# U.S. Environmental Protection Agency
# Region 7

Site: Agromac-Lockwood
ID# NFSFN0703537
Break: 1.3 OU#2
Other: 68-S7-01-41
3 of 9 3-5-02

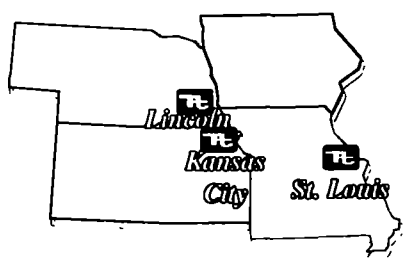
## Superfund Technical Assessment and Response Team (START) 2 Contract

*Contract No. 68-S7-01-41*

# Attachment 8

# Agromac-Lockwood Operable Unit 2
# Gering, Nebraska

Volume 3 of 9




40088457
SUPERFUND RECORDS

Tetra Tech EM Inc.

Printed on Recycled Paper

Columbia Analytical Services inc.

# MEMORANDUM

DATE: March 5, 2002

TO: Mark Wilson @ CAS-Rochester

FROM: Jim Smith

SUBJ: **Transmittal of Analytical Results for Your Service Request No. J2200238**

PROJ: **Agromac-Lockwood**

Enclosed with this memo are the following Analytical Reports and QA/QC Reports for *our* Service Request No.: K2201169

**COMMENTS:**

# Case Narrative

## COLUMBIA ANALYTICAL SERVICES, INC.

| | | | |
|---|---|---|---|
| **Client:** | Tetra Tech EM, Inc. | **Service Request No.:** | K2201169 |
| **Project:** | Agromac-Lockwwod | **Date Received:** | 2/22/02 |
| **Sample Matrix:** | Water | | |

## CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

**Sample Receipt**

Twenty water samples were received for analysis at Columbia Analytical Services on 2/22/02. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

**Dissolved Metals**

**Matrix Spike Exceptions:**
The Matrix Spike (MS) recovery criterion of Manganese for all spike samples was not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

The Matrix Spike (MS) recovery criterion of Selenium for all Matrix Spikes was not applicable. Due to isobaric interferences the detection Limit was raised to a level above the added spike concentration.

**Method Reporting Limit (MRL) Exceptions:**
The Method Reporting Limit (MRL) has been elevated for Selenium in all the samples. Due to isobaric interferences the detection Limit was raised.

No other anomalies associated with the analysis of these samples were observed.

**Approved by** _____ **Date** 3/9/02

# Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company
www.caslab.com

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

8540 Baycenter Rd. • Jacksonville, FL 32256 • (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011

PAGE 1 OF 3

SR # K2201169

CAS Contact

1119 03

| | |
|---|---|
| Project Name: AGROMAC-LOCKWOOD | Project Number: — |
| Project Manager: CURT ENDS | Report CC: |
| Company/Address: TETRA TECH | |
| Phone #: | FAX#: |
| Sampler's Signature: | Sampler's Printed Name: |

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 | 2 | 2

Preservative Key
0. NONE
1. HCL
2. $HNO_3$
3. $H_2SO_4$
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

| CLIENT SAMPLE ID | LAB ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NUMBER OF CONTAINERS | DISS. AS, Ba, Cd, Cr, Pb | DISS. Ag, Zn, Mn / by 6020 | DISS. Se by 200.8 | REMARKS/ ALTERNATE DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| OS-PW-12 | K1169-1 | 1/19/02 | 1557 | WATER | 1 | ✓ | ✓ | ✓ | KELSO |
| S1-GGW-3 | 2 | 1/21/02 | 905 | | 1 | ✓ | ✓ | ✓ | |
| S1-GGW-1 | 3 | 1/21/02 | 1110 | | 1 | ✓ | ✓ | ✓ | |
| S1-GGW-2 MS | dilat receive | 1/21/02 | 1030 | | 1 | ✓ | ✓ | ✓ | |
| S1-GGW-2 MSD | 4 | 1/21/02 | 1030 | | 1 | ✓ | ✓ | ✓ | |
| S1-GGW-2 | 4 ~~5~~ | 1/21/02 | 1030 | | 1 | ✓ | ✓ | ✓ | |
| S1-GGW-4 | 5 ~~6~~ | 1/21/02 | 835 | | 1 | ✓ | ✓ | ✓ | J2200238 |
| OS-PW-11 | 6 ~~7~~ | 1/19/02 | 1535 | | 1 | ✓ | ✓ | ✓ | |
| OS-GGW-4 | 7 ~~8~~ | 1/21/02 | 1442 | | 1 | ✓ | ✓ | ✓ | |
| OS-GGW-3 | 8 ~~9~~ | 1/21/02 | 1400 | | 1 | ✓ | ✓ | ✓ | |

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ STANDARD
REQUESTED FAX DATE: 3/1/02 OR ASAP
REQUESTED REPORT DATE: 3/1/02 OR ASAP

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
____ V. Speicalized Forms / Custom Report
Edata X Yes ____ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

| RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY |
|---|---|---|---|---|---|
| Signature: April G Ferguson | Signature: Lori K. Hawn | Signature | Signature | Signature | Signature |
| Printed Name: April G Ferguson | Printed Name: CAS-K | Printed Name | Printed Name | Printed Name | Printed Name |
| Firm: CAS | Firm: 2/22/02 1000 | Firm | Firm | Firm | Firm |
| Date/Time: 2/21, 15:30 | Date/Time | Date/Time | Date/Time | Date/Time | Date/Time |

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1000-07

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PAGE 2 OF 3

SR # K2201169

CAS Contact

00004

| | |
|---|---|
| Project Name: AGROMAC-LOCKWOOD | Project Number: |
| Project Manager: CURT ENOS | Report CC: |
| Company/Address: TETRA TECH | |
| Phone #: | FAX#: |
| Sampler's Signature: | Sampler's Printed Name: |

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 | 2 | 2

Preservative Key
0. NONE
1. HCL
2. $HNO_3$
3. $H_2SO_4$
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

| CLIENT SAMPLE ID | LAB ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NUMBER OF CONTAINERS | DISS. As, Pb, Cd, Cr, Pb | DISS. Ag, Zn, Mn / by 6020 | DISS. Se by 200.8 | REMARKS/ ALTERNATE DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| OS-PW-10 | -9 | 1/19/02 | 1452 | WATER | 1 | - | - | - | KELSO |
| OS-PW-13 | -10 | 1/19/02 | 1631 | | 1 | ✓ | ✓ | ✓ | |
| OS-PW-14 | -11 | 1/19/02 | 1704 | | 1 | ✓ | ✓ | ✓ | |
| RINSATE-57 | -12 | 1/21/02 | 1835 | | 1 | ✓ | ✓ | ✓ | |
| OS-GGW-2 | -13 | 1/21/02 | 1100 | | 1 | ✓ | ✓ | ✓ | |
| SI-GGW-3-FD | -14 | 1/21/02 | 905 | | 1 | ✓ | ✓ | ✓ | |
| OS-GGW-1 | -15 | 1/21/02 | 910 | | 1 | ✓ | ✓ | ✓ | |
| RINSATE-54 | -16 | 1/22/02 | 1845 | | 1 | ✓ | ✓ | ✓ | J2200238 |
| GB-GGW-4 | -17 | 1/22/02 | 1445 | | 1 | ✓ | ✓ | ✓ | |
| GB-GGW-2 | -18 | 1/22/02 | 1700 | | 1 | ✓ | ✓ | ✓ | |

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ STANDARD
REQUESTED FAX DATE: 3/1/02 OR ASAP
REQUESTED REPORT DATE: 3/1/02 OR ASAP

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
____ V. Specialized Forms / Custom Report
Edata X Yes ____ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

| RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY |
|---|---|---|---|---|---|
| Signature: April G Ferguson | Signature: Kirk Hann | Signature | Signature | Signature | Signature |
| Printed Name: April G Ferguson | Printed Name: CAS | Printed Name | Printed Name | Printed Name | Printed Name |
| Firm: CAS | Firm: 2/22/02 1000 | Firm | Firm | Firm | Firm |
| Date/Time: 2/21 1530 | Date/Time | Date/Time | Date/Time | Date/Time | Date/Time |

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1000-07

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PAGE 3 OF 3

SR # K2201169

CAS Contact

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| | |
|---|---|
| Project Name: AGROMAC - LOCKWOOD | Project Number: |
| Project Manager: CURT ENOS | Report CC: |
| Company/Address: TETRA - TECH | |
| Phone #: | FAX#: |
| Sampler's Signature: | Sampler's Printed Name: |

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 2 2

Preservative Key
0. NONE
1. HCL
2. $HNO_3$
3. $H_2SO_4$
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

| CLIENT SAMPLE ID | LAB ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NUMBER OF CONTAINERS | DISS. As, Ba, Cd, Cr, Pb, Ag, Zn | DISS. Mn by 6020 | DISS. Se by 200.8 | REMARKS/ ALTERNATE DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| GB-GGW-7 DD 2/21/02 | -19 | 1/22/02 | 1545 | WATER | 1 | ✓ | ✓ | ✓ | KELSO |
| SMWB-WW | -20 | 1/19/02 | 1545 | WATER | 1 | ✓ | ✓ | ✓ | |
| | | | | | | | | | J2200238 |

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ STANDARD
REQUESTED FAX DATE: 3/1/02 OR ASAP
REQUESTED REPORT DATE: 3/1/02 OR ASAP

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
_____ V. Speicalized Forms / Custom Report
Edata X Yes _____ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

| RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY |
|---|---|---|---|---|---|
| Signature: April Ferguson | Signature: Cori K. Hann | Signature | Signature | Signature | Signature |
| Printed Name: April G Ferguson | Printed Name: CAS-K | Printed Name | Printed Name | Printed Name | Printed Name |
| Firm: CAS | Firm: 2/22/02 1007 | Firm | Firm | Firm | Firm |
| Date/Time: 2/21 1530 | Date/Time | Date/Time | Date/Time | Date/Time | Date/Time |

Distribution: Wh... ...eturn to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1000-07

**Columbia Analytical Services Inc.**
**Cooler Receipt And Preservation Form**

Project/Client CAS/SAC Work Order K22 1169

Cooler received on 2/22/02 and opened on 2/22/02 by FA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | Were custody seals on outside of cooler? If yes, how many and where? | | | | | Y | N |
| 2. | Were seals intact and signature & date correct? | | | | | Y | N |
| | COC # | | | | | | |
| | Temperature of cooler(s) upon receipt: | 179 | | | | | |
| | Temperature Blank: | | | | | | |
| 4. | Were custody papers properly filled out (ink, signed, etc.)? | | | | | Y | N |
| 5. | Type of packing material present bubble wrap | | | | | | |
| | Did all bottles arrive in good condition (unbroken)? | | | | | Y | N |
| | Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? | | | | | Y | N |
| 8. | Did all bottle labels and tags agree with custody papers? | | | | | Y | N |
| 9. | Were the correct types of bottles used for the tests indicated? | | | | | Y | N |
| 10. | Were all of the preserved bottles received at the lab with the appropriate pH? | | | | | Y | N |
| 11. | Were VOA vials checked for absence of air bubbles, and if present, noted below? | | | | | ~~Y~~ | ~~N~~ |
| 12. | Did the bottles originate from CAS/K or a branch laboratory? | | | | | Y | N |
| 13. | Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection? | | | | | ~~Y~~ | ~~N~~ |
| 14. | Was CL2/Residual negative? | | | | | ~~Y~~ | ~~N~~ |

Explain any discrepancies:

RESOLUTION: Did not pH to L2 Nature of sample matrix

Samples that required preservation or received out of temperature:

| Sample ID | Reagent | Volume | Lot Number | Bottle Type | Rec'd out of Temperature | Initials |
|---|---|---|---|---|---|---|
| SMWB-WL) | $HNO_3$ | 1ml | T28062 | | | FA |
| " | " | 1mL | " | | | FA |
| | | | | | | |
| | | | | | | |
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CRFREV.DOC12/24/01

# Dissolved Metals

*olumbia Analytical Services*

# METALS

## - Cover Page -
## INORGANIC ANALYSIS DATA PACKAGE

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

| Sample No. | Lab Sample ID. |
|---|---|
| OS-PW-12 | K2201169-001 DISS |
| S1-GGW-3 | K2201169-002 DISS |
| S1-GGW-1 | K2201169-003 DISS |
| S1-GGW-2 | K2201169-004 DISS |
| S1-GGW-2S | K2201169-004S DISS |
| S1-GGW-2SD | K2201169-004SD DISS |
| S1-GGW-4 | K2201169-005 DISS |
| OS-PW-11 | K2201169-006 DISS |
| OS-GGW-4 | K2201169-007 DISS |
| OS-GGW-3 | K2201169-008 DISS |
| OS-PW-10 | K2201169-009 DISS |
| OS-PW-13 | K2201169-010 DISS |
| OS-PW-14 | K2201169-011 DISS |
| OS-PW-14S | K2201169-011S DISS |
| OS-PW-14SD | K2201169-011SD DISS |
| RINSATE-57 | K2201169-012 DISS |
| OS-GGW-2 | K2201169-013 DISS |
| S1-GGW-3-FD | K2201169-014 DISS |
| OS-GGW-1 | K2201169-015 DISS |
| RINSATE-S4 | K2201169-016 DISS |

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: Dissolved Metals

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Eric M Arnold Date: 3/5/02

*lumbia Analytical Services*

# METALS

## - Cover Page -
## INORGANIC ANALYSIS DATA PACKAGE

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

| Sample No. | Lab Sample ID. |
|---|---|
| GB-GGW-4 | K2201169-017 DISS |
| GB-GGW-2 | K2201169-018 DISS |
| GB-GGW-1 | K2201169-019 DISS |
| SMWB-WW | K2201169-020 DISS |
| Method Blank | K2201169-MB |

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: Dissolved Metals

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Date: _____

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/19/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-12
Lab Code: K2201169-001 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 22.9 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 37.4 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.19 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.78 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 1.32 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 1.00 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.03 | B | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 56.5 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: S1-GGW-3
Lab Code: K2201169-002 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 7.4 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 34.3 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.17 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.13 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.50 | | |
| Manganese | 6020 | 1.00 | 0.40 | 20 | 02/26/02 | 2/28/02 | 2410 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 7.4 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: S1-GGW-1
Lab Code: K2201169-003 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 8.5 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 68.6 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.10 | U | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.85 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.22 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 37.7 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 5.9 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: S1-GGW-2
Lab Code: K2201169-004 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 11.6 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 51.2 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.10 | U | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.86 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.12 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 58.0 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 4.2 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: S1-GGW-4
Lab Code: K2201169-005 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 9.9 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 57.7 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.17 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.85 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.33 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 67.6 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 8.5 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/19/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-11
Lab Code: K2201169-006 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 19.8 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 36.3 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.16 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.49 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 1.69 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 2.32 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 80.5 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-GGW-4
Lab Code: K2201169-007 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 11.6 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 31.5 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.11 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.70 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.29 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 22.5 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 5.6 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-GGW-3
Lab Code: K2201169-008 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 9.8 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 47.5 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.11 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.60 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.16 | | |
| Manganese | 6020 | 1.00 | 0.40 | 20 | 02/26/02 | 2/28/02 | 915 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 5.7 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/19/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-10
Lab Code: K2201169-009 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 19.3 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 33.7 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.11 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.61 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.29 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 2.31 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 17.4 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/19/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-13
Lab Code: K2201169-010 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 22.4 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 31.8 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.15 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.47 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.49 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.92 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 22.0 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/19/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-14
Lab Code: K2201169-011 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 22.7 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 36.6 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.13 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.61 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.39 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.70 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 15.2 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: RINSATE-57
Lab Code: K2201169-012 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 0.4 | U | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.21 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.12 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.36 | B | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.14 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.78 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.03 | B | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 7.2 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-GGW-2
Lab Code: K2201169-013 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 4.8 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 46.6 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.10 | U | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.43 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.37 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 146 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 8.7 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: S1-GGW-3-FD
Lab Code: K2201169-014 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 7.3 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 35.1 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.15 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.56 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.12 | | |
| Manganese | 6020 | 1.00 | 0.40 | 20 | 2/26/02 | 3/1/02 | 2390 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 4.9 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/21/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: OS-GGW-1
Lab Code: K2201169-015 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 17.9 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 32.3 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.20 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.09 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.20 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 6.23 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 4.3 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/22/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: RINSATE-S4
Lab Code: K2201169-016 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 0.4 | U | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.14 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.10 | U | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 0.53 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.06 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 1.37 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 4.2 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/22/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: GB-GGW-4
Lab Code: K2201169-017 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 7.2 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 157 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.46 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 7.20 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 6.56 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 361 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.05 | | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 133 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/22/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: GB-GGW-2
Lab Code: K2201169-018 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 1.5 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 50.8 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.36 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.27 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.28 | | |
| Manganese | 6020 | 1.00 | 0.40 | 20 | 02/26/02 | 2/28/02 | 3840 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 200 | 32.0 | 400 | 02/26/02 | 2/28/02 | 15400 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/22/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: GB-GGW-1
Lab Code: K2201169-019 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 02/26/02 | 2/28/02 | 4.0 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 02/26/02 | 2/28/02 | 49.2 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.22 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 02/26/02 | 2/28/02 | 1.08 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 02/26/02 | 2/28/02 | 0.30 | | |
| Manganese | 6020 | 0.25 | 0.10 | 5 | 02/26/02 | 2/28/02 | 561 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 02/26/02 | 2/28/02 | 41.5 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected: 01/19/02
Date Received: 01/25/02
Units: µG/L
Basis: NA

Sample Name: SMWB-WW
Lab Code: K2201169-020 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 5.0 | 2.0 | 2 | 02/26/02 | 2/28/02 | 11.6 | | |
| Barium | 6020 | 0.20 | 0.20 | 2 | 02/26/02 | 2/28/02 | 97.9 | | |
| Cadmium | 6020 | 0.50 | 0.50 | 2 | 02/26/02 | 2/28/02 | 1.83 | | |
| Chromium | 6020 | 2.00 | 0.90 | 2 | 02/26/02 | 2/28/02 | 109 | | |
| Lead | 6020 | 0.20 | 0.06 | 2 | 02/26/02 | 2/28/02 | 5.85 | | |
| Manganese | 6020 | 0.50 | 0.20 | 2 | 02/26/02 | 2/28/02 | 544 | | |
| Selenium | 200.8 | 200 | 200 | 2 | 02/26/02 | 2/28/02 | 200 | U | |
| Silver | 6020 | 0.20 | 0.10 | 2 | 02/26/02 | 2/28/02 | 0.10 | B | |
| Zinc | 6020 | 5.0 | 0.8 | 2 | 02/26/02 | 2/28/02 | 206 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac - Lockwood
Matrix: WATER

Service Request: K2201169
Date Collected:
Date Received:
Units: µG/L
Basis: NA

Sample Name: Method Blank
Lab Code: K2201169-MB

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 0.5 | 0.2 | 1 | 02/26/02 | 2/28/02 | 0.2 | U | |
| Barium | 6020 | 0.02 | 0.02 | 1 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Cadmium | 6020 | 0.05 | 0.05 | 1 | 02/26/02 | 2/28/02 | 0.05 | U | |
| Chromium | 6020 | 0.20 | 0.09 | 1 | 02/26/02 | 2/28/02 | 0.13 | B | |
| Lead | 6020 | 0.02 | 0.01 | 1 | 02/26/02 | 2/28/02 | 0.01 | U | |
| Manganese | 6020 | 0.05 | 0.02 | 1 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Selenium | 200.8 | 20 | 20 | 1 | 02/26/02 | 2/28/02 | 20 | U | |
| Silver | 6020 | 0.02 | 0.01 | 1 | 02/26/02 | 2/28/02 | 0.01 | U | |
| Zinc | 6020 | 0.5 | 0.1 | 1 | 02/26/02 | 2/28/02 | 0.2 | B | |

% Solids: 0.0

Comments:

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: Inorganic Ventures CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Arsenic | 50.0 | 49.1 | 98 | 25.0 | 25.1 | 100 | 25.8 | 103 | 6020 |
| Barium | 200 | 203 | 102 | 25.0 | 24.9 | 100 | 25.3 | 101 | 6020 |
| Cadmium | 25.0 | 25.1 | 100 | 25.0 | 25.2 | 101 | 25.3 | 101 | 6020 |
| Chromium | 20.0 | 20.3 | 102 | 25.0 | 24.9 | 100 | 25.3 | 101 | 6020 |
| Lead | 50.0 | 49.9 | 100 | 25.0 | 24.7 | 99 | 24.8 | 99 | 6020 |
| Manganese | 50.0 | 49.0 | 98 | 25.0 | 25.0 | 100 | 26.0 | 104 | 6020 |
| Selenium | 50.0 | 49.6 | 99 | 25.0 | 25.6 | 102 | 26.3 | 105 | 200.8 |
| Silver | 25.0 | 24.9 | 100 | 25.0 | 25.2 | 101 | 25.0 | 100 | 6020 |
| c | 50.0 | 50.9 | 102 | 25.0 | 25.6 | 102 | 26.1 | 104 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration True | Initial Calibration Found | Initial Calibration %R(1) | Continuing Calibration True | Continuing Calibration Found | Continuing Calibration %R(1) | Continuing Calibration Found | Continuing Calibration %R(1) | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | | | 25.0 | 24.2 | 97 | 24.5 | 98 | 6020 |
| Barium | | | | 25.0 | 24.5 | 98 | 24.8 | 99 | 6020 |
| Cadmium | | | | 25.0 | 24.3 | 97 | 25.1 | 100 | 6020 |
| Chromium | | | | 25.0 | 23.9 | 96 | 24.8 | 99 | 6020 |
| Lead | | | | 25.0 | 24.0 | 96 | 25.4 | 102 | 6020 |
| Manganese | | | | 25.0 | 24.3 | 97 | 24.9 | 100 | 6020 |
| Selenium | | | | 25.0 | 24.4 | 98 | 25.9 | 104 | 200.8 |
| Silver | | | | 25.0 | 24.0 | 96 | 25.2 | 101 | 6020 |
| [illegible]c | | | | 25.0 | 26.6 | 106 | 24.7 | 99 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration True | Initial Calibration Found | Initial Calibration %R(1) | Continuing Calibration True | Continuing Calibration Found | Continuing Calibration %R(1) | Continuing Calibration Found | Continuing Calibration %R(1) | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | | | 25.0 | 23.4 | 94 | | | 6020 |
| Barium | | | | 25.0 | 24.8 | 99 | | | 6020 |
| Cadmium | | | | 25.0 | 25.2 | 101 | | | 6020 |
| Chromium | | | | 25.0 | 22.3 | 89 | | | 6020 |
| Lead | | | | 25.0 | 25.2 | 101 | | | 6020 |
| Manganese | | | | 25.0 | 22.8 | 91 | | | 6020 |
| Selenium | | | | 25.0 | 25.0 | 100 | | | 200.8 |
| Silver | | | | 25.0 | 24.8 | 99 | | | 6020 |
| Zinc | | | | 25.0 | 23.3 | 93 | | | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: Inorganic Ventures CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Chromium | 20.0 | 20.6 | 103 | 25.0 | 25.3 | 101 | 23.8 | 95 | 6020 |
| Manganese | 50.0 | 49.0 | 98 | 25.0 | 25.2 | 101 | 24.0 | 96 | 6020 |
| Zinc | 50.0 | 51.6 | 103 | 25.0 | 25.4 | 102 | 23.7 | 95 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Chromium | | | | 25.0 | 26.4 | 106 | | | 6020 |
| Manganese | | | | 25.0 | 26.1 | 104 | | | 6020 |
| Zinc | | | | 25.0 | 26.0 | 104 | | | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: Inorganic Ventures CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Manganese | 50.0 | 49.3 | 99 | 25.0 | 25.3 | 101 | 25.1 | 100 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICV Source: CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration True | Initial Calibration Found | Initial Calibration %R(1) | Continuing Calibration True | Continuing Calibration Found | Continuing Calibration %R(1) | Continuing Calibration Found | Continuing Calibration %R(1) | Method |
|---|---|---|---|---|---|---|---|---|---|
| Manganese | | | | 25.0 | 24.4 | 98 | | | 6020 |

# METALS
## - 2b -
## CRDL STANDARD FOR AA AND ICP

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Concentration Units: ug/L

| Analyte | CRDL Standard for AA | | | CRDL Standard for ICP | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Initial | | | Final | |
| | True | Found | %R | True | Found | %R | Found | %R |
| Arsenic | | | | 0.50 | 0.46 | 93 | | |
| Barium | | | | 0.05 | 0.06 | 118 | | |
| Cadmium | | | | 0.05 | 0.06 | 116 | | |
| Chromium | | | | 0.20 | 0.25 | 125 | | |
| Lead | | | | 0.02 | 0.03 | 127 | | |
| Manganese | | | | 0.05 | 0.05 | 90 | | |
| Selenium | | | | 1.0 | 0.80 | 80 | | |
| Silver | | | | 0.02 | 0.02 | 124 | | |
| Zinc | | | | 0.50 | 0.72 | 144 | | |

# METALS
## - 2b -
## CRDL STANDARD FOR AA AND ICP

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Concentration Units: ug/L

| Analyte | CRDL Standard for AA | | | CRDL Standard for ICP | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Initial | | | Final | |
| | True | Found | %R | True | Found | %R | Found | %R |
| Chromium | | | | 0.20 | 0.25 | 125 | | |
| Manganese | | | | 0.05 | 0.06 | 111 | | |
| Zinc | | | | 0.50 | 0.66 | 132 | | |

# METALS
## - 2b -
## CRDL STANDARD FOR AA AND ICP

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Concentration Units: ug/L

| Analyte | CRDL Standard for AA | | | CRDL Standard for ICP | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Initial | | | Final | |
| | True | Found | %R | True | Found | %R | Found | %R |
| Manganese | | | | 0.05 | 0.07 | 132 | | |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank | C | | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | | | | | | 6020 |
| Barium | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 | U | | | | | | 6020 |
| Cadmium | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | | | | | | 6020 |
| Chromium | 0.09 | U | 0.09 | U | 0.09 | U | 0.09 | B | | | | | | 6020 |
| Lead | 0.01 | U | 0.01 | U | 0.01 | B | 0.01 | B | | | | | | 6020 |
| Manganese | 0.02 | U | 0.02 | U | 0.17 | | 0.04 | B | | | | | | 6020 |
| Selenium | 20 | U | 20 | U | 20 | U | 20 | U | | | | | | 200.8 |
| Silver | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | | | | | | 6020 |
| Zinc | 0.1 | U | 0.1 | U | 0.1 | B | 0.1 | B | | | | | | 6020 |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank | C | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | | 0.2 | U | 0.2 | U | | | | | | | 6020 |
| Barium | | | 0.02 | U | 0.02 | U | | | | | | | 6020 |
| Cadmium | | | 0.05 | U | 0.05 | U | | | | | | | 6020 |
| Chromium | | | 0.09 | U | -0.12 | B | | | | | | | 6020 |
| Lead | | | 0.01 | U | 0.01 | U | | | | | | | 6020 |
| Manganese | | | 0.04 | B | 0.17 | | | | | | | | 6020 |
| Selenium | | | 20 | U | 20 | U | | | | | | | 200.8 |
| Silver | | | 0.01 | U | 0.01 | U | | | | | | | 6020 |
| Zinc | | | 0.1 | B | 0.2 | B | | | | | | | 6020 |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank C | | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | 0.09 | U | 0.09 | U | 0.09 | U | 0.14 | B | | | | | 6020 |
| Manganese | 0.02 | U | 0.02 | U | 0.09 | | 0.02 | U | | | | | 6020 |
| Zinc | 0.1 | U | 0.1 | U | 0.1 | B | 0.1 | U | | | | | 6020 |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank | C | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese | 0.02 | U | 0.02 | U | 0.03 | B | 0.03 | B | | | | | 6020 |

00043

# METALS
## -4-
## ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech EM Inc. Service Request:K2201169

Project No.:

Project Name: Agromac - Lockwood

ICP ID Number: PQ-S ICS Source: Inorganic Ventures

Concentration Units): ug/L

| Analyte | True | | Initial Found | | | Final Found | | |
|---|---|---|---|---|---|---|---|---|
| | Sol.A | Sol.AB | Sol.A | Sol.AB | %R | Sol.A | Sol.AB | %R |
| Arsenic | | 20 | 0.0 | 20.3 | 102 | | | |
| Barium | | | 0.06 | 0.05 | | | | |
| Cadmium | | 20 | 0.66 | 20.9 | 104 | | | |
| Chromium | | 20 | 0.40 | 20.6 | 103 | | | |
| Lead | | | 0.18 | 0.19 | | | | |
| Manganese | | 20 | 0.29 | 21.0 | 105 | | | |
| Selenium | | | -0 | -0 | | | | |
| Silver | | 20 | 0.05 | 19.3 | 97 | | | |
| Zinc | | 20 | 1.1 | 22.8 | 114 | | | |

# METALS
## -4-
## ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech EM Inc. Service Request:K2201169

Project No.:

Project Name: Agromac - Lockwood

ICP ID Number: PQ-S ICS Source: Inorganic Ventures

Concentration Units): ug/L

| Analyte | True | | Initial Found | | | Final Found | | |
|---|---|---|---|---|---|---|---|---|
| | Sol.A | Sol.AB | Sol.A | Sol.AB | %R | Sol.A | Sol.AB | %R |
| Chromium | | 20 | 0.54 | 21.7 | 109 | | | |
| Manganese | | 20 | 0.28 | 21.3 | 106 | | | |
| Zinc | | 20 | 1.1 | 23.1 | 116 | | | |

# METALS
## -4-
## ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech EM Inc. Service Request:K2201169

Project No.:

Project Name: Agromac - Lockwood

ICP ID Number: PQ-S ICS Source: Inorganic Ventures

Concentration Units): ug/L

| Analyte | True | | Initial Found | | | Final Found | | |
|---|---|---|---|---|---|---|---|---|
| | Sol.A | Sol.AB | Sol.A | Sol.AB | %R | Sol.A | Sol.AB | %R |
| Manganese | | | 0.27 | 20.3 | | | | |

00046

# METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201169
Project No.:
Units: µG/L
Project Name: Agromac - Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: S1-GGW-2S
Lab Code: K2201169-004S DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 29.5 | | 11.6 | | 20.0 | 90 | | 6020 |
| Barium | 75 - 125 | 69.1 | | 51.2 | | 20.0 | 89 | | 6020 |
| Cadmium | 75 - 125 | 19.3 | | 0.10 | U | 20.0 | 97 | | 6020 |
| Chromium | 75 - 125 | 17.2 | | 0.86 | | 20.0 | 82 | | 6020 |
| Lead | 75 - 125 | 18.6 | | 0.12 | | 20.0 | 92 | | 6020 |
| Manganese | | 71.9 | | 58.0 | | 20.0 | 70 | | 6020 |
| Selenium | 70 - 130 | 40 | U | 40 | U | 20 | 165 | X | 200.8 |
| Silver | 75 - 125 | 18.0 | | 0.02 | U | 20.0 | 90 | | 6020 |
| Zinc | 75 - 125 | 20.1 | | 4.2 | | 20.0 | 80 | | 6020 |

omments:

# METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201169
Project No.:
Units: µG/L
Project Name: Agromac - Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: S1-GGW-2SD
Lab Code: K2201169-004SD DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 29.6 | | 11.6 | | 20.0 | 90 | | 6020 |
| Barium | 75 - 125 | 69.5 | | 51.20 | | 20.0 | 92 | | 6020 |
| Cadmium | 75 - 125 | 19.8 | | 0.10 | U | 20.0 | 99 | | 6020 |
| Chromium | 75 - 125 | 17.5 | | 0.86 | | 20.0 | 83 | | 6020 |
| Lead | 75 - 125 | 18.9 | | 0.12 | | 20.0 | 94 | | 6020 |
| Manganese | | 72.4 | | 58.00 | | 20.0 | 72 | | 6020 |
| Selenium | 70 - 130 | 40 | U | 40 | U | 20 | 163 | X | 200.8 |
| Silver | 75 - 125 | 18.2 | | 0.02 | U | 20.0 | 91 | | 6020 |
| Zinc | 75 - 125 | 20.3 | | 4.2 | | 20.0 | 81 | | 6020 |

'omments:

# METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201169
Project No.:
Units: µG/L
Project Name: Agromac - Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: OS-PW-14SD
Lab Code: K2201169-011SD DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 38.5 | | 22.7 | | 20.0 | 79 | | 6020 |
| Barium | 75 - 125 | 54.7 | | 36.60 | | 20.0 | 91 | | 6020 |
| Cadmium | 75 - 125 | 19.5 | | 0.13 | | 20.0 | 96 | | 6020 |
| Chromium | 75 - 125 | 16.7 | | 0.61 | | 20.0 | 80 | | 6020 |
| Lead | 75 - 125 | 19.3 | | 0.39 | | 20.0 | 95 | | 6020 |
| Manganese | | 17.1 | | 0.70 | | 20.0 | 82 | | 6020 |
| Selenium | 70 - 130 | 40 | U | 40 | U | 20 | 146 | X | 200.8 |
| Silver | 75 - 125 | 17.7 | | 0.02 | U | 20.0 | 89 | | 6020 |
| Zinc | 75 - 125 | 31.6 | | 15.2 | | 20.0 | 82 | | 6020 |

omments:

# METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201169
Project No.:
Units: µG/L
Project Name: Agromac - Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: OS-PW-14S
Lab Code: K2201169-011S DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 39.8 | | 22.7 | | 20.0 | 85 | | 6020 |
| Barium | 75 - 125 | 54.2 | | 36.6 | | 20.0 | 88 | | 6020 |
| Cadmium | 75 - 125 | 18.7 | | 0.13 | | 20.0 | 93 | | 6020 |
| Chromium | 75 - 125 | 16.3 | | 0.61 | | 20.0 | 78 | | 6020 |
| Lead | 75 - 125 | 18.8 | | 0.39 | | 20.0 | 92 | | 6020 |
| Manganese | | 16.3 | | 0.70 | | 20.0 | 78 | | 6020 |
| Selenium | 70 - 130 | 40 | U | 40 | U | 20 | 155 | X | 200.8 |
| Silver | 75 - 125 | 17.9 | | 0.02 | U | 20.0 | 90 | | 6020 |
| Zinc | 75 - 125 | 31.8 | | 15.2 | | 20.0 | 83 | | 6020 |

omments:

# METALS
## - 5b -
## POST DIGEST SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.: Units: ug/L

Project Name: Agromac - Lockwood

Matrix: WATER

Sample Name: S1-GGW-2A Lab Code: K2201169-004A DISS

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | 24.0 | | 5.82 | | 20.0 | 91 | | MS |
| Barium | | 45.4 | | 25.6 | | 20.0 | 99 | | MS |
| Cadmium | | 19.5 | | 0.05 | U | 20.0 | 98 | | MS |
| Chromium | | 16.6 | | 0.43 | | 20.0 | 81 | | MS |
| Lead | | 18.7 | | 0.06 | | 20.0 | 93 | | MS |
| Manganese | | 44.4 | | 29.0 | | 20.0 | 77 | | MS |
| Selenium | | 26.0 | | 20.0 | U | 20.0 | 130 | | MS |
| Silver | | 18.0 | | 0.01 | U | 20.0 | 90 | | MS |
| Zinc | | 19.1 | | 2.09 | | 20.0 | 85 | | MS |

Comments:

# METALS
## -7-
## LABORATORY CONTROL SAMPLE

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Aqueous LCS Source: Inorganic Ventures Solid LCS Source:

| Analyte | Aqueous ug/L | | | Solid (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R | True | Found | C | Limits | | %R |
| Arsenic | 20.0 | 20.0 | 100 | | | | | | |
| Barium | 20.0 | 19.5 | 98 | | | | | | |
| Cadmium | 20.0 | 20.0 | 100 | | | | | | |
| Chromium | 20.0 | 19.7 | 99 | | | | | | |
| Lead | 20.0 | 19.2 | 96 | | | | | | |
| Manganese | 20.0 | 19.7 | 99 | | | | | | |
| Selenium | 20.0 | 20.9 | 104 | | | | | | |
| Silver | 20.0 | 19.9 | 99 | | | | | | |
| Zinc | 20.0 | 20.5 | 103 | | | | | | |

# METALS
## -9-
## ICP SERIAL DILUTIONS

Client: Tetra Tech EM Inc.
Service Request: K2201169
Project No.:
Units: ug/L
Project Name: Agromac - Lockwood

Sample Name: S1-GGW-2L
Lab Code: K2201169-004L DISS

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Differ- | Q | Method |
|---|---|---|---|---|---|---|---|
| Arsenic | 5.82 | | 6.28 | | 8 | | 6020 |
| Barium | 25.6 | | 26.2 | | 2 | | 6020 |
| Cadmium | 0.05 | U | 0.25 | U | | | 6020 |
| Chromium | 0.43 | | 0.78 | B | 82 | | 6020 |
| Lead | 0.06 | | 0.21 | | 242 | | 6020 |
| Manganese | 29.0 | | 35.4 | | 22 | E | 6020 |
| Selenium | 20.0 | U | 100 | U | | | 200.8 |
| Silver | 0.01 | U | 0.05 | U | | | 6020 |
| Zinc | 2.09 | | 3.67 | | 76 | | 6020 |

# METALS
-10-
## METHOD DETECTION LIMITS

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICP/ICP-MS ID #: PQ-S

GFAA ID #: AA ID #:

| Analyte | Mass | Back-ground | MRL (ug/L) | MDL (ug/L) | Method |
|---|---|---|---|---|---|
| Arsenic | 75 | | 0.5 | 0.2 | 6020 |
| Barium | 137 | | 0.02 | 0.02 | 6020 |
| Cadmium | 111 | | 0.05 | 0.05 | 6020 |
| Chromium | 52 | | 0.20 | 0.09 | 6020 |
| Lead | 208 | | 0.02 | 0.01 | 6020 |
| Manganese | 55 | | 0.05 | 0.02 | 6020 |
| Selenium | 82 | | 20.0 | 20.0 | 200.8 |
| Silver | 107 | | 0.02 | 0.01 | 6020 |
| Zinc | 66 | | 0.5 | 0.1 | 6020 |

C ents

# METALS

-12-

## ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

ICP ID Number: PQ-S

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | Method |
|---|---|---|---|
| Arsenic | 15.00 | 1000.0 | 6020 |
| Barium | 15.00 | 1000.0 | 6020 |
| Cadmium | 15.00 | 1000.0 | 6020 |
| Chromium | 15.00 | 1000.0 | 6020 |
| Lead | 15.00 | 1000.0 | 6020 |
| Manganese | 15.00 | 900.0 | 6020 |
| Selenium | 15.00 | 1000.0 | 200.8 |
| Silver | 15.00 | 100.0 | 6020 |
| Zinc | 15.00 | 1000.0 | 6020 |

Comments:

# METALS
## - 13 -
## PREPARATION LOG

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Agromac - Lockwood

Method: MS

| Lab Code | Preparation Date | Preparation Method | Initial (mL or grams) | Final Volume (mL) |
|---|---|---|---|---|
| K2201169-019 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-018 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-017 DI | 02/26/02 | CLFAA | 50 | 50 |
| LCSW | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-MB | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-015 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-013 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-008 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-007 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-009 DI | 02/26/02 | CLFAA | 50 | 50 |
| 2201169-006 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-001 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-010 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-011 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-011S D | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-011SD | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-012 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-016 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-003 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-004 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-004S D | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-004SD | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-002 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-005 DI | 02/26/02 | CLFAA | 50 | 50 |
| K2201169-020 DI | 02/26/02 | CLFAA | 10 | 50 |
| K2201169-014 DI | 2/26/02 | CLFAA | 50 | 50 |

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Instrument ID Number: PQ-S Method: MS

Start Date: 2/28/02 End Date: 2/28/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| S0 | 1.00 | 09:34 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| S25 | 1.00 | 09:36 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ICV | 1.00 | 09:38 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCV1 | 1.00 | 09:41 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ICB | 1.00 | 09:46 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB1 | 1.00 | 09:50 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CRA | 1.00 | 09:52 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| [illegible]A | 1.00 | 09:54 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| [illegible]SAB | 1.00 | 09:56 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-MB | 1.00 | 10:03 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| LCSW | 1.00 | 10:06 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ZK2201169-004 DISS | 1.00 | 10:10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201169-002 DISS | 1.00 | 10:13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201169-003 DISS | 1.00 | 10:15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CCV2 | 1.00 | 10:18 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB2 | 1.00 | 10:24 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-004 DISS | 2.00 | 10:29 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-004L DISS | 10.00 | 10:31 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-004A DISS | 2.00 | 10:33 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-004S DISS | 2.00 | 10:35 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-004SD DISS | 2.00 | 10:37 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-001 DISS | 2.00 | 10:40 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-002 DISS | 2.00 | 10:43 | | | | X | X | | X | | X | | | | X | | | | | | X | X | | | | X | |
| K2201169-003 DISS | 2.00 | 10:46 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-005 DISS | 2.00 | 10:48 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-006 DISS | 2.00 | 10:50 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCV3 | 1.00 | 10:52 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| [illegible]B3 | 1.00 | 10:57 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| [illegible]3 | 1.00 | 11:00 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-007 DISS | 2.00 | 11:02 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Form XIV - IN

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Instrument ID Number: PQ-S Method: MS

Start Date: 2/28/02 End Date: 2/28/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| K2201169-008 DISS | 2.00 | 11:04 | | | | X | X | | X | | X | | | | X | | | | | | X | X | | | | X | |
| K2201169-009 DISS | 2.00 | 11:06 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-010 DISS | 2.00 | 11:08 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-011 DISS | 2.00 | 11:10 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-011S DISS | 2.00 | 11:12 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-011SD DISS | 2.00 | 11:14 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-012 DISS | 2.00 | 11:17 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| 01169-013 DISS | 2.00 | 11:19 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| 201169-014 DISS | 2.00 | 11:21 | | | | X | X | | X | | X | | | | X | | | | | | X | X | | | | X | |
| CCV4 | 1.00 | 11:23 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB4 | 1.00 | 11:28 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB4 | 1.00 | 11:32 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201169-015 DISS | 2.00 | 11:52 | | | | X | X | | X | | | | | | X | | | | | | X | X | | | | X | |
| K2201169-016 DISS | 2.00 | 11:54 | | | | X | X | | X | | | | | | X | | | | | | X | X | | | | X | |
| K2201169-017 DISS | 2.00 | 11:56 | | | | X | X | | X | | | | | | X | | | | | | X | X | | | | X | |
| K2201169-018 DISS | 2.00 | 11:58 | | | | X | X | | X | | | | | | X | | | | | | X | X | | | | | |
| K2201169-019 DISS | 2.00 | 12:00 | | | | X | X | | X | | | | | | X | | | | | | X | X | | | | X | |
| ZK2201169-020 DISS | 2.00 | 12:07 | | | | | | | | | | | | | | | | | | | | | | | | | |
| K2201169-020 DISS | 2.00 | 12:11 | | | | X | X | | X | | | | | | X | | | | | | X | X | | | | X | |
| ZZZZZZ | 1.00 | 12:14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CCV5 | 1.00 | 12:20 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB5 | 1.00 | 12:27 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Form XIV - IN

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Instrument ID Number: PQ-S Method: MS

Start Date: 2/28/02 End Date: 2/28/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| S0 | 1.00 | 12:58 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| S25 | 1.00 | 13:00 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| ICV2 | 1.00 | 13:03 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| CCV1 | 1.00 | 13:05 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| ICB2 | 1.00 | 13:12 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| CCB1 | 1.00 | 13:14 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| CRA | 1.00 | 13:16 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| [illegible] | 1.00 | 13:19 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| 10sAB | 1.00 | 13:20 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| K2201169-015 DISS | 2.00 | 13:23 | | | | | | | | | X | | | | | | X | | | | | | | | | | |
| K2201169-016 DISS | 2.00 | 13:25 | | | | | | | | | X | | | | | | X | | | | | | | | | | |
| ZK2201169-017 DISS | 1.00 | 13:26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201169-017 DISS | 1.00 | 13:31 | | | | | | | | | | | | | | | | | | | | | | | | | |
| K2201169-018 DISS | 2.00 | 13:34 | | | | | | | | | X | | | | | | | | | | | | | | | | |
| K2201169-019 DISS | 2.00 | 13:36 | | | | | | | | | X | | | | | | | | | | | | | | | | |
| K2201169-020 DISS | 2.00 | 13:37 | | | | | | | | | X | | | | | | X | | | | | | | | | | |
| CCV2 | 1.00 | 13:40 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| CCB2 | 1.00 | 13:48 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| K2201169-017 DISS | 2.00 | 13:52 | | | | | | | | | X | | | | | | X | | | | | | | | | | |
| K2201169-002 DISS | 20.00 | 13:54 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| K2201169-008 DISS | 20.00 | 13:56 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| K2201169-018 DISS | 20.00 | 13:57 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| K2201169-018 DISS | 400.00 | 13:59 | | | | | | | | | | | | | | | | | | | | | | | | X | |
| K2201169-019 DISS | 5.00 | 14:01 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CCV3 | 1.00 | 14:03 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |
| CCB3 | 1.00 | 14:11 | | | | | | | | | X | | | | | | X | | | | | | | | | X | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201169

Project No.:

Project Name: Agromac - Lockwood

Instrument ID Number: PQ-S Method: MS

Start Date: 3/1/02 End Date: 3/1/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| CALIBRATION BLANK | 1.00 | 13:24 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CALIBRATION STANDARD | 1.00 | 13:26 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| ICV3 | 1.00 | 13:28 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CCV1 | 1.00 | 13:30 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| ICB3 | 1.00 | 13:36 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CCB1 | 1.00 | 13:38 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CRA | 1.00 | 13:40 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| [illegible]A | 1.00 | 13:42 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| [illegible]SAB | 1.00 | 13:44 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| ZZZZZZ | 1.00 | 13:46 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 1.00 | 13:51 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 1.00 | 13:53 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 13:55 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 10.00 | 13:57 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:00 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:02 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CCV2 | 1.00 | 14:06 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CCB2 | 1.00 | 14:12 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 1.00 | 14:16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:19 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:26 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:28 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 20.00 | 14:29 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 2.00 | 14:31 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 20.00 | 14:33 | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible]201169-014 DISS | 20.00 | 14:34 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| [illegible]3 | 1.00 | 14:36 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| CCB3 | 1.00 | 14:41 | | | | | | | | | | | | | | | X | | | | | | | | | | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Form XIV - IN

Extr/Prep Batch
KP0107493

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K2201169

Method: CLP 3010A 3020A 3005A 3050B Other-

Analysis for: ICP ICP-MS GFAA Flame AA Other

| Sample | Initial Weight (g) | Dry | Wet | Initial Volume(ml) | Final Volume (ml) | Matrix |
|---|---|---|---|---|---|---|
| 1169-MD | | | X | 50 ml | 50 ml | 1% HNO3 |
| -LCSW | * | | | | | |
| -1 | | | | | | |
| -2 | | | | | | |
| -3 | | | | | | |
| -4 | | | | | | |
| -4S | * | | | | | |
| -4SD | * | | | | | |
| -5 | | | | | | |
| -6 | | | | | | |
| -7 | | | | | | |
| -8 | | | | | | |
| -9 | | | | | | |
| -10 | | | | | | |
| -11 | | | | | | |
| -11S | * | | | | | |
| -11SD | * | | | | | |
| -12 | | | | | | |
| -13 | | | | | | |
| -14 | | | | | | |
| -15 | | | | | | |
| -16 | | | | | | |
| -17 | | | | | | |
| -18 | | | | | | |
| -19 | | | | | | |
| -20 | | | | 10 ml | | |

Time Digestion Started: _____

Lot # Acids Used: HNO3 MS1-17-C HCl _____ H2O2 _____

LCSS (circle appropriate) ERA CLP Soil Lot # 246 EPA Lot # 0287 Other: _____

GFAA LCSW = GFLCSW-102901, _____ mls. added

ICP LCSW = QCP CICV-1 Lot # R-MEB93119, _____ mls. added
QCP CICV-2 Lot # R-MEB93103, _____ mls. added
QCP CICV-3 Lot # S-CICP10067, _____ mls. added
SS6-092801, _____ mls. added

SPIKE INFO

SS1-010402, _____ mls added SS4-102901, _____ mls added
SS2-112601, _____ mls added SS5-092801, _____ mls added
SS3-021902, _____ mls added SS6-092801, _____ mls added

TCLP Spike/LCS

SS1 _____ mls. added
SS2 _____ mls. added

Additional spikes: _____

Comments: * 1.0 ml MS1-1-A + MS1-1B

Analyst [signature] Date 2/26/02

Reviewer [signature] Date 2/26/02

metdig.xls
4/12/00

Service Request # K2201169_____
Calibration _____022802A & 022802B reruns & dilutions
QC in calibration__022802A_____
QC Service Request # K2201169_____
PQS - Sample Position Method Blank #8_____
PQS – Sample Position LCSW _____#9_____

# ICP-MS Data Review Form

| | Yes | No | NA |
|---|---|---|---|
| 1. Appropriate standardization completed | X | | |
| 2. ICV within 10 % of true value | X | | |
| 3. CCV's in control | X | X | |
| 4. CCB's and/or ICB's below MRL | X | X | |
| 5. Method blank below MRL | X | | |
| 6. LCS in control | X | | |
| 7. Spike and duplicate in control | X | X | |
| 8. All analytes within instrument linear range | X | | |
| 9. Adequate rinse out time allowed | X | | |
| 10. Internal standards in control | X | | |
| 11. Interferences checked | X | | |
| 12. Se over MRL | X Report by GFAA | | |
| 13. CRA run | X or<20 by 200.8 | | |
| 14. ICSA and ICSAB in control | X | | |
| 15. Serial dilution run | X | | |
| 16. Post spike in control | X | | |

Use Mn MRL=0.1ppb
Comments: Q.C.Sample #4 Mn<75% sample is about 3X. Post spike is in control. CCV-5 Cr out of control. CCB-5 Mn>MRL. Affected samples were rerun on a new calibration.

Reviewed by JC Date 2/28/02

R:\icp\misc\data review forms\icpms review form

Integrals for : MASS CALIB STD 1

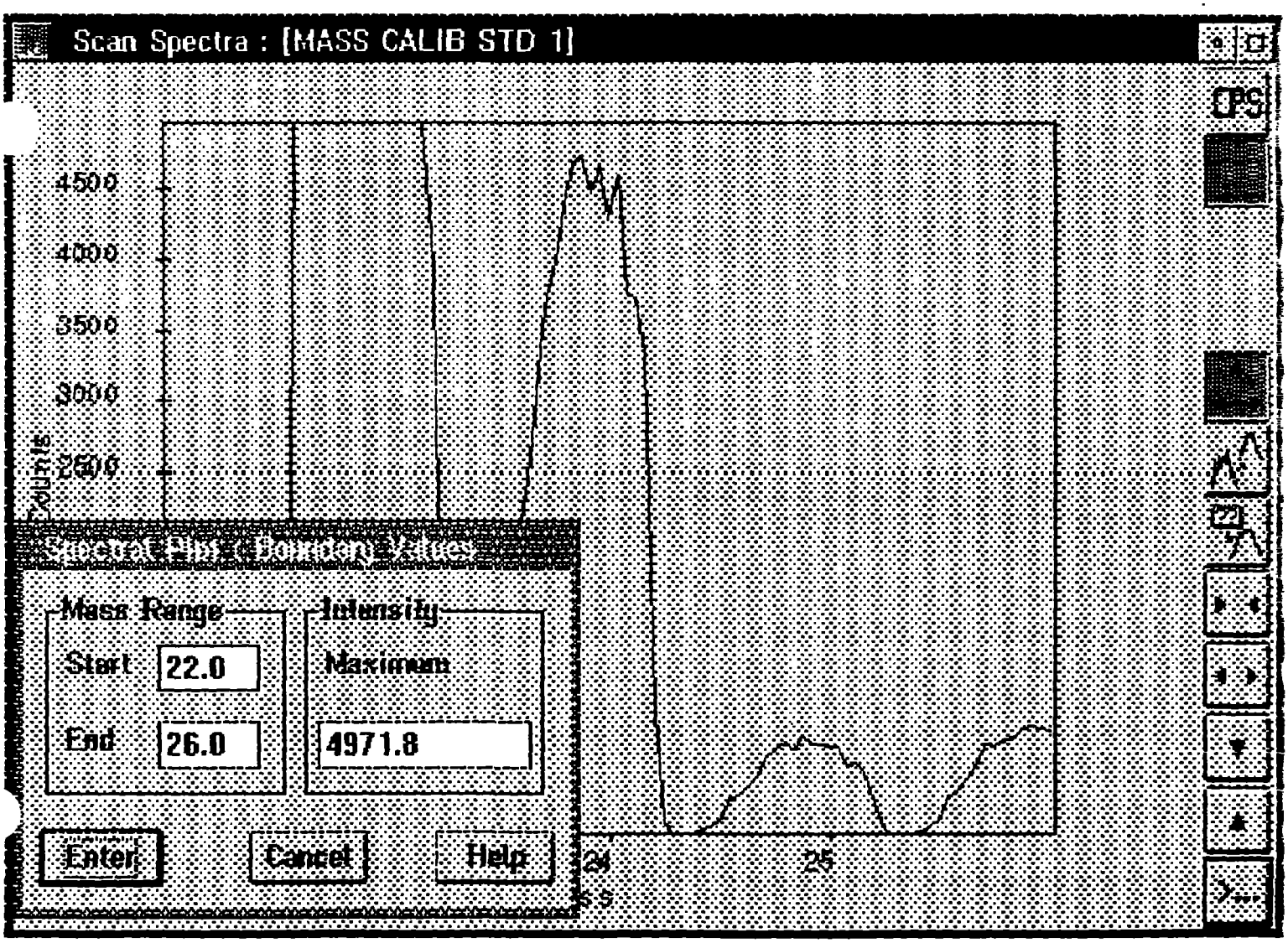
| Peak | Li 6 | Be 9 | Mg 24 | Co 59 | In 115 | Pb 208 | Bi 209 | U 238 |
|---|---|---|---|---|---|---|---|---|
| CPS | 987183 | 261371 | 543422 | 649599 | 671315 | 211512 | 318455 | 269704 |

MASS CALIBRATION DATA
Thu Feb 28 2002
08:14:35

| Actual Mass | Found DAC | Calculated DAC | Calculated Mass |
|---|---|---|---|
| 6.01512E+0 | 1300 | 1291 | 6.10280E+0 |
| 9.01218E+0 | 1939 | 1933 | 9.03867E+0 |
| 2.39850E+1 | 5170 | 5193 | 2.38787E+1 |
| 5.89332E+1 | 12793 | 12809 | 5.88599E+1 |
| 1.14904E+2 | 25042 | 25026 | 1.14977E+2 |
| 2.07977E+2 | 45400 | 45396 | 2.07994E+2 |
| 2.08980E+2 | 45616 | 45616 | 2.08979E+2 |
| 2.38051E+2 | 51988 | 51993 | 2.38027E+2 |

New Mass calibration coeffs
y = a + bx + cx^2 + dx^3
1.29023E-1 4.59570E-3 -3.78608E-10 0.00000E+0
Regression coeff = 1.0000E+0

Peak Height

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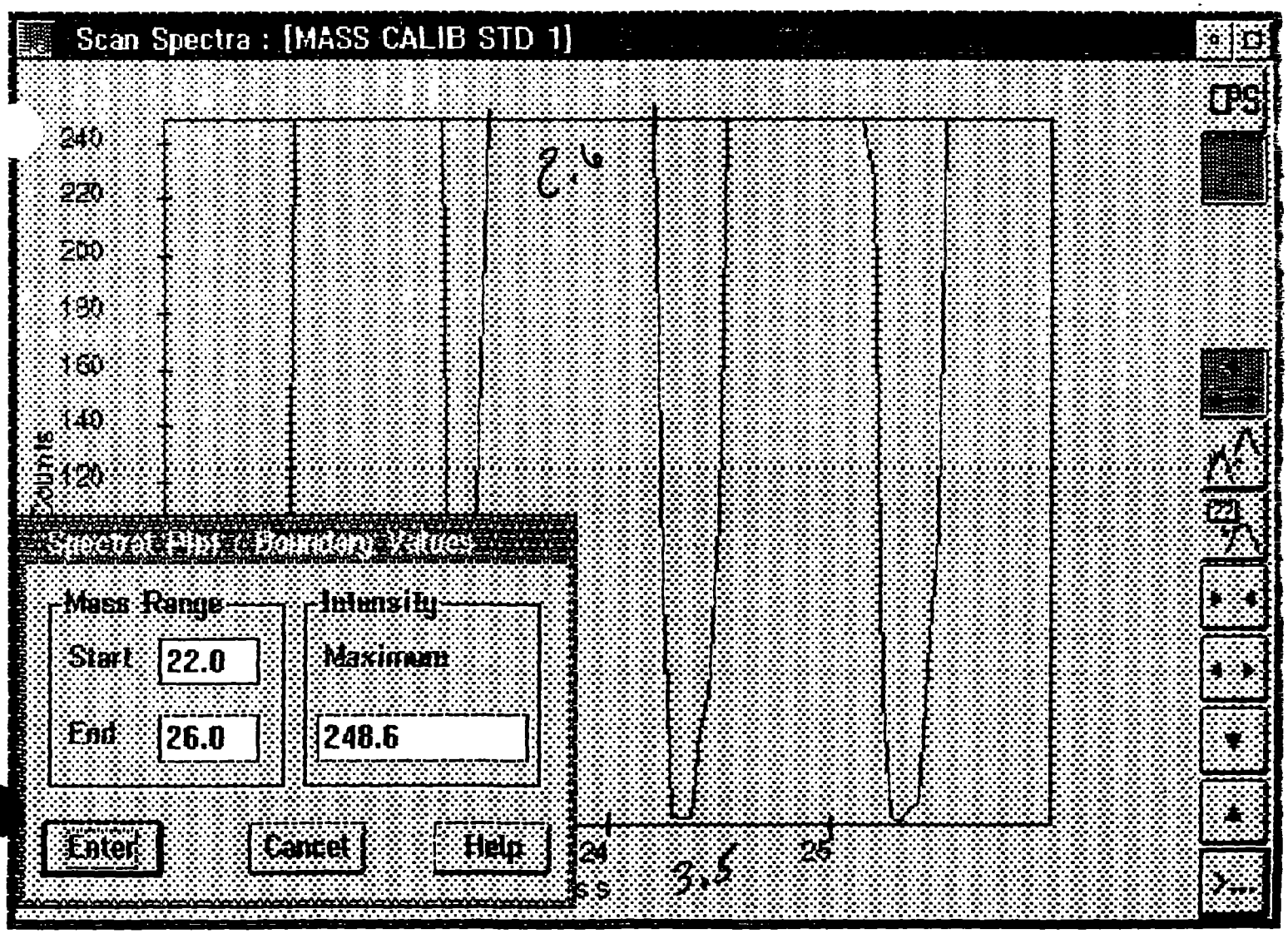
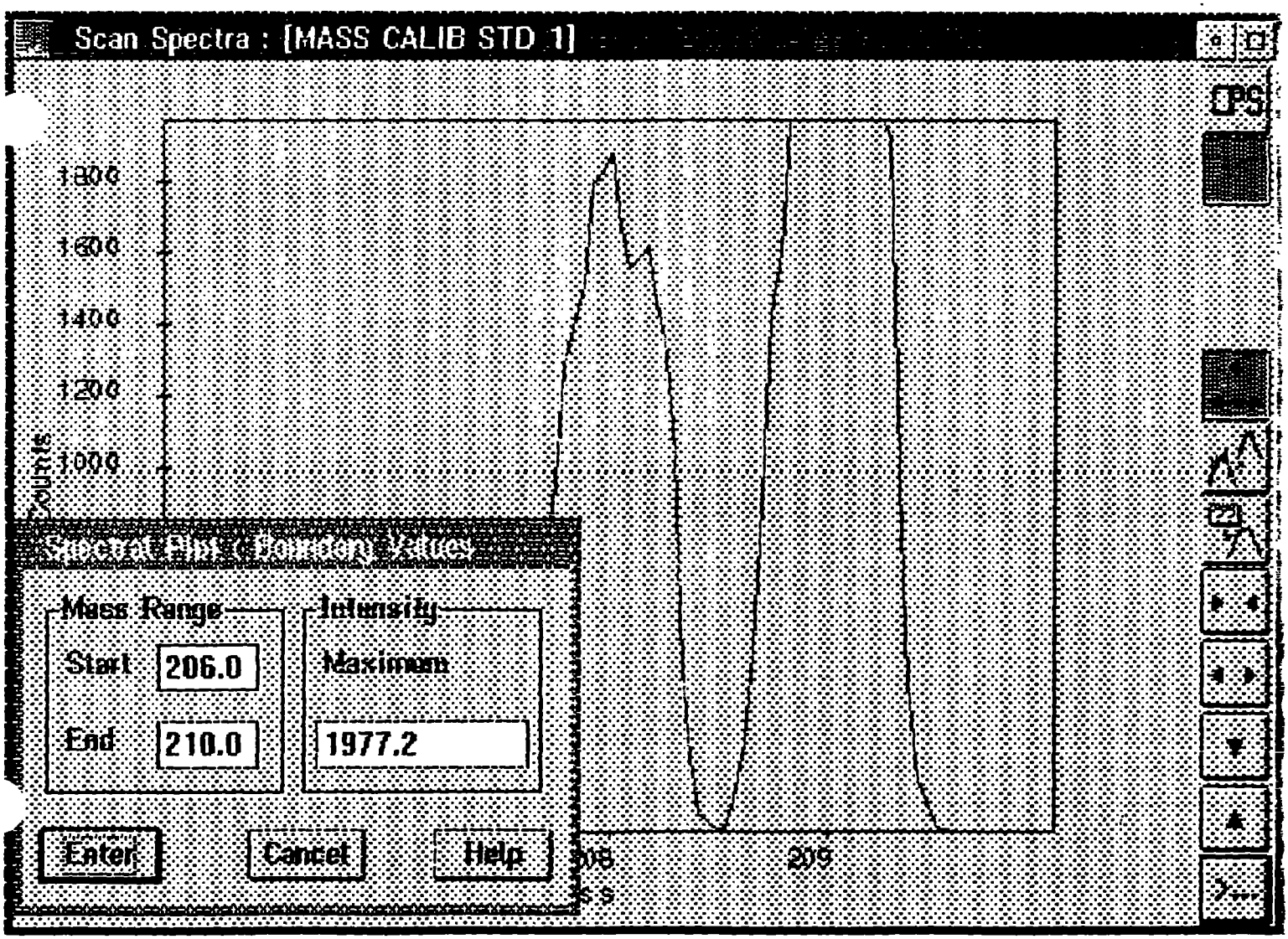
Res = 2.6 / 3.5 = 0.74

5% Peak Height

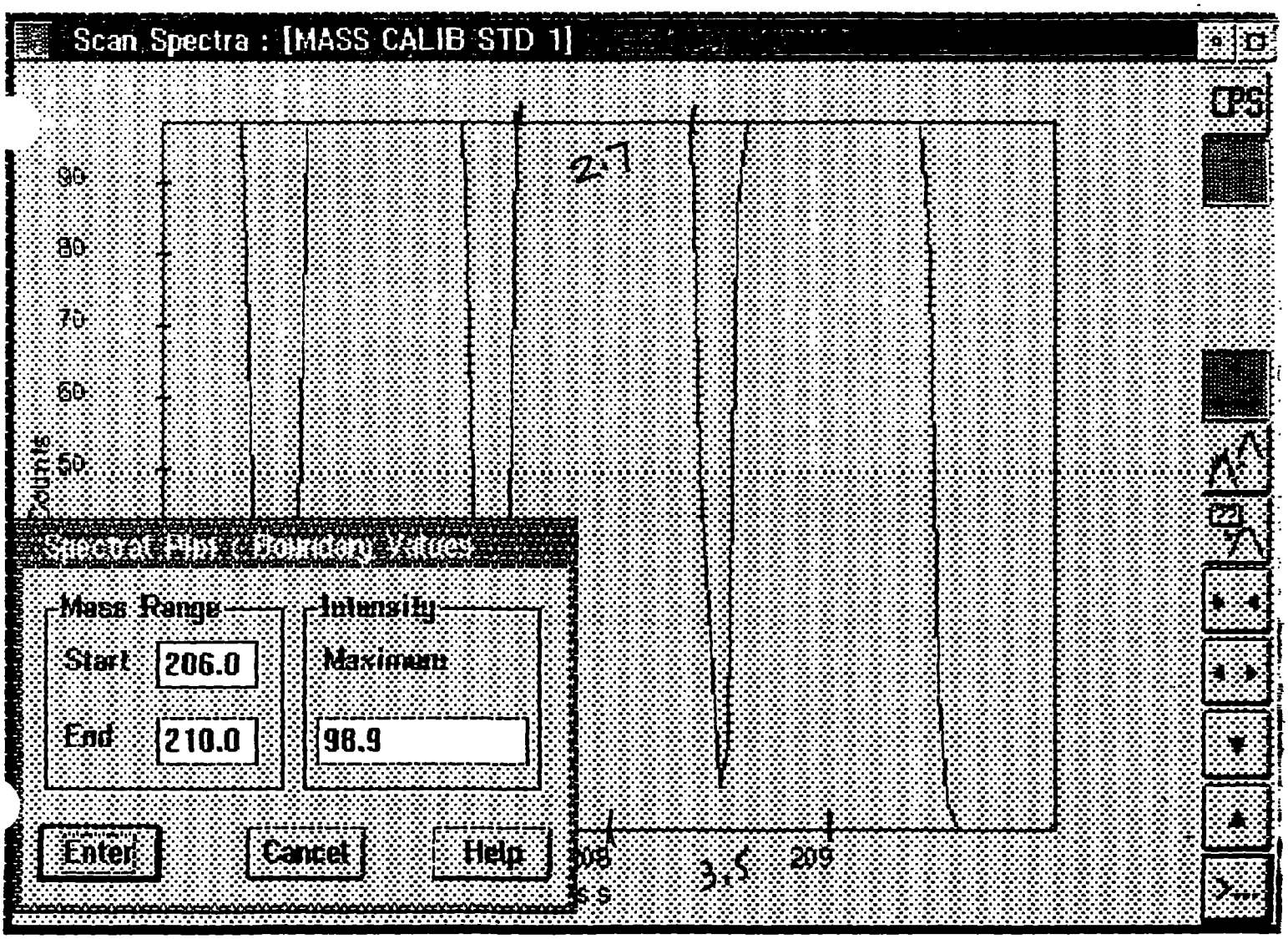


PEAK Height


Scan Spectra : [MASS CALIB STD 1]
1800
1600
1400
1200
1000
Counts
Mass Range
Start 206.0
End 210.0
Intensity
Maximum
1977.2
Enter
Cancel
Help
208
209

Res = 2.7/3.5 = 0.77

590 peak Height




00067

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : CALIB
Analysis procedure : SHORT TERM STABILITY PROC
Sample name : Short Term Stability
First repeat started at : Thu Feb 28 2002 08:18:05
Last repeat started at : Thu Feb 28 2002 08:20:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Beryllium | Magnesium | Cobalt | Indium | Lead | Bismuth | Uranium |
|---|---|---|---|---|---|---|---|
| Isotope | Be 9 | Mg 24 | Co 59 | In 115 | Pb 208 | Bi 209 | U 238 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.01 | 25.04 | 24.91 | 24.66 | 24.85 | 24.78 | 24.70 |
| Run 2 | 24.99 | 25.06 | 24.84 | 24.49 | 24.75 | 24.55 | 24.75 |
| Run 3 | 24.98 | 25.03 | 24.69 | 24.33 | 24.56 | 24.21 | 24.70 |
| Run 4 | 25.06 | 25.10 | 24.71 | 24.24 | 24.51 | 24.01 | 24.65 |
| Run 5 | 25.04 | 25.10 | 24.62 | 24.13 | 24.35 | 24.13 | 24.59 |
| | 25.01 | 25.07 | 24.75 | 24.37 | 24.60 | 24.34 | 24.68 |
| Std Dev | 0.0326 | 0.0294 | 0.1198 | 0.2109 | 0.1990 | 0.3222 | 0.0581 |
| %SD | 0.1304 | 0.1175 | 0.4839 | 0.8655 | 0.8087 | 1.324 | 0.2356 |

Multi-Element Calibration Thu Feb 28 2002

Calibration graph coefficients for selected isotopes.

Experiment name : 022802A
User Name : GREG
Analysis procedure : EPA Method 6020/200.8
Introduction method : DEFAULT
First sample started at : Thu Feb 28 2002 09:34:08
Last sample started at : **********
Internal standards : Sc 45 In 115 Lu 175 (Interpolating)
Polynomial fit : y = a0 + a1.x + a2.x^2
Units of response : y = counts per second
Units of concentration : x = ppb

Analytical Batch
KA0109958

| Element | Symbol | Mass | a0 | a1 | a2 | regression |
|---|---|---|---|---|---|---|
| Chromium | Cr | 52 | 7291 | 24630 | 0.0 | 1.0000 |
| Chromium | Cr | 53 | 518.8 | 2916 | 0.0 | 1.0000 |
| Manganese | Mn | 55 | 4257 | 32076 | 0.0 | 1.0000 |
| Zinc | Zn | 66 | 144.9 | 3171 | 0.0 | 1.0000 |
| Zinc | Zn | 67 | 67.70 | 562.8 | 0.0 | 1.0000 |
| Zinc | Zn | 68 | 302.8 | 2274 | 0.0 | 1.0000 |
| Arsenic | As | 75 | -69.32 | 2754 | 0.0 | 1.0000 |
| Selenium | Se | 77 | 66.43 | 165.7 | 0.0 | 1.0000 |
| Selenium | Se | 78 | 11161 | 527.6 | 0.0 | 1.0000 |
| Selenium | Se | 82 | 17.30 | 206.0 | 0.0 | 1.0000 |
| Molybdenum | Mo | 95 | 259.2 | 4377 | 0.0 | 1.0000 |
| Molybdenum | Mo | 97 | 183.3 | 2753 | 0.0 | 1.0000 |
| Molybdenum | Mo | 98 | 247.6 | 7012 | 0.0 | 1.0000 |
| Silver | Ag | 107 | 95.66 | 12096 | 0.0 | 1.0000 |
| Silver | Ag | 109 | 80.44 | 11604 | 0.0 | 1.0000 |
| Cadmium | Cd | 111 | 523.4 | 2527 | 0.0 | 1.0000 |
| Cadmium | Cd | 112 | 586.5 | 4786 | 0.0 | 1.0000 |
| Cadmium | Cd | 114 | 817.7 | 5763 | 0.0 | 1.0000 |
| Barium | Ba | 135 | 35.17 | 1532 | 0.0 | 1.0000 |
| Barium | Ba | 137 | 52.39 | 2611 | 0.0 | 1.0000 |
| Barium | Ba | 138 | 111.8 | 16579 | 0.0 | 1.0000 |
| Lead | Pb | 206 | 51.18 | 4983 | 0.0 | 1.0000 |
| Lead | Pb | 207 | 40.76 | 4248 | 0.0 | 1.0000 |
| Lead | Pb | 208 | 141.0 | 19524 | 0.0 | 1.0000 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Blank
First repeat started at : Thu Feb 28 2002 09:34:08
Last repeat started at : Thu Feb 28 2002 09:35:08
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0081 | 0.0012 | 0.0071 | 0.0015 | -0.0010 | 0.0043 | -0.0202 |
| Run 2 | -0.0082 | 0.0180 | -0.0034 | -0.0024 | -0.0289 | -0.0376 | 0.0013 |
| Run 3 | 0.0163 | -0.0192 | -0.0036 | 0.0010 | 0.0299 | 0.0333 | 0.0189 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0000 | 0.0000 |
| Std Dev | 0.0141 | 0.0195 | 0.0061 | 0.0021 | 0.0294 | 0.0357 | 0.0195 |
| %SD | 816800 | 1207200 | 1229600 | 125430 | 5832600 | 7038300 | 783980 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0271 | -0.1570 | -0.1188 | 0.0059 | -0.0061 | 0.0045 |
| Run 2 | -0.1249 | 0.5748 | -0.1193 | -0.0069 | -0.0049 | -0.0013 |
| Run 3 | 0.0978 | -0.4177 | 0.2380 | 0.0010 | 0.0110 | -0.0032 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.1138 | 0.5145 | 0.2061 | 0.0065 | 0.0095 | 0.0040 |
| %SD | 3159300 | 20964000 | 15398000 | 402970 | 1445400 | 584030 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0005 | -0.0003 | -0.0074 | 0.0001 | -0.0043 | -0.0080 |
| Run 2 | 0.0017 | -0.0004 | -0.0025 | 0.0059 | -0.0018 | -0.0006 |
| Run 3 | -0.0022 | 0.0007 | 0.0099 | -0.0059 | 0.0061 | 0.0086 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0020 | 0.0006 | 0.0089 | 0.0059 | 0.0054 | 0.0083 |
| %SD | 144820 | 231270 | 497050 | 235590 | 175840 | 725010 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0040 | -0.0017 | -0.0011 | -0.0020 | -0.0015 |
| Run 2 | -0.0062 | -0.0002 | -0.0012 | 0.0033 | 0.0012 |
| Run 3 | 0.0022 | 0.0019 | 0.0023 | -0.0013 | 0.0003 |
| Mean | -0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0055 | 0.0018 | 0.0020 | 0.0029 | 0.0014 |
| %SD | 1234100 | 94034 | 176380 | 153620 | 273380 |

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... % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 99.65 | 100.2 | 100.7 |
| Run 2 | 100.6 | 100.3 | 101.4 |
| R' | 99.74 | 99.49 | 97.88 |
| Mt | 100.00 | 100.00 | 100.00 |
| Std Dev | 0.5281 | 0.4486 | 1.872 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A

Analysis procedure : EPA Method 6020/200.8

Sample name : Calibration Standard

First repeat started at : Thu Feb 28 2002 09:36:34

Last repeat started at : Thu Feb 28 2002 09:37:37

Interference Equations : DEFAULT

Dilution Factor : 1.0000 Concentration units : ppb

MS1-23-D

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.12 | 25.24 | 25.08 | 25.17 | 25.15 | 24.94 | 25.03 |
| Run 2 | 24.97 | 24.86 | 24.95 | 25.21 | 24.74 | 24.98 | 24.94 |
| Run 3 | 24.91 | 24.89 | 24.96 | 24.62 | 25.11 | 25.08 | 25.03 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.1092 | 0.2127 | 0.0736 | 0.3310 | 0.2288 | 0.0708 | 0.0512 |
| %SD | 0.4369 | 0.8509 | 0.2946 | 1.324 | 0.9154 | 0.2832 | 0.2046 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.22 | 26.14 | 24.55 | 24.93 | 24.89 | 24.74 |
| Run 2 | 25.24 | 24.92 | 24.69 | 25.05 | 24.84 | 24.94 |
| Run 3 | 24.55 | 23.94 | 25.76 | 25.02 | 25.27 | 25.32 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.3933 | 1.101 | 0.6630 | 0.0606 | 0.2382 | 0.2943 |
| %SD | 1.573 | 4.406 | 2.652 | 0.2423 | 0.9528 | 1.177 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.97 | 25.00 | 24.96 | 25.04 | 24.90 | 24.88 |
| Run 2 | 24.89 | 25.02 | 24.86 | 25.03 | 25.09 | 25.29 |
| Run 3 | 25.14 | 24.98 | 25.18 | 24.93 | 25.01 | 24.82 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.1311 | 0.0202 | 0.1650 | 0.0598 | 0.0981 | 0.2568 |
| %SD | 0.5242 | 0.0808 | 0.6602 | 0.2390 | 0.3926 | 1.027 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.14 | 25.05 | 25.05 | 25.24 | 24.98 |
| Run 2 | 24.97 | 25.08 | 25.14 | 24.63 | 25.15 |
| Run 3 | 24.89 | 24.87 | 24.81 | 25.13 | 24.88 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.1300 | 0.1137 | 0.1692 | 0.3233 | 0.1363 |
| %SD | 0.5199 | 0.4547 | 0.6770 | 1.293 | 0.5454 |

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Standard Drift: % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 97.47 | 96.97 | 98.90 |
| Run 2 | 97.72 | 97.60 | 98.78 |
| R[illegible] 3 | 98.30 | 97.55 | 99.56 |
| A[illegible] | 97.83 | 97.38 | 99.08 |
| Std Dev | 0.4288 | 0.3490 | 0.4168 |

PQ-3 #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #1
First repeat started at : Thu Feb 28 2002 09:38:37
Last repeat started at : Thu Feb 28 2002 09:39:37
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.35 | 25.46 | 48.60 | 49.75 | 60.59 | 55.73 | 47.42 |
| Run 2 | 20.10 | 26.56 | 49.10 | 51.15 | 61.53 | 56.96 | 49.46 |
| Run 3 | 20.52 | 26.26 | 49.18 | 51.88 | 60.78 | 57.93 | 50.32 |
| Mean | 20.32 | 26.09 | 48.96 | 50.92 | 60.97 | 56.87 | 49.06 |
| Std Dev | 0.2098 | 0.5653 | 0.3136 | 1.084 | 0.4963 | 1.102 | 1.491 |
| %SD | 1.032 | 2.166 | 0.6405 | 2.128 | 0.8141 | 1.938 | 3.039 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 52.13 | 47.65 | 46.10 | 48.84 | 48.32 | 48.07 |
| Run 2 | 54.75 | 51.68 | 51.80 | 49.20 | 49.07 | 48.20 |
| Run 3 | 54.55 | 50.52 | 50.88 | 49.36 | 48.55 | 48.69 |
| Mean | 53.81 | 49.95 | 49.59 | 49.14 | 48.65 | 48.32 |
| Std Dev | 1.455 | 2.074 | 3.058 | 0.2681 | 0.3808 | 0.3299 |
| %SD | 2.704 | 4.152 | 6.166 | 0.5457 | 0.7827 | 0.6828 |

ICV-1
mS1.22.C

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.83 | 24.76 | 24.74 | 26.97 | 26.08 | 199.7 |
| Run 2 | 24.90 | 24.89 | 25.19 | 27.60 | 26.62 | 200.3 |
| Run 3 | 24.94 | 24.75 | 25.24 | 27.79 | 26.59 | 199.9 |
| Mean | 24.89 | 24.80 | 25.06 | 27.45 | 26.43 | 200.0 |
| Std Dev | 0.0588 | 0.0766 | 0.2717 | 0.4285 | 0.3011 | 0.3043 |
| %SD | 0.2363 | 0.3088 | 1.084 | 1.561 | 1.139 | 0.1522 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 201.7 | 196.6 | 49.72 | 49.45 | 48.81 |
| Run 2 | 202.8 | 196.3 | 51.10 | 50.70 | 50.34 |
| Run 3 | 203.8 | 197.0 | 52.05 | 50.50 | 50.56 |
| Mean | 202.8 | 196.6 | 50.96 | 50.21 | 49.90 |
| Std Dev | 1.075 | 0.3303 | 1.171 | 0.6708 | 0.9530 |
| %SD | 0.5303 | 0.1680 | 2.298 | 1.336 | 1.910 |

Internal Standard Drift % relative to mean of first sample -

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 99.49 | 99.39 | 101.9 |
| | 96.59 | 97.29 | 98.50 |
| Run 3 | 95.42 | 97.22 | 98.82 |
| Mean | 97.16 | 97.97 | 99.76 |
| Std Dev | 2.095 | 1.235 | 1.905 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #2
First repeat started at : Thu Feb 28 2002 09:41:07
Last repeat started at : Thu Feb 28 2002 09:42:08
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.92 | 25.24 | 25.13 | 25.51 | 25.58 | 24.90 | 25.04 |
| Run 2 | 24.89 | 24.78 | 24.86 | 25.47 | 25.98 | 24.93 | 25.12 |
| Run 3 | 24.86 | 25.32 | 25.08 | 25.92 | 25.85 | 25.20 | 25.13 |
| Mean | 24.89 | 25.11 | 25.02 | 25.63 | 25.80 | 25.01 | 25.10 |
| Std Dev | 0.0284 | 0.2931 | 0.1434 | 0.2464 | 0.2071 | 0.1645 | 0.0491 |
| | 0.1140 | 1.167 | 0.5730 | 0.9611 | 0.8025 | 0.6577 | 0.1957 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.14 | 24.58 | 25.58 | 25.22 | 25.02 | 25.60 |
| Run 2 | 27.18 | 24.33 | 26.30 | 24.98 | 24.96 | 24.87 |
| Run 3 | 26.14 | 25.63 | 24.97 | 25.25 | 25.01 | 25.11 |
| Mean | 26.15 | 24.85 | 25.62 | 25.15 | 25.00 | 25.19 |
| Std Dev | 1.020 | 0.6897 | 0.6622 | 0.1459 | 0.0299 | 0.3747 |
| %SD | 3.899 | 2.776 | 2.585 | 0.5800 | 0.1195 | 1.487 |

CCV-1
MS1-23-D

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.38 | 25.27 | 25.14 | 25.30 | 25.42 | 24.56 |
| Run 2 | 24.96 | 24.86 | 25.04 | 25.34 | 25.29 | 24.71 |
| Run 3 | 25.15 | 25.14 | 25.55 | 25.25 | 25.05 | 24.34 |
| Mean | 25.16 | 25.09 | 25.24 | 25.30 | 25.25 | 24.54 |
| Std Dev | 0.2094 | 0.2107 | 0.2693 | 0.0433 | 0.1861 | 0.1868 |
| %SD | 0.8321 | 0.8397 | 1.067 | 0.1710 | 0.7370 | 0.7612 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.08 | 24.83 | 24.49 | 24.46 | 24.54 |
| Run 2 | 24.77 | 24.77 | 24.50 | 24.85 | 24.76 |
| Run 3 | 24.90 | 24.58 | 25.06 | 24.80 | 24.92 |
| Mean | 24.92 | 24.72 | 24.68 | 24.70 | 24.74 |
| Std Dev | 0.1599 | 0.1327 | 0.3229 | 0.2131 | 0.1943 |
| %SD | 0.6416 | 0.5367 | 1.308 | 0.8627 | 0.7853 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| P tor | PC | PC | PC |
| [illegible] | 95.86 | 95.56 | 101.2 |
| Run 2 | 95.51 | 96.18 | 99.98 |
| Run 3 | 95.73 | 95.98 | 99.48 |
| Mean | 95.70 | 95.91 | 100.2 |
| Std Dev | 0.1799 | 0.3117 | 0.9102 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #3
First repeat started at : Thu Feb 28 2002 09:46:46
Last repeat started at : Thu Feb 28 2002 09:47:46
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0377 | 0.0787 | 0.0025 | 0.0050 | 0.0296 | -0.0030 | -0.0385 |
| Run 2 | 0.0132 | 0.1068 | -0.0161 | -0.0047 | 0.0695 | -0.0204 | -0.0009 |
| Run 3 | 0.0249 | 0.0693 | -0.0071 | 0.0142 | 0.0297 | -0.0091 | -0.1183 |
| Mean | 0.0253 | 0.0849 | -0.0069 | 0.0048 | 0.0429 | -0.0108 | -0.0525 |
| Dev | 0.0123 | 0.0195 | 0.0093 | 0.0094 | 0.0230 | 0.0089 | 0.0599 |
| | 48.42 | 22.99 | 135.3 | 194.4 | 53.63 | 81.86 | 114.1 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0350 | -2.001 | -0.2500 | 0.0208 | 0.0119 | 0.0207 |
| Run 2 | 0.1620 | -2.866 | 0.1127 | 0.0150 | 0.0289 | 0.0105 |
| Run 3 | -0.0179 | -1.761 | -0.6495 | 0.0096 | -0.0027 | 0.0116 |
| Mean | 0.0364 | -2.209 | -0.2623 | 0.0152 | 0.0127 | 0.0143 |
| Std Dev | 0.1091 | 0.5808 | 0.3812 | 0.0056 | 0.0158 | 0.0056 |
| %SD | 300.2 | 26.29 | 145.4 | 36.91 | 124.5 | 39.42 |

ICB-1

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0062 | 0.0084 | 0.0007 | -0.0011 | 0.0022 | 0.0020 |
| Run 2 | 0.0047 | 0.0078 | 0.0157 | 0.0179 | 0.0029 | 0.0022 |
| Run 3 | 0.0063 | 0.0056 | -0.0168 | 0.0003 | -0.0096 | 0.0059 |
| Mean | 0.0057 | 0.0073 | -0.0001 | 0.0057 | -0.0015 | 0.0034 |
| Std Dev | 0.0009 | 0.0015 | 0.0163 | 0.0106 | 0.0070 | 0.0022 |
| %SD | 16.38 | 20.57 | 10919 | 186.6 | 471.7 | 65.14 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0054 | -0.0005 | 0.0017 | 0.0066 | 0.0044 |
| Run 2 | 0.0006 | 0.0017 | 0.0007 | 0.0038 | 0.0026 |
| Run 3 | -0.0083 | 0.0020 | 0.0015 | -0.0025 | 0.0008 |
| Mean | -0.0044 | 0.0011 | 0.0013 | 0.0026 | 0.0026 |
| Std Dev | 0.0045 | 0.0014 | 0.0005 | 0.0046 | 0.0018 |
| %SD | 104.0 | 130.7 | 38.08 | 175.7 | 68.97 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| ! or | PC | PC | PC |
| Run 1 | 97.05 | 98.92 | 102.8 |
| Run 2 | 98.78 | 98.24 | 101.1 |
| Run 3 | 100.3 | 98.65 | 101.1 |
| Mean | 98.73 | 98.60 | 101.7 |
| Std Dev | 1.649 | 0.3471 | 0.9612 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #4
First repeat started at : Thu Feb 28 2002 09:50:24
Last repeat started at : Thu Feb 28 2002 09:51:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0301 | 0.0463 | -0.0119 | 0.0169 | 0.0525 | -0.0049 | -0.0016 |
| Run 2 | 0.0157 | 0.0452 | -0.0064 | 0.0079 | 0.0517 | -0.0272 | -0.0145 |
| Run 3 | 0.0140 | 0.0415 | -0.0150 | 0.0127 | 0.0147 | -0.0286 | -0.1216 |
| Mean | 0.0200 | 0.0443 | -0.0111 | 0.0125 | 0.0396 | -0.0202 | -0.0459 |
| Dev | 0.0089 | 0.0025 | 0.0043 | 0.0045 | 0.0216 | 0.0133 | 0.0659 |
| | 44.38 | 5.629 | 38.94 | 36.22 | 54.46 | 65.73 | 143.5 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0188 | -0.8348 | -0.0662 | 0.0042 | 0.0113 | 0.0079 |
| Run 2 | -0.0785 | -0.5038 | -0.1153 | 0.0138 | 0.0192 | 0.0114 |
| Run 3 | -0.1183 | 0.1958 | -0.6770 | -0.0007 | 0.0109 | 0.0104 |
| Mean | -0.0719 | -0.3809 | -0.2861 | 0.0058 | 0.0138 | 0.0099 |
| Std Dev | 0.0501 | 0.5262 | 0.3394 | 0.0074 | 0.0047 | 0.0018 |
| %SD | 69.66 | 138.1 | 118.6 | 127.9 | 34.05 | 18.45 |

CCB-1

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0033 | 0.0059 | 0.0090 | 0.0047 | 0.0014 | -0.0090 |
| Run 2 | 0.0044 | 0.0018 | 0.0416 | -0.0033 | 0.0010 | -0.0075 |
| Run 3 | 0.0057 | 0.0062 | 0.0216 | 0.0196 | -0.0065 | 0.0139 |
| Mean | 0.0045 | 0.0046 | 0.0241 | 0.0070 | -0.0014 | -0.0009 |
| Std Dev | 0.0012 | 0.0025 | 0.0164 | 0.0116 | 0.0045 | 0.0128 |
| %SD | 27.12 | 53.07 | 68.11 | 165.9 | 325.7 | 1453 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0029 | 0.0012 | 0.0017 | 0.0049 | 0.0014 |
| Run 2 | -0.0058 | 0.0027 | 0.0029 | 0.0013 | 0.0026 |
| Run 3 | 0.0082 | 0.0020 | 0.0005 | 0.0030 | 0.0024 |
| Mean | -0.0002 | 0.0020 | 0.0017 | 0.0031 | 0.0022 |
| Std Dev | 0.0074 | 0.0008 | 0.0012 | 0.0018 | 0.0006 |
| %SD | 4841 | 37.80 | 70.14 | 58.71 | 29.20 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| I[illegible]r | PC | PC | PC |
| Run 1 | 95.84 | 97.91 | 99.54 |
| Run 2 | 97.26 | 96.22 | 99.42 |
| Run 3 | 98.56 | 97.66 | 99.89 |
| Mean | 97.22 | 97.27 | 99.62 |
| Std Dev | 1.362 | 0.9135 | 0.2433 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #5
First repeat started at : Thu Feb 28 2002 09:52:29
Last repeat started at : Thu Feb 28 2002 09:53:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2523 | 0.2512 | 0.0431 | 0.7292 | 0.6287 | 0.6450 | 0.4660 |
| Run 2 | 0.2518 | 0.2425 | 0.0478 | 0.7367 | 0.6838 | 0.6587 | 0.3979 |
| Run 3 | 0.2492 | 0.2749 | 0.0442 | 0.6871 | 0.6096 | 0.6412 | 0.5292 |
| Mean | 0.2511 | 0.2562 | 0.0450 | 0.7177 | 0.6407 | 0.6483 | 0.4644 |
| Dev | 0.0016 | 0.0168 | 0.0025 | 0.0268 | 0.0385 | 0.0092 | 0.0657 |
| | 0.6553 | 6.541 | 5.536 | 3.728 | 6.014 | 1.420 | 14.14 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9421 | 0.9219 | 0.9456 | 0.0622 | 0.0504 | 0.0554 |
| Run 2 | 0.9416 | -0.5190 | 0.5115 | 0.0564 | 0.0569 | 0.0661 |
| Run 3 | 0.9107 | 0.7289 | 0.9334 | 0.0493 | 0.0418 | 0.0621 |
| Mean | 0.9315 | 0.3772 | 0.7968 | 0.0559 | 0.0497 | 0.0612 |
| Std Dev | 0.0180 | 0.7822 | 0.2472 | 0.0065 | 0.0076 | 0.0054 |
| %SD | 1.933 | 207.3 | 31.02 | 11.55 | 15.27 | 8.833 |

