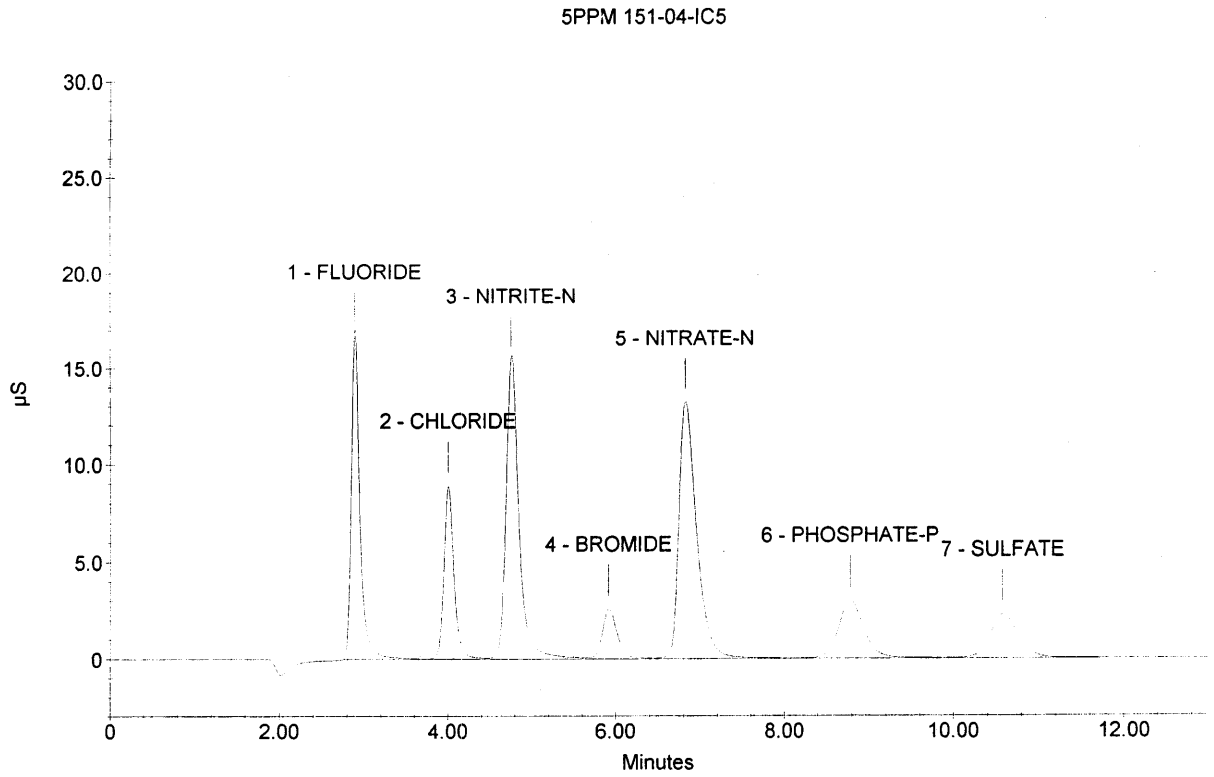
Sample Name : 5PPM 151-04-IC5
Dilution Factor : 1.00
Injection Number : 6
Data File Name : c:\peaknet\data\060405a\060405_006.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 7:29:40 PM
Date Time Updated : 4/5/06 7:45:10 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010084

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 5.00 | 1195343 | 167018 |
| 2 | 4.01 | CHLORIDE | 5.00 | 737000 | 88635 |
| 3 | 4.76 | NITRITE-N | 5.00 | 1668676 | 154189 |
| 4 | 5.92 | BROMIDE | 5.00 | 317457 | 25589 |
| 5 | 6.82 | NITRATE-N | 5.00 | 1922826 | 131884 |
| 6 | 8.78 | PHOSPHATE-P | 5.00 | 629684 | 29929 |
| 7 | 10.58 | SULFATE | 5.00 | 523553 | 22568 |



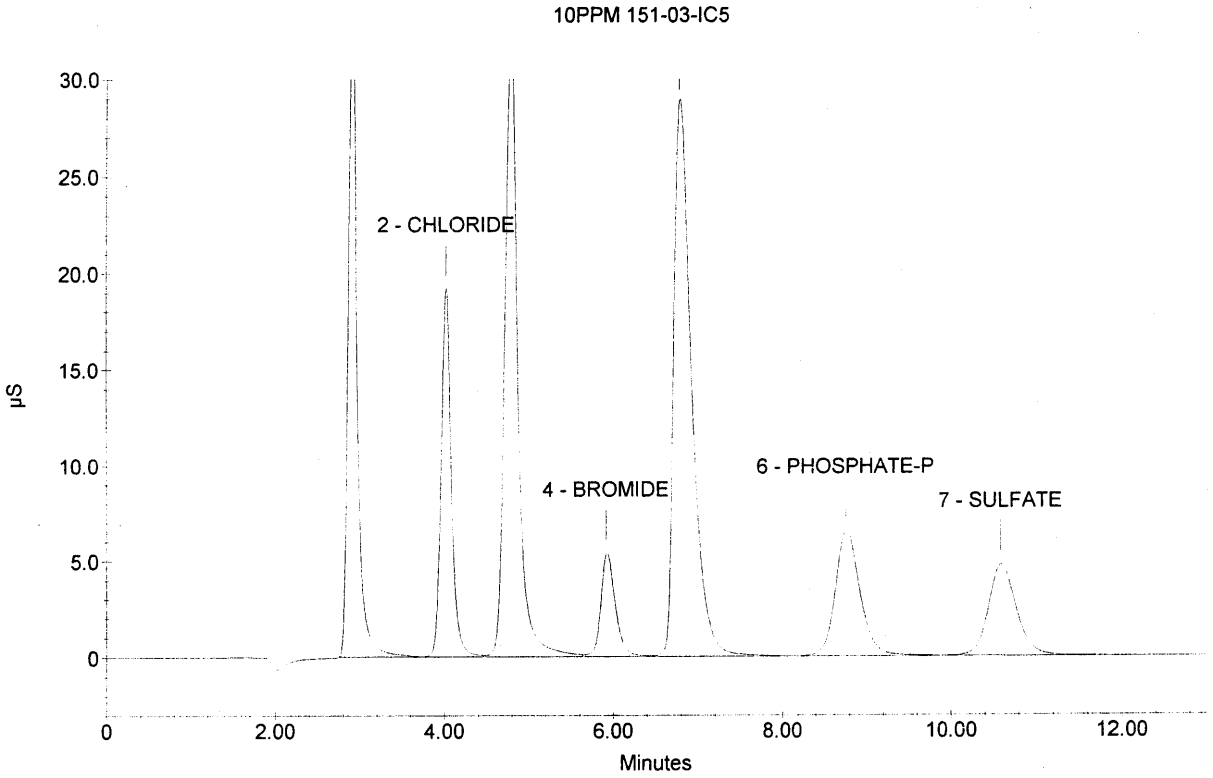
Sample Name : 10PPM 151-03-IC5
Dilution Factor : 1.00
Injection Number : 7
Data File Name : c:\peaknet\data\060405a\060405_007.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 7:45:18 PM
Date Time Updated : 4/5/06 8:00:49 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010085

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 2.90 | FLUORIDE | 10.00 | 2552959 | 349109 |
| 2 | 4.02 | CHLORIDE | 10.00 | 1597463 | 191236 |
| 3 | 4.78 | NITRITE-N | 10.00 | 3513662 | 323725 |
| 4 | 5.92 | BROMIDE | 10.00 | 644727 | 53500 |
| 5 | 6.78 | NITRATE-N | 10.00 | 4220565 | 286835 |
| 6 | 8.76 | PHOSPHATE-P | 10.00 | 1334279 | 65450 |
| 7 | 10.58 | SULFATE | 10.00 | 1083940 | 47440 |