Water
CRA-1
MS1-17.E

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0216 | 0.0240 | 0.0796 | 0.0451 | 0.0462 | 0.0582 |
| Run 2 | 0.0268 | 0.0271 | 0.0513 | 0.0421 | 0.0468 | 0.0418 |
| Run 3 | 0.0260 | 0.0222 | 0.0433 | 0.0627 | 0.0516 | 0.0536 |
| Mean | 0.0248 | 0.0244 | 0.0581 | 0.0500 | 0.0482 | 0.0512 |
| Std Dev | 0.0028 | 0.0025 | 0.0190 | 0.0111 | 0.0029 | 0.0085 |
| %SD | 11.31 | 10.15 | 32.78 | 22.27 | 6.078 | 16.57 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0544 | 0.0562 | 0.0252 | 0.0238 | 0.0259 |
| Run 2 | 0.0596 | 0.0549 | 0.0175 | 0.0252 | 0.0219 |
| Run 3 | 0.0629 | 0.0522 | 0.0249 | 0.0322 | 0.0284 |
| Mean | 0.0590 | 0.0544 | 0.0226 | 0.0271 | 0.0254 |
| Std Dev | 0.0043 | 0.0020 | 0.0044 | 0.0045 | 0.0033 |
| %SD | 7.322 | 3.714 | 19.46 | 16.51 | 12.95 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| 1 or | PC | PC | PC |
| Run 1 | 99.26 | 98.55 | 98.49 |
| Run 2 | 98.29 | 97.90 | 99.67 |
| Run 3 | 98.13 | 97.38 | 99.31 |
| Mean | 98.56 | 97.94 | 99.16 |
| Std Dev | 0.6119 | 0.5880 | 0.6034 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #6
First repeat started at : Thu Feb 28 2002 09:54:26
Last repeat started at : Thu Feb 28 2002 09:55:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3936 | 11.03 | 0.2931 | 1.058 | 2.165 | 0.3938 | -0.1666 |
| Run 2 | 0.4064 | 13.91 | 0.2904 | 1.114 | 3.044 | 0.4018 | 0.0701 |
| Run 3 | 0.4075 | 14.58 | 0.2940 | 1.125 | 2.818 | 0.4146 | 0.1601 |
| Mean | 0.4025 | 13.17 | 0.2925 | 1.099 | 2.676 | 0.4034 | 0.0212 |
| Std Dev | 0.0077 | 1.890 | 0.0019 | 0.0361 | 0.4562 | 0.0105 | 0.1687 |
| | 1.925 | 14.35 | 0.6486 | 3.284 | 17.05 | 2.600 | 795.9 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.782 | 0.8471 | -0.5654 | 193.1 | 194.3 | 188.5 |
| Run 2 | 5.882 | 0.5146 | 0.0956 | 195.3 | 195.0 | 189.3 |
| Run 3 | 5.673 | 1.787 | -0.1034 | 193.7 | 193.4 | 187.8 |
| Mean | 5.779 | 1.049 | -0.1911 | 194.0 | 194.2 | 188.5 |
| Std Dev | 0.1044 | 0.6598 | 0.3391 | 1.106 | 0.7876 | 0.7731 |
| %SD | 1.807 | 62.87 | 177.5 | 0.5700 | 0.4055 | 0.4101 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0527 | 0.0480 | 0.6637 | 0.3811 | 0.4703 | 0.0452 |
| Run 2 | 0.0532 | 0.0413 | 0.6444 | 0.3775 | 0.4522 | 0.0706 |
| Run 3 | 0.0437 | 0.0446 | 0.6827 | 0.3876 | 0.4350 | 0.0583 |
| Mean | 0.0499 | 0.0446 | 0.6636 | 0.3820 | 0.4525 | 0.0580 |
| Std Dev | 0.0053 | 0.0033 | 0.0192 | 0.0051 | 0.0176 | 0.0127 |
| %SD | 10.69 | 7.424 | 2.888 | 1.339 | 3.897 | 21.90 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0613 | 0.0471 | 0.1786 | 0.1762 | 0.1843 |
| Run 2 | 0.0580 | 0.0555 | 0.1769 | 0.1650 | 0.1789 |
| Run 3 | 0.0648 | 0.0573 | 0.1646 | 0.1762 | 0.1797 |
| Mean | 0.0614 | 0.0533 | 0.1733 | 0.1725 | 0.1810 |
| Std Dev | 0.0034 | 0.0055 | 0.0076 | 0.0065 | 0.0029 |
| %SD | 5.513 | 10.27 | 4.407 | 3.741 | 1.622 |

ICS A-1 ~~A1~~ 02/28/02
MS1-17-F

00085

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 90.68 | 96.05 | 99.70 |
| Run 2 | 90.89 | 96.18 | 100.4 |
| Run 3 | 92.53 | 97.48 | 100.4 |
| Mean | 91.36 | 96.57 | 100.2 |
| Std Dev | 1.011 | 0.7894 | 0.4153 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #7
First repeat started at : Thu Feb 28 2002 09:56:11
Last repeat started at : Thu Feb 28 2002 09:57:12
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.36 | 35.32 | 20.71 | 22.50 | 20.35 | 20.81 | 19.97 |
| Run 2 | 20.75 | 35.71 | 21.04 | 22.64 | 20.92 | 20.93 | 20.65 |
| Run 3 | 20.83 | 37.14 | 21.13 | 23.23 | 21.96 | 21.28 | 20.43 |
| Mean | 20.65 | 36.06 | 20.96 | 22.79 | 21.08 | 21.01 | 20.35 |
| Std Dev | 0.2491 | 0.9604 | 0.2224 | 0.3858 | 0.8144 | 0.2452 | 0.3477 |
| | 1.207 | 2.664 | 1.061 | 1.692 | 3.864 | 1.167 | 1.708 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.574 | 1.506 | -0.3512 | 194.1 | 192.4 | 188.4 |
| Run 2 | 6.366 | 1.353 | -0.0659 | 196.3 | 196.8 | 189.8 |
| Run 3 | 6.656 | 1.834 | -0.6979 | 197.4 | 198.2 | 193.0 |
| Mean | 6.199 | 1.565 | -0.3717 | 195.9 | 195.8 | 190.4 |
| Std Dev | 0.5602 | 0.2455 | 0.3165 | 1.699 | 3.065 | 2.340 |
| %SD | 9.037 | 15.69 | 85.16 | 0.8672 | 1.565 | 1.229 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 18.94 | 18.96 | 20.65 | 20.04 | 20.10 | 0.0753 |
| Run 2 | 19.22 | 19.11 | 20.83 | 20.43 | 20.36 | 0.0734 |
| Run 3 | 19.63 | 19.19 | 21.08 | 20.37 | 20.78 | 0.0622 |
| Mean | 19.26 | 19.09 | 20.85 | 20.28 | 20.41 | 0.0703 |
| Std Dev | 0.3479 | 0.1199 | 0.2156 | 0.2085 | 0.3422 | 0.0071 |
| %SD | 1.806 | 0.6280 | 1.034 | 1.028 | 1.676 | 10.12 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0510 | 0.0577 | 0.1797 | 0.1956 | 0.1886 |
| Run 2 | 0.0545 | 0.0659 | 0.2017 | 0.1676 | 0.1862 |
| Run 3 | 0.0593 | 0.0614 | 0.1920 | 0.2055 | 0.1949 |
| Mean | 0.0549 | 0.0617 | 0.1911 | 0.1896 | 0.1899 |
| Std Dev | 0.0041 | 0.0041 | 0.0110 | 0.0196 | 0.0045 |
| %SD | 7.549 | 6.663 | 5.778 | 10.35 | 2.360 |

ICS-1
A+B
MS1-17-G

000187

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| tor | PC | PC | PC |
| Run 1 | 91.13 | 97.15 | 99.52 |
| Run 2 | 90.02 | 96.13 | 99.69 |
| Run 3 | 89.99 | 95.67 | 99.53 |
| Mean | 90.38 | 96.31 | 99.58 |
| Std Dev | 0.6507 | 0.7567 | 0.0936 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #8
First repeat started at : Thu Feb 28 2002 10:03:51
Last repeat started at : Thu Feb 28 2002 10:04:52
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1357 | 0.3367 | 0.0123 | 0.2104 | 0.1925 | 0.1577 | -0.0146 |
| Run 2 | 0.1313 | 0.3439 | 0.0044 | 0.2158 | 0.2405 | 0.1461 | -0.0432 |
| Run 3 | 0.1334 | 0.2862 | 0.0093 | 0.2199 | 0.2184 | 0.1948 | -0.0002 |
| Mean | 0.1335 | 0.3223 | 0.0087 | 0.2154 | 0.2172 | 0.1662 | -0.0193 |
| Dev | 0.0022 | 0.0314 | 0.0040 | 0.0048 | 0.0240 | 0.0254 | 0.0218 |
| | 1.670 | 9.756 | 46.13 | 2.231 | 11.05 | 15.30 | 112.9 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0327 | -3.029 | -0.1947 | 0.0518 | 0.0330 | 0.0345 |
| Run 2 | -0.0091 | -2.314 | -0.3365 | 0.0257 | 0.0276 | 0.0284 |
| Run 3 | -0.0331 | -1.918 | -0.1658 | 0.0269 | 0.0236 | 0.0273 |
| Mean | -0.0250 | -2.420 | -0.2323 | 0.0348 | 0.0281 | 0.0301 |
| Std Dev | 0.0138 | 0.5634 | 0.0914 | 0.0147 | 0.0047 | 0.0038 |
| %SD | 55.05 | 23.28 | 39.34 | 42.24 | 16.81 | 12.77 |

1169 METHOD BLANK

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0047 | 0.0052 | -0.0141 | -0.0061 | -0.0080 | 0.0078 |
| Run 2 | 0.0051 | 0.0047 | 0.0027 | -0.0206 | -0.0142 | 0.0055 |
| Run 3 | 0.0044 | 0.0041 | -0.0345 | 0.0061 | -0.0227 | 0.0164 |
| Mean | 0.0047 | 0.0047 | -0.0153 | -0.0069 | -0.0150 | 0.0099 |
| Std Dev | 0.0004 | 0.0006 | 0.0186 | 0.0134 | 0.0074 | 0.0058 |
| %SD | 7.821 | 11.81 | 121.5 | 194.9 | 49.08 | 58.49 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0048 | 0.0040 | 0.0043 | 0.0008 | 0.0022 |
| Run 2 | 0.0022 | 0.0046 | 0.0041 | 0.0031 | 0.0032 |
| Run 3 | -0.0026 | 0.0078 | 0.0018 | 0.0007 | 0.0028 |
| Mean | -0.0017 | 0.0055 | 0.0034 | 0.0015 | 0.0028 |
| Std Dev | 0.0036 | 0.0020 | 0.0014 | 0.0013 | 0.0005 |
| %SD | 204.0 | 36.90 | 40.92 | 88.43 | 19.52 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D or | PC | PC | PC |
| Run 1 | 102.8 | 104.5 | 108.5 |
| Run 2 | 101.8 | 104.9 | 106.8 |
| Run 3 | 103.0 | 104.5 | 105.2 |
| Mean | 102.5 | 104.7 | 106.8 |
| Std Dev | 0.5981 | 0.2092 | 1.665 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #9
First repeat started at : Thu Feb 28 2002 10:06:14
Last repeat started at : Thu Feb 28 2002 10:07:14
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 19.75 | 19.44 | 19.69 | 20.42 | 20.32 | 19.97 | 20.07 |
| Run 2 | 19.38 | 19.56 | 19.52 | 20.37 | 20.52 | 19.79 | 20.01 |
| Run 3 | 19.87 | 19.95 | 19.91 | 20.68 | 20.87 | 20.27 | 19.91 |
| Mean | 19.66 | 19.65 | 19.71 | 20.49 | 20.57 | 20.01 | 19.99 |
| Std Dev | 0.2559 | 0.2680 | 0.1960 | 0.1658 | 0.2804 | 0.2449 | 0.0808 |
| | 1.301 | 1.363 | 0.9943 | 0.8093 | 1.363 | 1.224 | 0.4040 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 19.79 | 19.72 | 20.42 | 19.56 | 19.08 | 19.43 |
| Run 2 | 20.50 | 21.19 | 20.67 | 19.38 | 19.13 | 19.45 |
| Run 3 | 22.07 | 21.18 | 21.48 | 19.84 | 19.79 | 19.80 |
| Mean | 20.79 | 20.70 | 20.86 | 19.59 | 19.33 | 19.56 |
| Std Dev | 1.165 | 0.8422 | 0.5504 | 0.2346 | 0.3936 | 0.2104 |
| %SD | 5.604 | 4.069 | 2.639 | 1.197 | 2.036 | 1.076 |

1169
LCSW

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 19.63 | 19.58 | 19.87 | 19.64 | 19.73 | 19.30 |
| Run 2 | 19.80 | 19.57 | 19.97 | 19.84 | 19.80 | 19.45 |
| Run 3 | 20.14 | 19.89 | 20.13 | 19.95 | 20.00 | 20.00 |
| Mean | 19.85 | 19.68 | 19.99 | 19.81 | 19.84 | 19.58 |
| Std Dev | 0.2628 | 0.1826 | 0.1338 | 0.1558 | 0.1427 | 0.3688 |
| %SD | 1.323 | 0.9281 | 0.6695 | 0.7862 | 0.7190 | 1.883 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 19.16 | 19.57 | 19.03 | 19.06 | 19.13 |
| Run 2 | 19.64 | 19.51 | 19.03 | 18.92 | 19.03 |
| Run 3 | 19.73 | 19.94 | 19.59 | 19.44 | 19.57 |
| Mean | 19.51 | 19.67 | 19.22 | 19.14 | 19.24 |
| Std Dev | 0.3051 | 0.2328 | 0.3248 | 0.2709 | 0.2851 |
| %SD | 1.564 | 1.183 | 1.690 | 1.415 | 1.482 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| I ne | Sc 45 | In 115 | Lu 175 |
| L .or | PC | PC | PC |
| Run 1 | 99.20 | 100.3 | 102.6 |
| Run 2 | 98.66 | 98.77 | 100.0 |
| Run 3 | 97.59 | 97.91 | 100.2 |
| Mean | 98.48 | 99.01 | 100.9 |
| Std Dev | 0.8182 | 1.230 | 1.405 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #10
First repeat started at : Thu Feb 28 2002 10:10:37
Last repeat started at : Thu Feb 28 2002 10:11:38
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9001 | 11.61 | 48.53 | 3.216 | 8.404 | 4.147 | 10.96 |
| Run 2 | 1.005 | 14.44 | 49.45 | 3.284 | 9.403 | 4.272 | 11.30 |
| Run 3 | 1.027 | 15.07 | 49.02 | 3.273 | 9.405 | 4.150 | 11.51 |
| Mean | 0.9773 | 13.71 | 49.00 | 3.258 | 9.071 | 4.190 | 11.25 |
| Dev | 0.0677 | 1.845 | 0.4577 | 0.0365 | 0.5777 | 0.0717 | 0.2794 |
| | 6.928 | 13.46 | 0.9341 | 1.120 | 6.369 | 1.710 | 2.483 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 17.24 | 9.579 | 12.68 | 3.753 | 3.816 | 3.679 |
| Run 2 | 19.27 | 8.990 | 13.39 | 3.760 | 3.697 | 3.698 |
| Run 3 | 20.11 | 10.02 | 14.34 | 3.751 | 3.722 | 3.736 |
| Mean | 18.87 | 9.531 | 13.47 | 3.754 | 3.745 | 3.704 |
| Std Dev | 1.478 | 0.5183 | 0.8316 | 0.0047 | 0.0705 | 0.0288 |
| %SD | 7.831 | 5.438 | 6.174 | 0.1247 | 1.887 | 0.7768 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0168 | 0.0132 | 0.0986 | 0.0608 | 0.0575 | 51.35 |
| Run 2 | 0.0097 | 0.0190 | 0.1006 | 0.0656 | 0.0537 | 50.26 |
| Run 3 | 0.0116 | 0.0076 | 0.1313 | 0.0501 | 0.0660 | 50.55 |
| Mean | 0.0127 | 0.0133 | 0.1102 | 0.0588 | 0.0590 | 50.72 |
| Std Dev | 0.0037 | 0.0057 | 0.0183 | 0.0079 | 0.0063 | 0.5667 |
| %SD | 29.31 | 42.61 | 16.63 | 13.49 | 10.66 | 1.117 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 50.81 | 50.79 | 0.0792 | 0.0882 | 0.0797 |
| Run 2 | 51.44 | 50.85 | 0.0674 | 0.0739 | 0.0733 |
| Run 3 | 51.08 | 50.81 | 0.0669 | 0.0656 | 0.0650 |
| Mean | 51.04 | 50.82 | 0.0712 | 0.0759 | 0.0727 |
| Std Dev | 0.4168 | 0.0304 | 0.0070 | 0.0114 | 0.0074 |
| %SD | 0.8166 | 0.0597 | 9.823 | 15.03 | 10.18 |

Run in duplicate
Outside control limits
3/28/02

1169.4

00093

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 134.3 | 93.26 | 100.0 |
| 2 | 131.9 | 93.22 | 99.91 |
| Run 3 | 133.2 | 92.63 | 100.6 |
| Mean | 133.1 | 93.03 | 100.2 |
| Std Dev | 1.240 | 0.3551 | 0.3916 |

Internal Standard Drift outside drift window.
Failed isotopes = Sc 45
Specified action is to continue with procedure.

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #11
First repeat started at : Thu Feb 28 2002 10:13:39
Last repeat started at : Thu Feb 28 2002 10:14:40
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 1.895 | 5.500 | 0.7391 | 50.07 | 46.00 | 48.80 | 22.94 |
| Run 2 | 1.923 | 5.379 | 0.7262 | 48.37 | 45.36 | 48.48 | 23.18 |
| Run 3 | 2.005 | 4.801 | 0.7410 | 49.96 | 46.50 | 48.65 | 22.27 |
| Mean | 1.941 | 5.227 | 0.7354 | 49.47 | 45.95 | 48.64 | 22.80 |
| Std Dev | 0.0572 | 0.3737 | 0.0081 | 0.9521 | 0.5700 | 0.1593 | 0.4708 |
| | 2.949 | 7.149 | 1.097 | 1.925 | 1.243 | 0.3274 | 2.065 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 12.55 | 11.75 | 11.55 | 5.097 | 5.313 | 4.957 |
| Run 2 | 12.19 | 13.10 | 11.33 | 5.054 | 4.988 | 5.074 |
| Run 3 | 12.63 | 14.03 | 11.10 | 4.985 | 5.030 | 5.003 |
| Mean | 12.45 | 12.96 | 11.33 | 5.045 | 5.110 | 5.011 |
| Std Dev | 0.2335 | 1.146 | 0.2268 | 0.0563 | 0.1767 | 0.0588 |
| %SD | 1.875 | 8.839 | 2.002 | 1.117 | 3.457 | 1.173 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0092 | 0.0081 | 0.1590 | 0.0918 | 0.1071 | 37.65 |
| Run 2 | 0.0093 | 0.0101 | 0.1721 | 0.0800 | 0.1180 | 38.33 |
| Run 3 | 0.0053 | 0.0097 | 0.2048 | 0.0869 | 0.0881 | 37.65 |
| Mean | 0.0079 | 0.0093 | 0.1786 | 0.0862 | 0.1044 | 37.88 |
| Std Dev | 0.0023 | 0.0010 | 0.0236 | 0.0059 | 0.0151 | 0.3873 |
| %SD | 29.24 | 11.23 | 13.21 | 6.839 | 14.47 | 1.022 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 37.99 | 37.69 | 1.285 | 1.292 | 1.264 |
| Run 2 | 38.20 | 38.59 | 1.318 | 1.300 | 1.282 |
| Run 3 | 37.44 | 37.29 | 1.283 | 1.238 | 1.268 |
| Mean | 37.88 | 37.86 | 1.295 | 1.277 | 1.271 |
| Std Dev | 0.3971 | 0.6689 | 0.0193 | 0.0341 | 0.0093 |
| %SD | 1.048 | 1.767 | 1.489 | 2.669 | 0.7353 |

Out of Control

1169.2

00095

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Unit | PC | PC | PC |
| Run 1 | 128.2 | 86.33 | 93.34 |
| Run 2 | 129.1 | 85.65 | 91.88 |
| Run 3 | 128.4 | 86.86 | 92.41 |
| Mean | 128.6 | 86.28 | 92.54 |
| Std Dev | 0.4953 | 0.6064 | 0.7358 |

Internal Standard Drift outside drift window.
Failed isotopes = Sc 45
Specified action is to continue with procedure.

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #12
First repeat started at : Thu Feb 28 2002 10:15:36
Last repeat started at : Thu Feb 28 2002 10:16:36
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 1.251 | 11.13 | 380.4 | 5.950 | 9.918 | 6.147 | 7.295 |
| Run 2 | 1.261 | 10.79 | 384.8 | 6.111 | 10.10 | 6.188 | 7.347 |
| Run 3 | 1.268 | 11.20 | 380.6 | 5.937 | 9.214 | 5.970 | 7.588 |
| Mean | 1.260 | 11.04 | 381.9 | 5.999 | 9.744 | 6.101 | 7.410 |
| Std Dev | 0.0083 | 0.2190 | 2.462 | 0.0966 | 0.4688 | 0.1158 | 0.1562 |
| %RSD | 0.6612 | 1.983 | 0.6447 | 1.611 | 4.811 | 1.897 | 2.108 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.105 | 7.247 | 4.055 | 13.89 | 13.70 | 13.90 |
| Run 2 | 9.692 | 9.106 | 3.896 | 13.77 | 13.71 | 13.80 |
| Run 3 | 8.914 | 9.943 | 3.969 | 14.07 | 13.89 | 13.90 |
| Mean | 9.237 | 8.765 | 3.840 | 13.91 | 13.77 | 13.87 |
| Std Dev | 0.4056 | 1.380 | 0.2491 | 0.1491 | 0.1070 | 0.0547 |
| %RSD | 4.391 | 15.74 | 6.462 | 1.072 | 0.7775 | 0.3943 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0106 | 0.0073 | 0.1336 | 0.0959 | 0.0811 | 34.79 |
| Run 2 | 0.0050 | 0.0121 | 0.1247 | 0.0967 | 0.0808 | 35.19 |
| Run 3 | 0.0045 | 0.0054 | 0.1371 | 0.0871 | 0.0878 | 34.80 |
| Mean | 0.0067 | 0.0083 | 0.1318 | 0.0932 | 0.0832 | 34.93 |
| Std Dev | 0.0034 | 0.0035 | 0.0064 | 0.0053 | 0.0040 | 0.2298 |
| %RSD | 50.32 | 42.24 | 4.851 | 5.681 | 4.778 | 0.6578 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 35.46 | 34.86 | 0.4782 | 0.4166 | 0.4602 |
| Run 2 | 35.51 | 35.43 | 0.4631 | 0.4557 | 0.4603 |
| Run 3 | 35.02 | 35.58 | 0.4629 | 0.4607 | 0.4639 |
| Mean | 35.33 | 35.29 | 0.4681 | 0.4444 | 0.4615 |
| Std Dev | 0.2700 | 0.3821 | 0.0088 | 0.0241 | 0.0021 |
| %RSD | 0.7642 | 1.083 | 1.873 | 5.431 | 0.4472 |

1169-3

00097

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 127.1 | 93.08 | 100.5 |
| Run 2 | 125.5 | 91.27 | 100.6 |
| Run 3 | 126.9 | 91.63 | 100.6 |
| Mean | 126.5 | 91.99 | 100.6 |
| Std Dev | 0.8499 | 0.9577 | 0.1033 |

Internal Standard Drift outside drift window.
Failed isotopes = Sc 45
Specified action is to continue with procedure.

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #13
First repeat started at : Thu Feb 28 2002 10:18:09
Last repeat started at : Thu Feb 28 2002 10:19:10
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.36 | 26.84 | 25.64 | 26.03 | 25.89 | 25.00 | 25.65 |
| Run 2 | 25.28 | 26.91 | 25.89 | 26.26 | 26.44 | 25.22 | 25.66 |
| Run 3 | 25.38 | 26.64 | 26.55 | 26.07 | 26.43 | 25.48 | 25.97 |
| Mean | 25.34 | 26.80 | 26.03 | 26.12 | 26.25 | 25.23 | 25.76 |
| Std Dev | 0.0519 | 0.1430 | 0.4677 | 0.1242 | 0.3112 | 0.2420 | 0.1848 |
| | 0.2050 | 0.5335 | 1.797 | 0.4756 | 1.185 | 0.9589 | 0.7175 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 26.53 | 32.86 | 25.52 | 25.40 | 25.18 | 25.10 |
| Run 2 | 27.00 | 33.61 | 26.82 | 25.77 | 25.28 | 25.27 |
| Run 3 | 27.43 | 34.26 | 26.52 | 25.36 | 25.24 | 25.16 |
| Mean | 26.99 | 33.58 | 26.29 | 25.51 | 25.23 | 25.18 |
| Std Dev | 0.4525 | 0.6987 | 0.6847 | 0.2240 | 0.0535 | 0.0866 |
| %SD | 1.677 | 2.081 | 2.605 | 0.8782 | 0.2121 | 0.3438 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.85 | 24.63 | 25.26 | 25.11 | 25.08 | 24.57 |
| Run 2 | 25.06 | 24.94 | 25.33 | 25.03 | 25.44 | 24.86 |
| Run 3 | 25.14 | 25.03 | 25.40 | 25.57 | 25.23 | 24.55 |
| Mean | 25.01 | 24.87 | 25.33 | 25.24 | 25.25 | 24.66 |
| Std Dev | 0.1513 | 0.2117 | 0.0683 | 0.2599 | 0.1763 | 0.1704 |
| %SD | 0.6047 | 0.8512 | 0.2697 | 1.149 | 0.6983 | 0.6910 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.15 | 24.95 | 24.43 | 24.32 | 24.69 |
| Run 2 | 25.41 | 25.07 | 25.28 | 24.74 | 24.91 |
| Run 3 | 25.31 | 25.12 | 24.58 | 24.79 | 24.92 |
| Mean | 25.29 | 25.04 | 24.76 | 24.62 | 24.84 |
| Std Dev | 0.1332 | 0.0861 | 0.4517 | 0.2604 | 0.1322 |
| %SD | 0.5267 | 0.3437 | 1.824 | 1.058 | 0.5323 |

CCV-2
MS1-23-D

00099

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| P tor | PC | PC | PC |
| . . | 101.6 | 103.4 | 107.3 |
| Run 2 | 101.1 | 102.4 | 106.4 |
| Run 3 | 100.6 | 101.8 | 105.9 |
| Mean | 101.1 | 102.5 | 106.5 |
| Std Dev | 0.5177 | 0.8112 | 0.7245 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #14
First repeat started at : Thu Feb 28 2002 10:24:39
Last repeat started at : Thu Feb 28 2002 10:25:40
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0302 | 0.3501 | 0.1577 | 0.1559 | 0.1686 | -0.0040 | -0.0209 |
| Run 2 | 0.0233 | 0.3331 | 0.1565 | 0.1163 | 0.2403 | 0.0100 | 0.0560 |
| Run 3 | 0.0291 | 0.3222 | 0.1864 | 0.1371 | 0.1884 | -0.0077 | -0.0032 |
| Mean | 0.0275 | 0.3351 | 0.1668 | 0.1364 | 0.1991 | -0.0006 | 0.0106 |
| Std Dev | 0.0037 | 0.0141 | 0.0169 | 0.0198 | 0.0371 | 0.0093 | 0.0403 |
| %SD | 13.46 | 4.205 | 10.15 | 14.53 | 18.62 | 1624 | 378.7 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1549 | 7.725 | -0.0759 | 0.1233 | 0.0532 | 0.0151 |
| Run 2 | 0.0409 | 6.973 | 0.1929 | 0.1159 | 0.0434 | 0.0128 |
| Run 3 | -0.0584 | 4.620 | -0.1101 | 0.1228 | 0.0228 | 0.0139 |
| Mean | 0.0458 | 6.439 | 0.0023 | 0.1207 | 0.0398 | 0.0139 |
| Std Dev | 0.1067 | 1.620 | 0.1659 | 0.0041 | 0.0155 | 0.0011 |
| %SD | 233.0 | 25.15 | 7118 | 3.432 | 38.95 | 8.108 |

CCB-2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0078 | 0.0115 | -0.0044 | -0.0060 | -0.0249 | 0.0042 |
| Run 2 | 0.0074 | 0.0065 | -0.0000 | -0.0082 | -0.0080 | 0.0043 |
| Run 3 | 0.0056 | 0.0065 | -0.0040 | -0.0011 | -0.0135 | 0.0055 |
| Mean | 0.0069 | 0.0082 | -0.0028 | -0.0051 | -0.0155 | 0.0047 |
| Std Dev | 0.0012 | 0.0029 | 0.0024 | 0.0036 | 0.0086 | 0.0007 |
| %SD | 16.72 | 34.88 | 85.84 | 71.76 | 55.67 | 15.80 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0034 | 0.0013 | 0.0120 | 0.0094 | 0.0125 |
| Run 2 | 0.0001 | 0.0045 | 0.0000 | 0.0058 | 0.0064 |
| Run 3 | -0.0027 | 0.0045 | 0.0047 | 0.0113 | 0.0083 |
| Mean | -0.0020 | 0.0035 | 0.0056 | 0.0088 | 0.0091 |
| Std Dev | 0.0018 | 0.0018 | 0.0060 | 0.0028 | 0.0031 |
| %SD | 91.40 | 53.33 | 108.2 | 31.48 | 34.40 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| P 'or | PC | PC | PC |
| R . | 103.0 | 105.1 | 107.1 |
| Run 2 | 104.9 | 104.2 | 108.2 |
| Run 3 | 105.0 | 104.0 | 107.9 |
| Mean | 104.3 | 104.5 | 107.7 |
| Std Dev | 1.163 | 0.5845 | 0.5870 |

FQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #15
First repeat started at : Thu Feb 28 2002 10:29:15
Last repeat started at : Thu Feb 28 2002 10:30:16
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.4083 | 9.487 | 29.18 | 2.073 | 5.308 | 2.420 | 5.856 |
| Run 2 | 0.4372 | 9.956 | 28.89 | 2.094 | 5.478 | 2.480 | 5.592 |
| Run 3 | 0.4413 | 10.31 | 28.93 | 2.097 | 5.414 | 2.511 | 6.012 |
| Mean | 0.4289 | 9.919 | 29.00 | 2.088 | 5.400 | 2.470 | 5.820 |
| Std Dev | 0.0180 | 0.4153 | 0.1559 | 0.0132 | 0.0857 | 0.0464 | 0.2124 |
| %RSD | 4.197 | 4.186 | 0.5375 | 0.6321 | 1.586 | 1.876 | 3.650 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.577 | 8.805 | 6.868 | 2.063 | 1.947 | 1.929 |
| Run 2 | 9.161 | 8.745 | 5.461 | 2.043 | 1.940 | 1.892 |
| Run 3 | 8.424 | 9.958 | 6.109 | 1.987 | 2.034 | 1.826 |
| Mean | 9.054 | 9.169 | 6.146 | 2.031 | 1.974 | 1.882 |
| Std Dev | 0.5839 | 0.6838 | 0.7043 | 0.0398 | 0.0521 | 0.0523 |
| %RSD | 6.449 | 7.458 | 11.46 | 1.958 | 2.638 | 2.780 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0115 | 0.0104 | 0.0728 | 0.0252 | 0.0110 | 25.47 |
| Run 2 | 0.0057 | 0.0070 | 0.0296 | 0.0309 | 0.0231 | 25.13 |
| Run 3 | 0.0042 | 0.0076 | 0.0439 | 0.0237 | 0.0277 | 25.39 |
| Mean | 0.0071 | 0.0084 | 0.0488 | 0.0266 | 0.0206 | 25.33 |
| Std Dev | 0.0038 | 0.0018 | 0.0220 | 0.0038 | 0.0086 | 0.1805 |
| %RSD | 53.23 | 21.50 | 45.07 | 14.38 | 41.70 | 0.7127 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.30 | 25.82 | 0.0618 | 0.0634 | 0.0614 |
| Run 2 | 25.52 | 26.00 | 0.0635 | 0.0521 | 0.0629 |
| Run 3 | 26.00 | 25.85 | 0.0624 | 0.0528 | 0.0608 |
| Mean | 25.61 | 25.89 | 0.0626 | 0.0561 | 0.0617 |
| Std Dev | 0.3580 | 0.0986 | 0.0008 | 0.0064 | 0.0011 |
| %RSD | 1.398 | 0.3809 | 1.353 | 11.32 | 1.739 |

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Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 119.0 | 99.50 | 105.5 |
| Run 2 | 120.1 | 98.84 | 105.2 |
| Run 3 | 118.9 | 98.33 | 104.7 |
| Mean | 119.3 | 98.89 | 105.1 |
| Std Dev | 0.6755 | 0.5841 | 0.4231 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #16
First repeat started at : Thu Feb 28 2002 10:31:22
Last repeat started at : Thu Feb 28 2002 10:32:22
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1717 | 3.611 | 7.106 | 0.7373 | 1.754 | 0.6848 | 1.207 |
| Run 2 | 0.1604 | 3.399 | 7.093 | 0.7048 | 1.723 | 0.7300 | 1.236 |
| Run 3 | 0.1358 | 3.302 | 7.068 | 0.7609 | 1.550 | 0.7649 | 1.327 |
| Mean | 0.1560 | 3.437 | 7.089 | 0.7343 | 1.676 | 0.7265 | 1.257 |
| Std Dev | 0.0184 | 0.1580 | 0.0192 | 0.0282 | 0.1096 | 0.0402 | 0.0627 |
| %SD | 11.78 | 4.598 | 0.2713 | 3.834 | 6.542 | 5.528 | 4.987 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 2.366 | 4.732 | 1.283 | 0.5054 | 0.4808 | 0.3856 |
| Run 2 | 2.259 | 4.870 | 1.477 | 0.4856 | 0.4398 | 0.3997 |
| Run 3 | 1.943 | 5.075 | 1.224 | 0.4439 | 0.4509 | 0.4247 |
| Mean | 2.189 | 4.892 | 1.328 | 0.4783 | 0.4571 | 0.4033 |
| Std Dev | 0.2196 | 0.1723 | 0.1325 | 0.0314 | 0.0212 | 0.0198 |
| %SD | 10.03 | 3.522 | 9.975 | 6.559 | 4.636 | 4.912 |

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| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0038 | 0.0066 | 0.0108 | -0.0048 | -0.0158 | 5.132 |
| Run 2 | 0.0016 | 0.0061 | 0.0161 | 0.0038 | -0.0071 | 5.192 |
| Run 3 | 0.0018 | 0.0037 | 0.0281 | -0.0059 | -0.0106 | 5.154 |
| Mean | 0.0024 | 0.0055 | 0.0183 | -0.0023 | -0.0112 | 5.159 |
| Std Dev | 0.0012 | 0.0016 | 0.0089 | 0.0053 | 0.0044 | 0.0300 |
| %SD | 51.25 | 28.49 | 48.37 | 230.5 | 39.31 | 0.5822 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 5.221 | 5.176 | 0.0381 | 0.0358 | 0.0412 |
| Run 2 | 5.346 | 5.317 | 0.0498 | 0.0440 | 0.0437 |
| Run 3 | 5.134 | 5.226 | 0.0354 | 0.0473 | 0.0415 |
| Mean | 5.234 | 5.240 | 0.0411 | 0.0424 | 0.0421 |
| Std Dev | 0.1062 | 0.0714 | 0.0077 | 0.0059 | 0.0013 |
| %SD | 2.029 | 1.362 | 18.70 | 13.88 | 3.158 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]tor | PC | PC | PC |
| [illegible] 1 | 107.9 | 104.8 | 108.1 |
| Run 2 | 107.9 | 104.7 | 106.8 |
| Run 3 | 108.2 | 105.5 | 109.4 |
| Mean | 108.0 | 105.0 | 108.1 |
| Std Dev | 0.1503 | 0.4363 | 1.320 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #17
First repeat started at : Thu Feb 28 2002 10:33:42
Last repeat started at : Thu Feb 28 2002 10:34:44
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 16.71 | 26.63 | 44.65 | 18.96 | 22.74 | 19.53 | 24.32 |
| Run 2 | 16.43 | 26.56 | 44.05 | 19.10 | 23.02 | 19.46 | 23.70 |
| Run 3 | 16.60 | 26.85 | 44.58 | 19.11 | 22.55 | 19.53 | 23.96 |
| Mean | 16.58 | 26.68 | 44.43 | 19.05 | 22.77 | 19.51 | 23.99 |
| Std Dev | 0.1410 | 0.1529 | 0.3280 | 0.0828 | 0.2348 | 0.0385 | 0.3152 |
| | 0.8507 | 0.5733 | 0.7382 | 0.4345 | 1.031 | 0.1975 | 1.313 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 29.13 | 30.81 | 26.44 | 21.13 | 20.71 | 20.78 |
| Run 2 | 29.56 | 30.03 | 26.17 | 20.96 | 21.10 | 21.20 |
| Run 3 | 29.68 | 30.12 | 25.41 | 20.76 | 20.96 | 21.00 |
| Mean | 29.45 | 30.32 | 26.01 | 20.95 | 20.92 | 20.99 |
| Std Dev | 0.2849 | 0.4298 | 0.5338 | 0.1810 | 0.1965 | 0.2103 |
| %SD | 0.9672 | 1.417 | 2.053 | 0.8641 | 0.9392 | 1.001 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 17.87 | 17.92 | 19.49 | 19.19 | 19.56 | 44.74 |
| Run 2 | 18.07 | 17.97 | 19.55 | 19.67 | 19.56 | 44.54 |
| Run 3 | 18.00 | 17.60 | 19.40 | 19.24 | 19.45 | 44.81 |
| Mean | 17.98 | 17.83 | 19.48 | 19.36 | 19.52 | 44.70 |
| Std Dev | 0.1006 | 0.2000 | 0.0718 | 0.2635 | 0.0631 | 0.1392 |
| %SD | 0.5595 | 1.122 | 0.3687 | 1.361 | 0.3233 | 0.3114 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 45.40 | 45.50 | 18.71 | 18.57 | 18.59 |
| 2 | 45.23 | 45.48 | 18.49 | 18.80 | 18.57 |
| Run 3 | 45.66 | 45.01 | 18.95 | 18.88 | 18.88 |
| Mean | 45.43 | 45.33 | 18.72 | 18.75 | 18.68 |
| Std Dev | 0.2156 | 0.2796 | 0.2294 | 0.1616 | 0.1740 |
| %SD | 0.4745 | 0.6168 | 1.225 | 0.8617 | 0.9315 |

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Internal Standard Drift: % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 113.7 | 94.26 | 101.3 |
| Run 2 | 115.2 | 93.70 | 100.6 |
| Run 3 | 114.0 | 93.79 | 99.91 |
| Mean | 114.3 | 93.92 | 100.6 |
| Std Dev | 0.7830 | 0.3008 | 0.6864 |

FQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #18
First repeat started at : Thu Feb 28 2002 10:35:36
Last repeat started at : Thu Feb 28 2002 10:36:36
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.517 | 18.79 | 35.84 | 9.985 | 13.36 | 10.41 | 14.79 |
| Run 2 | 8.613 | 18.80 | 35.95 | 10.02 | 13.81 | 10.08 | 14.85 |
| Run 3 | 8.733 | 19.64 | 36.03 | 10.15 | 13.97 | 10.36 | 14.67 |
| Mean | 8.621 | 19.08 | 35.94 | 10.05 | 13.71 | 10.28 | 14.77 |
| Std Dev | 0.1078 | 0.4851 | 0.0941 | 0.0887 | 0.3160 | 0.1750 | 0.0932 |
| %SD | 1.251 | 2.543 | 0.2617 | 0.8822 | 2.304 | 1.701 | 0.6312 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 19.72 | 20.34 | 16.82 | 11.56 | 11.31 | 11.37 |
| Run 2 | 19.80 | 21.64 | 16.02 | 11.52 | 11.10 | 11.27 |
| Run 3 | 20.58 | 21.26 | 16.46 | 11.50 | 11.36 | 11.59 |
| Mean | 20.03 | 21.08 | 16.43 | 11.53 | 11.26 | 11.41 |
| Std Dev | 0.4779 | 0.6675 | 0.4015 | 0.0330 | 0.1397 | 0.1638 |
| %SD | 2.385 | 3.167 | 2.443 | 0.2861 | 1.241 | 1.435 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.903 | 8.821 | 9.620 | 9.705 | 9.784 | 33.89 |
| Run 2 | 8.974 | 8.804 | 9.603 | 9.754 | 9.687 | 34.15 |
| Run 3 | 9.086 | 8.976 | 9.740 | 9.780 | 9.829 | 33.78 |
| Mean | 8.988 | 8.867 | 9.654 | 9.746 | 9.767 | 33.94 |
| Std Dev | 0.0922 | 0.0948 | 0.0745 | 0.0380 | 0.0729 | 0.1888 |
| %SD | 1.026 | 1.069 | 0.7719 | 0.3900 | 0.7466 | 0.5564 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 34.50 | 34.37 | 9.222 | 9.280 | 9.297 |
| Run 2 | 34.33 | 34.38 | 9.296 | 9.154 | 9.258 |
| Run 3 | 34.87 | 34.93 | 9.243 | 9.270 | 9.332 |
| Mean | 34.57 | 34.56 | 9.254 | 9.235 | 9.296 |
| Std Dev | 0.2804 | 0.3245 | 0.0382 | 0.0699 | 0.0372 |
| %SD | 0.8111 | 0.9390 | 0.4133 | 0.7570 | 0.3997 |

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Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 116.3 | 96.20 | 103.5 |
| 2 | 115.9 | 96.13 | 103.4 |
| Run 3 | 115.1 | 94.85 | 104.4 |
| Mean | 115.8 | 95.73 | 103.8 |
| Std Dev | 0.5942 | 0.7637 | 0.5530 |

FQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #19
First repeat started at : Thu Feb 28 2002 10:37:32
Last repeat started at : Thu Feb 28 2002 10:38:33
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.784 | 19.46 | 36.06 | 10.02 | 14.20 | 10.53 | 15.23 |
| Run 2 | 8.800 | 19.33 | 36.35 | 10.14 | 14.28 | 10.25 | 14.62 |
| Run 3 | 8.685 | 19.51 | 36.18 | 10.32 | 14.20 | 10.67 | 14.59 |
| Mean | 8.757 | 19.43 | 36.20 | 10.16 | 14.23 | 10.49 | 14.82 |
| Std Dev | 0.0622 | 0.0929 | 0.1443 | 0.1521 | 0.0481 | 0.2103 | 0.3607 |
| %SD | 0.7103 | 0.4778 | 0.3987 | 1.497 | 0.3382 | 2.006 | 2.434 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 19.06 | 21.68 | 16.38 | 11.51 | 11.45 | 11.50 |
| Run 2 | 20.50 | 21.81 | 16.38 | 11.87 | 11.65 | 11.63 |
| Run 3 | 19.38 | 21.27 | 16.22 | 11.64 | 11.75 | 11.59 |
| Mean | 19.64 | 21.59 | 16.33 | 11.67 | 11.62 | 11.57 |
| Std Dev | 0.7572 | 0.2830 | 0.0903 | 0.1816 | 0.1546 | 0.0679 |
| %SD | 3.854 | 1.311 | 0.5532 | 1.555 | 1.331 | 0.5866 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.036 | 9.001 | 9.900 | 9.994 | 10.09 | 34.99 |
| Run 2 | 9.036 | 9.128 | 9.813 | 10.01 | 10.14 | 34.48 |
| Run 3 | 9.179 | 8.989 | 9.988 | 9.859 | 10.03 | 34.45 |
| Mean | 9.084 | 9.039 | 9.900 | 9.954 | 10.09 | 34.64 |
| Std Dev | 0.0826 | 0.0773 | 0.0876 | 0.0824 | 0.0548 | 0.3026 |
| %SD | 0.9088 | 0.8552 | 0.8847 | 0.8280 | 0.5432 | 0.8737 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 34.78 | 34.44 | 9.442 | 9.357 | 9.398 |
| Run 2 | 35.20 | 34.84 | 9.451 | 9.602 | 9.633 |
| Run 3 | 34.28 | 34.25 | 9.261 | 9.180 | 9.274 |
| Mean | 34.75 | 34.51 | 9.385 | 9.379 | 9.435 |
| Std Dev | 0.4628 | 0.3006 | 0.1073 | 0.2119 | 0.1822 |
| %SD | 1.331 | 0.8710 | 1.144 | 2.259 | 1.931 |

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Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 114.7 | 94.76 | 103.0 |
| Run 2 | 114.3 | 94.24 | 100.5 |
| Run 3 | 115.1 | 95.05 | 103.8 |
| Mean | 114.7 | 94.68 | 102.4 |
| Std Dev | 0.3941 | 0.4115 | 1.691 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #20
First repeat started at : Thu Feb 28 2002 10:40:52
Last repeat started at : Thu Feb 28 2002 10:41:52
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.8215 | 4.408 | 0.5291 | 27.93 | 26.64 | 26.88 | 11.43 |
| Run 2 | 0.9250 | 4.082 | 0.4800 | 28.52 | 26.41 | 26.98 | 11.54 |
| Run 3 | 0.9199 | 4.217 | 0.4936 | 28.32 | 26.24 | 26.68 | 11.31 |
| Mean | 0.8888 | 4.236 | 0.5009 | 28.26 | 26.43 | 26.84 | 11.43 |
| Std Dev | 0.0584 | 0.1639 | 0.0253 | 0.2970 | 0.2029 | 0.1539 | 0.1140 |
| D | 6.568 | 3.870 | 5.054 | 1.051 | 0.7675 | 0.5733 | 0.9975 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.695 | 11.08 | 4.948 | 2.680 | 2.655 | 2.644 |
| Run 2 | 5.346 | 12.67 | 5.034 | 2.713 | 2.612 | 2.550 |
| Run 3 | 5.907 | 12.66 | 5.442 | 2.715 | 2.571 | 2.501 |
| Mean | 5.649 | 12.14 | 5.141 | 2.703 | 2.613 | 2.565 |
| Std Dev | 0.2829 | 0.9141 | 0.2637 | 0.0196 | 0.0420 | 0.0726 |
| %SD | 5.007 | 7.532 | 5.129 | 0.7241 | 1.609 | 2.831 |

1169-1

1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0199 | 0.0224 | 0.1087 | 0.0222 | 0.0196 | 18.79 |
| Run 2 | 0.0144 | 0.0145 | 0.0892 | 0.0309 | 0.0453 | 18.86 |
| Run 3 | 0.0121 | 0.0151 | 0.0842 | 0.0282 | 0.0364 | 18.21 |
| Mean | 0.0155 | 0.0174 | 0.0940 | 0.0271 | 0.0338 | 18.62 |
| Std Dev | 0.0040 | 0.0044 | 0.0129 | 0.0045 | 0.0130 | 0.3557 |
| %SD | 25.89 | 25.32 | 13.74 | 16.49 | 38.61 | 1.910 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 19.14 | 19.06 | 0.6822 | 0.6647 | 0.6708 |
| Run 2 | 18.46 | 18.90 | 0.6852 | 0.6457 | 0.6586 |
| Run 3 | 18.46 | 18.41 | 0.6514 | 0.6617 | 0.6499 |
| Mean | 18.69 | 18.79 | 0.6729 | 0.6574 | 0.6598 |
| Std Dev | 0.3935 | 0.3385 | 0.0187 | 0.0102 | 0.0105 |
| %SD | 2.106 | 1.801 | 2.785 | 1.555 | 1.598 |

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 111.5 | 91.93 | 99.61 |
| Run 2 | 111.1 | 92.44 | 99.40 |
| Run 3 | 110.8 | 92.22 | 98.97 |
| Mean | 111.1 | 92.20 | 99.32 |
| Std Dev | 0.3087 | 0.2523 | 0.3269 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #21
First repeat started at : Thu Feb 28 2002 10:43:27
Last repeat started at : Thu Feb 28 2002 10:44:28
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

See Dilution DO 2/28/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5949 | 9.269 | 595.1 | 3.810 | 5.909 | 3.478 | 3.940 |
| Run 2 | 0.5735 | 8.842 | 590.2 | 3.659 | 6.232 | 3.526 | 3.356 |
| Run 3 | 0.5274 | 8.747 | 589.9 | 3.655 | 5.870 | 3.517 | 3.784 |
| Mean | 0.5653 | 8.953 | 591.7 | 3.708 | 6.004 | 3.507 | 3.693 |
| Std Dev | 0.0345 | 0.2783 | 2.924 | 0.0884 | 0.1988 | 0.0252 | 0.3022 |
| %SD | 6.104 | 3.109 | 0.4943 | 2.383 | 3.311 | 0.7188 | 8.182 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 4.580 | 9.331 | 2.276 | 7.292 | 7.067 | 7.084 |
| Run 2 | 5.437 | 10.16 | 1.489 | 7.102 | 7.045 | 7.083 |
| Run 3 | 4.341 | 9.145 | 1.993 | 6.988 | 6.839 | 6.949 |
| Mean | 4.786 | 9.545 | 1.919 | 7.128 | 6.984 | 7.039 |
| Std Dev | 0.5763 | 0.5411 | 0.3984 | 0.1537 | 0.1262 | 0.0776 |
| %SD | 12.04 | 5.668 | 20.75 | 2.157 | 1.806 | 1.102 |

1169.2

1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0097 | 0.0076 | 0.0885 | 0.0376 | 0.0375 | 17.51 |
| Run 2 | 0.0076 | 0.0097 | 0.0794 | 0.0512 | 0.0382 | 17.19 |
| Run 3 | 0.0099 | 0.0086 | 0.0832 | 0.0357 | 0.0339 | 16.90 |
| Mean | 0.0091 | 0.0086 | 0.0837 | 0.0415 | 0.0366 | 17.20 |
| Std Dev | 0.0013 | 0.0010 | 0.0046 | 0.0085 | 0.0023 | 0.3073 |
| %SD | 13.98 | 11.98 | 5.440 | 20.43 | 6.309 | 1.787 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 17.24 | 17.20 | 0.2423 | 0.2291 | 0.2424 |
| Run 2 | 17.22 | 17.50 | 0.2661 | 0.2529 | 0.2545 |
| Run 3 | 17.00 | 17.25 | 0.2726 | 0.2429 | 0.2514 |
| Mean | 17.15 | 17.32 | 0.2603 | 0.2417 | 0.2494 |
| Std Dev | 0.1281 | 0.1576 | 0.0160 | 0.0119 | 0.0063 |
| %SD | 0.7466 | 0.9102 | 6.128 | 4.939 | 2.524 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 110.4 | 95.38 | 104.2 |
| Run 2 | 111.8 | 95.18 | 103.7 |
| Run 3 | 111.8 | 95.24 | 103.5 |
| Mean | 111.3 | 95.27 | 103.8 |
| Std Dev | 0.7822 | 0.1017 | 0.3606 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #22
First repeat started at : Thu Feb 28 2002 10:46:09
Last repeat started at : Thu Feb 28 2002 10:47:10
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.4337 | 12.38 | 19.42 | 3.032 | 6.904 | 3.978 | 4.421 |
| Run 2 | 0.4163 | 12.61 | 18.85 | 3.001 | 6.717 | 3.869 | 4.180 |
| Run 3 | 0.4227 | 12.05 | 18.29 | 2.789 | 6.736 | 3.725 | 4.149 |
| Mean | 0.4242 | 12.35 | 18.85 | 2.941 | 6.786 | 3.858 | 4.250 |
| Std Dev | 0.0088 | 0.2841 | 0.5619 | 0.1320 | 0.1033 | 0.1269 | 0.1485 |
| [illegible] | 2.072 | 2.301 | 2.981 | 4.490 | 1.523 | 3.290 | 3.493 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 6.975 | 10.15 | 2.599 | 3.219 | 3.105 | 3.108 |
| Run 2 | 7.000 | 8.694 | 3.023 | 2.993 | 3.000 | 2.923 |
| Run 3 | 6.534 | 9.939 | 2.816 | 2.840 | 2.810 | 2.823 |
| Mean | 6.836 | 9.596 | 2.813 | 3.017 | 2.972 | 2.952 |
| Std Dev | 0.2623 | 0.7883 | 0.2118 | 0.1905 | 0.1491 | 0.1447 |
| %SD | 3.836 | 8.215 | 7.529 | 6.315 | 5.018 | 4.903 |

1169.3
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0071 | 0.0070 | 0.0269 | 0.0187 | 0.0089 | 35.82 |
| Run 2 | 0.0023 | 0.0031 | 0.0163 | 0.0194 | 0.0287 | 34.04 |
| Run 3 | 0.0021 | 0.0058 | 0.0403 | 0.0185 | 0.0471 | 33.08 |
| Mean | 0.0038 | 0.0053 | 0.0278 | 0.0188 | 0.0282 | 34.31 |
| Std Dev | 0.0029 | 0.0020 | 0.0120 | 0.0005 | 0.0191 | 1.390 |
| %SD | 74.19 | 37.37 | 43.29 | 2.652 | 67.50 | 4.050 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 35.65 | 36.22 | 0.1084 | 0.1095 | 0.1085 |
| 2 | 34.13 | 34.33 | 0.1279 | 0.1182 | 0.1175 |
| Run 3 | 33.14 | 33.00 | 0.1049 | 0.1183 | 0.1101 |
| Mean | 34.31 | 34.52 | 0.1137 | 0.1153 | 0.1120 |
| Std Dev | 1.263 | 1.615 | 0.0124 | 0.0051 | 0.0048 |
| %SD | 3.682 | 4.678 | 10.90 | 4.409 | 4.259 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible] | PC | PC | PC |
| R[illegible] | 115.0 | 98.27 | 103.0 |
| Run 2 | 114.8 | 97.16 | 100.1 |
| Run 3 | 113.6 | 98.46 | 100.8 |
| Mean | 114.4 | 97.96 | 101.3 |
| Std Dev | 0.7562 | 0.7042 | 1.486 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #23
First repeat started at : Thu Feb 28 2002 10:48:12
Last repeat started at : Thu Feb 28 2002 10:49:12
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.4132 | 6.890 | 34.00 | 4.162 | 6.268 | 4.506 | 5.054 |
| Run 2 | 0.4272 | 6.523 | 33.96 | 4.245 | 6.591 | 4.444 | 4.849 |
| Run 3 | 0.4322 | 6.427 | 33.43 | 4.362 | 6.313 | 4.261 | 4.903 |
| Mean | 0.4242 | 6.613 | 33.80 | 4.256 | 6.391 | 4.404 | 4.936 |
| Std Dev | 0.0098 | 0.2443 | 0.3184 | 0.1008 | 0.1746 | 0.1272 | 0.1062 |
| %SD | 2.321 | 3.694 | 0.9421 | 2.369 | 2.732 | 2.888 | 2.151 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.995 | 16.19 | 10.23 | 3.196 | 3.183 | 3.106 |
| Run 2 | 10.43 | 16.77 | 10.02 | 3.232 | 3.091 | 2.986 |
| Run 3 | 10.91 | 16.19 | 10.41 | 3.164 | 3.074 | 3.067 |
| Mean | 10.45 | 16.38 | 10.22 | 3.197 | 3.116 | 3.053 |
| Std Dev | 0.4573 | 0.3344 | 0.1958 | 0.0338 | 0.0590 | 0.0616 |
| %SD | 4.378 | 2.042 | 1.916 | 1.057 | 1.893 | 2.018 |

1169-S
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0072 | 0.0046 | 0.0948 | 0.0570 | 0.0515 | 28.89 |
| Run 2 | 0.0049 | 0.0064 | 0.0915 | 0.0636 | 0.0468 | 28.57 |
| Run 3 | 0.0067 | 0.0048 | 0.0751 | 0.0458 | 0.0408 | 27.95 |
| Mean | 0.0062 | 0.0053 | 0.0871 | 0.0555 | 0.0463 | 28.47 |
| Std Dev | 0.0012 | 0.0010 | 0.0106 | 0.0090 | 0.0053 | 0.4761 |
| %SD | 19.49 | 19.62 | 12.11 | 16.24 | 11.50 | 1.672 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 29.76 | 28.53 | 0.1596 | 0.1490 | 0.1635 |
| Run 2 | 28.49 | 28.61 | 0.1843 | 0.1698 | 0.1661 |
| Run 3 | 28.24 | 28.15 | 0.1723 | 0.1521 | 0.1629 |
| Mean | 28.83 | 28.43 | 0.1721 | 0.1570 | 0.1641 |
| Std Dev | 0.8127 | 0.2465 | 0.0124 | 0.0112 | 0.0017 |
| %SD | 2.819 | 0.8668 | 7.190 | 7.163 | 1.041 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 116.5 | 94.61 | 100.9 |
| Run 2 | 115.7 | 94.69 | 102.5 |
| Run 3 | 115.9 | 94.31 | 104.0 |
| Mean | 116.0 | 94.54 | 102.4 |
| Std Dev | 0.4262 | 0.1955 | 1.529 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #24
First repeat started at : Thu Feb 28 2002 10:50:28
Last repeat started at : Thu Feb 28 2002 10:51:28
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2354 | 4.476 | 1.188 | 41.40 | 36.68 | 40.46 | 10.16 |
| Run 2 | 0.2652 | 4.139 | 1.179 | 40.57 | 35.96 | 39.24 | 9.983 |
| Run 3 | 0.2314 | 3.920 | 1.120 | 38.74 | 34.51 | 37.52 | 9.534 |
| Mean | 0.2440 | 4.178 | 1.162 | 40.24 | 35.72 | 39.07 | 9.893 |
| Std Dev | 0.0185 | 0.2800 | 0.0368 | 1.364 | 1.101 | 1.475 | 0.3236 |
| %SD | 7.572 | 6.702 | 3.166 | 3.390 | 3.084 | 3.776 | 3.271 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.339 | 13.90 | 4.633 | 2.756 | 2.713 | 2.572 |
| Run 2 | 4.895 | 14.28 | 3.872 | 2.673 | 2.511 | 2.542 |
| Run 3 | 5.142 | 14.47 | 3.915 | 2.519 | 2.495 | 2.340 |
| Mean | 5.125 | 14.22 | 4.140 | 2.650 | 2.573 | 2.485 |
| Std Dev | 0.2223 | 0.2896 | 0.4278 | 0.1201 | 0.1211 | 0.1264 |
| %SD | 4.337 | 2.037 | 10.33 | 4.534 | 4.708 | 5.087 |

1169.6
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0037 | 0.0063 | 0.0932 | 0.0582 | 0.0572 | 19.19 |
| Run 2 | 0.0070 | 0.0061 | 0.0946 | 0.0512 | 0.0510 | 17.72 |
| Run 3 | 0.0070 | 0.0011 | 0.0515 | 0.0731 | 0.0631 | 17.19 |
| Mean | 0.0059 | 0.0045 | 0.0797 | 0.0608 | 0.0571 | 18.03 |
| Std Dev | 0.0019 | 0.0029 | 0.0245 | 0.0112 | 0.0060 | 1.039 |
| %SD | 32.14 | 64.69 | 30.71 | 18.40 | 10.58 | 5.763 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 18.89 | 19.14 | 0.8772 | 0.8786 | 0.8782 |
| Run 2 | 18.22 | 18.16 | 0.9027 | 0.8433 | 0.8610 |
| Run 3 | 17.33 | 17.27 | 0.7967 | 0.7842 | 0.8008 |
| Mean | 18.15 | 18.19 | 0.8589 | 0.8354 | 0.8466 |
| Std Dev | 0.7807 | 0.9338 | 0.0554 | 0.0477 | 0.0407 |
| %SD | 4.302 | 5.133 | 6.446 | 5.710 | 4.803 |

Internal Standard Drift; % relative to mean of first sample -

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 117.5 | 93.00 | 99.98 |
| Run 2 | 114.6 | 93.44 | 99.67 |
| Run 3 | 114.5 | 94.58 | 103.6 |
| Mean | 115.5 | 93.68 | 101.1 |
| Std Dev | 1.718 | 0.8119 | 2.173 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #25
First repeat started at : Thu Feb 28 2002 10:52:38
Last repeat started at : Thu Feb 28 2002 10:53:38
Interference Equations : DEFAULT
Dilution Factor : 1.0000 . Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 21.06 | 24.34 | 21.58 | 28.18 | 27.66 | 26.74 | 22.40 |
| Run 2 | 25.26 | 26.11 | 25.46 | 25.72 | 24.67 | 24.32 | 25.00 |
| Run 3 | 25.37 | 26.59 | 25.81 | 25.99 | 25.88 | 25.45 | 25.27 |
| Mean | 23.90 | 25.68 | 24.29 | 26.63 | 26.07 | 25.50 | 24.22 |
| Std Dev | 2.456 | 1.189 | 2.345 | 1.350 | 1.501 | 1.213 | 1.588 |
| %SD | 10.28 | 4.630 | 9.657 | 5.068 | 5.759 | 4.755 | 6.555 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 23.86 | 46.40 | 22.08 | 22.73 | 22.24 | 21.76 |
| Run 2 | 26.07 | 38.48 | 24.77 | 25.63 | 25.10 | 24.88 |
| Run 3 | 25.16 | 39.19 | 26.44 | 26.08 | 25.60 | 25.61 |
| Mean | 25.03 | 41.36 | 24.43 | 24.82 | 24.32 | 24.08 |
| Std Dev | 1.112 | 4.384 | 2.204 | 1.819 | 1.813 | 2.046 |
| %SD | 4.443 | 10.60 | 9.022 | 7.329 | 7.457 | 8.495 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 21.18 | 21.04 | 22.09 | 22.05 | 21.79 | 24.22 |
| Run 2 | 25.23 | 24.95 | 25.01 | 25.14 | 24.99 | 24.91 |
| Run 3 | 25.52 | 25.29 | 25.81 | 25.65 | 25.78 | 25.07 |
| Mean | 23.98 | 23.76 | 24.31 | 24.28 | 24.19 | 24.73 |
| Std Dev | 2.425 | 2.362 | 1.958 | 1.952 | 2.114 | 0.4514 |
| %SD | 10.11 | 9.940 | 8.057 | 8.040 | 8.738 | 1.825 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 23.43 | 23.97 | 22.37 | 21.24 | 21.89 |
| Run 2 | 24.81 | 25.01 | 24.87 | 24.81 | 24.96 |
| Run 3 | 25.26 | 25.21 | 25.06 | 25.12 | 25.08 |
| Mean | 24.50 | 24.73 | 24.10 | 23.72 | 23.98 |
| Std Dev | 0.9551 | 0.6676 | 1.500 | 2.157 | 1.807 |
| %SD | 3.898 | 2.700 | 6.226 | 9.095 | 7.539 |

CCV-3
MS 1-23-1

00123

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 62.80 | 63.17 | 67.05 |
| Run 2 | 99.34 | 99.94 | 103.8 |
| Run 3 | 97.71 | 98.32 | 103.7 |
| Mean | 86.62 | 87.14 | 91.50 |
| Std Dev | 20.64 | 20.78 | 21.18 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #26
First repeat started at : Thu Feb 28 2002 10:57:34
Last repeat started at : Thu Feb 28 2002 10:58:35
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

See Report 2/28/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0946 | 0.5382 | 0.0620 | 0.1305 | 0.2345 | 0.0103 | 0.0473 |
| Run 2 | 0.1133 | 0.5204 | 0.0612 | 0.1356 | 0.2031 | 0.0227 | -0.0617 |
| Run 3 | 0.0923 | 0.5117 | 0.0509 | 0.1172 | 0.2231 | 0.0006 | 0.0663 |
| Mean | 0.1001 | 0.5234 | 0.0580 | 0.1278 | 0.2202 | 0.0112 | 0.0173 |
| Std Dev | 0.0115 | 0.0135 | 0.0062 | 0.0095 | 0.0159 | 0.0111 | 0.0691 |
| %SD | 11.50 | 2.580 | 10.72 | 7.414 | 7.208 | 98.58 | 398.8 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2583 | 8.072 | 0.2751 | 0.0992 | 0.0361 | 0.0230 |
| Run 2 | 0.1306 | 7.433 | -0.3301 | 0.0986 | 0.0661 | 0.0184 |
| Run 3 | 0.1299 | 9.360 | 0.3130 | 0.1023 | 0.0403 | 0.0113 |
| Mean | 0.1729 | 8.288 | 0.0860 | 0.1000 | 0.0475 | 0.0175 |
| Std Dev | 0.0739 | 0.9812 | 0.3609 | 0.0020 | 0.0163 | 0.0059 |
| %SD | 42.74 | 11.84 | 419.7 | 1.970 | 34.24 | 33.62 |

CCB-3

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0097 | 0.0070 | 0.0062 | -0.0151 | -0.0167 | 0.0026 |
| Run 2 | 0.0085 | 0.0122 | -0.0022 | -0.0043 | -0.0059 | 0.0065 |
| Run 3 | 0.0189 | 0.0082 | 0.0028 | -0.0025 | -0.0101 | 0.0090 |
| Mean | 0.0124 | 0.0091 | 0.0023 | -0.0073 | -0.0109 | 0.0060 |
| Std Dev | 0.0057 | 0.0027 | 0.0042 | 0.0068 | 0.0054 | 0.0032 |
| %SD | 45.82 | 29.54 | 184.5 | 92.72 | 49.57 | 53.23 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0051 | 0.0008 | 0.0058 | 0.0110 | 0.0092 |
| Run 2 | -0.0006 | 0.0055 | 0.0157 | 0.0136 | 0.0130 |
| Run 3 | -0.0042 | 0.0030 | 0.0110 | 0.0085 | 0.0081 |
| Mean | -0.0033 | 0.0031 | 0.0109 | 0.0110 | 0.0101 |
| Std Dev | 0.0024 | 0.0024 | 0.0049 | 0.0026 | 0.0025 |
| %SD | 71.45 | 76.73 | 45.57 | 23.38 | 25.18 |

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 99.37 | 100.6 | 107.3 |
| Run 2 | 99.82 | 100.2 | 104.9 |
| Run 3 | 99.95 | 100.4 | 104.8 |
| Mean | 99.71 | 100.4 | 105.7 |
| Std Dev | 0.3057 | 0.1838 | 1.388 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #27
First repeat started at : Thu Feb 28 2002 11:00:25
Last repeat started at : Thu Feb 28 2002 11:01:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1059 | 0.4129 | 0.0436 | 0.1464 | 0.1329 | -0.0302 | -0.0055 |
| Run 2 | 0.0775 | 0.4040 | 0.0389 | 0.1404 | 0.1856 | -0.0073 | 0.0279 |
| Run 3 | 0.0935 | 0.3033 | 0.0369 | 0.1440 | 0.1114 | -0.0193 | -0.0348 |
| Mean | 0.0923 | 0.3734 | 0.0398 | 0.1436 | 0.1433 | -0.0189 | -0.0041 |
| Std Dev | 0.0142 | 0.0609 | 0.0034 | 0.0030 | 0.0381 | 0.0114 | 0.0314 |
| | 15.38 | 16.30 | 8.626 | 2.119 | 26.62 | 60.40 | 759.0 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1515 | 9.728 | -0.0671 | 0.0999 | 0.0208 | 0.0073 |
| Run 2 | 0.0534 | 7.700 | 0.0942 | 0.1104 | 0.0354 | 0.0047 |
| Run 3 | 0.0094 | 8.241 | -0.2207 | 0.0965 | 0.0410 | 0.0075 |
| Mean | 0.0714 | 8.556 | -0.0645 | 0.1023 | 0.0324 | 0.0065 |
| Std Dev | 0.0728 | 1.050 | 0.1575 | 0.0073 | 0.0104 | 0.0015 |
| %SD | 101.9 | 12.27 | 243.9 | 7.103 | 32.17 | 23.64 |

CCB-3
Rerun

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0028 | 0.0086 | 0.0033 | -0.0078 | -0.0168 | 0.0018 |
| Run 2 | 0.0054 | 0.0068 | 0.0069 | 0.0081 | -0.0202 | 0.0141 |
| Run 3 | 0.0071 | 0.0059 | -0.0391 | 0.0153 | -0.0140 | 0.0080 |
| Mean | 0.0051 | 0.0071 | -0.0097 | 0.0052 | -0.0170 | 0.0080 |
| Std Dev | 0.0022 | 0.0014 | 0.0256 | 0.0118 | 0.0031 | 0.0061 |
| %SD | 42.27 | 19.36 | 265.1 | 227.9 | 18.05 | 77.13 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0005 | 0.0020 | 0.0062 | 0.0042 | 0.0059 |
| Run 2 | -0.0056 | 0.0018 | 0.0067 | 0.0078 | 0.0076 |
| Run 3 | -0.0048 | -0.0005 | 0.0030 | 0.0068 | 0.0060 |
| Mean | -0.0036 | 0.0011 | 0.0053 | 0.0062 | 0.0065 |
| Std Dev | 0.0028 | 0.0014 | 0.0020 | 0.0019 | 0.0010 |
| %SD | 75.64 | 123.2 | 38.27 | 29.94 | 14.71 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D r | PC | PC | PC |
| Run 1 | 97.64 | 99.10 | 104.9 |
| Run 2 | 98.59 | 99.93 | 103.9 |
| Run 3 | 97.96 | 99.30 | 104.4 |
| Mean | 98.07 | 99.44 | 104.4 |
| Std Dev | 0.4821 | 0.4344 | 0.4995 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #28
First repeat started at : Thu Feb 28 2002 11:02:58
Last repeat started at : Thu Feb 28 2002 11:03:58
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3275 | 3.728 | 11.37 | 2.879 | 4.361 | 2.840 | 6.016 |
| Run 2 | 0.3612 | 3.762 | 11.14 | 2.859 | 4.309 | 2.662 | 5.553 |
| Run 3 | 0.3671 | 4.042 | 11.16 | 2.648 | 4.209 | 2.812 | 5.765 |
| Mean | 0.3519 | 3.844 | 11.23 | 2.795 | 4.293 | 2.771 | 5.778 |
| Dev | 0.0214 | 0.1723 | 0.1285 | 0.1279 | 0.0770 | 0.0959 | 0.2317 |
| | 6.078 | 4.481 | 1.144 | 4.575 | 1.795 | 3.461 | 4.010 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.222 | 9.711 | 3.385 | 2.596 | 2.497 | 2.533 |
| Run 2 | 3.259 | 11.46 | 2.641 | 2.543 | 2.395 | 2.440 |
| Run 3 | 3.463 | 9.348 | 3.064 | 2.511 | 2.438 | 2.389 |
| Mean | 3.314 | 10.17 | 3.030 | 2.550 | 2.444 | 2.454 |
| Std Dev | 0.1298 | 1.131 | 0.3729 | 0.0427 | 0.0513 | 0.0731 |
| %SD | 3.917 | 11.12 | 12.31 | 1.676 | 2.098 | 2.978 |

1169.7
112

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0063 | 0.0062 | 0.0571 | 0.0369 | 0.0186 | 15.67 |
| Run 2 | 0.0060 | 0.0061 | 0.0522 | 0.0257 | 0.0342 | 15.29 |
| Run 3 | 0.0020 | 0.0043 | 0.0492 | 0.0215 | 0.0240 | 14.98 |
| Mean | 0.0047 | 0.0055 | 0.0528 | 0.0281 | 0.0256 | 15.31 |
| Std Dev | 0.0024 | 0.0011 | 0.0040 | 0.0080 | 0.0079 | 0.3456 |
| %SD | 50.62 | 19.28 | 7.546 | 28.33 | 30.86 | 2.257 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 15.75 | 16.08 | 0.1331 | 0.1505 | 0.1469 |
| Run 2 | 15.66 | 15.63 | 0.1448 | 0.1531 | 0.1422 |
| Run 3 | 15.80 | 15.58 | 0.1546 | 0.1528 | 0.1526 |
| Mean | 15.74 | 15.77 | 0.1442 | 0.1521 | 0.1472 |
| Std Dev | 0.0742 | 0.2778 | 0.0108 | 0.0014 | 0.0052 |
| %SD | 0.4718 | 1.762 | 7.494 | 0.9198 | 3.558 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible] | PC | PC | PC |
| [illegible] | 112.4 | 93.14 | 101.3 |
| Run 2 | 112.1 | 93.77 | 100.6 |
| Run 3 | 112.7 | 94.31 | 100.2 |
| Mean | 112.4 | 93.74 | 100.7 |
| Std Dev | 0.2768 | 0.5816 | 0.5817 |

FQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #29
First repeat started at : Thu Feb 28 2002 11:04:43
Last repeat started at : Thu Feb 28 2002 11:05:44
Interference Equations : DEFAULT
Dilution Factor : 100000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3018 | 3.265 | 362.7 | 2.948 | 4.854 | 3.229 | 4.945 |
| Run 2 | 0.3078 | 3.248 | 360.2 | 2.881 | 4.563 | 3.129 | 4.731 |
| Run 3 | 0.2905 | 3.112 | 357.1 | 2.718 | 4.785 | 3.029 | 5.046 |
| Mean | 0.3000 | 3.209 | 360.2 | 2.849 | 4.734 | 3.129 | 4.907 |
| Std Dev | 0.0088 | 0.0842 | 2.486 | 0.1183 | 0.1524 | 0.0997 | 0.1610 |
| | 2.935 | 2.623 | 0.6848 | 4.152 | 3.219 | 3.186 | 3.280 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 1.369 | 8.464 | 0.7435 | 2.156 | 2.042 | 2.137 |
| Run 2 | 1.470 | 8.807 | 0.5961 | 2.049 | 2.074 | 2.030 |
| Run 3 | 1.150 | 9.303 | 0.5625 | 2.083 | 2.019 | 1.969 |
| Mean | 1.330 | 8.858 | 0.6340 | 2.096 | 2.045 | 2.045 |
| Std Dev | 0.1634 | 0.4219 | 0.0963 | 0.0546 | 0.0278 | 0.0849 |
| %SD | 12.29 | 4.763 | 15.19 | 2.606 | 1.359 | 4.148 |

1169-8
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0021 | 0.0028 | 0.0719 | 0.0378 | 0.0259 | 24.25 |
| Run 2 | 0.0058 | 0.0051 | 0.0343 | 0.0248 | 0.0260 | 23.61 |
| Run 3 | 0.0038 | 0.0015 | 0.0525 | 0.0173 | 0.0187 | 22.95 |
| Mean | 0.0039 | 0.0032 | 0.0529 | 0.0266 | 0.0235 | 23.60 |
| Std Dev | 0.0018 | 0.0018 | 0.0188 | 0.0104 | 0.0042 | 0.6483 |
| %SD | 47.50 | 57.80 | 35.47 | 38.97 | 17.64 | 2.747 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.37 | 24.54 | 0.0794 | 0.0842 | 0.0847 |
| Run 2 | 23.55 | 23.63 | 0.0687 | 0.0760 | 0.0759 |
| Run 3 | 23.39 | 23.12 | 0.0796 | 0.0780 | 0.0820 |
| Mean | 23.77 | 23.76 | 0.0759 | 0.0794 | 0.0809 |
| Std Dev | 0.5286 | 0.7186 | 0.0063 | 0.0043 | 0.0045 |
| %SD | 2.224 | 3.024 | 8.232 | 5.360 | 5.604 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible] or | PC | PC | PC |
| [illegible] | 108.7 | 93.49 | 102.4 |
| Run 2 | 107.7 | 93.43 | 102.6 |
| Run 3 | 107.5 | 94.78 | 100.9 |
| Mean | 107.9 | 93.90 | 102.0 |
| Std Dev | 0.6591 | 0.7613 | 0.9641 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #30
First repeat started at : Thu Feb 28 2002 11:06:38
Last repeat started at : Thu Feb 28 2002 11:07:39
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2774 | 4.141 | 1.340 | 8.902 | 9.104 | 8.455 | 9.833 |
| Run 2 | 0.3285 | 4.049 | 1.087 | 8.685 | 9.112 | 8.320 | 9.702 |
| Run 3 | 0.3121 | 4.343 | 1.033 | 8.568 | 9.276 | 8.331 | 9.452 |
| Mean | 0.3060 | 4.178 | 1.153 | 8.718 | 9.164 | 8.368 | 9.662 |
| Dev | 0.0261 | 0.1507 | 0.1641 | 0.1698 | 0.0970 | 0.0750 | 0.1933 |
| | 8.539 | 3.607 | 14.23 | 1.948 | 1.058 | 0.8957 | 2.000 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.667 | 11.76 | 4.349 | 2.802 | 2.630 | 2.762 |
| Run 2 | 4.649 | 12.80 | 3.736 | 2.792 | 2.645 | 2.643 |
| Run 3 | 4.948 | 13.74 | 3.882 | 2.778 | 2.696 | 2.644 |
| Mean | 4.421 | 12.77 | 3.989 | 2.791 | 2.657 | 2.683 |
| Std Dev | 0.6698 | 0.9928 | 0.3203 | 0.0123 | 0.0347 | 0.0683 |
| %SD | 15.15 | 7.775 | 8.029 | 0.4417 | 1.304 | 2.545 |

1169-9
112

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0042 | 0.0067 | 0.0481 | 0.0415 | 0.0406 | 16.92 |
| Run 2 | 0.0037 | 0.0070 | 0.0726 | 0.0325 | 0.0406 | 16.54 |
| Run 3 | 0.0065 | 0.0061 | 0.0391 | 0.0228 | 0.0442 | 16.43 |
| Mean | 0.0048 | 0.0066 | 0.0533 | 0.0323 | 0.0418 | 16.63 |
| Std Dev | 0.0015 | 0.0005 | 0.0173 | 0.0094 | 0.0021 | 0.2578 |
| %SD | 30.88 | 7.399 | 32.53 | 29.01 | 4.980 | 1.550 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 17.26 | 17.19 | 0.1374 | 0.1442 | 0.1409 |
| Run 2 | 16.49 | 16.87 | 0.1570 | 0.1422 | 0.1500 |
| Run 3 | 16.78 | 16.50 | 0.1578 | 0.1409 | 0.1487 |
| Mean | 16.84 | 16.85 | 0.1507 | 0.1424 | 0.1465 |
| Std Dev | 0.3872 | 0.3484 | 0.0115 | 0.0016 | 0.0049 |
| %SD | 2.299 | 2.067 | 7.653 | 1.148 | 3.357 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D ir | PC | PC | PC |
| Run 1 | 115.6 | 91.84 | 99.38 |
| Run 2 | 113.5 | 91.90 | 99.48 |
| Run 3 | 111.9 | 92.62 | 98.53 |
| Mean | 113.7 | 92.12 | 99.13 |
| Std Dev | 1.853 | 0.4325 | 0.5214 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #31
First repeat started at : Thu Feb 28 2002 11:08:40
Last repeat started at : Thu Feb 28 2002 11:09:49
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.7462 | 3.018 | 0.4719 | 10.97 | 10.94 | 10.76 | 11.10 |
| Run 2 | 0.7262 | 3.073 | 0.4363 | 11.00 | 10.93 | 10.38 | 11.02 |
| Run 3 | 0.7253 | 3.103 | 0.4724 | 11.01 | 11.46 | 10.39 | 11.45 |
| Mean | 0.7326 | 3.065 | 0.4602 | 10.99 | 11.11 | 10.51 | 11.19 |
| Std Dev | 0.0118 | 0.0429 | 0.0207 | 0.0197 | 0.3050 | 0.2184 | 0.2300 |
| RSD | 1.617 | 1.401 | 4.498 | 0.1794 | 2.745 | 2.078 | 2.055 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 6.373 | 15.84 | 5.205 | 2.612 | 2.686 | 2.553 |
| Run 2 | 6.210 | 17.78 | 5.345 | 2.596 | 2.604 | 2.542 |
| Run 3 | 5.278 | 18.45 | 5.882 | 2.642 | 2.613 | 2.531 |
| Mean | 5.954 | 17.36 | 5.478 | 2.617 | 2.634 | 2.542 |
| Std Dev | 0.5908 | 1.352 | 0.3573 | 0.0234 | 0.0455 | 0.0113 |
| RSD | 9.923 | 7.787 | 6.523 | 0.8955 | 1.725 | 0.4450 |

1169-10
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0014 | 0.0059 | 0.0828 | 0.0361 | 0.0297 | 15.84 |
| Run 2 | 0.0051 | 0.0044 | 0.0644 | 0.0397 | 0.0424 | 15.70 |
| Run 3 | 0.0039 | 0.0042 | 0.0746 | 0.0555 | 0.0571 | 15.42 |
| Mean | 0.0035 | 0.0048 | 0.0739 | 0.0437 | 0.0431 | 15.65 |
| Std Dev | 0.0019 | 0.0010 | 0.0092 | 0.0103 | 0.0137 | 0.2183 |
| RSD | 55.63 | 20.06 | 12.46 | 23.62 | 31.90 | 1.395 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 15.83 | 16.41 | 0.2427 | 0.2464 | 0.2460 |
| Run 2 | 15.77 | 15.98 | 0.2366 | 0.2372 | 0.2428 |
| Run 3 | 16.10 | 15.83 | 0.2544 | 0.2338 | 0.2423 |
| Mean | 15.90 | 16.07 | 0.2445 | 0.2391 | 0.2437 |
| Std Dev | 0.1719 | 0.3008 | 0.0090 | 0.0065 | 0.0020 |
| RSD | 1.081 | 1.871 | 3.696 | 2.738 | 0.8180 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible] | PC | PC | PC |
| Run 1 | 110.9 | 92.16 | 96.47 |
| Run 2 | 111.5 | 90.27 | 94.95 |
| Run 3 | 111.0 | 90.76 | 96.13 |
| Mean | 111.1 | 91.06 | 95.85 |
| Std Dev | 0.3022 | 0.9786 | 0.7958 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #32
First repeat started at : Thu Feb 28 2002 11:10:54
Last repeat started at : Thu Feb 28 2002 11:11:54
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3373 | 3.429 | 0.3562 | 7.741 | 9.139 | 7.540 | 11.36 |
| Run 2 | 0.3031 | 3.185 | 0.3520 | 7.619 | 8.199 | 7.424 | 11.46 |
| Run 3 | 0.2762 | 3.389 | 0.3397 | 7.460 | 8.602 | 7.094 | 11.26 |
| Mean | 0.3055 | 3.335 | 0.3493 | 7.607 | 8.647 | 7.352 | 11.36 |
| Std Dev | 0.0306 | 0.1312 | 0.0086 | 0.1409 | 0.4714 | 0.2311 | 0.1016 |
| | 10.01 | 3.936 | 2.454 | 1.852 | 5.452 | 3.143 | 0.8941 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 6.304 | 17.76 | 5.861 | 2.766 | 2.769 | 2.653 |
| Run 2 | 5.839 | 17.65 | 5.529 | 2.692 | 2.478 | 2.475 |
| Run 3 | 5.641 | 17.88 | 5.528 | 2.591 | 2.471 | 2.505 |
| Mean | 5.928 | 17.76 | 5.639 | 2.683 | 2.573 | 2.545 |
| Std Dev | 0.3400 | 0.1181 | 0.1920 | 0.0878 | 0.1700 | 0.0953 |
| %SD | 5.735 | 0.6646 | 3.405 | 3.273 | 6.609 | 3.746 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0077 | 0.0080 | 0.0720 | 0.0400 | 0.0422 | 18.48 |
| Run 2 | 0.0074 | 0.0073 | 0.0700 | 0.0378 | 0.0339 | 18.01 |
| Run 3 | 0.0104 | 0.0066 | 0.0566 | 0.0356 | 0.0565 | 17.49 |
| Mean | 0.0085 | 0.0073 | 0.0662 | 0.0378 | 0.0442 | 17.99 |
| Std Dev | 0.0016 | 0.0007 | 0.0084 | 0.0022 | 0.0115 | 0.4951 |
| %SD | 19.23 | 9.373 | 12.65 | 5.729 | 25.93 | 2.751 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 18.98 | 18.92 | 0.2178 | 0.2174 | 0.2090 |
| Run 2 | 18.17 | 18.74 | 0.1980 | 0.1999 | 0.1942 |
| Run 3 | 17.71 | 17.84 | 0.1789 | 0.1638 | 0.1823 |
| Mean | 18.29 | 18.50 | 0.1982 | 0.1937 | 0.1951 |
| Std Dev | 0.6422 | 0.5783 | 0.0194 | 0.0273 | 0.0134 |
| %SD | 3.512 | 3.126 | 9.812 | 14.12 | 6.853 |

1169-11
1/2

00137

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D[illegible]or | PC | PC | PC |
| R[illegible] | 110.6 | 89.12 | 95.72 |
| Run 2 | 110.1 | 90.11 | 95.74 |
| Run 3 | 109.7 | 89.85 | 98.54 |
| Mean | 110.1 | 89.70 | 96.66 |
| Std Dev | 0.4475 | 0.5171 | 1.623 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #33
First repeat started at : Thu Feb 28 2002 11:12:46
Last repeat started at : Thu Feb 28 2002 11:13:46
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.301 | 11.03 | 8.308 | 16.48 | 16.51 | 15.63 | 20.04 |
| Run 2 | 8.124 | 10.86 | 8.184 | 15.88 | 16.98 | 15.42 | 19.96 |
| Run 3 | 7.955 | 10.77 | 7.974 | 15.38 | 16.29 | 15.12 | 19.64 |
| Mean | 8.127 | 10.88 | 8.155 | 15.92 | 16.59 | 15.39 | 19.88 |
| Std Dev | 0.1727 | 0.1320 | 0.1691 | 0.5529 | 0.3562 | 0.2561 | 0.2112 |
| | 2.125 | 1.213 | 2.073 | 3.474 | 2.147 | 1.665 | 1.062 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 16.13 | 29.25 | 14.88 | 12.04 | 11.92 | 11.96 |
| Run 2 | 14.96 | 28.46 | 15.57 | 11.58 | 11.51 | 11.36 |
| Run 3 | 14.21 | 28.30 | 15.94 | 11.49 | 11.60 | 11.48 |
| Mean | 15.07 | 28.67 | 15.46 | 11.70 | 11.68 | 11.60 |
| Std Dev | 0.9764 | 0.5045 | 0.5402 | 0.2938 | 0.2159 | 0.3200 |
| %SD | 6.481 | 1.759 | 3.493 | 2.511 | 1.849 | 2.759 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.197 | 9.146 | 9.783 | 9.766 | 9.642 | 27.54 |
| Run 2 | 8.812 | 8.858 | 9.288 | 9.231 | 9.265 | 26.52 |
| Run 3 | 8.889 | 8.786 | 9.001 | 9.270 | 9.248 | 26.49 |
| Mean | 8.966 | 8.930 | 9.357 | 9.422 | 9.385 | 26.85 |
| Std Dev | 0.2037 | 0.1905 | 0.3953 | 0.2983 | 0.2225 | 0.5977 |
| %SD | 2.271 | 2.133 | 4.225 | 3.166 | 2.370 | 2.226 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 27.55 | 28.06 | 9.419 | 9.275 | 9.350 |
| Run 2 | 26.60 | 27.19 | 9.306 | 9.397 | 9.425 |
| Run 3 | 27.07 | 26.75 | 9.437 | 9.213 | 9.371 |
| Mean | 27.07 | 27.33 | 9.387 | 9.295 | 9.382 |
| Std Dev | 0.4746 | 0.6688 | 0.0711 | 0.0936 | 0.0387 |
| %SD | 1.753 | 2.447 | 0.7571 | 1.007 | 0.4126 |

1169-1150K
1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D or | PC | PC | PC |
| R | 109.7 | 88.21 | 96.69 |
| Run 2 | 108.9 | 89.97 | 94.09 |
| Run 3 | 110.4 | 89.33 | 94.33 |
| Mean | 109.6 | 89.17 | 95.03 |
| Std Dev | 0.7552 | 0.8921 | 1.435 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #34
First repeat started at : Thu Feb 28 2002 11:14:28
Last repeat started at : Thu Feb 28 2002 11:15:29
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.440 | 11.32 | 8.657 | 16.18 | 16.89 | 15.18 | 19.36 |
| Run 2 | 8.335 | 11.27 | 8.554 | 15.99 | 16.89 | 15.26 | 19.43 |
| Run 3 | 8.264 | 11.26 | 8.435 | 15.21 | 15.92 | 15.13 | 19.00 |
| Mean | 8.346 | 11.28 | 8.549 | 15.79 | 16.57 | 15.19 | 19.26 |
| Std Dev | 0.0888 | 0.0354 | 0.1109 | 0.5159 | 0.5589 | 0.0659 | 0.2290 |
| | 1.064 | 0.3137 | 1.297 | 3.267 | 3.373 | 0.4335 | 1.189 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 15.89 | 28.21 | 14.43 | 12.15 | 12.06 | 12.19 |
| Run 2 | 14.73 | 28.69 | 14.90 | 12.09 | 12.02 | 12.08 |
| Run 3 | 14.71 | 30.14 | 14.65 | 11.80 | 11.79 | 11.77 |
| Mean | 15.11 | 29.01 | 14.66 | 12.01 | 11.96 | 12.01 |
| Std Dev | 0.6751 | 1.004 | 0.2350 | 0.1847 | 0.1450 | 0.2145 |
| %SD | 4.469 | 3.462 | 1.603 | 1.537 | 1.213 | 1.786 |

1169-11 SPK DUP

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.963 | 8.870 | 9.763 | 9.734 | 9.942 | 27.66 |
| Run 2 | 8.937 | 8.797 | 9.764 | 9.724 | 9.799 | 27.04 |
| Run 3 | 8.722 | 8.722 | 9.654 | 9.321 | 9.357 | 25.98 |
| Mean | 8.874 | 8.796 | 9.727 | 9.616 | 9.699 | 26.89 |
| Std Dev | 0.1321 | 0.0741 | 0.0632 | 0.1954 | 0.3047 | 0.8509 |
| %SD | 1.489 | 0.8428 | 0.6492 | 2.032 | 3.141 | 3.164 |

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| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 27.85 | 27.73 | 9.918 | 9.927 | 9.922 |
| Run 2 | 27.45 | 27.64 | 9.545 | 9.520 | 9.666 |
| Run 3 | 26.76 | 26.99 | 9.447 | 9.332 | 9.401 |
| Mean | 27.35 | 27.45 | 9.637 | 9.593 | 9.663 |
| Std Dev | 0.5542 | 0.4025 | 0.2488 | 0.3039 | 0.2605 |
| %SD | 2.026 | 1.466 | 2.582 | 3.168 | 2.695 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]or | PC | PC | PC |
| R[illegible] 1 | 108.7 | 89.66 | 94.12 |
| Run 2 | 109.3 | 89.23 | 95.72 |
| Run 3 | 109.5 | 90.14 | 96.03 |
| Mean | 109.2 | 89.68 | 95.29 |
| Std Dev | 0.4165 | 0.4573 | 1.021 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #35
First repeat started at : Thu Feb 28 2002 11:17:38
Last repeat started at : Thu Feb 28 2002 11:18:38
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1888 | 0.8966 | 0.3993 | 3.687 | 3.386 | 3.423 | 0.1058 |
| Run 2 | 0.1740 | 0.8312 | 0.3929 | 3.674 | 3.017 | 3.260 | 0.0152 |
| Run 3 | 0.1694 | 0.7054 | 0.3756 | 3.429 | 2.800 | 3.115 | 0.0554 |
| Mean | 0.1774 | 0.8111 | 0.3893 | 3.597 | 3.068 | 3.266 | 0.0588 |
| Dev | 0.0101 | 0.0972 | 0.0123 | 0.1453 | 0.2964 | 0.1537 | 0.0454 |
| | 5.701 | 11.98 | 3.148 | 4.039 | 9.660 | 4.705 | 77.17 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0607 | 11.62 | 0.2608 | 0.2684 | 0.2649 | 0.1953 |
| Run 2 | 0.4043 | 13.16 | 0.2350 | 0.2614 | 0.2462 | 0.1967 |
| Run 3 | 0.3385 | 13.77 | 0.3685 | 0.2551 | 0.1934 | 0.1688 |
| Mean | 0.2678 | 12.85 | 0.2881 | 0.2616 | 0.2348 | 0.1869 |
| Std Dev | 0.1824 | 1.108 | 0.0708 | 0.0066 | 0.0371 | 0.0157 |
| %SD | 68.10 | 8.626 | 24.58 | 2.539 | 15.80 | 8.416 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0189 | 0.0151 | 0.0735 | 0.0599 | 0.0390 | 0.1414 |
| Run 2 | 0.0085 | 0.0193 | 0.0319 | 0.0345 | 0.0429 | 0.1225 |
| Run 3 | 0.0112 | 0.0123 | 0.0706 | 0.0381 | 0.0446 | 0.1243 |
| Mean | 0.0129 | 0.0156 | 0.0587 | 0.0442 | 0.0422 | 0.1294 |
| Std Dev | 0.0054 | 0.0035 | 0.0232 | 0.0137 | 0.0028 | 0.0104 |
| %SD | 42.03 | 22.60 | 39.56 | 31.08 | 6.740 | 8.046 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0973 | 0.1182 | 0.0781 | 0.0686 | 0.0745 |
| Run 2 | 0.1203 | 0.1068 | 0.0575 | 0.0624 | 0.0633 |
| Run 3 | 0.0963 | 0.1086 | 0.0541 | 0.0547 | 0.0656 |
| Mean | 0.1046 | 0.1112 | 0.0632 | 0.0619 | 0.0678 |
| Std Dev | 0.0136 | 0.0061 | 0.0130 | 0.0070 | 0.0059 |
| %SD | 12.98 | 5.504 | 20.52 | 11.24 | 8.689 |