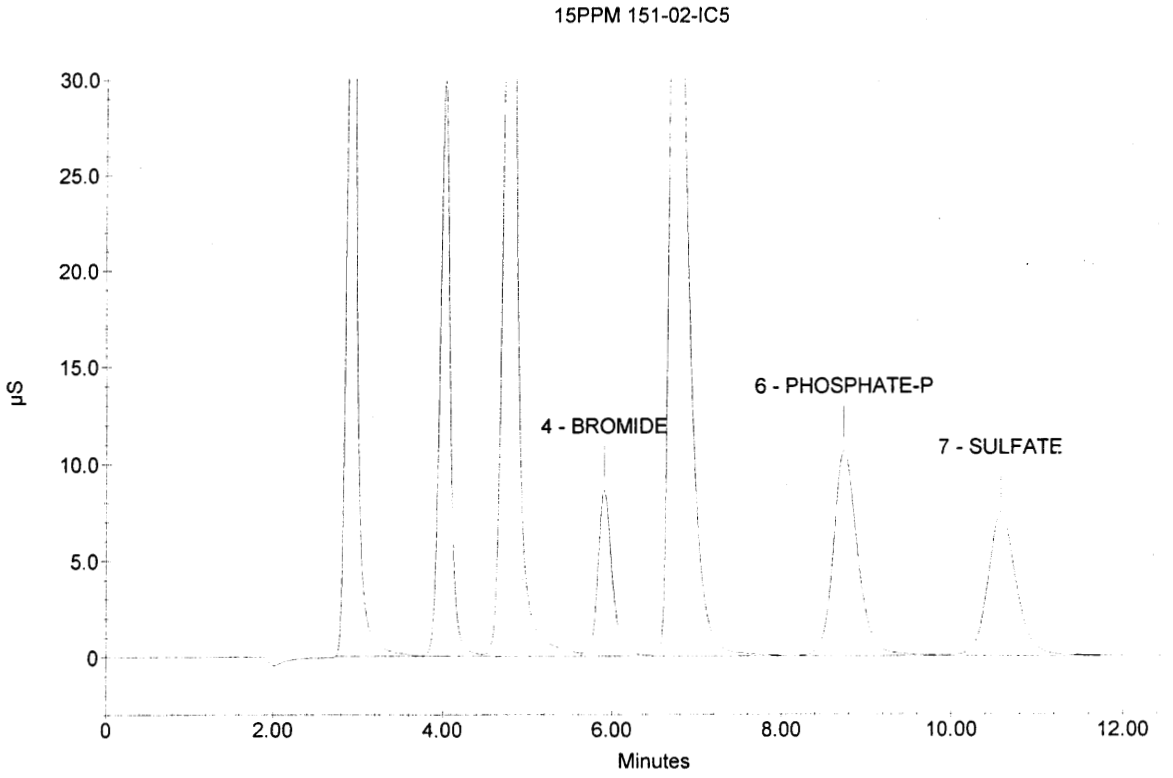
Sample Name : 15PPM 151-02-IC5
Dilution Factor : 1.00
Injection Number : 8
Data File Name : c:\peaknet\data\060405a\060405_008.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 8:01:07 PM
Date Time Updated : 4/5/06 8:16:37 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010086

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 2.90 | FLUORIDE | 15.00 | 3904121 | 513418 |
| 2 | 4.02 | CHLORIDE | 15.00 | 2535937 | 298565 |
| 3 | 4.78 | NITRITE-N | 15.00 | 5393991 | 479251 |
| 4 | 5.90 | BROMIDE | 15.00 | 1000657 | 85431 |
| 5 | 6.74 | NITRATE-N | 15.00 | 6780870 | 456814 |
| 6 | 8.74 | PHOSPHATE-P | 15.00 | 2119085 | 105953 |
| 7 | 10.58 | SULFATE | 15.00 | 1687692 | 74627 |



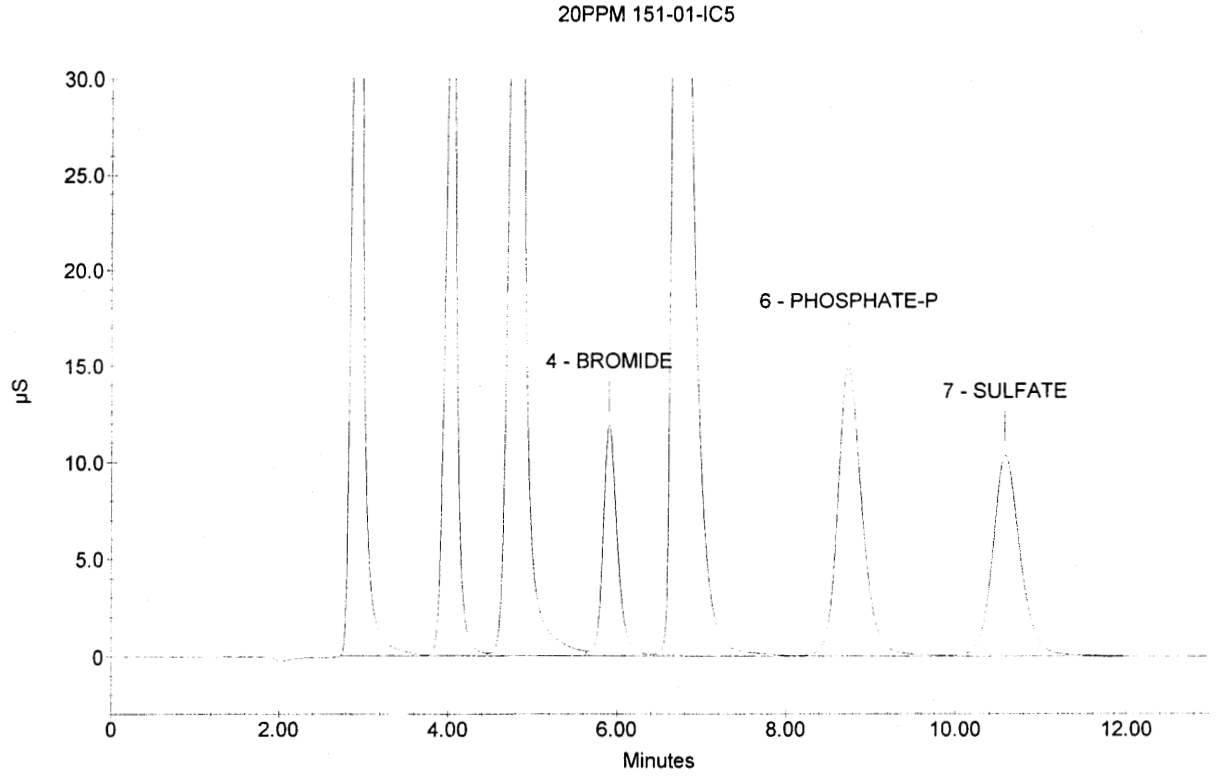
Sample Name : 20PPM 151-01-IC5
Dilution Factor : 1.00
Injection Number : 9
Data File Name : c:\peaknet\data\060405a\060405_009.DXD
Method File Name : c:\peaknet\method\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 8:16:57 PM
Date Time Updated : 4/5/06 8:32:27 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010087

**Peak Information : All Components**

| Peak Number | Peak Retention Time | Component Name | Concentration, ppm (ppm) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 1 | 2.92 | FLUORIDE | 20.00 | 5222225 | 658042 |
| 2 | 4.04 | CHLORIDE | 20.00 | 3510181 | 399174 |
| 3 | 4.81 | NITRITE-N | 20.00 | 7207973 | 623224 |
| 4 | 5.90 | BROMIDE | 20.00 | 1375302 | 118397 |
| 5 | 6.72 | NITRATE-N | 20.00 | 9433406 | 621543 |
| 6 | 8.74 | PHOSPHATE-P | 20.00 | 2965228 | 149839 |
| 7 | 10.58 | SULFATE | 20.00 | 2311331 | 103108 |



Sample Name : ICV (QCS/IPC)
Dilution Factor : 20.00
Injection Number : 10
Data File Name : c:\peaknet\data\060405a\060405_010.DXD
Method File Name : C:\PEAKNET\METHOD\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