1169-12
1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| r tor | PC | PC | PC |
| . 1 | 99.85 | 100.5 | 102.7 |
| Run 2 | 99.42 | 98.53 | 102.1 |
| Run 3 | 99.89 | 100.2 | 100.3 |
| Mean | 99.72 | 99.72 | 101.7 |
| Std Dev | 0.2631 | 1.044 | 1.235 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #36
First repeat started at : Thu Feb 28 2002 11:19:18
Last repeat started at : Thu Feb 28 2002 11:20:19
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.7118 | 3.806 | 73.20 | 4.351 | 5.660 | 4.560 | 2.420 |
| Run 2 | 0.7231 | 4.083 | 72.61 | 4.459 | 5.500 | 4.490 | 2.542 |
| Run 3 | 0.7068 | 4.292 | 73.11 | 4.272 | 5.708 | 4.525 | 2.174 |
| Mean | 0.7139 | 4.060 | 72.97 | 4.361 | 5.623 | 4.525 | 2.379 |
| Std Dev | 0.0083 | 0.2441 | 0.3195 | 0.0943 | 0.1087 | 0.0350 | 0.1871 |
| %SD | 1.164 | 6.012 | 0.4378 | 2.163 | 1.933 | 0.7728 | 7.867 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 4.715 | 16.27 | 5.213 | 4.417 | 4.180 | 4.226 |
| Run 2 | 4.461 | 18.31 | 4.605 | 4.335 | 4.273 | 4.292 |
| Run 3 | 4.813 | 19.50 | 3.787 | 4.330 | 4.330 | 4.263 |
| Mean | 4.663 | 18.03 | 4.535 | 4.361 | 4.261 | 4.260 |
| Std Dev | 0.1814 | 1.636 | 0.7154 | 0.0489 | 0.0758 | 0.0327 |
| %SD | 3.891 | 9.074 | 15.78 | 1.122 | 1.779 | 0.7665 |

1169.13
112

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0104 | 0.0099 | 0.0420 | 0.0419 | 0.0330 | 23.21 |
| Run 2 | 0.0081 | 0.0106 | 0.0517 | 0.0443 | 0.0263 | 23.05 |
| Run 3 | 0.0073 | 0.0046 | 0.0549 | 0.0370 | 0.0484 | 22.71 |
| Mean | 0.0086 | 0.0084 | 0.0495 | 0.0411 | 0.0359 | 22.99 |
| Std Dev | 0.0016 | 0.0033 | 0.0068 | 0.0037 | 0.0114 | 0.2552 |
| %SD | 18.36 | 39.20 | 13.65 | 9.098 | 31.63 | 1.110 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 23.46 | 22.99 | 0.1580 | 0.1781 | 0.1785 |
| Run 2 | 23.35 | 23.08 | 0.1947 | 0.1969 | 0.1875 |
| Run 3 | 23.13 | 22.74 | 0.1667 | 0.1956 | 0.1810 |
| Mean | 23.31 | 22.94 | 0.1731 | 0.1902 | 0.1823 |
| Std Dev | 0.1685 | 0.1744 | 0.0191 | 0.0105 | 0.0046 |
| %SD | 0.7228 | 0.7605 | 11.06 | 5.518 | 2.540 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D[illegible]r | PC | PC | PC |
| Ru[illegible] | 111.9 | 92.47 | 97.49 |
| Run 2 | 112.3 | 91.83 | 97.13 |
| Run 3 | 111.1 | 91.60 | 97.08 |
| Mean | 111.8 | 91.97 | 97.23 |
| Std Dev | 0.6069 | 0.4502 | 0.2216 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #37
First repeat started at : Thu Feb 28 2002 11:21:06
Last repeat started at : Thu Feb 28 2002 11:22:07
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

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| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2816 | 8.908 | 608.2 | 2.510 | 5.188 | 2.257 | 3.605 |
| Run 2 | 0.2860 | 8.161 | 608.9 | 2.455 | 5.199 | 2.238 | 3.756 |
| Run 3 | 0.2688 | 8.083 | 612.3 | 2.376 | 5.357 | 2.264 | 3.565 |
| Mean | 0.2788 | 8.384 | 609.8 | 2.447 | 5.248 | 2.253 | 3.642 |
| Std Dev | 0.0090 | 0.4557 | 2.194 | 0.0671 | 0.0948 | 0.0133 | 0.1007 |
| | 3.214 | 5.435 | 0.3598 | 2.743 | 1.807 | 0.5921 | 2.766 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 4.699 | 16.68 | 2.115 | 7.339 | 7.312 | 7.199 |
| Run 2 | 4.406 | 16.74 | 1.747 | 7.185 | 7.034 | 7.173 |
| Run 3 | 4.624 | 15.32 | 1.563 | 7.202 | 6.921 | 7.014 |
| Mean | 4.577 | 16.25 | 1.808 | 7.242 | 7.089 | 7.129 |
| Std Dev | 0.1522 | 0.8013 | 0.2807 | 0.0844 | 0.2011 | 0.1003 |
| %SD | 3.325 | 4.931 | 15.52 | 1.165 | 2.837 | 1.407 |

1169-14
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0066 | 0.0077 | 0.0816 | 0.0290 | 0.0312 | 17.79 |
| Run 2 | 0.0075 | 0.0074 | 0.0793 | 0.0410 | 0.0450 | 17.02 |
| Run 3 | 0.0104 | 0.0052 | 0.0622 | 0.0436 | 0.0354 | 17.25 |
| Mean | 0.0082 | 0.0068 | 0.0744 | 0.0379 | 0.0372 | 17.35 |
| Std Dev | 0.0020 | 0.0013 | 0.0106 | 0.0078 | 0.0070 | 0.3942 |
| %SD | 24.39 | 19.73 | 14.26 | 20.61 | 18.92 | 2.272 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 18.07 | 18.02 | 0.0581 | 0.0659 | 0.0625 |
| Run 2 | 17.34 | 17.67 | 0.0618 | 0.0661 | 0.0583 |
| Run 3 | 17.28 | 17.45 | 0.0578 | 0.0547 | 0.0576 |
| Mean | 17.56 | 17.71 | 0.0592 | 0.0622 | 0.0594 |
| Std Dev | 0.4392 | 0.2853 | 0.0022 | 0.0065 | 0.0026 |
| %SD | 2.501 | 1.610 | 3.721 | 10.50 | 4.443 |

Internal Standard Drift: % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]tor | PC | PC | PC |
| [illegible] 1 | 108.5 | 88.82 | 95.55 |
| Run 2 | 108.7 | 89.58 | 97.60 |
| Run 3 | 107.7 | 90.90 | 95.35 |
| Mean | 108.3 | 89.76 | 96.17 |
| Std Dev | 0.5053 | 1.054 | 1.246 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #38
First repeat started at : Thu Feb 28 2002 11:23:38
Last repeat started at : Thu Feb 28 2002 11:24:39
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.64 | 25.44 | 24.84 | 24.44 | 25.52 | 24.37 | 24.63 |
| Run 2 | 24.96 | 25.87 | 25.06 | 25.08 | 25.92 | 24.51 | 24.50 |
| Run 3 | 24.74 | 25.32 | 24.88 | 24.61 | 25.44 | 24.51 | 24.27 |
| Mean | 24.78 | 25.54 | 24.93 | 24.71 | 25.63 | 24.46 | 24.47 |
| Dev | 0.1613 | 0.2864 | 0.1157 | 0.3319 | 0.2572 | 0.0801 | 0.1813 |
| | 0.6510 | 1.121 | 0.4641 | 1.343 | 1.004 | 0.3273 | 0.7408 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.35 | 38.98 | 26.71 | 25.04 | 24.79 | 24.93 |
| Run 2 | 26.13 | 38.03 | 24.70 | 25.11 | 25.21 | 24.84 |
| Run 3 | 26.86 | 38.27 | 26.35 | 24.61 | 24.92 | 24.86 |
| Mean | 26.11 | 38.43 | 25.92 | 24.92 | 24.98 | 24.88 |
| Std Dev | 0.7573 | 0.4992 | 1.076 | 0.2746 | 0.2125 | 0.0451 |
| %SD | 2.900 | 1.299 | 4.151 | 1.102 | 0.8507 | 0.1812 |

CIV-4
MS1-23-D

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.20 | 25.08 | 25.37 | 25.37 | 25.19 | 25.04 |
| Run 2 | 25.09 | 24.90 | 25.08 | 25.35 | 25.12 | 24.49 |
| Run 3 | 25.17 | 24.71 | 24.98 | 25.07 | 25.44 | 24.67 |
| Mean | 25.15 | 24.90 | 25.14 | 25.26 | 25.25 | 24.73 |
| Std Dev | 0.0540 | 0.1825 | 0.2045 | 0.1687 | 0.1665 | 0.2830 |
| %SD | 0.2148 | 0.7330 | 0.8132 | 0.6678 | 0.6594 | 1.144 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.42 | 24.94 | 25.61 | 25.46 | 25.74 |
| Run 2 | 24.74 | 24.68 | 24.75 | 24.67 | 24.72 |
| Run 3 | 25.17 | 24.77 | 25.59 | 25.33 | 25.74 |
| Mean | 24.78 | 24.80 | 25.31 | 25.15 | 25.40 |
| Std Dev | 0.3720 | 0.1313 | 0.4919 | 0.4225 | 0.5873 |
| %SD | 1.501 | 0.5293 | 1.943 | 1.680 | 2.312 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 97.72 | 96.50 | 97.59 |
| Run 2 | 96.52 | 96.43 | 99.13 |
| Run 3 | 97.52 | 95.79 | 95.85 |
| Mean | 97.25 | 96.24 | 97.52 |
| Std Dev | 0.6413 | 0.3929 | 1.641 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #39
First repeat started at : Thu Feb 28 2002 11:28:40
Last repeat started at : Thu Feb 28 2002 11:29:42
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0555 | 0.4418 | 0.0712 | 0.1656 | 0.1835 | 0.0146 | 0.0172 |
| Run 2 | 0.0718 | 0.4182 | 0.0700 | 0.1698 | 0.2131 | 0.0049 | -0.0212 |
| Run 3 | 0.0563 | 0.3933 | 0.0490 | 0.1494 | 0.1625 | 0.0164 | -0.0193 |
| Mean | 0.0612 | 0.4178 | 0.0634 | 0.1616 | 0.1864 | 0.0120 | -0.0078 |
| Std Dev | 0.0092 | 0.0243 | 0.0124 | 0.0108 | 0.0254 | 0.0062 | 0.0217 |
| | 15.01 | 5.810 | 19.63 | 6.661 | 13.65 | 51.38 | 279.4 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1092 | 10.18 | -0.0485 | 0.1161 | 0.0406 | 0.0536 |
| Run 2 | -0.0198 | 9.407 | -0.3366 | 0.1011 | 0.0637 | 0.0360 |
| Run 3 | -0.1277 | 11.57 | -0.3736 | 0.0951 | 0.0519 | 0.0329 |
| Mean | -0.0128 | 10.38 | -0.2529 | 0.1041 | 0.0521 | 0.0409 |
| Std Dev | 0.1186 | 1.096 | 0.1780 | 0.0108 | 0.0115 | 0.0112 |
| %SD | 929.2 | 10.55 | 70.38 | 10.36 | 22.14 | 27.34 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0329 | 0.0311 | 0.0265 | -0.0020 | -0.0015 | -0.0052 |
| Run 2 | 0.0250 | 0.0292 | 0.0249 | 0.0148 | 0.0097 | 0.0140 |
| Run 3 | 0.0155 | 0.0151 | 0.0038 | 0.0083 | -0.0153 | 0.0246 |
| Mean | 0.0245 | 0.0251 | 0.0184 | 0.0070 | -0.0024 | 0.0111 |
| Std Dev | 0.0087 | 0.0087 | 0.0127 | 0.0085 | 0.0125 | 0.0151 |
| %SD | 35.67 | 34.77 | 68.92 | 120.9 | 527.2 | 135.7 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0000 | 0.0123 | 0.0114 | 0.0154 | 0.0140 |
| Run 2 | 0.0068 | 0.0089 | 0.0132 | 0.0098 | 0.0134 |
| Run 3 | -0.0035 | 0.0039 | 0.0033 | 0.0064 | 0.0067 |
| Mean | 0.0011 | 0.0084 | 0.0093 | 0.0105 | 0.0113 |
| Std Dev | 0.0052 | 0.0042 | 0.0053 | 0.0046 | 0.0041 |
| %SD | 473.9 | 50.50 | 56.50 | 43.45 | 35.84 |

CCB-4

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]tor | PC | PC | PC |
| [illegible] | 97.52 | 97.27 | 101.0 |
| Run 2 | 96.77 | 97.34 | 99.94 |
| Run 3 | 97.88 | 96.56 | 98.94 |
| Mean | 97.39 | 97.06 | 99.95 |
| Std Dev | 0.5653 | 0.4314 | 1.010 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #40
First repeat started at : Thu Feb 28 2002 11:32:20
Last repeat started at : Thu Feb 28 2002 11:33:21
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0518 | 0.3302 | 0.0398 | 0.1525 | 0.2201 | 0.0099 | -0.0487 |
| Run 2 | 0.0614 | 0.3753 | 0.0368 | 0.1178 | 0.1378 | 0.0176 | -0.0487 |
| Run 3 | 0.0660 | 0.3194 | 0.0424 | 0.1478 | 0.1709 | 0.0057 | -0.0646 |
| Mean | 0.0597 | 0.3417 | 0.0397 | 0.1394 | 0.1762 | 0.0111 | -0.0540 |
| Std Dev | 0.0073 | 0.0297 | 0.0028 | 0.0188 | 0.0414 | 0.0061 | 0.0091 |
| % | 12.19 | 8.686 | 7.088 | 13.52 | 23.51 | 54.77 | 16.94 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0278 | 11.16 | -0.2888 | 0.0578 | 0.0218 | 0.0110 |
| Run 2 | -0.0478 | 11.04 | -0.3700 | 0.0634 | 0.0089 | 0.0179 |
| Run 3 | 0.0816 | 9.876 | -0.3304 | 0.0811 | 0.0301 | 0.0160 |
| Mean | 0.0020 | 10.69 | -0.3297 | 0.0674 | 0.0203 | 0.0150 |
| Std Dev | 0.0696 | 0.7092 | 0.0406 | 0.0121 | 0.0106 | 0.0036 |
| %SD | 3496 | 6.632 | 12.31 | 17.99 | 52.52 | 23.87 |

CCB-4

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0112 | 0.0070 | 0.0064 | -0.0173 | 0.0001 | -0.0035 |
| Run 2 | 0.0063 | 0.0058 | -0.0034 | -0.0036 | -0.0242 | 0.0110 |
| Run 3 | 0.0058 | 0.0070 | -0.0060 | -0.0000 | -0.0068 | -0.0022 |
| Mean | 0.0078 | 0.0066 | -0.0010 | -0.0070 | -0.0103 | 0.0018 |
| Std Dev | 0.0030 | 0.0007 | 0.0066 | 0.0091 | 0.0125 | 0.0080 |
| %SD | 38.38 | 10.83 | 660.8 | 130.7 | 121.7 | 456.4 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0018 | 0.0005 | 0.0024 | 0.0038 | 0.0018 |
| Run 2 | 0.0052 | 0.0020 | -0.0024 | 0.0047 | 0.0026 |
| Run 3 | -0.0063 | -0.0004 | 0.0016 | 0.0002 | 0.0020 |
| Mean | -0.0010 | 0.0007 | 0.0005 | 0.0029 | 0.0021 |
| Std Dev | 0.0058 | 0.0012 | 0.0026 | 0.0024 | 0.0004 |
| %SD | 575.7 | 166.7 | 499.7 | 83.33 | 19.10 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 95.86 | 96.16 | 97.41 |
| Run 2 | 94.97 | 94.84 | 97.84 |
| Run 3 | 95.89 | 95.68 | 97.10 |
| Mean | 95.58 | 95.56 | 97.45 |
| Std Dev | 0.5220 | 0.6700 | 0.3701 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #41
First repeat started at : Thu Feb 28 2002 11:52:33
Last repeat started at : Thu Feb 28 2002 11:53:34
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

Followed CCV out 2/28/02

Followed CCB > MRL 2/28/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5321 | 4.217 | 3.080 | 2.158 | 4.333 | 2.068 | 9.081 |
| Run 2 | 0.5349 | 4.226 | 3.092 | 2.174 | 3.770 | 2.145 | 9.064 |
| Run 3 | 0.5225 | 4.207 | 3.018 | 2.158 | 3.860 | 2.056 | 8.754 |
| Mean | 0.5298 | 4.217 | 3.063 | 2.163 | 3.988 | 2.089 | 8.966 |
| Std Dev | 0.0065 | 0.0098 | 0.0398 | 0.0092 | 0.3025 | 0.0483 | 0.1843 |
| [illegible] | 1.234 | 0.2332 | 1.298 | 0.4240 | 7.585 | 2.313 | 2.055 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.468 | 15.11 | 9.587 | 2.991 | 2.983 | 2.881 |
| Run 2 | 10.66 | 17.13 | 9.930 | 2.930 | 2.997 | 2.815 |
| Run 3 | 9.662 | 17.11 | 9.335 | 2.737 | 2.900 | 2.848 |
| Mean | 9.929 | 16.45 | 9.617 | 2.886 | 2.960 | 2.848 |
| Std Dev | 0.6372 | 1.163 | 0.2986 | 0.1328 | 0.0526 | 0.0331 |
| %SD | 6.418 | 7.071 | 3.104 | 4.601 | 1.778 | 1.163 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0051 | 0.0071 | 0.1050 | 0.0499 | 0.0356 | 16.19 |
| Run 2 | 0.0026 | 0.0063 | 0.0774 | 0.0290 | 0.0296 | 15.65 |
| Run 3 | 0.0033 | 0.0037 | 0.1222 | 0.0377 | 0.0283 | 15.79 |
| Mean | 0.0037 | 0.0057 | 0.1016 | 0.0388 | 0.0312 | 15.88 |
| Std Dev | 0.0013 | 0.0018 | 0.0226 | 0.0105 | 0.0039 | 0.2798 |
| %SD | 36.39 | 31.31 | 22.29 | 27.10 | 12.53 | 1.762 |

1169-15
1/2

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 16.43 | 16.48 | 0.1033 | 0.1029 | 0.1036 |
| 2 | 16.17 | 16.19 | 0.0932 | 0.1018 | 0.0970 |
| Run 3 | 15.86 | 15.80 | 0.1008 | 0.0937 | 0.1018 |
| Mean | 16.15 | 16.15 | 0.0991 | 0.0995 | 0.1008 |
| Std Dev | 0.2817 | 0.3416 | 0.0052 | 0.0050 | 0.0034 |
| %SD | 1.744 | 2.115 | 5.281 | 5.076 | 3.376 |

[illegible] relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 106.8 | 87.95 | 93.73 |
| Run 2 | 105.5 | 87.57 | 94.29 |
| Run 3 | 105.1 | 87.26 | 93.41 |
| mean | 105.8 | 87.59 | 93.81 |
| Std Dev | 0.9395 | 0.3457 | 0.4475 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #42
First repeat started at : Thu Feb 28 2002 11:54:14
Last repeat started at : Thu Feb 28 2002 11:55:14
Interference Equations : DEFAULT
Dilution Factor : 1.00000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2188 | 1.064 | 0.6889 | 2.140 | 1.725 | 1.939 | -0.0148 |
| Run 2 | 0.1921 | 1.082 | 0.6711 | 2.035 | 2.011 | 1.922 | -0.0028 |
| Run 3 | 0.1875 | 1.072 | 0.6914 | 2.097 | 1.802 | 1.888 | 0.0208 |
| Mean | 0.1995 | 1.073 | 0.6838 | 2.091 | 1.846 | 1.916 | 0.0011 |
| Std Dev | 0.0169 | 0.0092 | 0.0111 | 0.0528 | 0.1481 | 0.0261 | 0.0181 |
| | 8.469 | 0.8537 | 1.619 | 2.525 | 8.020 | 1.362 | 1711 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2267 | 7.574 | -0.1706 | 0.1415 | 0.1136 | 0.0933 |
| Run 2 | 0.1449 | 7.268 | -0.0555 | 0.1245 | 0.0741 | 0.0768 |
| Run 3 | 0.2445 | 6.104 | 0.1101 | 0.1078 | 0.1117 | 0.0763 |
| Mean | 0.2054 | 6.982 | -0.0387 | 0.1246 | 0.0998 | 0.0822 |
| Std Dev | 0.0531 | 0.7755 | 0.1411 | 0.0169 | 0.0223 | 0.0097 |
| %SD | 25.86 | 11.11 | 365.0 | 13.54 | 22.30 | 11.75 |

1169-16
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0031 | 0.0027 | 0.0123 | 0.0150 | 0.0131 | 0.0852 |
| Run 2 | 0.0012 | 0.0012 | -0.0072 | 0.0138 | -0.0024 | 0.0788 |
| Run 3 | 0.0052 | 0.0075 | -0.0102 | 0.0147 | 0.0195 | 0.0472 |
| Mean | 0.0032 | 0.0038 | -0.0017 | 0.0145 | 0.0101 | 0.0704 |
| Std Dev | 0.0020 | 0.0033 | 0.0122 | 0.0006 | 0.0112 | 0.0203 |
| %SD | 63.74 | 86.50 | 706.7 | 4.241 | 111.7 | 28.92 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0776 | 0.0851 | 0.0323 | 0.0258 | 0.0291 |
| 2 | 0.0656 | 0.0736 | 0.0323 | 0.0304 | 0.0301 |
| Run 3 | 0.0728 | 0.0718 | 0.0355 | 0.0282 | 0.0315 |
| Mean | 0.0720 | 0.0768 | 0.0334 | 0.0281 | 0.0302 |
| Std Dev | 0.0060 | 0.0072 | 0.0019 | 0.0023 | 0.0012 |
| %SD | 8.390 | 9.371 | 5.554 | 8.257 | 3.945 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| r -tor | PC | PC | PC |
| 1 | 97.42 | 97.76 | 99.35 |
| Run 2 | 97.34 | 97.41 | 100.2 |
| Run 3 | 97.12 | 96.15 | 96.56 |
| Mean | 97.30 | 97.11 | 98.70 |
| Std Dev | 0.1577 | 0.8466 | 1.905 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #43
First repeat started at : Thu Feb 28 2002 11:56:22
Last repeat started at : Thu Feb 28 2002 11:57:23
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.594 | 6.931 | 167.3 | 66.93 | 61.09 | 65.27 | 3.642 |
| Run 2 | 3.509 | 6.934 | 166.3 | 65.79 | 59.25 | 65.76 | 3.422 |
| Run 3 | 3.584 | 6.765 | 168.0 | 66.86 | 61.87 | 65.76 | 3.740 |
| Mean | 3.562 | 6.877 | 167.2 | 66.52 | 60.74 | 65.60 | 3.601 |
| Std Dev | 0.0466 | 0.0966 | 0.8739 | 0.6397 | 1.343 | 0.2819 | 0.1627 |
| %SD | 1.307 | 1.405 | 0.5226 | 0.9616 | 2.211 | 0.4297 | 4.517 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.224 | 14.19 | 4.160 | 6.433 | 6.550 | 6.323 |
| Run 2 | 6.554 | 13.70 | 4.559 | 6.422 | 6.274 | 6.401 |
| Run 3 | 5.410 | 12.94 | 4.650 | 6.368 | 6.367 | 6.457 |
| Mean | 5.729 | 13.61 | 4.456 | 6.408 | 6.397 | 6.394 |
| Std Dev | 0.7203 | 0.6320 | 0.2608 | 0.0347 | 0.1406 | 0.0675 |
| %SD | 12.57 | 4.643 | 5.852 | 0.5411 | 2.198 | 1.055 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0224 | 0.0159 | 0.1982 | 0.2240 | 0.1708 | 79.12 |
| Run 2 | 0.0238 | 0.0156 | 0.2655 | 0.1833 | 0.1600 | 78.60 |
| Run 3 | 0.0286 | 0.0166 | 0.2256 | 0.1699 | 0.1796 | 78.63 |
| Mean | 0.0249 | 0.0160 | 0.2298 | 0.1924 | 0.1702 | 78.78 |
| Std Dev | 0.0032 | 0.0005 | 0.0338 | 0.0282 | 0.0098 | 0.2902 |
| %SD | 13.04 | 3.087 | 14.71 | 14.65 | 5.775 | 0.3684 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 78.33 | 77.31 | 3.395 | 3.219 | 3.285 |
| Run 2 | 79.35 | 76.69 | 3.510 | 3.159 | 3.284 |
| un 3 | 77.93 | 75.47 | 3.436 | 3.231 | 3.274 |
| Mean | 78.54 | 76.49 | 3.447 | 3.203 | 3.281 |
| Std Dev | 0.7318 | 0.9371 | 0.0584 | 0.0387 | 0.0062 |
| %SD | 0.9318 | 1.225 | 1.694 | 1.207 | 0.1878 |

1169-17

1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 115.4 | 84.68 | 88.19 |
| Run 2 | 117.1 | 85.74 | 88.97 |
| Run 3 | 114.7 | 86.51 | 90.92 |
| Mean | 115.8 | 85.64 | 89.36 |
| Std Dev | 1.261 | 0.9159 | 1.406 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #44
First repeat started at : Thu Feb 28 2002 11:58:24
Last repeat started at : Thu Feb 28 2002 11:59:24
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

See Dilution

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.6837 | 6.589 | 623.0 | 4143 | 3793 | 4201 | 0.6737 |
| Run 2 | 0.6405 | 7.008 | 633.5 | 4063 | 3801 | 4140 | 0.7541 |
| Run 3 | 0.6212 | 6.699 | 630.7 | 4100 | 3730 | 4068 | 0.8092 |
| Mean | 0.6485 | 6.765 | 629.1 | 4102 | 3775 | 4138 | 0.7457 |
| Std Dev | 0.0320 | 0.2176 | 5.392 | 39.90 | 39.06 | 66.84 | 0.0681 |
| | 4.939 | 3.216 | 0.8571 | 0.9727 | 1.035 | 1.616 | 9.139 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.845 | 14.09 | 2.693 | 7.285 | 7.080 | 7.293 |
| Run 2 | 3.531 | 14.53 | 2.609 | 7.271 | 7.161 | 7.027 |
| Run 3 | 3.974 | 14.41 | 3.398 | 7.382 | 7.167 | 7.174 |
| Mean | 3.783 | 14.34 | 2.900 | 7.313 | 7.136 | 7.165 |
| Std Dev | 0.2279 | 0.2291 | 0.4332 | 0.0606 | 0.0484 | 0.1334 |
| %SD | 6.023 | 1.597 | 14.94 | 0.8291 | 0.6786 | 1.861 |

1169-18

1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0104 | 0.0113 | 0.1619 | 0.1316 | 0.1344 | 26.16 |
| Run 2 | 0.0068 | 0.0104 | 0.1697 | 0.1268 | 0.1275 | 24.54 |
| Run 3 | 0.0067 | 0.0058 | 0.2134 | 0.1249 | 0.1334 | 25.41 |
| Mean | 0.0080 | 0.0092 | 0.1816 | 0.1278 | 0.1318 | 25.37 |
| Std Dev | 0.0021 | 0.0029 | 0.0278 | 0.0034 | 0.0037 | 0.8071 |
| %SD | 26.55 | 31.95 | 15.28 | 2.693 | 2.816 | 3.181 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.63 | 25.89 | 0.1236 | 0.1388 | 0.1418 |
| 2 | 25.36 | 25.62 | 0.1335 | 0.1389 | 0.1347 |
| Run 3 | 25.24 | 25.32 | 0.1331 | 0.1276 | 0.1369 |
| Mean | 25.41 | 25.61 | 0.1301 | 0.1351 | 0.1378 |
| Std Dev | 0.2004 | 0.2830 | 0.0056 | 0.0065 | 0.0036 |
| %SD | 0.7886 | 1.105 | 4.298 | 4.823 | 2.615 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 98.76 | 83.03 | 88.67 |
| Run 2 | 97.94 | 83.56 | 87.12 |
| Run 3 | 98.89 | 82.85 | 85.76 |
| Mean | 98.53 | 83.15 | 87.18 |
| Std Dev | 0.5134 | 0.3717 | 1.456 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #45
First repeat started at : Thu Feb 28 2002 12:00:14
Last repeat started at : Thu Feb 28 2002 12:01:15
Interference Equations : DEFAULT
Dilution Factor : 2.0000 Concentration units : ppb

2/28/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5265 | 14.40 | 236.6 | 23.73 | 23.26 | 23.24 | 2.070 |
| Run 2 | 0.4942 | 15.57 | 230.1 | 19.22 | 20.35 | 18.42 | 1.969 |
| Run 3 | 0.5001 | 15.87 | 230.2 | 19.22 | 20.17 | 18.34 | 2.025 |
| Mean | 0.5069 | 15.28 | 232.3 | 20.73 | 21.26 | 20.00 | 2.021 |
| Std Dev | 0.0172 | 0.7771 | 3.719 | 2.607 | 1.733 | 2.805 | 0.0502 |
| | 3.389 | 5.087 | 1.601 | 12.58 | 8.153 | 14.02 | 2.482 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 6.192 | 12.22 | 2.287 | 4.281 | 4.188 | 4.238 |
| Run 2 | 6.734 | 12.45 | 1.359 | 4.171 | 4.111 | 4.044 |
| Run 3 | 6.682 | 11.82 | 1.264 | 4.101 | 4.118 | 4.158 |
| Mean | 6.536 | 12.16 | 1.637 | 4.185 | 4.139 | 4.147 |
| Std Dev | 0.2992 | 0.3168 | 0.5653 | 0.0905 | 0.0425 | 0.0976 |
| %SD | 4.579 | 2.604 | 34.53 | 2.163 | 1.028 | 2.354 |

1169.19
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0072 | 0.0068 | 0.0894 | 0.0688 | 0.0684 | 24.95 |
| Run 2 | 0.0055 | 0.0078 | 0.1177 | 0.0526 | 0.0754 | 23.97 |
| Run 3 | 0.0055 | 0.0052 | 0.1190 | 0.0807 | 0.0449 | 23.87 |
| Mean | 0.0060 | 0.0066 | 0.1087 | 0.0674 | 0.0629 | 24.26 |
| Std Dev | 0.0010 | 0.0013 | 0.0167 | 0.0141 | 0.0160 | 0.5955 |
| %SD | 16.19 | 19.78 | 15.38 | 20.97 | 25.42 | 2.454 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.76 | 24.99 | 0.1522 | 0.1540 | 0.1494 |
| Run 2 | 25.03 | 24.66 | 0.1717 | 0.1575 | 0.1521 |
| Run 3 | 24.03 | 24.58 | 0.1537 | 0.1502 | 0.1488 |
| Mean | 24.60 | 24.74 | 0.1592 | 0.1539 | 0.1501 |
| Std Dev | 0.5158 | 0.2173 | 0.0109 | 0.0037 | 0.0018 |
| %SD | 2.096 | 0.8781 | 6.829 | 2.379 | 1.189 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D `or | PC | PC | PC |
| R. . | 104.3 | 86.54 | 92.00 |
| Run 2 | 105.1 | 87.09 | 90.36 |
| Run 3 | 105.0 | 86.96 | 92.81 |
| Mean | 104.8 | 86.86 | 91.72 |
| Std Dev | 0.4660 | 0.2870 | 1.247 |

PQ-S #971114 . Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #46
First repeat started at : Thu Feb 28 2002 12:07:48
Last repeat started at : Thu Feb 28 2002 12:08:49
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 10.36 | 13.22 | 51.95 | 21.36 | 22.07 | 20.33 | 1.290 |
| Run 2 | 10.51 | 11.77 | 50.93 | 21.14 | 23.04 | 20.07 | 1.363 |
| Run 3 | 10.62 | 11.34 | 51.30 | 21.38 | 23.09 | 20.46 | 1.394 |
| Mean | 10.49 | 12.11 | 51.39 | 21.29 | 22.73 | 20.29 | 1.349 |
| Std Dev | 0.1300 | 0.9869 | 0.5139 | 0.1299 | 0.5733 | 0.1984 | 0.0534 |
| %SD | 1.238 | 8.150 | 0.9999 | 0.6099 | 2.522 | 0.9779 | 3.956 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.004 | 61.44 | 1.510 | 3.954 | 2.434 | 1.951 |
| Run 2 | 1.974 | 72.60 | 1.084 | 6.427 | 3.008 | 1.942 |
| Run 3 | 2.022 | 87.43 | 1.304 | 9.927 | 3.959 | 2.055 |
| Mean | 2.333 | 73.82 | 1.299 | 6.769 | 3.133 | 1.983 |
| Std Dev | 0.5818 | 13.04 | 0.2129 | 3.008 | 0.7702 | 0.0630 |
| %SD | 24.94 | 17.66 | 16.39 | 44.34 | 24.58 | 3.176 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0086 | -0.0005 | 0.1882 | 0.1487 | 0.1450 | 9.452 |
| Run 2 | 0.0084 | 0.0052 | 0.1705 | 0.1473 | 0.1712 | 9.891 |
| Run 3 | 0.0098 | 0.0066 | 0.2061 | 0.1463 | 0.1461 | 9.797 |
| Mean | 0.0089 | 0.0037 | 0.1883 | 0.1474 | 0.1541 | 9.713 |
| Std Dev | 0.0007 | 0.0038 | 0.0178 | 0.0012 | 0.0148 | 0.2311 |
| %SD | 8.296 | 100.1 | 9.470 | 0.8269 | 9.626 | 2.379 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 9.742 | 9.865 | 0.6296 | 0.5660 | 0.5866 |
| Run 2 | 9.883 | 10.01 | 0.6078 | 0.6094 | 0.6044 |
| Run 3 | 9.576 | 9.782 | 0.6112 | 0.5638 | 0.5906 |
| Mean | 9.734 | 9.885 | 0.6162 | 0.5797 | 0.5939 |
| Std Dev | 0.1538 | 0.1148 | 0.0117 | 0.0257 | 0.0094 |
| %SD | 1.580 | 1.161 | 1.904 | 4.437 | 1.575 |

INTERNAL PS STANDARD out of control 2/28/02 Method 200.8

1169.20
1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 58.61 | 82.38 | 90.68 |
| 2 | 60.55 | 83.00 | 88.04 |
| Run 3 | 60.57 | 83.15 | 88.91 |
| Mean | 59.91 | 82.84 | 89.21 |
| Std Dev | 1.124 | 0.4129 | 1.346 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #47
First repeat started at : Thu Feb 28 2002 12:11:58
Last repeat started at : Thu Feb 28 2002 12:12:59
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 10.45 | 10.76 | 50.40 | 20.77 | 21.93 | 19.86 | 1.023 |
| Run 2 | 10.53 | 10.89 | 50.45 | 20.37 | 22.64 | 20.12 | 1.337 |
| Run 3 | 10.61 | 10.83 | 51.04 | 20.79 | 22.20 | 19.74 | 1.133 |
| Mean | 10.53 | 10.83 | 50.63 | 20.64 | 22.26 | 19.91 | 1.164 |
| Std Dev | 0.0801 | 0.0643 | 0.3582 | 0.2418 | 0.3604 | 0.1936 | 0.1596 |
| % | 0.7609 | 0.5943 | 0.7075 | 1.171 | 1.619 | 0.9727 | 13.70 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 1.806 | 104.9 | -0.2862 | 9.416 | 3.792 | 1.968 |
| Run 2 | 1.394 | 114.4 | 1.028 | 12.33 | 4.191 | 1.984 |
| Run 3 | 2.105 | 127.5 | 0.5841 | 15.09 | 4.983 | 1.977 |
| Mean | 1.768 | 115.6 | 0.4419 | 12.28 | 4.322 | 1.976 |
| Std Dev | 0.3570 | 11.33 | 0.6684 | 2.836 | 0.6061 | 0.0080 |
| %SD | 20.19 | 9.802 | 151.3 | 23.10 | 14.02 | 0.4069 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0125 | 0.0050 | 0.1794 | 0.1639 | 0.1882 | 9.781 |
| Run 2 | 0.0112 | 0.0069 | 0.1995 | 0.1767 | 0.1712 | 9.803 |
| Run 3 | 0.0069 | 0.0021 | 0.1703 | 0.1819 | 0.1884 | 9.573 |
| Mean | 0.0102 | 0.0047 | 0.1831 | 0.1742 | 0.1826 | 9.719 |
| Std Dev | 0.0029 | 0.0024 | 0.0150 | 0.0093 | 0.0099 | 0.1269 |
| %SD | 28.68 | 51.95 | 8.174 | 5.331 | 5.413 | 1.305 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 9.853 | 9.972 | 0.5763 | 0.5611 | 0.5737 |
| Run 2 | 9.838 | 9.954 | 0.5935 | 0.6007 | 0.6008 |
| Run 3 | 9.669 | 9.866 | 0.6037 | 0.5747 | 0.5792 |
| Mean | 9.787 | 9.931 | 0.5912 | 0.5789 | 0.5845 |
| Std Dev | 0.1025 | 0.0568 | 0.0139 | 0.0201 | 0.0143 |
| %SD | 1.047 | 0.5718 | 2.347 | 3.475 | 2.452 |

1169-20
112

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 61.46 | 84.30 | 91.06 |
| Run 2 | 61.21 | 84.95 | 87.00 |
| Run 3 | 61.08 | 84.98 | 90.56 |
| Mean | 61.25 | 84.74 | 89.54 |
| Std Dev | 0.1916 | 0.3863 | 2.214 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.

Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #48
First repeat started at : Thu Feb 28 2002 12:14:38
Last repeat started at : Thu Feb 28 2002 12:15:38
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.36 | 22.79 | 22.78 | 23.24 | 23.77 | 22.41 | 22.39 |
| Run 2 | 22.64 | 22.97 | 23.17 | 22.91 | 24.07 | 22.67 | 23.07 |
| Run 3 | 22.17 | 22.82 | 22.69 | 22.60 | 23.23 | 22.50 | 21.98 |
| Mean | 22.39 | 22.86 | 22.88 | 22.92 | 23.69 | 22.53 | 22.48 |
| Std Dev | 0.2358 | 0.0988 | 0.2552 | 0.3223 | 0.4241 | 0.1313 | 0.5480 |
| %SD | 1.053 | 0.4324 | 1.115 | 1.406 | 1.790 | 0.5829 | 2.438 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.52 | 94.94 | 24.09 | 29.45 | 25.32 | 24.06 |
| Run 2 | 23.30 | 96.92 | 23.48 | 29.26 | 25.43 | 24.27 |
| Run 3 | 23.70 | 93.20 | 24.30 | 29.65 | 25.28 | 24.15 |
| Mean | 23.94 | 95.02 | 23.95 | 29.45 | 25.34 | 24.16 |
| Std Dev | 0.6234 | 1.861 | 0.4266 | 0.1955 | 0.0806 | 0.1050 |
| %SD | 2.615 | 1.958 | 1.781 | 0.6637 | 0.3179 | 0.4348 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.50 | 24.48 | 24.55 | 24.73 | 25.12 | 24.32 |
| Run 2 | 25.05 | 24.81 | 25.05 | 24.91 | 25.22 | 24.47 |
| Run 3 | 24.73 | 24.85 | 24.47 | 24.72 | 25.47 | 24.64 |
| Mean | 24.76 | 24.71 | 24.69 | 24.79 | 25.27 | 24.48 |
| Std Dev | 0.2733 | 0.2075 | 0.3134 | 0.1031 | 0.1821 | 0.1572 |
| %SD | 1.104 | 0.8396 | 1.269 | 0.4161 | 0.7205 | 0.6422 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.87 | 24.79 | 25.12 | 24.44 | 25.11 |
| Run 2 | 24.98 | 25.23 | 24.80 | 24.63 | 24.83 |
| Run 3 | 24.75 | 24.97 | 25.29 | 25.43 | 25.37 |
| Mean | 24.87 | 25.00 | 25.07 | 24.83 | 25.10 |
| Std Dev | 0.1139 | 0.2225 | 0.2467 | 0.5267 | 0.2729 |
| %SD | 0.4579 | 0.8902 | 0.9842 | 2.121 | 1.087 |

00169

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| | 104.9 | 96.12 | 100.4 |
| Run 2 | 103.4 | 94.30 | 100.7 |
| Run 3 | 105.3 | 95.12 | 99.49 |
| Mean | 104.5 | 95.18 | 100.2 |
| Std Dev | 1.021 | 0.9138 | 0.6445 |

FQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #49
First repeat started at : Thu Feb 28 2002 12:20:38
Last repeat started at : Thu Feb 28 2002 12:21:38
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.44 | 22.80 | 22.95 | 23.54 | 23.45 | 22.87 | 23.37 |
| Run 2 | 22.04 | 22.31 | 22.75 | 23.07 | 23.86 | 23.06 | 23.32 |
| Run 3 | 22.28 | 22.66 | 22.72 | 23.32 | 23.44 | 22.85 | 23.58 |
| Mean | 22.25 | 22.59 | 22.80 | 23.31 | 23.58 | 22.93 | 23.42 |
| Std Dev | 0.2055 | 0.2564 | 0.1242 | 0.2356 | 0.2448 | 0.1132 | 0.1366 |
| %SD | 0.9236 | 1.135 | 0.5444 | 1.011 | 1.038 | 0.4939 | 0.5831 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.73 | 84.08 | 25.27 | 27.75 | 24.84 | 24.18 |
| Run 2 | 24.58 | 83.05 | 24.86 | 27.20 | 25.17 | 24.06 |
| Run 3 | 25.02 | 82.22 | 24.81 | 28.42 | 24.91 | 24.47 |
| Mean | 24.77 | 83.12 | 24.98 | 27.79 | 24.97 | 24.23 |
| Std Dev | 0.2216 | 0.9332 | 0.2545 | 0.6126 | 0.1760 | 0.2090 |
| %SD | 0.8944 | 1.123 | 1.019 | 2.204 | 0.7049 | 0.8624 |

CCV-5

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.73 | 24.59 | 24.87 | 24.91 | 25.43 | 24.56 |
| Run 2 | 24.73 | 24.81 | 25.42 | 25.23 | 25.26 | 24.41 |
| Run 3 | 24.96 | 24.97 | 25.32 | 25.02 | 25.30 | 24.62 |
| Mean | 24.80 | 24.79 | 25.20 | 25.05 | 25.33 | 24.53 |
| Std Dev | 0.1345 | 0.1895 | 0.2951 | 0.1634 | 0.0885 | 0.1101 |
| %SD | 0.5423 | 0.7644 | 1.171 | 0.6522 | 0.3493 | 0.4489 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.74 | 24.67 | 25.04 | 25.50 | 25.33 |
| Run 2 | 24.95 | 25.09 | 25.38 | 24.93 | 25.17 |
| Run 3 | 24.74 | 25.13 | 24.96 | 24.94 | 25.23 |
| Mean | 24.81 | 24.96 | 25.13 | 25.13 | 25.24 |
| Std Dev | 0.1257 | 0.2526 | 0.2216 | 0.3260 | 0.0764 |
| %SD | 0.5065 | 1.012 | 0.8821 | 1.298 | 0.3028 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 103.2 | 95.71 | 101.2 |
| 2 | 104.0 | 94.94 | 100.5 |
| Run 3 | 104.1 | 94.20 | 100.1 |
| Mean | 103.8 | 94.95 | 100.6 |
| Std Dev | 0.5083 | 0.7542 | 0.5503 |

PQ-S #971114 Operator: Greg Jasper KA0109958

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #50
First repeat started at : Thu Feb 28 2002 12:27:36
Last repeat started at : Thu Feb 28 2002 12:28:37
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.1257 | 0.2135 | 0.1703 | 0.1953 | 0.4092 | -0.0078 | -0.0604 |
| Run 2 | -0.1193 | 0.2152 | 0.1650 | 0.1639 | 0.3640 | 0.0262 | 0.0579 |
| Run 3 | -0.1103 | 0.2174 | 0.1746 | 0.1707 | 0.3960 | -0.0053 | 0.0393 |
| Mean | -0.1184 | 0.2154 | 0.1700 | 0.1766 | 0.3897 | 0.0044 | 0.0123 |
| Std Dev | 0.0077 | 0.0019 | 0.0048 | 0.0166 | 0.0233 | 0.0190 | 0.0636 |
| RSD | 6.490 | 0.8988 | 2.830 | 9.373 | 5.974 | 435.5 | 518.0 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1185 | 48.49 | -0.3507 | 2.621 | 0.6144 | 0.0135 |
| Run 2 | -0.0069 | 49.95 | 0.2408 | 2.409 | 0.6001 | 0.0078 |
| Run 3 | -0.0813 | 50.98 | 0.1310 | 2.439 | 0.5817 | 0.0046 |
| Mean | 0.0101 | 49.81 | 0.0071 | 2.490 | 0.5987 | 0.0086 |
| Std Dev | 0.1010 | 1.254 | 0.3146 | 0.1147 | 0.0164 | 0.0045 |
| RSD | 995.5 | 2.518 | 4459 | 4.607 | 2.741 | 51.89 |

CCB-45
02/28/

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0054 | 0.0111 | 0.0081 | 0.0076 | 0.0172 | 0.0174 |
| Run 2 | 0.0065 | 0.0063 | 0.0120 | -0.0067 | 0.0123 | 0.0064 |
| Run 3 | 0.0107 | 0.0058 | -0.0250 | 0.0021 | 0.0345 | 0.0092 |
| Mean | 0.0076 | 0.0078 | -0.0016 | 0.0010 | 0.0214 | 0.0110 |
| Std Dev | 0.0028 | 0.0029 | 0.0203 | 0.0072 | 0.0116 | 0.0058 |
| RSD | 37.44 | 38.03 | 1241 | 727.2 | 54.45 | 52.39 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0029 | 0.0023 | 0.0006 | 0.0001 | 0.0022 |
| Run 2 | 0.0001 | -0.0003 | -0.0022 | 0.0016 | 0.0019 |
| Run 3 | 0.0025 | 0.0012 | 0.0008 | 0.0002 | 0.0016 |
| Mean | 0.0018 | 0.0011 | -0.0003 | 0.0006 | 0.0019 |
| Std Dev | 0.0015 | 0.0013 | 0.0017 | 0.0009 | 0.0003 |
| RSD | 82.21 | 121.1 | 550.5 | 136.4 | 15.97 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 102.6 | 97.23 | 102.8 |
| 2 | 102.2 | 96.87 | 100.5 |
| Run 3 | 99.49 | 95.46 | 101.1 |
| Mean | 101.4 | 96.52 | 101.5 |
| Std Dev | 1.714 | 0.9351 | 1.187 |

Multi-Element Calibration Thu Feb 28 2002

Calibration graph coefficients for selected isotopes.

Experiment name : 022802B
User Name : GREG
Analysis procedure : EPA Method 6020/200.8
Introduction method : DEFAULT
First sample started at : Thu Feb 28 2002 12:58:28
Last sample started at : **********
Internal standards : Sc 45 In 115 Lu 175 (Interpolating)
Polynomial fit : y = a0 + a1.x + a2.x^2
Units of response : y = counts per second
Units of concentration : x = ppb

Analytical Batch
KA0109959

| Element | Symbol | Mass | a0 | a1 | a2 | regression |
|---|---|---|---|---|---|---|
| Chromium | Cr | 52 | 5368 | 22295 | 0.0 | 1.0000 |
| Chromium | Cr | 53 | 878.8 | 2636 | 0.0 | 1.0000 |
| Manganese | Mn | 55 | 6029 | 29365 | 0.0 | 1.0000 |
| Zinc | Zn | 66 | 569.5 | 2978 | 0.0 | 1.0000 |
| Zinc | Zn | 67 | 171.2 | 536.5 | 0.0 | 1.0000 |
| Zinc | Zn | 68 | 256.6 | 2111 | 0.0 | 1.0000 |
| Arsenic | As | 75 | 158.6 | 2546 | 0.0 | 1.0000 |
| Selenium | Se | 77 | 60.63 | 164.8 | 0.0 | 1.0000 |
| Selenium | Se | 78 | 22265 | 517.4 | 0.0 | 1.0000 |
| Selenium | Se | 82 | 91.93 | 197.0 | 0.0 | 1.0000 |
| Molybdenum | Mo | 95 | 2456 | 4076 | 0.0 | 1.0000 |
| Molybdenum | Mo | 97 | 482.8 | 2532 | 0.0 | 1.0000 |
| Molybdenum | Mo | 98 | 310.1 | 6456 | 0.0 | 1.0000 |
| Silver | Ag | 107 | 163.3 | 11373 | 0.0 | 1.0000 |
| Silver | Ag | 109 | 135.9 | 10862 | 0.0 | 1.0000 |
| Cadmium | Cd | 111 | 511.8 | 2437 | 0.0 | 1.0000 |
| Cadmium | Cd | 112 | 562.3 | 4573 | 0.0 | 1.0000 |
| Cadmium | Cd | 114 | 740.3 | 5493 | 0.0 | 1.0000 |
| Barium | Ba | 135 | 38.32 | 1449 | 0.0 | 1.0000 |
| Barium | Ba | 137 | 44.04 | 2459 | 0.0 | 1.0000 |
| Barium | Ba | 138 | 156.4 | 15623 | 0.0 | 1.0000 |
| Lead | Pb | 206 | 58.11 | 4825 | 0.0 | 1.0000 |
| Lead | Pb | 207 | 46.59 | 4105 | 0.0 | 1.0000 |
| Lead | Pb | 208 | 167.9 | 19013 | 0.0 | 1.0000 |

PQ-S #971114 Operator: Greg Jasper KA010995B 19 2/28/02

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Blank
First repeat started at : Thu Feb 28 2002 12:58:28
Last repeat started at : Thu Feb 28 2002 12:59:29
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0042 | -0.0362 | 0.0146 | 0.0139 | 0.0495 | 0.0006 | 0.0139 |
| Run 2 | 0.0066 | -0.0126 | -0.0074 | -0.0235 | -0.0277 | 0.0103 | -0.0266 |
| Run 3 | -0.0023 | 0.0488 | -0.0072 | 0.0096 | -0.0218 | -0.0109 | 0.0127 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0000 | 0.0000 |
| Std Dev | 0.0058 | 0.0439 | 0.0127 | 0.0205 | 0.0430 | 0.0106 | 0.0230 |
| %RSD | 163560 | 1798600 | 1058300 | 5936400 | 3457700 | 1473600 | 1863900 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 79 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0156 | 0.4498 | 0.0512 | 0.0443 | 0.0157 | -0.0047 |
| Run 2 | 0.0259 | 0.2857 | -0.1318 | -0.0270 | 0.0110 | -0.0006 |
| Run 3 | -0.0103 | -0.7354 | 0.0806 | -0.0173 | -0.0267 | 0.0054 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0226 | 0.6422 | 0.1151 | 0.0387 | 0.0232 | 0.0051 |
| %RSD | 2017000 | 6389500 | 10250000 | 2306700 | 1130300 | 549850 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0008 | -0.0019 | -0.0198 | 0.0036 | -0.0025 | 0.0066 |
| Run 2 | -0.0006 | 0.0000 | -0.0002 | -0.0028 | -0.0002 | 0.0014 |
| Run 3 | 0.0014 | 0.0019 | 0.0200 | -0.0008 | 0.0027 | -0.0080 |
| Mean | 0.0000 | 0.0000 | -0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0012 | 0.0019 | 0.0199 | 0.0033 | 0.0026 | 0.0074 |
| %RSD | 115100 | 96781 | 2930700 | 892790 | 69257 | 661540 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0054 | 0.0012 | 0.0010 | -0.0016 | -0.0004 |
| Run 2 | 0.0047 | 0.0001 | 0.0016 | 0.0004 | 0.0009 |
| Run 3 | 0.0007 | -0.0012 | -0.0026 | 0.0012 | -0.0005 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0000 |
| Std Dev | 0.0051 | 0.0012 | 0.0022 | 0.0014 | 0.0008 |
| %RSD | 661460 | 173170 | 115250 | 254630 | 2394500 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| 'ector | PC | PC | PC |
| 1 | 98.36 | 99.65 | 100.2 |
| Run 2 | 100.6 | 99.96 | 99.19 |
| Run 3 | 101.0 | 100.4 | 100.6 |
| Mean | 100.00 | 100.00 | 100.00 |
| Std Dev | 1.435 | 0.3777 | 0.7251 |

PQ-S #971114 Operator: Greg Jasper KA010995 9 2/28/02

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Standard
First repeat started at : Thu Feb 28 2002 13:00:51
Last repeat started at : Thu Feb 28 2002 13:01:52
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.24 | 25.25 | 24.93 | 24.68 | 24.69 | 25.08 | 25.07 |
| Run 2 | 25.12 | 25.14 | 25.29 | 25.21 | 25.87 | 25.12 | 25.24 |
| Run 3 | 24.63 | 24.61 | 24.79 | 25.11 | 24.43 | 24.79 | 24.69 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.3233 | 0.3455 | 0.2574 | 0.2797 | 0.7664 | 0.1786 | 0.2832 |
| %SD | 1.293 | 1.382 | 1.030 | 1.119 | 3.066 | 0.7144 | 1.133 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.79 | 24.41 | 25.24 | 25.12 | 24.79 | 25.10 |
| Run 2 | 24.47 | 24.15 | 25.12 | 25.04 | 25.17 | 24.75 |
| Run 3 | 25.74 | 26.43 | 24.64 | 24.84 | 25.03 | 25.15 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.6592 | 1.249 | 0.3213 | 0.1428 | 0.1927 | 0.2217 |
| %SD | 2.637 | 4.995 | 1.285 | 0.5712 | 0.7708 | 0.8868 |

MS1-23-D

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.00 | 25.12 | 25.40 | 25.11 | 25.06 | 24.91 |
| Run 2 | 25.01 | 24.92 | 24.91 | 24.92 | 24.85 | 25.00 |
| Run 3 | 24.99 | 24.96 | 24.69 | 24.97 | 25.08 | 25.09 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.0090 | 0.1044 | 0.3608 | 0.0970 | 0.1261 | 0.0916 |
| %SD | 0.0358 | 0.4176 | 1.443 | 0.3882 | 0.5043 | 0.3665 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.01 | 25.02 | 25.19 | 25.06 | 25.11 |
| Run 2 | 25.25 | 25.03 | 25.09 | 24.86 | 24.98 |
| Run 3 | 24.74 | 24.94 | 24.72 | 25.09 | 24.91 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.2560 | 0.0484 | 0.2465 | 0.1244 | 0.1051 |
| %SD | 1.024 | 0.1938 | 0.9862 | 0.4978 | 0.4204 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| tope | Sc 45 | In 115 | Lu 175 |
| ector | PC | PC | PC |
| Run 1 | 99.15 | 98.58 | 99.73 |
| Run 2 | 97.45 | 99.22 | 100.6 |
| Run 3 | 99.55 | 98.73 | 100.2 |
| Mean | 98.71 | 98.84 | 100.2 |
| Std Dev | 1.117 | 0.3350 | 0.4457 |

PQ-S #971114 Operator: Greg Jasper KA0109958 9 2/28/02

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #1
First repeat started at : Thu Feb 28 2002 13:03:13
Last repeat started at : Thu Feb 28 2002 13:04:12
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.38 | 29.26 | 48.94 | 51.17 | 60.13 | 57.70 | 50.97 |
| Run 2 | 20.60 | 29.26 | 48.89 | 52.08 | 60.35 | 58.91 | 51.09 |
| Run 3 | 20.68 | 29.71 | 49.09 | 51.45 | 61.71 | 58.57 | 51.29 |
| Mean | 20.55 | 29.41 | 48.98 | 51.57 | 60.73 | 58.39 | 51.12 |
| Std Dev | 0.1544 | 0.2581 | 0.1014 | 0.4671 | 0.8544 | 0.6264 | 0.1574 |
| %SD | 0.7510 | 0.8776 | 0.2071 | 0.9057 | 1.407 | 1.073 | 0.3080 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 52.90 | 47.78 | 49.81 | 48.24 | 49.13 | 48.60 |
| Run 2 | 53.02 | 49.67 | 50.36 | 48.88 | 49.41 | 49.23 |
| Run 3 | 52.31 | 49.01 | 49.88 | 49.45 | 49.15 | 48.86 |
| Mean | 52.74 | 48.82 | 50.02 | 48.86 | 49.23 | 48.90 |
| Std Dev | 0.3817 | 0.9565 | 0.3006 | 0.6047 | 0.1562 | 0.3161 |
| %SD | 0.7236 | 1.959 | 0.6009 | 1.238 | 0.3172 | 0.6465 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.87 | 24.63 | 25.12 | 27.66 | 26.45 | 200.6 |
| Run 2 | 25.09 | 24.84 | 24.53 | 27.61 | 26.60 | 200.1 |
| Run 3 | 25.15 | 25.24 | 24.60 | 27.97 | 26.65 | 199.3 |
| Mean | 25.04 | 24.90 | 24.75 | 27.74 | 26.57 | 200.0 |
| Std Dev | 0.1488 | 0.3070 | 0.3193 | 0.1928 | 0.1035 | 0.6733 |
| %SD | 0.5944 | 1.233 | 1.290 | 0.6951 | 0.3898 | 0.3366 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 202.0 | 198.3 | 51.72 | 51.43 | 50.34 |
| Run 2 | 204.7 | 199.1 | 51.77 | 51.15 | 50.58 |
| Run 3 | 200.7 | 195.5 | 51.64 | 51.55 | 50.70 |
| Mean | 202.5 | 197.6 | 51.71 | 51.38 | 50.54 |
| Std Dev | 2.071 | 1.872 | 0.0644 | 0.2056 | 0.1796 |
| %SD | 1.023 | 0.9474 | 0.1246 | 0.4001 | 0.3554 |

IEV-2
MS1-22-C

00180

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 99.04 | 100.1 | 99.99 |
| Run 2 | 97.69 | 99.89 | 99.36 |
| Run 3 | 97.42 | 99.67 | 99.78 |
| Mean | 98.05 | 99.90 | 99.71 |
| Std Dev | 0.8643 | 0.2271 | 0.3180 |

FQ-S #971114 Operator: Greg Jasper KA010995 9 02 2/28/02

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #2
First repeat started at : Thu Feb 28 2002 13:05:38
Last repeat started at : Thu Feb 28 2002 13:06:38
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.12 | 25.49 | 24.83 | 24.90 | 24.78 | 25.54 | 25.34 |
| Run 2 | 25.30 | 26.04 | 25.30 | 25.19 | 25.86 | 25.59 | 25.73 |
| Run 3 | 25.38 | 26.23 | 25.33 | 25.97 | 25.07 | 25.90 | 25.76 |
| Mean | 25.26 | 25.92 | 25.15 | 25.35 | 25.24 | 25.68 | 25.61 |
| Std Dev | 0.1336 | 0.3842 | 0.2832 | 0.5522 | 0.5565 | 0.1993 | 0.2343 |
| %SD | 0.5288 | 1.482 | 1.126 | 2.178 | 2.205 | 0.7762 | 0.9150 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 23.24 | 23.64 | 25.33 | 25.19 | 24.71 | 25.52 |
| Run 2 | 25.80 | 22.97 | 26.30 | 24.85 | 25.06 | 24.92 |
| Run 3 | 25.21 | 23.39 | 26.71 | 24.92 | 24.51 | 24.91 |
| Mean | 24.75 | 23.33 | 26.11 | 24.99 | 24.76 | 25.12 |
| Std Dev | 1.339 | 0.3386 | 0.7058 | 0.1771 | 0.2783 | 0.3531 |
| %SD | 5.411 | 1.451 | 2.703 | 0.7087 | 1.124 | 1.406 |

CCV-6
MS1-23-D

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.10 | 25.00 | 24.79 | 24.99 | 24.97 | 25.14 |
| Run 2 | 24.78 | 24.86 | 24.43 | 24.88 | 24.96 | 24.97 |
| Run 3 | 24.88 | 24.98 | 25.32 | 25.15 | 25.50 | 24.43 |
| Mean | 24.92 | 24.95 | 24.85 | 25.01 | 25.15 | 24.84 |
| Std Dev | 0.1614 | 0.0786 | 0.4489 | 0.1360 | 0.3074 | 0.3727 |
| %SD | 0.6474 | 0.3151 | 1.806 | 0.5439 | 1.222 | 1.500 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.88 | 25.06 | 25.04 | 25.20 | 25.13 |
| Run 2 | 24.75 | 25.13 | 25.52 | 24.53 | 25.15 |
| Run 3 | 25.08 | 25.31 | 25.39 | 25.52 | 25.20 |
| Mean | 24.90 | 25.17 | 25.31 | 25.08 | 25.16 |
| Std Dev | 0.1653 | 0.1304 | 0.2493 | 0.5038 | 0.0354 |
| %SD | 0.6637 | 0.5180 | 0.9850 | 2.008 | 0.1406 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 98.87 | 98.46 | 100.8 |
| Run 2 | 96.72 | 99.09 | 99.30 |
| Run 3 | 96.75 | 98.38 | 99.06 |
| Mean | 97.45 | 98.65 | 99.73 |
| Std Dev | 1.232 | 0.3893 | 0.9726 |

PQ-S #971114 Operator: Greg Jasper KA0109958 19 2/28/02

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #3
First repeat started at : Thu Feb 28 2002 13:12:00
Last repeat started at : Thu Feb 28 2002 13:13:00
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0205 | 0.1286 | -0.0065 | -0.0433 | 0.0149 | 0.0166 | -0.0530 |
| Run 2 | 0.0079 | 0.0973 | 0.0049 | -0.0314 | -0.0520 | 0.0205 | -0.0708 |
| Run 3 | 0.0195 | 0.0674 | -0.0043 | -0.0361 | -0.0451 | 0.0177 | -0.0508 |
| Mean | 0.0160 | 0.0978 | -0.0020 | -0.0369 | -0.0274 | 0.0183 | -0.0582 |
| Std Dev | 0.0070 | 0.0306 | 0.0060 | 0.0060 | 0.0368 | 0.0020 | 0.0110 |
| %SD | 43.97 | 31.29 | 306.2 | 16.25 | 134.2 | 11.19 | 18.85 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0911 | -6.295 | -0.4184 | -0.1987 | -0.0139 | 0.0034 |
| Run 2 | -0.0324 | -7.406 | -0.4162 | -0.2086 | -0.0153 | -0.0016 |
| Run 3 | 0.1295 | -6.489 | -0.1945 | -0.1993 | -0.0631 | 0.0029 |
| Mean | 0.0020 | -6.730 | -0.3430 | -0.2022 | -0.0308 | 0.0016 |
| Std Dev | 0.1143 | 0.5938 | 0.1286 | 0.0055 | 0.0280 | 0.0028 |
| %SD | 5711 | 8.823 | 37.49 | 2.733 | 91.12 | 175.7 |

ICB-2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0045 | 0.0019 | -0.0194 | -0.0009 | 0.0051 | -0.0030 |
| Run 2 | 0.0013 | 0.0014 | 0.0104 | 0.0172 | -0.0078 | 0.0034 |
| Run 3 | 0.0023 | 0.0041 | -0.0117 | 0.0055 | 0.0035 | -0.0005 |
| Mean | 0.0027 | 0.0025 | -0.0069 | 0.0073 | 0.0003 | -0.0001 |
| Std Dev | 0.0016 | 0.0014 | 0.0155 | 0.0092 | 0.0071 | 0.0033 |
| %SD | 61.00 | 57.72 | 224.3 | 126.1 | 2657 | 5463 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0058 | -0.0025 | 0.0013 | 0.0007 | 0.0011 |
| Run 2 | 0.0096 | 0.0009 | 0.0015 | -0.0018 | 0.0005 |
| Run 3 | 0.0050 | 0.0026 | 0.0040 | -0.0001 | 0.0018 |
| Mean | 0.0068 | 0.0003 | 0.0023 | -0.0004 | 0.0011 |
| Std Dev | 0.0025 | 0.0026 | 0.0015 | 0.0013 | 0.0007 |
| %SD | 36.23 | 792.1 | 66.78 | 293.0 | 58.99 |

Internal Standard Drift; % relative to mean or first sample =

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 99.76 | 101.9 | 101.1 |
| un 2 | 99.67 | 101.3 | 102.8 |
| Run 3 | 99.92 | 101.1 | 103.9 |
| Mean | 99.78 | 101.5 | 102.6 |
| Std Dev | 0.1229 | 0.4406 | 1.428 |

PQ-S #971114 Operator: Greg Jasper KA0109958 9 2/28/02

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #4
First repeat started at : Thu Feb 28 2002 13:14:06
Last repeat started at : Thu Feb 28 2002 13:15:06
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0180 | 0.0185 | -0.0111 | -0.0405 | 0.0162 | 0.0309 | -0.0944 |
| Run 2 | 0.0126 | -0.0090 | -0.0076 | -0.0427 | 0.0450 | 0.0163 | -0.1278 |
| Run 3 | 0.0208 | 0.0678 | 0.0002 | -0.0241 | -0.0003 | 0.0378 | -0.2172 |
| Mean | 0.0172 | 0.0258 | -0.0062 | -0.0358 | 0.0203 | 0.0284 | -0.1465 |
| Std Dev | 0.0042 | 0.0389 | 0.0058 | 0.0102 | 0.0229 | 0.0110 | 0.0635 |
| %SD | 24.31 | 150.8 | 93.34 | 28.49 | 112.8 | 38.63 | 43.36 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0223 | -7.795 | -0.5035 | -0.2326 | -0.0446 | -0.0001 |
| Run 2 | 0.0625 | -5.811 | -0.6297 | -0.2612 | -0.0276 | 0.0073 |
| Run 3 | -0.0297 | -6.276 | -1.162 | -0.2231 | -0.0427 | 0.0085 |
| Mean | 0.0184 | -6.627 | -0.7650 | -0.2390 | -0.0383 | 0.0052 |
| Std Dev | 0.0462 | 1.038 | 0.3494 | 0.0198 | 0.0093 | 0.0047 |
| %SD | 251.3 | 15.66 | 45.67 | 8.294 | 24.25 | 89.09 |

CCB-6

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0017 | 0.0067 | -0.0168 | -0.0007 | -0.0076 | -0.0082 |
| Run 2 | -0.0005 | 0.0036 | 0.0061 | -0.0011 | 0.0038 | 0.0269 |
| Run 3 | -0.0020 | 0.0015 | 0.0005 | 0.0123 | -0.0061 | 0.0053 |
| Mean | -0.0003 | 0.0039 | -0.0034 | 0.0035 | -0.0033 | 0.0080 |
| Std Dev | 0.0019 | 0.0027 | 0.0119 | 0.0076 | 0.0062 | 0.0177 |
| %SD | 682.4 | 67.50 | 353.7 | 215.3 | 189.3 | 221.8 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0066 | -0.0010 | -0.0023 | 0.0048 | 0.0008 |
| Run 2 | 0.0049 | 0.0011 | 0.0025 | 0.0019 | 0.0023 |
| Run 3 | 0.0008 | 0.0024 | -0.0014 | -0.0007 | 0.0024 |
| Mean | 0.0041 | 0.0008 | -0.0004 | 0.0020 | 0.0018 |
| Std Dev | 0.0030 | 0.0017 | 0.0025 | 0.0027 | 0.0009 |
| %SD | 72.94 | 199.4 | 665.7 | 134.6 | 48.84 |

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 100.8 | 101.7 | 101.3 |
| Run 2 | 100.2 | 99.58 | 98.35 |
| Run 3 | 99.59 | 99.66 | 100.3 |
| Mean | 100.2 | 100.3 | 100.00 |
| Std Dev | 0.6283 | 1.204 | 1.515 |

PQ-S #971114 Operator: Greg Jasper KA010995 | 9 8g 2/28/02

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #5
First repeat started at : Thu Feb 28 2002 13:16:08
Last repeat started at : Thu Feb 28 2002 13:17:07
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2470 | 0.3192 | 0.0767 | 0.6118 | 0.6751 | 0.6987 | 0.4876 |
| Run 2 | 0.2630 | 0.3507 | 0.0478 | 0.6679 | 0.6408 | 0.6986 | 0.5247 |
| Run 3 | 0.2375 | 0.2902 | 0.0418 | 0.6991 | 0.5067 | 0.7842 | 0.4684 |
| Mean | 0.2492 | 0.3200 | 0.0554 | 0.6596 | 0.6075 | 0.7272 | 0.4936 |
| Std Dev | 0.0129 | 0.0303 | 0.0187 | 0.0442 | 0.0890 | 0.0494 | 0.0286 |
| %SD | 5.187 | 9.458 | 33.65 | 6.704 | 14.65 | 6.792 | 5.792 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.7979 | -6.223 | 0.8476 | -0.2015 | -0.0267 | 0.0483 |
| Run 2 | 1.041 | -5.147 | 1.095 | -0.1889 | -0.0170 | 0.0520 |
| Run 3 | 1.073 | -6.132 | 0.9316 | -0.1788 | 0.0241 | 0.0521 |
| Mean | 0.9704 | -5.834 | 0.9582 | -0.1897 | -0.0065 | 0.0508 |
| Std Dev | 0.1503 | 0.5969 | 0.1260 | 0.0114 | 0.0270 | 0.0022 |
| %SD | 15.49 | 10.23 | 13.15 | 5.987 | 413.1 | 4.308 |

water
CRA-2
m51-17-E

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0136 | 0.0157 | 0.0384 | 0.0305 | 0.0418 | 0.0555 |
| Run 2 | 0.0126 | 0.0161 | 0.0435 | 0.0617 | 0.0463 | 0.0627 |
| Run 3 | 0.0175 | 0.0196 | 0.0579 | 0.0219 | 0.0609 | 0.0863 |
| Mean | 0.0146 | 0.0171 | 0.0466 | 0.0380 | 0.0497 | 0.0682 |
| Std Dev | 0.0025 | 0.0021 | 0.0101 | 0.0209 | 0.0100 | 0.0161 |
| %SD | 17.49 | 12.38 | 21.69 | 55.11 | 20.08 | 23.64 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0533 | 0.0553 | 0.0228 | 0.0196 | 0.0233 |
| Run 2 | 0.0508 | 0.0537 | 0.0251 | 0.0319 | 0.0296 |
| Run 3 | 0.0678 | 0.0534 | 0.0229 | 0.0292 | 0.0281 |
| Mean | 0.0573 | 0.0541 | 0.0236 | 0.0269 | 0.0270 |
| Std Dev | 0.0092 | 0.0010 | 0.0013 | 0.0065 | 0.0033 |
| %SD | 15.99 | 1.883 | 5.634 | 24.00 | 12.17 |

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 100.2 | 101.3 | 102.4 |
| Run 2 | 99.25 | 100.5 | 101.4 |
| Run 3 | 99.47 | 100.7 | 101.2 |
| Mean | 99.63 | 100.8 | 101.7 |
| Std Dev | 0.4827 | 0.4000 | 0.6739 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #6
First repeat started at : Thu Feb 28 2002 13:19:04
Last repeat started at : Thu Feb 28 2002 13:19:56
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5446 | 22.52 | 0.2753 | 1.095 | 3.483 | 0.5109 | -0.1108 |
| Run 2 | 0.5530 | 22.22 | 0.2936 | 1.121 | 3.853 | 0.4219 | 0.0216 |
| Run 3 | 0.5282 | 21.84 | 0.2737 | 1.090 | 3.890 | 0.4550 | -0.1290 |
| Mean | 0.5419 | 22.20 | 0.2809 | 1.102 | 3.742 | 0.4626 | -0.0728 |
| Std Dev | 0.0126 | 0.3384 | 0.0111 | 0.0169 | 0.2252 | 0.0450 | 0.0822 |
| %SD | 2.327 | 1.524 | 3.939 | 1.533 | 6.019 | 9.729 | 113.0 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 7.265 | -8.398 | -0.0929 | 189.7 | 195.5 | 191.0 |
| Run 2 | 7.432 | -6.258 | -0.3517 | 193.4 | 195.6 | 191.1 |
| Run 3 | 7.790 | -6.897 | -0.5879 | 193.2 | 196.8 | 190.4 |
| Mean | 7.495 | -7.184 | -0.3441 | 192.1 | 195.9 | 190.8 |
| Std Dev | 0.2681 | 1.098 | 0.2476 | 2.058 | 0.7110 | 0.3702 |
| %SD | 3.577 | 15.29 | 71.95 | 1.071 | 0.3628 | 0.1940 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0396 | 0.0425 | 0.6570 | 0.3792 | 0.4655 | 0.0732 |
| Run 2 | 0.0419 | 0.0433 | 0.6625 | 0.3788 | 0.4575 | 0.0693 |
| Run 3 | 0.0431 | 0.0493 | 0.6682 | 0.3683 | 0.4572 | 0.0571 |
| Mean | 0.0415 | 0.0450 | 0.6626 | 0.3754 | 0.4601 | 0.0665 |
| Std Dev | 0.0017 | 0.0037 | 0.0056 | 0.0062 | 0.0047 | 0.0084 |
| %SD | 4.210 | 8.223 | 0.8478 | 1.640 | 1.020 | 12.64 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0635 | 0.0527 | 0.1673 | 0.1661 | 0.1660 |
| Run 2 | 0.0392 | 0.0602 | 0.1480 | 0.1502 | 0.1553 |
| Run 3 | 0.0587 | 0.0541 | 0.1652 | 0.1684 | 0.1575 |
| Mean | 0.0538 | 0.0557 | 0.1602 | 0.1616 | 0.1596 |
| Std Dev | 0.0129 | 0.0040 | 0.0106 | 0.0099 | 0.0056 |
| %SD | 23.89 | 7.154 | 6.595 | 6.128 | 3.526 |

ICSA-2
MS1-17-F

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 93.56 | 100.3 | 98.06 |
| Run 2 | 92.84 | 100.3 | 101.9 |
| Run 3 | 93.20 | 100.6 | 98.08 |
| Mean | 93.20 | 100.4 | 99.35 |
| Std Dev | 0.3581 | 0.1790 | 2.217 |

FQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #7
First repeat started at : Thu Feb 28 2002 13:20:58
Last repeat started at : Thu Feb 28 2002 13:21:59
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 21.59 | 42.72 | 21.18 | 23.00 | 21.34 | 21.15 | 20.89 |
| Run 2 | 21.45 | 42.01 | 21.08 | 22.93 | 21.87 | 20.89 | 20.37 |
| Run 3 | 22.11 | 42.30 | 21.53 | 23.27 | 21.79 | 21.54 | 20.76 |
| Mean | 21.72 | 42.34 | 21.26 | 23.07 | 21.67 | 21.19 | 20.67 |
| Std Dev | 0.3477 | 0.3559 | 0.2406 | 0.1805 | 0.2844 | 0.3251 | 0.2741 |
| %SD | 1.601 | 0.8405 | 1.131 | 0.7823 | 1.313 | 1.534 | 1.326 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 7.353 | -6.849 | -0.6169 | 195.4 | 194.2 | 191.5 |
| Run 2 | 8.087 | -5.801 | -0.7799 | 193.1 | 195.4 | 190.1 |
| Run 3 | 7.235 | -6.051 | -0.3701 | 195.9 | 198.7 | 191.6 |
| Mean | 7.559 | -6.234 | -0.5889 | 194.8 | 196.1 | 191.1 |
| Std Dev | 0.4614 | 0.5472 | 0.2063 | 1.503 | 2.331 | 0.8677 |
| %SD | 6.105 | 8.777 | 35.04 | 0.7715 | 1.188 | 0.4541 |

ICSAB-2
MS1-17-G

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 19.39 | 19.00 | 20.40 | 20.15 | 20.09 | 0.0538 |
| Run 2 | 19.35 | 19.12 | 20.53 | 19.92 | 20.33 | 0.0366 |
| Run 3 | 19.19 | 19.21 | 19.81 | 19.88 | 20.33 | 0.0446 |
| Mean | 19.31 | 19.11 | 20.25 | 19.98 | 20.25 | 0.0450 |
| Std Dev | 0.1059 | 0.1057 | 0.3822 | 0.1454 | 0.1402 | 0.0086 |
| %SD | 0.5482 | 0.5532 | 1.888 | 0.7278 | 0.6925 | 19.13 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0728 | 0.0587 | 0.1751 | 0.1844 | 0.1809 |
| Run 2 | 0.0525 | 0.0660 | 0.1721 | 0.1730 | 0.1722 |
| Run 3 | 0.0532 | 0.0585 | 0.1686 | 0.1786 | 0.1689 |
| Mean | 0.0595 | 0.0611 | 0.1720 | 0.1787 | 0.1740 |
| Std Dev | 0.0115 | 0.0043 | 0.0033 | 0.0057 | 0.0062 |
| %SD | 19.38 | 7.026 | 1.896 | 3.205 | 3.549 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 91.78 | 98.68 | 94.35 |
| Run 2 | 92.21 | 99.11 | 97.43 |
| Run 3 | 90.68 | 98.98 | 97.97 |
| Mean | 91.55 | 98.92 | 96.58 |
| Std Dev | 0.7867 | 0.2206 | 1.953 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #8
First repeat started at : Thu Feb 28 2002 13:23:25
Last repeat started at : Thu Feb 28 2002 13:24:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5275 | 5.575 | 3.082 | 1.883 | 3.972 | 2.131 | 8.834 |
| Run 2 | 0.5721 | 6.155 | 3.148 | 1.916 | 3.875 | 1.965 | 8.673 |
| Run 3 | 0.5393 | 5.888 | 3.119 | 1.903 | 4.038 | 2.209 | 9.014 |
| Mean | 0.5463 | 5.873 | 3.117 | 1.901 | 3.962 | 2.101 | 8.840 |
| Std Dev | 0.0231 | 0.2903 | 0.0331 | 0.0164 | 0.0824 | 0.1244 | 0.1705 |
| % | 4.226 | 4.943 | 1.061 | 0.8642 | 2.080 | 5.920 | 1.929 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 10.77 | -3.096 | 8.445 | 2.899 | 3.149 | 3.242 |
| Run 2 | 10.79 | -1.963 | 8.157 | 2.880 | 3.003 | 3.161 |
| Run 3 | 10.06 | -0.8485 | 8.421 | 2.929 | 3.087 | 3.140 |
| Mean | 10.54 | -1.969 | 8.341 | 2.903 | 3.080 | 3.181 |
| Std Dev | 0.4129 | 1.124 | 0.1599 | 0.0245 | 0.0734 | 0.0539 |
| %SD | 3.917 | 57.07 | 1.917 | 0.8456 | 2.383 | 1.695 |

1169-15
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0183 | 0.0170 | 0.0694 | 0.0206 | 0.0316 | 15.68 |
| Run 2 | 0.0137 | 0.0101 | 0.0632 | 0.0508 | 0.0437 | 15.91 |
| Run 3 | 0.0078 | 0.0096 | 0.0544 | 0.0420 | 0.0408 | 16.19 |
| Mean | 0.0133 | 0.0122 | 0.0623 | 0.0378 | 0.0387 | 15.93 |
| Std Dev | 0.0052 | 0.0041 | 0.0075 | 0.0155 | 0.0063 | 0.2532 |
| %SD | 39.48 | 33.81 | 12.05 | 41.06 | 16.33 | 1.589 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 15.94 | 16.40 | 0.1010 | 0.1016 | 0.1006 |
| Run 2 | 16.29 | 15.96 | 0.1098 | 0.0973 | 0.0978 |
| Run 3 | 16.29 | 16.43 | 0.0939 | 0.0911 | 0.0957 |
| Mean | 16.18 | 16.26 | 0.1016 | 0.0967 | 0.0980 |
| Std Dev | 0.2022 | 0.2681 | 0.0080 | 0.0052 | 0.0025 |
| %SD | 1.250 | 1.648 | 7.848 | 5.429 | 2.516 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 115.1 | 95.53 | 98.31 |
| Run 2 | 112.5 | 95.52 | 97.04 |
| Run 3 | 113.2 | 94.48 | 95.13 |
| Mean | 113.6 | 95.18 | 96.83 |
| Std Dev | 1.337 | 0.6007 | 1.603 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #9
First repeat started at : Thu Feb 28 2002 13:25:08
Last repeat started at : Thu Feb 28 2002 13:26:09
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2836 | 2.270 | 0.7058 | 1.999 | 1.882 | 1.951 | -0.0571 |
| Run 2 | 0.2582 | 2.135 | 0.6740 | 1.936 | 1.961 | 1.895 | -0.1206 |
| Run 3 | 0.2510 | 2.000 | 0.6696 | 1.961 | 1.964 | 1.997 | 0.0284 |
| Mean | 0.2643 | 2.135 | 0.6831 | 1.965 | 1.936 | 1.948 | -0.0498 |
| Std Dev | 0.0171 | 0.1350 | 0.0197 | 0.0321 | 0.0467 | 0.0511 | 0.0747 |
| %SD | 6.476 | 6.321 | 2.888 | 1.633 | 2.411 | 2.623 | 150.2 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.6695 | -10.57 | -0.3722 | 0.0145 | 0.2244 | 0.2258 |
| Run 2 | 0.5490 | -10.53 | -0.6999 | -0.0649 | 0.1578 | 0.1854 |
| Run 3 | 0.5930 | -11.02 | 0.0105 | -0.1566 | 0.0942 | 0.1527 |
| Mean | 0.6038 | -10.70 | -0.3539 | -0.0690 | 0.1588 | 0.1879 |
| Std Dev | 0.0610 | 0.2713 | 0.3556 | 0.0856 | 0.0651 | 0.0366 |
| %SD | 10.10 | 2.534 | 100.5 | 124.1 | 41.00 | 19.48 |

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1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0039 | 0.0044 | -0.0046 | -0.0055 | -0.0097 | 0.0676 |
| Run 2 | 0.0049 | 0.0032 | 0.0043 | 0.0024 | -0.0104 | 0.0578 |
| Run 3 | 0.0042 | 0.0062 | 0.0099 | 0.0043 | 0.0010 | 0.0727 |
| Mean | 0.0043 | 0.0046 | 0.0032 | 0.0004 | -0.0064 | 0.0660 |
| Std Dev | 0.0005 | 0.0015 | 0.0073 | 0.0052 | 0.0064 | 0.0075 |
| %SD | 12.17 | 32.45 | 228.3 | 1328 | 100.9 | 11.42 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0743 | 0.0765 | 0.0231 | 0.0218 | 0.0252 |
| Run 2 | 0.0641 | 0.0599 | 0.0312 | 0.0188 | 0.0283 |
| Run 3 | 0.0489 | 0.0570 | 0.0250 | 0.0252 | 0.0255 |
| Mean | 0.0624 | 0.0645 | 0.0264 | 0.0220 | 0.0263 |
| Std Dev | 0.0128 | 0.0105 | 0.0042 | 0.0032 | 0.0017 |
| %SD | 20.47 | 16.26 | 15.98 | 14.56 | 6.598 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 101.8 | 104.6 | 102.8 |
| Run 2 | 101.3 | 104.3 | 101.9 |
| Run 3 | 102.0 | 103.7 | 100.7 |
| Mean | 101.7 | 104.2 | 101.8 |
| Std Dev | 0.3745 | 0.4488 | 1.030 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B

Analysis procedure : EPA Method 6020/200.8

Sample name : Sample #10

First repeat started at : Thu Feb 28 2002 13:26:56

Last repeat started at : Thu Feb 28 2002 13:27:57

Interference Equations : DEFAULT

Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.861 | 8.226 | 178.2 | 67.97 | 59.79 | 67.19 | 4.048 |
| Run 2 | 3.881 | 7.995 | 179.3 | 67.08 | 62.93 | 68.16 | 3.558 |
| Run 3 | 3.930 | 7.917 | 177.9 | 67.80 | 61.51 | 67.96 | 3.884 |
| Mean | 3.890 | 8.046 | 178.5 | 67.61 | 61.41 | 67.77 | 3.830 |
| Std Dev | 0.0358 | 0.1610 | 0.7579 | 0.4705 | 1.573 | 0.7853 | 0.2498 |
| | 0.9193 | 2.001 | 0.4246 | 0.6958 | 2.562 | 1.155 | 6.521 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.272 | -4.664 | 4.619 | 6.295 | 6.537 | 6.494 |
| Run 2 | 6.139 | -4.514 | 3.973 | 6.477 | 6.680 | 6.657 |
| Run 3 | 5.437 | -3.264 | 4.036 | 6.449 | 6.647 | 6.665 |
| Mean | 5.616 | -4.147 | 4.210 | 6.407 | 6.621 | 6.605 |
| Std Dev | 0.4602 | 0.7688 | 0.3555 | 0.0976 | 0.0[illegible] | 0.0963 |
| %SD | 8.194 | 18.54 | 8.444 | 1.523 | 1.[illegible] | 1.458 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0211 | 0.0157 | 0.2031 | 0.1690 | 0.1757 | 81.34 |
| Run 2 | 0.0187 | 0.0118 | 0.2199 | 0.1953 | 0.1528 | 78.28 |
| Run 3 | 0.0227 | 0.0108 | 0.1740 | 0.1470 | 0.2073 | 77.71 |
| Mean | 0.0208 | 0.0127 | 0.1990 | 0.1704 | 0.1786 | 79.11 |
| Std Dev | 0.0020 | 0.0026 | 0.0232 | 0.0242 | 0.0274 | 1.955 |
| %SD | 9.521 | 20.41 | 11.65 | 14.17 | 15.33 | 2.472 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 81.19 | 78.74 | 3.509 | 3.283 | 3.333 |
| Run 2 | 79.31 | 77.60 | 3.444 | 3.272 | 3.314 |
| Run 3 | 80.69 | 78.04 | 3.407 | 3.182 | 3.285 |
| Mean | 80.40 | 78.13 | 3.454 | 3.246 | 3.311 |
| Std Dev | 0.9763 | 0.5747 | 0.0518 | 0.0552 | 0.0241 |
| %SD | 1.214 | 0.7356 | 1.500 | 1.699 | 0.7293 |

1169.17
1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| I or | PC | PC | PC |
| Run 1 | 121.7 | 94.46 | 93.80 |
| Run 2 | 122.1 | 94.73 | 96.64 |
| Run 3 | 123.8 | 94.24 | 97.08 |
| Mean | 122.6 | 94.48 | 95.84 |
| Std Dev | 1.128 | 0.2460 | 1.783 |

Internal Standard Drift outside drift window.
Failed isotopes = Sc 45
Specified action is to continue with procedure.

FQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #11
First repeat started at : Thu Feb 28 2002 13:31:18
Last repeat started at : Thu Feb 28 2002 13:32:18
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.812 | 7.514 | 179.7 | 66.65 | 59.44 | 67.37 | 3.763 |
| Run 2 | 3.714 | 7.047 | 178.6 | 66.68 | 58.72 | 65.99 | 3.613 |
| Run 3 | 3.827 | 7.303 | 182.3 | 67.21 | 60.69 | 67.23 | 3.549 |
| Mean | 3.784 | 7.288 | 180.2 | 66.85 | 59.61 | 66.86 | 3.642 |
| Std Dev | 0.0613 | 0.2338 | 1.903 | 0.3144 | 0.9937 | 0.7605 | 0.1102 |
| | 1.620 | 3.208 | 1.056 | 0.4703 | 1.667 | 1.137 | 3.025 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.070 | -5.032 | 4.076 | 6.353 | 6.383 | 6.580 |
| Run 2 | 5.229 | -4.000 | 3.906 | 6.525 | 6.364 | 6.406 |
| Run 3 | 5.630 | -3.126 | 3.771 | 6.510 | 6.583 | 6.575 |
| Mean | 5.310 | -4.053 | 3.917 | 6.463 | 6.494 | 6.520 |
| Std Dev | 0.2882 | 0.9542 | 0.1528 | 0.0953 | 0.1146 | 0.0990 |
| %SD | 5.429 | 23.55 | 3.900 | 1.475 | 1.766 | 1.518 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0171 | 0.0070 | 0.2112 | 0.1684 | 0.1809 | 79.14 |
| Run 2 | 0.0174 | 0.0070 | 0.2105 | 0.1618 | 0.1587 | 79.60 |
| Run 3 | 0.0158 | 0.0064 | 0.2119 | 0.1748 | 0.1701 | 78.79 |
| Mean | 0.0168 | 0.0068 | 0.2112 | 0.1683 | 0.1699 | 79.17 |
| Std Dev | 0.0009 | 0.0004 | 0.0007 | 0.0065 | 0.0111 | 0.4076 |
| %SD | 5.203 | 5.484 | 0.3260 | 3.880 | 6.531 | 0.5148 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 79.88 | 79.46 | 3.500 | 3.246 | 3.293 |
| Run 2 | 81.71 | 80.28 | 3.565 | 3.315 | 3.376 |
| Run 3 | 80.40 | 78.45 | 3.514 | 3.174 | 3.277 |
| Mean | 80.66 | 79.40 | 3.526 | 3.245 | 3.315 |
| Std Dev | 0.9473 | 0.9152 | 0.0341 | 0.0708 | 0.0535 |
| %SD | 1.174 | 1.153 | 0.9676 | 2.183 | 1.613 |

1169-17

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 120.9 | 92.77 | 93.70 |
| Run 2 | 123.8 | 92.06 | 90.59 |
| Run 3 | 121.4 | 92.40 | 93.22 |
| Mean | 122.0 | 92.41 | 92.50 |
| Std Dev | 1.516 | 0.3552 | 1.679 |

Internal Standard Drift outside drift window.
Failed isotopes = Sc 45
Specified action is to continue with procedure.

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #12
First repeat started at : Thu Feb 28 2002 13:34:24
Last repeat started at : Thu Feb 28 2002 13:35:24
Interference Equations : DEFAULT
Dilution Factor : 1.0000 See Dilution Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.6479 | 6.545 | 587.5 | 4153 | 3851 | 4241 | 0.5305 |
| Run 2 | 0.6289 | 6.419 | 586.3 | 4174 | 3900 | 4170 | 0.7752 |
| Run 3 | 0.6235 | 6.401 | 590.2 | 4205 | 3856 | 4199 | 0.6148 |
| Mean | 0.6334 | 6.455 | 588.0 | 4178 | 3869 | 4203 | 0.6402 |
| Std Dev | 0.0128 | 0.0786 | 2.021 | 26.10 | 26.97 | 35.93 | 0.1243 |
| % | 2.026 | 1.218 | 0.3437 | 0.6249 | 0.6972 | 0.8548 | 19.41 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.957 | -3.329 | 2.343 | 7.385 | 7.318 | 7.319 |
| Run 2 | 3.619 | -4.010 | 3.092 | 7.232 | 7.164 | 7.335 |
| Run 3 | 3.946 | -3.106 | 2.467 | 7.261 | 7.225 | 7.292 |
| Mean | 3.841 | -3.482 | 2.634 | 7.293 | 7.236 | 7.315 |
| Std Dev | 0.1923 | 0.4710 | 0.4015 | 0.0812 | 0.0778 | 0.0220 |
| %SD | 5.007 | 13.53 | 15.24 | 1.113 | 1.076 | 0.3005 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0025 | 0.0056 | 0.1426 | 0.1004 | 0.1203 | 25.02 |
| Run 2 | 0.0018 | 0.0016 | 0.1482 | 0.1098 | 0.1183 | 25.06 |
| Run 3 | 0.0037 | 0.0012 | 0.1309 | 0.1139 | 0.1166 | 25.14 |
| Mean | 0.0027 | 0.0028 | 0.1406 | 0.1081 | 0.1184 | 25.08 |
| Std Dev | 0.0009 | 0.0024 | 0.0089 | 0.0069 | 0.0018 | 0.0587 |
| %SD | 35.64 | 86.41 | 6.299 | 6.388 | 1.562 | 0.2340 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.59 | 25.98 | 0.1175 | 0.1249 | 0.1256 |
| Run 2 | 25.83 | 25.68 | 0.1230 | 0.1463 | 0.1320 |
| Run 3 | 24.97 | 25.36 | 0.1437 | 0.1266 | 0.1319 |
| Mean | 25.46 | 25.67 | 0.1280 | 0.1326 | 0.1298 |
| Std Dev | 0.4418 | 0.3105 | 0.0138 | 0.0119 | 0.0036 |
| %SD | 1.735 | 1.209 | 10.78 | 8.961 | 2.804 |

1169-18
12

00202

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| I or | PC | PC | PC |
| Run 1 | 99.19 | 86.49 | 87.63 |
| Run 2 | 99.58 | 86.19 | 88.48 |
| Run 3 | 98.54 | 86.53 | 87.93 |
| Mean | 99.10 | 86.41 | 88.01 |
| Std Dev | 0.5268 | 0.1832 | 0.4334 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #13
First repeat started at : Thu Feb 28 2002 13:36:10
Last repeat started at : Thu Feb 28 2002 13:37:10
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

See Dilutions

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5427 | 14.38 | 245.1 | 14.16 | 14.09 | 13.72 | 1.863 |
| Run 2 | 0.5443 | 15.63 | 246.7 | 13.26 | 15.06 | 13.21 | 1.896 |
| Run 3 | 0.5329 | 16.19 | 245.2 | 13.02 | 14.20 | 12.92 | 1.808 |
| Mean | 0.5400 | 15.40 | 245.7 | 13.48 | 14.45 | 13.28 | 1.856 |
| Std Dev | 0.0062 | 0.9282 | 0.8601 | 0.5973 | 0.5306 | 0.4086 | 0.0447 |
| %SD | 1.140 | 6.027 | 0.3501 | 4.430 | 3.672 | 3.076 | 2.411 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.856 | -4.661 | 0.9946 | 4.511 | 4.320 | 4.154 |
| Run 2 | 6.145 | -2.951 | 0.7555 | 4.488 | 4.353 | 4.159 |
| Run 3 | 6.404 | -3.343 | 0.7818 | 4.640 | 4.268 | 4.254 |
| Mean | 6.135 | -3.652 | 0.8439 | 4.546 | 4.314 | 4.189 |
| Std Dev | 0.2739 | 0.8961 | 0.1311 | 0.0819 | 0.0430 | 0.0566 |
| %SD | 4.464 | 24.54 | 15.53 | 1.801 | 0.9967 | 1.352 |

1169-19
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0022 | -0.0018 | 0.0643 | 0.0556 | 0.0469 | 23.77 |
| Run 2 | 0.0018 | -0.0022 | 0.0656 | 0.0276 | 0.0605 | 24.10 |
| Run 3 | -0.0022 | -0.0015 | 0.0695 | 0.0264 | 0.0487 | 24.01 |
| Mean | -0.0009 | -0.0019 | 0.0665 | 0.0365 | 0.0520 | 23.96 |
| Std Dev | 0.0023 | 0.0004 | 0.0027 | 0.0166 | 0.0074 | 0.1676 |
| %SD | 267.0 | 19.19 | 4.091 | 45.37 | 14.25 | 0.6994 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 23.91 | 24.05 | 0.1469 | 0.1380 | 0.1413 |
| Run 2 | 24.88 | 25.01 | 0.1346 | 0.1366 | 0.1338 |
| Run 3 | 24.46 | 25.05 | 0.1437 | 0.1337 | 0.1368 |
| Mean | 24.42 | 24.71 | 0.1417 | 0.1361 | 0.1373 |
| Std Dev | 0.4841 | 0.5652 | 0.0063 | 0.0022 | 0.0038 |
| %SD | 1.983 | 2.288 | 4.475 | 1.594 | 2.741 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D[illegible]tor | PC | PC | PC |
| [illegible] | 105.8 | 89.42 | 93.40 |
| Run 2 | 106.5 | 87.78 | 91.46 |
| Run 3 | 106.1 | 88.54 | 91.00 |
| Mean | 106.2 | 88.58 | 91.95 |
| Std Dev | 0.3511 | 0.8198 | 1.277 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #14
First repeat started at : Thu Feb 28 2002 13:37:58
Last repeat started at : Thu Feb 28 2002 13:38:59
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 10.94 | 15.39 | 55.14 | 20.30 | 21.05 | 19.42 | 1.369 |
| Run 2 | 10.90 | 13.37 | 54.33 | 20.45 | 21.27 | 20.21 | 1.185 |
| Run 3 | 10.71 | 12.39 | 53.62 | 20.48 | 21.39 | 19.93 | 1.075 |
| Mean | 10.85 | 13.71 | 54.37 | 20.41 | 21.24 | 19.85 | 1.210 |
| Std Dev | 0.1269 | 1.531 | 0.7614 | 0.0957 | 0.1745 | 0.4014 | 0.1485 |
| | 1.170 | 11.17 | 1.401 | 0.4690 | 0.8215 | 2.022 | 12.28 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 2.983 | 37.94 | 1.625 | 5.071 | 2.786 | 1.990 |
| Run 2 | 2.357 | 58.54 | 0.8025 | 9.483 | 3.712 | 2.037 |
| Run 3 | 1.577 | 68.96 | -0.1436 | 10.92 | 4.258 | 1.986 |
| Mean | 2.306 | 55.14 | 0.7614 | 8.491 | 3.585 | 2.004 |
| Std Dev | 0.7042 | 15.78 | 0.8852 | 3.048 | 0.7445 | 0.0285 |
| %SD | 30.54 | 28.63 | 116.3 | 35.89 | 20.76 | 1.421 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0021 | -0.0009 | 0.1125 | 0.1096 | 0.1068 | 9.383 |
| Run 2 | 0.0004 | -0.0007 | 0.1099 | 0.1204 | 0.1216 | 9.480 |
| Run 3 | -0.0002 | -0.0011 | 0.1049 | 0.1417 | 0.1241 | 9.500 |
| Mean | 0.0008 | -0.0009 | 0.1091 | 0.1239 | 0.1175 | 9.454 |
| Std Dev | 0.0012 | 0.0002 | 0.0039 | 0.0163 | 0.0093 | 0.0623 |
| %SD | 152.0 | 23.95 | 3.562 | 13.17 | 7.952 | 0.6590 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 9.119 | 9.324 | 0.5994 | 0.5369 | 0.5568 |
| Run 2 | 9.836 | 9.748 | 0.5765 | 0.6249 | 0.5806 |
| Run 3 | 9.665 | 9.765 | 0.6074 | 0.5910 | 0.5718 |
| Mean | 9.540 | 9.612 | 0.5944 | 0.5843 | 0.5697 |
| Std Dev | 0.3743 | 0.2499 | 0.0160 | 0.0444 | 0.0120 |
| %SD | 3.924 | 2.600 | 2.696 | 7.597 | 2.105 |

H69-20
1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| ' -tor | PC | PC | PC |
| 1 | 58.64 | 84.95 | 90.36 |
| Run 2 | 59.17 | 84.84 | 86.59 |
| Run 3 | 60.17 | 84.51 | 85.03 |
| Mean | 59.32 | 84.77 | 87.33 |
| Std Dev | 0.7749 | 0.2314 | 2.743 |

FQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #15
First repeat started at : Thu Feb 28 2002 13:40:22
Last repeat started at : Thu Feb 28 2002 13:41:22
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.21 | 25.07 | 24.26 | 24.24 | 24.13 | 24.06 | 23.56 |
| Run 2 | 23.68 | 24.66 | 23.96 | 23.83 | 23.88 | 23.82 | 23.46 |
| Run 3 | 23.47 | 24.18 | 23.67 | 23.14 | 23.62 | 23.51 | 23.23 |
| Mean | 23.79 | 24.64 | 23.96 | 23.74 | 23.88 | 23.80 | 23.42 |
| Std Dev | 0.3808 | 0.4468 | 0.2934 | 0.5581 | 0.2523 | 0.2778 | 0.1725 |
| | 1.601 | 1.813 | 1.224 | 2.351 | 1.057 | 1.167 | 0.7366 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 23.81 | 50.21 | 22.59 | 27.32 | 25.52 | 24.50 |
| Run 2 | 23.16 | 46.69 | 24.60 | 27.12 | 25.20 | 24.41 |
| Run 3 | 23.99 | 47.10 | 24.05 | 26.65 | 25.32 | 25.16 |
| Mean | 23.65 | 48.00 | 23.74 | 27.03 | 25.35 | 24.69 |
| Std Dev | 0.4371 | 1.925 | 1.038 | 0.3434 | 0.1593 | 0.4126 |
| %SD | 1.848 | 4.010 | 4.372 | 1.270 | 0.6284 | 1.671 |

CLV-7
MS1-23-D

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.80 | 24.48 | 24.34 | 24.25 | 25.02 | 24.89 |
| Run 2 | 24.67 | 24.83 | 24.78 | 24.56 | 25.23 | 24.52 |
| Run 3 | 24.63 | 24.92 | 24.52 | 24.82 | 25.05 | 25.05 |
| Mean | 24.70 | 24.74 | 24.55 | 24.54 | 25.10 | 24.82 |
| Std Dev | 0.0858 | 0.2298 | 0.2222 | 0.2843 | 0.1165 | 0.2725 |
| %SD | 0.3475 | 0.9288 | 0.9054 | 1.159 | 0.4641 | 1.098 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.92 | 24.70 | 25.21 | 25.24 | 25.20 |
| Run 2 | 25.02 | 25.04 | 25.48 | 25.53 | 25.29 |
| Run 3 | 24.78 | 25.01 | 25.38 | 26.21 | 25.61 |
| Mean | 24.91 | 24.92 | 25.33 | 25.66 | 25.37 |
| Std Dev | 0.1202 | 0.1898 | 0.1353 | 0.4942 | 0.2145 |
| %SD | 0.4824 | 0.7617 | 0.5338 | 1.926 | 0.8456 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| :or | PC | PC | PC |
| Ru... 1 | 105.3 | 101.9 | 102.9 |
| Run 2 | 107.3 | 101.7 | 101.4 |
| Run 3 | 108.7 | 100.9 | 100.3 |
| Mean | 107.1 | 101.5 | 101.5 |
| Std Dev | 1.698 | 0.5378 | 1.307 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #16
First repeat started at : Thu Feb 28 2002 13:48:44
Last repeat started at : Thu Feb 28 2002 13:49:44
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0248 | 0.5596 | 0.1082 | 0.1490 | 0.2659 | 0.0677 | -0.0617 |
| Run 2 | -0.0294 | 0.4951 | 0.0826 | 0.1257 | 0.2858 | 0.0146 | -0.0698 |
| Run 3 | -0.0170 | 0.4159 | 0.0779 | 0.0917 | 0.2460 | -0.0017 | 0.0219 |
| Mean | -0.0237 | 0.4902 | 0.0895 | 0.1221 | 0.2659 | 0.0269 | -0.0366 |
| Std Dev | 0.0063 | 0.0720 | 0.0163 | 0.0288 | 0.0199 | 0.0363 | 0.0508 |
| %SD | 26.36 | 14.69 | 18.22 | 23.57 | 7.471 | 135.1 | 138.9 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2186 | 10.69 | -0.3359 | 1.367 | 0.3608 | 0.0086 |
| Run 2 | 0.1164 | 9.401 | -0.4287 | 1.313 | 0.3572 | 0.0053 |
| Run 3 | 0.1515 | 10.42 | -0.0228 | 1.156 | 0.2982 | -0.0039 |
| Mean | 0.1622 | 10.17 | -0.2624 | 1.279 | 0.3387 | 0.0033 |
| Std Dev | 0.0519 | 0.6789 | 0.2127 | 0.1100 | 0.0351 | 0.0065 |
| %SD | 32.02 | 6.676 | 81.03 | 8.603 | 10.37 | 195.4 |

CCB-7

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0041 | 0.0018 | -0.0159 | -0.0080 | 0.0232 | 0.0034 |
| Run 2 | 0.0007 | 0.0026 | -0.0152 | -0.0070 | 0.0025 | 0.0067 |
| Run 3 | -0.0004 | 0.0038 | -0.0205 | -0.0208 | 0.0150 | 0.0026 |
| Mean | 0.0015 | 0.0027 | -0.0172 | -0.0119 | 0.0136 | 0.0042 |
| Std Dev | 0.0024 | 0.0010 | 0.0029 | 0.0077 | 0.0104 | 0.0022 |
| %SD | 163.7 | 36.73 | 16.76 | 64.53 | 76.80 | 51.42 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0040 | 0.0029 | 0.0112 | 0.0092 | 0.0099 |
| Run 2 | -0.0006 | 0.0083 | 0.0045 | 0.0050 | 0.0047 |
| Run 3 | -0.0008 | -0.0036 | 0.0008 | -0.0010 | 0.0030 |
| Mean | 0.0009 | 0.0025 | 0.0055 | 0.0044 | 0.0059 |
| Std Dev | 0.0027 | 0.0059 | 0.0053 | 0.0051 | 0.0036 |
| %SD | 320.5 | 235.3 | 95.64 | 116.1 | 60.99 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible] | PC | PC | PC |
| [illegible] | 101.3 | 105.1 | 109.2 |
| Run 2 | 103.4 | 102.8 | 105.3 |
| Run 3 | 103.0 | 102.8 | 108.1 |
| Mean | 102.6 | 103.6 | 107.5 |
| Std Dev | 1.102 | 1.295 | 2.007 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #17
First repeat started at : Thu Feb 28 2002 13:52:06
Last repeat started at : Thu Feb 28 2002 13:53:07
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.590 | 6.567 | 179.1 | 63.96 | 57.80 | 63.90 | 3.671 |
| Run 2 | 3.598 | 6.493 | 181.5 | 65.32 | 57.67 | 64.40 | 3.630 |
| Run 3 | 3.608 | 6.561 | 181.1 | 65.45 | 57.62 | 63.66 | 3.232 |
| Mean | 3.599 | 6.540 | 180.5 | 64.91 | 57.70 | 63.99 | 3.511 |
| Std Dev | 0.0093 | 0.0412 | 1.291 | 0.8248 | 0.0905 | 0.3746 | 0.2422 |
| | 0.2579 | 0.6306 | 0.7152 | 1.271 | 0.1569 | 0.5854 | 6.897 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 4.467 | 4.672 | 4.097 | 7.148 | 6.598 | 6.275 |
| Run 2 | 4.675 | 3.385 | 3.745 | 7.078 | 6.463 | 6.203 |
| Run 3 | 5.467 | 4.285 | 3.573 | 7.070 | 6.575 | 6.248 |
| Mean | 4.870 | 4.114 | 3.805 | 7.098 | 6.545 | 6.242 |
| Std Dev | 0.5277 | 0.6604 | 0.2668 | 0.0429 | 0.0725 | 0.0365 |
| %SD | 10.84 | 16.05 | 7.011 | 0.6043 | 1.108 | 0.5846 |

1169-17
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0155 | 0.0124 | 0.1971 | 0.1396 | 0.1614 | 76.77 |
| Run 2 | 0.0170 | 0.0110 | 0.2198 | 0.1464 | 0.1599 | 76.37 |
| Run 3 | 0.0194 | 0.0066 | 0.1690 | 0.1333 | 0.1454 | 74.93 |
| Mean | 0.0173 | 0.0100 | 0.1953 | 0.1398 | 0.1555 | 76.02 |
| Std Dev | 0.0020 | 0.0030 | 0.0254 | 0.0066 | 0.0088 | 0.9700 |
| %SD | 11.49 | 30.08 | 13.01 | 4.700 | 5.667 | 1.276 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 76.51 | 79.01 | 3.331 | 3.143 | 3.185 |
| Run 2 | 78.98 | 79.40 | 3.424 | 3.187 | 3.284 |
| Run 3 | 75.72 | 77.56 | 3.160 | 3.026 | 3.052 |
| Mean | 77.07 | 78.65 | 3.305 | 3.119 | 3.173 |
| Std Dev | 1.705 | 0.9695 | 0.1337 | 0.0828 | 0.1162 |
| %SD | 2.213 | 1.233 | 4.045 | 2.656 | 3.662 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| P 'or | PC | PC | PC |
| h . | 115.3 | 85.97 | 86.27 |
| Run 2 | 115.4 | 85.94 | 84.30 |
| Run 3 | 114.8 | 86.66 | 89.48 |
| Mean | 115.2 | 86.19 | 86.68 |
| Std Dev | 0.3178 | 0.4108 | 2.611 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 0228028
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #18
First repeat started at : Thu Feb 28 2002 13:54:18
Last repeat started at : Thu Feb 28 2002 13:55:19
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1295 | 1.631 | 120.3 | 0.6184 | 0.8710 | 0.5635 | 0.2475 |
| Run 2 | 0.1503 | 1.628 | 121.1 | 0.6762 | 0.8451 | 0.6382 | 0.2595 |
| Run 3 | 0.1419 | 1.661 | 120.8 | 0.6642 | 0.9458 | 0.6157 | 0.3507 |
| Mean | 0.1406 | 1.640 | 120.7 | 0.6529 | 0.8873 | 0.6058 | 0.2860 |
| Std Dev | 0.0105 | 0.0180 | 0.3915 | 0.0305 | 0.0523 | 0.0383 | 0.0564 |
| | 7.449 | 1.099 | 0.3243 | 4.668 | 5.895 | 6.330 | 19.71 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5905 | -0.0154 | -0.5174 | 1.582 | 0.8838 | 0.7158 |
| Run 2 | 0.7003 | -1.154 | -0.3284 | 1.482 | 0.9767 | 0.7233 |
| Run 3 | 0.5930 | 0.3222 | 0.1775 | 1.463 | 0.8876 | 0.6774 |
| Mean | 0.6279 | -0.2825 | -0.2228 | 1.509 | 0.9160 | 0.7055 |
| Std Dev | 0.0627 | 0.7738 | 0.3593 | 0.0641 | 0.0526 | 0.0247 |
| %SD | 9.987 | 273.8 | 161.3 | 4.247 | 5.739 | 3.497 |

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| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0002 | -0.0021 | 0.0018 | -0.0125 | -0.0233 | 1.730 |
| Run 2 | -0.0040 | -0.0000 | -0.0039 | -0.0056 | -0.0138 | 1.754 |
| Run 3 | 0.0018 | 0.0018 | -0.0296 | -0.0004 | -0.0021 | 1.710 |
| Mean | -0.0008 | -0.0001 | -0.0105 | -0.0062 | -0.0130 | 1.731 |
| Std Dev | 0.0029 | 0.0020 | 0.0167 | 0.0061 | 0.0106 | 0.0219 |
| %SD | 350.6 | 2155 | 158.8 | 98.53 | 81.23 | 1.265 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 1.718 | 1.761 | 0.0475 | 0.0443 | 0.0456 |
| Run 2 | 1.700 | 1.717 | 0.0538 | 0.0438 | 0.0438 |
| Run 3 | 1.732 | 1.766 | 0.0346 | 0.0413 | 0.0397 |
| Mean | 1.717 | 1.748 | 0.0453 | 0.0431 | 0.0430 |
| Std Dev | 0.0157 | 0.0270 | 0.0098 | 0.0016 | 0.0030 |
| %SD | 0.9127 | 1.546 | 21.53 | 3.754 | 7.014 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]tor | PC | PC | PC |
| [illegible] 1 | 103.6 | 105.0 | 104.0 |
| Run 2 | 102.3 | 104.6 | 105.0 |
| Run 3 | 103.5 | 104.6 | 103.8 |
| Mean | 103.1 | 104.7 | 104.2 |
| Std Dev | 0.7304 | 0.2627 | 0.6440 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #19
First repeat started at : Thu Feb 28 2002 13:56:01
Last repeat started at : Thu Feb 28 2002 13:57:02
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1277 | 0.6944 | 45.71 | 0.6623 | 0.7564 | 0.6316 | 0.5351 |
| Run 2 | 0.1299 | 0.6171 | 45.89 | 0.6209 | 0.8181 | 0.6449 | 0.3724 |
| Run 3 | 0.1422 | 0.5645 | 45.61 | 0.6390 | 0.7574 | 0.6470 | 0.4852 |
| Mean | 0.1333 | 0.6253 | 45.74 | 0.6407 | 0.7773 | 0.6411 | 0.4309 |
| Std Dev | 0.0078 | 0.0654 | 0.1454 | 0.0208 | 0.0353 | 0.0084 | 0.1064 |
| | 5.867 | 10.45 | 0.3180 | 3.241 | 4.543 | 1.304 | 22.13 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2087 | -2.431 | 0.5124 | 0.9580 | 0.4220 | 0.2116 |
| Run 2 | 0.1483 | -0.8992 | -0.2594 | 0.7923 | 0.3788 | 0.1962 |
| Run 3 | 0.0095 | -3.029 | -0.1860 | 0.7794 | 0.3417 | 0.1920 |
| Mean | 0.1222 | -2.120 | 0.0224 | 0.8432 | 0.3808 | 0.2000 |
| Std Dev | 0.1021 | 1.098 | 0.4260 | 0.0998 | 0.0402 | 0.0103 |
| %SD | 83.58 | 51.82 | 1906 | 11.81 | 10.55 | 5.157 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0024 | -0.0023 | 0.0086 | -0.0085 | -0.0158 | 2.286 |
| Run 2 | -0.0035 | -0.0030 | 0.0012 | -0.0027 | -0.0158 | 2.345 |
| Run 3 | -0.0019 | -0.0020 | -0.0066 | -0.0051 | -0.0126 | 2.343 |
| Mean | -0.0026 | -0.0024 | 0.0011 | -0.0054 | -0.0147 | 2.324 |
| Std Dev | 0.0008 | 0.0005 | 0.0076 | 0.0029 | 0.0019 | 0.0333 |
| %SD | 30.74 | 20.73 | 702.7 | 53.52 | 12.65 | 1.434 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 2.261 | 2.334 | 0.0284 | 0.0243 | 0.0259 |
| Run 2 | 2.330 | 2.363 | 0.0237 | 0.0197 | 0.0250 |
| Run 3 | 2.363 | 2.386 | 0.0252 | 0.0240 | 0.0271 |
| Mean | 2.318 | 2.361 | 0.0258 | 0.0227 | 0.0260 |
| Std Dev | 0.0521 | 0.0263 | 0.0024 | 0.0026 | 0.0011 |
| %SD | 2.247 | 1.113 | 9.344 | 11.37 | 4.072 |

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Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 104.0 | 105.8 | 105.9 |
| Run 2 | 103.7 | 103.4 | 102.1 |
| Run 3 | 103.9 | 105.5 | 104.3 |
| Mean | 103.8 | 104.9 | 104.1 |
| Std Dev | 0.1732 | 1.312 | 1.884 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #20
First repeat started at : Thu Feb 28 2002 13:57:47
Last repeat started at : Thu Feb 28 2002 13:58:48
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1467 | 1.256 | 192.6 | 526.3 | 439.4 | 502.1 | -0.0590 |
| Run 2 | 0.1452 | 1.424 | 191.1 | 532.9 | 452.6 | 509.6 | 0.0846 |
| Run 3 | 0.1394 | 1.595 | 192.6 | 532.7 | 454.2 | 512.2 | 0.0589 |
| Mean | 0.1438 | 1.425 | 192.1 | 530.7 | 448.7 | 507.9 | 0.0282 |
| Std Dev | 0.0039 | 0.1694 | 0.8705 | 3.772 | 8.133 | 5.241 | 0.0766 |
| | 2.708 | 11.89 | 0.4532 | 0.7109 | 1.812 | 1.032 | 272.0 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.4066 | -2.506 | -0.2880 | 1.358 | 0.8781 | 0.7144 |
| Run 2 | 0.3403 | -1.434 | 0.2589 | 1.367 | 0.8140 | 0.7153 |
| Run 3 | 0.3616 | -3.054 | 0.0451 | 1.250 | 0.9230 | 0.7390 |
| Mean | 0.3695 | -2.331 | 0.0054 | 1.325 | 0.8717 | 0.7229 |
| Std Dev | 0.0338 | 0.8238 | 0.2756 | 0.0648 | 0.0547 | 0.0139 |
| %SD | 9.160 | 35.33 | 5138 | 4.891 | 6.281 | 1.928 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0067 | -0.0005 | -0.0028 | -0.0029 | -0.0031 | 2.506 |
| Run 2 | -0.0029 | -0.0032 | 0.0096 | 0.0041 | -0.0076 | 2.563 |
| Run 3 | -0.0060 | 0.0025 | 0.0133 | -0.0016 | 0.0048 | 2.551 |
| Mean | -0.0052 | -0.0004 | 0.0067 | -0.0001 | -0.0020 | 2.540 |
| Std Dev | 0.0020 | 0.0029 | 0.0084 | 0.0037 | 0.0063 | 0.0300 |
| %SD | 39.15 | 700.4 | 126.3 | 2662 | 319.8 | 1.182 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 2.523 | 2.528 | 0.0168 | 0.0198 | 0.0200 |
| Run 2 | 2.561 | 2.595 | 0.0247 | 0.0213 | 0.0232 |
| Run 3 | 2.606 | 2.667 | 0.0176 | 0.0183 | 0.0219 |
| Mean | 2.563 | 2.597 | 0.0197 | 0.0198 | 0.0217 |
| Std Dev | 0.0416 | 0.0695 | 0.0044 | 0.0015 | 0.0016 |
| %SD | 1.624 | 2.678 | 22.25 | 7.642 | 7.318 |

1169-18
1/20

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 101.0 | 103.3 | 103.4 |
| Run 2 | 102.7 | 104.2 | 105.8 |
| Run 3 | 102.6 | 104.6 | 107.1 |
| Mean | 102.1 | 104.0 | 105.4 |
| Std Dev | 0.9653 | 0.6886 | 1.902 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #21
First repeat started at : Thu Feb 28 2002 13:59:44
Last repeat started at : Thu Feb 28 2002 14:00:45
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1573 | 0.3321 | 10.54 | 38.52 | 31.11 | 37.06 | -0.1469 |
| Run 2 | 0.1603 | 0.2764 | 10.57 | 38.45 | 31.34 | 37.50 | -0.0688 |
| Run 3 | 0.1348 | 0.2772 | 10.44 | 38.68 | 31.54 | 37.41 | -0.0464 |
| Mean | 0.1508 | 0.2953 | 10.52 | 38.55 | 31.33 | 37.33 | -0.0874 |
| Std Dev | 0.0140 | 0.0319 | 0.0669 | 0.1219 | 0.2134 | 0.2308 | 0.0527 |
| | 9.262 | 10.81 | 0.6360 | 0.3161 | 0.6811 | 0.6184 | 60.36 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1015 | -4.637 | -0.7151 | 0.3193 | 0.1533 | 0.0489 |
| Run 2 | -0.0499 | -5.615 | -0.4712 | 0.3344 | 0.1465 | 0.0451 |
| Run 3 | 0.0224 | -6.250 | -0.2961 | 0.3279 | 0.1433 | 0.0440 |
| Mean | 0.0247 | -5.501 | -0.4941 | 0.3272 | 0.1477 | 0.0460 |
| Std Dev | 0.0757 | 0.8126 | 0.2104 | 0.0076 | 0.0051 | 0.0026 |
| %SD | 306.8 | 14.77 | 42.58 | 2.311 | 3.470 | 5.559 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0061 | -0.0035 | 0.0099 | -0.0097 | -0.0043 | 0.1698 |
| Run 2 | -0.0056 | -0.0035 | -0.0292 | 0.0029 | -0.0001 | 0.1954 |
| Run 3 | -0.0069 | -0.0019 | -0.0177 | 0.0090 | 0.0086 | 0.2028 |
| Mean | -0.0062 | -0.0030 | -0.0123 | 0.0007 | 0.0014 | 0.1893 |
| Std Dev | 0.0006 | 0.0009 | 0.0201 | 0.0095 | 0.0066 | 0.0173 |
| %SD | 10.41 | 31.50 | 163.1 | 1333 | 462.6 | 9.139 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.1865 | 0.1812 | 0.0430 | 0.0441 | 0.0440 |
| Run 2 | 0.2240 | 0.1807 | 0.0367 | 0.0357 | 0.0399 |
| Run 3 | 0.1993 | 0.1863 | 0.0299 | 0.0442 | 0.0380 |
| Mean | 0.2033 | 0.1827 | 0.0366 | 0.0413 | 0.0406 |
| Std Dev | 0.0190 | 0.0031 | 0.0065 | 0.0049 | 0.0031 |
| %SD | 9.372 | 1.692 | 17.91 | 11.83 | 7.621 |

1169-18
1/20x1/20

011220

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D yr | PC | PC | PC |
| Ru. _ | 105.4 | 107.7 | 105.9 |
| Run 2 | 104.3 | 108.0 | 104.2 |
| Run 3 | 106.5 | 107.9 | 105.9 |
| Mean | 105.4 | 107.9 | 105.3 |
| Std Dev | 1.128 | 0.1652 | 1.014 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #22
First repeat started at : Thu Feb 28 2002 14:01:29
Last repeat started at : Thu Feb 28 2002 14:02:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2638 | 9.247 | 113.4 | 6.007 | 7.018 | 5.776 | 0.7828 |
| Run 2 | 0.2831 | 9.799 | 111.1 | 6.022 | 6.998 | 5.676 | 0.8933 |
| Run 3 | 0.3056 | 10.08 | 112.3 | 5.963 | 7.030 | 5.837 | 0.7132 |
| Mean | 0.2842 | 9.708 | 112.3 | 5.997 | 7.015 | 5.763 | 0.7964 |
| Std Dev | 0.0209 | 0.4226 | 1.163 | 0.0306 | 0.0159 | 0.0810 | 0.0908 |
| | 7.369 | 4.353 | 1.036 | 0.5104 | 0.2260 | 1.406 | 11.41 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 2.699 | -2.184 | 0.5313 | 2.205 | 1.928 | 1.744 |
| Run 2 | 2.680 | -2.152 | 0.6049 | 2.229 | 1.850 | 1.744 |
| Run 3 | 2.708 | -2.033 | 0.0350 | 2.035 | 1.919 | 1.738 |
| Mean | 2.695 | -2.123 | 0.3904 | 2.156 | 1.899 | 1.742 |
| Std Dev | 0.0145 | 0.0797 | 0.3100 | 0.1059 | 0.0430 | 0.0030 |
| %SD | 0.5361 | 3.755 | 79.40 | 4.911 | 2.267 | 0.1729 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0056 | -0.0009 | 0.0367 | 0.0052 | 0.0096 | 9.806 |
| Run 2 | -0.0047 | -0.0023 | 0.0024 | 0.0134 | 0.0047 | 10.16 |
| Run 3 | -0.0013 | -0.0063 | 0.0322 | 0.0177 | 0.0103 | 10.07 |
| Mean | -0.0039 | -0.0031 | 0.0238 | 0.0121 | 0.0082 | 10.01 |
| Std Dev | 0.0023 | 0.0028 | 0.0187 | 0.0063 | 0.0031 | 0.1858 |
| %SD | 59.07 | 88.26 | 78.55 | 52.43 | 37.39 | 1.856 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 10.17 | 10.37 | 0.0789 | 0.0748 | 0.0772 |
| Run 2 | 10.26 | 10.24 | 0.0677 | 0.0681 | 0.0757 |
| Run 3 | 10.46 | 10.30 | 0.0832 | 0.0864 | 0.0820 |
| Mean | 10.29 | 10.30 | 0.0766 | 0.0764 | 0.0783 |
| Std Dev | 0.1466 | 0.0607 | 0.0080 | 0.0093 | 0.0033 |
| %SD | 1.424 | 0.5895 | 10.48 | 12.16 | 4.216 |

1169.19
1B

U1222

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D r | PC | PC | PC |
| Run 1 | 102.7 | 101.9 | 103.4 |
| Run 2 | 104.5 | 101.2 | 104.5 |
| Run 3 | 103.9 | 101.4 | 102.1 |
| Mean | 103.7 | 101.5 | 103.3 |
| Std Dev | 0.9287 | 0.3531 | 1.241 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002
Statistics for Concentration Determination.
Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #23
First repeat started at : Thu Feb 28 2002 14:03:16
Last repeat started at : Thu Feb 28 2002 14:04:17
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 26.28 | 27.51 | 26.03 | 25.87 | 25.28 | 26.04 | 25.39 |
| Run 2 | 26.43 | 27.39 | 26.28 | 26.50 | 26.15 | 25.90 | 26.13 |
| Run 3 | 26.36 | 26.92 | 25.89 | 25.61 | 25.53 | 26.27 | 25.32 |
| Mean | 26.36 | 27.27 | 26.07 | 25.99 | 25.65 | 26.07 | 25.61 |
| Std Dev | 0.0744 | 0.3122 | 0.1947 | 0.4557 | 0.4481 | 0.1849 | 0.4513 |
| %SD | 0.2822 | 1.145 | 0.7469 | 1.753 | 1.747 | 0.7092 | 1.762 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.52 | 17.63 | 24.57 | 25.18 | 24.98 | 25.65 |
| Run 2 | 24.22 | 17.34 | 25.39 | 25.30 | 25.73 | 25.59 |
| Run 3 | 26.14 | 20.60 | 26.78 | 25.48 | 25.86 | 25.63 |
| Mean | 24.96 | 18.52 | 25.58 | 25.32 | 25.52 | 25.63 |
| Std Dev | 1.036 | 1.804 | 1.119 | 0.1513 | 0.4757 | 0.0320 |
| %SD | 4.152 | 9.741 | 4.374 | 0.5975 | 1.864 | 0.1247 |

CCV-4
MS1-23-D

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.25 | 24.90 | 25.05 | 25.23 | 24.97 | 24.60 |
| Run 2 | 24.90 | 25.25 | 24.93 | 25.00 | 25.31 | 24.55 |
| Run 3 | 25.18 | 25.25 | 25.15 | 25.65 | 25.33 | 25.12 |
| Mean | 25.11 | 25.13 | 25.04 | 25.29 | 25.20 | 24.75 |
| Std Dev | 0.1879 | 0.2033 | 0.1082 | 0.3332 | 0.2042 | 0.3166 |
| %SD | 0.7482 | 0.8089 | 0.4320 | 1.317 | 0.8104 | 1.279 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.20 | 25.02 | 25.59 | 25.77 | 25.39 |
| Run 2 | 24.65 | 24.71 | 24.88 | 24.62 | 24.74 |
| Run 3 | 25.83 | 25.47 | 26.88 | 26.76 | 26.36 |
| Mean | 25.22 | 25.07 | 25.78 | 25.72 | 25.50 |
| Std Dev | 0.5936 | 0.3859 | 1.014 | 1.071 | 0.8141 |
| %SD | 2.353 | 1.539 | 3.934 | 4.165 | 3.193 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| P or | PC | PC | PC |
| R. . | 102.0 | 104.8 | 101.1 |
| Run 2 | 101.1 | 104.5 | 103.8 |
| Run 3 | 100.8 | 103.5 | 98.31 |
| Mean | 101.3 | 104.3 | 101.1 |
| Std Dev | 0.6095 | 0.6509 | 2.750 |

PQ-S #971114 Operator: Greg Jasper KA0109959

Multi-Element Concentrations Thu Feb 28 2002

Statistics for Concentration Determination.

Experiment name : 022802B
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #24
First repeat started at : Thu Feb 28 2002 14:11:36
Last repeat started at : Thu Feb 28 2002 14:12:36
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1465 | 0.1630 | -0.0121 | 0.0424 | -0.0509 | -0.0003 | -0.1220 |
| Run 2 | 0.1364 | 0.1513 | -0.0158 | 0.0155 | 0.0105 | 0.0174 | -0.1176 |
| Run 3 | 0.1336 | 0.1298 | -0.0128 | 0.0388 | -0.0439 | -0.0027 | 0.0025 |
| Mean | 0.1388 | 0.1480 | -0.0136 | 0.0322 | -0.0281 | 0.0048 | -0.0790 |
| Std Dev | 0.0068 | 0.0168 | 0.0020 | 0.0146 | 0.0336 | 0.0110 | 0.0706 |
| | 4.882 | 11.36 | 14.46 | 45.41 | 119.6 | 228.8 | 89.34 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1389 | -11.23 | -0.5348 | -0.1657 | -0.0187 | -0.0050 |
| Run 2 | 0.0745 | -9.614 | -0.5416 | -0.1457 | -0.0435 | -0.0015 |
| Run 3 | -0.0551 | -11.82 | -0.0958 | -0.2069 | -0.0192 | -0.0131 |
| Mean | 0.0528 | -10.89 | -0.3908 | -0.1728 | -0.0271 | -0.0065 |
| Std Dev | 0.0988 | 1.142 | 0.2554 | 0.0312 | 0.0142 | 0.0060 |
| %SD | 187.2 | 10.49 | 65.37 | 18.08 | 52.19 | 91.63 |

C(B-8

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0070 | -0.0022 | -0.0302 | -0.0078 | -0.0022 | 0.0049 |
| Run 2 | -0.0031 | -0.0027 | -0.0149 | 0.0017 | -0.0092 | 0.0051 |
| Run 3 | -0.0039 | -0.0028 | -0.0101 | -0.0113 | -0.0046 | 0.0066 |
| Mean | -0.0047 | -0.0025 | -0.0184 | -0.0058 | -0.0054 | 0.0055 |
| Std Dev | 0.0021 | 0.0003 | 0.0105 | 0.0067 | 0.0036 | 0.0010 |
| %SD | 44.36 | 13.36 | 57.04 | 115.6 | 66.42 | 17.36 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0013 | -0.0005 | 0.0028 | 0.0030 | 0.0026 |
| Run 2 | -0.0075 | -0.0023 | -0.0026 | 0.0007 | 0.0004 |
| Run 3 | -0.0029 | -0.0014 | -0.0027 | -0.0022 | -0.0001 |
| Mean | -0.0030 | -0.0014 | -0.0008 | 0.0005 | 0.0010 |
| Std Dev | 0.0044 | 0.0009 | 0.0031 | 0.0026 | 0.0014 |
| %SD | 145.5 | 66.22 | 390.4 | 515.0 | 148.9 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| tor | PC | PC | PC |
| 1 | 100.9 | 106.0 | 104.1 |
| Run 2 | 100.4 | 105.0 | 104.6 |
| Run 3 | 103.1 | 105.0 | 101.6 |
| Mean | 101.4 | 105.4 | 103.5 |
| Std Dev | 1.479 | 0.5897 | 1.618 |

Integrals for : MASS CALIB STD 1

| Peak | Li 6 | Be 9 | Mg 24 | Co 59 | In 115 | Pb 208 | Bi 209 | U 238 |
|---|---|---|---|---|---|---|---|---|
| CPS | 1077435 | 263648 | 543639 | 571102 | 564429 | 171240 | 258795 | 211077 |

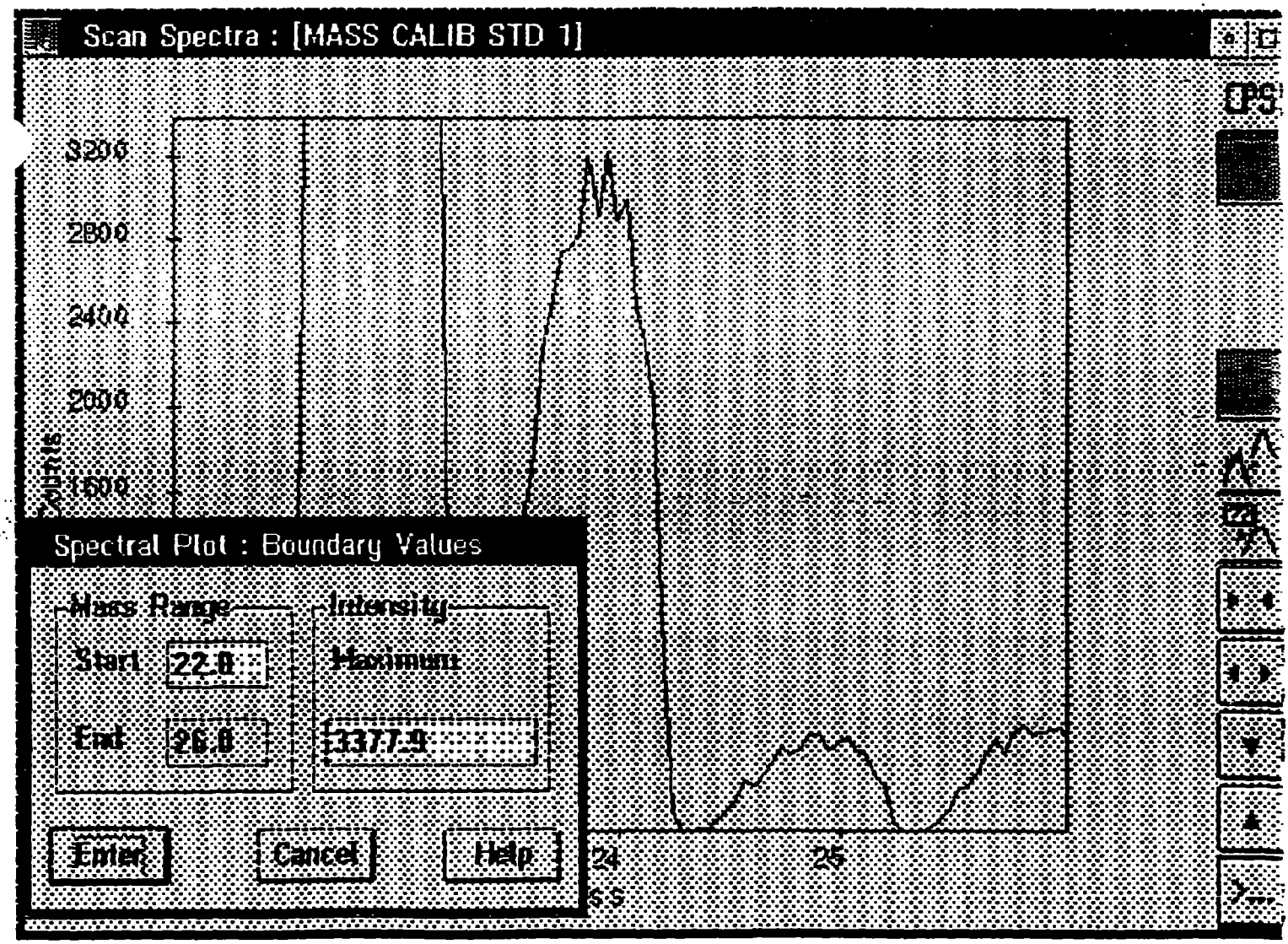
MASS CALIBRATION DATA
Fri Mar 1 2002
08:33:07

| Actual Mass | Found DAC | Calculated DAC | Calculated Mass |
|---|---|---|---|
| 6.01512E+0 | 1297 | 1284 | 6.07422E+0 |
| 9.01218E+0 | 1936 | 1936 | 9.01229E+0 |
| 2.39850E+1 | 5185 | 5193 | 2.39455E+1 |
| 5.89332E+1 | 12790 | 12805 | 5.88641E+1 |
| 1.14904E+2 | 25030 | 25018 | 1.14959E+2 |
| 2.07977E+2 | 45388 | 45389 | 2.07971E+2 |
| 2.08980E+2 | 45613 | 45609 | 2.08997E+2 |
| 2.38051E+2 | 51985 | 51988 | 2.38034E+2 |

New Mass calibration coeffs
y = a + bx + cx^2 + dx^3
1.09630E-1 4.59932E-3 -4.33369E-10 0.00000E+0
Regression coeff = 1.0000E+0

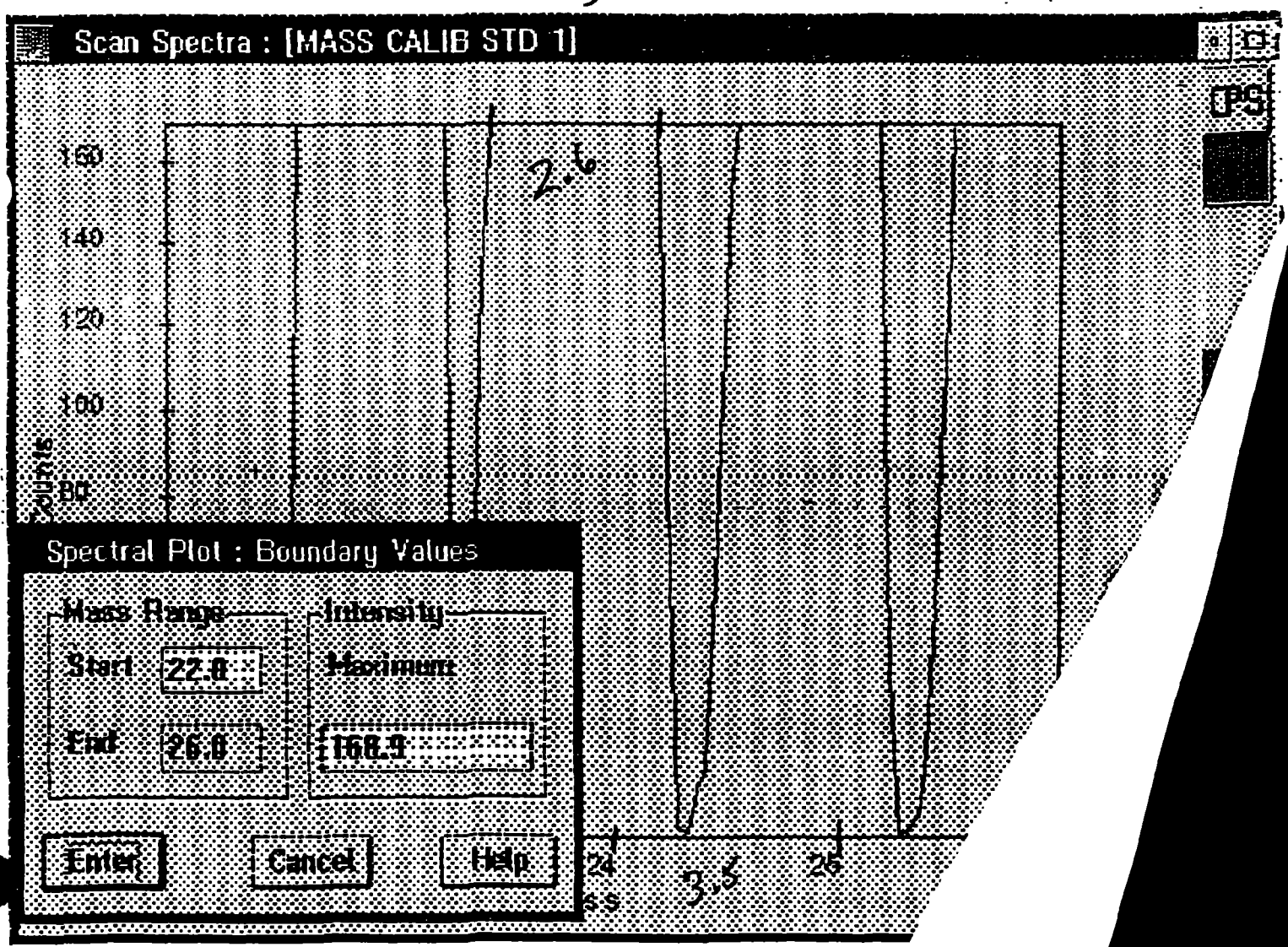
---

PEAK Height

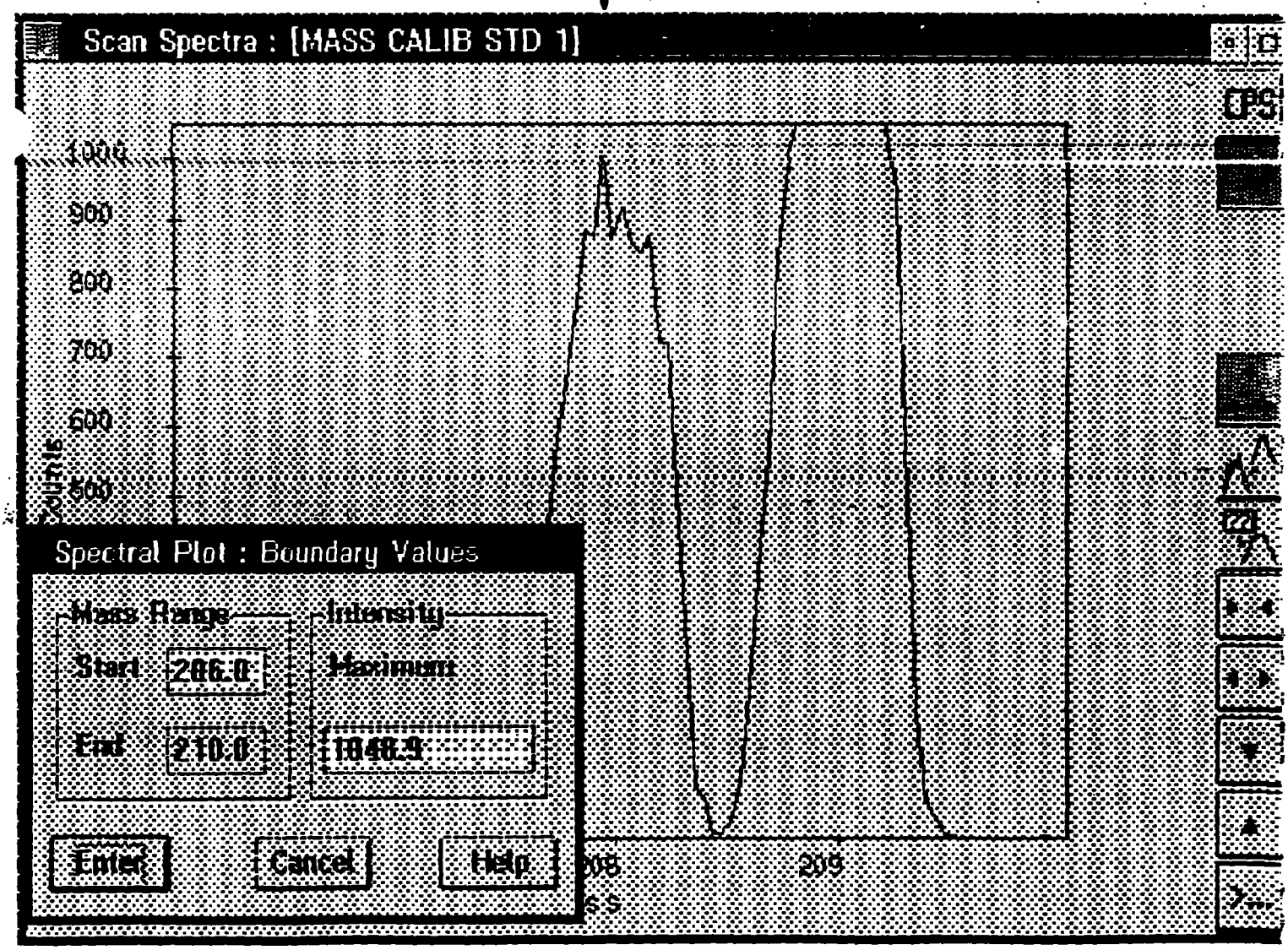

Scan Spectra : [MASS CALIB STD 1]
CPS
3200
2800
2400
2000
1600
Counts
Spectral Plot : Boundary Values
Mass Range
Start
22.0
End
26.0
Intensity
Maximum
13377.9
Enter
Cancel
Help
24
25
s s

Res: $\frac{2.6}{3.5} = 0.74$

5% peak Height

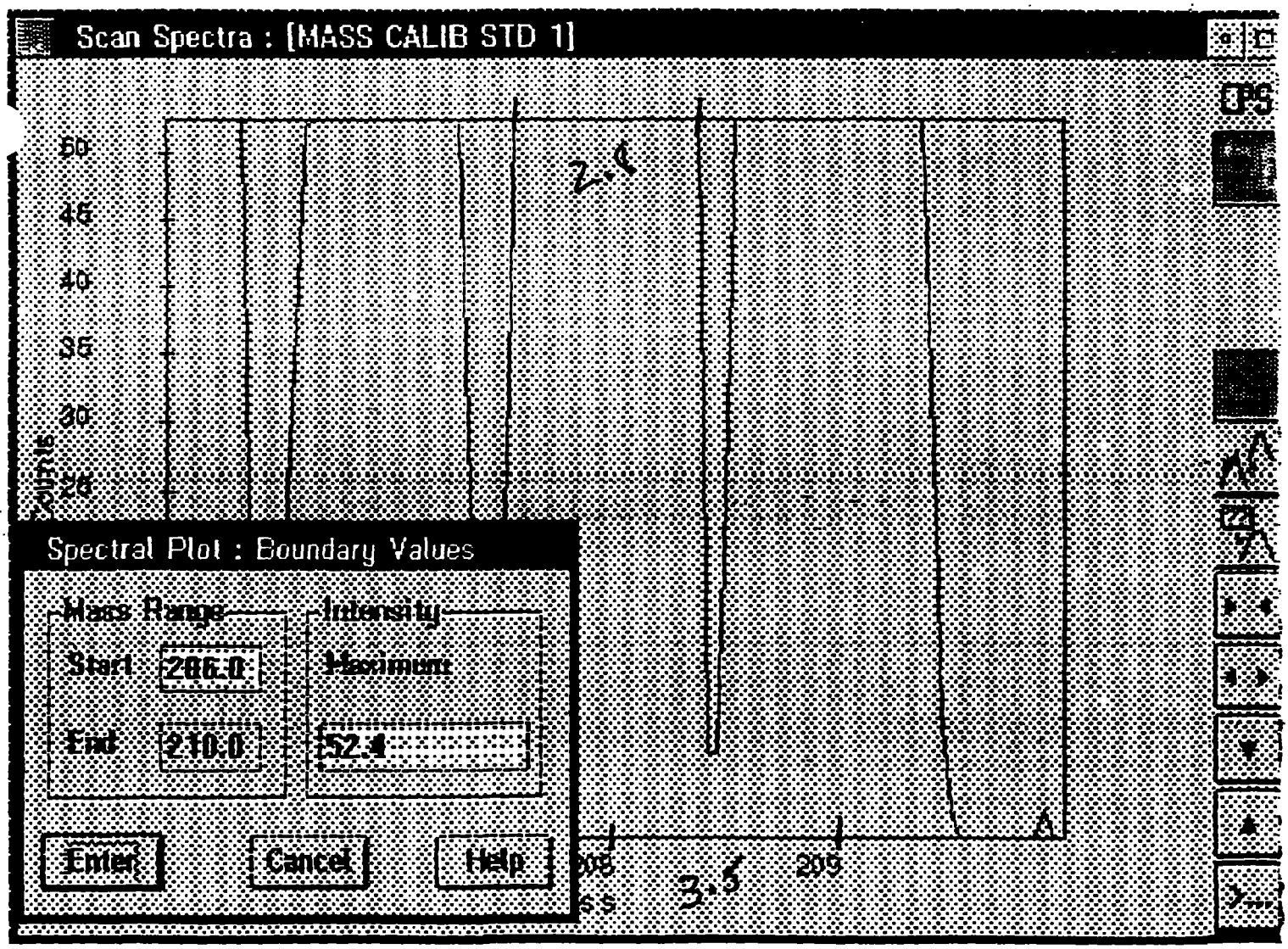


PEAK Height


Scan Spectra : [MASS CALIB STD 1]
1000
900
800
700
600
500
Counts
Spectral Plot : Boundary Values
Mass Range
Start 206.0
End 210.0
Intensity
Maximum
1048.9
Enter
Cancel
Help
208
209

Res = 2.8/3.5 = 0.80

5% peak height



PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : CALIB
Analysis procedure : SHORT TERM STABILITY PROC
Sample name : Short Term Stability
First repeat started at : Fri Mar 1 2002 08:36:02
Last repeat started at : Fri Mar 1 2002 08:37:46
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Beryllium | Magnesium | Cobalt | Indium | Lead | Bismuth | Uranium |
|---|---|---|---|---|---|---|---|
| Isotope | Be 9 | Mg 24 | Co 59 | In 115 | Pb 208 | Bi 209 | U 238 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.92 | 24.82 | 24.64 | 24.84 | 24.86 | 24.90 | 24.84 |
| Run 2 | 24.86 | 24.71 | 24.65 | 24.67 | 24.78 | 24.69 | 24.86 |
| Run 3 | 24.75 | 24.82 | 24.70 | 24.72 | 24.72 | 24.61 | 24.82 |
| Run 4 | 24.71 | 24.81 | 24.57 | 24.72 | 24.78 | 24.63 | 24.78 |
| Run 5 | 24.74 | 24.67 | 24.75 | 24.55 | 24.87 | 24.54 | 25.01 |
| n | 24.80 | 24.77 | 24.66 | 24.70 | 24.80 | 24.67 | 24.86 |
| std Dev | 0.0864 | 0.0730 | 0.0660 | 0.1050 | 0.0647 | 0.1352 | 0.0888 |
| %SD | 0.3485 | 0.2949 | 0.2674 | 0.4251 | 0.2609 | 0.5478 | 0.3572 |

Multi-Element Calibration Fri Mar 1 2002

Calibration graph coefficients for selected isotopes.

Experiment name : 030102A
User Name : GREG
Analysis procedure : EPA Method 6020/200.8
Introduction method : DEFAULT
First sample started at : Fri Mar 1 2002 13:24:21
Last sample started at : **********
Internal standards : Sc 45 In 115 Lu 175 (Interpolating)
Polynomial fit : y = a0 + a1.x + a2.x^2
Units of response : y = counts per second
Units of concentration : x = ppb

| Element | Symbol | Mass | a0 | a1 | a2 | regression |
|---|---|---|---|---|---|---|
| Chromium | Cr | 52 | 3335 | 19112 | 0.0 | 1.0000 |
| Chromium | Cr | 53 | 496.3 | 2272 | 0.0 | 1.0000 |
| Manganese | Mn | 55 | 5014 | 25970 | 0.0 | 1.0000 |
| Zinc | Zn | 66 | 327.2 | 2126 | 0.0 | 1.0000 |
| Zinc | Zn | 67 | 93.24 | 360.8 | 0.0 | 1.0000 |
| c | Zn | 68 | 244.5 | 1480 | 0.0 | 1.0000 |
| senic | As | 75 | 88.83 | 1721 | 0.0 | 1.0000 |
| Selenium | Se | 77 | 40.26 | 107.8 | 0.0 | 1.0000 |
| Selenium | Se | 78 | 3079 | 344.5 | 0.0 | 1.0000 |
| Selenium | Se | 82 | 56.65 | 137.5 | 0.0 | 1.0000 |
| Molybdenum | Mo | 95 | 128.8 | 3691 | 0.0 | 1.0000 |
| Molybdenum | Mo | 97 | 95.54 | 2275 | 0.0 | 1.0000 |
| Molybdenum | Mo | 98 | 210.7 | 5927 | 0.0 | 1.0000 |
| Silver | Ag | 107 | 293.9 | 8937 | 0.0 | 1.0000 |
| Silver | Ag | 109 | 299.7 | 8555 | 0.0 | 1.0000 |
| Cadmium | Cd | 111 | 306.1 | 2003 | 0.0 | 1.0000 |
| Cadmium | Cd | 112 | 339.4 | 3770 | 0.0 | 1.0000 |
| Cadmium | Cd | 114 | 431.0 | 4550 | 0.0 | 1.0000 |
| Barium | Ba | 135 | 31.29 | 1308 | 0.0 | 1.0000 |
| Barium | Ba | 137 | 40.23 | 2263 | 0.0 | 1.0000 |
| Barium | Ba | 138 | 110.4 | 14510 | 0.0 | 1.0000 |
| Lead | Pb | 206 | 44.05 | 5400 | 0.0 | 1.0000 |
| Lead | Pb | 207 | 45.28 | 4580 | 0.0 | 1.0000 |
| Lead | Pb | 208 | 149.3 | 21051 | 0.0 | 1.0000 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Blank
First repeat started at : Fri Mar 1 2002 13:24:21
Last repeat started at : Fri Mar 1 2002 13:25:22
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0033 | 0.0121 | 0.0017 | 0.0208 | 0.0093 | 0.0076 | -0.0944 |
| Run 2 | -0.0052 | 0.0046 | -0.0018 | -0.0088 | -0.0315 | -0.0108 | 0.0861 |
| Run 3 | 0.0019 | -0.0167 | 0.0001 | -0.0120 | 0.0221 | 0.0032 | 0.0084 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0000 |
| Std Dev | 0.0046 | 0.0149 | 0.0018 | 0.0180 | 0.0280 | 0.0096 | 0.0905 |
| | 395720 | 968300 | 102360 | 4149000 | 3388300 | 506780 | 21028000 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0050 | 0.1662 | -0.5050 | 0.0050 | 0.0036 | 0.0065 |
| Run 2 | -0.0556 | 0.3373 | 0.3794 | -0.0024 | 0.0049 | -0.0092 |
| Run 3 | 0.0606 | -0.5036 | 0.1256 | -0.0026 | -0.0085 | 0.0027 |
| Mean | 0.0000 | 0.0000 | 0.0000 | -0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0582 | 0.4444 | 0.4553 | 0.0043 | 0.0074 | 0.0082 |
| ZSD | 8221400 | 190880000 | 375489984 | 1589000 | 336840 | 490560 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0009 | 0.0053 | -0.0193 | 0.0029 | 0.0013 | -0.0008 |
| Run 2 | 0.0029 | -0.0032 | 0.0068 | -0.0007 | -0.0057 | -0.0007 |
| Run 3 | -0.0037 | -0.0021 | 0.0125 | -0.0022 | 0.0044 | 0.0014 |
| Mean | 0.0000 | -0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0034 | 0.0046 | 0.0170 | 0.0026 | 0.0051 | 0.0012 |
| ZSD | 185440 | 571100 | 3146800 | 177130 | 1368200 | 192200 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0027 | 0.0008 | 0.0007 | -0.0011 | 0.0001 |
| Run 2 | 0.0015 | -0.0009 | -0.0008 | 0.0017 | 0.0001 |
| Run 3 | 0.0012 | 0.0002 | 0.0001 | -0.0006 | -0.0002 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0024 | 0.0009 | 0.0007 | 0.0015 | 0.0002 |
| ZSD | 81437 | 34749 | 81407 | 107510 | 23530 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]tor | PC | PC | PC |
| Run 1 | 100.8 | 101.7 | 99.90 |
| Run 2 | 100.5 | 100.6 | 100.8 |
| Run 3 | 98.69 | 97.65 | 99.29 |
| Mean | 100.00 | 100.00 | 100.00 |
| Std Dev | 1.141 | 2.105 | 0.7639 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Standard
First repeat started at : Fri Mar 1 2002 13:26:11
Last repeat started at : Fri Mar 1 2002 13:27:11
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.86 | 25.38 | 25.31 | 25.02 | 24.75 | 25.72 | 24.31 |
| Run 2 | 24.81 | 24.61 | 24.61 | 25.07 | 24.81 | 24.44 | 25.31 |
| Run 3 | 25.33 | 25.01 | 25.07 | 24.90 | 25.44 | 24.84 | 25.38 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.2876 | 0.3857 | 0.3573 | 0.0881 | 0.3802 | 0.6530 | 0.5999 |
| | 1.150 | 1.543 | 1.429 | 0.3523 | 1.521 | 2.612 | 2.400 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 26.48 | 25.93 | 25.72 | 25.21 | 24.63 | 25.45 |
| Run 2 | 23.54 | 24.97 | 26.14 | 25.68 | 25.29 | 24.81 |
| Run 3 | 24.98 | 24.11 | 23.14 | 24.11 | 25.07 | 24.74 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 1.471 | 0.9090 | 1.622 | 0.8013 | 0.3366 | 0.3906 |
| %SD | 5.883 | 3.636 | 6.489 | 3.205 | 1.346 | 1.562 |

MS1-24-B

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.77 | 25.00 | 25.86 | 24.96 | 25.02 | 24.96 |
| Run 2 | 25.17 | 25.54 | 24.76 | 25.27 | 25.50 | 25.26 |
| Run 3 | 25.06 | 24.46 | 24.38 | 24.77 | 24.48 | 24.77 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.2075 | 0.5379 | 0.7677 | 0.2521 | 0.5115 | 0.2488 |
| %SD | 0.8302 | 2.151 | 3.071 | 1.008 | 2.046 | 0.9950 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.99 | 25.16 | 24.26 | 25.08 | 25.09 |
| Run 2 | 25.04 | 24.93 | 25.48 | 24.53 | 24.98 |
| Run 3 | 24.96 | 24.91 | 25.25 | 25.38 | 24.93 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.0398 | 0.1415 | 0.6481 | 0.4288 | 0.0803 |
| %SD | 0.1592 | 0.5659 | 2.592 | 1.715 | 0.3213 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| ctor | PC | PC | PC |
| 1 | 97.88 | 97.67 | 100.0 |
| Run 2 | 99.72 | 98.08 | 99.13 |
| Run 3 | 98.27 | 99.87 | 99.48 |
| Mean | 98.63 | 98.54 | 99.54 |
| Std Dev | 0.9714 | 1.167 | 0.4531 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #1
First repeat started at : Fri Mar 1 2002 13:28:34
Last repeat started at : Fri Mar 1 2002 13:29:34
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.05 | 23.25 | 49.22 | 49.64 | 55.97 | 52.91 | 48.15 |
| Run 2 | 20.56 | 23.80 | 49.25 | 49.51 | 58.15 | 55.42 | 49.81 |
| Run 3 | 20.41 | 23.94 | 49.30 | 49.37 | 59.25 | 56.92 | 47.38 |
| Mean | 20.34 | 23.66 | 49.26 | 49.51 | 57.79 | 55.08 | 48.45 |
| Std Dev | 0.2575 | 0.3649 | 0.0404 | 0.1364 | 1.673 | 2.028 | 1.241 |
| %SD | 1.266 | 1.542 | 0.0820 | 0.2754 | 2.895 | 3.682 | 2.563 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 47.87 | 50.24 | 46.70 | 49.41 | 49.47 | 48.98 |
| Run 2 | 47.47 | 47.54 | 51.14 | 50.44 | 50.65 | 48.65 |
| Run 3 | 49.51 | 49.37 | 48.17 | 50.54 | 51.69 | 50.39 |
| Mean | 48.29 | 49.05 | 48.67 | 50.13 | 50.60 | 49.34 |
| Std Dev | 1.081 | 1.376 | 2.262 | 0.6285 | 1.109 | 0.9225 |
| %SD | 2.239 | 2.806 | 4.647 | 1.254 | 2.192 | 1.870 |

ICV-1
WS1-22-G

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.03 | 23.96 | 23.42 | 27.13 | 25.42 | 201.3 |
| Run 2 | 25.13 | 24.28 | 23.90 | 28.27 | 26.29 | 204.8 |
| Run 3 | 24.81 | 25.16 | 25.42 | 28.94 | 27.24 | 209.7 |
| Mean | 24.65 | 24.47 | 24.25 | 28.11 | 26.31 | 205.3 |
| Std Dev | 0.5650 | 0.6198 | 1.046 | 0.9147 | 0.9120 | 4.250 |
| %SD | 2.291 | 2.533 | 4.315 | 3.253 | 3.466 | 2.070 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 199.6 | 192.0 | 49.81 | 49.19 | 49.09 |
| Run 2 | 202.3 | 193.5 | 52.00 | 54.05 | 52.86 |
| Run 3 | 207.7 | 201.7 | 56.04 | 56.97 | 54.58 |
| Mean | 203.2 | 195.7 | 52.62 | 53.41 | 52.17 |
| Std Dev | 4.114 | 5.187 | 3.164 | 3.930 | 2.806 |
| %SD | 2.025 | 2.650 | 6.013 | 7.359 | 5.379 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| tor | PC | PC | PC |
| 1 | 88.60 | 90.63 | 91.15 |
| Run 2 | 87.25 | 88.75 | 86.80 |
| Run 3 | 87.50 | 86.20 | 83.36 |
| Mean | 87.78 | 88.53 | 87.10 |
| Std Dev | 0.7187 | 2.225 | 3.907 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #2
First repeat started at : Fri Mar 1 2002 13:30:20
Last repeat started at : Fri Mar 1 2002 13:31:21
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.85 | 25.35 | 25.27 | 24.05 | 25.08 | 24.34 | 23.88 |
| Run 2 | 24.86 | 25.32 | 25.41 | 25.17 | 25.35 | 25.09 | 25.30 |
| Run 3 | 24.99 | 25.53 | 25.11 | 25.22 | 26.37 | 24.66 | 25.28 |
| Mean | 24.90 | 25.40 | 25.27 | 24.81 | 25.60 | 24.70 | 24.82 |
| Std Dev | 0.0760 | 0.1241 | 0.1475 | 0.6595 | 0.6813 | 0.3761 | 0.8177 |
| | 0.3052 | 0.4886 | 0.5836 | 2.658 | 2.661 | 1.523 | 3.295 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.86 | 24.13 | 23.67 | 25.09 | 25.14 | 25.27 |
| Run 2 | 26.63 | 24.89 | 25.01 | 25.47 | 25.13 | 25.28 |
| Run 3 | 24.51 | 26.15 | 25.30 | 24.97 | 26.26 | 25.01 |
| Mean | 25.66 | 25.05 | 24.66 | 25.18 | 25.51 | 25.19 |
| Std Dev | 1.071 | 1.019 | 0.8727 | 0.2608 | 0.6499 | 0.1555 |
| %SD | 4.173 | 4.066 | 3.539 | 1.036 | 2.548 | 0.6172 |

CU-1
MS1-24-B

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 26.84 | 26.25 | 24.03 | 25.58 | 25.33 | 24.62 |
| Run 2 | 26.39 | 25.38 | 25.00 | 25.39 | 25.16 | 24.24 |
| Run 3 | 26.34 | 24.79 | 24.33 | 24.80 | 25.34 | 24.99 |
| Mean | 26.53 | 25.47 | 24.45 | 25.25 | 25.28 | 24.62 |
| Std Dev | 0.2745 | 0.7342 | 0.4982 | 0.4058 | 0.1036 | 0.3767 |
| %SD | 1.035 | 2.882 | 2.037 | 1.607 | 0.4097 | 1.530 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.97 | 25.20 | 24.63 | 25.82 | 25.91 |
| Run 2 | 25.18 | 24.71 | 24.58 | 24.92 | 25.00 |
| Run 3 | 25.26 | 24.99 | 26.02 | 26.30 | 26.37 |
| Mean | 25.14 | 24.97 | 25.08 | 25.68 | 25.76 |
| Std Dev | 0.1518 | 0.2499 | 0.8219 | 0.6975 | 0.6950 |
| %SD | 0.6040 | 1.001 | 3.278 | 2.716 | 2.698 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| ' 'tor | PC | PC | PC |
| 1 | 93.61 | 94.47 | 93.73 |
| Run 2 | 94.61 | 93.77 | 96.00 |
| Run 3 | 92.60 | 94.65 | 92.21 |
| Mean | 93.61 | 94.30 | 93.98 |
| Std Dev | 1.005 | 0.4624 | 1.910 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #3
First repeat started at : Fri Mar 1 2002 13:36:28
Last repeat started at : Fri Mar 1 2002 13:37:29
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0075 | -0.0109 | -0.0011 | -0.0155 | -0.0760 | 0.0098 | -0.0797 |
| Run 2 | -0.0009 | 0.0443 | -0.0072 | -0.0292 | 0.0320 | -0.0009 | -0.1657 |
| Run 3 | -0.0079 | 0.0372 | -0.0045 | -0.0214 | -0.0144 | -0.0185 | -0.2718 |
| Mean | -0.0054 | 0.0235 | -0.0043 | -0.0220 | -0.0195 | -0.0032 | -0.1724 |
| Std Dev | 0.0040 | 0.0301 | 0.0031 | 0.0069 | 0.0542 | 0.0143 | 0.0962 |
| | 72.74 | 127.7 | 71.47 | 31.26 | 278.3 | 449.1 | 55.81 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1206 | -1.565 | -0.3658 | 0.0169 | 0.0116 | -0.0020 |
| Run 2 | 0.0658 | -0.9947 | -0.7260 | 0.0082 | 0.0012 | 0.0022 |
| Run 3 | 0.0430 | -0.8254 | -1.293 | 0.0151 | -0.0044 | 0.0077 |
| Mean | 0.0764 | -1.133 | -0.7951 | 0.0134 | 0.0028 | 0.0027 |
| Std Dev | 0.0399 | 0.3987 | 0.4677 | 0.0046 | 0.0081 | 0.0049 |
| %SD | 52.17 | 35.13 | 58.82 | 34.07 | 291.0 | 181.6 |

ICB-1

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0099 | 0.0026 | 0.0177 | -0.0011 | -0.0100 | 0.0023 |
| Run 2 | 0.0024 | -0.0018 | -0.0257 | -0.0022 | -0.0100 | 0.0256 |
| Run 3 | 0.0018 | 0.0037 | 0.0087 | -0.0140 | -0.0041 | 0.0010 |
| Mean | 0.0047 | 0.0015 | 0.0002 | -0.0058 | -0.0080 | 0.0096 |
| Std Dev | 0.0045 | 0.0029 | 0.0229 | 0.0072 | 0.0034 | 0.0138 |
| %SD | 95.28 | 195.9 | 9872 | 123.8 | 42.28 | 143.9 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0000 | 0.0055 | -0.0003 | 0.0082 | 0.0039 |
| Run 2 | 0.0117 | 0.0051 | 0.0017 | 0.0090 | 0.0053 |
| Run 3 | 0.0034 | 0.0057 | 0.0026 | 0.0028 | 0.0037 |
| Mean | 0.0050 | 0.0054 | 0.0013 | 0.0067 | 0.0043 |
| Std Dev | 0.0060 | 0.0003 | 0.0015 | 0.0034 | 0.0009 |
| %SD | 119.1 | 5.627 | 112.7 | 50.41 | 20.69 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 92.31 | 94.90 | 94.95 |
| 2 | 96.40 | 97.82 | 97.25 |
| Run 3 | 97.40 | 98.94 | 102.0 |
| Mean | 95.37 | 97.22 | 98.07 |
| Std Dev | 2.699 | 2.081 | 3.592 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #4
First repeat started at : Fri Mar 1 2002 13:38:44
Last repeat started at : Fri Mar 1 2002 13:39:46
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0101 | -0.0260 | -0.0007 | -0.0203 | -0.0438 | -0.0230 | -0.2092 |
| Run 2 | 0.0110 | 0.0238 | 0.0036 | -0.0446 | -0.0219 | -0.0076 | -0.0593 |
| Run 3 | 0.0241 | -0.0330 | 0.0212 | -0.0236 | -0.0680 | 0.0006 | -0.0890 |
| Mean | 0.0151 | -0.0117 | 0.0080 | -0.0295 | -0.0446 | -0.0098 | -0.1192 |
| Std Dev | 0.0078 | 0.0310 | 0.0116 | 0.0132 | 0.0231 | 0.0121 | 0.0793 |
| %SD | 51.93 | 264.4 | 144.4 | 44.80 | 51.84 | 123.0 | 66.59 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0303 | -0.8875 | -1.028 | 0.0120 | 0.0081 | 0.0095 |
| Run 2 | -0.0807 | -1.657 | -0.3938 | 0.0238 | 0.0051 | 0.0085 |
| Run 3 | 0.0476 | -2.528 | -0.4792 | -0.0024 | 0.0079 | 0.0003 |
| Mean | -0.0009 | -1.691 | -0.6337 | 0.0111 | 0.0070 | 0.0061 |
| Std Dev | 0.0696 | 0.8207 | 0.3443 | 0.0131 | 0.0017 | 0.0050 |
| %SD | 7586 | 48.54 | 54.32 | 118.2 | 23.57 | 82.18 |

CCB-1

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0015 | 0.0027 | -0.0036 | 0.0053 | -0.0124 | 0.0041 |
| Run 2 | 0.0024 | 0.0018 | -0.0091 | 0.0017 | 0.0019 | 0.0010 |
| Run 3 | 0.0188 | 0.0072 | 0.0101 | -0.0009 | -0.0149 | 0.0121 |
| Mean | 0.0076 | 0.0039 | -0.0009 | 0.0020 | -0.0084 | 0.0057 |
| Std Dev | 0.0097 | 0.0029 | 0.0099 | 0.0031 | 0.0091 | 0.0057 |
| %SD | 128.4 | 73.65 | 1152 | 154.5 | 107.3 | 99.40 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0018 | 0.0046 | 0.0073 | 0.0025 | 0.0048 |
| Run 2 | 0.0102 | 0.0072 | 0.0038 | 0.0038 | 0.0058 |
| Run 3 | 0.0013 | 0.0062 | 0.0031 | 0.0038 | 0.0051 |
| Mean | 0.0044 | 0.0060 | 0.0047 | 0.0034 | 0.0052 |
| Std Dev | 0.0050 | 0.0013 | 0.0022 | 0.0007 | 0.0005 |
| %SD | 112.6 | 21.54 | 47.45 | 21.77 | 10.11 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| r -tor | PC | PC | PC |
| 1 | 95.64 | 98.15 | 101.1 |
| Run 2 | 95.21 | 99.34 | 100.8 |
| Run 3 | 90.27 | 95.99 | 100.9 |
| Mean | 93.70 | 97.83 | 100.9 |
| Std Dev | 2.984 | 1.700 | 0.1386 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #5
First repeat started at : Fri Mar 1 2002 13:40:28
Last repeat started at : Fri Mar 1 2002 13:41:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2408 | 0.2136 | 0.0805 | 0.6798 | 0.5396 | 0.7367 | 0.3767 |
| Run 2 | 0.2343 | 0.2036 | 0.0607 | 0.6728 | 0.6995 | 0.7682 | 0.6212 |
| Run 3 | 0.2584 | 0.1704 | 0.0566 | 0.6643 | 0.7079 | 0.7895 | 0.4176 |
| Mean | 0.2445 | 0.1959 | 0.0659 | 0.6723 | 0.6490 | 0.7648 | 0.4718 |
| Std Dev | 0.0125 | 0.0226 | 0.0128 | 0.0077 | 0.0949 | 0.0266 | 0.1310 |
| %D | 5.101 | 11.56 | 19.40 | 1.152 | 14.62 | 3.473 | 27.76 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9008 | 0.3626 | 0.3742 | 0.0695 | 0.0474 | 0.0537 |
| Run 2 | 0.8861 | 0.1157 | 1.451 | 0.0694 | 0.0655 | 0.0509 |
| Run 3 | 1.030 | 0.6057 | 0.6730 | 0.0604 | 0.0553 | 0.0660 |
| Mean | 0.9391 | 0.3613 | 0.8329 | 0.0664 | 0.0560 | 0.0569 |
| Std Dev | 0.0794 | 0.2450 | 0.5561 | 0.0052 | 0.0091 | 0.0081 |
| %SD | 8.459 | 67.80 | 66.77 | 7.842 | 16.17 | 14.17 |

Water CRA MS1-17-E

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0137 | 0.0081 | 0.0441 | 0.0561 | 0.0732 | 0.0589 |
| Run 2 | 0.0153 | 0.0121 | 0.0686 | 0.0632 | 0.0531 | 0.0506 |
| Run 3 | 0.0113 | 0.0070 | 0.0483 | 0.0699 | 0.0746 | 0.0501 |
| Mean | 0.0134 | 0.0091 | 0.0536 | 0.0631 | 0.0670 | 0.0532 |
| Std Dev | 0.0020 | 0.0027 | 0.0131 | 0.0069 | 0.0120 | 0.0049 |
| %SD | 15.16 | 29.41 | 24.43 | 10.94 | 17.95 | 9.278 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0562 | 0.0613 | 0.0361 | 0.0306 | 0.0346 |
| un 2 | 0.0589 | 0.0624 | 0.0355 | 0.0178 | 0.0297 |
| Run 3 | 0.0505 | 0.0668 | 0.0326 | 0.0359 | 0.0320 |
| Mean | 0.0552 | 0.0635 | 0.0347 | 0.0281 | 0.0321 |
| Std Dev | 0.0043 | 0.0029 | 0.0019 | 0.0093 | 0.0025 |
| %SD | 7.705 | 4.635 | 5.461 | 33.17 | 7.769 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| 'ector | PC | PC | PC |
| 1 | 94.89 | 97.77 | 96.13 |
| Run 2 | 93.99 | 98.28 | 98.27 |
| Run 3 | 92.06 | 92.73 | 93.18 |
| Mean | 93.65 | 96.26 | 95.86 |
| Std Dev | 1.447 | 3.063 | 2.556 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #6
First repeat started at : Fri Mar 1 2002 13:42:31
Last repeat started at : Fri Mar 1 2002 13:43:33
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3330 | 7.270 | 0.2484 | 0.7154 | 1.691 | 0.3268 | -0.4415 |
| Run 2 | 0.3573 | 8.447 | 0.2717 | 0.8086 | 1.691 | 0.2710 | 0.0201 |
| Run 3 | 0.3316 | 7.880 | 0.2747 | 0.7237 | 1.908 | 0.3262 | -0.0938 |
| Mean | 0.3406 | 7.865 | 0.2649 | 0.7492 | 1.763 | 0.3080 | -0.1718 |
| Std Dev | 0.0145 | 0.5884 | 0.0144 | 0.0515 | 0.1254 | 0.0321 | 0.2405 |
| [illegible] | 4.243 | 7.481 | 5.439 | 6.880 | 7.110 | 10.41 | 140.0 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.622 | 1.540 | -1.790 | 190.8 | 195.1 | 192.4 |
| Run 2 | 3.930 | 2.658 | -0.3611 | 189.8 | 194.3 | 188.3 |
| Run 3 | 4.288 | 1.453 | -0.1104 | 194.0 | 191.9 | 188.6 |
| Mean | 3.947 | 1.883 | -0.7539 | 191.5 | 193.8 | 186.4 |
| Std Dev | 0.3333 | 0.6719 | 0.9063 | 2.211 | 1.649 | 3.496 |
| %SD | 8.445 | 35.67 | 120.2 | 1.154 | 0.8507 | 1.875 |

ICS A
MS1-17-F

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2003 | 0.1807 | 0.5539 | 0.3019 | 0.3691 | 0.0262 |
| Run 2 | 0.2118 | 0.1895 | 0.4968 | 0.2917 | 0.3887 | 0.0385 |
| Run 3 | 0.1953 | 0.1963 | 0.4587 | 0.2711 | 0.3781 | 0.0517 |
| Mean | 0.2025 | 0.1888 | 0.5031 | 0.2882 | 0.3787 | 0.0388 |
| Std Dev | 0.0085 | 0.0078 | 0.0480 | 0.0157 | 0.0098 | 0.0127 |
| %SD | 4.201 | 4.155 | 9.531 | 5.444 | 2.590 | 32.85 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0366 | 0.0385 | 0.1109 | 0.1232 | 0.1140 |
| Run 2 | 0.0460 | 0.0508 | 0.1082 | 0.1009 | 0.1027 |
| Run 3 | 0.0528 | 0.0482 | 0.1204 | 0.0951 | 0.1031 |
| Mean | 0.0451 | 0.0458 | 0.1131 | 0.1064 | 0.1066 |
| Std Dev | 0.0081 | 0.0065 | 0.0064 | 0.0148 | 0.0064 |
| %SD | 18.00 | 14.18 | 5.675 | 13.94 | 6.028 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 87.32 | 94.01 | 92.36 |
| Run 2 | 85.40 | 91.14 | 92.05 |
| Run 3 | 80.73 | 85.15 | 85.23 |
| Mean | 84.48 | 90.10 | 89.88 |
| Std Dev | 3.385 | 4.518 | 4.028 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #7
First repeat started at : Fri Mar 1 2002 13:44:13
Last repeat started at : Fri Mar 1 2002 13:45:15
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.42 | 27.64 | 20.15 | 19.87 | 18.02 | 19.53 | 18.61 |
| Run 2 | 20.08 | 27.38 | 20.27 | 21.11 | 18.86 | 18.67 | 19.40 |
| Run 3 | 20.42 | 28.23 | 20.44 | 20.09 | 17.50 | 20.77 | 18.54 |
| Mean | 20.31 | 27.75 | 20.29 | 20.36 | 18.13 | 19.66 | 18.85 |
| Std Dev | 0.1955 | 0.4381 | 0.1457 | 0.6635 | 0.6872 | 1.057 | 0.4791 |
| %SD | 0.9626 | 1.579 | 0.7183 | 3.259 | 3.790 | 5.377 | 2.541 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.268 | 2.021 | -2.031 | 197.0 | 195.5 | 187.6 |
| Run 2 | 3.666 | 3.452 | 0.6502 | 197.1 | 198.1 | 196.3 |
| Run 3 | 4.692 | 2.742 | 0.0799 | 191.8 | 192.4 | 193.0 |
| Mean | 3.875 | 2.738 | -0.4337 | 195.3 | 195.3 | 192.3 |
| Std Dev | 0.7347 | 0.7155 | 1.412 | 3.024 | 2.845 | 4.409 |
| %SD | 18.96 | 26.13 | 325.7 | 1.548 | 1.457 | 2.293 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 14.07 | 13.85 | 19.34 | 19.03 | 19.74 | 0.0526 |
| Run 2 | 17.40 | 17.36 | 18.81 | 19.53 | 19.92 | 0.0397 |
| Run 3 | 18.78 | 18.17 | 18.66 | 19.80 | 20.02 | 0.0422 |
| Mean | 16.75 | 16.46 | 18.94 | 19.45 | 19.89 | 0.0449 |
| Std Dev | 2.424 | 2.299 | 0.3532 | 0.3890 | 0.1430 | 0.0069 |
| %SD | 14.47 | 13.97 | 1.865 | 2.000 | 0.7186 | 15.27 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0318 | 0.0407 | 0.1183 | 0.0969 | 0.1176 |
| Run 2 | 0.0558 | 0.0441 | 0.1221 | 0.1098 | 0.1093 |
| Run 3 | 0.0524 | 0.0454 | 0.1318 | 0.1136 | 0.1234 |
| Mean | 0.0467 | 0.0434 | 0.1240 | 0.1068 | 0.1168 |
| Std Dev | 0.0130 | 0.0024 | 0.0070 | 0.0087 | 0.0071 |
| %SD | 27.93 | 5.542 | 5.638 | 8.180 | 6.086 |

ICSAB
MS1-17-6

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D[illegible]r | PC | PC | PC |
| Run 1 | 76.23 | 80.33 | 80.23 |
| Run 2 | 76.45 | 80.55 | 80.34 |
| Run 3 | 75.71 | 81.39 | 76.51 |
| Mean | 76.13 | 80.76 | 79.02 |
| Std Dev | 0.3842 | 0.5594 | 2.178 |

FQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #8
First repeat started at : Fri Mar 1 2002 13:46:05
Last repeat started at : Fri Mar 1 2002 13:47:06
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.29 | 21.21 | 20.10 | 20.63 | 19.46 | 19.82 | 19.91 |
| Run 2 | 19.91 | 21.02 | 19.92 | 20.11 | 19.69 | 20.06 | 19.62 |
| Run 3 | 19.38 | 19.89 | 19.82 | 19.68 | 18.70 | 19.57 | 19.53 |
| Mean | 19.86 | 20.71 | 19.95 | 20.14 | 19.28 | 19.82 | 19.69 |
| Dev | 0.4572 | 0.7130 | 0.1423 | 0.4744 | 0.5169 | 0.2470 | 0.2002 |
| | 2.302 | 3.443 | 0.7132 | 2.355 | 2.680 | 1.246 | 1.017 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 17.95 | 21.20 | 17.94 | 20.23 | 20.28 | 20.19 |
| Run 2 | 20.42 | 21.80 | 20.19 | 20.24 | 20.43 | 19.87 |
| Run 3 | 21.06 | 19.61 | 19.51 | 20.00 | 20.13 | 19.55 |
| Mean | 19.81 | 20.87 | 19.21 | 20.16 | 20.28 | 19.87 |
| Std Dev | 1.643 | 1.129 | 1.155 | 0.1378 | 0.1471 | 0.3180 |
| %SD | 8.296 | 5.411 | 6.014 | 0.6837 | 0.7253 | 1.600 |

1183
LCSW

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.82 | 20.28 | 19.18 | 19.57 | 19.74 | 19.16 |
| Run 2 | 20.66 | 20.66 | 20.23 | 19.88 | 20.03 | 19.63 |
| Run 3 | 20.77 | 20.25 | 19.24 | 18.96 | 19.78 | 18.79 |
| Mean | 20.75 | 20.40 | 19.55 | 19.47 | 19.85 | 19.19 |
| Std Dev | 0.0825 | 0.2277 | 0.5853 | 0.4684 | 0.1552 | 0.4157 |
| %SD | 0.3978 | 1.116 | 2.993 | 2.406 | 0.7820 | 2.166 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 19.85 | 19.17 | 20.07 | 20.43 | 20.34 |
| Run 2 | 19.05 | 19.21 | 19.09 | 19.09 | 19.52 |
| Run 3 | 18.81 | 19.48 | 20.13 | 18.57 | 19.76 |
| Mean | 19.24 | 19.29 | 19.76 | 19.36 | 19.88 |
| Std Dev | 0.5431 | 0.1670 | 0.5823 | 0.9553 | 0.4230 |
| %SD | 2.823 | 0.8660 | 2.946 | 4.933 | 2.128 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D r | PC | PC | PC |
| Run 1 | 90.53 | 93.40 | 89.27 |
| Run 2 | 93.64 | 94.42 | 95.83 |
| Run 3 | 94.36 | 96.46 | 97.07 |
| Mean | 92.84 | 94.76 | 94.06 |
| Std Dev | 2.035 | 1.556 | 4.192 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #9
First repeat started at : Fri Mar 1 2002 13:51:29
Last repeat started at : Fri Mar 1 2002 13:52:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0320 | 0.0751 | -0.0026 | -0.0880 | -0.0824 | 0.0014 | -0.2036 |
| Run 2 | 0.0226 | 0.0832 | -0.0005 | -0.0683 | -0.0639 | -0.0268 | -0.0843 |
| Run 3 | 0.0121 | 0.0750 | -0.0022 | -0.0787 | -0.0917 | -0.0179 | 0.0171 |
| Mean | 0.0223 | 0.0778 | -0.0018 | -0.0783 | -0.0794 | -0.0144 | -0.0903 |
| Std Dev | 0.0099 | 0.0047 | 0.0011 | 0.0099 | 0.0141 | 0.0144 | 0.1105 |
| | 44.70 | 6.018 | 64.88 | 12.60 | 17.82 | 99.62 | 122.4 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1788 | -0.1054 | -0.9181 | 0.0221 | 0.0034 | 0.0099 |
| Run 2 | 0.1189 | -0.1614 | -0.4273 | 0.0138 | -0.0037 | 0.0140 |
| Run 3 | 0.1305 | -0.3206 | 0.1371 | 0.0181 | 0.0161 | 0.0103 |
| Mean | 0.1427 | -0.1958 | -0.4028 | 0.0180 | 0.0053 | 0.0114 |
| Std Dev | 0.0318 | 0.1117 | 0.5280 | 0.0042 | 0.0100 | 0.0023 |
| %SD | 22.27 | 57.03 | 131.1 | 23.03 | 190.3 | 19.77 |

1183 method blank

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0080 | 0.0060 | 0.0029 | 0.0005 | 0.0011 | 0.0180 |
| Run 2 | 0.0067 | -0.0012 | -0.0026 | 0.0088 | 0.0096 | -0.0052 |
| Run 3 | 0.0032 | -0.0062 | -0.0197 | -0.0080 | -0.0012 | 0.0003 |
| Mean | 0.0060 | -0.0005 | -0.0065 | 0.0004 | 0.0032 | 0.0043 |
| Std Dev | 0.0025 | 0.0061 | 0.0118 | 0.0084 | 0.0057 | 0.0122 |
| %SD | 41.50 | 1281 | 181.9 | 2009 | 178.8 | 279.6 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0024 | 0.0013 | 0.0047 | 0.0001 | 0.0013 |
| Run 2 | 0.0030 | 0.0000 | -0.0013 | -0.0014 | 0.0000 |
| Run 3 | 0.0011 | 0.0013 | 0.0041 | -0.0012 | 0.0022 |
| Mean | 0.0006 | 0.0009 | 0.0025 | -0.0009 | 0.0012 |
| Std Dev | 0.0027 | 0.0007 | 0.0033 | 0.0008 | 0.0011 |
| %SD | 485.8 | 84.17 | 132.1 | 93.85 | 91.67 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible]tor | PC | PC | PC |
| R[illegible] 1 | 101.6 | 104.5 | 105.0 |
| Run 2 | 100.8 | 101.2 | 103.2 |
| Run 3 | 101.1 | 103.5 | 101.6 |
| Mean | 101.2 | 103.1 | 103.3 |
| Std Dev | 0.3832 | 1.696 | 1.698 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #10
First repeat started at : Fri Mar 1 2002 13:53:26
Last repeat started at : Fri Mar 1 2002 13:54:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2401 | 0.2830 | 0.7085 | 6.851 | 5.720 | 6.797 | -0.2585 |
| Run 2 | 0.2592 | 0.2549 | 0.6881 | 7.004 | 5.941 | 6.709 | -0.0770 |
| Run 3 | 0.2555 | 0.2380 | 0.7109 | 6.905 | 6.174 | 7.170 | -0.2334 |
| Mean | 0.2516 | 0.2586 | 0.7025 | 6.920 | 5.945 | 6.892 | -0.1896 |
| Std Dev | 0.0102 | 0.0227 | 0.0125 | 0.0776 | 0.2271 | 0.2444 | 0.0984 |
| | 4.039 | 8.795 | 1.782 | 1.122 | 3.820 | 3.547 | 51.88 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.2314 | 0.1786 | -1.537 | 0.1304 | 0.1264 | 0.1293 |
| Run 2 | -0.0716 | 0.2029 | -0.5760 | 0.1489 | 0.1355 | 0.1171 |
| Run 3 | 0.1882 | -0.5048 | -1.015 | 0.1445 | 0.1467 | 0.1368 |
| Mean | -0.0383 | -0.0411 | -1.043 | 0.1413 | 0.1362 | 0.1277 |
| Std Dev | 0.2118 | 0.4018 | 0.4813 | 0.0097 | 0.0102 | 0.0100 |
| %SD | 553.6 | 977.1 | 46.15 | 6.850 | 7.477 | 7.798 |