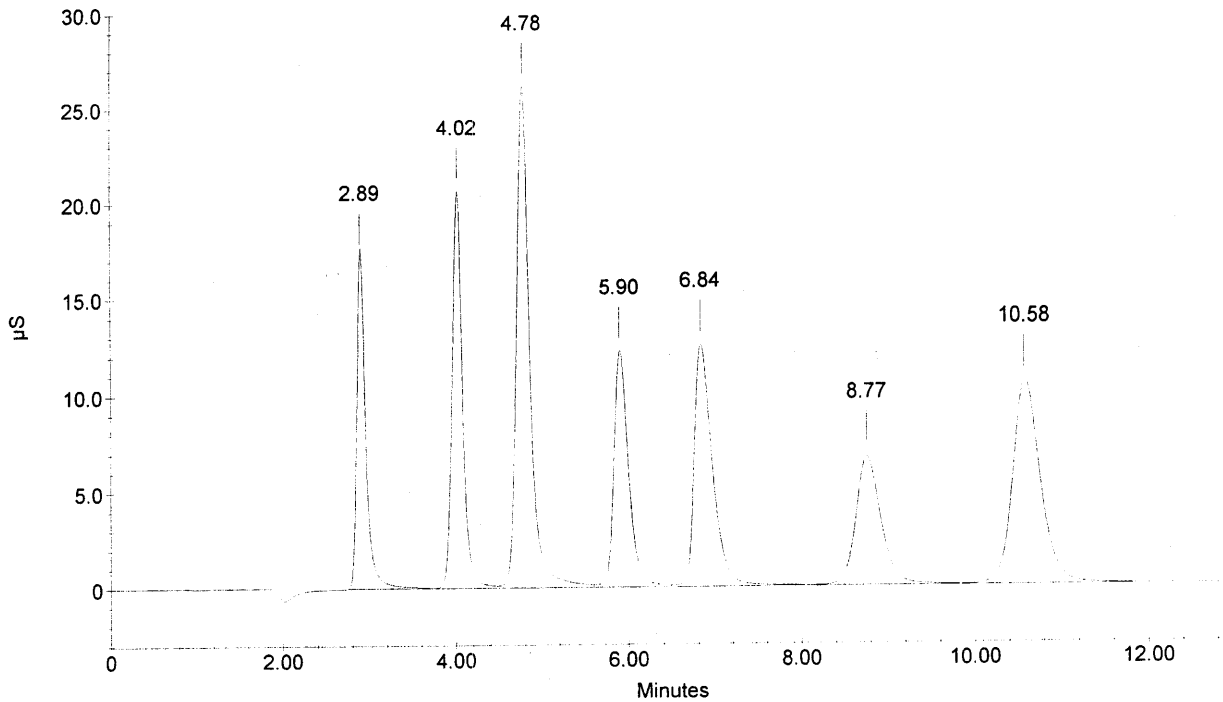
Date Time Collected : 4/5/06 8:32:46 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010088

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 2.89 | FLUORIDE | 103.682 | 171901 | 1265200 | 2 | -1.03 |
| 2 | 4.02 | CHLORIDE | 214.479 | 206142 | 1723688 | 2 | -0.41 |
| 3 | 4.78 | NITRITE-N | 161.034 | 261051 | 2806592 | 2 | -0.55 |
| 4 | 5.90 | BROMIDE | 417.250 | 121837 | 1443057 | 2 | 0.06 |
| 5 | 6.84 | NITRATE-N | 94.608 | 125321 | 1841990 | 2 | 1.74 |
| 6 | 8.77 | PHOSPHATE-P | 204.745 | 67223 | 1371206 | 2 | 0.34 |
| 7 | 10.58 | SULFATE | 410.102 | 105721 | 2381833 | 2 | 0.03 |
| | 0.00 | | ---total(s)--- 1605.900 | | 12833568 | | |