1183-1

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0490 | 0.0378 | -0.0173 | 0.0086 | 0.0212 | 0.2856 |
| Run 2 | 0.0538 | 0.0526 | 0.0281 | 0.0141 | 0.0199 | 0.2503 |
| Run 3 | 0.0526 | 0.0524 | 0.0090 | 0.0142 | 0.0176 | 0.2952 |
| Mean | 0.0518 | 0.0476 | 0.0066 | 0.0123 | 0.0195 | 0.2770 |
| Std Dev | 0.0025 | 0.0085 | 0.0228 | 0.0032 | 0.0018 | 0.0236 |
| %SD | 4.857 | 17.87 | 345.4 | 25.92 | 9.264 | 8.536 |

no dilution

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.3074 | 0.2894 | 0.1059 | 0.1038 | 0.1013 |
| Run 2 | 0.2837 | 0.2984 | 0.1088 | 0.1092 | 0.1069 |
| Run 3 | 0.2938 | 0.3099 | 0.1053 | 0.0949 | 0.1040 |
| Mean | 0.2950 | 0.2993 | 0.1067 | 0.1027 | 0.1041 |
| Std Dev | 0.0119 | 0.0103 | 0.0019 | 0.0072 | 0.0028 |
| %SD | 4.021 | 3.441 | 1.788 | 7.008 | 2.699 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| or | PC | PC | PC |
| Run 1 | 99.14 | 101.0 | 98.88 |
| Run 2 | 99.17 | 101.0 | 93.04 |
| Run 3 | 98.57 | 97.40 | 96.91 |
| Mean | 98.96 | 99.80 | 96.27 |
| Std Dev | 0.3381 | 2.078 | 2.966 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #11
First repeat started at : Fri Mar 1 2002 13:55:09
Last repeat started at : Fri Mar 1 2002 13:56:10
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3377 | 2.254 | 119.0 | 3.834 | 5.034 | 4.522 | 2.903 |
| Run 2 | 0.3624 | 2.316 | 123.3 | 3.986 | 5.034 | 4.701 | 3.466 |
| Run 3 | 0.3440 | 2.260 | 120.3 | 3.778 | 4.528 | 4.664 | 3.347 |
| Mean | 0.3480 | 2.277 | 120.8 | 3.866 | 4.865 | 4.629 | 3.239 |
| Dev | 0.0128 | 0.0341 | 2.181 | 0.1077 | 0.2924 | 0.0944 | 0.2971 |
| | 3.687 | 1.498 | 1.805 | 2.785 | 6.010 | 2.040 | 9.174 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.422 | 4.684 | 3.091 | 4.002 | 4.151 | 3.918 |
| Run 2 | 4.773 | 5.872 | 4.495 | 4.011 | 4.108 | 4.189 |
| Run 3 | 3.990 | 7.219 | 4.347 | 3.908 | 4.080 | 4.036 |
| Mean | 4.728 | 5.925 | 3.978 | 3.974 | 4.113 | 4.048 |
| Std Dev | 0.7170 | 1.268 | 0.7718 | 0.0568 | 0.0357 | 0.1360 |
| %SD | 15.16 | 21.41 | 19.40 | 1.430 | 0.8669 | 3.359 |

1183-2
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0490 | 0.0474 | 0.0881 | 0.0689 | 0.0755 | 25.63 |
| Run 2 | 0.0562 | 0.0514 | 0.1007 | 0.0620 | 0.0414 | 24.36 |
| Run 3 | 0.0554 | 0.0563 | 0.0995 | 0.0469 | 0.0516 | 24.67 |
| Mean | 0.0535 | 0.0517 | 0.0961 | 0.0593 | 0.0562 | 24.89 |
| Std Dev | 0.0040 | 0.0045 | 0.0070 | 0.0113 | 0.0175 | 0.6649 |
| %SD | 7.388 | 8.634 | 7.255 | 19.00 | 31.13 | 2.672 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.32 | 24.71 | 0.1848 | 0.1557 | 0.1751 |
| Run 2 | 24.80 | 24.76 | 0.1441 | 0.1608 | 0.1600 |
| Run 3 | 24.67 | 25.16 | 0.1407 | 0.1442 | 0.1577 |
| Mean | 24.93 | 24.88 | 0.1566 | 0.1536 | 0.1643 |
| Std Dev | 0.3446 | 0.2461 | 0.0245 | 0.0085 | 0.0095 |
| %SD | 1.382 | 0.9891 | 15.68 | 5.536 | 5.773 |

ternal Standard Drift; % relative to mean of first samp

| ement | Scandium | Indium | Lutetium |
|---|---|---|---|
| otope | Sc 45 | In 115 | Lu 175 |
| tector | PC | PC | PC |
| un 1 | 89.66 | 80.47 | 74.97 |
| un 2 | 87.63 | 77.13 | 75.67 |
| un 3 | 87.07 | 76.37 | 73.43 |
| lean | 88.12 | 77.99 | 74.36 |
| Std Dev | 1.363 | 2.183 | 1.706 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #12
First repeat started at : Fri Mar 1 2002 13:57:26
Last repeat started at : Fri Mar 1 2002 13:58:28
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1247 | 0.7960 | 27.41 | 0.9250 | 1.294 | 1.040 | 0.5591 |
| Run 2 | 0.1218 | 0.6945 | 27.60 | 0.8647 | 1.333 | 1.068 | 1.106 |
| Run 3 | 0.1082 | 0.6618 | 27.47 | 1.003 | 1.065 | 1.0000 | 0.5908 |
| Mean | 0.1182 | 0.7174 | 27.49 | 0.9308 | 1.230 | 1.036 | 0.7519 |
| Std Dev | 0.0088 | 0.0700 | 0.0968 | 0.0692 | 0.1448 | 0.0343 | 0.3069 |
| | 7.447 | 9.753 | 0.3520 | 7.431 | 11.77 | 3.313 | 40.81 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9666 | 4.197 | 0.1118 | 0.7943 | 0.8354 | 0.8057 |
| Run 2 | 0.9648 | 3.470 | 2.776 | 0.9042 | 0.8672 | 0.8574 |
| Run 3 | 1.178 | 3.984 | 0.7685 | 0.8440 | 0.8430 | 0.8244 |
| Mean | 1.036 | 3.883 | 1.219 | 0.8475 | 0.8485 | 0.8292 |
| Std Dev | 0.1226 | 0.3738 | 1.388 | 0.0550 | 0.0166 | 0.0262 |
| %SD | 11.82 | 9.625 | 113.9 | 6.494 | 1.953 | 3.157 |

1183.2C
1/2 f/15

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0323 | 0.0200 | 0.0081 | 0.0155 | 0.0157 | 4.804 |
| Run 2 | 0.0132 | 0.0150 | 0.0427 | -0.0005 | 0.0043 | 5.291 |
| Run 3 | 0.0190 | 0.0165 | 0.0062 | 0.0075 | 0.0215 | 5.072 |
| Mean | 0.0215 | 0.0172 | 0.0190 | 0.0075 | 0.0138 | 5.056 |
| Std Dev | 0.0098 | 0.0026 | 0.0206 | 0.0080 | 0.0087 | 0.2439 |
| %SD | 45.54 | 15.13 | 108.4 | 107.3 | 63.08 | 4.824 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 4.720 | 5.008 | 0.0374 | 0.0374 | 0.0382 |
| Run 2 | 4.723 | 4.950 | 0.0344 | 0.0351 | 0.0348 |
| Run 3 | 5.172 | 5.000 | 0.0418 | 0.0373 | 0.0379 |
| Mean | 4.872 | 4.986 | 0.0379 | 0.0366 | 0.0370 |
| Std Dev | 0.2600 | 0.0314 | 0.0037 | 0.0013 | 0.0019 |
| %SD | 5.336 | 0.6303 | 9.801 | 3.530 | 5.127 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| P `or | PC | PC | PC |
| R. . | 86.18 | 86.15 | 83.97 |
| Run 2 | 85.32 | 84.52 | 79.92 |
| Run 3 | 87.07 | 82.11 | 81.59 |
| Mean | 86.19 | 84.26 | 81.83 |
| Std Dev | 0.8768 | 2.033 | 2.036 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A

Analysis procedure : EPA Method 6020/200.8

Sample name : Sample #13

First repeat started at : Fri Mar 1 2002 14:00:06

Last repeat started at : Fri Mar 1 2002 14:01:08

Interference Equations : DEFAULT

Dilution Factor : 1.0000 Concentration units : ppb

SCE post SPIKE @ 50ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 18.22 | 19.94 | 137.1 | 21.29 | 23.69 | 22.24 | 20.35 |
| Run 2 | 17.88 | 19.71 | 134.2 | 22.02 | 22.45 | 21.87 | 22.99 |
| Run 3 | 17.65 | 19.45 | 134.6 | 20.65 | 22.07 | 23.10 | 22.41 |
| Mean | 17.92 | 19.70 | 135.3 | 21.32 | 22.74 | 22.40 | 21.92 |
| Std Dev | 0.2830 | 0.2492 | 1.610 | 0.6863 | 0.8444 | 0.6290 | 1.386 |
| | 1.580 | 1.265 | 1.190 | 3.218 | 3.713 | 2.808 | 6.326 |

3/1/02

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.71 | 26.38 | 20.14 | 23.70 | 23.76 | 23.60 |
| Run 2 | 22.42 | 28.27 | 24.96 | 23.83 | 23.97 | 24.02 |
| Run 3 | 23.74 | 29.14 | 23.55 | 23.39 | 23.28 | 23.97 |
| Mean | 22.96 | 27.93 | 22.89 | 23.64 | 23.67 | 23.86 |
| Std Dev | 0.6949 | 1.410 | 2.478 | 0.2255 | 0.3527 | 0.2301 |
| %SD | 3.027 | 5.047 | 10.83 | 0.9540 | 1.490 | 0.9643 |

1183-2A 1/2 x20pp

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 16.92 | 16.26 | 19.13 | 19.62 | 20.12 | 45.25 |
| Run 2 | 18.13 | 18.17 | 19.47 | 19.53 | 19.79 | 44.11 |
| Run 3 | 18.14 | 17.56 | 19.15 | 19.35 | 19.48 | 45.82 |
| Mean | 17.73 | 17.33 | 19.25 | 19.50 | 19.80 | 45.06 |
| Std Dev | 0.7029 | 0.9759 | 0.1915 | 0.1347 | 0.3166 | 0.8683 |
| %SD | 3.964 | 5.631 | 0.9947 | 0.6910 | 1.599 | 1.927 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 45.20 | 44.71 | 19.83 | 19.65 | 20.13 |
| Run 2 | 45.34 | 43.82 | 18.75 | 19.42 | 19.31 |
| Run 3 | 44.94 | 44.41 | 18.07 | 19.62 | 19.27 |
| Mean | 45.16 | 44.32 | 18.88 | 19.56 | 19.57 |
| Std Dev | 0.2054 | 0.4513 | 0.8916 | 0.1239 | 0.4826 |
| %SD | 0.4548 | 1.018 | 4.722 | 0.6334 | 2.466 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D[illegible]r | PC | PC | PC |
| Ru | 84.99 | 72.66 | 66.97 |
| Run 2 | 87.81 | 73.31 | 71.49 |
| Run 3 | 87.37 | 74.35 | 70.30 |
| Mean | 86.72 | 73.44 | 69.59 |
| Std Dev | 1.517 | 0.8513 | 2.345 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #14
First repeat started at : Fri Mar 1 2002 14:02:07
Last repeat started at : Fri Mar 1 2002 14:03:08
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.014 | 10.62 | 123.1 | 12.06 | 12.43 | 12.55 | 12.10 |
| Run 2 | 8.871 | 10.49 | 122.4 | 12.15 | 12.68 | 13.04 | 12.17 |
| Run 3 | 9.160 | 10.34 | 123.8 | 12.48 | 11.88 | 12.78 | 12.42 |
| Mean | 9.015 | 10.55 | 123.1 | 12.23 | 12.33 | 12.79 | 12.23 |
| Std Dev | 0.1443 | 0.0660 | 0.6914 | 0.2169 | 0.4062 | 0.2435 | 0.1719 |
| | 1.600 | 0.6255 | 0.5617 | 1.773 | 3.294 | 1.903 | 1.406 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 14.45 | 20.33 | 13.43 | 13.34 | 13.50 | 13.38 |
| Run 2 | 12.57 | 22.38 | 12.31 | 13.69 | 13.78 | 13.71 |
| Run 3 | 13.94 | 22.25 | 13.05 | 13.45 | 13.08 | 13.31 |
| Mean | 13.66 | 21.65 | 12.93 | 13.49 | 13.46 | 13.46 |
| Std Dev | 0.9718 | 1.147 | 0.5717 | 0.1761 | 0.3512 | 0.2138 |
| ZSD | 7.116 | 5.297 | 4.421 | 1.305 | 2.610 | 1.587 |

1183-258k
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.970 | 9.164 | 9.533 | 9.304 | 9.905 | 34.90 |
| Run 2 | 9.087 | 9.339 | 9.729 | 9.738 | 10.13 | 34.52 |
| Run 3 | 8.766 | 8.974 | 9.345 | 9.349 | 9.446 | 33.90 |
| Mean | 8.941 | 9.159 | 9.536 | 9.464 | 9.827 | 34.44 |
| Std Dev | 0.1625 | 0.1827 | 0.1917 | 0.2388 | 0.3486 | 0.5013 |
| ZSD | 1.817 | 1.995 | 2.011 | 2.523 | 3.547 | 1.456 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 34.27 | 33.13 | 9.351 | 9.797 | 9.611 |
| Run 2 | 35.88 | 32.88 | 9.920 | 9.920 | 9.780 |
| Run 3 | 33.84 | 33.75 | 9.653 | 10.04 | 10.20 |
| Mean | 34.66 | 33.25 | 9.641 | 9.921 | 9.863 |
| Std Dev | 1.075 | 0.4464 | 0.2849 | 0.1235 | 0.3017 |
| ZSD | 3.100 | 1.342 | 2.955 | 1.245 | 3.059 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 95.41 | 81.13 | 76.69 |
| Run 2 | 96.57 | 79.51 | 75.47 |
| Run 3 | 94.80 | 81.50 | 71.20 |
| Mean | 95.60 | 80.71 | 74.46 |
| Std Dev | 0.9016 | 1.056 | 2.883 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #15
First repeat started at : Fri Mar 1 2002 14:06:26
Last repeat started at : Fri Mar 1 2002 14:07:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.76 | 25.12 | 25.20 | 24.93 | 23.95 | 24.29 | 23.55 |
| Run 2 | 25.47 | 25.16 | 25.17 | 23.30 | 24.38 | 23.72 | 24.22 |
| Run 3 | 24.87 | 24.90 | 24.88 | 23.62 | 23.20 | 23.62 | 25.24 |
| Mean | 25.03 | 25.06 | 25.08 | 23.95 | 23.84 | 23.88 | 24.34 |
| Std Dev | 0.3802 | 0.1381 | 0.1784 | 0.8613 | 0.5942 | 0.3630 | 0.8541 |
| | 1.519 | 0.5509 | 0.7112 | 3.596 | 2.492 | 1.520 | 3.509 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.54 | 29.89 | 23.83 | 25.67 | 26.12 | 25.26 |
| Run 2 | 22.71 | 29.30 | 22.68 | 25.04 | 25.81 | 25.72 |
| Run 3 | 22.50 | 27.62 | 24.60 | 25.61 | 25.99 | 24.91 |
| Mean | 22.59 | 28.94 | 23.70 | 25.44 | 25.97 | 25.30 |
| Std Dev | 0.1125 | 1.182 | 0.9672 | 0.3457 | 0.1541 | 0.4057 |
| %SD | 0.4980 | 4.085 | 4.080 | 1.359 | 0.5932 | 1.604 |

CCV-2
ms1-24-B

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.55 | 25.89 | 25.48 | 24.41 | 25.08 | 24.90 |
| Run 2 | 26.05 | 25.96 | 24.52 | 24.75 | 25.02 | 25.05 |
| Run 3 | 26.43 | 25.66 | 24.15 | 24.69 | 24.83 | 24.63 |
| Mean | 26.01 | 25.84 | 24.72 | 24.62 | 24.98 | 24.86 |
| Std Dev | 0.4398 | 0.1603 | 0.6890 | 0.1783 | 0.1280 | 0.2126 |
| %SD | 1.691 | 0.6203 | 2.787 | 0.7241 | 0.5125 | 0.8552 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.79 | 24.93 | 25.89 | 25.57 | 25.50 |
| Run 2 | 25.04 | 25.34 | 23.96 | 23.46 | 24.59 |
| Run 3 | 24.91 | 24.75 | 24.09 | 25.51 | 24.75 |
| Mean | 25.25 | 25.01 | 24.65 | 24.85 | 24.95 |
| Std Dev | 0.4772 | 0.2998 | 1.080 | 1.203 | 0.4835 |
| %SD | 1.890 | 1.199 | 4.382 | 4.842 | 1.938 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D [illegible]r | PC | PC | PC |
| Run 1 | 87.96 | 87.71 | 82.49 |
| Run 2 | 87.14 | 86.56 | 84.39 |
| Run 3 | 88.60 | 86.60 | 85.34 |
| Mean | 87.90 | 86.96 | 84.07 |
| Std Dev | 0.7313 | 0.6535 | 1.451 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #16
First repeat started at : Fri Mar 1 2002 14:12:36
Last repeat started at : Fri Mar 1 2002 14:13:37
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0150 | 0.0145 | 0.0380 | -0.0451 | -0.1029 | 0.0197 | -0.2007 |
| Run 2 | 0.0098 | -0.0223 | 0.0287 | -0.0127 | -0.0883 | 0.0252 | -0.2742 |
| Run 3 | 0.0139 | -0.0277 | 0.0248 | -0.0193 | -0.0353 | 0.0493 | 0.0673 |
| Mean | 0.0129 | -0.0118 | 0.0305 | -0.0257 | -0.0755 | 0.0314 | -0.1359 |
| Std Dev | 0.0027 | 0.0230 | 0.0068 | 0.0171 | 0.0356 | 0.0158 | 0.1797 |
| %SD | 21.13 | 194.6 | 22.14 | 66.62 | 47.09 | 50.20 | 132.3 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1440 | 0.3336 | -0.8057 | 0.0136 | -0.0022 | -0.0080 |
| Run 2 | 0.0886 | 0.7009 | -1.282 | 0.0102 | 0.0133 | -0.0026 |
| Run 3 | 0.0208 | 0.5245 | 0.4312 | 0.0100 | 0.0033 | -0.0072 |
| Mean | 0.0845 | 0.5197 | -0.5522 | 0.0113 | 0.0048 | -0.0059 |
| Std Dev | 0.0617 | 0.1837 | 0.8842 | 0.0020 | 0.0079 | 0.0029 |
| %SD | 73.08 | 35.34 | 160.1 | 17.90 | 164.7 | 49.46 |

CB-2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0010 | -0.0035 | -0.0141 | -0.0210 | -0.0021 | 0.0013 |
| Run 2 | -0.0021 | 0.0013 | -0.0201 | -0.0083 | -0.0148 | 0.0133 |
| Run 3 | -0.0013 | -0.0015 | -0.0096 | -0.0050 | -0.0095 | -0.0033 |
| Mean | -0.0008 | -0.0012 | -0.0146 | -0.0114 | -0.0088 | 0.0038 |
| Std Dev | 0.0016 | 0.0024 | 0.0052 | 0.0084 | 0.0064 | 0.0085 |
| %SD | 199.7 | 193.3 | 35.96 | 73.82 | 72.69 | 225.5 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0012 | -0.0005 | -0.0015 | 0.0028 | 0.0005 |
| Run 2 | -0.0041 | 0.0008 | 0.0039 | 0.0020 | 0.0006 |
| Run 3 | -0.0018 | -0.0006 | 0.0020 | -0.0019 | -0.0008 |
| Mean | -0.0024 | -0.0001 | 0.0015 | 0.0010 | 0.0001 |
| Std Dev | 0.0015 | 0.0008 | 0.0027 | 0.0025 | 0.0008 |
| %SD | 63.67 | 713.5 | 189.4 | 265.7 | 828.5 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| D [illegible]or | PC | PC | PC |
| R[illegible] | 84.27 | 87.71 | 85.41 |
| Run 2 | 83.54 | 85.83 | 88.14 |
| Run 3 | 85.74 | 85.43 | 84.15 |
| Mean | 84.51 | 86.32 | 85.90 |
| Std Dev | 1.121 | 1.217 | 2.041 |

CIB-2

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #17
First repeat started at : Fri Mar 1 2002 14:14:59
Last repeat started at : Fri Mar 1 2002 14:16:00
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.132 | 10.53 | 125.1 | 12.55 | 13.52 | 12.53 | 12.62 |
| Run 2 | 9.241 | 10.83 | 126.3 | 12.05 | 13.05 | 12.75 | 13.74 |
| Run 3 | 9.082 | 10.81 | 125.4 | 11.96 | 13.24 | 12.74 | 12.10 |
| Mean | 9.151 | 10.73 | 125.6 | 12.18 | 13.27 | 12.67 | 12.82 |
| Std Dev | 0.0812 | 0.1705 | 0.6347 | 0.3170 | 0.2384 | 0.1249 | 0.8400 |
| ZSD | 0.8870 | 1.589 | 0.5054 | 2.601 | 1.796 | 0.9852 | 6.553 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 13.75 | 15.94 | 13.28 | 13.75 | 14.08 | 13.99 |
| Run 2 | 13.53 | 17.10 | 14.35 | 13.73 | 13.78 | 13.72 |
| Run 3 | 14.48 | 19.56 | 13.36 | 13.90 | 13.92 | 14.03 |
| Mean | 13.92 | 17.53 | 13.67 | 13.79 | 13.93 | 13.92 |
| Std Dev | 0.4986 | 1.846 | 0.5928 | 0.0975 | 0.1527 | 0.1685 |
| ZSD | 3.582 | 10.53 | 4.338 | 0.7071 | 1.096 | 1.211 |

1183-25pk DW

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.965 | 6.282 | 9.787 | 9.888 | 10.10 | 33.64 |
| Run 2 | 7.605 | 7.536 | 9.722 | 10.08 | 10.32 | 32.88 |
| Run 3 | 8.052 | 8.234 | 10.31 | 9.948 | 9.726 | 36.37 |
| Mean | 7.207 | 7.351 | 9.940 | 9.972 | 10.05 | 34.30 |
| Std Dev | 1.099 | 0.9894 | 0.3216 | 0.0978 | 0.3014 | 1.836 |
| ZSD | 15.25 | 13.46 | 3.236 | 0.9810 | 2.999 | 5.333 |

RAD-Replicate 3/1/02 See rerun PD

1/2

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 33.28 | 33.07 | 8.871 | 9.476 | 9.123 |
| Run 2 | 34.00 | 34.18 | 9.541 | 9.816 | 9.854 |
| Run 3 | 34.74 | 34.97 | 10.27 | 9.998 | 10.15 |
| Mean | 34.01 | 34.07 | 9.560 | 9.764 | 9.710 |
| Std Dev | 0.7296 | 0.9571 | 0.6991 | 0.2649 | 0.5307 |
| ZSD | 2.145 | 2.809 | 7.313 | 2.713 | 5.465 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| tor | PC | PC | PC |
| 1 | 90.95 | 78.71 | 79.50 |
| Run 2 | 93.51 | 80.12 | 79.25 |
| Run 3 | 94.09 | 80.63 | 76.16 |
| Mean | 92.85 | 79.82 | 78.30 |
| Std Dev | 1.665 | 0.9932 | 1.858 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #18
First repeat started at : Fri Mar 1 2002 14:16:40
Last repeat started at : Fri Mar 1 2002 14:17:40
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 36.81 | 40.73 | 248.7 | 44.22 | 46.82 | 49.05 | 48.70 |
| Run 2 | 38.39 | 40.70 | 249.1 | 44.09 | 48.75 | 47.34 | 50.43 |
| Run 3 | 38.43 | 42.11 | 248.8 | 44.69 | 50.71 | 49.34 | 48.50 |
| Mean | 37.88 | 41.13 | 248.9 | 44.33 | 48.76 | 48.35 | 49.21 |
| Std Dev | 0.9199 | 0.8067 | 0.2303 | 0.3170 | 1.949 | 1.899 | 1.062 |
| %SD | 2.429 | 1.959 | 0.0925 | 0.7151 | 3.998 | 3.936 | 2.158 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 54.13 | 54.68 | 52.31 | 53.96 | 54.18 | 53.92 |
| Run 2 | 52.32 | 60.96 | 56.39 | 54.88 | 57.48 | 56.06 |
| Run 3 | 55.32 | 61.03 | 56.58 | 52.46 | 57.26 | 55.32 |
| Mean | 53.92 | 58.99 | 55.09 | 53.78 | 56.31 | 55.10 |
| Std Dev | 1.511 | 3.648 | 2.414 | 1.225 | 1.846 | 1.084 |
| %SD | 2.803 | 6.194 | 4.382 | 2.278 | 3.279 | 1.967 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.8061 | 0.7656 | 45.39 | 45.80 | 45.69 | 93.84 |
| Run 2 | 0.4616 | 0.4669 | 45.81 | 49.50 | 46.57 | 94.48 |
| Run 3 | 0.3768 | 0.4088 | 46.12 | 47.83 | 48.20 | 98.39 |
| Mean | 0.5482 | 0.5437 | 45.77 | 47.71 | 46.82 | 95.57 |
| Std Dev | 0.2274 | 0.1936 | 0.3661 | 1.855 | 1.269 | 2.461 |
| %SD | 41.48 | 35.61 | 0.7998 | 3.888 | 2.710 | 2.575 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 99.31 | 93.87 | 46.23 | 48.01 | 46.97 |
| Run 2 | 97.52 | 95.39 | 42.57 | 46.58 | 45.13 |
| Run 3 | 103.4 | 95.31 | 47.19 | 43.76 | 46.95 |
| Mean | 100.1 | 94.86 | 45.33 | 46.12 | 46.35 |
| Std Dev | 3.002 | 0.8575 | 2.438 | 2.163 | 1.055 |
| %SD | 3.000 | 0.9040 | 5.379 | 4.690 | 2.276 |

Dilute - 3/1/02

For GOX 5ppb

1183-2A x 50ppb

Internal Standard Drift; % relative to mean [illegible]

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 88.81 | 66.54 | 60.29 |
| Run 2 | 90.57 | 67.43 | 65.04 |
| Run 3 | 91.60 | 68.92 | 63.47 |
| Mean | 90.33 | 67.63 | 62.93 |
| Std Dev | 1.412 | 1.201 | 2.422 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #19
First repeat started at : Fri Mar 1 2002 14:19:14
Last repeat started at : Fri Mar 1 2002 14:20:14
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.119 | 10.69 | 127.0 | 12.28 | 13.72 | 12.82 | 12.42 |
| Run 2 | 9.112 | 10.26 | 121.9 | 11.81 | 13.73 | 12.52 | 12.48 |
| Run 3 | 9.271 | 10.25 | 123.9 | 12.39 | 13.82 | 12.90 | 13.66 |
| Mean | 9.168 | 10.40 | 124.3 | 12.16 | 13.76 | 12.75 | 12.85 |
| Std Dev | 0.0896 | 0.2502 | 2.553 | 0.3105 | 0.0522 | 0.2018 | 0.6987 |
| %SD | 0.9771 | 2.406 | 2.055 | 2.554 | 0.3793 | 1.583 | 5.436 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 12.56 | 22.10 | 9.537 | 13.73 | 13.96 | 13.72 |
| Run 2 | 13.23 | 22.54 | 13.77 | 13.46 | 13.77 | 13.68 |
| Run 3 | 12.80 | 23.17 | 15.79 | 14.16 | 13.82 | 14.17 |
| Mean | 12.86 | 22.60 | 13.03 | 13.78 | 13.85 | 13.86 |
| Std Dev | 0.3437 | 0.5383 | 3.192 | 0.3554 | 0.0956 | 0.2716 |
| %SD | 2.672 | 2.382 | 24.49 | 2.579 | 0.6902 | 1.959 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.312 | 8.045 | 9.872 | 9.642 | 10.45 | 33.12 |
| Run 2 | 8.122 | 8.099 | 9.164 | 9.786 | 9.758 | 33.23 |
| Run 3 | 8.899 | 8.727 | 9.711 | 9.579 | 10.13 | 35.52 |
| Mean | 8.444 | 8.290 | 9.582 | 9.669 | 10.11 | 33.96 |
| Std Dev | 0.4054 | 0.3793 | 0.3710 | 0.1058 | 0.3447 | 1.351 |
| %SD | 4.800 | 4.575 | 3.872 | 1.095 | 3.409 | 3.979 |

1183 -25pl
BU
1/2
rerun

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 34.54 | 33.75 | 9.764 | 9.768 | 9.876 |
| Run 2 | 33.69 | 32.59 | 9.555 | 9.622 | 9.511 |
| Run 3 | 35.01 | 35.18 | 9.498 | 9.295 | 9.810 |
| Mean | 34.41 | 33.84 | 9.606 | 9.562 | 9.733 |
| Std Dev | 0.6716 | 1.298 | 0.1398 | 0.2423 | 0.1945 |
| %SD | 1.951 | 3.836 | 1.456 | 2.534 | 1.999 |

Internal Standard Drift; % relative to mean

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 93.51 | 80.55 | 75.50 |
| Run 2 | 95.07 | 82.79 | 76.91 |
| Run 3 | 95.57 | 79.36 | 72.80 |
| Mean | 94.71 | 80.90 | 75.07 |
| Std Dev | 1.074 | 1.742 | 2.088 |

PG-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #20
First repeat started at : Fri Mar 1 2002 14:21:50
Last repeat started at : Fri Mar 1 2002 14:22:51
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 44.04 | 46.81 | 166.8 | 49.04 | 51.05 | 51.13 | 50.97 |
| Run 2 | 43.91 | 45.53 | 167.8 | 51.96 | 53.78 | 49.85 | 52.89 |
| Run 3 | 44.18 | 46.56 | 164.3 | 52.52 | 51.21 | 51.73 | 52.13 |
| Mean | 44.04 | 46.30 | 166.3 | 51.17 | 52.01 | 50.90 | 52.00 |
| Std Dev | 0.1357 | 0.6786 | 1.779 | 1.871 | 1.535 | 0.9597 | 0.9677 |
| %SD | 0.3081 | 1.466 | 1.069 | 3.657 | 2.952 | 1.885 | 1.861 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 52.42 | 68.65 | 58.12 | 54.49 | 55.48 | 54.54 |
| Run 2 | 53.38 | 69.20 | 52.00 | 52.77 | 54.61 | 52.99 |
| Run 3 | 56.59 | 69.84 | 59.64 | 54.95 | 56.42 | 54.75 |
| Mean | 54.13 | 69.23 | 56.59 | 54.07 | 55.50 | 54.09 |
| Std Dev | 2.182 | 0.5970 | 4.044 | 1.147 | 0.9051 | 0.9580 |
| %SD | 4.030 | 0.8623 | 7.146 | 2.122 | 1.631 | 1.771 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5796 | 0.5941 | 49.47 | 52.02 | 49.02 | 79.06 |
| Run 2 | 0.2753 | 0.3121 | 49.17 | 50.16 | 51.02 | 76.08 |
| Run 3 | 0.1807 | 0.1874 | 51.83 | 51.24 | 52.04 | 78.15 |
| Mean | 0.3452 | 0.3645 | 50.16 | 51.14 | 50.69 | 77.76 |
| Std Dev | 0.2085 | 0.2084 | 1.460 | 0.9326 | 1.538 | 1.525 |
| %SD | 60.38 | 57.16 | 2.911 | 1.824 | 3.033 | 1.961 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 78.39 | 75.09 | 49.80 | 49.55 | 49.33 |
| Run 2 | 76.09 | 76.48 | 48.40 | 49.88 | 49.14 |
| Run 3 | 77.63 | 76.07 | 47.22 | 49.96 | 48.82 |
| Mean | 77.37 | 75.88 | 48.47 | 49.80 | 49.10 |
| Std Dev | 1.170 | 0.7155 | 1.288 | 0.2128 | 0.2597 |
| %SD | 1.512 | 0.9430 | 2.658 | 0.4274 | 0.5291 |

1183-2A
1/2
X50ppb

Internal Standard Drift % relative to ...

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 101.9 | 85.78 | 77.16 |
| un 2 | 102.8 | 88.01 | 79.03 |
| Run 3 | 103.7 | 85.88 | 80.37 |
| Mean | 102.9 | 86.56 | 78.85 |
| Std Dev | 0.9031 | 1.261 | 1.611 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #21
First repeat started at : Fri Mar 1 2002 14:26:24
Last repeat started at : Fri Mar 1 2002 14:27:25
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2914 | 1.986 | 70.03 | 3.565 | 5.358 | 3.887 | 4.632 |
| Run 2 | 0.2679 | 2.208 | 71.71 | 3.612 | 5.491 | 4.161 | 4.463 |
| Run 3 | 0.2678 | 2.357 | 72.37 | 3.509 | 5.173 | 4.134 | 4.515 |
| Mean | 0.2757 | 2.184 | 71.37 | 3.562 | 5.341 | 4.060 | 4.537 |
| Std Dev | 0.0136 | 0.1864 | 1.203 | 0.0515 | 0.1596 | 0.1510 | 0.0867 |
| %SD | 4.922 | 8.534 | 1.685 | 1.445 | 2.989 | 3.719 | 1.911 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 4.219 | 14.79 | 5.919 | 3.173 | 3.162 | 3.214 |
| Run 2 | 4.977 | 16.12 | 5.116 | 3.264 | 3.264 | 3.266 |
| Run 3 | 5.389 | 15.51 | 4.387 | 3.179 | 3.072 | 2.938 |
| Mean | 4.862 | 15.47 | 5.141 | 3.205 | 3.166 | 3.139 |
| Std Dev | 0.5936 | 0.6658 | 0.7664 | 0.0508 | 0.0961 | 0.1761 |
| %SD | 12.21 | 4.302 | 14.91 | 1.584 | 3.034 | 5.611 |

1183-3
112

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0451 | 0.0390 | 0.0814 | 0.0342 | 0.0673 | 23.54 |
| Run 2 | 0.0419 | 0.0485 | 0.0813 | 0.0598 | 0.0764 | 24.47 |
| Run 3 | 0.0419 | 0.0374 | 0.0923 | 0.0344 | 0.0545 | 22.28 |
| Mean | 0.0430 | 0.0416 | 0.0850 | 0.0428 | 0.0660 | 23.43 |
| Std Dev | 0.0018 | 0.0060 | 0.0063 | 0.0147 | 0.0110 | 1.097 |
| %SD | 4.201 | 14.34 | 7.452 | 34.42 | 16.62 | 4.683 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 22.99 | 21.78 | 0.1650 | 0.1504 | 0.1470 |
| Run 2 | 24.03 | 23.70 | 0.1562 | 0.1484 | 0.1517 |
| Run 3 | 21.58 | 23.60 | 0.1179 | 0.1298 | 0.1385 |
| Mean | 22.87 | 23.03 | 0.1464 | 0.1429 | 0.1457 |
| Std Dev | 1.229 | 1.082 | 0.0250 | 0.0114 | 0.0067 |
| %SD | 5.374 | 4.699 | 17.10 | 7.956 | 4.585 |

Internal Standard Drift; % relative to mean

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 102.1 | 81.07 | 77.21 |
| un 2 | 109.7 | 86.32 | 80.28 |
| Run 3 | 111.1 | 90.28 | 84.10 |
| Mean | 107.6 | 85.89 | 80.53 |
| Std Dev | 4.817 | 4.619 | 3.454 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #22
First repeat started at : Fri Mar 1 2002 14:28:03
Last repeat started at : Fri Mar 1 2002 14:29:05
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

See Dilution 02 3/1/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2846 | 1.291 | 607.2 | 6.466 | 7.694 | 7.096 | 1.898 |
| Run 2 | 0.2801 | 1.226 | 613.8 | 6.353 | 7.990 | 7.267 | 1.889 |
| Run 3 | 0.2555 | 1.204 | 597.3 | 6.640 | 7.348 | 7.087 | 1.810 |
| Mean | 0.2734 | 1.240 | 606.1 | 6.486 | 7.679 | 7.150 | 1.866 |
| Std Dev | 0.0156 | 0.0453 | 8.314 | 0.1446 | 0.3214 | 0.1012 | 0.0485 |
| %SD | 5.719 | 3.651 | 1.372 | 2.230 | 4.186 | 1.415 | 2.601 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.7883 | 14.32 | -0.6499 | 4.826 | 4.925 | 5.001 |
| Run 2 | 0.6692 | 15.47 | -0.2214 | 4.848 | 4.977 | 4.834 |
| Run 3 | 0.8261 | 15.13 | -0.7618 | 5.100 | 4.816 | 4.835 |
| Mean | 0.7612 | 14.97 | -0.5444 | 4.925 | 4.906 | 4.890 |
| Std Dev | 0.0819 | 0.5907 | 0.2853 | 0.1523 | 0.0818 | 0.0962 |
| %SD | 10.75 | 3.944 | 52.40 | 3.093 | 1.667 | 1.967 |

1183.4
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0396 | 0.0378 | 0.1767 | 0.1962 | 0.1776 | 33.22 |
| Run 2 | 0.0338 | 0.0442 | 0.2100 | 0.2035 | 0.1792 | 34.52 |
| Run 3 | 0.0556 | 0.0452 | 0.1231 | 0.1809 | 0.1578 | 33.30 |
| Mean | 0.0430 | 0.0424 | 0.1699 | 0.1935 | 0.1715 | 33.68 |
| Std Dev | 0.0113 | 0.0040 | 0.0439 | 0.0115 | 0.0119 | 0.7274 |
| %SD | 26.31 | 9.423 | 25.81 | 5.936 | 6.941 | 2.160 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 33.01 | 33.66 | 0.2809 | 0.2745 | 0.2682 |
| Run 2 | 35.24 | 33.30 | 0.3009 | 0.3033 | 0.2937 |
| Run 3 | 32.67 | 33.14 | 0.2780 | 0.2437 | 0.2607 |
| Mean | 33.64 | 33.36 | 0.2866 | 0.2738 | 0.2742 |
| Std Dev | 1.394 | 0.2641 | 0.0125 | 0.0298 | 0.0173 |
| %SD | 4.145 | 0.7916 | 4.351 | 10.88 | 6.309 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 108.7 | 90.19 | 82.92 |
| Run 2 | 110.2 | 91.04 | 77.56 |
| Run 3 | 112.4 | 92.25 | 86.38 |
| Mean | 110.4 | 91.16 | 82.29 |
| Std Dev | 1.837 | 1.037 | 4.442 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #23
First repeat started at : Fri Mar 1 2002 14:29:47
Last repeat started at : Fri Mar 1 2002 14:30:45
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1047 | 0.5190 | 83.80 | 1.284 | 1.233 | 1.073 | 0.1942 |
| Run 2 | 0.0796 | 0.3902 | 82.51 | 1.241 | 1.202 | 1.137 | 0.1796 |
| Run 3 | 0.0722 | 0.3745 | 85.66 | 1.157 | 1.204 | 1.045 | 0.3701 |
| Mean | 0.0855 | 0.4279 | 83.99 | 1.227 | 1.213 | 1.085 | 0.2480 |
| Std Dev | 0.0171 | 0.0793 | 1.580 | 0.0645 | 0.0173 | 0.0474 | 0.1060 |
| %SD | 19.96 | 18.54 | 1.882 | 5.254 | 1.429 | 4.364 | 42.76 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.4334 | 12.69 | 0.1020 | 0.5437 | 0.4987 | 0.4923 |
| Run 2 | 0.3118 | 11.77 | 0.9064 | 0.5366 | 0.5630 | 0.4632 |
| Run 3 | 0.2474 | 10.32 | 0.7925 | 0.4921 | 0.4956 | 0.4262 |
| Mean | 0.3325 | 11.76 | 0.3003 | 0.5241 | 0.5191 | 0.4606 |
| Std Dev | 0.0972 | 0.9132 | 0.4289 | 0.0280 | 0.0381 | 0.0154 |
| %SD | 29.22 | 7.765 | 142.8 | 5.343 | 7.331 | 3.195 |

1183-4
1120

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0170 | 0.0204 | 0.0230 | 0.0242 | 0.0357 | 3.305 |
| Run 2 | 0.0111 | 0.0142 | 0.0256 | 0.0258 | 0.0203 | 3.271 |
| Run 3 | 0.0044 | 0.0073 | 0.0299 | 0.0236 | 0.0207 | 3.305 |
| Mean | 0.0109 | 0.0142 | 0.0262 | 0.0245 | 0.0256 | 3.294 |
| Std Dev | 0.0063 | 0.0062 | 0.0035 | 0.0011 | 0.0088 | 0.0195 |
| %SD | 58.08 | 44.01 | 13.38 | 4.530 | 34.41 | 0.5913 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 3.426 | 3.570 | 0.0332 | 0.0418 | 0.0402 |
| Run 2 | 3.202 | 3.354 | 0.0421 | 0.0372 | 0.0393 |
| Run 3 | 3.632 | 3.589 | 0.0365 | 0.0351 | 0.0359 |
| Mean | 3.420 | 3.504 | 0.0373 | 0.0381 | 0.0385 |
| Std Dev | 0.2150 | 0.1305 | 0.0045 | 0.0034 | 0.0023 |
| %SD | 6.285 | 3.723 | 12.04 | 8.985 | 5.913 |

Internal Standard Drift; % relative to mean of [illegible] samples

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 107.2 | 102.5 | 86.51 |
| Run 2 | 108.1 | 104.2 | 89.60 |
| Run 3 | 104.4 | 101.3 | 88.22 |
| Mean | 106.6 | 102.7 | 88.11 |
| Std Dev | 1.859 | 1.466 | 1.549 |

PQ-2 #971114 Operator: Greg Jasper KA0109941

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A

Analysis procedure : EPA Method 6020/200.8

Sample name : Sample #24

First repeat started at : Fri Mar 1 2002 14:31:27

Last repeat started at : Fri Mar 1 2002 14:32:26

Interference Equations : DEFAULT

Dilution Factor : 1.0000 Concentration units : ppb

See Dilution 3/1/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2986 | 1.204 | 708.8 | 5.621 | 9.698 | 8.652 | 4.078 |
| Run 2 | 0.2941 | 1.300 | 673.7 | 6.235 | 10.50 | 9.059 | 3.902 |
| Run 3 | 0.2956 | 1.214 | 680.5 | 6.395 | 10.04 | 8.247 | 4.079 |
| Mean | 0.2929 | 1.239 | 689.2 | 6.083 | 10.08 | 8.673 | 4.020 |
| Std Dev | 0.0037 | 0.0529 | 16.96 | 0.4085 | 0.4003 | 0.4157 | 0.1019 |
| | 1.266 | 4.265 | 2.461 | 6.716 | 3.971 | 4.793 | 2.534 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 1.5237 | 10.94 | 0.5720 | 2.598 | 2.372 | 2.483 |
| Run 2 | 0.7251 | 10.97 | 0.2826 | 2.601 | 2.556 | 2.531 |
| Run 3 | 1.1747 | 10.29 | 1.338 | 2.561 | 2.363 | 2.433 |
| Mean | 1.1095 | 10.74 | 0.7375 | 2.587 | 2.430 | 2.476 |
| Std Dev | 0.0998 | 0.3855 | 0.5425 | 0.0223 | 0.1087 | 0.0455 |
| %SD | 13.32 | 3.591 | 73.56 | 0.8636 | 4.474 | 1.799 |

1183-5 1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0284 | 0.0423 | 0.0751 | 0.0288 | 0.0629 | 106.3 |
| Run 2 | 0.0551 | 0.0475 | 0.0928 | 0.0553 | 0.0488 | 106.2 |
| Run 3 | 0.0437 | 0.0543 | 0.0766 | 0.0617 | 0.0468 | 104.6 |
| Mean | 0.0424 | 0.0480 | 0.0815 | 0.0486 | 0.0523 | 106.4 |
| Std Dev | 0.0134 | 0.0060 | 0.0098 | 0.0174 | 0.0088 | 1.793 |
| %SD | 31.69 | 12.55 | 12.03 | 35.89 | 16.63 | 1.686 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 102.4 | 107.3 | 0.1372 | 0.1396 | 0.1322 |
| Run 2 | 106.5 | 104.0 | 0.1214 | 0.1309 | 0.1285 |
| Run 3 | 99.07 | 98.63 | 0.1175 | 0.1191 | 0.1213 |
| Mean | 102.3 | 103.3 | 0.1254 | 0.1299 | 0.1273 |
| Std Dev | 4.205 | 4.366 | 0.0104 | 0.0103 | 0.0055 |
| %SD | 4.110 | 4.226 | 8.292 | 7.929 | 4.343 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 93.84 | 79.39 | 72.71 |
| Run 2 | 97.46 | 80.13 | 73.32 |
| Run 3 | 97.31 | 85.21 | 76.17 |
| Mean | 96.37 | 81.58 | 74.07 |
| Std Dev | 2.290 | 3.167 | 1.34c |

PE-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #25
First repeat started at : Fri Mar 1 2002 14:33:05
Last repeat started at : Fri Mar 1 2002 14:34:04
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0943 | 0.4328 | 95.17 | 1.272 | 1.252 | 1.420 | 0.4489 |
| Run 2 | 0.0771 | 0.3478 | 96.32 | 1.131 | 1.279 | 1.242 | 0.2675 |
| Run 3 | 0.0792 | 0.3253 | 96.34 | 1.037 | 1.116 | 1.295 | 0.4108 |
| Mean | 0.0832 | 0.3687 | 95.94 | 1.147 | 1.215 | 1.319 | 0.3757 |
| Std Dev | 0.0096 | 0.0567 | 0.6670 | 0.1179 | 0.0874 | 0.0911 | 0.0957 |
| %D | 11.53 | 15.37 | 0.6952 | 10.28 | 7.188 | 6.908 | 25.46 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2027 | 9.456 | 0.5426 | 0.3174 | 0.2683 | 0.2901 |
| Run 2 | 0.2710 | 8.572 | -0.2766 | 0.3296 | 0.2448 | 0.2495 |
| Run 3 | 0.2088 | 9.335 | -0.3013 | 0.2529 | 0.2482 | 0.2757 |
| Mean | 0.2275 | 9.121 | -0.0118 | 0.2996 | 0.2538 | 0.2634 |
| Std Dev | 0.0378 | 0.4791 | 0.4802 | 0.0405 | 0.0127 | 0.0165 |
| %RD | 16.61 | 5.252 | 4079 | 13.56 | 4.991 | 6.165 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0327 | 0.0300 | -0.0164 | -0.0088 | 0.0003 | 10.75 |
| Run 2 | 0.0148 | 0.0240 | 0.0259 | 0.0168 | 0.0059 | 10.43 |
| Run 3 | 0.0193 | 0.0082 | 0.0136 | 0.0219 | 0.0212 | 10.69 |
| Mean | 0.0222 | 0.0207 | 0.0077 | 0.0100 | 0.0091 | 10.63 |
| Std Dev | 0.0093 | 0.0112 | 0.0218 | 0.0164 | 0.0108 | 0.1750 |
| %RD | 41.89 | 54.22 | 282.2 | 164.6 | 118.0 | 1.647 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 11.30 | 11.05 | 0.0298 | 0.0194 | 0.0271 |
| Run 2 | 10.79 | 10.82 | 0.0291 | 0.0204 | 0.0237 |
| Run 3 | 10.74 | 10.87 | 0.0337 | 0.0250 | 0.0276 |
| Mean | 10.94 | 10.91 | 0.0309 | 0.0216 | 0.0261 |
| Std Dev | 0.3110 | 0.1218 | 0.0025 | 0.0030 | 0.0022 |
| %RD | 2.842 | 1.115 | 8.065 | 13.83 | 8.262 |

1183-5
1120

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 97.94 | 92.91 | 79.44 |
| Run 2 | 98.24 | 94.44 | 82.92 |
| Run 3 | 96.01 | 92.90 | 83.82 |
| Mean | 97.40 | 93.42 | 81.69 |
| Std Dev | 1.213 | 0.9879 | 2.862 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #26
First repeat started at : Fri Mar 1 2002 14:34:43
Last repeat started at : Fri Mar 1 2002 14:35:44
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0993 | 0.5464 | 120.5 | 0.6548 | 0.5901 | 0.5501 | 0.0602 |
| Run 2 | 0.0678 | 0.4962 | 118.1 | 0.6599 | 0.5243 | 0.5400 | 0.2377 |
| Run 3 | 0.0465 | 0.4592 | 119.4 | 0.6454 | 0.7895 | 0.5216 | 0.2554 |
| Mean | 0.0712 | 0.5006 | 119.3 | 0.6534 | 0.6346 | 0.5372 | 0.1844 |
| Std Dev | 0.0266 | 0.0438 | 1.247 | 0.0074 | 0.1381 | 0.0144 | 0.1080 |
| RSD | 37.31 | 8.740 | 1.045 | 1.128 | 21.75 | 2.684 | 58.54 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9404 | 9.186 | -1.010 | 0.7772 | 0.8181 | 0.7312 |
| Run 2 | 0.5049 | 9.591 | -0.4491 | 0.7512 | 0.7323 | 0.7028 |
| Run 3 | 0.7314 | 8.322 | -0.1543 | 0.7691 | 0.7109 | 0.7247 |
| Mean | 0.6922 | 9.033 | -0.5377 | 0.7659 | 0.7538 | 0.7195 |
| Std Dev | 0.1712 | 0.6480 | 0.4345 | 0.0133 | 0.0567 | 0.0149 |
| RSD | 24.73 | 7.174 | 80.81 | 1.738 | 7.528 | 2.068 |

1169.14

1120

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0072 | 0.0102 | 0.0094 | 0.0026 | 0.0074 | 1.960 |
| Run 2 | 0.0144 | 0.0114 | -0.0102 | 0.0072 | 0.0163 | 1.859 |
| Run 3 | 0.0115 | 0.0191 | -0.0091 | -0.0126 | 0.0052 | 1.740 |
| Mean | 0.0110 | 0.0136 | -0.0033 | -0.0009 | 0.0096 | 1.853 |
| Std Dev | 0.0036 | 0.0048 | 0.0110 | 0.0104 | 0.0059 | 0.1102 |
| RSD | 33.04 | 35.66 | 334.9 | 1146 | 61.23 | 5.945 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 1.835 | 1.839 | 0.0215 | 0.0191 | 0.0255 |
| Run 2 | 1.866 | 1.777 | 0.0289 | 0.0233 | 0.0249 |
| Run 3 | 1.667 | 1.842 | 0.0218 | 0.0166 | 0.0241 |
| Mean | 1.789 | 1.819 | 0.0241 | 0.0196 | 0.0249 |
| Std Dev | 0.1071 | 0.0368 | 0.0042 | 0.0034 | 0.0007 |
| RSD | 5.984 | 2.024 | 17.46 | 17.23 | 2.824 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 100.6 | 95.16 | 83.64 |
| 2 | 101.0 | 96.96 | 83.22 |
| Run 3 | 100.3 | 95.52 | 85.35 |
| Mean | 100.6 | 95.88 | 84.07 |
| Std Dev | 0.3196 | 0.9516 | 1.128 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #27
First repeat started at : Fri Mar 1 2002 14:36:43
Last repeat started at : Fri Mar 1 2002 14:37:44
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.75 | 24.60 | 24.30 | 24.21 | 24.23 | 23.16 | 24.55 |
| Run 2 | 24.80 | 24.63 | 24.61 | 23.39 | 24.62 | 23.91 | 23.92 |
| Run 3 | 24.72 | 25.09 | 24.31 | 24.44 | 24.49 | 23.04 | 22.71 |
| Mean | 24.76 | 24.77 | 24.41 | 24.01 | 24.45 | 23.37 | 23.72 |
| Std Dev | 0.0404 | 0.2762 | 0.1735 | 0.5517 | 0.1993 | 0.4702 | 0.9350 |
| | 0.1632 | 1.115 | 0.7106 | 2.297 | 0.8152 | 2.012 | 3.941 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.36 | 32.36 | 24.40 | 24.99 | 25.01 | 25.38 |
| Run 2 | 23.29 | 32.13 | 25.15 | 24.91 | 26.27 | 24.84 |
| Run 3 | 23.74 | 31.91 | 21.66 | 25.35 | 26.19 | 25.17 |
| Mean | 23.19 | 32.30 | 23.74 | 25.15 | 25.82 | 25.13 |
| Std Dev | 0.5964 | 0.4955 | 1.840 | 0.3519 | 0.7086 | 0.2708 |
| %SD | 2.572 | 1.534 | 7.751 | 1.399 | 2.744 | 1.078 |

CCV-3
MS1-24-B

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.88 | 25.55 | 24.39 | 23.85 | 23.92 | 25.18 |
| Run 2 | 26.31 | 25.76 | 24.33 | 24.19 | 24.17 | 25.38 |
| Run 3 | 26.28 | 25.97 | 24.89 | 24.00 | 23.91 | 25.84 |
| Mean | 26.16 | 25.76 | 24.54 | 24.01 | 24.00 | 25.47 |
| Std Dev | 0.2398 | 0.2086 | 0.3044 | 0.1710 | 0.1476 | 0.3379 |
| %SD | 0.9169 | 0.8098 | 1.241 | 0.7121 | 0.6151 | 1.327 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.52 | 25.45 | 25.16 | 24.06 | 25.44 |
| Run 2 | 24.77 | 25.28 | 23.92 | 23.93 | 23.64 |
| Run 3 | 24.95 | 26.36 | 23.72 | 24.93 | 24.71 |
| Mean | 24.74 | 25.70 | 24.27 | 24.31 | 24.60 |
| Std Dev | 0.2112 | 0.5807 | 0.7778 | 0.5455 | 0.9035 |
| %SD | 0.8533 | 2.259 | 3.205 | 2.244 | 3.673 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 95.90 | 94.42 | 81.19 |
| Run 2 | 93.19 | 88.59 | 82.17 |
| Run 3 | 91.59 | 87.63 | 79.76 |
| Mean | 93.56 | 90.22 | 81.04 |
| Std Dev | 2.182 | 3.472 | 1.210 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #28
First repeat started at : Fri Mar 1 2002 14:41:53
Last repeat started at : Fri Mar 1 2002 14:42:54
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0120 | 0.0068 | 0.0241 | 0.0424 | 0.1078 | 0.0346 | -0.2050 |
| Run 2 | 0.0258 | 0.0014 | 0.0264 | 0.0607 | -0.0055 | 0.0184 | -0.1729 |
| Run 3 | 0.0233 | -0.0326 | 0.0375 | 0.0667 | -0.1018 | 0.0328 | -0.1106 |
| Mean | 0.0215 | -0.0081 | 0.0293 | 0.0566 | 0.0002 | 0.0286 | -0.1628 |
| Std Dev | 0.0083 | 0.0214 | 0.0072 | 0.0126 | 0.1049 | 0.0089 | 0.0480 |
| %SD | 38.48 | 263.4 | 24.53 | 22.33 | 58838 | 31.01 | 29.45 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2101 | 4.644 | -0.8105 | 0.0032 | 0.0253 | 0.0076 |
| Run 2 | -0.0124 | 4.487 | -0.8110 | 0.0125 | -0.0007 | -0.0071 |
| Run 3 | 0.0913 | 3.756 | -0.4942 | 0.0146 | 0.0110 | -0.0026 |
| Mean | 0.0943 | 4.296 | -0.7052 | 0.0101 | 0.0118 | -0.0007 |
| Std Dev | 0.1143 | 0.4742 | 0.1828 | 0.0061 | 0.0130 | 0.0075 |
| %SD | 121.1 | 11.04 | 25.91 | 60.41 | 109.9 | 1091 |

CLB-3

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0075 | -0.0100 | 0.0031 | -0.0066 | 0.0011 | -0.0075 |
| Run 2 | -0.0044 | -0.0038 | -0.0128 | 0.0054 | -0.0010 | 0.0048 |
| Run 3 | -0.0007 | -0.0060 | -0.0010 | -0.0165 | -0.0088 | 0.0189 |
| Mean | 0.0008 | -0.0066 | -0.0035 | -0.0059 | -0.0029 | 0.0054 |
| Std Dev | 0.0061 | 0.0032 | 0.0083 | 0.0110 | 0.0052 | 0.0132 |
| %SD | 757.5 | 48.27 | 233.3 | 185.5 | 179.2 | 245.3 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0026 | 0.0001 | 0.0026 | -0.0001 | 0.0008 |
| Run 2 | 0.0018 | 0.0028 | 0.0057 | 0.0004 | 0.0030 |
| Run 3 | 0.0052 | 0.0022 | 0.0017 | -0.0002 | 0.0014 |
| Mean | 0.0015 | 0.0017 | 0.0034 | 0.0000 | 0.0017 |
| Std Dev | 0.0039 | 0.0014 | 0.0021 | 0.0003 | 0.0012 |
| %SD | 265.3 | 82.86 | 61.98 | 4385 | 66.44 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| [illegible] | PC | PC | PC |
| [illegible] 1 | 91.27 | 91.34 | 85.37 |
| Run 2 | 90.61 | 89.36 | 81.67 |
| Run 3 | 90.97 | 92.63 | 83.33 |
| Mean | 90.95 | 91.11 | 83.12 |
| Std Dev | 0.3304 | 1.647 | 1.975 |

Columbia Analytical Services INC.
An Employee-Owned Company

March 4, 2002

Service Request No: K2201174
J2200239

Curt Enos
Tetra Tech EM Inc.
8030 Flint Street
Lenexa, KS 66214

**Re: Agromac-Lockwood**

Dear Curt:

Enclosed are the results of the sample(s) submitted to our laboratory on 1/24/02. For your reference, these analyses have been assigned our service request number K2201174.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3372.

Respectfully submitted,

**Columbia Analytical Services, Inc.**

Jim Smith
Project Chemist

JS/dj



1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/ 577-7222 • Fax 360/636-1068

## Inorganic Data Qualifiers

| | |
|---|---|
| * | The result is an outlier. See case narrative. |
| # | The control limit criteria is not applicable. See case narrative. |
| ¬ | The analyte was found in the associated method blank at a level that is significant relative to the sample result. |
| | The result is an estimate amount because the value exceeded the instrument calibration range. |
| J | The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL. |
| U | The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. |
| i | The MRL/MDL has been elevated due to a matrix interference. |
| X | See case narrative. |

## Metals Data Qualifiers

| | |
|---|---|
| # | The control limit criteria is not applicable. See case narrative. |
| B | The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL. |
| E | The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample. |
| M | The duplicate injection precision was not met. |
| N | The Matrix Spike sample recovery is not within control limits. See case narrative. |
| S | The reported value was determined by the Method of Standard Additions (MSA). |
| U | The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. |
| W | The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance. |
| i | The MRL/MDL has been elevated due to a matrix interference. |
| X | See case narrative. |
| * | The duplicate analysis not within control limits. See case narrative. |
| + | The correlation coefficient for the MSA is less than 0.995. |

## Organic Data Qualifiers

| | |
|---|---|
| | The result is an outlier. See case narrative. |
| # | The control limit criteria is not applicable. See case narrative. |
| A | A tentatively identified compound, a suspected aldol-condensation product. |
| B | The analyte was found in the associated method blank at a level that is significant relative to the sample result. |
| C | The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data. |
| D | The reported result is from a dilution. |
| E | The result is an estimate amount because the value exceeded the instrument calibration range. |
| J | The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL. |
| N | The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed. |
| P | The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides). |
| U | The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. |
| i | The MRL/MDL has been elevated due to a chromatographic interference. |
| X | See case narrative. |

## Additional Petroleum Hydrocarbon Specific Qualifiers

| | |
|---|---|
| F | The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard. |
| L | The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard. |
| H | The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard. |
| | The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard. |
| Y | The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard. |
| Z | The chromatographic fingerprint does not resemble a petroleum product. |

## Acronyms

| | |
|---|---|
| ASTM | American Society for Testing and Materials |
| A2LA | American Association for Laboratory Accreditation |
| CARB | California Air Resources Board |
| CAS Number | Chemical Abstract Service registry Number |
| CFC | Chlorofluorocarbon |
| CFU | Colony-Forming Unit |
| DEC | Department of Environmental Conservation |
| DEQ | Department of Environmental Quality |
| DHS | Department of Health Services |
| DOE | Department of Ecology |
| DOH | Department of Health |
| EPA | U. S. Environmental Protection Agency |
| ELAP | Environmental Laboratory Accreditation Program |
| GC | Gas Chromatography |
| GC/MS | Gas Chromatography/Mass Spectrometry |
| LUFT | Leaking Underground Fuel Tank |
| M | Modified |
| MCL | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL | Method Detection Limit |
| MPN | Most Probable Number |
| MRL | Method Reporting Limit |
| NA | Not Applicable |
| NC | Not Calculated |
| NCASI | National Council of the Paper Industry for Air and Stream Improvement |
| ND | Not Detected |
| NIOSH | National Institute for Occupational Safety and Health |
| PQL | Practical Quantitation Limit |
| RCRA | Resource Conservation and Recovery Act |
| SIM | Selected Ion Monitoring |
| TPH | Total Petroleum Hydrocarbons |
| tr | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. |

# Case Narrative

**COLUMBIA ANALYTICAL SERVICES, INC.**

| | | | |
|---|---|---|---|
| **Client:** | Tetra Tech EM, Inc. | **Service Request No.:** | K2201174 |
| **Project:** | Agromac-Lockwood | **Date Received:** | 2/22/02 |
| **Sample Matrix:** | Water | | |

## CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

**Sample Receipt**

Sixteen water samples were received for analysis at Columbia Analytical Services on 2/22/02. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

**Dissolved Metals**

**Matrix Spike Exceptions:**
The Matrix Spike (MS) recovery criterion of Manganese for sample HWSC-WWS was not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

The Matrix Spike (MS) recovery criterion of Selenium for all Matrix Spikes was not applicable. Due to isobaric interferences the detection Limit was raised to a level above the added spike concentration.

**Method Reporting Limit (MRL) Exceptions:**
The Method Reporting Limit (MRL) has been elevated for Selenium in all the samples. Due to isobaric interferences the detection Limit was raised.

No other anomalies associated with the analysis of these samples were observed.

**Approved by** _____ **Date** 3/4/02

# Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company
www.caslab.com

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

8540 Baycenter Rd. • Jacksonville, FL 32256 • (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011

PAGE 1 OF 2

SR # K2201174

CAS Contact

00005

| | |
|---|---|
| Project Name: AGROMAC-LOCKWOOD | Project Number: |
| Project Manager: CURT ENDS | Report CC: |
| Company/Address: TETRA TECH | |
| Phone #: | FAX#: |
| Sampler's Signature: | Sampler's Printed Name: |

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 2 | 2 | 2

NUMBER OF CONTAINERS

Preservative Key
0. NONE
1. HCL
2. $HNO_3$
3. $H_2SO_4$
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

| CLIENT SAMPLE ID | LAB ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NUMBER OF CONTAINERS | DISS. As, Ba, Cd, Cr, Pb | DISS. Ag, Zn, Mn by 6020 | DISS. Se by 200.8 | REMARKS/ ALTERNATE DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| HWSC-WW MS/MSD | 1 | 1/20/02 | 1500 | WATER | 1 | ✓ | ✓ | ✓ | KELSO |
| HWSC-WW | 1 | ↓ | ↓ | ↓ | 1 | ✓ | ✓ | ✓ | |
| HWSC-WW-FD | 2 | ↓ | ↓ | ↓ | 1 | ✓ | ✓ | ✓ | |
| OS-PW-1-FD | 3 | 1/19/02 | 1330 | ↓ | 1 | ✓ | ✓ | ✓ | |
| OS-PW-1 | 4 | 1/19/02 | 1330 | ↓ | 1 | ✓ | ✓ | ✓ | |
| RINSATE-6 | 5 | 1/20/02 | 1715 | ↓ | 1 | ✓ | ✓ | ✓ | |
| OS-PW-5 | 6 | ↓ | 1621 | ↓ | 1 | ✓ | ✓ | ✓ | J2200239 |
| OS-PW-4 | 7 | ↓ | 1512 | ↓ | 1 | ✓ | ✓ | ✓ | |
| OS-PW-2 MS/MSD | 8 | 1/19/02 | 1550 | ↓ | 1 | ✓ | ✓ | ✓ | |
| OS-PW-2 | 8 | 1/19/02 | 1550 | ↓ | 1 | ✓ | ✓ | ✓ | |

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ STANDARD
REQUESTED FAX DATE: 3/1/02 OR ASAP
REQUESTED REPORT DATE: 3/1/02 OR ASAP

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
____ V. Speicalized Forms / Custom Report
Edata X Yes ____ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

| RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY |
|---|---|---|---|---|---|
| Signature: April Ferguson | Signature: Lori K. Hawn | Signature | Signature | Signature | Signature |
| Printed Name: April G Ferguson | Printed Name: CAS-K | Printed Name | Printed Name | Printed Name | Printed Name |
| Firm: CAS | Firm: 2/22/02 1003 | Firm | Firm | Firm | Firm |
| Date/Time: 2/21/02 ~30 | Date/Time | Date/Time | Date/Time | Date/Time | Date/Time |

Distribution: White - Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1000-07

Columbia Analytical Services INC
An Employee-Owned Company
www.caslab.com

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

8540 Baycenter Rd. • Jacksonville, FL 32256 • (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011



SR # K2201174
CAS Contact

| | |
|---|---|
| Project Name: AGROMAC-LOCKWOOD | Project Number: |
| Project Manager: CURT ENDS | Report CC: |
| Company/Address: TETRA TECH | |
| Phone # | FAX# |
| Sampler's Signature | Sampler's Printed Name |

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

| CLIENT SAMPLE ID | LAB ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NUMBER OF CONTAINERS | DISS. As, Be, Cd, Cr, Pb, Ag | DISS. Zn, Mn by 6020 | DISS. Se by 200.8 | REMARKS/ ALTERNATE DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| PRESERVATIVE | | | | | | 2 | 2 | 2 | |
| OS-PW-4-FD | 9 | 1/20/02 | 1512 | WATER | 1 | - | - | - | KELSO |
| OS-PW-3 | 10 | 1/20/02 | 1427 | | 1 | - | - | - | |
| OS-PW-7 | 11 | 1/22/02 | 833 | | 1 | - | - | - | |
| OS-PW-8 | 12 | 1/22/02 | 915 | | 1 | - | - | - | |
| OS-PW-6 | 13 | 1/22/02 | 1030 | | 1 | - | - | - | |
| OS-MUW-1 | 14 | 1/22/02 | 1354 | | 1 | - | - | - | |
| SAG-GW-1D | 15 | 1/22/02 | 945 | | 1 | - | - | - | |
| SAG-GW-1 | 16 | 1/22/02 | 945 | | 1 | - | - | - | J2200239 |

Preservative Key
0. NONE
1. HCL
2. $HNO_3$
3. $H_2SO_4$
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ STANDARD
REQUESTED FAX DATE: 3/1/02 OR ASAP
REQUESTED REPORT DATE: 3/1/02 OR ASAP

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
____ V. Speicalized Forms / Custom Report
Edata X Yes ____ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

| RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY |
|---|---|---|---|---|---|
| Signature: April J Ferguson | Signature: Lori K. Hann | Signature | Signature | Signature | Signature |
| Printed Name: April G Ferguson | Printed Name: CAS-K | Printed Name | Printed Name | Printed Name | Printed Name |
| Firm: CAS | Firm: 2/22/02 1800 | Firm | Firm | Firm | Firm |
| Date/Time: 2/21/02 1530 | Date/Time | Date/Time | Date/Time | Date/Time | Date/Time |

Distribution: White - Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1000-07

**Columbia Analytical Services Inc.**
**Cooler Receipt And Preservation Form**

Project/Client CAS/SAC Work Order K22 1174

Cooler received on 2/22/02 and opened on 2/22/02 by FA

RUSH

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | Were custody seals on outside of cooler? | | | | | | Y (N) |
| | If yes, how many and where? | | | | | | |
| 2. | Were seals intact and signature & date correct? | | | | | | Y N |
| 3. | COC # | | | | | | |
| | Temperature of cooler(s) upon receipt: | 1.9 | | | | | |
| | Temperature Blank: | | | | | | |
| 4. | Were custody papers properly filled out (ink, signed, etc.)? | | | | | | (Y) N |
| 5. | Type of packing material present bubble wrap | | | | | | |
| 6. | Did all bottles arrive in good condition (unbroken)? | | | | | | (Y) N |
| 7. | Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? | | | | | | (Y) N |
| 8. | Did all bottle labels and tags agree with custody papers? | | | | | | (Y) N |
| 9. | Were the correct types of bottles used for the tests indicated? | | | | | | (Y) N |
| 10. | Were all of the preserved bottles received at the lab with the appropriate pH? | | | | | | (Y) N |
| 11. | Were VOA vials checked for absence of air bubbles, and if present, noted below? | | | | | | ~~Y N~~ |
| 12. | Did the bottles originate from CAS/K or a branch laboratory? | | | | | | (Y) N |
| 13. | Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection? | | | | | | ~~Y N~~ |
| 14. | Was CL2/Residual negative? | | | | | | ~~Y N~~ |

Explain any discrepancies: _____

RESOLUTION: _____

Samples that required preservation or received out of temperature:

| Sample ID | Reagent | Volume | Lot Number | Bottle Type | Rec'd out of Temperature | Initials |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
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00007

CRFREV.DOC12/24/01

# Metals

*Columbia Analytical Services*

# DISSOLVED METALS

## - Cover Page -
## INORGANIC ANALYSIS DATA PACKAGE

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

| Sample No. | Lab Sample ID. |
|---|---|
| HWSC-WW | K2201174-001 DISS |
| HWSC-WWS | K2201174-001S DISS |
| HWSC-WWSD | K2201174-001SD DISS |
| HWSC-WW-FD | K2201174-002 DISS |
| OS-PW-1-FD | K2201174-003 DISS |
| OS-PW-1 | K2201174-004 DISS |
| RINSATE-6 | K2201174-005 DISS |
| OS-PW-5 | K2201174-006 DISS |
| OS-PW-4 | K2201174-007 DISS |
| OS-PW-2 | K2201174-008 DISS |
| OS-PW-2S | K2201174-008S DISS |
| OS-PW-2SD | K2201174-008SD DISS |
| OS-PW-4-FD | K2201174-009 DISS |
| OS-PW-3 | K2201174-010 DISS |
| OS-PW-7 | K2201174-011 DISS |
| OS-PW-8 | K2201174-012 DISS |
| OS-PW-6 | K2201174-013 DISS |
| OS-MUW-1 | K2201174-014 DISS |
| SAG-GW-1D | K2201174-015 DISS |
| SAG-GW-1 | K2201174-016 DISS |

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [signature] Date: 3/1/02

00008

*Columbia Analytical Services*

# DISSOLVED METALS

## - Cover Page -
## INORGANIC ANALYSIS DATA PACKAGE

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

| Sample No. | Lab Sample ID. |
|---|---|
| Method Blank | K2201174-MB |

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [signature] Date: 3/1/02

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/20/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: HWSC-WW
Lab Code: K2201174-001 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 0.50 | 0.06 | 1 | 02/26/02 | 2/28/02 | 0.62 | | |
| Barium | 6020 | 0.200 | 0.080 | 10 | 02/26/02 | 2/28/02 | 122 | | |
| Cadmium | 6020 | 0.020 | 0.005 | 1 | 02/26/02 | 2/28/02 | 0.022 | | |
| Chromium | 6020 | 0.20 | 0.07 | 1 | 02/26/02 | 2/28/02 | 1.31 | | |
| Lead | 6020 | 0.020 | 0.007 | 1 | 02/26/02 | 3/1/02 | 0.125 | | |
| Manganese | 6020 | 0.50 | 0.20 | 10 | 02/26/02 | 2/28/02 | 131 | | |
| Selenium | 200.8 | 20 | 20 | 1 | 02/26/02 | 2/28/02 | 20 | U | |
| Silver | 6020 | 0.020 | 0.003 | 1 | 02/26/02 | 2/28/02 | 0.014 | B | |
| Zinc | 6020 | 0.50 | 0.04 | 1 | 02/26/02 | 2/28/02 | 73.6 | | |

Solids: 0.0

Comments:

# DISSOLVED METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/20/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: HWSC-WW-FD
Lab Code: K2201174-002 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 0.50 | 0.06 | 1 | 02/26/02 | 2/28/02 | 0.62 | | |
| Barium | 6020 | 0.200 | 0.080 | 10 | 02/26/02 | 2/28/02 | 125 | | |
| Cadmium | 6020 | 0.020 | 0.005 | 1 | 02/26/02 | 2/28/02 | 0.022 | | |
| Chromium | 6020 | 0.20 | 0.07 | 1 | 02/26/02 | 2/28/02 | 1.23 | | |
| Lead | 6020 | 0.020 | 0.007 | 1 | 02/26/02 | 3/1/02 | 0.145 | | |
| Manganese | 6020 | 0.50 | 0.20 | 10 | 02/26/02 | 2/28/02 | 134 | | |
| Selenium | 200.8 | 20 | 20 | 1 | 02/26/02 | 2/28/02 | 20 | U | |
| Silver | 6020 | 0.020 | 0.003 | 1 | 02/26/02 | 2/28/02 | 0.011 | B | |
| Zinc | 6020 | 0.50 | 0.04 | 1 | 02/26/02 | 2/28/02 | 75.4 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/19/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-1-FD
Lab Code: K2201174-003 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 18.8 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 29.2 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.202 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.00 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 1.120 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.48 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.012 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 277 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/19/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-1
Lab Code: K2201174-004 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 19.0 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 29.7 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.183 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 0.72 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 1.000 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.15 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.026 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 79.0 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/20/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: RINSATE-6
Lab Code: K2201174-005 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 0.12 | U | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 0.659 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.013 | B | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 0.18 | B | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.143 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.50 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.008 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 7.46 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/20/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-5
Lab Code: K2201174-006 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 30.5 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 41.9 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.041 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.54 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.403 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 1.02 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 38.1 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/20/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-4
Lab Code: K2201174-007 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 15.6 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 41.7 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.044 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 0.78 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.134 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 34.1 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 24.2 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/19/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-2
Lab Code: K2201174-008 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 9.51 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 27.5 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.014 | B | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.33 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.191 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.34 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | U | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 7.32 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/20/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-4-FD
Lab Code: K2201174-009 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 15.2 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 40.2 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.045 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 0.65 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.188 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 35.9 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.008 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 24.6 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

| | | | |
|---|---|---|---|
| Client: | Tetra Tech EM Inc. | Service Request: | K2201174 |
| Project No.: | NA | Date Collected: | 01/20/02 |
| Project Name: | Agromac-Lockwood | Date Received: | 01/24/02 |
| Matrix: | WATER | Units: | µG/L |
| | | Basis: | NA |

Sample Name: OS-PW-3 Lab Code: K2201174-010 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 20.5 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 54.0 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.074 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.03 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.164 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 74.4 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.008 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 13.5 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/22/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-7
Lab Code: K2201174-011 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 38.3 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 41.7 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.104 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.24 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.170 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 4.57 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | U | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 5.47 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/22/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-8
Lab Code: K2201174-012 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 15.4 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 58.0 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.085 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.82 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 1.000 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.47 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | U | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 91.5 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/22/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-PW-6
Lab Code: K2201174-013 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 25.9 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 37.6 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.043 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.02 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.305 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 0.18 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | U | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 12.5 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/22/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: OS-MUW-1
Lab Code: K2201174-014 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 9.37 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 136 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.029 | B | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.04 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.175 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 9.38 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.008 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 11.6 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/22/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: SAG-GW-1D
Lab Code: K2201174-015 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 16.5 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 41.0 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.045 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 2.18 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.046 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 105 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.006 | U | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 5.28 | | |

% Solids: 0.0

Comments:

00024

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected: 01/22/02
Date Received: 01/24/02
Units: µG/L
Basis: NA

Sample Name: SAG-GW-1
Lab Code: K2201174-016 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.00 | 0.12 | 2 | 02/26/02 | 2/28/02 | 16.3 | | |
| Barium | 6020 | 0.040 | 0.016 | 2 | 02/26/02 | 2/28/02 | 39.7 | | |
| Cadmium | 6020 | 0.040 | 0.010 | 2 | 02/26/02 | 2/28/02 | 0.145 | | |
| Chromium | 6020 | 0.40 | 0.14 | 2 | 02/26/02 | 2/28/02 | 1.62 | | |
| Lead | 6020 | 0.040 | 0.014 | 2 | 02/26/02 | 3/1/02 | 0.365 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 02/26/02 | 2/28/02 | 91.6 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 02/26/02 | 2/28/02 | 40 | U | |
| Silver | 6020 | 0.040 | 0.006 | 2 | 02/26/02 | 2/28/02 | 0.009 | B | |
| Zinc | 6020 | 1.00 | 0.08 | 2 | 02/26/02 | 2/28/02 | 6.51 | | |

% Solids: 0.0

Comments:

# DISSOLVED METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201174
Date Collected:
Date Received:
Units: µG/L
Basis: NA

Sample Name: Method Blank
Lab Code: K2201174-MB

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 0.50 | 0.06 | 1 | 02/26/02 | 2/28/02 | 0.06 | U | |
| Barium | 6020 | 0.020 | 0.008 | 1 | 02/26/02 | 2/28/02 | 0.008 | U | |
| Cadmium | 6020 | 0.020 | 0.005 | 1 | 02/26/02 | 2/28/02 | 0.005 | U | |
| Chromium | 6020 | 0.20 | 0.07 | 1 | 02/26/02 | 2/28/02 | 0.07 | U | |
| Lead | 6020 | 0.020 | 0.007 | 1 | 02/26/02 | 3/1/02 | 0.007 | U | |
| Manganese | 6020 | 0.05 | 0.02 | 1 | 02/26/02 | 2/28/02 | 0.02 | U | |
| Selenium | 200.8 | 20 | 20 | 1 | 02/26/02 | 2/28/02 | 20 | U | |
| Silver | 6020 | 0.020 | 0.003 | 1 | 02/26/02 | 2/28/02 | 0.010 | B | |
| Zinc | 6020 | 0.50 | 0.04 | 1 | 02/26/02 | 2/28/02 | 0.09 | B | |

% Solids: 0.0

Comments:

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

ICV Source: Inorganic Ventures CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Arsenic | 25.0 | 24.9 | 100 | 25.0 | 24.9 | 100 | 25.5 | 102 | 6020 |
| Barium | 100 | 98.3 | 98 | 25.0 | 24.3 | 97 | 23.7 | 95 | 6020 |
| Cadmium | 12.5 | 12.5 | 100 | 25.0 | 24.6 | 98 | 24.8 | 99 | 6020 |
| Chromium | 10.0 | 9.94 | 99 | 25.0 | 24.8 | 99 | 25.3 | 101 | 6020 |
| Lead | 25.0 | 24.9 | 100 | 25.0 | 24.7 | 99 | 25.7 | 103 | 6020 |
| Manganese | 25.0 | 24.5 | 98 | 25.0 | 24.9 | 100 | 25.5 | 102 | 6020 |
| Selenium | 25.0 | 25.2 | 101 | 25.0 | 24.9 | 100 | 25.3 | 101 | 200.8 |
| Silver | 12.5 | 12.3 | 98 | 25.0 | 24.2 | 97 | 24.4 | 98 | 6020 |
| Zinc | 25.0 | 25.8 | 103 | 25.0 | 25.2 | 101 | 26.1 | 104 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

ICV Source: CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Arsenic | | | | 25.0 | 25.5 | 102 | 25.3 | 101 | 6020 |
| Barium | | | | 25.0 | 24.6 | 98 | 24.5 | 98 | 6020 |
| Cadmium | | | | 25.0 | 25.1 | 100 | 25.0 | 100 | 6020 |
| Chromium | | | | 25.0 | 25.0 | 100 | 24.7 | 99 | 6020 |
| Lead | | | | 25.0 | 25.9 | 104 | 25.8 | 103 | 6020 |
| Manganese | | | | 25.0 | 25.6 | 102 | 25.3 | 101 | 6020 |
| Selenium | | | | 25.0 | 25.7 | 103 | 25.5 | 102 | 200.8 |
| Silver | | | | 25.0 | 24.2 | 97 | 24.5 | 98 | 6020 |
| Zinc | | | | 25.0 | 26.4 | 106 | 26.6 | 106 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

ICV Source: CCV Source: Various

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Arsenic | | | | 25.0 | 25.8 | 103 | 25.9 | 103 | 6020 |
| Barium | | | | 25.0 | 24.2 | 97 | 24.4 | 98 | 6020 |
| Cadmium | | | | 25.0 | 25.2 | 101 | 25.1 | 100 | 6020 |
| Chromium | | | | 25.0 | 25.0 | 100 | 24.9 | 100 | 6020 |
| Manganese | | | | 25.0 | 25.9 | 103 | 25.7 | 103 | 6020 |
| Selenium | | | | 25.0 | 25.9 | 104 | 26.5 | 106 | 200.8 |
| Silver | | | | 25.0 | 24.9 | 100 | 24.3 | 97 | 6020 |
| Zinc | | | | 25.0 | 27.2 | 109 | 27.3 | 109 | 6020 |

# METALS
## - 2b -
## CRDL STANDARD FOR AA AND ICP

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Concentration Units: ug/L

| Analyte | CRDL Standard for AA | | | CRDL Standard for ICP | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Initial | | | Final | |
| | True | Found | %R | True | Found | %R | Found | %R |
| Arsenic | | | | 0.50 | 0.51 | 102 | | |
| Barium | | | | 0.02 | 0.057 | 283 | | |
| Cadmium | | | | 0.05 | 0.051 | 103 | | |
| Chromium | | | | 0.20 | 0.21 | 103 | | |
| Lead | | | | 0.02 | 0.027 | 136 | | |
| Manganese | | | | 0.05 | 0.05 | 106 | | |
| Selenium | | | | 1.0 | 1.00 | 100 | | |
| Silver | | | | 0.02 | 0.019 | 95 | | |
| Zinc | | | | 0.50 | 0.72 | 144 | | |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank | C | | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.06 | U | 0.06 | U | 0.06 | U | 0.06 | U | | | | | | 6020 |
| Barium | 0.008 | U | 0.008 | U | 0.008 | U | 0.008 | U | | | | | | 6020 |
| Cadmium | 0.005 | U | 0.005 | U | 0.005 | U | 0.005 | U | | | | | | 6020 |
| Chromium | 0.07 | U | 0.07 | U | 0.07 | U | 0.07 | U | | | | | | 6020 |
| Lead | 0.007 | U | 0.007 | U | 0.007 | U | 0.007 | U | | | | | | 6020 |
| Manganese | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 | U | | | | | | 6020 |
| Selenium | 20 | U | 20 | U | 20 | U | 20 | U | | | | | | 200.8 |
| Silver | 0.003 | U | 0.003 | U | 0.003 | U | 0.003 | U | | | | | | 6020 |
| Zinc | 0.05 | B | 0.05 | B | 0.08 | B | 0.11 | B | | | | | | 6020 |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank | C | | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | | 0.06 | U | 0.06 | U | | | | | | | | 6020 |
| Barium | | | 0.008 | U | 0.008 | U | | | | | | | | 6020 |
| Cadmium | | | 0.005 | U | 0.005 | U | | | | | | | | 6020 |
| Chromium | | | 0.07 | U | 0.07 | U | | | | | | | | 6020 |
| Lead | | | 0.019 | B | | | | | | | | | | 6020 |
| Manganese | | | 0.02 | U | 0.02 | U | | | | | | | | 6020 |
| Selenium | | | 20 | U | 20 | U | | | | | | | | 200.8 |
| Silver | | | 0.003 | U | 0.003 | U | | | | | | | | 6020 |
| Zinc | | | 0.09 | B | 0.11 | B | | | | | | | | 6020 |

# METALS
## -4-
## ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech EM Inc. Service Request:K2201174

Project No.:

Project Name: Agromac-Lockwood

ICP ID Number: Excell ICPMS ICS Source: Inorganic Ventures

Concentration Units): ug/L

| Analyte | True | | Initial Found | | | Final Found | | |
|---|---|---|---|---|---|---|---|---|
| | Sol.A | Sol.AB | Sol.A | Sol.AB | %R | Sol.A | Sol.AB | %R |
| Arsenic | | 20 | 0.01 | 20.6 | 103 | | | |
| Barium | | | 0.051 | 0.060 | | | | |
| Cadmium | | 20 | 0.787 | 20.5 | 103 | | | |
| Chromium | | 20 | 0.26 | 18.9 | 95 | | | |
| Lead | | | 0.110 | 0.130 | | | | |
| Manganese | | 20 | 0.40 | 19.1 | 96 | | | |
| Selenium | | | -0 | -0 | | | | |
| Silver | | 20 | 0.056 | 19.1 | 96 | | | |
| Zinc | | 20 | 0.73 | 21.4 | 107 | | | |

# DISSOLVED METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201174
Project No.:
Units: µG/L
Project Name: Agromac-Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: HWSC-WWS
Lab Code: K2201174-001S DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 20.5 | | 0.62 | | 20.0 | 99 | | 6020 |
| Barium | | 139 | | 122 | | 20.0 | 85 | | 6020 |
| Cadmium | 75 - 125 | 19.1 | | 0.022 | | 20.0 | 95 | | 6020 |
| Chromium | 75 - 125 | 19.8 | | 1.31 | | 20.0 | 92 | | 6020 |
| Lead | 75 - 125 | 18.5 | | 0.125 | | 20.0 | 92 | | 6020 |
| Manganese | | 149 | | 131 | | 20.0 | 90 | | 6020 |
| Selenium | 70 - 130 | 20 | U | 20 | U | 20 | 98 | | 200.8 |
| Silver | 75 - 125 | 18.0 | | 0.014 | B | 20.0 | 90 | | 6020 |
| Zinc | 75 - 125 | 88.6 | | 73.6 | | 20.0 | 75 | | 6020 |

Comments:

# DISSOLVED METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201174
Project No.:
Units: µG/L
Project Name: Agromac-Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: HWSC-WWSD
Lab Code: K2201174-001SD DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 20.4 | | 0.62 | | 20.0 | 99 | | 6020 |
| Barium | | 136 | | 122 | | 20.0 | 70 | | 6020 |
| Cadmium | 75 - 125 | 18.9 | | 0.022 | | 20.0 | 94 | | 6020 |
| Chromium | 75 - 125 | 19.5 | | 1.31 | | 20.0 | 91 | | 6020 |
| Lead | 75 - 125 | 18.3 | | 0.125 | | 20.0 | 91 | | 6020 |
| Manganese | | 147 | | 131 | | 20.0 | 80 | | 6020 |
| Selenium | 70 - 130 | 20 | U | 20 | U | 20 | 99 | | 200.8 |
| Silver | 75 - 125 | 18.4 | | 0.014 | B | 20.0 | 92 | | 6020 |
| Zinc | | 89.0 | | 73.60 | | 20.0 | 77 | | 6020 |

Comments:

# DISSOLVED METALS
## - 5a -
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201174
Project No.:
Units: µG/L
Project Name: Agromac-Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: OS-PW-2S
Lab Code: K2201174-008S DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 27.9 | | 9.51 | | 20.0 | 92 | | 6020 |
| Barium | 75 - 125 | 46.4 | | 27.5 | | 20.0 | 95 | | 6020 |
| Cadmium | 75 - 125 | 18.2 | | 0.014 | B | 20.0 | 91 | | 6020 |
| Chromium | 75 - 125 | 17.8 | | 1.33 | | 20.0 | 82 | | 6020 |
| Lead | 75 - 125 | 17.0 | | 0.191 | | 20.0 | 84 | | 6020 |
| Manganese | 75 - 125 | 16.4 | | 0.34 | | 20.0 | 80 | | 6020 |
| Selenium | 70 - 130 | 40 | U | 40 | U | 20 | 121 | | 200.8 |
| Silver | 75 - 125 | 16.9 | | 0.006 | U | 20.0 | 84 | | 6020 |
| Zinc | 75 - 125 | 23.3 | | 7.32 | | 20.0 | 80 | | 6020 |

Comments:

# DISSOLVED METALS
## - 5a -
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201174
Project No.:
Units: µG/L
Project Name: Agromac-Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: OS-PW-2SD
Lab Code: K2201174-008SD DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 27.8 | | 9.51 | | 20.0 | 91 | | 6020 |
| Barium | 75 - 125 | 45.9 | | 27.500 | | 20.0 | 92 | | 6020 |
| Cadmium | 75 - 125 | 17.7 | | 0.014 | B | 20.0 | 88 | | 6020 |
| Chromium | 75 - 125 | 19.1 | | 1.33 | | 20.0 | 89 | | 6020 |
| Lead | 75 - 125 | 17.1 | | 0.191 | | 20.0 | 85 | | 6020 |
| Manganese | 75 - 125 | 16.7 | | 0.34 | | 20.0 | 82 | | 6020 |
| Selenium | 70 - 130 | 40 | U | 40 | U | 20 | 123 | | 200.8 |
| Silver | 75 - 125 | 16.6 | | 0.006 | U | 20.0 | 83 | | 6020 |
| Zinc | 75 - 125 | 22.9 | | 7.32 | | 20.0 | 78 | | 6020 |

Comments:

# DISSOLVED METALS
## -5b-
## POST DIGEST SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201174
Project No.:
Units: ug/L
Project Name: Agromac-Lockwood
Matrix: WATER

Sample Name: OS-PW-2A
Lab Code: K2201174-008A DISS

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | 23.2 | | 4.75 | | 20.0 | 92 | | MS |
| Barium | | 32.9 | | 13.8 | | 20.0 | 96 | | MS |
| Cadmium | | 18.5 | | 0.007 | B | 20.0 | 92 | | MS |
| Chromium | | 17.6 | | 0.67 | | 20.0 | 85 | | MS |
| Lead | | 17.5 | | 0.096 | | 20.0 | 87 | | MS |
| Manganese | | 17.0 | | 0.17 | | 20.0 | 84 | | MS |
| Selenium | | 21.5 | | 20.0 | U | 20.0 | 107 | | MS |
| Silver | | 17.4 | | 0.003 | U | 20.0 | 87 | | MS |
| Zinc | | 20.6 | | 3.66 | | 20.0 | 85 | | MS |

Comments:

# METALS
## -7-
## LABORATORY CONTROL SAMPLE

.ient: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Aqueous LCS Source: Inorganic Ventures Solid LCS Source:

| Analyte | Aqueous ug/L True | Found | %R | Solid (mg/kg) True | Found | C | Limits | | %R |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 20.0 | 20.0 | 100 | | | | | | |
| Barium | 20.0 | 18.7 | 94 | | | | | | |
| Cadmium | 20.0 | 20.0 | 100 | | | | | | |
| Chromium | 20.0 | 19.6 | 98 | | | | | | |
| Lead | 20.0 | 20.5 | 103 | | | | | | |
| Manganese | 20.0 | 19.9 | 100 | | | | | | |
| Selenium | 20.0 | 20.4 | 102 | | | | | | |
| Silver | 20.0 | 19.5 | 98 | | | | | | |
| Zinc | 20.0 | 20.5 | 103 | | | | | | |

# DISSOLVED METALS
## -9-
## ICP SERIAL DILUTIONS

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.: Units: ug/L

Project Name: Agromac-Lockwood

Sample Name: OS-PW-2L Lab Code: K2201174-008L DISS

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Differ- | Q | Method |
|---|---|---|---|---|---|---|---|
| Arsenic | 4.75 | | 5.16 | | 9 | | 6020 |
| Barium | 13.8 | | 13.8 | | 0 | | 6020 |
| Cadmium | 0.007 | B | 0.025 | U | | | 6020 |
| Chromium | 0.67 | | 0.35 | U | | | 6020 |
| Lead | 0.096 | | 0.122 | | 28 | | 6020 |
| Manganese | 0.17 | | 0.18 | B | 8 | | 6020 |
| Selenium | 20.0 | U | 100 | U | | | 200.8 |
| Silver | 0.003 | U | 0.015 | U | | | 6020 |
| Zinc | 3.66 | | 8.55 | | 134 | E | 6020 |

# METALS
## -10-
## METHOD DETECTION LIMITS

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

ICP/ICP-MS ID #: Excell ICPMS

GFAA ID #: AA ID #:

| Analyte | Mass | Back-ground | MRL (ug/L) | MDL (ug/L) | Method |
|---|---|---|---|---|---|
| Arsenic | 75 | | 0.50 | 0.06 | 6020 |
| Barium | 137 | | 0.020 | 0.008 | 6020 |
| Cadmium | 111 | | 0.020 | 0.005 | 6020 |
| Chromium | 52 | | 0.20 | 0.07 | 6020 |
| Lead | 208 | | 0.020 | 0.007 | 6020 |
| Manganese | 55 | | 0.05 | 0.02 | 6020 |
| Selenium | 82 | | 20.0 | 20.0 | 200.8 |
| Silver | 107 | | 0.020 | 0.003 | 6020 |
| Zinc | 66 | | 0.50 | 0.04 | 6020 |

Comments

# METALS

-12-

## ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

ICP ID Number: Excell ICPMS

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | Method |
|---|---|---|---|
| Arsenic | 15.00 | 500.0 | 6020 |
| Barium | 15.00 | 1000.0 | 6020 |
| Cadmium | 15.00 | 500.0 | 6020 |
| Chromium | 15.00 | 500.0 | 6020 |
| Lead | 15.00 | 400.0 | 6020 |
| Manganese | 15.00 | 200.0 | 6020 |
| Selenium | 15.00 | 500.0 | 200.8 |
| Silver | 15.00 | 200.0 | 6020 |
| Zinc | 15.00 | 500.0 | 6020 |

ments:

# METALS
## - 13 -
## PREPARATION LOG

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Agromac-Lockwood

Method: MS

| Lab Code | Preparation Date | Preparation Method | Initial (mL or grams) | Final Volume (mL) |
|---|---|---|---|---|
| K2201174-001 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-002 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-001S | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-001SD | 02/26/02 | CLFAA | 50 | 50 |
| LCSW | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-MB | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-014 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-004 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-003 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-008 | 02/26/02 | CLFAA | 50 | 50 |
| 2201174-008S | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-008SD | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-010 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-007 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-009 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-006 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-013 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-011 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-012 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-005 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-016 | 02/26/02 | CLFAA | 50 | 50 |
| K2201174-015 | 02/26/02 | CLFAA | 50 | 50 |

*Columbia Analytical Services*

# METALS
## -14-
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Instrument ID Number: Excell ICPMS Method: MS

Start Date: 2/28/02 End Date: 2/28/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| CALIBRATION BLANK | 1.00 | 08:22 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| 25 PPB STD. | 1.00 | 08:25 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| ICV | 1.00 | 08:29 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCV1 | 1.00 | 08:32 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| ICB | 1.00 | 09:27 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCB1 | 1.00 | 09:30 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CRA | 1.00 | 09:34 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| [illegible]A | 1.00 | 09:38 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| [illegible]AB | 1.00 | 09:44 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-MB | 1.00 | 09:53 | | | | X | X | | X | | X | | | | | | X | | | | X | | | | | X | |
| K2201174-001 | 1.00 | 09:57 | | | | X | | | X | | X | | | | | | | | | | X | X | | | | X | |
| ZZZZZZ | 5.00 | 10:07 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZZZZZZ | 1.00 | 10:11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| K2201174-001S | 1.00 | 10:16 | | | | X | | | X | | X | | | | | | | | | | X | X | | | | X | |
| K2201174-001SD | 1.00 | 10:19 | | | | X | | | X | | X | | | | | | | | | | X | X | | | | X | |
| LCSW | 1.00 | 10:23 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCV2 | 1.00 | 10:27 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCV2 | 1.00 | 10:31 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCB3 | 1.00 | 10:43 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-MB | 1.00 | 10:47 | | | | | | | | | | | | | | | | | | | | X | | | | | |
| K2201174-002 | 1.00 | 10:50 | | | | X | | | X | | X | | | | | | | | | | X | X | | | | X | |
| ZK2201174-003 | 1.00 | 10:53 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-004 | 1.00 | 10:56 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-005 | 1.00 | 10:59 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-006 | 1.00 | 11:02 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-007 | 1.00 | 11:05 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-008 | 1.00 | 11:08 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-008S | 1.00 | 11:11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible]201174-008SD | 1.00 | 11:15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CCV3 | 1.00 | 11:19 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Form XIV - IN

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Instrument ID Number: Excell ICPMS Method: MS

Start Date: 2/28/02 End Date: 2/28/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| CCB3 | 1.00 | 11:29 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| ZK2201174-009 | 1.00 | 11:33 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-010 | 1.00 | 11:36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-011 | 1.00 | 11:39 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-012 | 1.00 | 11:42 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-013 | 1.00 | 11:45 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-014 | 1.00 | 11:48 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-015 | 1.00 | 11:52 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZK2201174-016 | 1.00 | 11:55 | | | | | | | | | | | | | | | | | | | | | | | | | |
| K2201174-008S | 2.00 | 12:05 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-008SD | 2.00 | 12:08 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCV4 | 1.00 | 12:13 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCB4 | 1.00 | 12:22 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-008 | 2.00 | 13:05 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-008L | 10.00 | 13:24 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-008A | 2.00 | 13:27 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-003 | 2.00 | 13:36 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-004 | 2.00 | 13:39 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-005 | 2.00 | 13:42 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-006 | 2.00 | 13:45 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-007 | 2.00 | 13:48 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-009 | 2.00 | 13:51 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-010 | 2.00 | 13:55 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCV5 | 1.00 | 13:58 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCB5 | 1.00 | 14:06 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-011 | 2.00 | 14:11 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-012 | 2.00 | 14:14 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-013 | 2.00 | 14:17 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-014 | 2.00 | 14:20 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-015 | 2.00 | 14:23 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Form XIV - IN

*Columbia Analytical Services*

# METALS
## -14-
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Instrument ID Number: Excell ICPMS Method: MS

Start Date: 2/28/02 End Date: 2/28/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| K2201174-016 | 2.00 | 14:26 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| K2201174-001 | 10.00 | 14:30 | | | | | X | | | | | | | | | | X | | | | | | | | | | |
| K2201174-002 | 10.00 | 14:33 | | | | | X | | | | | | | | | | X | | | | | | | | | | |
| K2201174-001S | 10.00 | 14:36 | | | | | X | | | | | | | | | | X | | | | | | | | | | |
| K2201174-001SD | 10.00 | 14:39 | | | | | X | | | | | | | | | | X | | | | | | | | | | |
| CCV6 | 1.00 | 14:43 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCV6 | 1.00 | 14:47 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |
| CCB6 | 1.00 | 14:54 | | | | X | X | | X | | X | | | | | | X | | | | X | X | | | | X | |

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Form XIV - IN

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Instrument ID Number: Excell ICPMS Method: MS

Start Date: 3/1/02 End Date: 3/1/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| CALIBRATION BLANK | 1.00 | 09:58 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| 25 PPB STD. | 1.00 | 09:59 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| ICV | 1.00 | 10:00 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| CCV1 | 1.00 | 10:01 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| ICB | 1.00 | 10:04 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| CCB1 | 1.00 | 10:05 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| CRA | 1.00 | 10:06 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| [illegible]A | 1.00 | 10:07 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| [illegible]SAB | 1.00 | 10:08 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-MB | 1.00 | 10:38 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| LCSW | 1.00 | 10:39 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-008 | 2.00 | 10:40 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-008L | 10.00 | 10:41 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-008A | 2.00 | 10:43 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-008S | 2.00 | 10:44 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-008SD | 2.00 | 10:45 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| CCV2 | 1.00 | 10:46 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| ZZZZZZ | 1.00 | 10:48 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CCB2 | 1.00 | 10:53 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-001 | 1.00 | 10:56 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-001S | 1.00 | 10:57 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-001SD | 1.00 | 10:58 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-002 | 1.00 | 11:00 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-003 | 2.00 | 11:01 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-004 | 2.00 | 11:02 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-005 | 2.00 | 11:03 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-006 | 2.00 | 11:04 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-007 | 2.00 | 11:05 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| [illegible]201174-009 | 2.00 | 11:06 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| CCV3 | 1.00 | 11:08 | | | | | | | | | | | | | X | | | | | | | | | | | | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Form XIV - IN

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201174

Project No.:

Project Name: Agromac-Lockwood

Instrument ID Number: Excell ICPMS Method: MS

Start Date: 3/1/02 End Date: 3/1/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| CCB3 | 1.00 | 11:10 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-010 | 2.00 | 11:14 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-011 | 2.00 | 11:15 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-012 | 2.00 | 11:16 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-013 | 2.00 | 11:17 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-014 | 2.00 | 11:18 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-015 | 2.00 | 11:19 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| K2201174-016 | 2.00 | 11:20 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| [illegible]74 | 1.00 | 11:22 | | | | | | | | | | | | | X | | | | | | | | | | | | |
| CCB4 | 1.00 | 11:23 | | | | | | | | | | | | | X | | | | | | | | | | | | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Extr/Prep Batch
KP0107494

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s): K2201174

Method: CLP 3010A 3020A 3005A 3050B Other-

Analysis for: ICP ICP-MS GFAA Flame AA Other

| Sample | Initial Weight (g) | Dry | Wet | Initial Volume (ml) | Final Volume (ml) | Matrix |
|---|---|---|---|---|---|---|
| 1174-MB | | | | 50 ml | 50 ml | 1% HNO3 |
| -LCSW | * | | | | | |
| -1 | | | | | | |
| -15 | * | | | | | |
| -15D | * | | | | | |
| -2 | | | | | | |
| -3 | | | | | | |
| -4 | | | | | | |
| -5 | | | | | | |
| -6 | | | | | | |
| -7 | | | | | | |
| -8 | | | | | | |
| -85 | * | | | | | |
| -85D | * | | | | | |
| -9 | | | | | | |
| -10 | | | | | | |
| -11 | | | | | | |
| -12 | | | | | | |
| -13 | | | | | | |
| -14 | | | | | | |
| -15 | | | | | | |
| -16 | | | | | | |

Time Digestion Started: _____

Lot # Acids Used: HNO3 MS1-17-C HCl _____ H2O2 _____

LCSS (circle appropriate) ERA CLP Soil Lot # 246 EPA Lot # 0287 Other: _____

GFAA LCSW = GFLCSW-102901, _____ mls. added

ICP LCSW = QCP CICV-1 Lot # R-MEB93119, _____ mls. added
QCP CICV-2 Lot # R-MEB93103, _____ mls. added
QCP CICV-3 Lot # S-CICP10067, _____ mls. added
SS6-092801, _____ mls. added

SPIKE INFO

SS1-010402, _____ mls added SS4-102901, _____ mls added
SS2-112601, _____ mls added SS5-092801, _____ mls added
SS3-021902, _____ mls added SS6-092801, _____ mls added

TCLP Spike/LCS

SS1 _____ mls. added
SS2 _____ mls. added

Additional spikes: _____

Comments: * 1.0 ml MS1-1-A + MS1-1-B

Analyst [signature] Date 2/26/02

Reviewer [signature] Date 2/26/02

00049

metdig.xls
4/12/00

Service Request # K2201174
Calibration 02-28-02A
QC in calibration 02-28-02A
QC Service Request # 1174

# ICP-MS Data Review Form

| | Yes | No | NA |
|---|---|---|---|
| 1. Appropriate standardization completed | ✓ | | |
| 2. ICV within 10 % of true value | ✓ | | |
| 3. CCV's in control | ✓ | ✓ | see below |
| 4. CCB's and/or ICB's below MRL | ✓ | | |
| 5. Method blank below MRL | ✓ | | |
| 6. LCS in control | ✓ | | |
| 7. Spike and duplicate in control | ✓ | | |
| 8. All analytes within instrument linear range | ✓ | | |
| 9. Adequate rinse out time allowed | ✓ | | |
| 10. Internal standards in control | ✓ | | |
| 11. Interferences checked | ✓ | | |
| 12. Se over MRL | ✓ | | |
| 13. CRA run | ✓ | | |
| 14. ICSA and ICSAB in control | ✓ | | |
| 15. Serial dilution run | ✓ | | |
| 16. Post spike in control | ✓ | | |

Comments Raise Se MRL to 20 µg/L
CCV-2 out of control for Pb
CCV-3 Back in control for Pb
report Pb from second run
EMA 3/1/02

Reviewed by [signature] Date 3/1/02

00050

## strument Setup - Sample Configuration

| m | Configuration | Date |
|---|---|---|
| Samples | acqmet03 | 7:56:37 2/28/02 |

## strument Setup - Configurations

**Configuration Name -** acqmet03
**Description -** PQExcell CCT Sim Default
**Date -** 7:56:37 2/28/02
**Maximum Uptake Time -** 0
**Maximum Washout Time -** 0
**S-Option Pump Running -** No
**Plasma Screen Forward -** No
**Makeup Gas On -** No
**Use CCT -** No
**Use Accessory Gas -** No

| Setting | Value |
|---|---|
| Extraction | -708.00 |
| Lens1 | 8.30 |
| Lens2 | -41.70 |
| Lens3 | -93.40 |
| Pole Bias | -1.50 |
| Sampling Depth | 396.00 |
| Horizontal | 81.00 |
| Vertical | 105.00 |
| Cool | 13.90 |
| Auxiliary | 0.94 |
| Nebuliser | 0.93 |
| Forward power | 1,350.00 |
| HT1 Voltage | 1,900.00 |
| HT2 Voltage | 2,600.00 |
| D1 | -33.20 |
| Focus | 20.60 |

## ample List

| lur | Label | Type | Weight | Volume | Dilution |
|---|---|---|---|---|---|
| 1 | Calibration Blank | Blank | 0 kg | 0 ml | 1.00 |
| 2 | 25 ppb Std. | Fully Quant Standard | 0 kg | 0 ml | 1.00 |
| 3 | ICV MS1-21-D | Unknown | 0 kg | 0 ml | 1.00 |
| 4 | CCV1 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 5 | ICB | Unknown | 0 kg | 0 ml | 1.00 |
| 6 | CCB1 | Unknown | 0 kg | 0 ml | 1.00 |
| 7 | CRA MS1-17-E | Unknown | 0 kg | 0 ml | 1.00 |
| 8 | ICSA MS1-17-F | Unknown | 0 kg | 0 ml | 1.00 |
| 9 | ICSAB MS1-17-G | Unknown | 0 kg | 0 ml | 1.00 |
| 10 | PBW K1174 | Unknown | 0 kg | 0 ml | 1.00 |
| 11 | K1174-01 | Unknown | 0 kg | 0 ml | 1.00 |
| 12 | K1174-01L 1/5 | Unknown | 0 kg | 0 ml | 1.00 |
| 13 | K1174-01A 50 ppb,20 ppb An | Unknown | 0 kg | 0 ml | 1.00 |
| 14 | K1174-01S | Unknown | 0 kg | 0 ml | 1.00 |
| 15 | K1174-01SD | Unknown | 0 kg | 0 ml | 1.00 |
| 16 | LCSW K1174 | Unknown | 0 kg | 0 ml | 1.00 |
| 17 | CCV2 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 18 | CCV2 MS1-23-C RERUN | Unknown | 0 kg | 0 ml | 1.00 |
| 19 | CCB3 | Unknown | 0 kg | 0 ml | 1.00 |
| 20 | PBW K1174 RERUN | Unknown | 0 kg | 0 ml | 1.00 |
| 21 | K1174-02 | Unknown | 0 kg | 0 ml | 1.00 |
| 2 | K1174-03 | Unknown | 0 kg | 0 ml | 1.00 |
| 23 | K1174-04 | Unknown | 0 kg | 0 ml | 1.00 |
| 24 | K1174-05 | Unknown | 0 kg | 0 ml | 1.00 |
| 25 | K1174-06 | Unknown | 0 kg | 0 ml | 1.00 |
| 26 | K1174-07 | Unknown | 0 kg | 0 ml | 1.00 |
| 27 | K1174-08 | Unknown | 0 kg | 0 ml | 1.00 |
| 28 | K1174-08S | Unknown | 0 kg | 0 ml | 1.00 |
| 29 | K1174-08SD | Unknown | 0 kg | 0 ml | 1.00 |
| 30 | CCV3 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 31 | CCB3 | Unknown | 0 kg | 0 ml | 1.00 |
| 32 | K1174-09 | Unknown | 0 kg | 0 ml | 1.00 |
| 33 | K1174-10 | Unknown | 0 kg | 0 ml | 1.00 |
| 34 | K1174-11 | Unknown | 0 kg | 0 ml | 1.00 |
| 35 | K1174-12 | Unknown | 0 kg | 0 ml | 1.00 |
| 36 | K1174-13 | Unknown | 0 kg | 0 ml | 1.00 |
| 37 | K1174-14 | Unknown | 0 kg | 0 ml | 1.00 |
| 38 | K1174-15 | Unknown | 0 kg | 0 ml | 1.00 |
| 39 | K1174-16 | Unknown | 0 kg | 0 ml | 1.00 |
| 40 | K1174-08S 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 41 | K1174-08SD 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 42 | CCV4 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 4 | CCB4 | Unknown | 0 kg | 0 ml | 1.00 |
| . | K1174-08 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 45 | K1174-08L 1/2 X 1/5 | Unknown | 0 kg | 0 ml | 1.00 |
| 46 | K1174-08A 1/2 AT 20 ppb | Unknown | 0 kg | 0 ml | 1.00 |
| 47 | K1174-03 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 48 | K1174-04 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 49 | K1174-05 1/2 | Unknown | 0 kg | 0 ml | 1.00 |

| | | | | | |
|---|---|---|---|---|---|
| 0 | K1174-06 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 1 | K1174-07 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 2 | I174-09 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 3 | K1174-10 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 4 | CCV5 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 5 | CCB5 | Unknown | 0 kg | 0 ml | 1.00 |
| 6 | K1174-11 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 7 | K1174-12 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 8 | K1174-13 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 9 | K1174-14 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 0 | K1174-15 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 1 | K1174-16 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 2 | K1174-01 1/10 | Unknown | 0 kg | 0 ml | 1.00 |
| 3 | K1174-02 1/10 | Unknown | 0 kg | 0 ml | 1.00 |
| 4 | K1174-01S 1/10 | Unknown | 0 kg | 0 ml | 1.00 |
| 5 | K1174-01SD 1/10 | Unknown | 0 kg | 0 ml | 1.00 |
| 6 | CCV6 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 7 | CCV6 MS1-23-C | Unknown | 0 kg | 0 ml | 1.00 |
| 8 | CCB6 | Unknown | 0 kg | 0 ml | 1.00 |

**ExCell Mass Calibration** **Date: 2/28/02**

| Mass | Mass DAC | Peak Width (AMU) | Error (AMU) | Include |
|---|---|---|---|---|
| 6.015 | 1309 | 0.865 | 0.048 | TRUE |
| 7.016 | 1569 | 0.865 | 0.032 | TRUE |
| 9.012 | 2089 | 0.763 | -0.006 | TRUE |
| 26.982 | 6709 | 0.661 | -0.111 | FALSE |
| 43.956 | 11033 | 0.712 | -0.054 | TRUE |
| 44.956 | 11286 | 0.763 | -0.043 | TRUE |
| 51.94 | 13067 | 0.763 | -0.027 | TRUE |
| 53.949 | 13574 | 0.763 | -0.001 | TRUE |
| 55.935 | 14081 | 0.763 | 0.001 | TRUE |
| 56.935 | 14341 | 0.763 | -0.016 | TRUE |
| 57.934 | 14595 | 0.814 | -0.011 | TRUE |
| 58.933 | 14842 | 0.814 | 0.022 | TRUE |
| 75.92 | 19190 | 0.763 | -0.002 | TRUE |
| 114.904 | 29146 | 0.661 | 0.029 | TRUE |
| 137.906 | 35029 | 0.61 | 0.015 | TRUE |
| 139.905 | 35542 | 0.661 | 0.007 | TRUE |
| 155.923 | 39631 | 0.61 | 0.027 | TRUE |
| 202.972 | 51656 | 0.61 | 0.027 | TRUE |
| 204.972 | 52169 | 0.559 | 0.019 | TRUE |
| 205.974 | 52429 | 0.559 | 0.005 | TRUE |
| 206.976 | 52689 | 0.559 | -0.011 | TRUE |
| 207.977 | 52943 | 0.61 | -0.004 | TRUE |
| 208.98 | 53209 | 0.559 | -0.041 | TRUE |
| 238.051 | 60632 | 0.559 | -0.015 | TRUE |

Excluded In Calib | Excluded In Results | Multi Element | Internal Standard | Standard Addition

Jncorrected ICPS Per Mass

S-Calibration Has Edited Standard
F-Interference Correction Failed
E-Calibration Edited
T-Tripped
I-Invalid Calibration
P-Pulse Counting
V-Valley Integration Failed
M-Result Over Max

| F | Label | TimeStamp | [illegible] | 7Li | 9Be | 59Co | 115In | 208Pb |
|---|---|---|---|---|---|---|---|---|
| 1 | Stability 2/28/02 | 2/28/02 8:03:42 AM | (P)1.667 | (P)56594.675 | (P)14796.161 | (P)55545.777 | (P)42440.818 | (P)11946.827 |
| 2 | Stability 2/28/02 | 2/28/02 8:04:44 AM | (P)1.167 | (P)55710.052 | (P)14613.471 | (P)55044.682 | (P)42467.225 | (P)12119.639 |
| 3 | Stability 2/28/02 | 2/28/02 8:05:47 AM | (P)2.333 | (P)55447.381 | (P)14792.659 | (P)54792.715 | (P)42609.637 | (P)12048.913 |
| 4 | Stability 2/28/02 | 2/28/02 8:06:49 AM | (P)2.667 | (P)54349.633 | (P)14622.317 | (P)54639.134 | (P)43104.114 | (P)12288.784 |
| 5 | Stability 2/28/02 | 2/28/02 8:07:52 AM | (P)1.833 | (P)54530.342 | (P)14664.524 | (P)55920.403 | (P)43326.615 | (P)12457.596 |
| | Mean of Stability 2/2 | 2/28/02 8:03:06 AM | (P)1.933 | (P)55326.417 | (P)14697.827 | (P)55188.542 | (P)42789.682 | (P)12172.352 |
| | SD of Stability 2/28/02 | | (P)0.585 | (P)916.260 | (P)90.263 | (P)534.430 | (P)401.642 | (P)202.360 |
| | %RSD of Stability 2/ | | (P)30.234 | (P)1.656 | (P)0.614 | (P)0.968 | (P)0.939 | (P)1.662 |

| Run | Label | TimeStamp | 209Bi | [illegible] | 238U |
|---|---|---|---|---|---|
| 1 | Stability 2/28/02 | 2/28/02 8:03:42 AM | (P)19275.662 | (P)0.167 | (P)15809.101 |
| 2 | Stability 2/28/02 | 2/28/02 8:04:44 AM | (P)19403.168 | (P)0.167 | (P)16169.330 |
| 3 | Stability 2/28/02 | 2/28/02 8:05:47 AM | (P)19506.308 | (P)0.000 | (P)16066.543 |
| 4 | Stability 2/28/02 | 2/28/02 8:06:49 AM | (P)19787.195 | (P)0.167 | (P)16508.724 |
| 5 | Stability 2/28/02 | 2/28/02 8:07:52 AM | (P)20145.529 | (P)0.000 | (P)16487.862 |
| | Mean of Stability 2/2 | 2/28/02 8:03:06 AM | (P)19623.572 | (P)0.100 | (P)16208.312 |
| | SD of Stability 2/28/02 | | (P)347.340 | (P)0.091 | (P)295.543 |
| | %RSD of Stability 2/ | | (P)1.770 | (P)91.287 | (P)1.823 |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | Calibration Blank | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 8:22 | | | | | |
| Arsenic | 75 | -0.0077 | 0.021 | -0.0132 | 0 | 0.0184 | 0 |
| Barium | 135 | 0.0011 | -0.0007 | -0.0004 | 0 | 0.001 | 0 |
| Barium | 137 | 0 | 0.0015 | -0.0014 | 0 | 0.0014 | 0 |
| Cadmium | 111 | 0.0001 | -0.0001 | -0.0001 | 0 | 0.0001 | 0 |
| Cadmium | 114 | -0.0003 | 0.0002 | 0.0001 | 0 | 0.0002 | 0 |
| Chromium | 52 | 0.002 | -0.0009 | -0.0011 | 0 | 0.0018 | 0 |
| Chromium | 53 | 0.0022 | -0.0079 | 0.0057 | 0 | 0.0071 | 0 |
| Lead | 206 | 0.0005 | 0.0003 | -0.0008 | 0 | 0.0007 | 0 |
| Lead | 207 | -0.0004 | 0.0003 | 0.0002 | 0 | 0.0004 | 0 |
| Lead | 208 | 0.0001 | 0 | 0 | 0 | 0.0001 | 0 |
| Manganese | 55 | -0.0008 | 0.002 | -0.0012 | 0 | 0.0017 | 0 |
| Molybdenum | 98 | 0 | -0.0001 | 0.0001 | 0 | 0.0001 | 0 |
| Selenium | 77 | 0.0187 | -0.0428 | 0.0241 | 0 | 0.0372 | 0 |
| Selenium | 78 | 0.0227 | 0.0621 | -0.0848 | 0 | 0.076 | 0 |
| Selenium | 82 | -0.0033 | 0.0253 | -0.022 | 0 | 0.0239 | 0 |
| Silver | 107 | -0.0002 | 0.0007 | -0.0005 | 0 | 0.0006 | 0 |
| Silver | 109 | 0.0002 | 0.0003 | -0.0005 | 0 | 0.0005 | 0 |
| Zinc | 66 | -0.0017 | 0.0037 | -0.002 | 0 | 0.0032 | 0 |
| Zinc | 67 | 0.007 | -0.0167 | 0.0098 | 0 | 0.0146 | 0 |
| Zinc | 68 | -0.0064 | 0.0095 | -0.0031 | 0 | 0.0084 | 0 |

Analytical Batch
KA0109835

JC 2/28/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.993 | 1.016 | 0.992 | 0.993 | n/a | n/a |
| Indium | 115 | 1.01 | 1.012 | 0.979 | 1.01 | n/a | n/a |
| Lutetium | 175 | 1.001 | 1.019 | 0.981 | 1.001 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | 25 ppb Std. | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 8:25 | | | | | |
| Arsenic | 75 | 25.07 | 24.8 | 25.13 | 25 | 0.1755 | 0.702 |
| Barium | 135 | 24.93 | 25.12 | 24.95 | 25 | 0.101 | 0.4041 |
| Barium | 137 | 24.87 | 24.96 | 25.17 | 25 | 0.1506 | 0.6022 |
| Cadmium | 111 | 24.77 | 25.21 | 25.02 | 25 | 0.2205 | 0.8822 |
| Cadmium | 114 | 24.6 | 25.24 | 25.16 | 25 | 0.3515 | 1.406 |
| Chromium | 52 | 24.74 | 24.79 | 25.46 | 25 | 0.4016 | 1.606 |
| Chromium | 53 | 25 | 24.86 | 25.13 | 25 | 0.1348 | 0.5393 |
| Lead | 206 | 25 | 24.77 | 25.23 | 25 | 0.2301 | 0.9205 |
| Lead | 207 | 25.07 | 24.76 | 25.17 | 25 | 0.2102 | 0.841 |
| Lead | 208 | 25.19 | 24.84 | 24.97 | 25 | 0.1779 | 0.7116 |
| Manganese | 55 | 24.84 | 25.11 | 25.05 | 25 | 0.1459 | 0.5838 |
| Molybdenum | 98 | 24.71 | 25.69 | 24.6 | 25 | 0.6021 | 2.408 |
| Selenium | 77 | 24.55 | 25.24 | 25.21 | 25 | 0.3902 | 1.561 |
| Selenium | 78 | 24.74 | 24.73 | 25.53 | 25 | 0.4612 | 1.845 |
| Selenium | 82 | 24.73 | 24.82 | 25.45 | 25 | 0.3908 | 1.563 |
| Silver | 107 | 24.47 | 25.04 | 25.49 | 25 | 0.5094 | 2.037 |
| Silver | 109 | 24.8 | 25.12 | 25.08 | 25 | 0.1768 | 0.7073 |
| Zinc | 66 | 24.89 | 25 | 25.11 | 25 | 0.1077 | 0.4309 |
| Zinc | 67 | 25.11 | 24.51 | 25.37 | 25 | 0.4397 | 1.759 |
| Zinc | 68 | 24.73 | 25.07 | 25.2 | 25 | 0.2427 | 0.9709 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.022 | 1.017 | 1.044 | 1.022 | n/a | n/a |
| Indium | 115 | 0.998 | 1.004 | 1.035 | 0.998 | n/a | n/a |
| Lutetium | 175 | 1.022 | 0.994 | 1.021 | 1.022 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | ICV MS1-21-D | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 8:29 | | | | | |
| Arsenic | 75 | 24.85 | 25.11 | 24.87 | **24.94** | 0.1432 | 0.5742 |
| Barium | 135 | 100.5 | 96.96 | 99.89 | **99.11** | 1.878 | 1.895 |
| Barium | 137 | 98.34 | 98.21 | 98.37 | **98.31** | 0.0869 | 0.0884 |
| Cadmium | 111 | 12.55 | 12.49 | 12.43 | **12.49** | 0.062 | 0.4962 |
| Cadmium | 114 | 13.26 | 13.08 | 13.31 | **13.22** | 0.1193 | 0.9027 |
| Chromium | 52 | 9.965 | 9.832 | 10.04 | **9.945** | 0.1047 | 1.053 |
| Chromium | 53 | 10.69 | 10.87 | 10.72 | **10.76** | 0.0931 | 0.8647 |
| Lead | 206 | 24.94 | 24.21 | 24.46 | **24.54** | 0.3734 | 1.522 |
| Lead | 207 | 24.62 | 24.02 | 24.08 | **24.24** | 0.3314 | 1.367 |
| Lead | 208 | 24.22 | 23.64 | 23.86 | **23.91** | 0.2939 | 1.229 |
| Manganese | 55 | 24.47 | 24.4 | 24.51 | **24.46** | 0.0528 | 0.2159 |
| Molybdenum | 98 | 24.63 | 24.56 | 24.86 | **24.68** | 0.1535 | 0.6218 |
| Selenium | 77 | 25.66 | 25.04 | 25.23 | **25.31** | 0.3199 | 1.264 |
| Selenium | 78 | 25.45 | 25.47 | 25.43 | **25.45** | 0.0233 | 0.0915 |
| Selenium | 82 | 25.26 | 25.31 | 25.11 | **25.23** | 0.1025 | 0.4062 |
| Silver | 107 | 12.33 | 12.34 | 12.37 | **12.34** | 0.0187 | 0.1514 |
| Silver | 109 | 12.51 | 12.26 | 12.45 | **12.41** | 0.1295 | 1.044 |
| Zinc | 66 | 25.93 | 25.74 | 25.79 | **25.82** | 0.0985 | 0.3815 |
| Zinc | 67 | 32.89 | 32.79 | 32.72 | **32.8** | 0.0816 | 0.2487 |
| Zinc | 68 | 31.31 | 31.15 | 31.35 | **31.27** | 0.1054 | 0.337 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.017 | 1.013 | 1.012 | **1.017** | n/a | n/a |
| Indium | 115 | 0.998 | 0.971 | 0.978 | **0.998** | n/a | n/a |
| Lutetium | 175 | 1.024 | 0.986 | 0.988 | **1.024** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA 6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| .mple Name: | | CCV1 MS1-23-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 8:32 | | | | | |
| Arsenic | 75 | 25.16 | 24.8 | 24.78 | **24.91** | 0.2167 | 0.8698 |
| Barium | 135 | 24.51 | 24.3 | 24.31 | **24.37** | 0.1202 | 0.4933 |
| Barium | 137 | 24.01 | 24.36 | 24.56 | **24.31** | 0.277 | 1.14 |
| Cadmium | 111 | 24.64 | 24.61 | 24.7 | **24.65** | 0.0431 | 0.1748 |
| Cadmium | 114 | 24.9 | 24.61 | 24.81 | **24.77** | 0.1475 | 0.5954 |
| Chromium | 52 | 24.89 | 24.93 | 24.65 | **24.82** | 0.1483 | 0.5975 |
| Chromium | 53 | 25.15 | 24.76 | 25.25 | **25.05** | 0.2591 | 1.034 |
| Lead | 206 | 24.81 | 24.84 | 24.72 | **24.79** | 0.0623 | 0.2513 |
| Lead | 207 | 24.54 | 24.51 | 24.28 | **24.44** | 0.1441 | 0.5897 |
| Lead | 208 | 24.44 | 24.62 | 24.44 | **24.5** | 0.1054 | 0.4302 |
| Manganese | 55 | 25.05 | 24.71 | 24.82 | **24.86** | 0.1723 | 0.6931 |
| Molybdenum | 98 | 24.78 | 24.34 | 24.51 | **24.54** | 0.2202 | 0.897 |
| Selenium | 77 | 25.29 | 24.75 | 24.79 | **24.94** | 0.3023 | 1.212 |
| Selenium | 78 | 25.46 | 24.95 | 25.01 | **25.14** | 0.276 | 1.098 |
| Selenium | 82 | 24.85 | 25.29 | 24.6 | **24.91** | 0.35 | 1.405 |
| Silver | 107 | 24.03 | 24.18 | 24.51 | **24.24** | 0.2474 | 1.02 |
| Silver | 109 | 24.63 | 24.62 | 24.97 | **24.74** | 0.2009 | 0.8121 |
| Zinc | 66 | 25.27 | 25.13 | 25.19 | **25.2** | 0.07 | 0.2778 |
| Zinc | 67 | 25.15 | 25.04 | 25.38 | **25.19** | 0.173 | 0.6867 |
| Zinc | 68 | 25.23 | 24.66 | 24.88 | **24.92** | 0.2856 | 1.146 |

**Internal Standard**
**Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.044 | 1.029 | 1.026 | **1.044** | n/a | n/a |
| Indium | 115 | 1.016 | 1.001 | 0.996 | **1.016** | n/a | n/a |
| Lutetium | 175 | 1.043 | 1.042 | 1.023 | **1.043** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ımple Name: | | ICB | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ıImeStamp | | 2/28/02 9:27 | | | | | |
| Arsenic | 75 | -0.0117 | -0.0153 | -0.0189 | **-0.0153** | 0.0036 | 23.7 |
| Barium | 135 | 0.0015 | -0.0012 | 0.0017 | **0.0007** | 0.0016 | 235 |
| Barium | 137 | 0.0001 | 0.0008 | 0.0013 | **0.0007** | 0.0006 | 76.67 |
| Cadmium | 111 | 0.0022 | 0.0006 | 0.0026 | **0.0018** | 0.0011 | 58.61 |
| Cadmium | 114 | 0.0003 | 0.0009 | 0.0004 | **0.0005** | 0.0003 | 55.18 |
| Chromium | 52 | -0.0053 | -0.0108 | -0.0108 | **-0.009** | 0.0032 | 35.62 |
| Chromium | 53 | 0.242 | 0.2217 | 0.191 | **0.2182** | 0.0257 | 11.76 |
| Lead | 206 | 0.0003 | 0 | 0.001 | **0.0004** | 0.0005 | 119.6 |
| Lead | 207 | 0.0014 | -0.0008 | 0.0001 | **0.0002** | 0.0011 | 486.2 |
| Lead | 208 | 0.0004 | 0 | 0.0004 | **0.0003** | 0.0002 | 72.1 |
| Manganese | 55 | -0.0016 | -0.002 | -0.0014 | **-0.0017** | 0.0003 | 17.23 |
| Molybdenum | 98 | -0.0004 | -0.0001 | 0.0007 | **0** | 0.0005 | 1140 |
| Selenium | 77 | -0.0242 | 0.0588 | -0.0406 | **-0.002** | 0.0533 | 2674 |
| Selenium | 78 | -0.0064 | -0.0706 | 0.0681 | **-0.003** | 0.0694 | 2324 |
| Selenium | 82 | -0.1048 | -0.0292 | -0.1333 | **-0.0891** | 0.0538 | 60.37 |
| Silver | 107 | -0.0006 | 0.0007 | -0.0011 | **-0.0003** | 0.0009 | 278.1 |
| Silver | 109 | -0.0005 | -0.0002 | -0.0005 | **-0.0004** | 0.0002 | 47.06 |
| Zinc | 66 | 0.0447 | 0.0552 | 0.0545 | **0.0515** | 0.0059 | 11.42 |
| Zinc | 67 | 0.1093 | 0.0882 | 0.0803 | **0.0926** | 0.015 | 16.21 |
| Zinc | 68 | 0.0444 | 0.065 | 0.0479 | **0.0524** | 0.011 | 21.04 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.041 | 1.032 | 1.009 | **1.041** | n/a | n/a |
| Indium | 115 | 1.073 | 1.089 | 1.066 | **1.073** | n/a | n/a |
| Lutetium | 175 | 1.169 | 1.143 | 1.126 | **1.169** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | CCB1 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 9:30 | | | | | |
| Arsenic | 75 | -0.0214 | -0.0213 | 0.0093 | **-0.0111** | 0.0177 | 158.6 |
| Barium | 135 | 0.001 | -0.0007 | 0.0003 | **0.0002** | 0.0009 | 444.3 |
| Barium | 137 | 0.0005 | -0.0004 | 0.0014 | **0.0005** | 0.0009 | 179.9 |
| Cadmium | 111 | 0.002 | 0.0018 | 0.002 | **0.0019** | 0.0001 | 5.88 |
| Cadmium | 114 | -0.0003 | 0.0024 | -0.0001 | **0.0007** | 0.0015 | 221.7 |
| Chromium | 52 | -0.0109 | -0.0158 | -0.0163 | **-0.0143** | 0.003 | 20.67 |
| Chromium | 53 | 0.1766 | 0.1544 | 0.1404 | **0.1572** | 0.0182 | 11.61 |
| Lead | 206 | -0.0005 | 0.0001 | 0 | **-0.0002** | 0.0003 | 214.8 |
| Lead | 207 | 0.0002 | -0.0005 | -0.0004 | **-0.0002** | 0.0004 | 155 |
| Lead | 208 | -0.0003 | -0.0001 | 0 | **-0.0002** | 0.0002 | 96.98 |
| Manganese | 55 | -0.0009 | -0.0019 | -0.0016 | **-0.0015** | 0.0005 | 31.89 |
| Molybdenum | 98 | 0.0006 | 0 | 0.0013 | **0.0006** | 0.0006 | 104.9 |
| Selenium | 77 | 0.0057 | 0.0141 | -0.0346 | **-0.005** | 0.026 | 525.2 |
| Selenium | 78 | -0.0261 | -0.0699 | -0.0279 | **-0.0413** | 0.0248 | 60.04 |
| Selenium | 82 | -0.0895 | -0.0779 | -0.0202 | **-0.0625** | 0.0371 | 59.33 |
| Silver | 107 | -0.0008 | -0.0004 | -0.0006 | **-0.0006** | 0.0002 | 28.86 |
| Silver | 109 | -0.001 | -0.0001 | -0.0001 | **-0.0004** | 0.0005 | 133.7 |
| Zinc | 66 | 0.0486 | 0.0455 | 0.0414 | **0.0452** | 0.0036 | 7.931 |
| Zinc | 67 | 0.0779 | 0.088 | 0.0668 | **0.0776** | 0.0106 | 13.67 |
| Zinc | 68 | 0.0589 | 0.0647 | 0.0575 | **0.0604** | 0.0038 | 6.33 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.012 | 0.998 | 0.998 | **1.012** | n/a | n/a |
| Indium | 115 | 1.052 | 1.052 | 1.044 | **1.052** | n/a | n/a |
| Lutetium | 175 | 1.109 | 1.108 | 1.082 | **1.109** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| mple Name: | | CRA MS1-17-E | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 9:34 | | | | | |
| Arsenic | 75 | 0.5247 | 0.5105 | 0.4948 | **0.51** | 0.0149 | 2.93 |
| Barium | 135 | 0.0552 | 0.0496 | 0.0541 | **0.0529** | 0.003 | 5.617 |
| Barium | 137 | 0.0595 | 0.0544 | 0.056 | **0.0566** | 0.0026 | 4.596 |
| Cadmium | 111 | 0.0525 | 0.0457 | 0.0556 | **0.0513** | 0.0051 | 9.864 |
| Cadmium | 114 | 0.0494 | 0.0513 | 0.0568 | **0.0525** | 0.0039 | 7.339 |
| Chromium | 52 | 0.2012 | 0.2192 | 0.1977 | **0.206** | 0.0115 | 5.594 |
| Chromium | 53 | 0.3282 | 0.3278 | 0.3339 | **0.33** | 0.0034 | 1.034 |
| Lead | 206 | 0.0211 | 0.0246 | 0.0218 | **0.0225** | 0.0019 | 8.228 |
| Lead | 207 | 0.0187 | 0.0195 | 0.0215 | **0.0199** | 0.0014 | 7.229 |
| Lead | 208 | 0.0204 | 0.0221 | 0.0218 | **0.0215** | 0.0009 | 4.264 |
| Manganese | 55 | 0.0535 | 0.0516 | 0.0535 | **0.0529** | 0.0011 | 2.094 |
| Molybdenum | 98 | 0.0494 | 0.0539 | 0.0502 | **0.0512** | 0.0024 | 4.641 |
| Selenium | 77 | 0.9643 | 1.03 | 1.006 | **1** | 0.0335 | 3.344 |
| Selenium | 78 | 0.9618 | 1.014 | 0.9594 | **0.9785** | 0.031 | 3.169 |
| Selenium | 82 | 0.9685 | 0.9817 | 1.035 | **0.9949** | 0.0349 | 3.511 |
| Silver | 107 | 0.0189 | 0.0187 | 0.019 | **0.0189** | 0.0001 | 0.6762 |
| Silver | 109 | 0.0208 | 0.0192 | 0.0201 | **0.02** | 0.0008 | 4.05 |
| Zinc | 66 | 0.7014 | 0.735 | 0.7263 | **0.7209** | 0.0174 | 2.418 |
| Zinc | 67 | 0.6475 | 0.635 | 0.633 | **0.6385** | 0.0079 | 1.23 |
| Zinc | 68 | 0.6744 | 0.6881 | 0.6673 | **0.6766** | 0.0106 | 1.564 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.996 | 1.002 | 0.997 | **0.996** | n/a | n/a |
| Indium | 115 | 1.056 | 1.053 | 1.03 | **1.056** | n/a | n/a |
| Lutetium | 175 | 1.092 | 1.074 | 1.072 | **1.092** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | ICSA MS1-17-F | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 9:38 | | | | | |
| Arsenic | 75 | 0.0068 | 0.0011 | 0.012 | **0.0066** | 0.0054 | 82.01 |
| Barium | 135 | 0.064 | 0.0554 | 0.0567 | **0.0587** | 0.0046 | 7.898 |
| Barium | 137 | 0.0537 | 0.0536 | 0.0462 | **0.0512** | 0.0043 | 8.451 |
| Cadmium | 111 | 0.7887 | 0.791 | 0.7802 | **0.7866** | 0.0057 | 0.7239 |
| Cadmium | 114 | 0.547 | 0.5252 | 0.5572 | **0.5431** | 0.0164 | 3.014 |
| Chromium | 52 | 0.2666 | 0.2544 | 0.2429 | **0.2546** | 0.0119 | 4.659 |
| Chromium | 53 | 3.515 | 3.314 | 3.285 | **3.371** | 0.1252 | 3.715 |
| Lead | 206 | 0.095 | 0.0903 | 0.1071 | **0.0975** | 0.0087 | 8.9 |
| Lead | 207 | 0.0844 | 0.0883 | 0.0932 | **0.0886** | 0.0044 | 4.939 |
| Lead | 208 | 0.0903 | 0.0893 | 0.0956 | **0.0917** | 0.0034 | 3.676 |
| Manganese | 55 | 0.3981 | 0.3961 | 0.3918 | **0.3953** | 0.0032 | 0.82 |
| Molybdenum | 98 | 197.1 | 191.8 | 192.5 | **193.8** | 2.889 | 1.49 |
| Selenium | 77 | 0.7723 | 0.7975 | 0.8202 | **0.7967** | 0.024 | 3.007 |
| Selenium | 78 | -0.0906 | -0.1423 | 0.0618 | **-0.057** | 0.1061 | 185.9 |
| Selenium | 82 | -0.0267 | -0.0659 | -0.0168 | **-0.0365** | 0.0259 | 71.11 |
| Silver | 107 | 0.0567 | 0.0551 | 0.0565 | **0.0561** | 0.0009 | 1.588 |
| Silver | 109 | 0.0529 | 0.052 | 0.0583 | **0.0544** | 0.0034 | 6.253 |
| Zinc | 66 | 0.7367 | 0.7323 | 0.7206 | **0.7299** | 0.0083 | 1.137 |
| Zinc | 67 | 1.157 | 1.118 | 1.138 | **1.138** | 0.0196 | 1.723 |
| Zinc | 68 | 0.3195 | 0.3178 | 0.3221 | **0.3198** | 0.0021 | 0.6669 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.061 | 1.036 | 1.028 | **1.061** | n/a | n/a |
| Indium | 115 | 1.075 | 1.038 | 1.038 | **1.075** | n/a | n/a |
| Lutetium | 175 | 1.063 | 1.038 | 1.032 | **1.063** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | ICSAB MS1-17-G | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 9:44 | | | | | |
| Arsenic | 75 | 20.71 | 20.67 | 20.44 | **20.6** | 0.1456 | 0.7066 |
| Barium | 135 | 0.059 | 0.0598 | 0.0576 | **0.0588** | 0.0011 | 1.903 |
| Barium | 137 | 0.0632 | 0.0597 | 0.056 | **0.0597** | 0.0036 | 5.994 |
| Cadmium | 111 | 20.75 | 20.45 | 20.31 | **20.5** | 0.2235 | 1.09 |
| Cadmium | 114 | 20.48 | 19.91 | 20.36 | **20.25** | 0.3029 | 1.496 |
| Chromium | 52 | 18.99 | 18.73 | 18.96 | **18.89** | 0.1437 | 0.7605 |
| Chromium | 53 | 22.6 | 22.5 | 22.66 | **22.59** | 0.082 | 0.3628 |
| Lead | 206 | 0.1051 | 0.0951 | 0.0994 | **0.0999** | 0.005 | 4.986 |
| Lead | 207 | 0.0976 | 0.1009 | 0.0924 | **0.0969** | 0.0043 | 4.404 |
| Lead | 208 | 0.0976 | 0.0968 | 0.0959 | **0.0968** | 0.0008 | 0.8617 |
| Manganese | 55 | 19.18 | 19.12 | 19.06 | **19.12** | 0.0626 | 0.3272 |
| Molybdenum | 98 | 197.5 | 195.8 | 199.3 | **197.5** | 1.783 | 0.9025 |
| Selenium | 77 | 0.8836 | 0.8748 | 0.827 | **0.8618** | 0.0305 | 3.535 |
| Selenium | 78 | 0.3999 | 0.406 | 0.3957 | **0.4005** | 0.0052 | 1.301 |
| Selenium | 82 | -0.1279 | -0.1023 | 0.0401 | **-0.0634** | 0.0905 | 142.9 |
| Silver | 107 | 19.27 | 18.96 | 19.1 | **19.11** | 0.1568 | 0.8203 |
| Silver | 109 | 19.27 | 18.97 | 18.75 | **19** | 0.2643 | 1.391 |
| Zinc | 66 | 21.33 | 21.36 | 21.59 | **21.43** | 0.1415 | 0.6604 |
| Zinc | 67 | 18.4 | 18.58 | 18.49 | **18.49** | 0.0901 | 0.4876 |
| Zinc | 68 | 19.73 | 19.55 | 19.54 | **19.61** | 0.1074 | 0.5479 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.056 | 1.051 | 1.059 | **1.056** | n/a | n/a |
| Indium | 115 | 1.058 | 1.038 | 1.032 | **1.058** | n/a | n/a |
| Lutetium | 175 | 1.078 | 1.045 | 1.045 | **1.078** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | | PBW K1174 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|---|
| TimeStamp | | | 2/28/02 9:53 | | | | | |
| Arsenic | 75 | | 0.0012 | 0.0261 | 0.0064 | **0.0112** | 0.0131 | 116.9 |
| Barium | 135 | | 0.0065 | 0.007 | 0.0057 | **0.0064** | 0.0006 | 9.725 |
| Barium | 137 | | 0.0055 | 0.0095 | 0.0067 | **0.0073** | 0.0021 | 28.59 |
| Cadmium | 111 | | 0.0038 | 0.0052 | 0.0056 | **0.0049** | 0.0009 | 19 |
| Cadmium | 114 | | 0.005 | 0.0023 | 0.0023 | **0.0032** | 0.0015 | 47.47 |
| Chromium | 52 | | -0.0218 | -0.0141 | 0.0008 | **-0.0117** | 0.0115 | 97.95 |
| Chromium | 53 | | 0.2619 | 0.2631 | 0.2535 | **0.2595** | 0.0052 | 2.022 |
| ~~Lead~~ | ~~206~~ | SC | ~~0.0033~~ | ~~0.0046~~ | ~~0.0058~~ | ~~**0.0046**~~ | ~~0.0012~~ | ~~26.68~~ |
| Lead | 207 | 2/28/02 | ~~0.0038~~ | ~~0.0031~~ | ~~0.0035~~ | ~~**0.0035**~~ | ~~0.0004~~ | ~~10.79~~ |
| Lead | 208 | CCV out | ~~0.0037~~ | ~~0.0038~~ | ~~0.0048~~ | ~~**0.0041**~~ | ~~0.0006~~ | ~~14.35~~ |
| Manganese | 55 | | -0.0006 | -0.0012 | -0.0003 | **-0.0007** | 0.0005 | 64.95 |
| Molybdenum | 98 | | 0.0058 | 0.0063 | 0.0044 | **0.0055** | 0.001 | 17.84 |
| Selenium | 77 | | 0.0392 | -0.0291 | 0.0149 | **0.0083** | 0.0346 | 417.7 |
| Selenium | 78 | | 0.0437 | 0.0712 | 0.0993 | **0.0714** | 0.0278 | 38.93 |
| Selenium | 82 | | -0.005 | 0.0213 | -0.003 | **0.0044** | 0.0146 | 330.2 |
| ~~Silver~~ | ~~107~~ | see | ~~0.0237~~ | ~~0.0197~~ | ~~0.0193~~ | ~~**0.0209**~~ | ~~0.0025~~ | ~~11.85~~ |
| Silver | 109 | Rerun | 0.0208 | 0.0203 | 0.0184 | **0.0199** | 0.0013 | 6.301 |
| Zinc | 66 | SC | 0.078 | 0.0963 | 0.0838 | **0.0861** | 0.0093 | 10.86 |
| Zinc | 67 | 3/1/02 | 0.1 | 0.1143 | 0.0858 | **0.1001** | 0.0142 | 14.23 |
| Zinc | 68 | | 0.0741 | 0.0836 | 0.0768 | **0.0782** | 0.0049 | 6.286 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.949 | 0.946 | 0.954 | **0.949** | n/a | n/a |
| Indium | 115 | 0.97 | 0.945 | 0.926 | **0.97** | n/a | n/a |
| Lutetium | 175 | 1.002 | 0.982 | 0.971 | **1.002** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | K1174-01 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 9:57 | | | | | |
| Arsenic | 75 | 0.6338 | 0.6136 | 0.6199 | **0.6224** | 0.0103 | 1.659 |
| Barium | 135 | 118.2 | 116.3 | 120 | **118.1** | 1.883 | 1.594 |
| ~~Barium~~ | ~~137~~ | ~~120.6~~ | ~~117.5~~ | ~~121.1~~ | ~~**119.7**~~ | ~~1.943~~ | ~~1.623~~ |
| Cadmium | 111 | 0.0213 | 0.0217 | 0.023 | **0.022** | 0.0009 | 3.982 |
| Cadmium | 114 | 0.0204 | 0.0179 | 0.0179 | **0.0187** | 0.0014 | 7.531 |
| Chromium | 52 | 1.303 | 1.305 | 1.329 | **1.312** | 0.0146 | 1.114 |
| Chromium | 53 | 0.582 | 0.551 | 0.5358 | **0.5562** | 0.0235 | 4.229 |
| ~~Lead~~ | ~~206~~ | 0.1034 | 0.0956 | 0.0988 | **0.0993** | 0.0039 | 3.935 |
| Lead | 207 | 0.0917 | ~~0.0919~~ | ~~0.0997~~ | **0.0945** | 0.0046 | 4.847 |
| Lead | 208 | 0.0954 | 0.0933 | 0.097 | ~~**0.0952**~~ | ~~0.0018~~ | 1.916 |
| ~~Manganese~~ | ~~55~~ | ~~73.97~~ | ~~75.97~~ | ~~74.74~~ | ~~**74.89**~~ | ~~1.01~~ | ~~1.349~~ |
| Molybdenum | 98 | 1.809 | 1.867 | 1.828 | **1.834** | 0.0298 | 1.624 |
| Selenium | 77 | 0.2787 | 0.2948 | 0.2991 | **0.2909** | 0.0108 | 3.698 |
| Selenium | 78 | 1.226 | 1.113 | 1.335 | **1.225** | 0.1113 | 9.086 |
| Selenium | 82 | 0.2812 | 0.3811 | 0.3941 | **0.3521** | 0.0617 | 17.54 |
| Silver | 107 | 0.0142 | 0.0138 | 0.0149 | **0.0143** | 0.0005 | 3.673 |
| Silver | 109 | 0.0117 | 0.0086 | 0.0085 | **0.0096** | 0.0019 | 19.29 |
| Zinc | 66 | 73.94 | 73.73 | 73.19 | **73.62** | 0.3857 | 0.5239 |
| Zinc | 67 | 75.51 | 74.84 | 74.34 | **74.9** | 0.5858 | 0.7821 |
| Zinc | 68 | 79.87 | 80.68 | 80.44 | **80.33** | 0.4166 | 0.5186 |

JC 3/1/02 accept

* see Dilution JC 3/1/02

Internal Standard Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.994 | 0.987 | 0.97 | **0.994** | n/a | n/a |
| Indium | 115 | 1.081 | 1.052 | 1.074 | **1.081** | n/a | n/a |
| Lutetium | 175 | 1.032 | 0.973 | 0.992 | **1.032** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA 6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| ample Name: | | K1174-01L 1/5 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 10:07 | | | | | |
| Arsenic | 75 | 0.1173 | 0.1418 | 0.1293 | **0.1295** | 0.0122 | 9.43 |
| Barium | 135 | 24.21 | 23.92 | 23.57 | **23.9** | 0.3181 | 1.331 |
| Barium | 137 | 23.76 | 23.9 | 23.94 | **23.87** | 0.0976 | 0.4091 |
| Cadmium | 111 | 0.0082 | 0.0068 | 0.0089 | **0.008** | 0.0011 | 13.32 |
| Cadmium | 114 | 0.0052 | 0.005 | 0.0067 | **0.0056** | 0.0009 | 16.22 |
| Chromium | 52 | 0.2277 | 0.2228 | 0.2103 | **0.2203** | 0.009 | 4.076 |
| Chromium | 53 | 0.328 | 0.3108 | 0.2631 | **0.3006** | 0.0336 | 11.19 |
| Lead | 206 | 0.0304 | 0.0328 | 0.0318 | **0.0317** | 0.0012 | 3.765 |
| Lead | 207 | 0.0279 | 0.0272 | 0.0302 | **0.0284** | 0.0015 | 5.437 |
| Lead | 208 | 0.0291 | 0.0307 | 0.0288 | **0.0296** | 0.001 | 3.389 |
| Manganese | 55 | 24.71 | 24.31 | 24.08 | **24.36** | 0.3191 | 1.31 |
| Molybdenum | 98 | 0.3745 | 0.3651 | 0.3638 | **0.3678** | 0.0058 | 1.587 |
| Selenium | 77 | 0.0595 | 0.0956 | 0.0767 | **0.0772** | 0.0181 | 23.36 |
| Selenium | 78 | 0.7646 | 0.7695 | 0.6981 | **0.7441** | 0.0399 | 5.366 |
| Selenium | 82 | -0.0102 | 0.0935 | 0.0497 | **0.0443** | 0.052 | 117.4 |
| Silver | 107 | 0.0066 | 0.0058 | 0.0059 | **0.0061** | 0.0005 | 7.364 |
| Silver | 109 | 0.0043 | 0.0049 | 0.0045 | **0.0045** | 0.0003 | 6.998 |
| Zinc | 66 | 17.67 | 18 | 17.4 | **17.69** | 0.3003 | 1.698 |
| Zinc | 67 | 17.18 | 17.05 | 16.85 | **17.03** | 0.1689 | 0.992 |
| Zinc | 68 | 18.4 | 18.34 | 18 | **18.25** | 0.2165 | 1.186 |

SC 3/1/02 cc out

Another ~~Post st~~ sample Serial Dilution done on another sample SC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.964 | 0.961 | 0.941 | **0.964** | n/a | n/a |
| Indium | 115 | 0.998 | 1.001 | 0.981 | **0.998** | n/a | n/a |
| Lutetium | 175 | 0.982 | 0.982 | 0.975 | **0.982** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-01A 50 ppb,20 ppb Ag | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 10:11 | | | | | |
| Arsenic | 75 | 50.83 | 50.77 | 50.12 | **50.57** | 0.3953 | 0.7817 |
| Barium | 135 | 163.4 | 161.3 | 163.3 | **162.6** | 1.186 | 0.7293 |
| Barium | 137 | 161.9 | 162.2 | 160.6 | **161.6** | 0.8758 | 0.5421 |
| Cadmium | 111 | 48.26 | 45.63 | 45.9 | **46.6** | 1.446 | 3.104 |
| Cadmium | 114 | 46.12 | 46.77 | 46.72 | **46.54** | 0.3644 | 0.7829 |
| Chromium | 52 | 45.14 | 45.68 | 44.97 | **45.26** | 0.3683 | 0.8137 |
| Chromium | 53 | 46.67 | 46.45 | 44.85 | **45.99** | 0.9941 | 2.162 |
| Lead | 206 | 36.91 | 39.42 | 37.3 | **37.88** | 1.35 | 3.564 |
| Lead | 207 | 36.22 | 38 | 36.71 | **36.97** | 0.9201 | 2.488 |
| Lead | 208 | 36.19 | 37.5 | 36.36 | **36.68** | 0.7118 | 1.94 |
| Manganese | 55 | 104.3 | 104.2 | 103.1 | **103.9** | 0.6581 | 0.6336 |
| Molybdenum | 98 | 49.54 | 49.01 | 49.62 | **49.39** | 0.3305 | 0.6691 |
| Selenium | 77 | 49.24 | 48.51 | 48.86 | **48.87** | 0.3666 | 0.7502 |
| Selenium | 78 | 51.1 | 50.17 | 51.51 | **50.92** | 0.6847 | 1.345 |
| Selenium | 82 | 49.52 | 48.69 | 48.27 | **48.83** | 0.6372 | 1.305 |
| Silver | 107 | 18.14 | 17.95 | 18.02 | **18.04** | 0.0991 | 0.5496 |
| Silver | 109 | 18.34 | 17.88 | 18.4 | **18.21** | 0.2853 | 1.567 |
| Zinc | 66 | 116.1 | 115.9 | 114.7 | **115.6** | 0.7889 | 0.6827 |
| Zinc | 67 | 118.8 | 118.5 | 119.2 | **118.8** | 0.3669 | 0.3088 |
| Zinc | 68 | 124.6 | 123.4 | 123.1 | **123.7** | 0.7932 | 0.6413 |

Post spike done on another sample

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.011 | 1.018 | 1.001 | **1.011** | n/a | n/a |
| Indium | 115 | 1.082 | 1.071 | 1.074 | **1.082** | n/a | n/a |
| Lutetium | 175 | 1.032 | 1.061 | 1.022 | **1.032** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-01S | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 10:16 | | | | | |
| Arsenic | 75 | 20.61 | 20.72 | 20.14 | **20.49** | 0.3108 | 1.517 |
| Barium | 135 | 137.1 | 134.3 | 131.6 | **134.3** | 2.756 | 2.051 |
| ~~Barium~~ | ~~137~~ | ~~135.8~~ | ~~136.9~~ | ~~136.2~~ | ~~**136.3**~~ | ~~0.5592~~ | ~~0.4103~~ |
| Cadmium | 111 | 18.66 | 19.11 | 19.44 | **19.07** | 0.3914 | 2.052 |
| Cadmium | 114 | 18.79 | 19 | 19.15 | **18.98** | 0.1792 | 0.9445 |
| Chromium | 52 | 19.96 | 19.77 | 19.75 | **19.83** | 0.1161 | 0.5856 |
| Chromium | 53 | 19.02 | 19.09 | 18.9 | **19** | 0.0936 | 0.4925 |
| Lead | 206 | 15.37 | 14.77 | 15.01 | **15.05** | 0.2987 | 1.985 |
| Lead | 207 | 14.94 | 14.85 | 15.24 | **15.01** | 0.2018 | 1.344 |
| ~~Lead~~ | ~~208~~ | ~~15.15~~ | ~~14.56~~ | ~~14.95~~ | ~~**14.89**~~ | ~~0.3023~~ | ~~2.03~~ |
| ~~Manganese~~ | ~~55~~ | ~~87.03~~ | ~~86.59~~ | ~~86.59~~ | ~~**86.74**~~ | ~~0.2504~~ | ~~0.2887~~ |
| Molybdenum | 98 | 21.82 | 21.15 | 21.64 | **21.54** | 0.3471 | 1.612 |
| Selenium | 77 | 20.2 | 19.97 | 19.84 | **20** | 0.1784 | 0.892 |
| Selenium | 78 | 20.86 | 21.33 | 21.37 | **21.19** | 0.2842 | 1.342 |
| Selenium | 82 | 19.68 | 19.53 | 19.46 | **19.56** | 0.1091 | 0.5579 |
| Silver | 107 | 17.77 | 18.39 | 17.82 | **17.99** | 0.343 | 1.907 |
| Silver | 109 | 18.03 | 18.6 | 18.39 | **18.34** | 0.2888 | 1.575 |
| Zinc | 66 | 89.04 | 89.19 | 87.55 | **88.6** | 0.9062 | 1.023 |
| Zinc | 67 | 90.05 | 90.99 | 90.13 | **90.39** | 0.5228 | 0.5784 |
| Zinc | 68 | 96.34 | 96.27 | 94.59 | **95.73** | 0.9935 | 1.038 |

CCV out
JC
3/1/02

* see Dilution
JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.031 | 1.023 | 0.998 | **1.031** | n/a | n/a |
| Indium | 115 | 1.09 | 1.087 | 1.079 | **1.09** | n/a | n/a |
| Lutetium | 175 | 1.077 | 1.015 | 1.022 | **1.077** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA 6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| ample Name: | | K1174-01SD | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 10:19 | | | | | |
| Arsenic | 75 | 20.78 | 20.09 | 20.21 | **20.36** | 0.3654 | 1.795 |
| Barium | 135 | 138.6 | 136.4 | 136.3 | **137.1** | 1.324 | 0.966 |
| ~~Barium~~ | ~~137~~ | ~~137.2~~ | ~~139.4~~ | ~~133.3~~ | ~~136.6~~ | ~~3.091~~ | ~~2.262~~ |
| Cadmium | 111 | 19.02 | 18.59 | 18.94 | **18.85** | 0.2282 | 1.211 |
| Cadmium | 114 | 19.19 | 18.24 | 18.87 | **18.77** | 0.484 | 2.579 |
| Chromium | 52 | 19.61 | 19.07 | 19.71 | **19.47** | 0.3438 | 1.766 |
| Chromium | 53 | 18.66 | 18.28 | 18.81 | **18.58** | 0.2711 | 1.459 |
| Lead | 206 | 15.04 | 15.65 | 15.14 | **15.28** | 0.3299 | 2.159 |
| Lead | 207 | 15.47 | 15.97 | 14.85 | **15.43** | 0.5575 | 3.613 |
| ~~Lead~~ | ~~208~~ | ~~15.03~~ | ~~15.67~~ | ~~14.95~~ | ~~15.22~~ | ~~0.3957~~ | ~~2.6~~ |
| ~~Manganese~~ | ~~55~~ | ~~86.8~~ | ~~86.12~~ | ~~87.64~~ | ~~86.85~~ | ~~0.7646~~ | ~~0.8803~~ |
| Molybdenum | 98 | 21.73 | 20.62 | 21.13 | **21.16** | 0.5578 | 2.636 |
| Selenium | 77 | 19.62 | 19.75 | 19.88 | **19.75** | 0.128 | 0.6479 |
| Selenium | 78 | 21.44 | 20.98 | 21.33 | **21.25** | 0.2386 | 1.123 |
| Selenium | 82 | 19.41 | 19.92 | 19.7 | **19.68** | 0.2529 | 1.285 |
| Silver | 107 | 18.41 | 18.46 | 18.32 | **18.4** | 0.0746 | 0.4057 |
| Silver | 109 | 18.48 | 18.71 | 18.36 | **18.52** | 0.1773 | 0.9577 |
| Zinc | 66 | 89.77 | 87.67 | 89.64 | **89.03** | 1.174 | 1.319 |
| Zinc | 67 | 93.27 | 90.56 | 91.67 | **91.83** | 1.364 | 1.485 |
| Zinc | 68 | 98.1 | 95.97 | 97.56 | **97.21** | 1.109 | 1.141 |

CCV out
SC
3/1/02

* see Dilution
SC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.01 | 0.997 | 1.011 | **1.01** | n/a | n/a |
| Indium | 115 | 1.093 | 1.063 | 1.083 | **1.093** | n/a | n/a |
| Lutetium | 175 | 1.044 | 1.055 | 1.01 | **1.044** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA 6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| ımple Name: | | LCSW K1174 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 10:23 | | | | | |
| Arsenic | 75 | 20.29 | 19.85 | 19.79 | **19.98** | 0.2719 | 1.361 |
| Barium | 135 | 19.11 | 18.64 | 19.26 | **19** | 0.3235 | 1.703 |
| Barium | 137 | 18.92 | 18.15 | 18.94 | **18.67** | 0.4532 | 2.427 |
| Cadmium | 111 | 20.38 | 19.82 | 19.76 | **19.99** | 0.34 | 1.701 |
| Cadmium | 114 | 19.84 | 19.74 | 19.73 | **19.77** | 0.059 | 0.2983 |
| Chromium | 52 | 20.02 | 19.34 | 19.44 | **19.6** | 0.3672 | 1.873 |
| Chromium | 53 | 20 | 19.42 | 19.81 | **19.75** | 0.2935 | 1.486 |
| Lead | 206 | 17.29 | 17.01 | 17.6 | **17.3** | 0.2963 | 1.713 |
| Lead | 207 | CCV 17.23 | 16.78 | 17.69 | **17.23** | 0.457 | 2.652 |
| ~~Lead~~ | ~~208~~ | ~~17.02~~ | ~~16.73~~ | ~~17.43~~ | ~~**17.06**~~ | ~~0.3518~~ | ~~2.062~~ |
| Manganese | 55 | OUT JC 3/1/02 20.14 | 19.84 | 19.68 | **19.89** | 0.2327 | 1.17 |
| Molybdenum | 98 | 19.16 | 19.54 | 18.85 | **19.18** | 0.3435 | 1.791 |
| Selenium | 77 | 20.62 | 20.27 | 20.4 | **20.43** | 0.1735 | 0.8492 |
| Selenium | 78 | 21.56 | 21 | 20.79 | **21.12** | 0.399 | 1.89 |
| Selenium | 82 | 20.69 | 20.28 | 20.21 | **20.39** | 0.2607 | 1.279 |
| Silver | 107 | 19.67 | 19.29 | 19.43 | **19.46** | 0.1883 | 0.9674 |
| Silver | 109 | 19.76 | 19.79 | 19.86 | **19.8** | 0.0497 | 0.2509 |
| Zinc | 66 | 20.59 | 20.61 | 20.38 | **20.53** | 0.1283 | 0.6252 |
| Zinc | 67 | 20.74 | 20.46 | 20.21 | **20.47** | 0.2665 | 1.302 |
| Zinc | 68 | 20.64 | 20.31 | 20.48 | **20.48** | 0.1621 | 0.7915 |

**Internal Standard**
**Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.959 | 0.95 | 0.951 | **0.959** | n/a | n/a |
| Indium | 115 | 0.971 | 0.951 | 0.965 | **0.971** | n/a | n/a |
| Lutetium | 175 | 0.992 | 0.967 | 0.993 | **0.992** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ımple Name: | | CCV2 MS1-23-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ſimeStamp | | 2/28/02 10:27 | | | | | |
| Arsenic | 75 | 25.79 | 25.53 | 25.88 | **25.73** | 0.1836 | 0.7133 |
| Barium | 135 | 24.11 | 23.76 | 24.26 | **24.04** | 0.2542 | 1.057 |
| Barium | 137 | 24.16 | 23.76 | 24.11 | **24.01** | 0.2217 | 0.9234 |
| Cadmium | 111 | 26.18 | 24.89 | 25.96 | **25.68** | 0.6883 | 2.681 |
| Cadmium | 114 | 25.76 | 24.69 | 25.68 | **25.38** | 0.5983 | 2.358 |
| Chromium | 52 | 25.38 | 25.03 | 25.35 | **25.25** | 0.1951 | 0.7724 |
| Chromium | 53 | 25.31 | 25.38 | 25.55 | **25.41** | 0.1238 | 0.4871 |
| Lead | 206 | 22.13 | 21.87 | 22.29 | **22.09** | 0.2116 | 0.9579 |
| Lead | 207 | 22.05 | 22.21 | 22.55 | **22.27** | 0.2576 | 1.157 |
| Lead | 208 | 21.81 | 21.92 | 22.27 | **22** | 0.2424 | 1.102 |
| Manganese | 55 | 25.85 | 25.42 | 25.77 | **25.68** | 0.2263 | 0.8812 |
| Molybdenum | 98 | 25.24 | 24.42 | 24.88 | **24.85** | 0.4093 | 1.647 |
| Selenium | 77 | 26.44 | 25.59 | 26.18 | **26.07** | 0.4357 | 1.671 |
| Selenium | 78 | 26.77 | 26.2 | 26.77 | **26.58** | 0.328 | 1.234 |
| Selenium | 82 | 26.2 | 25.46 | 25.64 | **25.77** | 0.3868 | 1.501 |
| Silver | 107 | 24.83 | 24.75 | 25 | **24.86** | 0.1298 | 0.5223 |
| Silver | 109 | 25 | 24.96 | 25.01 | **24.99** | 0.0275 | 0.1102 |
| Zinc | 66 | 26.56 | 26.34 | 26.25 | **26.38** | 0.1564 | 0.5927 |
| Zinc | 67 | 26.15 | 25.76 | 26.22 | **26.04** | 0.2471 | 0.9486 |
| Zinc | 68 | 26.22 | 25.7 | 25.97 | **25.96** | 0.26 | 1.001 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.006 | 1 | 1.006 | **1.006** | n/a | n/a |
| Indium | 115 | 1.021 | 0.983 | 1.009 | **1.021** | n/a | n/a |
| Lutetium | 175 | 1.041 | 1.022 | 1.04 | **1.041** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | CCV2 MS1-23-C RERUN | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 10:31 | | | | | |
| Arsenic | 75 | 25.31 | 25.35 | 25.82 | **25.49** | 0.2858 | 1.121 |
| Barium | 135 | 24.28 | 23.95 | 23.57 | **23.93** | 0.3522 | 1.472 |
| Barium | 137 | 23.96 | 23.51 | 23.73 | **23.73** | 0.2256 | 0.9504 |
| Cadmium | 111 | 25.19 | 24.61 | 24.46 | **24.75** | 0.3885 | 1.57 |
| Cadmium | 114 | 25.22 | 24.68 | 24.91 | **24.94** | 0.2677 | 1.074 |
| Chromium | 52 | 25.05 | 24.9 | 25.9 | **25.28** | 0.5408 | 2.139 |
| Chromium | 53 | 25.28 | 24.8 | 25.72 | **25.27** | 0.4618 | 1.827 |
| Lead | 206 | 21.59 | 22.46 | 22.02 | **22.02** | 0.4353 | 1.977 |
| Lead | 207 | 21.54 | 22.3 | 22.34 | **22.06** | 0.4527 | 2.052 |
| Lead | 208 | 21.55 | 22.35 | 22.04 | **21.98** | 0.401 | 1.825 |
| Manganese | 55 | 25.4 | 25.24 | 25.95 | **25.53** | 0.3743 | 1.466 |
| Molybdenum | 98 | 24.8 | 24.1 | 25.01 | **24.64** | 0.4787 | 1.943 |
| Selenium | 77 | 25.87 | 25.29 | 25.76 | **25.64** | 0.3085 | 1.203 |
| Selenium | 78 | 26.4 | 25.93 | 26.5 | **26.27** | 0.3058 | 1.164 |
| Selenium | 82 | 25.44 | 24.98 | 25.36 | **25.26** | 0.2485 | 0.9838 |
| Silver | 107 | 24.44 | 24.28 | 24.32 | **24.35** | 0.0793 | 0.3257 |
| Silver | 109 | 24.9 | 24.6 | 24.25 | **24.58** | 0.329 | 1.338 |
| Zinc | 66 | 25.95 | 25.82 | 26.52 | **26.1** | 0.3735 | 1.431 |
| Zinc | 67 | 26 | 25.61 | 26.1 | **25.9** | 0.2611 | 1.008 |
| Zinc | 68 | 25.97 | 25.55 | 26.07 | **25.86** | 0.2731 | 1.056 |

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**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.996 | 0.991 | 1.019 | **0.996** | n/a | n/a |
| Indium | 115 | 1 | 0.978 | 0.987 | **1** | n/a | n/a |
| Lutetium | 175 | 1.044 | 1.052 | 1.039 | **1.044** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA 6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **ımple Name:** | | **CCB3** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **ıimeStamp** | | **2/28/02 10:43** | | | | | |
| Arsenic | 75 | -0.0076 | -0.0242 | 0.0348 | **0.001** | 0.0304 | 2970 |
| Barium | 135 | 0.0002 | -0.0005 | -0.0009 | **-0.0004** | 0.0006 | 147.2 |
| Barium | 137 | 0.0002 | -0.0007 | -0.0009 | **-0.0005** | 0.0006 | 132.5 |
| Cadmium | 111 | 0.003 | 0.0038 | 0.0014 | **0.0027** | 0.0012 | 44.09 |
| Cadmium | 114 | 0.0018 | 0.0001 | 0.0014 | **0.0011** | 0.0009 | 82.87 |
| Chromium | 52 | -0.0185 | -0.0107 | -0.0164 | **-0.0152** | 0.004 | 26.64 |
| Chromium | 53 | 0.0742 | 0.0491 | 0.057 | **0.0601** | 0.0128 | 21.27 |
| Lead | 206 | 0.0014 | -0.0002 | 0.0013 | **0.0008** | 0.0009 | 113 |
| Lead | 207 | -0.0004 | -0.0001 | 0.0011 | **0.0002** | 0.0008 | 352.1 |
| Lead | 208 | 0.0006 | -0.0001 | 0.0008 | **0.0004** | 0.0005 | 117.3 |
| Manganese | 55 | -0.0027 | -0.0031 | -0.0023 | **-0.0027** | 0.0004 | 15.19 |
| Molybdenum | 98 | 0.0018 | 0.0014 | 0.0025 | **0.0019** | 0.0005 | 28.28 |
| Selenium | 77 | 0.0264 | 0.0646 | -0.0436 | **0.0158** | 0.0549 | 347.4 |
| Selenium | 78 | 0.3797 | 0.2978 | 0.2762 | **0.3179** | 0.0546 | 17.16 |
| Selenium | 82 | -0.0107 | -0.0316 | 0.072 | **0.0099** | 0.0548 | 553.9 |
| Silver | 107 | -0.0001 | 0.0011 | 0.0005 | **0.0005** | 0.0006 | 131.9 |
| Silver | 109 | 0.0001 | -0.0004 | 0.0003 | **0** | 0.0004 | 14140 |
| Zinc | 66 | 0.0846 | 0.075 | 0.0834 | **0.081** | 0.0052 | 6.447 |
| Zinc | 67 | 0.0616 | 0.0737 | 0.0922 | **0.0759** | 0.0154 | 20.28 |
| Zinc | 68 | 0.0983 | 0.0969 | 0.0964 | **0.0972** | 0.001 | 0.9982 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.99 | 0.991 | 0.984 | **0.99** | n/a | n/a |
| Indium | 115 | 0.984 | 0.994 | 0.968 | **0.984** | n/a | n/a |
| Lutetium | 175 | 1.019 | 1.018 | 1.026 | **1.019** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | PBW K1174 RERUN | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 10:47 | | | | | |
| Arsenic | 75 | 0.0134 | 0.0317 | 0.0117 | **0.0189** | 0.0111 | 58.75 |
| Barium | 135 | 0.0074 | 0.0087 | 0.0082 | **0.0081** | 0.0007 | 8.278 |
| Barium | 137 | 0.0073 | 0.0095 | 0.0122 | **0.0097** | 0.0025 | 25.62 |
| Cadmium | 111 | 0.0033 | 0.0048 | 0.0046 | **0.0043** | 0.0008 | 18.7 |
| Cadmium | 114 | 0.0026 | 0.0027 | 0.003 | **0.0028** | 0.0002 | 7.341 |
| Chromium | 52 | -0.0083 | -0.0136 | -0.0229 | **-0.0149** | 0.0074 | 49.55 |
| Chromium | 53 | 0.1914 | 0.1745 | 0.1348 | **0.1669** | 0.029 | 17.39 |
| Lead | 206 | 0.0054 | 0.0055 | 0.0055 | **0.0055** | 0 | 0.8306 |
| Lead | 207 | 0.004 | 0.0029 | 0.0043 | **0.0037** | 0.0008 | 20.32 |
| Lead | 208 | 0.0048 | 0.0043 | 0.0045 | **0.0045** | 0.0002 | 5.322 |
| Manganese | 55 | 0.0001 | -0.0007 | -0.0001 | **-0.0003** | 0.0004 | 160.3 |
| Molybdenum | 98 | 0.0029 | 0.0018 | 0.0017 | **0.0022** | 0.0007 | 30.38 |
| Selenium | 77 | -0.0586 | -0.0411 | -0.0015 | **-0.0337** | 0.0292 | 86.7 |
| Selenium | 78 | 0.0999 | -0.0231 | -0.0248 | **0.0173** | 0.0716 | 412.8 |
| Selenium | 82 | -0.0346 | 0.0583 | 0.0337 | **0.0192** | 0.0481 | 251.2 |
| Silver | 107 | 0.0098 | 0.0084 | 0.0114 | **0.0098** | 0.0015 | 15.06 |
| Silver | 109 | 0.0084 | 0.0084 | 0.0091 | **0.0086** | 0.0004 | 4.885 |
| Zinc | 66 | 0.094 | 0.0827 | 0.0799 | **0.0855** | 0.0075 | 8.759 |
| Zinc | 67 | 0.1224 | 0.1175 | 0.0949 | **0.1116** | 0.0146 | 13.12 |
| Zinc | 68 | 0.1047 | 0.0898 | 0.0801 | **0.0915** | 0.0124 | 13.54 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.932 | 0.921 | 0.909 | **0.932** | n/a | n/a |
| Indium | 115 | 0.944 | 0.919 | 0.94 | **0.944** | n/a | n/a |
| Lutetium | 175 | 0.96 | 0.971 | 0.979 | **0.96** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA 6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| ımple Name: | | K1174-02 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ıimeStamp | | 2/28/02 10:50 | | | | | |
| Arsenic | 75 | 0.629 | 0.6232 | 0.6201 | **0.6241** | 0.0045 | 0.7218 |
| Barium | 135 | 122.5 | 122.2 | 119.1 | **121.3** | 1.854 | 1.529 |
| ~~Barium~~ | ~~137~~ | ~~120.5~~ | ~~117.8~~ | ~~119.5~~ | ~~**119.3**~~ | ~~1.376~~ | ~~1.154~~ |
| Cadmium | 111 | 0.0209 | 0.0209 | 0.0248 | **0.0222** | 0.0023 | 10.15 |
| Cadmium | 114 | 0.0172 | 0.0183 | 0.0179 | **0.0178** | 0.0005 | 3.073 |
| Chromium | 52 | 1.218 | 1.203 | 1.258 | **1.226** | 0.0286 | 2.334 |
| Chromium | 53 | 0.4725 | 0.4575 | 0.4817 | **0.4706** | 0.0122 | 2.602 |
| Lead | 206 | 0.1215 | 0.1299 | 0.1288 | **0.1267** | 0.0046 | 3.627 |
| Lead | 207 | 0.1093 | 0.1121 | 0.118 | **0.1131** | 0.0044 | 3.917 |
| ~~Lead~~ | ~~208~~ | ~~0.116~~ | ~~0.1157~~ | ~~0.1214~~ | ~~**0.1177**~~ | ~~0.0032~~ | ~~2.724~~ |
| ~~Manganese~~ | ~~55~~ | ~~74.77~~ | ~~75.24~~ | ~~75.22~~ | ~~**75.08**~~ | ~~0.2635~~ | ~~0.351~~ |
| Molybdenum | 98 | 1.874 | 1.839 | 1.841 | **1.851** | 0.0194 | 1.05 |
| Selenium | 77 | 0.3203 | 0.2472 | 0.2769 | **0.2815** | 0.0368 | 13.07 |
| Selenium | 78 | 1.122 | 1.23 | 1.09 | **1.147** | 0.0731 | 6.374 |
| Selenium | 82 | 0.347 | 0.3356 | 0.4056 | **0.3627** | 0.0376 | 10.35 |
| Silver | 107 | 0.0125 | 0.01 | 0.0117 | **0.0114** | 0.0013 | 11.42 |
| Silver | 109 | 0.0084 | 0.0057 | 0.0067 | **0.007** | 0.0014 | 19.59 |
| Zinc | 66 | 76.14 | 75.28 | 74.79 | **75.4** | 0.6818 | 0.9042 |
| Zinc | 67 | 77.28 | 77.36 | 76.92 | **77.19** | 0.2324 | 0.3011 |
| Zinc | 68 | 81.41 | 81.71 | 81.59 | **81.57** | 0.1526 | 0.1871 |

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3/1/02

*see Dilution JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.989 | 0.982 | 0.973 | **0.989** | n/a | n/a |
| Indium | 115 | 1.064 | 1.041 | 1.006 | **1.064** | n/a | n/a |
| Lutetium | 175 | 1.005 | 0.986 | 0.972 | **1.005** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA 6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **ample Name:** | | **K1174-03** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 10:53** | | | | | |
| Arsenic | 75 | 17.37 | 17.02 | 17.39 | **17.26** | 0.2035 | 1.179 |
| Barium | 135 | 29.9 | 30.45 | 29.97 | **30.1** | 0.2986 | 0.992 |
| Barium | 137 | 30.18 | 30.06 | 30.16 | **30.13** | 0.0663 | 0.2201 |
| Cadmium | 111 | 0.1648 | 0.1896 | 0.1843 | **0.1795** | 0.0131 | 7.28 |
| Cadmium | 114 | 0.1757 | 0.1881 | 0.1854 | **0.1831** | 0.0065 | 3.553 |
| Chromium | 52 | 2.043 | 2.045 | 2.064 | **2.051** | 0.0113 | 0.551 |
| Chromium | 53 | 0.8428 | 0.9267 | 0.9815 | **0.917** | 0.0698 | 7.614 |
| Lead | 206 | 0.893 | 0.9167 | 0.8708 | **0.8935** | 0.0229 | 2.565 |
| Lead | 207 | 0.7966 | 0.8144 | 0.8289 | **0.8133** | 0.0162 | 1.989 |
| Lead | 208 | 0.8259 | 0.8478 | 0.8421 | **0.8386** | 0.0114 | 1.353 |
| Manganese | 55 | 0.2329 | 0.2286 | 0.2292 | **0.2302** | 0.0024 | 1.021 |
| Molybdenum | 98 | 5.078 | 4.947 | 5.205 | **5.077** | 0.1293 | 2.547 |
| Selenium | 77 | 6.184 | 6.303 | 6.315 | **6.267** | 0.0722 | 1.152 |
| Selenium | 78 | 6.714 | 6.45 | 6.727 | **6.631** | 0.1561 | 2.354 |
| Selenium | 82 | 6.368 | 6.53 | 6.688 | **6.529** | 0.1599 | 2.449 |
| Silver | 107 | 0.0083 | 0.0072 | 0.0093 | **0.0083** | 0.0011 | 13.29 |
| Silver | 109 | 0.0057 | 0.0069 | 0.0081 | **0.0069** | 0.0012 | 17.11 |
| Zinc | 66 | 138.4 | 135.8 | 135.7 | **136.6** | 1.499 | 1.097 |
| Zinc | 67 | 120.4 | 120.5 | 121.4 | **120.8** | 0.5494 | 0.4549 |
| Zinc | 68 | 131.4 | 132.4 | 131.1 | **131.6** | 0.6936 | 0.5269 |

see 1/2 Dilution
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.017 | 1.008 | 1.008 | **1.017** | n/a | n/a |
| Indium | 115 | 1.365 | 1.375 | 1.373 | **1.365** | n/a | n/a |
| Lutetium | 175 | 1.19 | 1.206 | 1.172 | **1.19** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA 6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| mple Name: | | K1174-04 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 10:56 | | | | | |
| Arsenic | 75 | 17.66 | 17.4 | 17.38 | **17.48** | 0.1577 | 0.9022 |
| Barium | 135 | 30.64 | 30.6 | 31.2 | **30.81** | 0.331 | 1.074 |
| Barium | 137 | 30.59 | 30.65 | 30.24 | **30.5** | 0.2227 | 0.7304 |
| Cadmium | 111 | 0.1599 | 0.1697 | 0.1672 | **0.1656** | 0.0051 | 3.08 |
| Cadmium | 114 | 0.1583 | 0.1614 | 0.1626 | **0.1608** | 0.0022 | 1.395 |
| Chromium | 52 | 1.531 | 1.584 | 1.631 | **1.582** | 0.0498 | 3.145 |
| Chromium | 53 | 1.072 | 1.1 | 1.127 | **1.099** | 0.0273 | 2.479 |
| Lead | 206 | 0.7737 | 0.8436 | 0.8109 | **0.8094** | 0.035 | 4.325 |
| Lead | 207 | 0.7431 | 0.7808 | 0.7681 | **0.764** | 0.0192 | 2.516 |
| Lead | 208 | 0.7554 | 0.7863 | 0.7902 | **0.7773** | 0.019 | 2.449 |
| Manganese | 55 | 0.1306 | 0.1257 | 0.1296 | **0.1286** | 0.0026 | 2.007 |
| Molybdenum | 98 | 5.164 | 5.155 | 5.222 | **5.18** | 0.0366 | 0.7067 |
| Selenium | 77 | 6.189 | 6.198 | 6.146 | **6.178** | 0.0277 | 0.4485 |
| Selenium | 78 | 6.572 | 6.285 | 6.443 | **6.433** | 0.1436 | 2.231 |
| Selenium | 82 | 6.498 | 6.92 | 6.753 | **6.724** | 0.2126 | 3.162 |
| Silver | 107 | 0.0255 | 0.0272 | 0.0255 | **0.0261** | 0.001 | 3.838 |
| Silver | 109 | 0.0225 | 0.0238 | 0.0271 | **0.0244** | 0.0024 | 9.672 |
| Zinc | 66 | 63.5 | 62.39 | 62.73 | **62.87** | 0.5645 | 0.8978 |
| Zinc | 67 | 57.19 | 56.36 | 56.06 | **56.54** | 0.587 | 1.038 |
| Zinc | 68 | 62.7 | 61.98 | 61.52 | **62.06** | 0.5936 | 0.9565 |

see 1/2 Dilution
JC
3/11/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.044 | 1.021 | 1.015 | **1.044** | n/a | n/a |
| Indium | 115 | 1.467 | 1.405 | 1.393 | **1.467** | n/a | n/a |
| Lutetium | 175 | 1.227 | 1.235 | 1.204 | **1.227** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ımple Name: | | K1174-05 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .meStamp | | 2/28/02 10:59 | | | | | |
| Arsenic | 75 | 0.0391 | 0.0413 | 0.037 | **0.0392** | 0.0022 | 5.543 |
| Barium | 135 | 0.6409 | 0.6741 | 0.6578 | **0.6576** | 0.0166 | 2.523 |
| Barium | 137 | 0.6874 | 0.6519 | 0.6599 | **0.6664** | 0.0186 | 2.792 |
| Cadmium | 111 | 0.0114 | 0.0117 | 0.0097 | **0.0109** | 0.0011 | 10.18 |
| Cadmium | 114 | 0.0094 | 0.0109 | 0.011 | **0.0104** | 0.0009 | 8.605 |
| Chromium | 52 | 0.2511 | 0.228 | 0.2096 | **0.2296** | 0.0208 | 9.043 |
| Chromium | 53 | 0.4518 | 0.3986 | 0.3978 | **0.4161** | 0.031 | 7.444 |
| Lead | 206 | 0.1244 | 0.122 | 0.1232 | **0.1232** | 0.0012 | 1.002 |
| Lead | 207 | 0.1025 | 0.1224 | 0.1161 | **0.1137** | 0.0102 | 8.961 |
| Lead | 208 | 0.1159 | 0.1175 | 0.1173 | **0.1169** | 0.0009 | 0.7416 |
| Manganese | 55 | 0.4913 | 0.4962 | 0.4963 | **0.4946** | 0.0028 | 0.5759 |
| Molybdenum | 98 | 0.2269 | 0.2189 | 0.2196 | **0.2218** | 0.0044 | 2.005 |
| Selenium | 77 | -0.0336 | -0.0229 | -0.0311 | **-0.0292** | 0.0056 | 19.16 |
| Selenium | 78 | 0.4654 | 0.3015 | 0.5299 | **0.4323** | 0.1177 | 27.24 |
| Selenium | 82 | 0.0988 | 0.1256 | 0.107 | **0.1105** | 0.0137 | 12.42 |
| Silver | 107 | 0.0117 | 0.0103 | 0.01 | **0.0107** | 0.0009 | 8.523 |
| Silver | 109 | 0.0103 | 0.0109 | 0.0099 | **0.0103** | 0.0005 | 4.795 |
| Zinc | 66 | 6.468 | 6.364 | 6.458 | **6.43** | 0.0572 | 0.8895 |
| Zinc | 67 | 5.546 | 5.402 | 5.722 | **5.557** | 0.1604 | 2.887 |
| Zinc | 68 | 6.048 | 5.979 | 6.101 | **6.043** | 0.0612 | 1.012 |