## ICV (QCS/IPC)

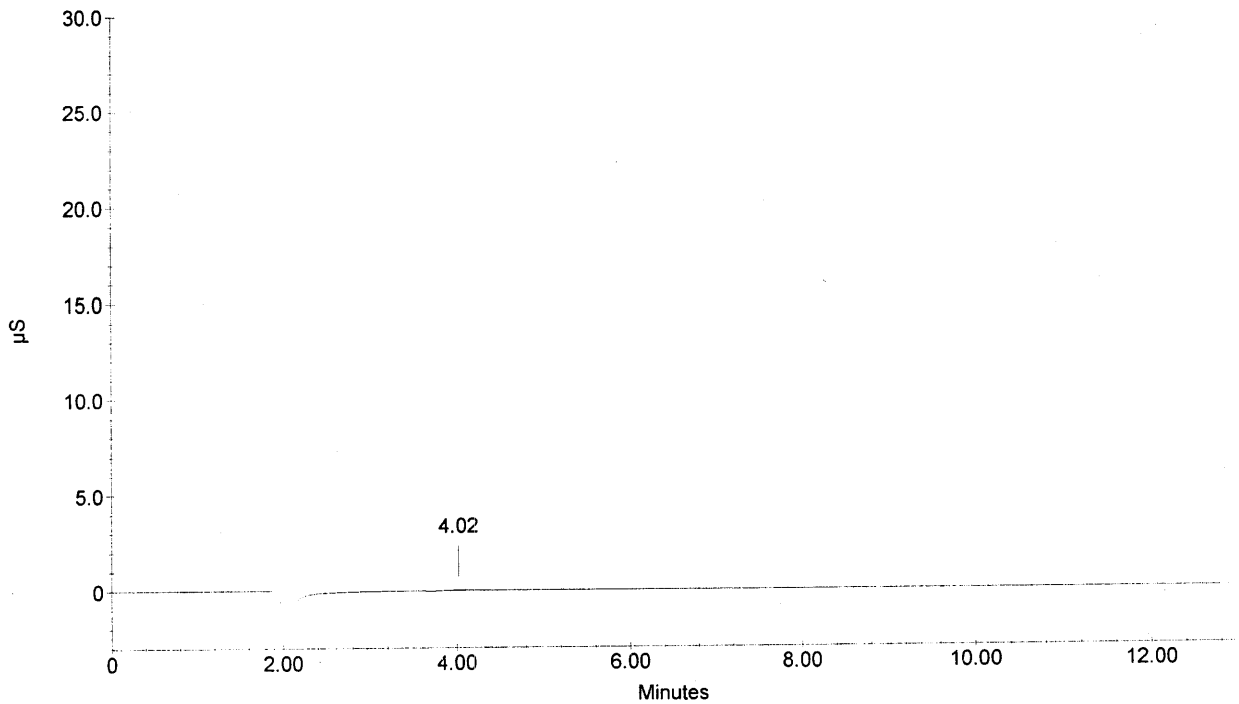


Sample Name : ICB (LRB)
Dilution Factor : 1.00
Injection Number : 11
Data File Name : c:\peaknet\data\060405a\060405_011.DXD
Method File Name : C:\PEAKNET\METHOD\anions060405.met
Schedule File Name : c:\peaknet\schedule\060405.sch

Date Time Collected : 4/5/06 8:48:35 PM
System Name : Dx-500
Detector Name : Conductivity Detector
Column Type : AS14-SN#018097 AG14-#019940
System Operator : RSPIES

010089

Peak Information : All Components

| Pk. Num | Ret Time | Component Name | Concentration (ppm) | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 4.02 | CHLORIDE | 0.042 | 220 | 1574 | 1 | -0.41 |
| 1 | 4.02 | CHLORIDE | 0.042 | 220 | 1574 | 1 | -0.41 |
| | | NITRITE-N | | | | | |
| | | BROMIDE | | | | | |
| | | NITRATE-N | | | | | |
| | | PHOSPHATE-P | | | | | |
| | | SULFATE | | | | | |
| | | | ---total(s)--- | | | | |
| | 0.00 | | 0.083 | | 3148 | | |

## ICB (LRB)