See 1/2 Dilution
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.923 | 0.915 | 0.932 | **0.923** | n/a | n/a |
| Indium | 115 | 0.95 | 0.921 | 0.924 | **0.95** | n/a | n/a |
| Lutetium | 175 | 0.992 | 0.967 | 0.95 | **0.992** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| mple Name: | | K1174-06 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 11:02 | | | | | |
| Arsenic | 75 | 28.77 | 28.19 | 28.58 | **28.51** | 0.3002 | 1.053 |
| Barium | 135 | 43.2 | 43.69 | 43.85 | **43.58** | 0.3354 | 0.7696 |
| Barium | 137 | 43.01 | 42.99 | 43.34 | **43.11** | 0.1998 | 0.4635 |
| Cadmium | 111 | 0.0403 | 0.0417 | 0.0343 | **0.0388** | 0.0039 | 10.06 |
| Cadmium | 114 | 0.0277 | 0.0289 | 0.033 | **0.0299** | 0.0028 | 9.311 |
| Chromium | 52 | 3.165 | 3.232 | 3.342 | **3.246** | 0.0893 | 2.752 |
| Chromium | 53 | 1.222 | 1.291 | 1.298 | **1.27** | 0.0419 | 3.299 |
| Lead | 206 | 0.3077 | 0.3267 | 0.328 | **0.3208** | 0.0114 | 3.539 |
| Lead | 207 | 0.3043 | 0.3043 | 0.3083 | **0.3056** | 0.0023 | 0.7516 |
| Lead | 208 | 0.2995 | 0.3059 | 0.3098 | **0.3051** | 0.0052 | 1.705 |
| Manganese | 55 | 0.8816 | 0.9142 | 0.9196 | **0.9052** | 0.0205 | 2.269 |
| Molybdenum | 98 | 5.486 | 5.509 | 5.624 | **5.54** | 0.0742 | 1.339 |
| Selenium | 77 | 5.56 | 5.644 | 5.658 | **5.621** | 0.0528 | 0.9391 |
| Selenium | 78 | 6.272 | 6.455 | 6.423 | **6.383** | 0.0976 | 1.529 |
| Selenium | 82 | 6.339 | 6.27 | 6.235 | **6.282** | 0.0529 | 0.8427 |
| Silver | 107 | 0.0071 | 0.0084 | 0.0065 | **0.0073** | 0.001 | 13.17 |
| Silver | 109 | 0.0056 | 0.0064 | 0.0057 | **0.0059** | 0.0004 | 6.719 |
| Zinc | 66 | 30.38 | 30.39 | 30.27 | **30.35** | 0.0697 | 0.2295 |
| Zinc | 67 | 29.72 | 30.15 | 30.39 | **30.09** | 0.3382 | 1.124 |
| Zinc | 68 | 30.69 | 30.94 | 31.53 | **31.05** | 0.4338 | 1.397 |

See 1/2 Dilution 3/1/02 JC

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.025 | 1.03 | 1.037 | **1.025** | n/a | n/a |
| Indium | 115 | 1.414 | 1.417 | 1.4 | **1.414** | n/a | n/a |
| Lutetium | 175 | 1.177 | 1.194 | 1.192 | **1.177** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | K1174-07 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 11:05 | | | | | |
| Arsenic | 75 | 14.56 | 14.46 | 14.64 | **14.56** | 0.0901 | 0.6192 |
| Barium | 135 | 40.91 | 42.18 | 41.12 | **41.4** | 0.6799 | 1.642 |
| Barium | 137 | 41.42 | 41 | 40.62 | **41.01** | 0.3991 | 0.9732 |
| Cadmium | 111 | 0.0414 | 0.0413 | 0.0391 | **0.0406** | 0.0013 | 3.178 |
| Cadmium | 114 | 0.0316 | 0.0328 | 0.0393 | **0.0346** | 0.0041 | 11.98 |
| Chromium | 52 | 1.896 | 1.915 | 2.001 | **1.937** | 0.0558 | 2.879 |
| Chromium | 53 | 1.389 | 1.421 | 1.451 | **1.42** | 0.0312 | 2.196 |
| Lead | 206 | 0.0984 | 0.0961 | 0.0993 | **0.0979** | 0.0016 | 1.647 |
| Lead | 207 | 0.0959 | 0.0984 | 0.099 | **0.0978** | 0.0016 | 1.657 |
| Lead | 208 | 0.0983 | 0.0993 | 0.0984 | **0.0987** | 0.0006 | 0.5967 |
| Manganese | 55 | 30.04 | 29.8 | 30.66 | **30.17** | 0.4446 | 1.474 |
| Molybdenum | 98 | 7.199 | 7.531 | 7.434 | **7.388** | 0.1708 | 2.311 |
| Selenium | 77 | 3.18 | 3.096 | 3.223 | **3.167** | 0.0647 | 2.043 |
| Selenium | 78 | 3.359 | 3.517 | 3.608 | **3.495** | 0.1257 | 3.598 |
| Selenium | 82 | 3.221 | 3.279 | 3.275 | **3.258** | 0.0324 | 0.9953 |
| Silver | 107 | 0.008 | 0.0092 | 0.0071 | **0.0081** | 0.0011 | 13.08 |
| Silver | 109 | 0.0071 | 0.0053 | 0.0054 | **0.0059** | 0.001 | 16.54 |
| Zinc | 66 | 19.43 | 19.38 | 20.08 | **19.63** | 0.3893 | 1.983 |
| Zinc | 67 | 18.85 | 19.29 | 19.51 | **19.22** | 0.3349 | 1.742 |
| Zinc | 68 | 20.51 | 20.51 | 21.12 | **20.71** | 0.3504 | 1.692 |

See 1/2 Dilution 3C 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.027 | 1.021 | 1.059 | **1.027** | n/a | n/a |
| Indium | 115 | 1.319 | 1.334 | 1.334 | **1.319** | n/a | n/a |
| Lutetium | 175 | 1.144 | 1.139 | 1.12 | **1.144** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA 6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| ample Name: | | K1174-08 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 11:08 | | | | | |
| Arsenic | 75 | 8.883 | 9.035 | 8.871 | **8.93** | 0.0913 | 1.022 |
| Barium | 135 | 28.94 | 29.13 | 28.48 | **28.85** | 0.3315 | 1.149 |
| Barium | 137 | 28.43 | 28.56 | 28.6 | **28.53** | 0.0871 | 0.3052 |
| Cadmium | 111 | 0.0135 | 0.0135 | 0.0127 | **0.0132** | 0.0004 | 3.271 |
| Cadmium | 114 | 0.0115 | 0.0121 | 0.0111 | **0.0116** | 0.0005 | 4.205 |
| Chromium | 52 | 2.422 | 2.45 | 2.505 | **2.459** | 0.0422 | 1.718 |
| Chromium | 53 | 1.149 | 1.108 | 1.139 | **1.132** | 0.0212 | 1.874 |
| Lead | 206 | 0.1328 | 0.1452 | 0.1446 | **0.1409** | 0.007 | 4.975 |
| Lead | 207 | 0.1293 | 0.1355 | 0.1297 | **0.1315** | 0.0034 | 2.616 |
| Lead | 208 | 0.1363 | 0.1357 | 0.1326 | **0.1349** | 0.002 | 1.454 |
| Manganese | 55 | 0.2988 | 0.3001 | 0.3097 | **0.3029** | 0.006 | 1.977 |
| Molybdenum | 98 | 1.627 | 1.582 | 1.616 | **1.608** | 0.0235 | 1.459 |
| Selenium | 77 | 5.738 | 5.495 | 5.627 | **5.62** | 0.1217 | 2.165 |
| Selenium | 78 | 6.267 | 6.307 | 5.928 | **6.167** | 0.2082 | 3.376 |
| Selenium | 82 | 6.109 | 5.936 | 6.245 | **6.096** | 0.1549 | 2.542 |
| Silver | 107 | 0.0081 | 0.0077 | 0.0086 | **0.0081** | 0.0005 | 5.846 |
| Silver | 109 | 0.0068 | 0.007 | 0.0076 | **0.0071** | 0.0004 | 5.458 |
| Zinc | 66 | 5.837 | 5.902 | 5.908 | **5.882** | 0.0395 | 0.6719 |
| Zinc | 67 | 6.942 | 7.096 | 7.112 | **7.05** | 0.0941 | 1.335 |
| Zinc | 68 | 7.158 | 7.223 | 7.186 | **7.189** | 0.0324 | 0.451 |

See 1/2 Dilution 3/2/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.02 | 1.008 | 1.022 | **1.02** | n/a | n/a |
| Indium | 115 | 1.384 | 1.408 | 1.386 | **1.384** | n/a | n/a |
| Lutetium | 175 | 1.204 | 1.157 | 1.156 | **1.204** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | K1174-08S | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 11:11 | | | | | |
| Arsenic | 75 | 26.28 | 26.21 | 26 | **26.16** | 0.1421 | 0.5433 |
| Barium | 135 | 47.98 | 48.2 | 47.92 | **48.04** | 0.1476 | 0.3072 |
| Barium | 137 | 46.74 | 47.22 | 48.13 | **47.36** | 0.7041 | 1.487 |
| Cadmium | 111 | 17.37 | 16.9 | 16.3 | **16.86** | 0.5369 | 3.185 |
| Cadmium | 114 | 17.09 | 17.28 | 17.36 | **17.24** | 0.1374 | 0.7972 |
| Chromium | 52 | 17.49 | 17.62 | 17.55 | **17.55** | 0.0619 | 0.3529 |
| Chromium | 53 | 16.75 | 16.81 | 16.48 | **16.68** | 0.1773 | 1.063 |
| Lead | 206 | 14.28 | 14.48 | 15.41 | **14.73** | 0.5995 | 4.071 |
| Lead | 207 | 14.12 | 14.6 | 15.04 | **14.59** | 0.4601 | 3.154 |
| Lead | 208 | 14.07 | 14.6 | 15.19 | **14.62** | 0.5588 | 3.822 |
| Manganese | 55 | 15.26 | 15.03 | 15.08 | **15.12** | 0.1193 | 0.7886 |
| Molybdenum | 98 | 22.23 | 21.69 | 21.41 | **21.78** | 0.4167 | 1.913 |
| Selenium | 77 | 21.59 | 21.87 | 21.8 | **21.75** | 0.1456 | 0.6693 |
| Selenium | 78 | 22.59 | 22.83 | 22.67 | **22.7** | 0.1222 | 0.5382 |
| Selenium | 82 | 22.46 | 22.35 | 22.83 | **22.54** | 0.2504 | 1.111 |
| Silver | 107 | 15.56 | 16.08 | 15.45 | **15.69** | 0.3367 | 2.145 |
| Silver | 109 | 15.97 | 16.01 | 16.1 | **16.03** | 0.0655 | 0.4088 |
| Zinc | 66 | 19.24 | 19.29 | 19.33 | **19.29** | 0.044 | 0.228 |
| Zinc | 67 | 20.53 | 20.66 | 20.54 | **20.57** | 0.0723 | 0.3515 |
| Zinc | 68 | 20.51 | 20.64 | 20.38 | **20.51** | 0.1264 | 0.6163 |

see 1/2 Dilution
JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.063 | 1.064 | 1.055 | **1.063** | n/a | n/a |
| Indium | 115 | 1.442 | 1.428 | 1.42 | **1.442** | n/a | n/a |
| Lutetium | 175 | 1.216 | 1.228 | 1.269 | **1.216** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA 6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| Sample Name: | | K1174-08SD | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 11:15 | | | | | |
| Arsenic | 75 | 26.67 | 26.66 | 27.02 | **26.78** | 0.2062 | 0.7697 |
| Barium | 135 | 47.55 | 47.78 | 46.45 | **47.26** | 0.7065 | 1.495 |
| Barium | 137 | 47.02 | 47.21 | 49.04 | **47.76** | 1.114 | 2.333 |
| Cadmium | 111 | 17.07 | 16.77 | 17.4 | **17.08** | 0.3124 | 1.829 |
| Cadmium | 114 | 17.46 | 17.03 | 17.66 | **17.38** | 0.3242 | 1.865 |
| Chromium | 52 | 19.44 | 19.57 | 19.15 | **19.38** | 0.2176 | 1.123 |
| Chromium | 53 | 17.21 | 16.81 | 16.83 | **16.95** | 0.223 | 1.316 |
| Lead | 206 | 14.66 | 15.53 | 15.28 | **15.16** | 0.4493 | 2.964 |
| Lead | 207 | 14.46 | 15.39 | 15.23 | **15.03** | 0.4939 | 3.287 |
| Lead | 208 | 14.58 | 15.34 | 15.05 | **14.99** | 0.385 | 2.569 |
| Manganese | 55 | 15.38 | 15.2 | 14.94 | **15.17** | 0.2219 | 1.463 |
| Molybdenum | 98 | 22.05 | 20.96 | 22.28 | **21.75** | 0.7239 | 3.328 |
| Selenium | 77 | 22.93 | 22.68 | 22.67 | **22.76** | 0.1499 | 0.6587 |
| Selenium | 78 | 23.7 | 23.27 | 23.47 | **23.48** | 0.214 | 0.9114 |
| Selenium | 82 | 23.64 | 23.12 | 23.41 | **23.39** | 0.2608 | 1.115 |
| Silver | 107 | 16.05 | 15.92 | 15.98 | **15.99** | 0.0656 | 0.4104 |
| Silver | 109 | 16.43 | 16.48 | 16.49 | **16.47** | 0.0316 | 0.1916 |
| Zinc | 66 | 19.3 | 19.42 | 19.66 | **19.46** | 0.1871 | 0.9613 |
| Zinc | 67 | 20.99 | 20.96 | 20.87 | **20.94** | 0.0619 | 0.2954 |
| Zinc | 68 | 20.76 | 20.61 | 21.04 | **20.8** | 0.2168 | 1.042 |

See 1/2 Dilution 3C 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.071 | 1.066 | 1.051 | **1.071** | n/a | n/a |
| Indium | 115 | 1.472 | 1.438 | 1.466 | **1.472** | n/a | n/a |
| Lutetium | 175 | 1.237 | 1.279 | 1.247 | **1.237** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | CCV3 MS1-23-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 11:19 | | | | | |
| Arsenic | 75 | 25.43 | 25.38 | 25.64 | **25.48** | 0.136 | 0.5337 |
| Barium | 135 | 24.8 | 24.19 | 24.03 | **24.34** | 0.4053 | 1.665 |
| Barium | 137 | 24.97 | 24.33 | 24.43 | **24.58** | 0.3427 | 1.394 |
| Cadmium | 111 | 25.39 | 24.79 | 25.13 | **25.1** | 0.2986 | 1.19 |
| Cadmium | 114 | 25.63 | 24.16 | 25.4 | **25.06** | 0.7872 | 3.141 |
| Chromium | 52 | 25.06 | 24.95 | 25.09 | **25.03** | 0.0713 | 0.285 |
| Chromium | 53 | 25.16 | 25.4 | 25.39 | **25.31** | 0.136 | 0.5373 |
| Lead | 206 | 24.81 | 24.13 | 24.8 | **24.58** | 0.3943 | 1.604 |
| Lead | 207 | 24.42 | 24.74 | 24.35 | **24.5** | 0.2094 | 0.8545 |
| Lead | 208 | 24.75 | 24.3 | 24.61 | **24.55** | 0.2278 | 0.9278 |
| Manganese | 55 | 25.42 | 25.61 | 25.74 | **25.59** | 0.1614 | 0.6306 |
| Molybdenum | 98 | 24.14 | 24 | 23.85 | **24** | 0.1458 | 0.6074 |
| Selenium | 77 | 25.59 | 25.78 | 26.07 | **25.82** | 0.242 | 0.9375 |
| Selenium | 78 | 26.51 | 25.73 | 26.48 | **26.24** | 0.4403 | 1.678 |
| Selenium | 82 | 25.85 | 25.55 | 25.67 | **25.69** | 0.1496 | 0.5822 |
| Silver | 107 | 24.9 | 23.82 | 23.94 | **24.22** | 0.5904 | 2.438 |
| Silver | 109 | 24.72 | 24.26 | 24.94 | **24.64** | 0.3461 | 1.405 |
| Zinc | 66 | 26.28 | 26.06 | 26.74 | **26.36** | 0.3497 | 1.326 |
| Zinc | 67 | 25.83 | 25.91 | 25.9 | **25.88** | 0.0442 | 0.1709 |
| Zinc | 68 | 26.02 | 25.45 | 25.9 | **25.79** | 0.3033 | 1.176 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.956 | 0.966 | 0.98 | **0.956** | n/a | n/a |
| Indium | 115 | 1.017 | 0.982 | 1.001 | **1.017** | n/a | n/a |
| Lutetium | 175 | 1.025 | 1.003 | 0.996 | **1.025** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ımple Name: | | CCB3 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ı imeStamp | | 2/28/02 11:29 | | | | | |
| Arsenic | 75 | 0.0372 | -0.002 | -0.0086 | **0.0089** | 0.0248 | 278.4 |
| Barium | 135 | 0.0004 | -0.0022 | -0.0016 | **-0.0011** | 0.0014 | 120.1 |
| Barium | 137 | 0.0005 | 0.0006 | -0.0009 | **0.0001** | 0.0008 | 1156 |
| Cadmium | 111 | 0.0033 | 0.0036 | 0.003 | **0.0033** | 0.0003 | 8.52 |
| Cadmium | 114 | 0.0022 | 0.0019 | 0.0013 | **0.0018** | 0.0004 | 24.21 |
| Chromium | 52 | 0.0194 | 0.0038 | 0.0155 | **0.0129** | 0.0081 | 62.76 |
| Chromium | 53 | 0.1592 | 0.1638 | 0.1623 | **0.1618** | 0.0024 | 1.46 |
| Lead | 206 | 0.0007 | 0.0009 | 0.0007 | **0.0008** | 0.0001 | 11.85 |
| Lead | 207 | 0.0016 | -0.0003 | -0.0008 | **0.0002** | 0.0012 | 722.2 |
| Lead | 208 | 0.0015 | 0.0004 | 0.0003 | **0.0007** | 0.0007 | 96.74 |
| Manganese | 55 | -0.0031 | -0.0039 | -0.0029 | **-0.0033** | 0.0005 | 15.66 |
| Molybdenum | 98 | 0.0036 | 0.0021 | 0.0023 | **0.0027** | 0.0008 | 31.07 |
| Selenium | 77 | -0.1149 | -0.0433 | -0.0627 | **-0.0736** | 0.037 | 50.29 |
| Selenium | 78 | 0.4258 | 0.3288 | 0.5215 | **0.4254** | 0.0964 | 22.65 |
| Selenium | 82 | 0.0585 | -0.0023 | -0.0496 | **0.0022** | 0.0542 | 2473 |
| Silver | 107 | 0.001 | -0.0002 | 0.0002 | **0.0003** | 0.0006 | 190.9 |
| Silver | 109 | 0 | -0.0003 | 0.0004 | **0** | 0.0003 | 1375 |
| Zinc | 66 | 0.0756 | 0.076 | 0.0767 | **0.0761** | 0.0006 | 0.7646 |
| Zinc | 67 | 0.0824 | 0.0786 | 0.1036 | **0.0882** | 0.0135 | 15.27 |
| Zinc | 68 | 0.0727 | 0.0569 | 0.0742 | **0.0679** | 0.0096 | 14.11 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.977 | 0.944 | 0.962 | **0.977** | n/a | n/a |
| Indium | 115 | 1.02 | 1.003 | 1.007 | **1.02** | n/a | n/a |
| Lutetium | 175 | 1.026 | 0.99 | 0.981 | **1.026** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ımple Name: | | K1174-09 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .meStamp | | 2/28/02 11:33 | | | | | |
| Arsenic | 75 | 14.29 | 14.23 | 14.27 | **14.26** | 0.0324 | 0.2269 |
| Barium | 135 | 41.72 | 40.28 | 42.25 | **41.42** | 1.016 | 2.453 |
| Barium | 137 | 41.39 | 40.01 | 42.16 | **41.19** | 1.091 | 2.649 |
| Cadmium | 111 | 0.0479 | 0.0425 | 0.0498 | **0.0468** | 0.0038 | 8.101 |
| Cadmium | 114 | 0.0345 | 0.0304 | 0.0367 | **0.0339** | 0.0032 | 9.317 |
| Chromium | 52 | 1.482 | 1.494 | 1.482 | **1.486** | 0.0071 | 0.4757 |
| Chromium | 53 | 1.057 | 1.101 | 1.073 | **1.077** | 0.0225 | 2.088 |
| Lead | 206 | 0.153 | 0.139 | 0.15 | **0.1473** | 0.0074 | 5.029 |
| Lead | 207 | 0.1401 | 0.1409 | 0.1349 | **0.1386** | 0.0033 | 2.368 |
| Lead | 208 | 0.1473 | 0.14 | 0.144 | **0.1438** | 0.0037 | 2.547 |
| Manganese | 55 | 31.71 | 31.5 | 31.36 | **31.52** | 0.1767 | 0.5605 |
| Molybdenum | 98 | 7.419 | 7.177 | 7.554 | **7.384** | 0.1909 | 2.586 |
| Selenium | 77 | 3.155 | 2.958 | 3.259 | **3.124** | 0.1526 | 4.886 |
| Selenium | 78 | 3.463 | 3.254 | 3.559 | **3.425** | 0.1558 | 4.549 |
| Selenium | 82 | 3.269 | 3.203 | 3.399 | **3.29** | 0.0995 | 3.025 |
| Silver | 107 | 0.011 | 0.0088 | 0.0101 | **0.01** | 0.0011 | 10.95 |
| Silver | 109 | 0.0071 | 0.0075 | 0.0073 | **0.0073** | 0.0002 | 3.122 |
| Zinc | 66 | 19.84 | 19.96 | 19.8 | **19.87** | 0.0793 | 0.3989 |
| Zinc | 67 | 19.33 | 19.24 | 19.59 | **19.39** | 0.1797 | 0.9268 |
| Zinc | 68 | 20.81 | 20.48 | 20.79 | **20.69** | 0.1828 | 0.8837 |

see 1/2 Dilution
SC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ɔcandium | 45 | 1.017 | 1.011 | 0.997 | **1.017** | n/a | n/a |
| Indium | 115 | 1.38 | 1.349 | 1.406 | **1.38** | n/a | n/a |
| Lutetium | 175 | 1.152 | 1.091 | 1.115 | **1.152** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | K1174-10 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 11:36 | | | | | |
| Arsenic | 75 | 18.5 | 18.36 | 18.81 | **18.56** | 0.2291 | 1.235 |
| Barium | 135 | 53.81 | 56.04 | 53.99 | **54.61** | 1.235 | 2.262 |
| Barium | 137 | 53.04 | 54.25 | 54.09 | **53.79** | 0.6623 | 1.231 |
| Cadmium | 111 | 0.0677 | 0.0732 | 0.0739 | **0.0716** | 0.0034 | 4.757 |
| Cadmium | 114 | 0.0602 | 0.065 | 0.0669 | **0.064** | 0.0035 | 5.432 |
| Chromium | 52 | 2.484 | 2.452 | 2.498 | **2.478** | 0.0235 | 0.9501 |
| Chromium | 53 | 1.076 | 1.076 | 1.15 | **1.101** | 0.0428 | 3.889 |
| Lead | 206 | 0.1305 | 0.1335 | 0.1293 | **0.1311** | 0.0022 | 1.669 |
| Lead | 207 | 0.1223 | 0.1166 | 0.1258 | **0.1215** | 0.0046 | 3.794 |
| Lead | 208 | 0.1258 | 0.1267 | 0.1251 | **0.1259** | 0.0008 | 0.6584 |
| Manganese | 55 | 64.42 | 64.05 | 63.82 | **64.1** | 0.3018 | 0.4708 |
| Molybdenum | 98 | 7.146 | 7.411 | 7.376 | **7.311** | 0.1441 | 1.971 |
| Selenium | 77 | 7.587 | 7.761 | 7.516 | **7.621** | 0.1262 | 1.657 |
| Selenium | 78 | 8.412 | 8.389 | 8.412 | **8.404** | 0.0136 | 0.1614 |
| Selenium | 82 | 8.072 | 7.808 | 8.047 | **7.976** | 0.1455 | 1.824 |
| Silver | 107 | 0.009 | 0.0101 | 0.0094 | **0.0095** | 0.0005 | 5.545 |
| Silver | 109 | 0.0064 | 0.0055 | 0.0057 | **0.0059** | 0.0005 | 8.246 |
| Zinc | 66 | 10.2 | 10.28 | 10.35 | **10.28** | 0.0756 | 0.7357 |
| Zinc | 67 | 13.74 | 13.77 | 13.92 | **13.81** | 0.0998 | 0.7227 |
| Zinc | 68 | 12.11 | 12.04 | 12.21 | **12.12** | 0.083 | 0.6847 |

see 1/2 Dilution JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.096 | 1.068 | 1.093 | **1.096** | n/a | n/a |
| Indium | 115 | 1.407 | 1.434 | 1.419 | **1.407** | n/a | n/a |
| Lutetium | 175 | 1.166 | 1.163 | 1.161 | **1.166** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA 6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **ample Name:** | | **K1174-11** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **.imeStamp** | | **2/28/02 11:39** | | | | | |
| Arsenic | 75 | 36.15 | 34.97 | 35.26 | **35.46** | 0.6152 | 1.735 |
| Barium | 135 | 43.15 | 42.48 | 42.26 | **42.63** | 0.4625 | 1.085 |
| Barium | 137 | 42.14 | 41.84 | 42.86 | **42.28** | 0.5228 | 1.236 |
| Cadmium | 111 | 0.1105 | 0.0988 | 0.1 | **0.1031** | 0.0065 | 6.264 |
| Cadmium | 114 | 0.0829 | 0.078 | 0.0825 | **0.0811** | 0.0028 | 3.422 |
| Chromium | 52 | 2.521 | 2.55 | 2.502 | **2.524** | 0.0243 | 0.9628 |
| Chromium | 53 | 1.096 | 1.11 | 1.083 | **1.096** | 0.0131 | 1.194 |
| Lead | 206 | 0.1345 | 0.1355 | 0.1322 | **0.1341** | 0.0017 | 1.282 |
| Lead | 207 | 0.1212 | 0.1438 | 0.1328 | **0.1326** | 0.0113 | 8.543 |
| Lead | 208 | 0.1277 | 0.1356 | 0.1317 | **0.1317** | 0.004 | 3.009 |
| Manganese | 55 | 4.069 | 3.988 | 4.011 | **4.022** | 0.0418 | 1.04 |
| Molybdenum | 98 | 23.73 | 23.66 | 22.45 | **23.28** | 0.7206 | 3.096 |
| Selenium | 77 | 2.823 | 2.882 | 2.917 | **2.874** | 0.0477 | 1.66 |
| Selenium | 78 | 3.743 | 3.388 | 3.415 | **3.515** | 0.1981 | 5.634 |
| Selenium | 82 | 3.35 | 2.999 | 2.889 | **3.079** | 0.2409 | 7.822 |
| Silver | 107 | 0.0086 | 0.0055 | 0.0069 | **0.007** | 0.0016 | 22.44 |
| Silver | 109 | 0.0055 | 0.0074 | 0.0048 | **0.0059** | 0.0013 | 22.5 |
| Zinc | 66 | 4.008 | 3.85 | 3.849 | **3.903** | 0.0916 | 2.346 |
| Zinc | 67 | 8.975 | 9.086 | 9.154 | **9.072** | 0.0906 | 0.9982 |
| Zinc | 68 | 6.202 | 6.14 | 6.093 | **6.145** | 0.0547 | 0.8895 |

see 1/2 Dilution JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.019 | 1.001 | 0.997 | **1.019** | n/a | n/a |
| Indium | 115 | 1.435 | 1.388 | 1.413 | **1.435** | n/a | n/a |
| Lutetium | 175 | 1.142 | 1.165 | 1.134 | **1.142** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-12 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 11:42 | | | | | |
| Arsenic | 75 | 14.11 | 14.77 | 14.54 | **14.47** | 0.3358 | 2.321 |
| Barium | 135 | 57.68 | 58.78 | 59.86 | **58.77** | 1.091 | 1.856 |
| Barium | 137 | 57.42 | 59.63 | 57.54 | **58.2** | 1.24 | 2.13 |
| Cadmium | 111 | 0.082 | 0.0728 | 0.0888 | **0.0812** | 0.008 | 9.898 |
| Cadmium | 114 | 0.085 | 0.0823 | 0.0824 | **0.0833** | 0.0015 | 1.857 |
| Chromium | 52 | 3.73 | 3.878 | 3.863 | **3.824** | 0.0815 | 2.131 |
| Chromium | 53 | 1.615 | 1.668 | 1.671 | **1.651** | 0.0311 | 1.883 |
| Lead | 206 | 0.8574 | 0.8923 | 0.8652 | **0.8717** | 0.0183 | 2.104 |
| Lead | 207 | 0.8259 | 0.8492 | 0.8188 | **0.8313** | 0.0159 | 1.911 |
| Lead | 208 | 0.8429 | 0.8708 | 0.8377 | **0.8505** | 0.0178 | 2.089 |
| Manganese | 55 | 0.4139 | 0.4285 | 0.4226 | **0.4217** | 0.0074 | 1.744 |
| Molybdenum | 98 | 5.164 | 5.267 | 5.272 | **5.235** | 0.0608 | 1.161 |
| Selenium | 77 | 7.471 | 7.435 | 7.473 | **7.46** | 0.0217 | 0.2913 |
| Selenium | 78 | 8.054 | 8.542 | 8.479 | **8.358** | 0.2653 | 3.174 |
| Selenium | 82 | 7.903 | 7.998 | 8.031 | **7.977** | 0.0665 | 0.8343 |
| Silver | 107 | 0.0088 | 0.0078 | 0.0066 | **0.0077** | 0.0011 | 14.47 |
| Silver | 109 | 0.0051 | 0.005 | 0.0047 | **0.005** | 0.0002 | 4.183 |
| Zinc | 66 | 73.62 | 74.53 | 74.29 | **74.15** | 0.4738 | 0.639 |
| Zinc | 67 | 65.87 | 66.7 | 66.54 | **66.37** | 0.4398 | 0.6626 |
| Zinc | 68 | 71.89 | 73.4 | 72.33 | **72.54** | 0.7739 | 1.067 |

see 1/2 Dilution
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.084 | 1.098 | 1.09 | **1.084** | n/a | n/a |
| Indium | 115 | 1.508 | 1.535 | 1.521 | **1.508** | n/a | n/a |
| Lutetium | 175 | 1.244 | 1.274 | 1.214 | **1.244** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA 6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-13 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| meStamp | | 2/28/02 11:45 | | | | | |
| Arsenic | 75 | 24.78 | 24.45 | 23.81 | **24.35** | 0.4938 | 2.028 |
| Barium | 135 | 38.53 | 40.28 | 39.05 | **39.29** | 0.8984 | 2.287 |
| Barium | 137 | 38.56 | 39.62 | 38.82 | **39** | 0.5557 | 1.425 |
| Cadmium | 111 | 0.0434 | 0.0481 | 0.0416 | **0.0444** | 0.0034 | 7.566 |
| Cadmium | 114 | 0.0324 | 0.0306 | 0.0371 | **0.0334** | 0.0034 | 10.05 |
| Chromium | 52 | 2.204 | 2.248 | 2.242 | **2.231** | 0.0239 | 1.069 |
| Chromium | 53 | 1.246 | 1.268 | 1.252 | **1.255** | 0.0112 | 0.8957 |
| Lead | 206 | 0.2493 | 0.256 | 0.2598 | **0.2551** | 0.0053 | 2.084 |
| Lead | 207 | 0.2389 | 0.2291 | 0.2465 | **0.2382** | 0.0087 | 3.665 |
| Lead | 208 | 0.2425 | 0.2449 | 0.2459 | **0.2445** | 0.0018 | 0.7199 |
| Manganese | 55 | 0.1746 | 0.1735 | 0.1691 | **0.1724** | 0.0029 | 1.693 |
| Molybdenum | 98 | 6.046 | 6.292 | 6.039 | **6.126** | 0.144 | 2.35 |
| Selenium | 77 | 7.499 | 7.374 | 7.787 | **7.553** | 0.2117 | 2.802 |
| Selenium | 78 | 8.415 | 8.372 | 8.292 | **8.36** | 0.0625 | 0.7475 |
| Selenium | 82 | 8.084 | 7.984 | 8.306 | **8.125** | 0.165 | 2.031 |
| Silver | 107 | 0.0079 | 0.0075 | 0.0065 | **0.0073** | 0.0007 | 9.427 |
| Silver | 109 | 0.0048 | 0.0049 | 0.0058 | **0.0052** | 0.0005 | 10.61 |
| Zinc | 66 | 10.03 | 10.05 | 9.78 | **9.954** | 0.1507 | 1.514 |
| Zinc | 67 | 12.16 | 12.05 | 12.2 | **12.14** | 0.079 | 0.6508 |
| Zinc | 68 | 11.48 | 11.69 | 11.37 | **11.52** | 0.1637 | 1.421 |

See 1/2 Dilution
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.11 | 1.1 | 1.087 | **1.11** | n/a | n/a |
| Indium | 115 | 1.565 | 1.584 | 1.532 | **1.565** | n/a | n/a |
| Lutetium | 175 | 1.249 | 1.233 | 1.23 | **1.249** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-14** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **imeStamp** | | **2/28/02 11:48** | | | | | |
| Arsenic | 75 | 8.679 | 8.735 | 8.789 | **8.734** | 0.0553 | 0.6333 |
| Barium | 135 | 141.7 | 141.6 | 146.2 | **143.2** | 2.61 | 1.823 |
| Barium | 137 | 141.2 | 139.5 | 140.9 | **140.5** | 0.891 | 0.6341 |
| Cadmium | 111 | 0.0259 | 0.0259 | 0.026 | **0.0259** | 0.0001 | 0.2871 |
| Cadmium | 114 | 0.0208 | 0.0232 | 0.0227 | **0.0222** | 0.0013 | 5.619 |
| Chromium | 52 | 2.483 | 2.438 | 2.503 | **2.475** | 0.0333 | 1.345 |
| Chromium | 53 | 4.248 | 4.431 | 4.672 | **4.45** | 0.2125 | 4.776 |
| Lead | 206 | 0.1457 | 0.1441 | 0.1417 | **0.1438** | 0.002 | 1.383 |
| Lead | 207 | 0.1433 | 0.1295 | 0.1329 | **0.1352** | 0.0072 | 5.322 |
| Lead | 208 | 0.1417 | 0.133 | 0.1425 | **0.1391** | 0.0053 | 3.785 |
| Manganese | 55 | 8.392 | 8.411 | 8.519 | **8.441** | 0.0684 | 0.8108 |
| Molybdenum | 98 | 4.537 | 4.73 | 4.708 | **4.658** | 0.1057 | 2.268 |
| Selenium | 77 | 5.733 | 5.828 | 5.885 | **5.815** | 0.0771 | 1.326 |
| Selenium | 78 | 5.817 | 5.853 | 5.609 | **5.76** | 0.1314 | 2.281 |
| Selenium | 82 | 8.323 | 8.571 | 8.471 | **8.455** | 0.1252 | 1.48 |
| Silver | 107 | 0.0107 | 0.01 | 0.0108 | **0.0105** | 0.0004 | 3.959 |
| Silver | 109 | 0.0089 | 0.0097 | 0.0096 | **0.0094** | 0.0004 | 4.462 |
| Zinc | 66 | 8.269 | 8.247 | 8.579 | **8.365** | 0.1856 | 2.218 |
| Zinc | 67 | 15.15 | 15.55 | 15.81 | **15.51** | 0.3325 | 2.145 |
| Zinc | 68 | 14.32 | 14.36 | 14.58 | **14.42** | 0.1405 | 0.9746 |

see 1/2 Dilution
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ,candium | 45 | 1.137 | 1.138 | 1.16 | **1.137** | n/a | n/a |
| Indium | 115 | 1.595 | 1.655 | 1.641 | **1.595** | n/a | n/a |
| Lutetium | 175 | 1.303 | 1.274 | 1.296 | **1.303** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | K1174-15 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 11:52 | | | | | |
| Arsenic | 75 | 15.74 | 15.65 | 15.01 | **15.47** | 0.3987 | 2.577 |
| Barium | 135 | 42.16 | 42.98 | 40.14 | **41.76** | 1.461 | 3.498 |
| Barium | 137 | 42.03 | 42.48 | 39.95 | **41.49** | 1.352 | 3.258 |
| Cadmium | 111 | 0.0396 | 0.0462 | 0.0429 | **0.0429** | 0.0033 | 7.677 |
| Cadmium | 114 | 0.0416 | 0.0342 | 0.0331 | **0.0363** | 0.0046 | 12.73 |
| Chromium | 52 | 4.267 | 4.377 | 4.288 | **4.311** | 0.0581 | 1.349 |
| Chromium | 53 | 2.378 | 2.367 | 2.306 | **2.35** | 0.0384 | 1.635 |
| Lead | 206 | 0.0329 | 0.0316 | 0.0329 | **0.0325** | 0.0008 | 2.383 |
| Lead | 207 | 0.0297 | 0.0315 | 0.0265 | **0.0292** | 0.0026 | 8.744 |
| Lead | 208 | 0.03 | 0.0331 | 0.0315 | **0.0316** | 0.0015 | 4.901 |
| Manganese | 55 | 64 | 64.11 | 61.9 | **63.34** | 1.245 | 1.966 |
| Molybdenum | 98 | 6.336 | 6.099 | 6.185 | **6.206** | 0.1201 | 1.935 |
| Selenium | 77 | 8.122 | 8.162 | 7.875 | **8.053** | 0.1551 | 1.926 |
| Selenium | 78 | 8.601 | 8.626 | 8.249 | **8.492** | 0.211 | 2.485 |
| Selenium | 82 | 9.404 | 9.337 | 8.733 | **9.158** | 0.3699 | 4.04 |
| Silver | 107 | 0.0047 | 0.0044 | 0.005 | **0.0047** | 0.0003 | 6.403 |
| Silver | 109 | 0.004 | 0.0029 | 0.0024 | **0.0031** | 0.0008 | 25.71 |
| Zinc | 66 | 3.743 | 3.691 | 3.664 | **3.699** | 0.0402 | 1.087 |
| Zinc | 67 | 6.113 | 6.077 | 5.804 | **5.998** | 0.1689 | 2.815 |
| Zinc | 68 | 5.645 | 5.646 | 5.531 | **5.607** | 0.0661 | 1.179 |

See 1/2 Dilution
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.053 | 1.047 | 1.027 | **1.053** | n/a | n/a |
| Indium | 115 | 1.513 | 1.486 | 1.411 | **1.513** | n/a | n/a |
| Lutetium | 175 | 1.202 | 1.212 | 1.17 | **1.202** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| ımple Name: | | K1174-16 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .meStamp | | 2/28/02 11:55 | | | | | |
| Arsenic | 75 | 15.05 | 15.02 | 15.19 | **15.09** | 0.09 | 0.5964 |
| Barium | 135 | 39.64 | 39.81 | 40.76 | **40.07** | 0.6031 | 1.505 |
| Barium | 137 | 40.73 | 38.06 | 40.14 | **39.64** | 1.401 | 3.533 |
| Cadmium | 111 | 0.0504 | 0.049 | 0.0467 | **0.0487** | 0.0019 | 3.802 |
| Cadmium | 114 | 0.0443 | 0.0378 | 0.0463 | **0.0428** | 0.0045 | 10.44 |
| Chromium | 52 | 2.883 | 2.864 | 2.753 | **2.833** | 0.0705 | 2.489 |
| Chromium | 53 | 2.164 | 2.11 | 2.12 | **2.131** | 0.0288 | 1.35 |
| Lead | 206 | 0.2515 | 0.249 | 0.2551 | **0.2519** | 0.003 | 1.209 |
| Lead | 207 | 0.2486 | 0.2566 | 0.2413 | **0.2488** | 0.0077 | 3.077 |
| Lead | 208 | 0.2417 | 0.2472 | 0.2471 | **0.2453** | 0.0032 | 1.29 |
| Manganese | 55 | 76.65 | 77.37 | 72.99 | **75.67** | 2.348 | 3.104 |
| Molybdenum | 98 | 6.951 | 6.813 | 6.978 | **6.914** | 0.0883 | 1.278 |
| Selenium | 77 | 7.831 | 7.694 | 7.939 | **7.821** | 0.1226 | 1.567 |
| Selenium | 78 | 8.377 | 8.257 | 8.307 | **8.314** | 0.0603 | 0.7255 |
| Selenium | 82 | 8.869 | 8.604 | 8.828 | **8.767** | 0.143 | 1.631 |
| Silver | 107 | 0.0086 | 0.0054 | 0.0091 | **0.0077** | 0.002 | 26.16 |
| Silver | 109 | 0.0053 | 0.0058 | 0.0053 | **0.0055** | 0.0003 | 5.738 |
| Zinc | 66 | 4.81 | 4.711 | 4.72 | **4.747** | 0.0549 | 1.157 |
| Zinc | 67 | 6.886 | 6.853 | 6.776 | **6.838** | 0.0563 | 0.824 |
| Zinc | 68 | 6.373 | 6.316 | 6.401 | **6.363** | 0.0431 | 0.6773 |

see 1/2 dilution JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.068 | 1.07 | 1.062 | **1.068** | n/a | n/a |
| Indium | 115 | 1.536 | 1.502 | 1.54 | **1.536** | n/a | n/a |
| Lutetium | 175 | 1.223 | 1.216 | 1.213 | **1.223** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **ımple Name:** | | **K1174-08S 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **ımeStamp** | | **2/28/02 12:05** | | | | | |
| Arsenic | 75 | 13.84 | 14.09 | 13.93 | **13.95** | 0.1226 | 0.8789 |
| Barium | 135 | 22.56 | 23.6 | 23.71 | **23.29** | 0.632 | 2.714 |
| Barium | 137 | 23.07 | 23.19 | 23.27 | **23.18** | 0.1026 | 0.4426 |
| Cadmium | 111 | 8.861 | 9.207 | 9.278 | **9.115** | 0.2232 | 2.448 |
| Cadmium | 114 | 8.904 | 9 | 9.333 | **9.079** | 0.2251 | 2.479 |
| Chromium | 52 | 8.961 | 8.978 | 8.688 | **8.876** | 0.1628 | 1.835 |
| Chromium | 53 | 9.063 | 9.015 | 8.908 | **8.995** | 0.0792 | 0.8808 |
| Lead | 206 | 7.902 | 8.061 | 8.197 | **8.053** | 0.1477 | 1.834 |
| Lead | 207 | 7.96 | 7.944 | 8.025 | **7.976** | 0.0433 | 0.5432 |
| ~~Lead~~ | ~~208~~ | ~~7.95~~ | ~~8.022~~ | ~~8.146~~ | ~~**8.039**~~ | ~~0.0991~~ | ~~1.233~~ |
| Manganese | 55 | 8.179 | 8.182 | 8.244 | **8.201** | 0.0367 | 0.4474 |
| Molybdenum | 98 | 10.62 | 10.67 | 10.5 | **10.6** | 0.0851 | 0.803 |
| Selenium | 77 | 12.1 | 11.84 | 11.92 | **11.95** | 0.1311 | 1.097 |
| Selenium | 78 | 12.98 | 12.94 | 13.19 | **13.03** | 0.133 | 1.02 |
| Selenium | 82 | 11.97 | 12.14 | 12.26 | **12.12** | 0.148 | 1.221 |
| Silver | 107 | 8.324 | 8.419 | 8.536 | **8.426** | 0.1063 | 1.261 |
| Silver | 109 | 8.619 | 8.528 | 8.332 | **8.493** | 0.1464 | 1.724 |
| Zinc | 66 | 11.52 | 11.75 | 11.63 | **11.63** | 0.1163 | 0.9996 |
| Zinc | 67 | 12.13 | 12.41 | 12.34 | **12.29** | 0.1458 | 1.186 |
| Zinc | 68 | 12.02 | 12 | 12.32 | **12.11** | 0.1806 | 1.491 |

CCV out 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.043 | 1.033 | 1.017 | **1.043** | n/a | n/a |
| Indium | 115 | 1.361 | 1.368 | 1.366 | **1.361** | n/a | n/a |
| Lutetium | 175 | 1.181 | 1.172 | 1.163 | **1.181** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ımple Name: | | K1174-08SD 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .ımeStamp | | 2/28/02 12:08 | | | | | |
| Arsenic | 75 | 14.2 | 13.66 | 13.82 | **13.89** | 0.2759 | 1.986 |
| Barium | 135 | 23.33 | 22.43 | 23.35 | **23.04** | 0.5239 | 2.274 |
| Barium | 137 | 23.46 | 22.38 | 22.94 | **22.93** | 0.5398 | 2.354 |
| Cadmium | 111 | 8.955 | 8.688 | 8.877 | **8.84** | 0.1375 | 1.555 |
| Cadmium | 114 | 8.999 | 8.773 | 9.102 | **8.958** | 0.168 | 1.875 |
| Chromium | 52 | 9.521 | 9.568 | 9.509 | **9.532** | 0.0313 | 0.3288 |
| Chromium | 53 | 9.035 | 8.929 | 8.983 | **8.983** | 0.0532 | 0.5929 |
| Lead | 206 | 8.459 | 8.13 | 8.174 | **8.254** | 0.1785 | 2.162 |
| Lead | 207 | 8.212 | 8.124 | 8.202 | **8.179** | 0.0479 | 0.5854 |
| ~~Lead~~ | ~~208~~ | ~~8.21~~ | ~~8.095~~ | ~~8.126~~ | ~~**8.144**~~ | ~~0.0599~~ | ~~0.7357~~ |
| Manganese | 55 | 8.362 | 8.404 | 8.294 | **8.353** | 0.0557 | 0.6667 |
| Molybdenum | 98 | 10.26 | 10.28 | 10.52 | **10.36** | 0.1424 | 1.375 |
| Selenium | 77 | 11.99 | 12.27 | 12.06 | **12.11** | 0.1491 | 1.232 |
| Selenium | 78 | 13.3 | 12.89 | 13.01 | **13.06** | 0.2091 | 1.601 |
| Selenium | 82 | 12.23 | 12.42 | 12.08 | **12.24** | 0.1702 | 1.39 |
| Silver | 107 | 8.406 | 8.213 | 8.311 | **8.31** | 0.0963 | 1.159 |
| Silver | 109 | 8.622 | 8.341 | 8.686 | **8.55** | 0.1833 | 2.144 |
| Zinc | 66 | 11.55 | 11.41 | 11.42 | **11.46** | 0.0793 | 0.6922 |
| Zinc | 67 | 12.26 | 12.12 | 12.21 | **12.2** | 0.0747 | 0.6125 |
| Zinc | 68 | 12.04 | 12.19 | 12.15 | **12.13** | 0.075 | 0.6182 |

CCV out SC 3/2/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| .ɜcandium | 45 | 1.049 | 1.044 | 1.027 | **1.049** | n/a | n/a |
| Indium | 115 | 1.356 | 1.322 | 1.348 | **1.356** | n/a | n/a |
| Lutetium | 175 | 1.19 | 1.15 | 1.154 | **1.19** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | CCV4 MS1-23-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 12:13 | | | | | |
| Arsenic | 75 | 25.54 | 25.26 | 25.05 | **25.28** | 0.2418 | 0.9565 |
| Barium | 135 | 24.93 | 24.32 | 24.08 | **24.44** | 0.4369 | 1.787 |
| Barium | 137 | 24.83 | 24.16 | 24.45 | **24.48** | 0.3353 | 1.369 |
| Cadmium | 111 | 25.46 | 24.99 | 24.41 | **24.95** | 0.5254 | 2.106 |
| Cadmium | 114 | 26.17 | 24.7 | 24.65 | **25.17** | 0.8626 | 3.426 |
| Chromium | 52 | 24.8 | 24.83 | 24.41 | **24.68** | 0.2355 | 0.9544 |
| Chromium | 53 | 24.84 | 24.73 | 24.67 | **24.75** | 0.0882 | 0.3565 |
| Lead | 206 | 25.28 | 25.56 | 26.02 | **25.62** | 0.375 | 1.464 |
| Lead | 207 | 25.03 | 25.2 | 26.23 | **25.49** | 0.6492 | 2.547 |
| Lead | 208 | 25.38 | 25.47 | 26.01 | **25.62** | 0.3421 | 1.336 |
| Manganese | 55 | 25.37 | 25.31 | 25.29 | **25.33** | 0.0396 | 0.1563 |
| Molybdenum | 98 | 23.36 | 23.78 | 23.88 | **23.67** | 0.2749 | 1.161 |
| Selenium | 77 | 26.29 | 25 | 25.51 | **25.6** | 0.6492 | 2.536 |
| Selenium | 78 | 26.98 | 26.99 | 26.88 | **26.95** | 0.0625 | 0.2319 |
| Selenium | 82 | 25.88 | 25.69 | 25.07 | **25.55** | 0.427 | 1.672 |
| Silver | 107 | 24.91 | 24.32 | 24.26 | **24.5** | 0.3575 | 1.459 |
| Silver | 109 | 25.16 | 24.23 | 24.59 | **24.66** | 0.4714 | 1.912 |
| Zinc | 66 | 26.72 | 26.52 | 26.66 | **26.63** | 0.102 | 0.3831 |
| Zinc | 67 | 26.45 | 26.39 | 25.73 | **26.19** | 0.403 | 1.539 |
| Zinc | 68 | 26.48 | 25.9 | 26.35 | **26.24** | 0.3044 | 1.16 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.004 | 0.989 | 0.991 | **1.004** | n/a | n/a |
| Indium | 115 | 1.121 | 1.094 | 1.086 | **1.121** | n/a | n/a |
| Lutetium | 175 | 1.069 | 1.067 | 1.086 | **1.069** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | CCB4 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 12:22 | | | | | |
| Arsenic | 75 | -0.0032 | -0.0054 | 0.0313 | **0.0076** | 0.0206 | 272.4 |
| Barium | 135 | -0.0011 | -0.001 | -0.0019 | **-0.0013** | 0.0005 | 37.29 |
| Barium | 137 | 0.0015 | 0 | -0.0009 | **0.0002** | 0.0012 | 688.3 |
| Cadmium | 111 | 0.0022 | 0.0023 | 0.0035 | **0.0027** | 0.0007 | 27.57 |
| Cadmium | 114 | 0.0023 | 0 | 0.0005 | **0.0009** | 0.0012 | 130.8 |
| Chromium | 52 | -0.0113 | -0.0005 | 0.0109 | **-0.0003** | 0.0111 | 3641 |
| Chromium | 53 | 0.3806 | 0.3549 | 0.3792 | **0.3716** | 0.0144 | 3.884 |
| Lead | 206 | 0.0001 | 0.0016 | 0.0012 | **0.001** | 0.0008 | 76.86 |
| Lead | 207 | 0.0006 | 0 | -0.0016 | **-0.0003** | 0.0012 | 352.3 |
| Lead | 208 | 0.0005 | 0.001 | 0.0005 | **0.0006** | 0.0003 | 45.3 |
| Manganese | 55 | -0.0046 | -0.0031 | -0.0026 | **-0.0034** | 0.001 | 30.19 |
| Molybdenum | 98 | 0.0024 | 0.0019 | 0.0026 | **0.0023** | 0.0003 | 14.77 |
| Selenium | 77 | -0.0054 | 0.0301 | -0.0842 | **-0.0198** | 0.0585 | 295.4 |
| Selenium | 78 | 0.8282 | 0.7468 | 0.8537 | **0.8095** | 0.0558 | 6.892 |
| Selenium | 82 | 0.0046 | 0.045 | 0.0585 | **0.036** | 0.028 | 77.75 |
| Silver | 107 | 0.0008 | 0.0005 | -0.0012 | **0** | 0.0011 | 2743 |
| Silver | 109 | 0.0013 | 0 | -0.0005 | **0.0003** | 0.0009 | 315.8 |
| Zinc | 66 | 0.1015 | 0.1092 | 0.1137 | **0.1081** | 0.0062 | 5.717 |
| Zinc | 67 | 0.1367 | 0.1526 | 0.1612 | **0.1502** | 0.0124 | 8.277 |
| Zinc | 68 | 0.0412 | 0.0511 | 0.0712 | **0.0545** | 0.0153 | 28.08 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.979 | 0.981 | 1 | **0.979** | n/a | n/a |
| Indium | 115 | 1.148 | 1.091 | 1.085 | **1.148** | n/a | n/a |
| Lutetium | 175 | 1.078 | 1.05 | 1.045 | **1.078** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-08 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 13:05 | | | | | |
| Arsenic | 75 | 4.723 | 4.75 | 4.788 | **4.753** | 0.0326 | 0.6853 |
| Barium | 135 | 14.26 | 13.76 | 14.38 | **14.13** | 0.3283 | 2.323 |
| Barium | 137 | 13.97 | 13.51 | 13.76 | **13.75** | 0.233 | 1.695 |
| Cadmium | 111 | 0.0069 | 0.007 | 0.0078 | **0.0072** | 0.0005 | 6.55 |
| Cadmium | 114 | 0.0062 | 0.004 | 0.0047 | **0.005** | 0.0011 | 22.49 |
| Chromium | 52 | 0.6639 | 0.6892 | 0.6451 | **0.6661** | 0.0222 | 3.325 |
| Chromium | 53 | 0.6721 | 0.6449 | 0.6516 | **0.6562** | 0.0142 | 2.161 |
| Lead | 206 | 0.0759 | 0.0797 | 0.0867 | **0.0808** | 0.0055 | 6.803 |
| Lead | 207 | 0.0691 | 0.0718 | 0.075 | **0.072** | 0.003 | 4.121 |
| ~~Lead~~ | ~~208~~ | ~~0.0736~~ | ~~0.0756~~ | ~~0.0796~~ | ~~**0.0763**~~ | ~~0.0031~~ | ~~4.019~~ |
| Manganese | 55 | 0.1705 | 0.1667 | 0.1689 | **0.1687** | 0.0019 | 1.117 |
| Molybdenum | 98 | 0.8132 | 0.7615 | 0.785 | **0.7866** | 0.0259 | 3.291 |
| Selenium | 77 | 3.088 | 2.9 | 2.93 | **2.973** | 0.1012 | 3.404 |
| Selenium | 78 | 3.922 | 3.733 | 3.806 | **3.82** | 0.0952 | 2.491 |
| Selenium | 82 | 3.173 | 3.154 | 3.208 | **3.178** | 0.0272 | 0.8569 |
| Silver | 107 | 0.0009 | 0.0022 | 0.0024 | **0.0018** | 0.0008 | 44.54 |
| Silver | 109 | 0.0008 | 0.001 | 0.0016 | **0.0011** | 0.0004 | 36.64 |
| Zinc | 66 | 3.712 | 3.605 | 3.656 | **3.658** | 0.0537 | 1.468 |
| Zinc | 67 | 4.317 | 4.274 | 4.22 | **4.27** | 0.0488 | 1.143 |
| Zinc | 68 | 4.317 | 4.361 | 4.342 | **4.34** | 0.0221 | 0.5096 |

CLV out JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.019 | 1.025 | 1.003 | **1.019** | n/a | n/a |
| Indium | 115 | 1.328 | 1.303 | 1.307 | **1.328** | n/a | n/a |
| Lutetium | 175 | 1.107 | 1.1 | 1.13 | **1.107** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-08L 1/2 X 1/5** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:24** | | | | | |
| Arsenic | 75 | 0.997 | 1.059 | 1.038 | **1.031** | 0.0314 | 3.044 |
| Barium | 135 | 2.817 | 2.785 | 2.869 | **2.824** | 0.0423 | 1.499 |
| Barium | 137 | 2.72 | 2.769 | 2.772 | **2.754** | 0.0293 | 1.062 |
| Cadmium | 111 | 0.0052 | 0.0024 | 0.004 | **0.0039** | 0.0014 | 36.4 |
| Cadmium | 114 | 0.0036 | 0.0032 | 0.0024 | **0.0031** | 0.0006 | 18.74 |
| Chromium | 52 | 0.0566 | 0.0734 | 0.0744 | **0.0681** | 0.01 | 14.73 |
| Chromium | 53 | 0.3596 | 0.3547 | 0.3096 | **0.3413** | 0.0276 | 8.073 |
| Lead | 206 | 0.0227 | 0.0242 | 0.0219 | **0.0229** | 0.0012 | 5.073 |
| Lead | 207 | 0.0215 | 0.021 | 0.0166 | **0.0197** | 0.0027 | 13.77 |
| ~~Lead~~ | ~~208~~ | ~~0.021~~ | ~~0.0217~~ | ~~0.0209~~ | ~~**0.0212**~~ | ~~0.0005~~ | ~~2.178~~ |
| Manganese | 55 | 0.036 | 0.0367 | 0.0371 | **0.0366** | 0.0005 | 1.423 |
| Molybdenum | 98 | 0.1479 | 0.1508 | 0.1524 | **0.1504** | 0.0023 | 1.517 |
| Selenium | 77 | 0.6674 | 0.6774 | 0.6726 | **0.6725** | 0.005 | 0.7461 |
| Selenium | 78 | 1.361 | 1.357 | 1.356 | **1.358** | 0.0024 | 0.177 |
| Selenium | 82 | 0.7357 | 0.7769 | 0.7921 | **0.7682** | 0.0292 | 3.799 |
| Silver | 107 | -0.0021 | -0.0011 | -0.0004 | **-0.0012** | 0.0009 | 71.6 |
| Silver | 109 | -0.0029 | -0.0017 | -0.0019 | **-0.0022** | 0.0007 | 30.4 |
| Zinc | 66 | 1.67 | 1.731 | 1.73 | **1.71** | 0.035 | 2.05 |
| Zinc | 67 | 1.79 | 1.736 | 1.752 | **1.759** | 0.0274 | 1.56 |
| Zinc | 68 | 1.778 | 1.797 | 1.734 | **1.769** | 0.0323 | 1.827 |

CLU out SC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| candium | 45 | 0.991 | 0.995 | 0.969 | **0.991** | n/a | n/a |
| indium | 115 | 1.177 | 1.135 | 1.156 | **1.177** | n/a | n/a |
| Lutetium | 175 | 1.078 | 1.059 | 1.034 | **1.078** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-08A 1/2 AT 20 ppb** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:27** | | | | | |
| Arsenic | 75 | 23.39 | 23.46 | 22.81 | **23.22** | 0.3531 | 1.521 |
| Barium | 135 | 32.59 | 33.83 | 33.31 | **33.24** | 0.6234 | 1.875 |
| Barium | 137 | 32.69 | 33.03 | 33.05 | **32.92** | 0.2038 | 0.619 |
| Cadmium | 111 | 18.31 | 19.03 | 18.29 | **18.54** | 0.4215 | 2.273 |
| Cadmium | 114 | 18.43 | 19.01 | 18.08 | **18.5** | 0.4715 | 2.548 |
| Chromium | 52 | 17.74 | 17.35 | 17.64 | **17.58** | 0.2043 | 1.163 |
| Chromium | 53 | 18.62 | 18.21 | 18.23 | **18.36** | 0.2288 | 1.247 |
| Lead | 206 | 15.94 | 15.93 | 15.95 | **15.94** | 0.0133 | 0.0836 |
| Lead | 207 | 15.93 | 15.64 | 16.08 | **15.88** | 0.2251 | 1.418 |
| ~~Lead~~ | ~~208~~ | ~~15.97~~ | ~~15.67~~ | ~~15.96~~ | ~~**15.86**~~ | ~~0.1702~~ | ~~1.073~~ |
| Manganese | 55 | 16.89 | 17.16 | 16.96 | **17** | 0.1393 | 0.8194 |
| Molybdenum | 98 | 21.07 | 21.46 | 20.33 | **20.95** | 0.5708 | 2.724 |
| Selenium | 77 | 21.29 | 21.85 | 21.38 | **21.51** | 0.2993 | 1.392 |
| Selenium | 78 | 22.11 | 22.27 | 22.21 | **22.2** | 0.0831 | 0.3743 |
| Selenium | 82 | 21.3 | 21.88 | 21.16 | **21.45** | 0.3793 | 1.769 |
| Silver | 107 | 17.15 | 17.82 | 17.28 | **17.41** | 0.3544 | 2.035 |
| Silver | 109 | 17.44 | 17.61 | 17.29 | **17.45** | 0.1571 | 0.9005 |
| Zinc | 66 | 20.61 | 20.67 | 20.63 | **20.64** | 0.0325 | 0.1576 |
| Zinc | 67 | 21.07 | 20.99 | 20.86 | **20.97** | 0.1078 | 0.514 |
| Zinc | 68 | 21.02 | 20.68 | 21.15 | **20.95** | 0.2426 | 1.158 |

CCU out JL 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.067 | 1.047 | 1.059 | **1.067** | n/a | n/a |
| Indium | 115 | 1.36 | 1.384 | 1.358 | **1.36** | n/a | n/a |
| Lutetium | 175 | 1.187 | 1.155 | 1.151 | **1.187** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-03 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:36** | | | | | |
| Arsenic | 75 | 9.254 | 9.523 | 9.35 | **9.375** | 0.1363 | 1.453 |
| Barium | 135 | 14.41 | 14.66 | 14.88 | **14.65** | 0.2322 | 1.585 |
| Barium | 137 | 14.69 | 14.54 | 14.61 | **14.61** | 0.0741 | 0.5071 |
| Cadmium | 111 | 0.1046 | 0.0949 | 0.1028 | **0.1008** | 0.0052 | 5.16 |
| Cadmium | 114 | 0.0925 | 0.0961 | 0.1047 | **0.0978** | 0.0063 | 6.414 |
| Chromium | 52 | 0.4921 | 0.5087 | 0.4974 | **0.4994** | 0.0085 | 1.694 |
| Chromium | 53 | 0.6974 | 0.7223 | 0.678 | **0.6992** | 0.0222 | 3.177 |
| Lead | 206 | 0.5113 | 0.5062 | 0.5064 | **0.508** | 0.0029 | 0.5692 |
| Lead | 207 | 0.4867 | 0.4836 | 0.4901 | **0.4868** | 0.0033 | 0.6746 |
| ~~Lead~~ | ~~208~~ | ~~0.4886~~ | ~~0.4864~~ | ~~0.4895~~ | ~~**0.4882**~~ | ~~0.0016~~ | ~~0.3251~~ |
| Manganese | 55 | 0.2402 | 0.2439 | 0.2423 | **0.2421** | 0.0019 | 0.7741 |
| Molybdenum | 98 | 2.442 | 2.543 | 2.599 | **2.528** | 0.0791 | 3.131 |
| Selenium | 77 | 3.318 | 3.329 | 3.388 | **3.345** | 0.0379 | 1.132 |
| Selenium | 78 | 3.969 | 4.187 | 4.092 | **4.083** | 0.1094 | 2.678 |
| Selenium | 82 | 3.536 | 3.616 | 3.716 | **3.623** | 0.0904 | 2.495 |
| Silver | 107 | 0.005 | 0.0065 | 0.0061 | **0.0059** | 0.0007 | 12.65 |
| Silver | 109 | 0.0053 | 0.0053 | 0.0047 | **0.0051** | 0.0004 | 6.986 |
| Zinc | 66 | 138.1 | 138.7 | 138.8 | **138.5** | 0.4022 | 0.2904 |
| Zinc | 67 | 119.2 | 123.4 | 121.6 | **121.4** | 2.105 | 1.733 |
| Zinc | 68 | 132.1 | 135.1 | 132.3 | **133.2** | 1.682 | 1.263 |

CCV out
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.04 | 1.037 | 1.016 | **1.04** | n/a | n/a |
| Indium | 115 | 1.338 | 1.351 | 1.331 | **1.338** | n/a | n/a |
| Lutetium | 175 | 1.126 | 1.096 | 1.082 | **1.126** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-04 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:39** | | | | | |
| Arsenic | 75 | 9.659 | 9.542 | 9.324 | **9.508** | 0.1702 | 1.79 |
| Barium | 135 | 15.28 | 14.59 | 15.03 | **14.97** | 0.3522 | 2.353 |
| Barium | 137 | 15.24 | 14.41 | 14.85 | **14.84** | 0.4184 | 2.821 |
| Cadmium | 111 | 0.0911 | 0.0937 | 0.0896 | **0.0915** | 0.0021 | 2.249 |
| Cadmium | 114 | 0.0901 | 0.0892 | 0.0866 | **0.0886** | 0.0018 | 2.026 |
| Chromium | 52 | 0.3599 | 0.3616 | 0.3541 | **0.3585** | 0.0039 | 1.091 |
| Chromium | 53 | 1.503 | 1.474 | 1.497 | **1.492** | 0.0154 | 1.031 |
| Lead | 206 | 0.4682 | 0.4601 | 0.4924 | **0.4736** | 0.0168 | 3.547 |
| Lead | 207 | 0.426 | 0.4359 | 0.4449 | **0.4356** | 0.0094 | 2.163 |
| ~~Lead~~ | ~~208~~ | ~~0.442~~ | ~~0.4393~~ | ~~0.4647~~ | ~~**0.4487**~~ | ~~0.014~~ | ~~3.119~~ |
| Manganese | 55 | 0.0747 | 0.0754 | 0.0753 | **0.0751** | 0.0004 | 0.4942 |
| Molybdenum | 98 | 2.54 | 2.517 | 2.481 | **2.513** | 0.0301 | 1.197 |
| Selenium | 77 | 3.541 | 3.575 | 3.647 | **3.588** | 0.0542 | 1.511 |
| Selenium | 78 | 4.27 | 4.236 | 4.063 | **4.19** | 0.1109 | 2.647 |
| Selenium | 82 | 3.795 | 3.586 | 3.611 | **3.664** | 0.114 | 3.113 |
| Silver | 107 | 0.013 | 0.0132 | 0.0121 | **0.0128** | 0.0006 | 4.661 |
| Silver | 109 | 0.0124 | 0.0129 | 0.0137 | **0.013** | 0.0006 | 4.984 |
| Zinc | 66 | 40.12 | 39.2 | 39.17 | **39.5** | 0.5389 | 1.364 |
| Zinc | 67 | 35.17 | 35 | 35.42 | **35.19** | 0.2089 | 0.5937 |
| Zinc | 68 | 38.89 | 38.34 | 38.07 | **38.43** | 0.4168 | 1.084 |

CCV out
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.055 | 1.031 | 1.017 | **1.055** | n/a | n/a |
| Indium | 115 | 1.417 | 1.326 | 1.323 | **1.417** | n/a | n/a |
| Lutetium | 175 | 1.142 | 1.08 | 1.108 | **1.142** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-05 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:42** | | | | | |
| Arsenic | 75 | 0.0136 | 0.0016 | 0.0117 | **0.0089** | 0.0064 | 71.8 |
| Barium | 135 | 0.3447 | 0.3463 | 0.3354 | **0.3421** | 0.0059 | 1.724 |
| Barium | 137 | 0.3317 | 0.3344 | 0.3217 | **0.3293** | 0.0067 | 2.033 |
| Cadmium | 111 | 0.0064 | 0.0054 | 0.0075 | **0.0064** | 0.0011 | 16.76 |
| Cadmium | 114 | 0.007 | 0.0058 | 0.0064 | **0.0064** | 0.0006 | 9.777 |
| Chromium | 52 | 0.1036 | 0.0855 | 0.0807 | **0.0899** | 0.0121 | 13.41 |
| Chromium | 53 | 0.7622 | 0.7606 | 0.7199 | **0.7476** | 0.024 | 3.208 |
| Lead | 206 | 0.0704 | 0.0721 | 0.0805 | **0.0743** | 0.0054 | 7.285 |
| Lead | 207 | 0.0671 | 0.0696 | 0.0678 | **0.0682** | 0.0013 | 1.926 |
| ~~Lead~~ | ~~208~~ | ~~0.0671~~ | ~~0.0685~~ | ~~0.0722~~ | ~~**0.0693**~~ | ~~0.0026~~ | ~~3.82~~ |
| Manganese | 55 | 0.252 | 0.2488 | 0.2508 | **0.2505** | 0.0016 | 0.6457 |
| Molybdenum | 98 | 0.1063 | 0.1046 | 0.1122 | **0.1077** | 0.004 | 3.678 |
| Selenium | 77 | 0.0744 | 0.0406 | 0.0165 | **0.0438** | 0.0291 | 66.4 |
| Selenium | 78 | 0.6091 | 0.6687 | 0.454 | **0.5773** | 0.1108 | 19.2 |
| Selenium | 82 | 0.0713 | -0.0112 | 0.0029 | **0.021** | 0.0442 | 210.2 |
| Silver | 107 | 0.0039 | 0.0046 | 0.0032 | **0.0039** | 0.0007 | 17.96 |
| Silver | 109 | 0.0057 | 0.0052 | 0.0048 | **0.0052** | 0.0005 | 8.802 |
| Zinc | 66 | 3.828 | 3.703 | 3.651 | **3.728** | 0.0907 | 2.433 |
| Zinc | 67 | 3.273 | 3.251 | 3.234 | **3.253** | 0.0196 | 0.6019 |
| Zinc | 68 | 3.501 | 3.494 | 3.498 | **3.498** | 0.004 | 0.1132 |

ccv out
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3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ,candium | 45 | 0.971 | 0.963 | 0.947 | **0.971** | n/a | n/a |
| Indium | 115 | 1.057 | 1.048 | 1.043 | **1.057** | n/a | n/a |
| Lutetium | 175 | 1.038 | 1.014 | 1.009 | **1.038** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-06 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:45** | | | | | |
| Arsenic | 75 | 15.21 | 15.27 | 15.24 | **15.24** | 0.0286 | 0.188 |
| Barium | 135 | 20.85 | 20.74 | 21.02 | **20.87** | 0.1408 | 0.6748 |
| Barium | 137 | 20.66 | 21.17 | 20.99 | **20.94** | 0.2604 | 1.244 |
| Cadmium | 111 | 0.0209 | 0.0236 | 0.0171 | **0.0205** | 0.0033 | 15.91 |
| Cadmium | 114 | 0.0154 | 0.0167 | 0.0179 | **0.0167** | 0.0012 | 7.37 |
| Chromium | 52 | 0.744 | 0.7775 | 0.7861 | **0.7692** | 0.0222 | 2.89 |
| Chromium | 53 | 1.824 | 1.844 | 1.82 | **1.829** | 0.0132 | 0.7203 |
| Lead | 206 | 0.1853 | 0.2053 | 0.1925 | **0.1944** | 0.0102 | 5.227 |
| Lead | 207 | 0.1792 | 0.1856 | 0.1819 | **0.1822** | 0.0032 | 1.784 |
| ~~Lead~~ | ~~208~~ | ~~0.1818~~ | ~~0.1886~~ | ~~0.1855~~ | ~~**0.1853**~~ | ~~0.0034~~ | ~~1.849~~ |
| Manganese | 55 | 0.5 | 0.5116 | 0.5186 | **0.5101** | 0.0094 | 1.841 |
| Molybdenum | 98 | 2.641 | 2.631 | 2.782 | **2.685** | 0.0846 | 3.151 |
| Selenium | 77 | 3.483 | 3.566 | 3.356 | **3.468** | 0.1059 | 3.052 |
| Selenium | 78 | 3.826 | 3.85 | 3.794 | **3.823** | 0.028 | 0.7324 |
| Selenium | 82 | 3.394 | 3.394 | 3.396 | **3.395** | 0.001 | 0.0299 |
| Silver | 107 | 0.0037 | 0.0025 | 0.0035 | **0.0032** | 0.0006 | 19.47 |
| Silver | 109 | 0.0025 | 0.0023 | 0.0021 | **0.0023** | 0.0002 | 7.558 |
| Zinc | 66 | 19.02 | 18.86 | 19.24 | **19.04** | 0.1909 | 1.002 |
| Zinc | 67 | 18.38 | 18.5 | 18.41 | **18.43** | 0.0623 | 0.3382 |
| Zinc | 68 | 19.14 | 19.17 | 19.19 | **19.17** | 0.0251 | 0.1309 |

CCV out
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.026 | 1.026 | 1.021 | **1.026** | n/a | n/a |
| Indium | 115 | 1.32 | 1.33 | 1.297 | **1.32** | n/a | n/a |
| Lutetium | 175 | 1.122 | 1.104 | 1.07 | **1.122** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-07 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:48** | | | | | |
| Arsenic | 75 | 7.815 | 7.829 | 7.817 | **7.82** | 0.0079 | 0.1005 |
| Barium | 135 | 21.26 | 21.22 | 20.63 | **21.04** | 0.3522 | 1.674 |
| Barium | 137 | 20.96 | 20.45 | 21.13 | **20.85** | 0.3577 | 1.716 |
| Cadmium | 111 | 0.028 | 0.0174 | 0.0212 | **0.0222** | 0.0054 | 24.25 |
| Cadmium | 114 | 0.018 | 0.0211 | 0.0178 | **0.019** | 0.0019 | 9.86 |
| Chromium | 52 | 0.3956 | 0.3851 | 0.3895 | **0.3901** | 0.0052 | 1.342 |
| Chromium | 53 | 0.699 | 0.6919 | 0.7014 | **0.6975** | 0.005 | 0.7101 |
| Lead | 206 | 0.0585 | 0.065 | 0.0629 | **0.0621** | 0.0033 | 5.303 |
| Lead | 207 | 0.0614 | 0.056 | 0.0654 | **0.0609** | 0.0047 | 7.774 |
| ~~Lead~~ | ~~208~~ | ~~0.0592~~ | ~~0.0608~~ | ~~0.0603~~ | ~~**0.0601**~~ | ~~0.0008~~ | ~~1.334~~ |
| Manganese | 55 | 16.78 | 17.04 | 17.28 | **17.03** | 0.2491 | 1.463 |
| Molybdenum | 98 | 3.616 | 3.667 | 3.602 | **3.629** | 0.0341 | 0.9406 |
| Selenium | 77 | 1.606 | 1.64 | 1.656 | **1.634** | 0.0258 | 1.58 |
| Selenium | 78 | 2.53 | 2.488 | 2.45 | **2.489** | 0.0399 | 1.602 |
| Selenium | 82 | 1.665 | 1.753 | 1.911 | **1.776** | 0.1245 | 7.009 |
| Silver | 107 | 0.0039 | 0.0023 | 0.0035 | **0.0032** | 0.0008 | 24.75 |
| Silver | 109 | 0.0018 | 0.0016 | 0.0013 | **0.0016** | 0.0002 | 13.31 |
| Zinc | 66 | 12.13 | 12.14 | 12.09 | **12.12** | 0.0275 | 0.2273 |
| Zinc | 67 | 11.81 | 11.53 | 12.21 | **11.85** | 0.3443 | 2.906 |
| Zinc | 68 | 12.53 | 12.44 | 12.47 | **12.48** | 0.0478 | 0.3827 |

CCV out
JC
3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.022 | 1.022 | 1.04 | **1.022** | n/a | n/a |
| Indium | 115 | 1.326 | 1.301 | 1.293 | **1.326** | n/a | n/a |
| Lutetium | 175 | 1.109 | 1.08 | 1.071 | **1.109** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| Sample Name: | | K1174-09 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 13:51 | | | | | |
| Arsenic | 75 | 7.711 | 7.523 | 7.628 | **7.621** | 0.0943 | 1.238 |
| Barium | 135 | 20.37 | 20.05 | 20.38 | **20.27** | 0.1908 | 0.9414 |
| Barium | 137 | 19.96 | 20.07 | 20.22 | **20.09** | 0.1309 | 0.652 |
| Cadmium | 111 | 0.0214 | 0.0203 | 0.026 | **0.0226** | 0.003 | 13.33 |
| Cadmium | 114 | 0.0223 | 0.0205 | 0.021 | **0.0213** | 0.0009 | 4.448 |
| Chromium | 52 | 0.3375 | 0.3189 | 0.3128 | **0.3231** | 0.0129 | 3.993 |
| Chromium | 53 | 0.6134 | 0.6052 | 0.5806 | **0.5997** | 0.0171 | 2.849 |
| Lead | 206 | 0.09 | 0.0856 | 0.0941 | **0.0899** | 0.0043 | 4.739 |
| Lead | 207 | 0.0843 | 0.0851 | 0.0822 | **0.0839** | 0.0015 | 1.77 |
| ~~Lead~~ | ~~208~~ | ~~0.0857~~ | ~~0.0837~~ | ~~0.0894~~ | ~~**0.0862**~~ | ~~0.0029~~ | ~~3.36~~ |
| Manganese | 55 | 18.32 | 17.7 | 17.8 | **17.94** | 0.3332 | 1.857 |
| Molybdenum | 98 | 3.679 | 3.543 | 3.481 | **3.568** | 0.1013 | 2.84 |
| Selenium | 77 | 1.703 | 1.64 | 1.606 | **1.65** | 0.0495 | 2.999 |
| Selenium | 78 | 2.551 | 2.235 | 2.359 | **2.382** | 0.1591 | 6.678 |
| Selenium | 82 | 1.914 | 1.686 | 1.865 | **1.822** | 0.12 | 6.586 |
| Silver | 107 | 0.0039 | 0.0038 | 0.0041 | **0.0039** | 0.0002 | 4.18 |
| Silver | 109 | 0.0018 | 0.0024 | 0.004 | **0.0027** | 0.0011 | 41.75 |
| Zinc | 66 | 12.33 | 12.43 | 12.12 | **12.29** | 0.1569 | 1.276 |
| Zinc | 67 | 12.03 | 11.78 | 12.01 | **11.94** | 0.1369 | 1.146 |
| Zinc | 68 | 12.72 | 12.64 | 12.52 | **12.63** | 0.1015 | 0.804 |

CLV out
JC 3/2/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.022 | 1.022 | 1.007 | **1.022** n/a | n/a | |
| Indium | 115 | 1.292 | 1.298 | 1.275 | **1.292** n/a | n/a | |
| Lutetium | 175 | 1.079 | 1.051 | 1.103 | **1.079** n/a | n/a | |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-10 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:55** | | | | | |
| Arsenic | 75 | 10.25 | 10.19 | 10.28 | **10.24** | 0.0439 | 0.4291 |
| Barium | 135 | 27.03 | 26.96 | 26.21 | **26.73** | 0.4552 | 1.703 |
| Barium | 137 | 26.46 | 27.08 | 27.43 | **26.99** | 0.4918 | 1.822 |
| Cadmium | 111 | 0.0389 | 0.034 | 0.0384 | **0.0371** | 0.0027 | 7.331 |
| Cadmium | 114 | 0.0349 | 0.0332 | 0.0327 | **0.0336** | 0.0012 | 3.437 |
| Chromium | 52 | 0.4863 | 0.5312 | 0.5318 | **0.5164** | 0.0261 | 5.058 |
| Chromium | 53 | 0.55 | 0.5692 | 0.548 | **0.5557** | 0.0117 | 2.107 |
| Lead | 206 | 0.0762 | 0.0798 | 0.0753 | **0.0771** | 0.0024 | 3.08 |
| Lead | 207 | 0.0705 | 0.074 | 0.0688 | **0.0711** | 0.0026 | 3.72 |
| ~~Lead~~ | ~~208~~ | ~~0.073~~ | ~~0.0734~~ | ~~0.0713~~ | ~~**0.0726**~~ | ~~0.0011~~ | ~~1.519~~ |
| Manganese | 55 | 37.53 | 37.16 | 36.91 | **37.2** | 0.3141 | 0.8443 |
| Molybdenum | 98 | 3.528 | 3.689 | 3.596 | **3.604** | 0.0806 | 2.236 |
| Selenium | 77 | 4.298 | 4.003 | 4.308 | **4.203** | 0.1733 | 4.123 |
| Selenium | 78 | 5.043 | 5.13 | 5.274 | **5.149** | 0.1168 | 2.269 |
| Selenium | 82 | 4.366 | 4.413 | 4.563 | **4.447** | 0.103 | 2.317 |
| Silver | 107 | 0.0043 | 0.003 | 0.0051 | **0.0042** | 0.0011 | 25.7 |
| Silver | 109 | 0.0021 | 0.0005 | 0.0018 | **0.0015** | 0.0009 | 60.14 |
| Zinc | 66 | 6.736 | 6.766 | 6.715 | **6.739** | 0.0257 | 0.3818 |
| Zinc | 67 | 8.655 | 8.593 | 8.53 | **8.593** | 0.0621 | 0.7227 |
| Zinc | 68 | 7.634 | 7.599 | 7.629 | **7.621** | 0.0187 | 0.2456 |

CCV out
JC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.103 | 1.078 | 1.07 | **1.103** | n/a | n/a |
| Indium | 115 | 1.381 | 1.34 | 1.353 | **1.381** | n/a | n/a |
| Lutetium | 175 | 1.118 | 1.09 | 1.094 | **1.118** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **CCV5 MS1-23-C** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 13:58** | | | | | |
| Arsenic | 75 | 25.64 | 25.84 | 25.83 | **25.77** | 0.115 | 0.4464 |
| Barium | 135 | 24.34 | 24.07 | 24.33 | **24.25** | 0.1555 | 0.6415 |
| Barium | 137 | 24.06 | 24.04 | 24.53 | **24.21** | 0.2794 | 1.154 |
| Cadmium | 111 | 25.18 | 24.89 | 25.45 | **25.17** | 0.2804 | 1.114 |
| Cadmium | 114 | 25.61 | 24.53 | 26.05 | **25.4** | 0.7825 | 3.081 |
| Chromium | 52 | 25.12 | 24.71 | 25.27 | **25.03** | 0.2918 | 1.166 |
| Chromium | 53 | 24.51 | 25.21 | 25.27 | **25** | 0.4204 | 1.682 |
| Lead | 206 | 25.42 | 25.63 | 26.15 | **25.73** | 0.3741 | 1.454 |
| Lead | 207 | 25.31 | 25.89 | 25.97 | **25.73** | 0.3648 | 1.418 |
| Lead | 208 | 25.15 | 26.04 | 25.93 | **25.7** | 0.4839 | 1.883 |
| Manganese | 55 | 25.33 | 26.04 | 26.18 | **25.85** | 0.4529 | 1.752 |
| Molybdenum | 98 | 24.6 | 23.14 | 24.28 | **24.01** | 0.7677 | 3.198 |
| Selenium | 77 | 25.99 | 25.73 | 26.42 | **26.04** | 0.3464 | 1.33 |
| Selenium | 78 | 27.22 | 27.31 | 27.31 | **27.28** | 0.0502 | 0.1841 |
| Selenium | 82 | 25.83 | 25.67 | 26.13 | **25.88** | 0.2356 | 0.9104 |
| Silver | 107 | 24.94 | 24.53 | 25.25 | **24.91** | 0.3603 | 1.446 |
| Silver | 109 | 24.98 | 24.51 | 25.27 | **24.92** | 0.3806 | 1.527 |
| Zinc | 66 | 27.24 | 27.06 | 27.35 | **27.21** | 0.1442 | 0.5297 |
| Zinc | 67 | 25.98 | 26.39 | 26.64 | **26.34** | 0.3289 | 1.249 |
| Zinc | 68 | 26.17 | 26.44 | 27.05 | **26.55** | 0.4484 | 1.689 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.994 | 1.013 | 1.026 | **0.994** | n/a | n/a |
| Indium | 115 | 1.095 | 1.068 | 1.131 | **1.095** | n/a | n/a |
| Lutetium | 175 | 1.01 | 1.029 | 1.04 | **1.01** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| Sample Name: | | CCB5 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:06 | | | | | |
| Arsenic | 75 | -0.0151 | 0.0143 | 0.0056 | **0.0016** | 0.0151 | 951.7 |
| Barium | 135 | -0.0014 | 0.0009 | 0.0001 | **-0.0001** | 0.0011 | 859.5 |
| Barium | 137 | 0.0016 | 0 | 0.0002 | **0.0006** | 0.0009 | 137.6 |
| Cadmium | 111 | 0.0027 | 0.002 | 0.0029 | **0.0025** | 0.0004 | 17.29 |
| Cadmium | 114 | 0.0018 | 0.0017 | 0.001 | **0.0015** | 0.0004 | 29.34 |
| Chromium | 52 | -0.02 | -0.0212 | -0.0111 | **-0.0174** | 0.0055 | 31.8 |
| Chromium | 53 | 0.1529 | 0.105 | 0.1061 | **0.1214** | 0.0273 | 22.53 |
| Lead | 206 | 0.0012 | 0.0004 | 0.0003 | **0.0006** | 0.0005 | 71.25 |
| Lead | 207 | 0.0008 | 0.0004 | 0 | **0.0004** | 0.0004 | 105.2 |
| Lead | 208 | 0.0006 | 0.001 | 0.0007 | **0.0007** | 0.0002 | 29.59 |
| Manganese | 55 | -0.0056 | -0.0052 | -0.0039 | **-0.0049** | 0.0009 | 18.12 |
| Molybdenum | 98 | 0.0009 | 0.0011 | 0.0023 | **0.0015** | 0.0007 | 51.17 |
| Selenium | 77 | -0.0633 | -0.0888 | -0.0459 | **-0.066** | 0.0216 | 32.71 |
| Selenium | 78 | 0.4666 | 0.4673 | 0.3949 | **0.4429** | 0.0416 | 9.395 |
| Selenium | 82 | -0.075 | 0.0118 | 0.0354 | **-0.0093** | 0.0581 | 626 |
| Silver | 107 | -0.001 | -0.0013 | -0.0019 | **-0.0014** | 0.0005 | 35.32 |
| Silver | 109 | -0.0006 | -0.0005 | -0.0012 | **-0.0008** | 0.0004 | 50.12 |
| Zinc | 66 | 0.097 | 0.0952 | 0.0856 | **0.0926** | 0.0061 | 6.616 |
| Zinc | 67 | 0.0877 | 0.0728 | 0.0972 | **0.0859** | 0.0123 | 14.31 |
| Zinc | 68 | 0.0522 | 0.0477 | 0.044 | **0.0479** | 0.0041 | 8.541 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.012 | 0.987 | 1.008 | **1.012** | n/a | n/a |
| Indium | 115 | 1.074 | 1.072 | 1.075 | **1.074** | n/a | n/a |
| Lutetium | 175 | 1.035 | 1.022 | 1.025 | **1.035** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-11 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 14:11** | | | | | |
| Arsenic | 75 | 19.29 | 19.13 | 19.09 | **19.17** | 0.1078 | 0.5625 |
| Barium | 135 | 21.08 | 20.98 | 21.7 | **21.25** | 0.3919 | 1.844 |
| Barium | 137 | 20.6 | 20.54 | 21.34 | **20.83** | 0.4467 | 2.144 |
| Cadmium | 111 | 0.0533 | 0.0496 | 0.0527 | **0.0518** | 0.002 | 3.856 |
| Cadmium | 114 | 0.0393 | 0.0438 | 0.039 | **0.0407** | 0.0027 | 6.617 |
| Chromium | 52 | 0.6156 | 0.6431 | 0.601 | **0.6199** | 0.0213 | 3.441 |
| Chromium | 53 | 0.53 | 0.5053 | 0.5133 | **0.5162** | 0.0126 | 2.442 |
| Lead | 206 | 0.0709 | 0.0805 | 0.0756 | **0.0757** | 0.0048 | 6.307 |
| Lead | 207 | CCV out 0.0736 | 0.0741 | 0.0797 | **0.0758** | 0.0034 | 4.494 |
| ~~Lead~~ | ~~208~~ | ~~0.0712~~ | ~~0.0776~~ | ~~0.0802~~ | ~~**0.0764**~~ | ~~0.0046~~ | ~~6.021~~ |
| Manganese | 55 | JC 3/1/02 2.276 | 2.275 | 2.302 | **2.284** | 0.0152 | 0.6646 |
| Molybdenum | 98 | 11.8 | 11.72 | 11.89 | **11.81** | 0.088 | 0.7452 |
| Selenium | 77 | 1.489 | 1.461 | 1.414 | **1.454** | 0.0379 | 2.603 |
| Selenium | 78 | 2.211 | 2.193 | 2.273 | **2.226** | 0.0421 | 1.891 |
| Selenium | 82 | 1.599 | 1.697 | 1.711 | **1.669** | 0.0613 | 3.671 |
| Silver | 107 | 0.0029 | 0.0029 | 0.0024 | **0.0027** | 0.0003 | 11.73 |
| Silver | 109 | 0.0034 | 0.0011 | 0.002 | **0.0022** | 0.0012 | 53.53 |
| Zinc | 66 | 2.799 | 2.656 | 2.756 | **2.737** | 0.0733 | 2.679 |
| Zinc | 67 | 5.378 | 5.32 | 5.308 | **5.335** | 0.0371 | 0.6955 |
| Zinc | 68 | 3.871 | 3.959 | 3.871 | **3.9** | 0.0505 | 1.295 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.027 | 1.021 | 0.999 | **1.027** | n/a | n/a |
| Indium | 115 | 1.33 | 1.31 | 1.295 | **1.33** | n/a | n/a |
| Lutetium | 175 | 1.067 | 1.082 | 1.071 | **1.067** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **Sample Name:** | | **K1174-12 1/2** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 14:14** | | | | | |
| Arsenic | 75 | 7.672 | 7.821 | 7.651 | **7.715** | 0.0929 | 1.204 |
| Barium | 135 | 28.71 | 28.38 | 29.55 | **28.88** | 0.6052 | 2.095 |
| Barium | 137 | 28.91 | 28.9 | 29.23 | **29.01** | 0.1835 | 0.6324 |
| Cadmium | 111 | 0.0424 | 0.0432 | 0.0418 | **0.0425** | 0.0007 | 1.684 |
| Cadmium | 114 | 0.0446 | 0.0505 | 0.0432 | **0.0461** | 0.0039 | 8.457 |
| Chromium | 52 | 0.8898 | 0.9449 | 0.8877 | **0.9075** | 0.0324 | 3.574 |
| Chromium | 53 | 0.7765 | 0.8178 | 0.7865 | **0.7936** | 0.0215 | 2.714 |
| Lead | 206 | 0.4984 | 0.4853 | 0.5006 | **0.4948** | 0.0083 | 1.674 |
| Lead | 207 | 0.4626 | 0.4733 | 0.4796 | **0.4718** | 0.0086 | 1.822 |
| ~~Lead~~ | ~~208~~ | ~~0.473~~ | ~~0.4741~~ | ~~0.4867~~ | ~~**0.4786**~~ | ~~0.0088~~ | ~~1.835~~ |
| Manganese | 55 | 0.2312 | 0.2395 | 0.2396 | **0.2368** | 0.0048 | 2.029 |
| Molybdenum | 98 | 2.517 | 2.629 | 2.525 | **2.557** | 0.0625 | 2.444 |
| Selenium | 77 | 4.017 | 4.229 | 4.001 | **4.082** | 0.1276 | 3.125 |
| Selenium | 78 | 4.764 | 4.898 | 5.057 | **4.906** | 0.1468 | 2.993 |
| Selenium | 82 | 4.484 | 4.371 | 4.3 | **4.385** | 0.0927 | 2.115 |
| Silver | 107 | 0.0023 | 0.0021 | 0.0017 | **0.0021** | 0.0003 | 15.68 |
| Silver | 109 | 0.0027 | 0.0021 | 0.0019 | **0.0022** | 0.0004 | 19.25 |
| Zinc | 66 | 45.01 | 46.25 | 46.04 | **45.76** | 0.6635 | 1.45 |
| Zinc | 67 | 41.17 | 41.46 | 40.47 | **41.03** | 0.5123 | 1.248 |
| Zinc | 68 | 44.84 | 45.51 | 45.06 | **45.14** | 0.3382 | 0.7493 |

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**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.077 | 1.092 | 1.074 | **1.077** | n/a | n/a |
| Indium | 115 | 1.375 | 1.367 | 1.372 | **1.375** | n/a | n/a |
| Lutetium | 175 | 1.131 | 1.094 | 1.115 | **1.131** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-13 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:17 | | | | | |
| Arsenic | 75 | 13.24 | 12.53 | 13.1 | **12.96** | 0.3749 | 2.893 |
| Barium | 135 | 19.04 | 19.36 | 18.8 | **19.07** | 0.2776 | 1.456 |
| Barium | 137 | 18.98 | 18.81 | 18.66 | **18.81** | 0.1612 | 0.8569 |
| Cadmium | 111 | 0.0222 | 0.0165 | 0.0251 | **0.0213** | 0.0044 | 20.64 |
| Cadmium | 114 | 0.0173 | 0.0163 | 0.0156 | **0.0164** | 0.0009 | 5.23 |
| Chromium | 52 | 0.5079 | 0.5065 | 0.512 | **0.5088** | 0.0028 | 0.5598 |
| Chromium | 53 | 0.5543 | 0.5491 | 0.5624 | **0.5553** | 0.0067 | 1.21 |
| Lead | 206 | 0.1489 | 0.1499 | 0.1403 | **0.1463** | 0.0053 | 3.61 |
| Lead | 207 | 0.1366 | 0.1371 | 0.1384 | **0.1374** | 0.001 | 0.7032 |
| ~~Lead~~ | ~~208~~ | ~~0.1412~~ | ~~0.1424~~ | ~~0.1376~~ | ~~**0.1404**~~ | ~~0.0025~~ | ~~1.768~~ |
| Manganese | 55 | 0.0913 | 0.0914 | 0.09 | **0.0909** | 0.0008 | 0.8767 |
| Molybdenum | 98 | 2.936 | 2.878 | 2.962 | **2.925** | 0.0428 | 1.462 |
| Selenium | 77 | 4.16 | 4.129 | 4.095 | **4.128** | 0.0322 | 0.78 |
| Selenium | 78 | 5.044 | 4.722 | 4.882 | **4.883** | 0.1608 | 3.293 |
| Selenium | 82 | 4.522 | 4.213 | 4.391 | **4.375** | 0.1554 | 3.551 |
| Silver | 107 | 0.0033 | 0.0016 | 0.0006 | **0.0019** | 0.0013 | 72.22 |
| Silver | 109 | 0.002 | 0.0028 | 0.0027 | **0.0025** | 0.0004 | 17.39 |
| Zinc | 66 | 6.449 | 6.135 | 6.233 | **6.272** | 0.1604 | 2.557 |
| Zinc | 67 | 7.438 | 7.328 | 7.312 | **7.359** | 0.0684 | 0.93 |
| Zinc | 68 | 7.028 | 6.832 | 6.928 | **6.93** | 0.0977 | 1.41 |

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**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.08 | 1.063 | 1.074 | **1.08** | n/a | n/a |
| Indium | 115 | 1.401 | 1.348 | 1.344 | **1.401** | n/a | n/a |
| Lutetium | 175 | 1.133 | 1.112 | 1.109 | **1.133** | n/a | n/a |

**Instrument ID:** Thermo Elemental Excell
**Experiment:** 02-28-02A
**Units:** µg/L (ppb)

**Method:** EPA6020/200.8
**Analyst:** Jim Chan
**Analysis Lot # :** KA0109835

| Sample Name: | | K1174-14 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:20 | | | | | |
| Arsenic | 75 | 4.658 | 4.768 | 4.628 | **4.685** | 0.0736 | 1.572 |
| Barium | 135 | 69.89 | 70.79 | 67.36 | **69.35** | 1.78 | 2.567 |
| Barium | 137 | 69.5 | 68.43 | 66.13 | **68.02** | 1.718 | 2.525 |
| Cadmium | 111 | 0.0138 | 0.0138 | 0.016 | **0.0145** | 0.0013 | 8.993 |
| Cadmium | 114 | 0.0133 | 0.0132 | 0.0109 | **0.0125** | 0.0013 | 10.75 |
| Chromium | 52 | 0.5423 | 0.523 | 0.4924 | **0.5192** | 0.0251 | 4.841 |
| Chromium | 53 | 2.354 | 2.357 | 2.295 | **2.335** | 0.035 | 1.497 |
| Lead | 206 | 0.0793 | 0.084 | 0.0843 | **0.0825** | 0.0028 | 3.375 |
| Lead | 207 | 0.0841 | 0.0815 | 0.0812 | **0.0823** | 0.0016 | 1.959 |
| ~~Lead~~ | ~~208~~ | ~~0.0831~~ | ~~0.0835~~ | ~~0.0835~~ | ~~**0.0834**~~ | ~~0.0002~~ | ~~0.2836~~ |
| Manganese | 55 | 4.72 | 4.651 | 4.695 | **4.688** | 0.0348 | 0.742 |
| Molybdenum | 98 | 2.29 | 2.335 | 2.161 | **2.262** | 0.0903 | 3.993 |
| Selenium | 77 | 3.159 | 3.047 | 2.911 | **3.039** | 0.1241 | 4.082 |
| Selenium | 78 | 3.643 | 3.571 | 3.33 | **3.515** | 0.164 | 4.667 |
| Selenium | 82 | 4.31 | 4.59 | 4.489 | **4.463** | 0.142 | 3.182 |
| Silver | 107 | 0.0036 | 0.0042 | 0.004 | **0.0039** | 0.0003 | 8.743 |
| Silver | 109 | 0.0028 | 0.0043 | 0.0032 | **0.0034** | 0.0008 | 22.27 |
| Zinc | 66 | 5.845 | 5.932 | 5.678 | **5.819** | 0.1289 | 2.215 |
| Zinc | 67 | 9.995 | 10.13 | 9.81 | **9.978** | 0.1607 | 1.61 |
| Zinc | 68 | 9.232 | 9.216 | 9.015 | **9.154** | 0.121 | 1.322 |

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**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.115 | 1.103 | 1.07 | **1.115** | n/a | n/a |
| Indium | 115 | 1.408 | 1.432 | 1.351 | **1.408** | n/a | n/a |
| Lutetium | 175 | 1.128 | 1.105 | 1.096 | **1.128** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| ample Name: | | K1174-15 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 14:23 | | | | | |
| Arsenic | 75 | 8.194 | 8.315 | 8.19 | **8.233** | 0.0708 | 0.8606 |
| Barium | 135 | 20.8 | 20.26 | 20.85 | **20.64** | 0.3281 | 1.59 |
| Barium | 137 | 20.81 | 20.27 | 20.45 | **20.51** | 0.2747 | 1.339 |
| Cadmium | 111 | 0.0247 | 0.0194 | 0.0231 | **0.0224** | 0.0027 | 12.06 |
| Cadmium | 114 | 0.0215 | 0.0184 | 0.0209 | **0.0202** | 0.0017 | 8.183 |
| Chromium | 52 | 1.095 | 1.098 | 1.084 | **1.092** | 0.0071 | 0.6462 |
| Chromium | 53 | 1.117 | 1.101 | 1.073 | **1.097** | 0.0224 | 2.041 |
| Lead | 206 | 0.0181 | 0.0251 | 0.0259 | **0.023** | 0.0043 | 18.52 |
| Lead | 207 | 0.0198 | 0.0237 | 0.0185 | **0.0207** | 0.0027 | 13.02 |
| ~~Lead~~ | ~~208~~ | ~~0.0197~~ | ~~0.0208~~ | ~~0.0215~~ | ~~**0.0206**~~ | ~~0.0009~~ | ~~4.27~~ |
| Manganese | 55 | 51.99 | 52.39 | 52.37 | **52.25** | 0.2223 | 0.4255 |
| Molybdenum | 98 | 3.091 | 3.217 | 3.233 | **3.18** | 0.0774 | 2.434 |
| Selenium | 77 | 4.39 | 4.172 | 4.25 | **4.271** | 0.1106 | 2.591 |
| Selenium | 78 | 4.878 | 5.207 | 5.062 | **5.049** | 0.165 | 3.269 |
| Selenium | 82 | 5.064 | 5.02 | 4.99 | **5.025** | 0.0369 | 0.7337 |
| Silver | 107 | 0.0015 | 0.002 | 0.0015 | **0.0017** | 0.0003 | 18.41 |
| Silver | 109 | 0.0013 | 0.0007 | 0.0013 | **0.0011** | 0.0003 | 29.24 |
| Zinc | 66 | 2.651 | 2.651 | 2.621 | **2.641** | 0.0177 | 0.6703 |
| Zinc | 67 | 3.77 | 3.839 | 3.724 | **3.778** | 0.0581 | 1.538 |
| Zinc | 68 | 3.624 | 3.636 | 3.539 | **3.6** | 0.0529 | 1.471 |

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**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.071 | 1.055 | 1.034 | **1.071** | n/a | n/a |
| Indium | 115 | 1.407 | 1.356 | 1.361 | **1.407** | n/a | n/a |
| Lutetium | 175 | 1.132 | 1.073 | 1.085 | **1.132** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| ample Name: | | K1174-16 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 14:26 | | | | | |
| Arsenic | 75 | 8.343 | 8.074 | 7.987 | **8.134** | 0.1858 | 2.284 |
| Barium | 135 | 20.61 | 20.24 | 20.26 | **20.37** | 0.2125 | 1.043 |
| Barium | 137 | 20.1 | 19.63 | 19.79 | **19.84** | 0.242 | 1.22 |
| Cadmium | 111 | 0.0764 | 0.0694 | 0.0713 | **0.0724** | 0.0036 | 5.004 |
| Cadmium | 114 | 0.0811 | 0.0678 | 0.0718 | **0.0736** | 0.0068 | 9.276 |
| Chromium | 52 | 0.8129 | 0.8165 | 0.8012 | **0.8102** | 0.008 | 0.9905 |
| Chromium | 53 | 1.072 | 1.048 | 1.041 | **1.053** | 0.0162 | 1.536 |
| Lead | 206 | 0.177 | 0.1828 | 0.1719 | **0.1772** | 0.0055 | 3.093 |
| Lead | 207 | 0.1807 | 0.1873 | 0.1628 | **0.1769** | 0.0127 | 7.155 |
| ~~Lead~~ | ~~208~~ | ~~0.1748~~ | ~~0.1787~~ | ~~0.1658~~ | ~~0.1731~~ | ~~0.0066~~ | ~~3.84~~ |
| Manganese | 55 | 45.98 | 46.37 | 45.07 | **45.81** | 0.6674 | 1.457 |
| Molybdenum | 98 | 3.515 | 3.437 | 3.515 | **3.489** | 0.0452 | 1.295 |
| Selenium | 77 | 4.36 | 4.355 | 4.154 | **4.289** | 0.1176 | 2.742 |
| Selenium | 78 | 5.144 | 4.836 | 5.026 | **5.002** | 0.1554 | 3.106 |
| Selenium | 82 | 4.911 | 4.999 | 4.677 | **4.862** | 0.1666 | 3.427 |
| Silver | 107 | 0.0045 | 0.0046 | 0.0036 | **0.0043** | 0.0005 | 12.57 |
| Silver | 109 | 0.0036 | 0.0029 | 0.0024 | **0.003** | 0.0006 | 20.35 |
| Zinc | 66 | 3.352 | 3.208 | 3.206 | **3.255** | 0.0841 | 2.584 |
| Zinc | 67 | 4.487 | 4.293 | 4.329 | **4.37** | 0.1033 | 2.363 |
| Zinc | 68 | 4.116 | 4.063 | 4.154 | **4.111** | 0.046 | 1.12 |

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**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.106 | 1.083 | 1.053 | **1.106** | n/a | n/a |
| Indium | 115 | 1.474 | 1.422 | 1.386 | **1.474** | n/a | n/a |
| Lutetium | 175 | 1.169 | 1.19 | 1.104 | **1.169** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| **ample Name:** | | **K1174-01 1/10** | | | **Mean** | **SD** | **%RSD** |
|---|---|---|---|---|---|---|---|
| **TimeStamp** | | **2/28/02 14:30** | | | | | |
| Arsenic | 75 | 0.09 | 0.0805 | 0.0751 | **0.0819** | 0.0075 | 9.191 |
| Barium | 135 | 12.3 | 12.18 | 12.5 | **12.33** | 0.1636 | 1.327 |
| Barium | 137 | 12.53 | 11.96 | 12.07 | **12.19** | 0.3025 | 2.482 |
| Cadmium | 111 | 0.0039 | 0.0047 | 0.0065 | **0.0051** | 0.0013 | 26.1 |
| Cadmium | 114 | 0.0044 | 0.0049 | 0.0058 | **0.005** | 0.0007 | 14.21 |
| Chromium | 52 | 0.1176 | 0.0967 | 0.1062 | **0.1069** | 0.0104 | 9.774 |
| Chromium | 53 | 0.0784 | 0.0725 | 0.087 | **0.0793** | 0.0073 | 9.223 |
| Lead | 206 | 0.0217 | 0.0229 | 0.0233 | **0.0226** | 0.0008 | 3.607 |
| Lead | 207 | 0.0204 | 0.0216 | 0.019 | **0.0203** | 0.0013 | 6.442 |
| Lead | 208 | 0.0202 | 0.0225 | 0.0217 | **0.0215** | 0.0012 | 5.433 |
| Manganese | 55 | 12.98 | 13.11 | 13.33 | **13.14** | 0.1747 | 1.329 |
| Molybdenum | 98 | 0.1853 | 0.1684 | 0.1859 | **0.1799** | 0.01 | 5.543 |
| Selenium | 77 | -0.0756 | -0.0278 | -0.0173 | **-0.0402** | 0.0311 | 77.34 |
| Selenium | 78 | 0.6284 | 0.5559 | 0.7383 | **0.6409** | 0.0918 | 14.33 |
| Selenium | 82 | 0.0932 | 0.1019 | 0.1069 | **0.1007** | 0.0069 | 6.878 |
| Silver | 107 | -0.0001 | -0.0007 | 0.0006 | **-0.0001** | 0.0006 | 651.4 |
| Silver | 109 | 0.0001 | -0.0006 | -0.0005 | **-0.0003** | 0.0004 | 114.6 |
| Zinc | 66 | 9.802 | 9.835 | 10.05 | **9.894** | 0.1323 | 1.337 |
| Zinc | 67 | 9.502 | 9.343 | 9.545 | **9.463** | 0.1068 | 1.129 |
| Zinc | 68 | 10.13 | 9.859 | 10.14 | **10.04** | 0.1582 | 1.576 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.986 | 0.975 | 0.987 | **0.986** | n/a | n/a |
| Indium | 115 | 1.092 | 1.035 | 1.069 | **1.092** | n/a | n/a |
| Lutetium | 175 | 1.002 | 0.989 | 0.969 | **1.002** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| Sample Name: | | K1174-02 1/10 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:33 | | | | | |
| Arsenic | 75 | 0.0852 | 0.0865 | 0.1125 | **0.0947** | 0.0154 | 16.25 |
| Barium | 135 | 12.34 | 12.51 | 12.76 | **12.54** | 0.2124 | 1.694 |
| Barium | 137 | 12.36 | 12.61 | 12.6 | **12.53** | 0.1416 | 1.13 |
| Cadmium | 111 | 0.0076 | 0.0045 | 0.0084 | **0.0068** | 0.002 | 30.06 |
| Cadmium | 114 | 0.008 | 0.0059 | 0.0055 | **0.0065** | 0.0013 | 20.91 |
| Chromium | 52 | 0.0896 | 0.0952 | 0.0902 | **0.0917** | 0.0031 | 3.345 |
| Chromium | 53 | 0.0946 | 0.0904 | 0.0797 | **0.0883** | 0.0077 | 8.688 |
| Lead | 206 | 0.0262 | 0.0254 | 0.0259 | **0.0258** | 0.0004 | 1.601 |
| Lead | 207 | 0.0214 | 0.0215 | 0.0251 | **0.0227** | 0.0021 | 9.341 |
| Lead | 208 | 0.0248 | 0.0247 | 0.0236 | **0.0244** | 0.0007 | 2.738 |
| Manganese | 55 | 13.29 | 13.25 | 13.54 | **13.36** | 0.1575 | 1.179 |
| Molybdenum | 98 | 0.1933 | 0.1896 | 0.194 | **0.1923** | 0.0024 | 1.233 |
| Selenium | 77 | -0.0058 | -0.0558 | -0.0069 | **-0.0228** | 0.0286 | 125.1 |
| Selenium | 78 | 0.6854 | 0.6645 | 0.713 | **0.6876** | 0.0244 | 3.545 |
| Selenium | 82 | 0.1521 | 0.0932 | 0.2479 | **0.1644** | 0.0781 | 47.52 |
| Silver | 107 | -0.0011 | -0.0005 | -0.0003 | **-0.0006** | 0.0004 | 64.93 |
| Silver | 109 | -0.0008 | -0.0014 | -0.0012 | **-0.0011** | 0.0003 | 27.57 |
| Zinc | 66 | 10.04 | 10.23 | 10.35 | **10.21** | 0.156 | 1.528 |
| Zinc | 67 | 9.737 | 9.748 | 9.815 | **9.766** | 0.0424 | 0.4344 |
| Zinc | 68 | 10.2 | 10.42 | 10.38 | **10.33** | 0.1151 | 1.114 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.981 | 0.979 | 0.969 | **0.981** | n/a | n/a |
| Indium | 115 | 1.073 | 1.076 | 1.075 | **1.073** | n/a | n/a |
| Lutetium | 175 | 0.98 | 1.003 | 0.981 | **0.98** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell** | **Method: EPA6020/200.8**
**Experiment: 02-28-02A** | **Analyst: Jim Chan**
**Units: µg/L (ppb)** | **Analysis Lot # : KA0109835**

| Sample Name: | | K1174-01S 1/10 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:36 | | | | | |
| Arsenic | 75 | 2.222 | 2.287 | 2.216 | **2.241** | 0.0395 | 1.763 |
| Barium | 135 | 14.25 | 13.74 | 13.5 | **13.83** | 0.383 | 2.769 |
| Barium | 137 | 14.22 | 14.08 | 13.5 | **13.93** | 0.3824 | 2.745 |
| Cadmium | 111 | 2.056 | 2.089 | 2.032 | **2.059** | 0.0283 | 1.375 |
| Cadmium | 114 | 2.095 | 2.098 | 2.083 | **2.092** | 0.0081 | 0.3853 |
| Chromium | 52 | 2.008 | 2.163 | 2.093 | **2.088** | 0.0779 | 3.73 |
| Chromium | 53 | 1.997 | 2.072 | 2.105 | **2.058** | 0.0553 | 2.688 |
| Lead | 206 | 2.114 | 2.085 | 2.099 | **2.099** | 0.0144 | 0.6855 |
| Lead | 207 | 2.148 | 2.062 | 2.094 | **2.101** | 0.0433 | 2.061 |
| Lead | 208 | 2.103 | 2.063 | 2.066 | **2.077** | 0.0221 | 1.066 |
| Manganese | 55 | 14.74 | 15.09 | 14.91 | **14.91** | 0.1752 | 1.175 |
| Molybdenum | 98 | 2.143 | 2.135 | 2.08 | **2.119** | 0.034 | 1.606 |
| Selenium | 77 | 2.112 | 2.146 | 2.226 | **2.161** | 0.0586 | 2.71 |
| Selenium | 78 | 2.854 | 2.884 | 2.681 | **2.806** | 0.1095 | 3.903 |
| Selenium | 82 | 2.326 | 2.248 | 2.279 | **2.284** | 0.0389 | 1.702 |
| Silver | 107 | 1.949 | 1.981 | 1.951 | **1.96** | 0.0178 | 0.9067 |
| Silver | 109 | 2.003 | 1.966 | 1.956 | **1.975** | 0.0246 | 1.248 |
| Zinc | 66 | 11.99 | 12.25 | 12.17 | **12.14** | 0.1296 | 1.068 |
| Zinc | 67 | 11.49 | 11.72 | 11.38 | **11.53** | 0.1754 | 1.521 |
| Zinc | 68 | 12.13 | 12.42 | 12.19 | **12.24** | 0.1508 | 1.231 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 0.959 | 0.99 | 0.965 | **0.959** | n/a | n/a |
| Indium | 115 | 1.084 | 1.068 | 1.027 | **1.084** | n/a | n/a |
| Lutetium | 175 | 1.02 | 0.974 | 0.965 | **1.02** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | K1174-01SD 1/10 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 2/28/02 14:39 | | | | | |
| Arsenic | 75 | 2.25 | 2.093 | 2.178 | **2.173** | 0.0788 | 3.624 |
| Barium | 135 | 14.16 | 13.49 | 13.88 | **13.84** | 0.3347 | 2.418 |
| Barium | 137 | 13.79 | 13.4 | 13.6 | **13.6** | 0.195 | 1.434 |
| Cadmium | 111 | 2.032 | 1.935 | 2.055 | **2.007** | 0.0639 | 3.181 |
| Cadmium | 114 | 2.006 | 1.948 | 1.974 | **1.976** | 0.0292 | 1.477 |
| Chromium | 52 | 2.148 | 1.964 | 1.986 | **2.033** | 0.1004 | 4.941 |
| Chromium | 53 | 2.115 | 1.883 | 1.967 | **1.988** | 0.1174 | 5.905 |
| Lead | 206 | 2.116 | 2.045 | 2.209 | **2.123** | 0.082 | 3.863 |
| Lead | 207 | 2.059 | 2.031 | 2.082 | **2.057** | 0.0258 | 1.255 |
| Lead | 208 | 2.078 | 2.032 | 2.104 | **2.072** | 0.0363 | 1.754 |
| Manganese | 55 | 14.86 | 14.59 | 14.69 | **14.71** | 0.1383 | 0.9399 |
| Molybdenum | 98 | 2.006 | 1.943 | 2.072 | **2.007** | 0.0645 | 3.214 |
| Selenium | 77 | 2.18 | 2.181 | 2.182 | **2.181** | 0.0012 | 0.0543 |
| Selenium | 78 | 2.614 | 2.657 | 2.718 | **2.663** | 0.0524 | 1.966 |
| Selenium | 82 | 2.504 | 2.215 | 2.318 | **2.346** | 0.1462 | 6.234 |
| Silver | 107 | 1.948 | 1.834 | 1.888 | **1.89** | 0.0571 | 3.019 |
| Silver | 109 | 1.926 | 1.891 | 1.942 | **1.92** | 0.026 | 1.356 |
| Zinc | 66 | 12.59 | 12.22 | 12.65 | **12.49** | 0.2367 | 1.895 |
| Zinc | 67 | 12.02 | 11.4 | 11.68 | **11.7** | 0.3119 | 2.666 |
| Zinc | 68 | 12.74 | 12.37 | 12.44 | **12.52** | 0.1988 | 1.588 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.032 | 0.988 | 0.991 | **1.032** | n/a | n/a |
| Indium | 115 | 1.124 | 1.071 | 1.098 | **1.124** | n/a | n/a |
| Lutetium | 175 | 1.058 | 1.029 | 1.041 | **1.058** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| Sample Name: | | CCV6 MS1-23-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:43 | | | | | |
| Arsenic | 75 | 25.73 | 26.24 | 25.95 | **25.97** | 0.2563 | 0.9867 |
| Barium | 135 | 24.03 | 24.61 | 23.91 | **24.18** | 0.3716 | 1.537 |
| Barium | 137 | 24.44 | 24.74 | 23.85 | **24.34** | 0.4542 | 1.866 |
| Cadmium | 111 | 25.38 | 25.39 | 25.06 | **25.28** | 0.1858 | 0.7351 |
| Cadmium | 114 | 25.19 | 25.76 | 24.42 | **25.12** | 0.672 | 2.675 |
| Chromium | 52 | 24.8 | 25.8 | 25.81 | **25.47** | 0.5803 | 2.278 |
| Chromium | 53 | 24.89 | 25.29 | 25.14 | **25.11** | 0.2025 | 0.8066 |
| Lead | 206 | 26.04 | 26.19 | 26.29 | **26.17** | 0.1238 | 0.4729 |
| Lead | 207 | 26.08 | 25.81 | 26.65 | **26.18** | 0.4329 | 1.653 |
| Lead | 208 | 26.2 | 25.99 | 26.71 | **26.3** | 0.372 | 1.414 |
| Manganese | 55 | 25.61 | 25.93 | 25.84 | **25.79** | 0.1668 | 0.6466 |
| Molybdenum | 98 | 23.51 | 23.91 | 22.59 | **23.34** | 0.6766 | 2.899 |
| Selenium | 77 | 26.41 | 26.72 | 26.66 | **26.6** | 0.1632 | 0.6136 |
| Selenium | 78 | 27.78 | 27.79 | 27.37 | **27.65** | 0.2361 | 0.854 |
| Selenium | 82 | 26.63 | 26.21 | 25.88 | **26.24** | 0.376 | 1.433 |
| Silver | 107 | 24.2 | 24.89 | 23.89 | **24.33** | 0.512 | 2.105 |
| Silver | 109 | 24.67 | 25.27 | 24.73 | **24.89** | 0.328 | 1.318 |
| ~~Zinc~~ | ~~66~~ | ~~27.32~~ | ~~28.15~~ | ~~28.03~~ | ~~**27.83**~~ | ~~0.4489~~ | ~~1.613~~ |
| Zinc | 67 | 26.87 | 26.68 | 26.76 | **26.77** | 0.0958 | 0.3578 |
| Zinc | 68 | 26.88 | 27.39 | 27.23 | **27.16** | 0.262 | 0.9645 |

SCC Return SC 3/1/02

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.013 | 1.033 | 1.062 | **1.013** | n/a | n/a |
| Indium | 115 | 1.096 | 1.118 | 1.103 | **1.096** | n/a | n/a |
| Lutetium | 175 | 1.043 | 1.017 | 1.058 | **1.043** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 02-28-02A
Units: µg/L (ppb)

Method: EPA6020/200.8
Analyst: Jim Chan
Analysis Lot # : KA0109835

| ample Name: | | CCV6 MS1-23-C RERUN | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:47 | | | | | |
| Arsenic | 75 | 25.39 | 26.26 | 25.91 | **25.85** | 0.4407 | 1.705 |
| Barium | 135 | 23.66 | 25.03 | 25.1 | **24.6** | 0.8096 | 3.291 |
| Barium | 137 | 23.48 | 24.44 | 25.27 | **24.4** | 0.8962 | 3.673 |
| Cadmium | 111 | 24.65 | 24.9 | 25.86 | **25.14** | 0.6375 | 2.536 |
| Cadmium | 114 | 24.56 | 24.98 | 26.2 | **25.24** | 0.8521 | 3.376 |
| Chromium | 52 | 24.43 | 25.21 | 24.98 | **24.87** | 0.4017 | 1.615 |
| Chromium | 53 | 24.65 | 25.66 | 25.24 | **25.18** | 0.5089 | 2.021 |
| Lead | 206 | 25.66 | 27.31 | 27.8 | **26.92** | 1.12 | 4.162 |
| Lead | 207 | 26.21 | 26.98 | 27.15 | **26.78** | 0.5013 | 1.872 |
| Lead | 208 | 25.95 | 27.11 | 26.95 | **26.67** | 0.6279 | 2.355 |
| Manganese | 55 | 25.45 | 25.82 | 25.77 | **25.68** | 0.1976 | 0.7693 |
| Molybdenum | 98 | 23.54 | 24.38 | 24.59 | **24.17** | 0.5553 | 2.298 |
| Selenium | 77 | 26.21 | 26.09 | 26.98 | **26.43** | 0.486 | 1.839 |
| Selenium | 78 | 26.83 | 26.99 | 27.4 | **27.08** | 0.2919 | 1.078 |
| Selenium | 82 | 26.08 | 26.75 | 26.72 | **26.51** | 0.3791 | 1.43 |
| Silver | 107 | 24.15 | 24.11 | 24.64 | **24.3** | 0.2923 | 1.203 |
| Silver | 109 | 23.82 | 24.79 | 24.87 | **24.49** | 0.5802 | 2.369 |
| Zinc | 66 | 26.97 | 27.74 | 27.22 | **27.31** | 0.3932 | 1.439 |
| Zinc | 67 | 27.48 | 26.98 | 27.08 | **27.18** | 0.2651 | 0.9753 |
| Zinc | 68 | 26.98 | 27 | 26.89 | **26.96** | 0.0605 | 0.2244 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.034 | 1.037 | 1.024 | **1.034** | n/a | n/a |
| Indium | 115 | 1.079 | 1.092 | 1.106 | **1.079** | n/a | n/a |
| Lutetium | 175 | 1.031 | 1.06 | 1.058 | **1.031** | n/a | n/a |

**Instrument ID: Thermo Elemental Excell**
**Experiment: 02-28-02A**
**Units: µg/L (ppb)**

**Method: EPA6020/200.8**
**Analyst: Jim Chan**
**Analysis Lot # : KA0109835**

| ample Name: | | CCB6 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 2/28/02 14:54 | | | | | |
| Arsenic | 75 | 0.0209 | 0.0547 | -0.0069 | **0.0229** | 0.0308 | 134.8 |
| Barium | 135 | -0.001 | -0.001 | -0.0002 | **-0.0008** | 0.0005 | 63.9 |
| Barium | 137 | 0.002 | 0.0011 | 0.0006 | **0.0012** | 0.0007 | 58.76 |
| Cadmium | 111 | 0.0027 | 0.0016 | 0.0039 | **0.0028** | 0.0012 | 41.65 |
| Cadmium | 114 | 0.0026 | 0.003 | 0.0014 | **0.0023** | 0.0008 | 35.3 |
| Chromium | 52 | -0.0276 | -0.017 | -0.0217 | **-0.0221** | 0.0053 | 24.17 |
| Chromium | 53 | 0.0602 | 0.0627 | 0.0462 | **0.0564** | 0.0089 | 15.76 |
| Lead | 206 | 0.0016 | 0.0012 | 0.0004 | **0.0011** | 0.0006 | 55.67 |
| Lead | 207 | 0.0013 | 0.0003 | 0.0011 | **0.0009** | 0.0005 | 59.57 |
| Lead | 208 | 0.0011 | 0.0013 | 0.0017 | **0.0013** | 0.0003 | 24.56 |
| Manganese | 55 | -0.0044 | -0.0049 | -0.0056 | **-0.005** | 0.0006 | 12.22 |
| Molybdenum | 98 | 0.0024 | 0.0031 | 0.0021 | **0.0026** | 0.0005 | 21.01 |
| Selenium | 77 | -0.0671 | -0.0672 | -0.033 | **-0.0558** | 0.0197 | 35.29 |
| Selenium | 78 | 0.1774 | 0.2124 | 0.4048 | **0.2648** | 0.1224 | 46.23 |
| Selenium | 82 | 0.0793 | 0.2087 | 0.0268 | **0.1049** | 0.0936 | 89.22 |
| Silver | 107 | -0.0003 | -0.0016 | -0.0009 | **-0.0009** | 0.0007 | 70.53 |
| Silver | 109 | -0.0001 | -0.0009 | -0.0009 | **-0.0006** | 0.0005 | 72.34 |
| Zinc | 66 | 0.1134 | 0.1063 | 0.1113 | **0.1104** | 0.0037 | 3.312 |
| Zinc | 67 | 0.0933 | 0.1085 | 0.1124 | **0.1047** | 0.0101 | 9.616 |
| Zinc | 68 | 0.046 | 0.0512 | 0.0568 | **0.0513** | 0.0054 | 10.53 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Scandium | 45 | 1.017 | 1.01 | 1.017 | **1.017** | n/a | n/a |
| Indium | 115 | 1.093 | 1.085 | 1.088 | **1.093** | n/a | n/a |
| Lutetium | 175 | 1.039 | 1.028 | 1.015 | **1.039** | n/a | n/a |

Service Request # K2201174 (Pb)
Calibration 03-01-02A
QC in calibration 03-01-02A
QC Service Request # 1174

# ICP-MS Data Review Form

| | Yes | No | NA |
|---|---|---|---|
| 1. Appropriate standardization completed | ✓ | | |
| 2. ICV within 10 % of true value | ✓ | | |
| 3. CCV's in control | ✓ | | |
| 4. CCB's and/or ICB's below MRL | ✓ | | |
| 5. Method blank below MRL | ✓ | | |
| 6. LCS in control | ✓ | | |
| 7. Spike and duplicate in control | ✓ | | |
| 8. All analytes within instrument linear range | ✓ | | |
| 9. Adequate rinse out time allowed | ✓ | | |
| 10. Internal standards in control | ✓ | | |
| 11. Interferences checked | ✓ | | |
| 12. Se over MRL | | | ✓ |
| 13. CRA run | ✓ | | |
| 14. ICSA and ICSAB in control | ✓ | | |
| 15. Serial dilution run | ✓ | | |
| 16. Post spike in control | ✓ | | |

Comments

Reviewed by [signature] Date 2/31/02

## ımple List

| um | Label | Type | Weight | Volume | Dilution |
|---|---|---|---|---|---|
| 1 | alibration Blank | Blank | 0 kg | 0 ml | 1.00 |
| 2 | 25 ppb Std. | Fully Quant Standard | 0 kg | 0 ml | 1.00 |
| 3 | ICV MS1-21-D | Unknown | 0 kg | 0 ml | 1.00 |
| 4 | CCV1 MS1-24-C | Unknown | 0 kg | 0 ml | 1.00 |
| 5 | ICB | Unknown | 0 kg | 0 ml | 1.00 |
| 6 | CCB1 | Unknown | 0 kg | 0 ml | 1.00 |
| 7 | CRA MS1-17-E | Unknown | 0 kg | 0 ml | 1.00 |
| 8 | ICSA MS1-17-F | Unknown | 0 kg | 0 ml | 1.00 |
| 9 | ICSAB MS1-17-G | Unknown | 0 kg | 0 ml | 1.00 |
| 10 | PBW K1174 | Unknown | 0 kg | 0 ml | 1.00 |
| 11 | LCSW K1174 | Unknown | 0 kg | 0 ml | 1.00 |
| 12 | K1174-08 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 13 | K1174-08L 1/2 X 1/5 | Unknown | 0 kg | 0 ml | 1.00 |
| 14 | K1174-08A 1/2 AT 20 ppb | Unknown | 0 kg | 0 ml | 1.00 |
| 15 | K1174-08S 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 16 | K1174-08SD 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 17 | CCV2 MS1-24-C | Unknown | 0 kg | 0 ml | 1.00 |
| 18 | CCB2 | Unknown | 0 kg | 0 ml | 1.00 |
| 19 | CCB2 RERUN | Unknown | 0 kg | 0 ml | 1.00 |
| 20 | K1174-01 | Unknown | 0 kg | 0 ml | 1.00 |
| 21 | K1174-01S | Unknown | 0 kg | 0 ml | 1.00 |
| 22 | K1174-01SD | Unknown | 0 kg | 0 ml | 1.00 |
| 23 | KKK74-02 | Unknown | 0 kg | 0 ml | 1.00 |
| 24 | K1174-03 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 25 | K1174-04 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 26 | K1174-05 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 27 | K1174-06 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 28 | K1174-07 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 29 | K1174-09 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 30 | CCV3 MS1-24-C | Unknown | 0 kg | 0 ml | 1.00 |
| 31 | CCB3 | Unknown | 0 kg | 0 ml | 1.00 |
| 32 | K1174-10 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 33 | K1174-11 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 34 | K1174-12 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 35 | K1174-13 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 36 | K1174-14 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 37 | K1174-15 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 38 | K1174-16 1/2 | Unknown | 0 kg | 0 ml | 1.00 |
| 39 | CCV4 MS1-24-C | Unknown | 0 kg | 0 ml | 1.00 |
| 40 | CCB4 | Unknown | 0 kg | 0 ml | 1.00 |

## ıstrument Setup - Sample Configuration

| ım | Configuration | Date |
|---|---|---|
| ſs .es | acqmet03 | 8:52:48 3/1/02 |

## strument Setup - Configurations

**Configuration Name -** acqmet03
**Description -** PQExcell CCT Sim Default
**Date -** 8:52:48 3/1/02
**Maximum Uptake Time -** 0
**Maximum Washout Time -** 0
**S-Option Pump Running -** No
**Plasma Screen Forward -** No
**Makeup Gas On -** No
**Use CCT -** No
**Use Accessory Gas -** No

| Setting | Value |
|---|---|
| Extraction | -708.00 |
| Lens1 | 8.30 |
| Lens2 | -41.70 |
| Lens3 | -93.40 |
| Pole Bias | -1.50 |
| Sampling Depth | 396.00 |
| Horizontal | 81.00 |
| Vertical | 105.00 |
| Cool | 13.90 |
| Auxiliary | 0.94 |
| Nebuliser | 0.93 |
| Forward power | 1,350.00 |
| HT1 Voltage | 1,900.00 |
| HT2 Voltage | 2,600.00 |
| D1 | -33.20 |
| Focus | 20.60 |

**ExCell Mass Calibration** **Date: 3/1/02**

| Mass | Mass DAC | Peak Width (AMU) | Error (AMU) | Include |
|---|---|---|---|---|
| 7.016 | 1575 | 0.815 | 0.061 | TRUE |
| 9.012 | 2095 | 0.815 | 0.021 | TRUE |
| 23.985 | 5956 | 0.662 | -0.124 | FALSE |
| 26.982 | 6710 | 0.662 | -0.08 | TRUE |
| 43.956 | 11035 | 0.713 | -0.038 | TRUE |
| 44.956 | 11288 | 0.764 | -0.028 | TRUE |
| 45.953 | 11548 | 0.662 | -0.048 | TRUE |
| 50.944 | 12809 | 0.763 | 0.006 | TRUE |
| 51.94 | 13069 | 0.763 | -0.015 | TRUE |
| 53.949 | 13576 | 0.763 | 0.009 | TRUE |
| 55.935 | 14051 | 0.509 | 0.136 | TRUE |
| 56.935 | 14343 | 0.763 | -0.007 | TRUE |
| 57.934 | 14597 | 0.814 | -0.002 | TRUE |
| 58.933 | 14850 | 0.763 | 0.007 | TRUE |
| 62.93 | 15877 | 0.763 | -0.017 | TRUE |
| 75.92 | 19192 | 0.763 | 0 | TRUE |
| 77.919 | 19712 | 0.661 | -0.037 | TRUE |
| 114.904 | 29150 | 0.661 | 0.017 | TRUE |
| 128.905 | 32732 | 0.712 | 0.005 | TRUE |
| 131.905 | 33499 | 0.61 | 0.005 | TRUE |
| 135.906 | 34526 | 0.61 | -0.011 | TRUE |
| 136.906 | 34779 | 0.661 | -0.001 | TRUE |
| 137.906 | 35033 | 0.61 | 0.006 | TRUE |
| 139.905 | 35546 | 0.661 | -0.002 | TRUE |
| 155.923 | 39635 | 0.61 | 0.023 | TRUE |
| 202.972 | 51666 | 0.559 | 0.027 | TRUE |
| 204.972 | 52186 | 0.559 | -0.006 | TRUE |
| 205.974 | 52440 | 0.61 | 0.003 | TRUE |
| 206.976 | 52700 | 0.508 | -0.012 | TRUE |
| 207.977 | 52953 | 0.559 | 0 | TRUE |
| 208.98 | 53213 | 0.559 | -0.013 | TRUE |
| 238.051 | 60649 | 0.559 | -0.009 | TRUE |

Excluded In Calib | Excluded In Results | Multi Element | Internal Standard | Standard Addition

Incorrected ICPS Per Mass

S-Calibration Has Edited Standard
F-Interference Correction Failed
E-Calibration Edited
T-Tripped
I-Invalid Calibration
P-Pulse Counting
V-Valley Integration Failed
M-Result Over Max

| R | Label | TimeStamp | | 7Li | 9Be | 59Co | 115In | 208Pb |
|---|---|---|---|---|---|---|---|---|
| | Stability 3/1/02 | 3/1/02 9:12:13 AM | (P)1.500 | (P)60897.733 | (P)16586.627 | (P)65382.456 | (P)49180.082 | (P)13204.767 |
| 2 | Stability 3/1/02 | 3/1/02 9:13:16 AM | (P)2.167 | (P)60171.988 | (P)16409.254 | (P)65189.240 | (P)48992.595 | (P)13327.214 |
| 3 | Stability 3/1/02 | 3/1/02 9:14:18 AM | (P)1.833 | (P)60065.540 | (P)16448.800 | (P)65671.280 | (P)49353.814 | (P)13582.788 |
| 4 | Stability 3/1/02 | 3/1/02 9:15:20 AM | (P)1.000 | (P)59642.611 | (P)16064.695 | (P)65510.542 | (P)49674.761 | (P)13836.532 |
| 5 | Stability 3/1/02 | 3/1/02 9:16:23 AM | (P)0.833 | (P)60579.349 | (P)16239.231 | (P)65781.446 | (P)50013.597 | (P)13950.642 |
| | Mean of Stability 3/1 | 3/1/02 9:11:37 AM | (P)1.467 | (P)60271.444 | (P)16349.721 | (P)65506.993 | (P)49442.970 | (P)13580.389 |
| | SD of Stability 3/1/02 | | (P)0.558 | (P)483.415 | (P)201.825 | (P)233.882 | (P)405.968 | (P)319.332 |
| | %RSD of Stability 3/ | | (P)38.030 | (P)0.802 | (P)1.234 | (P)0.357 | (P)0.821 | (P)2.351 |

| Run | Label | TimeStamp | 209Bi | 230Th | 238U |
|---|---|---|---|---|---|
| 1 | Stability 3/1/02 | 3/1/02 9:12:13 AM | (P)21194.045 | (P)0.000 | (P)18874.965 |
| 2 | Stability 3/1/02 | 3/1/02 9:13:16 AM | (P)21427.225 | (P)0.000 | (P)19122.626 |
| 3 | Stability 3/1/02 | 3/1/02 9:14:18 AM | (P)21716.661 | (P)0.000 | (P)19549.036 |
| 4 | Stability 3/1/02 | 3/1/02 9:15:20 AM | (P)21936.831 | (P)0.000 | (P)19546.366 |
| 5 | Stability 3/1/02 | 3/1/02 9:16:23 AM | (P)22438.942 | (P)0.167 | (P)19947.088 |
| | Mean of Stability 3/1 | 3/1/02 9:11:37 AM | (P)21742.741 | (P)0.033 | (P)19408.016 |
| | SD of Stability 3/1/02 | | (P)480.538 | (P)0.075 | (P)416.898 |
| | %RSD of Stability 3/ | | (P)2.210 | (P)223.607 | (P)2.148 |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | Calibration Blank | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 9:58 | | | | | |
| Lead | 206 | -0.0007 | 0.0003 | 0.0004 | 0 | 0.0006 | 0 |
| Lead | 207 | 0.0004 | 0.0008 | -0.0013 | 0 | 0.0011 | 0 |
| Lead | 208 | -0.0001 | 0.0003 | -0.0002 | 0 | 0.0003 | 0 |

Analytical Batch
KA0109836

3/1/02

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 0.976 | 1.01 | 1.015 | 0.976 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | 25 ppb Std. | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 9:59 | | | | | |
| Lead | 206 | 25.1 | 24.95 | 24.95 | 25 | 0.0877 | 0.3506 |
| Lead | 207 | 25.29 | 25.04 | 24.67 | 25 | 0.3134 | 1.254 |
| Lead | 208 | 25.18 | 25.01 | 24.81 | 25 | 0.1841 | 0.7362 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.023 | 1.042 | 1.05 | 1.023 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | ICV MS1-21-D | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 10:00 | | | | | |
| Lead | 206 | 25.48 | 25.06 | 25.16 | **25.23** | 0.2229 | 0.8835 |
| Lead | 207 | 25.44 | 24.81 | 24.85 | **25.03** | 0.353 | 1.41 |
| Lead | 208 | 25.12 | 24.7 | 24.76 | **24.86** | 0.2276 | 0.9155 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.044 | 1.036 | 1.044 | **1.044** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | CCV1 MS1-24-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:01 | | | | | |
| Lead | 206 | 24.46 | 24.82 | 24.45 | **24.58** | 0.2074 | 0.8438 |
| Lead | 207 | 24.83 | 24.75 | 24.74 | **24.77** | 0.0461 | 0.1859 |
| Lead | 208 | 24.72 | 24.77 | 24.54 | **24.68** | 0.1194 | 0.4839 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.033 | 1.049 | 1.051 | **1.033** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | ICB | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:04 | | | | | |
| Lead | 206 | 0 | 0.0004 | 0.0011 | **0.0005** | 0.0006 | 109.3 |
| Lead | 207 | 0.0009 | 0.0013 | 0.0013 | **0.0012** | 0.0002 | 18.45 |
| Lead | 208 | 0.0015 | 0.0011 | 0.0011 | **0.0012** | 0.0002 | 15.97 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.047 | 1.069 | 1.069 | **1.047** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | CCB1 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:05 | | | | | |
| Lead | 206 | 0.0011 | 0.0003 | -0.0001 | **0.0004** | 0.0006 | 129.7 |
| Lead | 207 | 0.0007 | 0.0005 | 0.0018 | **0.001** | 0.0007 | 66.87 |
| Lead | 208 | 0.0014 | 0.0008 | 0.0006 | **0.0009** | 0.0004 | 44.88 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.089 | 1.074 | 1.077 | **1.089** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | CRA MS1-17-E | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:06 | | | | | |
| Lead | 206 | 0.0251 | 0.0286 | 0.0251 | **0.0263** | 0.002 | 7.61 |
| Lead | 207 | 0.0313 | 0.0272 | 0.0255 | **0.028** | 0.003 | 10.69 |
| Lead | 208 | 0.0267 | 0.0283 | 0.0262 | **0.0271** | 0.0011 | 3.979 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.044 | 1.059 | 1.051 | **1.044** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| .mple Name: | | ICSA MS1-17-F | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ıTimeStamp | | 3/1/02 10:07 | | | | | |
| Lead | 206 | 0.1127 | 0.1065 | 0.1143 | **0.1112** | 0.0041 | 3.71 |
| Lead | 207 | 0.1085 | 0.1141 | 0.1106 | **0.1111** | 0.0028 | 2.532 |
| Lead | 208 | 0.1064 | 0.1116 | 0.1113 | **0.1098** | 0.0029 | 2.675 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.102 | 1.113 | 1.123 | **1.102** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ımple Name: | | ICSAB MS1-17-G | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ſimeStamp | | 3/1/02 10:08 | | | | | |
| Lead | 206 | 0.1326 | 0.1332 | 0.134 | **0.1333** | 0.0007 | 0.5337 |
| Lead | 207 | 0.1288 | 0.1304 | 0.1177 | **0.1256** | 0.0069 | 5.492 |
| Lead | 208 | 0.1276 | 0.1321 | 0.1287 | **0.1295** | 0.0024 | 1.838 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.123 | 1.129 | 1.148 | **1.123** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | PBW K1174 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:38 | | | | | |
| Lead | 206 | 0.0045 | 0.0054 | 0.0055 | **0.0051** | 0.0005 | 10.41 |
| Lead | 207 | 0.0045 | 0.0046 | 0.0048 | **0.0046** | 0.0001 | 3.204 |
| Lead | 208 | 0.0057 | 0.0061 | 0.0057 | **0.0058** | 0.0002 | 4.277 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.022 | 1.047 | 1.067 | 1.022 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ımple Name: | | LCSW K1174 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ımeStamp | | 3/1/02 10:39 | | | | | |
| Lead | 206 | 20.88 | 20.49 | 20.58 | **20.65** | 0.2048 | 0.9919 |
| Lead | 207 | 20.56 | 20.38 | 20.67 | **20.53** | 0.1479 | 0.7204 |
| Lead | 208 | 20.78 | 20.4 | 20.47 | **20.55** | 0.2032 | 0.9886 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.08 | 1.077 | 1.089 | **1.08** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| mple Name: | | K1174-08 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 10:40 | | | | | |
| Lead | 206 | 0.1026 | 0.1026 | 0.0951 | 0.1001 | 0.0043 | 4.304 |
| Lead | 207 | 0.1046 | 0.095 | 0.0869 | 0.0955 | 0.0088 | 9.26 |
| Lead | 208 | 0.1019 | 0.0942 | 0.0906 | 0.0956 | 0.0058 | 6.088 |

Internal Standard Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.235 | 1.215 | 1.23 | 1.235 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ımple Name: | | K1174-08L 1/2 X 1/5 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:41 | | | | | |
| Lead | 206 | 0.0231 | 0.0245 | 0.026 | **0.0245** | 0.0014 | 5.729 |
| Lead | 207 | 0.0238 | 0.0223 | 0.0269 | **0.0244** | 0.0023 | 9.554 |
| Lead | 208 | 0.0229 | 0.0242 | 0.0265 | **0.0245** | 0.0018 | 7.37 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.127 | 1.121 | 1.144 | **1.127** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| mple Name: | | K1174-08A 1/2 AT 20 ppb | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 10:43 | | | | | |
| Lead | 206 | 17.54 | 17.53 | 17.52 | **17.53** | 0.0104 | 0.0594 |
| Lead | 207 | 17.72 | 17.5 | 17.58 | **17.6** | 0.108 | 0.6139 |
| Lead | 208 | 17.51 | 17.53 | 17.32 | **17.45** | 0.1138 | 0.652 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.227 | 1.243 | 1.249 | 1.227 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ımple Name: | | K1174-08S 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:44 | | | | | |
| Lead | 206 | 8.676 | 8.473 | 8.591 | **8.58** | 0.1017 | 1.185 |
| Lead | 207 | 8.558 | 8.43 | 8.526 | **8.505** | 0.0663 | 0.7796 |
| Lead | 208 | 8.588 | 8.39 | 8.521 | **8.499** | 0.1007 | 1.185 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.213 | 1.204 | 1.223 | **1.213** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-08SD 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:45 | | | | | |
| Lead | 206 | 8.604 | 8.535 | 8.682 | **8.607** | 0.0737 | 0.856 |
| Lead | 207 | 8.611 | 8.537 | 8.634 | **8.594** | 0.0506 | 0.5884 |
| Lead | 208 | 8.559 | 8.517 | 8.601 | **8.559** | 0.0423 | 0.4937 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.201 | 1.219 | 1.241 | **1.201** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ımple Name: | | CCV2 MS1-24-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ıımeStamp | | 3/1/02 10:46 | | | | | |
| Lead | 206 | 25.63 | 25.54 | 25.92 | **25.7** | 0.1977 | 0.7692 |
| Lead | 207 | 25.69 | 26 | 25.72 | **25.8** | 0.1691 | 0.6552 |
| Lead | 208 | 25.71 | 25.65 | 25.7 | **25.69** | 0.0325 | 0.1264 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.108 | 1.134 | 1.13 | 1.108 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| mple Name: | | CCB2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 10:48 | | | | | |
| Lead | 206 | 4.163 | 3.511 | 7.3 | 4.991 | 2.026 | 40.59 |
| Lead | 207 | 4.358 | 5.731 | 9.597 | 6.562 | 2.717 | 41.4 |
| Lead | 208 | 4.231 | 4.848 | 7.078 | 5.386 | 1.498 | 27.81 |

Sample probe out of solution
SC
3/1/02

Internal Standard Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 89.439 | 970.276 | 3249.109 | 89.439 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | CCB2 RERUN | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| ímeStamp | | 3/1/02 10:53 | | | | | |
| Lead | 206 | 0.0032 | 0.0035 | 0.0027 | **0.0031** | 0.0004 | 13.17 |
| Lead | 207 | 0.0062 | 0.0049 | 0.0039 | **0.005** | 0.0011 | 22.55 |
| Lead | 208 | 0.005 | 0.0044 | 0.0029 | **0.0041** | 0.0011 | 25.81 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.129 | 1.166 | 1.178 | **1.129** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | K1174-01 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 10:56 | | | | | |
| Lead | 206 | 0.1234 | 0.1319 | 0.1287 | **0.128** | 0.0043 | 3.349 |
| Lead | 207 | 0.1246 | 0.1176 | 0.1298 | **0.124** | 0.0061 | 4.941 |
| Lead | 208 | 0.1255 | 0.1233 | 0.1259 | **0.1249** | 0.0014 | 1.13 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.125 | 1.163 | 1.158 | **1.125** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-01S | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:57 | | | | | |
| Lead | 206 | 18.71 | 18.39 | 18.62 | **18.57** | 0.1673 | 0.9009 |
| Lead | 207 | 18.75 | 18.37 | 18.5 | **18.54** | 0.1948 | 1.051 |
| Lead | 208 | 18.61 | 18.31 | 18.48 | **18.47** | 0.1495 | 0.8095 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.166 | 1.156 | 1.172 | **1.166** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-01SD | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 10:58 | | | | | |
| Lead | 206 | 18.36 | 18.32 | 18.31 | **18.33** | 0.0271 | 0.1477 |
| Lead | 207 | 18.44 | 18.01 | 18.5 | **18.32** | 0.2652 | 1.448 |
| Lead | 208 | 18.3 | 18.21 | 18.36 | **18.29** | 0.072 | 0.3939 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.157 | 1.169 | 1.188 | **1.157** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | KKK74-02 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:00 | | | | | |
| Lead | 206 | 0.1562 | 0.1493 | 0.1433 | **0.1496** | 0.0065 | 4.314 |
| Lead | 207 | 0.1427 | 0.1463 | 0.1448 | **0.1446** | 0.0018 | 1.245 |
| Lead | 208 | 0.1456 | 0.1462 | 0.1418 | **0.1445** | 0.0024 | 1.641 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.147 | 1.158 | 1.157 | **1.147** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | K1174-03 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:01 | | | | | |
| Lead | 206 | 0.5939 | 0.5821 | 0.5791 | 0.585 | 0.0078 | 1.341 |
| Lead | 207 | 0.559 | 0.5673 | 0.5409 | 0.5557 | 0.0135 | 2.433 |
| Lead | 208 | 0.568 | 0.5624 | 0.5542 | 0.5615 | 0.0069 | 1.233 |

Internal Standard Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.204 | 1.2 | 1.195 | 1.204 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ımple Name: | | K1174-04 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .ımeStamp | | 3/1/02 11:02 | | | | | |
| Lead | 206 | 0.5167 | 0.5189 | 0.5163 | **0.5173** | 0.0014 | 0.2794 |
| Lead | 207 | 0.5261 | 0.4843 | 0.4981 | **0.5028** | 0.0213 | 4.231 |
| Lead | 208 | 0.5063 | 0.494 | 0.5013 | **0.5005** | 0.0062 | 1.234 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ⌊utetium | 175 | 1.213 | 1.212 | 1.208 | **1.213** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-05 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:03 | | | | | |
| Lead | 206 | 0.0725 | 0.0722 | 0.074 | **0.0729** | 0.001 | 1.317 |
| Lead | 207 | 0.0708 | 0.0683 | 0.0713 | **0.0701** | 0.0016 | 2.314 |
| Lead | 208 | 0.0715 | 0.0706 | 0.0722 | **0.0714** | 0.0008 | 1.109 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.108 | 1.091 | 1.107 | **1.108** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| mple Name: | | K1174-06 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:04 | | | | | |
| Lead | 206 | 0.224 | 0.2105 | 0.2172 | **0.2172** | 0.0068 | 3.119 |
| Lead | 207 | 0.1884 | 0.1958 | 0.1998 | **0.1946** | 0.0058 | 2.973 |
| Lead | 208 | 0.2061 | 0.1988 | 0.2002 | **0.2017** | 0.0039 | 1.93 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.191 | 1.202 | 1.207 | 1.191 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | K1174-07 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:05 | | | | | |
| Lead | 206 | 0.0703 | 0.0746 | 0.0661 | **0.0703** | 0.0043 | 6.068 |
| Lead | 207 | 0.0691 | 0.0679 | 0.066 | **0.0677** | 0.0015 | 2.281 |
| Lead | 208 | 0.0679 | 0.0695 | 0.0637 | **0.067** | 0.003 | 4.474 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.165 | 1.189 | 1.181 | 1.165 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| `ample Name: | | K1174-09 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .imeStamp | | 3/1/02 11:06 | | | | | |
| Lead | 206 | 0.0956 | 0.0924 | 0.0958 | **0.0946** | 0.0019 | 2.019 |
| Lead | 207 | 0.0916 | 0.0912 | 0.0962 | **0.093** | 0.0028 | 3.014 |
| Lead | 208 | 0.0936 | 0.093 | 0.0948 | **0.0938** | 0.0009 | 0.9536 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| _utetium | 175 | 1.16 | 1.181 | 1.181 | 1.16 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | CCV3 MS1-24-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:08 | | | | | |
| Lead | 206 | 26.28 | 25.56 | 26.06 | 25.97 | 0.3671 | 1.414 |
| Lead | 207 | 26.2 | 25.68 | 26.09 | 25.99 | 0.2735 | 1.052 |
| Lead | 208 | 26.09 | 25.61 | 26 | 25.9 | 0.2531 | 0.977 |

Internal Standard Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.113 | 1.104 | 1.127 | 1.113 | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | CCB3 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:10 | | | | | |
| Lead | 206 | 0.002 | 0.0012 | 0.0007 | **0.0013** | 0.0007 | 51.81 |
| Lead | 207 | 0.002 | 0.0033 | 0.0023 | **0.0025** | 0.0007 | 27.24 |
| Lead | 208 | 0.0023 | 0.0025 | 0.0019 | **0.0023** | 0.0003 | 12.83 |

Internal Standard
Factors:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.13 | 1.16 | 1.158 | **1.13** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | K1174-10 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:14 | | | | | |
| Lead | 206 | 0.0834 | 0.0858 | 0.0858 | **0.085** | 0.0014 | 1.611 |
| Lead | 207 | 0.0857 | 0.0847 | 0.0789 | **0.0831** | 0.0037 | 4.451 |
| Lead | 208 | 0.0817 | 0.0828 | 0.0821 | **0.0822** | 0.0005 | 0.6387 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.166 | 1.184 | 1.2 | **1.166** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-11 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:15 | | | | | |
| Lead | 206 | 0.0905 | 0.0824 | 0.0876 | **0.0868** | 0.0041 | 4.741 |
| Lead | 207 | 0.0826 | 0.0824 | 0.0806 | **0.0819** | 0.0011 | 1.332 |
| Lead | 208 | 0.0871 | 0.0847 | 0.0828 | **0.0849** | 0.0021 | 2.497 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.174 | 1.173 | 1.173 | **1.174** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-12 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:16 | | | | | |
| Lead | 206 | 0.5153 | 0.5232 | 0.5038 | **0.5141** | 0.0098 | 1.902 |
| Lead | 207 | 0.507 | 0.4886 | 0.4961 | **0.4972** | 0.0093 | 1.866 |
| Lead | 208 | 0.5026 | 0.5014 | 0.4993 | **0.5011** | 0.0017 | 0.3351 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.22 | 1.216 | 1.209 | **1.22** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-13 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| imeStamp | | 3/1/02 11:17 | | | | | |
| Lead | 206 | 0.1631 | 0.1625 | 0.1533 | **0.1596** | 0.0055 | 3.442 |
| Lead | 207 | 0.1549 | 0.1503 | 0.1485 | **0.1512** | 0.0033 | 2.177 |
| Lead | 208 | 0.1531 | 0.1554 | 0.1486 | **0.1524** | 0.0035 | 2.295 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.212 | 1.213 | 1.217 | **1.212** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-14 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:18 | | | | | |
| Lead | 206 | 0.093 | 0.083 | 0.0889 | **0.0883** | 0.005 | 5.698 |
| Lead | 207 | 0.0883 | 0.0869 | 0.0887 | **0.088** | 0.0009 | 1.055 |
| Lead | 208 | 0.0876 | 0.0846 | 0.0903 | **0.0875** | 0.0028 | 3.256 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.217 | 1.213 | 1.23 | **1.217** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-15 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:19 | | | | | |
| Lead | 206 | 0.0242 | 0.0223 | 0.0232 | **0.0232** | 0.001 | 4.144 |
| Lead | 207 | 0.0264 | 0.022 | 0.0235 | **0.0239** | 0.0022 | 9.359 |
| Lead | 208 | 0.0227 | 0.0228 | 0.0229 | **0.0228** | 0.0001 | 0.4441 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.186 | 1.193 | 1.189 | **1.186** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| Sample Name: | | K1174-16 1/2 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| TimeStamp | | 3/1/02 11:20 | | | | | |
| Lead | 206 | 0.1859 | 0.1855 | 0.1883 | **0.1866** | 0.0015 | 0.805 |
| Lead | 207 | 0.1793 | 0.18 | 0.1848 | **0.1813** | 0.003 | 1.656 |
| Lead | 208 | 0.1838 | 0.1831 | 0.1808 | **0.1826** | 0.0016 | 0.8569 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utetium | 175 | 1.194 | 1.189 | 1.202 | **1.194** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | CCV4 MS1-24-C | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .imeStamp | | 3/1/02 11:22 | | | | | |
| Lead | 206 | 25.87 | 25.82 | 25.45 | **25.71** | 0.2333 | 0.9074 |
| Lead | 207 | 26.15 | 26.05 | 25.78 | **26** | 0.193 | 0.7423 |
| Lead | 208 | 25.91 | 26.01 | 25.53 | **25.81** | 0.2521 | 0.9767 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| .utetium | 175 | 1.084 | 1.111 | 1.113 | **1.084** | n/a | n/a |

Instrument ID: Thermo Elemental Excell
Experiment: 03-01-02A
Units: µg/L (ppb)

Method: EPA 6020
Analyst: Jim Chan
Analysis Lot # : KA0109836

| ample Name: | | CCB4 | | | Mean | SD | %RSD |
|---|---|---|---|---|---|---|---|
| .imeStamp | | 3/1/02 11:23 | | | | | |
| Lead | 206 | 0.0234 | 0.0172 | 0.0187 | **0.0198** | 0.0032 | 16.24 |
| Lead | 207 | 0.0194 | 0.0211 | 0.0188 | **0.0198** | 0.0012 | 6.238 |
| Lead | 208 | 0.0197 | 0.0194 | 0.0178 | **0.019** | 0.001 | 5.409 |

**Internal Standard Factors:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lutetium | 175 | 1.113 | 1.151 | 1.152 | 1.113 | n/a | n/a |

Columbia Analytical Services inc.

# MEMORANDUM

DATE: March 5, 2002

TO: Mark Wilson @ CAS-Rochester

FROM: Jim Smith

SUBJ: **Transmittal of Analytical Results for Your Service Request No. J2200270**

PROJ: **Agromac-Lockwood**

Enclosed with this memo are the following Analytical Reports and QA/QC Reports for *our* Service Request No.: K2201183

**COMMENTS:**

# Case Narrative

## COLUMBIA ANALYTICAL SERVICES, INC.

| | | | |
|---|---|---|---|
| **Client:** | Tetra Tech EM, Inc. | **Service Request No.:** | K2201183 |
| **Project:** | Agromac-Lockwood | **Date Received:** | 2/22/02 |
| **Sample Matrix:** | Water | | |

## CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

**Sample Receipt**

Five water samples were received for analysis at Columbia Analytical Services on 2/22/02. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

**Dissolved Metals**

**Matrix Spike Exceptions:**
The Matrix Spike (MS) recovery criterion of Manganese for sample GB-GGW-3 was not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

The Matrix Spike (MS) recovery criterion of Selenium for all Matrix Spikes was not applicable. Due to isobaric interferences the detection Limit was raised to a level above the added spike concentration.

**Method Reporting Limit (MRL) Exceptions:**
The Method Reporting Limit (MRL) has been elevated for Selenium in all the samples. Due to isobaric interferences the detection Limit was raised.

No other anomalies associated with the analysis of these samples were observed.

**Approved by** _____ **Date** 3/4/02

# Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company
www.caslab.com

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

8540 Baycenter Rd. • Jacksonville, FL 32256 • (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011

PAGE 1 OF 1

SR # K2201183

CAS Contact

| | |
|---|---|
| Project Name: AGROMAC-LOCKWOOD | Project Number: |
| Project Manager: CURT ENOS | Report CC: |
| Company/Address: TETRA-TECH | |
| Phone # | FAX# |
| Sampler's Signature | Sampler's Printed Name |

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

| CLIENT SAMPLE ID | LAB ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NUMBER OF CONTAINERS | Diss. As, Fe, Cd, Cr, Pb, Hg | Diss. Zn, Mn by 6020 | Diss. Se by 200.8 | REMARKS/ ALTERNATE DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| PRESERVATIVE | | | | | | 2 | 2 | 2 | |
| RINSATE-SB | 1 | 11/23/02 | 1840 | WATER | 1 | - | - | - | KELSO |
| GB-GGW-3 | 2 | | 820 | | 1 | - | - | - | |
| GB-GGW-5 | 3 | | 920 | | 1 | - | - | - | |
| OSEDS-GGW-1 | 4 | | 1135 | | 1 | - | - | - | |
| SWD-GGW-1 | 5 | | 1035 | | 1 | - | - | - | |
| | | | | | | | | | J2200270 |

Preservative Key
0. NONE
1. HCL
2. $HNO_3$
3. $H_2SO_4$
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ STANDARD
REQUESTED FAX DATE: 3/1/02 OR ASAP
REQUESTED REPORT DATE: 3/1/02 OR ASAP

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Speicalized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

| RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY | RELINQUISHED BY | RECEIVED BY |
|---|---|---|---|---|---|
| Signature: April J Ferguson | Signature: Carl K. Hahn | Signature | Signature | Signature | Signature |
| Printed Name: April G Ferguson | Printed Name: CAS-K | Printed Name | Printed Name | Printed Name | Printed Name |
| Firm: CAS | Firm: 2/22/02 1000 | Firm | Firm | Firm | Firm |
| Date/Time: 2/22/02 1530 | Date/Time | Date/Time | Date/Time | Date/Time | Date/Time |

Distribution: White to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1000-07

**Columbia Analytical Services Inc.**
**Cooler Receipt And Preservation Form**

Project/Client CASI SAC Work Order K22 U83

Cooler received on 2/22/02 and opened on 2/22/02 by FA

RUSH

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Were custody seals on outside of cooler? If yes, how many and where? | | | | | Y | (N) |
| 2. | Were seals intact and signature & date correct? | | | | | Y | N |
| 3. | COC # | | | | | | |
| | Temperature of cooler(s) upon receipt: | 179 | | | | | |
| | Temperature Blank: | | | | | | |
| 4. | Were custody papers properly filled out (ink, signed, etc.)? | | | | | (Y) | N |
| 5. | Type of packing material present bubble wrap | | | | | | |
| 6. | Did all bottles arrive in good condition (unbroken)? | | | | | (Y) | N |
| 7. | Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? | | | | | (Y) | N |
| 8. | Did all bottle labels and tags agree with custody papers? | | | | | (Y) | N |
| 9. | Were the correct types of bottles used for the tests indicated? | | | | | (Y) | N |
| 10. | Were all of the preserved bottles received at the lab with the appropriate pH? | | | | | (Y) | N |
| 11. | Were VOA vials checked for absence of air bubbles, and if present, noted below? | | | | | ~~Y~~ | ~~N~~ |
| 12. | Did the bottles originate from CAS/K or a branch laboratory? | | | | | (Y) | N |
| 13. | Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection? | | | | | ~~Y~~ | ~~N~~ |
| 14. | Was CL2/Residual negative? | | | | | ~~Y~~ | ~~N~~ |

Explain any discrepancies: _____

RESOLUTION: _____

Samples that required preservation or received out of temperature:

| Sample ID | Reagent | Volume | Lot Number | Bottle Type | Rec'd out of Temperature | Initials |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

00004

CRFREV.DOC12/24/01

# Dissolved Metals

*Columbia Analytical Services*

# METALS

## - Cover Page -
## INORGANIC ANALYSIS DATA PACKAGE

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

| Sample No. | Lab Sample ID. |
|---|---|
| RINSATE-S8 | K2201183-001 DISS |
| GB-GGW-3 | K2201183-002 DISS |
| GB-GGW-3S | K2201183-002S DISS |
| GB-GGW-3SD | K2201183-002SD DISS |
| GB-GGW-S | K2201183-003 DISS |
| OSEOS-GGW-1 | K2201183-004 DISS |
| SWD-GGW-1 | K2201183-005 DISS |
| Method Blank | K2201183-MB |

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: Dissolved Metals

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Date: 3/4/02

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201183
Date Collected: 01/23/02
Date Received: 01/29/02
Units: µG/L
Basis: NA

Sample Name: RINSATE-S8
Lab Code: K2201183-001 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 0.5 | 0.2 | 1 | 2/26/02 | 3/1/02 | 0.2 | U | |
| Barium | 6020 | 0.02 | 0.02 | 1 | 2/26/02 | 3/1/02 | 0.30 | | |
| Cadmium | 6020 | 0.05 | 0.05 | 1 | 2/26/02 | 3/1/02 | 0.05 | U | |
| Chromium | 6020 | 0.20 | 0.09 | 1 | 2/26/02 | 3/1/02 | 0.25 | | |
| Lead | 6020 | 0.02 | 0.01 | 1 | 2/26/02 | 3/1/02 | 0.10 | | |
| Manganese | 6020 | 0.05 | 0.02 | 1 | 2/26/02 | 3/1/02 | 0.70 | | |
| Selenium | 200.8 | 20 | 20 | 1 | 2/26/02 | 3/1/02 | 20 | U | |
| Silver | 6020 | 0.02 | 0.01 | 1 | 2/26/02 | 3/1/02 | 0.05 | | |
| Zinc | 6020 | 0.5 | 0.1 | 1 | 2/26/02 | 3/1/02 | 6.9 | | |

% Solids: 0.0

Comments: Dissolved Metals

00006

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201183
Date Collected: 01/23/02
Date Received: 01/29/02
Units: µG/L
Basis: NA

Sample Name: GB-GGW-3
Lab Code: K2201183-002 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 2/26/02 | 3/1/02 | 6.5 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 2/26/02 | 3/1/02 | 49.9 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 2/26/02 | 3/1/02 | 0.19 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 2/26/02 | 3/1/02 | 0.70 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 2/26/02 | 3/1/02 | 0.33 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 2/26/02 | 3/1/02 | 242 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 2/26/02 | 3/1/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 2/26/02 | 3/1/02 | 0.11 | | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 2/26/02 | 3/1/02 | 7.7 | | |

Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201183
Date Collected: 01/23/02
Date Received: 01/29/02
Units: µG/L
Basis: NA

Sample Name: GB-GGW-S
Lab Code: K2201183-003 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 2/26/02 | 3/1/02 | 9.1 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 2/26/02 | 3/1/02 | 45.7 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 2/26/02 | 3/1/02 | 0.17 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 2/26/02 | 3/1/02 | 0.55 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 2/26/02 | 3/1/02 | 0.29 | | |
| Manganese | 6020 | 0.10 | 0.04 | 2 | 2/26/02 | 3/1/02 | 143 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 2/26/02 | 3/1/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 2/26/02 | 3/1/02 | 0.09 | | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 2/26/02 | 3/1/02 | 7.1 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201183
Date Collected: 01/23/02
Date Received: 01/29/02
Units: µG/L
Basis: NA

Sample Name: OSEOS-GGW-1
Lab Code: K2201183-004 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 2/26/02 | 3/1/02 | 3.7 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 2/26/02 | 3/1/02 | 67.3 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 2/26/02 | 3/1/02 | 0.34 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 2/26/02 | 3/1/02 | 0.55 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 2/26/02 | 3/1/02 | 0.55 | | |
| Manganese | 6020 | 1.00 | 0.40 | 20 | 2/26/02 | 3/1/02 | 1680 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 2/26/02 | 3/1/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 2/26/02 | 3/1/02 | 0.09 | | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 2/26/02 | 3/1/02 | 13.0 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201183
Date Collected: 01/23/02
Date Received: 01/29/02
Units: µG/L
Basis: NA

Sample Name: SWD-GGW-1
Lab Code: K2201183-005 DISS

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 1.0 | 0.4 | 2 | 2/26/02 | 3/1/02 | 8.0 | | |
| Barium | 6020 | 0.04 | 0.04 | 2 | 2/26/02 | 3/1/02 | 205 | | |
| Cadmium | 6020 | 0.10 | 0.10 | 2 | 2/26/02 | 3/1/02 | 0.16 | | |
| Chromium | 6020 | 0.40 | 0.18 | 2 | 2/26/02 | 3/1/02 | 0.59 | | |
| Lead | 6020 | 0.04 | 0.01 | 2 | 2/26/02 | 3/1/02 | 0.26 | | |
| Manganese | 6020 | 1.00 | 0.40 | 20 | 2/26/02 | 3/1/02 | 1920 | | |
| Selenium | 200.8 | 40 | 40 | 2 | 2/26/02 | 3/1/02 | 40 | U | |
| Silver | 6020 | 0.04 | 0.02 | 2 | 2/26/02 | 3/1/02 | 0.08 | | |
| Zinc | 6020 | 1.0 | 0.2 | 2 | 2/26/02 | 3/1/02 | 12.2 | | |

% Solids: 0.0

Comments: Dissolved Metals

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Tetra Tech EM Inc.
Project No.: NA
Project Name: Agromac-Lockwood
Matrix: WATER

Service Request: K2201183
Date Collected:
Date Received:
Units: µG/L
Basis: NA

Sample Name: Method Blank
Lab Code: K2201183-MB

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6020 | 0.5 | 0.2 | 1 | 2/26/02 | 3/1/02 | 0.2 | U | |
| Barium | 6020 | 0.02 | 0.02 | 1 | 2/26/02 | 3/1/02 | 0.02 | U | |
| Cadmium | 6020 | 0.05 | 0.05 | 1 | 2/26/02 | 3/1/02 | 0.05 | U | |
| Chromium | 6020 | 0.20 | 0.09 | 1 | 2/26/02 | 3/1/02 | 0.09 | U | |
| Lead | 6020 | 0.02 | 0.01 | 1 | 2/26/02 | 3/1/02 | 0.01 | U | |
| Manganese | 6020 | 0.05 | 0.02 | 1 | 2/26/02 | 3/1/02 | 0.02 | U | |
| Selenium | 200.8 | 20 | 20 | 1 | 2/26/02 | 3/1/02 | 20 | U | |
| Silver | 6020 | 0.02 | 0.01 | 1 | 2/26/02 | 3/1/02 | 0.01 | U | |
| Zinc | 6020 | 0.5 | 0.1 | 1 | 2/26/02 | 3/1/02 | 0.1 | U | |

Solids: 0.0

Comments:

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

ICV Source: Inorganic Ventures CCV Source: CAS Mixed Solutions

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Arsenic | 50.0 | 48.4 | 97 | 25.0 | 24.8 | 99 | 24.3 | 97 | 6020 |
| Barium | 200 | 203 | 102 | 25.0 | 25.1 | 100 | 25.2 | 101 | 6020 |
| Cadmium | 25.0 | 24.2 | 97 | 25.0 | 24.5 | 98 | 24.7 | 99 | 6020 |
| Chromium | 20.0 | 20.3 | 102 | 25.0 | 24.9 | 100 | 25.0 | 100 | 6020 |
| Lead | 50.0 | 52.2 | 104 | 25.0 | 25.8 | 103 | 24.9 | 100 | 6020 |
| Manganese | 50.0 | 49.3 | 99 | 25.0 | 25.3 | 101 | 25.1 | 100 | 6020 |
| Selenium | 50.0 | 48.7 | 97 | 25.0 | 24.7 | 99 | 23.7 | 95 | 200.8 |
| Silver | 25.0 | 24.7 | 98 | 25.0 | 26.5 | 106 | 26.0 | 104 | 6020 |
| Zinc | 50.0 | 49.5 | 99 | 25.0 | 24.8 | 99 | 23.9 | 96 | 6020 |

# METALS
## - 2a -
## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

ICV Source: CCV Source: CAS Mixed Solutions

Concentration Units: ug/L

| Analyte | Initial Calibration | | | Continuing Calibration | | | | | Method |
|---|---|---|---|---|---|---|---|---|---|
| | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | |
| Arsenic | | | | 25.0 | 23.7 | 95 | | | 6020 |
| Barium | | | | 25.0 | 24.7 | 99 | | | 6020 |
| Cadmium | | | | 25.0 | 24.5 | 98 | | | 6020 |
| Chromium | | | | 25.0 | 24.8 | 99 | | | 6020 |
| Lead | | | | 25.0 | 24.6 | 98 | | | 6020 |
| Manganese | | | | 25.0 | 24.4 | 98 | | | 6020 |
| Selenium | | | | 25.0 | 23.7 | 95 | | | 200.8 |
| Silver | | | | 25.0 | 26.2 | 105 | | | 6020 |
| Zinc | | | | 25.0 | 24.0 | 96 | | | 6020 |

00013

# METALS
## - 2b -
## CRDL STANDARD FOR AA AND ICP

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

Concentration Units: ug/L

| Analyte | CRDL Standard for AA | | | CRDL Standard for ICP | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Initial | | | Final | |
| | True | Found | %R | True | Found | %R | Found | %R |
| Arsenic | | | | 0.50 | 0.47 | 94 | | |
| Barium | | | | 0.05 | 0.06 | 110 | | |
| Cadmium | | | | 0.05 | 0.05 | 107 | | |
| Chromium | | | | 0.20 | 0.24 | 122 | | |
| Lead | | | | 0.02 | 0.03 | 161 | | |
| Manganese | | | | 0.05 | 0.07 | 132 | | |
| Selenium | | | | 1.0 | 0.83 | 83 | | |
| Silver | | | | 0.02 | 0.01 | 67 | | |
| Zinc | | | | 0.50 | 0.67 | 134 | | |

# METALS
## -3-
## BLANKS

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | | Preparation Blank C | | | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | | | | | 6020 |
| Barium | 0.02 | U | 0.02 | U | 0.02 | U | 0.02 | U | | | | | 6020 |
| Cadmium | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | | | | | 6020 |
| Chromium | 0.09 | U | 0.09 | U | 0.09 | U | 0.09 | U | | | | | 6020 |
| Lead | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | | | | | 6020 |
| Manganese | 0.02 | U | 0.02 | U | 0.03 | B | 0.03 | B | | | | | 6020 |
| Selenium | -0.8 | B | -0.6 | B | 0.6 | U | -0.7 | B | | | | | 200.8 |
| Silver | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | | | | | 6020 |
| Zinc | 0.1 | U | 0.1 | U | 0.08 | U | 0.1 | U | | | | | 6020 |

# METALS
-4-
## ICP INTERFERENCE CHECK SAMPLE

Client: Tetra Tech EM Inc. Service Request:K2201183

Project No.:

Project Name: Agromac-Lockwood

ICP ID Number: PQ-S ICS Source: Inorganic Ventures

Concentration Units): ug/L

| Analyte | True | | Initial Found | | | Final Found | | |
|---|---|---|---|---|---|---|---|---|
| | Sol.A | Sol.AB | Sol.A | Sol.AB | %R | Sol.A | Sol.AB | %R |
| Arsenic | | 20 | -0.2 | 18.9 | 94 | | | |
| Barium | | | 0.05 | 0.05 | | | | |
| Cadmium | | 20 | 0.50 | 18.9 | 95 | | | |
| Chromium | | 20 | 0.34 | 20.3 | 102 | | | |
| Lead | | | 0.11 | 0.12 | | | | |
| Manganese | | | 0.27 | 20.3 | | | | |
| Selenium | | | -0.8 | -0.4 | | | | |
| Silver | | 20 | 0.20 | 16.7 | 84 | | | |
| Zinc | | 20 | 0.7 | 20.4 | 102 | | | |

# METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201183
Project No.:
Units: µG/L
Project Name: Agromac-Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: GB-GGW-3S
Lab Code: K2201183-002S DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 24.5 | | 6.5 | | 20.0 | 90 | | 6020 |
| Barium | 75 - 125 | 69.3 | | 49.9 | | 20.0 | 97 | | 6020 |
| Cadmium | 75 - 125 | 19.1 | | 0.19 | | 20.0 | 95 | | 6020 |
| Chromium | 75 - 125 | 18.0 | | 0.70 | | 20.0 | 87 | | 6020 |
| Lead | 75 - 125 | 19.7 | | 0.33 | | 20.0 | 97 | | 6020 |
| Manganese | | 246 | | 242 | | 20.0 | 20 | | 6020 |
| Selenium | 70 - 130 | 40.0 | U | 40.0 | U | 20.0 | 130 | X | 200.8 |
| Silver | 75 - 125 | 17.9 | | 0.11 | | 20.0 | 89 | | 6020 |
| Zinc | 75 - 125 | 24.5 | | 7.7 | | 20.0 | 84 | | 6020 |

Comments:

# METALS
## -5a-
## SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc.
Service Request: K2201183
Project No.:
Units: µG/L
Project Name: Agromac-Lockwood
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: GB-GGW-3SD
Lab Code: K2201183-002SD DISS

| Analyte | Control Limit %R | Spike Result | C | Sample Result | C | Spike Added | %R | Q | Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75 - 125 | 25.6 | | 6.5 | | 20.0 | 96 | | 6020 |
| Barium | 75 - 125 | 68.0 | | 49.90 | | 20.0 | 90 | | 6020 |
| Cadmium | 75 - 125 | 19.9 | | 0.19 | | 20.0 | 99 | | 6020 |
| Chromium | 75 - 125 | 18.3 | | 0.70 | | 20.0 | 88 | | 6020 |
| Lead | 75 - 125 | 19.4 | | 0.33 | | 20.0 | 95 | | 6020 |
| Manganese | | 251 | | 242 | | 20.0 | 45 | | 6020 |
| Selenium | 70 - 130 | 40.0 | U | 40.0 | U | 20.0 | 137 | X | 200.8 |
| Silver | 75 - 125 | 16.9 | | 0.11 | | 20.0 | 84 | | 6020 |
| Zinc | 75 - 125 | 24.4 | | 7.7 | | 20.0 | 83 | | 6020 |

Comments:

# METALS
## - 5b -
## POST DIGEST SPIKE SAMPLE RECOVERY

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.: Units: ug/L

Project Name: Agromac-Lockwood

Matrix: WATER

Sample Name: GB-GGW-3A Lab Code: K2201183-002A DISS

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | | 21.9 | | 3.24 | | 20.0 | 93 | | MS |
| Barium | | 45.2 | | 24.9 | | 20.0 | 102 | | MS |
| Cadmium | | 19.3 | | 0.10 | | 20.0 | 96 | | MS |
| Chromium | | 17.9 | | 0.35 | | 20.0 | 88 | | MS |
| Lead | | 19.6 | | 0.16 | | 20.0 | 97 | | MS |
| Manganese | | 166 | | 121 | | 50.0 | 90 | | MS |
| Selenium | | 22.9 | | 3.98 | B | 20.0 | 95 | | MS |
| Silver | | 17.7 | | 0.05 | | 20.0 | 88 | | MS |
| Zinc | | 21.3 | | 3.87 | | 20.0 | 87 | | MS |

Comments:

# METALS
## -7-
## LABORATORY CONTROL SAMPLE

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

Aqueous LCS Source: Inorganic Ventures Solid LCS Source:

| Analyte | Aqueous ug/L True | Aqueous ug/L Found | Aqueous ug/L %R | Solid (mg/kg) True | Solid (mg/kg) Found | Solid (mg/kg) C | Solid (mg/kg) Limits | | Solid (mg/kg) %R |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 20.0 | 19.7 | 99 | | | | | | |
| Barium | 20.0 | 19.2 | 96 | | | | | | |
| Cadmium | 20.0 | 19.6 | 98 | | | | | | |
| Chromium | 20.0 | 19.9 | 99 | | | | | | |
| Lead | 20.0 | 19.9 | 100 | | | | | | |
| Manganese | 20.0 | 19.9 | 100 | | | | | | |
| Selenium | 20.0 | 19.2 | 96 | | | | | | |
| Silver | 20.0 | 20.8 | 104 | | | | | | |
| Zinc | 20.0 | 20.1 | 101 | | | | | | |

# METALS
## -9-
## ICP SERIAL DILUTIONS

Client: Tetra Tech EM Inc.
Service Request: K2201183
Project No.:
Units: ug/L
Project Name: Agromac-Lockwood

Sample Name: GB-GGW-3L
Lab Code: K2201183-002L DISS

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Differ- | Q | Method |
|---|---|---|---|---|---|---|---|
| Arsenic | 3.24 | | 3.76 | | 16 | | 6020 |
| Barium | 24.9 | | 24.4 | | 2 | | 6020 |
| Cadmium | 0.10 | | 0.25 | U | | | 6020 |
| Chromium | 0.35 | | 0.59 | B | 70 | | 6020 |
| Lead | 0.16 | | 0.19 | | 13 | | 6020 |
| Manganese | 121 | | 137 | | 13 | E | 6020 |
| Selenium | 3.98 | B | 6.09 | B | 53 | | 200.8 |
| Silver | 0.05 | | 0.11 | | 100 | | 6020 |
| Zinc | 3.87 | | 4.65 | | 20 | | 6020 |

# METALS
## -10-
## METHOD DETECTION LIMITS

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

ICP/ICP-MS ID #: PQ-S

GFAA ID #: AA ID #:

| Analyte | Mass | Back-ground | MRL (ug/L) | MDL (ug/L) | Method |
|---|---|---|---|---|---|
| Arsenic | 75 | | 0.5 | 0.2 | 6020 |
| Barium | 137 | | 0.02 | 0.02 | 6020 |
| Cadmium | 111 | | 0.05 | 0.05 | 6020 |
| Chromium | 52 | | 0.20 | 0.09 | 6020 |
| Lead | 208 | | 0.02 | 0.01 | 6020 |
| Manganese | 55 | | 0.05 | 0.02 | 6020 |
| Selenium | 82 | | 20.0 | 0.6 | 200.8 |
| Silver | 107 | | 0.02 | 0.01 | 6020 |
| Zinc | 66 | | 0.5 | 0.1 | 6020 |

Comments

# METALS

-12-

## ICP LINEAR RANGES (QUARTERLY)

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

ICP ID Number: PQ-S

| Analyte | Integ. Time (Sec.) | Concentration (ug/L) | Method |
|---|---|---|---|
| Arsenic | 15.00 | 1000.0 | 6020 |
| Barium | 15.00 | 1000.0 | 6020 |
| Cadmium | 15.00 | 1000.0 | 6020 |
| Chromium | 15.00 | 1000.0 | 6020 |
| Lead | 15.00 | 1000.0 | 6020 |
| Manganese | 15.00 | 900.0 | 6020 |
| Selenium | 15.00 | 1000.0 | 200.8 |
| Silver | 15.00 | 100.0 | 6020 |
| Zinc | 15.00 | 1000.0 | 6020 |

ments:

# METALS
## - 13 -
## PREPARATION LOG

.ient: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Agromac-Lockwood

Method: MS

| Lab Code | Preparation Date | Preparation Method | Initial (mL or grams) | Final Volume (mL) |
|---|---|---|---|---|
| K2201183-002 DI | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-002S D | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-002SD | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-003 DI | 2/26/02 | CLFAA | 50 | 50 |
| LCSW | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-MB | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-004 DI | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-001 DI | 2/26/02 | CLFAA | 50 | 50 |
| K2201183-005 DI | 2/26/02 | CLFAA | 50 | 50 |

*Columbia Analytical Services*

# METALS
## - 14 -
## ANALYSIS RUN LOG

Client: Tetra Tech EM Inc. Service Request: K2201183

Project No.:

Project Name: Agromac-Lockwood

Instrument ID Number: PQ-S Method: MS

Start Date: 3/1/02 End Date: 3/1/02

| Sample ID. | D/F | Time | % R | Analytes | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AL | SB | AS | BA | BE | CD | CA | CR | CO | CU | FE | PB | MG | MN | HG | NI | K | SE | AG | NA | TL | V | ZN | CN |
| CALIBRATION BLANK | 1.00 | 13:24 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CALIBRATION STANDARD | 1.00 | 13:26 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ICV | 1.00 | 13:28 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCV1 | 1.00 | 13:30 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ICB | 1.00 | 13:36 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB1 | 1.00 | 13:38 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CRA | 1.00 | 13:40 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ICSA | 1.00 | 13:42 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| ICSAB | 1.00 | 13:44 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| LCSW | 1.00 | 13:46 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-MB | 1.00 | 13:51 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-001 DISS | 1.00 | 13:53 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-002 DISS | 2.00 | 13:55 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-002L DISS | 10.00 | 13:57 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-002A DISS | 2.00 | 14:00 | | | | X | X | | X | | X | | | | X | | | | | | X | X | | | | X | |
| K2201183-002S DISS | 2.00 | 14:02 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCV2 | 1.00 | 14:06 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| CCB2 | 1.00 | 14:12 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-002SD DISS | 2.00 | 14:14 | | | | X | X | | X | | X | | | | X | | X | | | | X | | | | | X | |
| ZK2201183-002A DISS | 1.00 | 14:16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| K2201183-002SD DISS | 2.00 | 14:19 | | | | | | | | | | | | | | | | | | | | X | | | | | |
| K2201183-002A DISS | 2.00 | 14:21 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| K2201183-003 DISS | 2.00 | 14:26 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| K2201183-004 DISS | 2.00 | 14:28 | | | | X | X | | X | | X | | | | X | | | | | | X | X | | | | X | |
| K2201183-004 DISS | 20.00 | 14:29 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| K2201183-005 DISS | 2.00 | 14:31 | | | | X | X | | X | | X | | | | X | | | | | | X | X | | | | X | |
| K2201183-005 DISS | 20.00 | 14:33 | | | | | | | | | | | | | | | X | | | | | | | | | | |
| ZZZZZZ | 20.00 | 14:34 | | | | | | | | | | | | | | | | | | | | | | | | | |
| [illegible]3 | 1.00 | 14:36 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |
| [illegible]83 | 1.00 | 14:41 | | | | X | X | | X | | X | | | | X | | X | | | | X | X | | | | X | |

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

00025

Form XIV - IN

Extr/Prep Batch
KP0107495

Columbia Analytical Services
Metals Digestion Sheet

Service Request Number(s) : K2201183

Method : CLP 3010A 3020A 3005A 3050B Other-

Analysis for : ICP ICP-MS GFAA Flame AA Other

| Sample | Initial Weight (g) | Dry | Wet | Initial Volume(ml) | Final Volume (ml) | Matrix |
|---|---|---|---|---|---|---|
| 1183-MB | | | X | 50 ml | 50 ml | 1% HNO3 |
| -1CSW | * | | | | | |
| -1 | | | | | | |
| -2 | | | | | | |
| -2S | * | | | | | |
| -2SD | * | | | | | |
| -3 | | | | | | |
| -4 | | | | | | |
| -5 | | | | | | |

Time Digestion Started:

Lot # Acids Used: HNO3 MS1-17-C HCl H2O2

LCSS (circle appropriate) ERA CLP Soil Lot # 246 EPA Lot # 0287 Other:

GFAA LCSW = GFLCSW-102901, mls. added

ICP LCSW = QCP CICV-1 Lot # R-MEB93119, mls. added
QCP CICV-2 Lot # R-MEB93103, mls. added
QCP CICV-3 Lot # S-CICP10067, mls. added
SS6-092801, mls. added

SPIKE INFO

SS1-010402, mls added SS4-102901, mls added
SS2-112601, mls added SS5-092801, mls added
SS3-021902, mls added SS6-092801, mls added

TCLP Spike/LCS

SS1 mls. added
SS2 mls. added

Additional spikes:

Comments: *1.0 ml MS1-1-A + MS1-1-B

Analyst Date 2/26/02

Reviewer Date 2/26/02

metdig.xls
4/12/00

00026

Service Request # K2201183
Calibration _____030102A_____
QC in calibration__030102A_____
QC Service Request # K2201183_____
PQS - Sample Position Method Blank #~~8~~ 9____
PQS – Sample Position LCSW _____#~~9~~ 8____

# ICP-MS Data Review Form

| | Yes | No | NA |
|---|---|---|---|
| 1. Appropriate standardization completed | X | | |
| 2. ICV within 10 % of true value | X | | |
| 3. CCV's in control | X | | |
| 4. CCB's and/or ICB's below MRL | X | | |
| 5. Method blank below MRL | X | | |
| 6. LCS in control | X | | |
| 7. Spike and duplicate in control | X | | |
| 8. All analytes within instrument linear range | X | | |
| 9. Adequate rinse out time allowed | X | | |
| 10. Internal standards in control | X | | |
| 11. Interferences checked | X | | |
| 12. Se over MRL | X | | |
| 13. CRA run | X | | |
| 14. ICSA and ICSAB in control | X | | |
| 15. Serial dilution run | X | | |
| 16. Post spike in control | X | | |

Comments: Use Se MRL= 20ppb.

Reviewed by JC Date 3/1/02

R:\icp\misc\data review forms\icpms review form

Service Request # K2201183
Calibration _____030102A_____
QC in calibration__030102A_____
QC Service Request # K2201183_____
PQS - Sample Position Method Blank #~~8~~ 9____
PQS – Sample Position LCSW _____#~~9~~ 8____

# ICP-MS Data Review Form

| | Yes | No | NA |
|---|---|---|---|
| 1. Appropriate standardization completed | X | | |
| 2. ICV within 10 % of true value | X | | |
| 3. CCV's in control | X | | |
| 4. CCB's and/or ICB's below MRL | X | | |
| 5. Method blank below MRL | X | | |
| 6. LCS in control | X | | |
| 7. Spike and duplicate in control | X | | |
| 8. All analytes within instrument linear range | X | | |
| 9. Adequate rinse out time allowed | X | | |
| 10. Internal standards in control | X | | |
| 11. Interferences checked | X | | |
| 12. Se over MRL | X | | |
| 13. CRA run | X | | |
| 14. ICSA and ICSAB in control | X | | |
| 15. Serial dilution run | X | | |
| 16. Post spike in control | X | | |

Comments: Use Se MRL= 20ppb.

Reviewed by JC Date 3/1/02

R:\icp\misc\data review forms\icpms review form

Integrals for : MASS CALIB STD 1

| Peak | Li 6 | Be 9 | Mg 24 | Co 59 | In 115 | Pb 208 | Bi 209 | U 238 |
|---|---|---|---|---|---|---|---|---|
| CPS | 1077435 | 263648 | 543639 | 571102 | 564429 | 171240 | 258795 | 211077 |

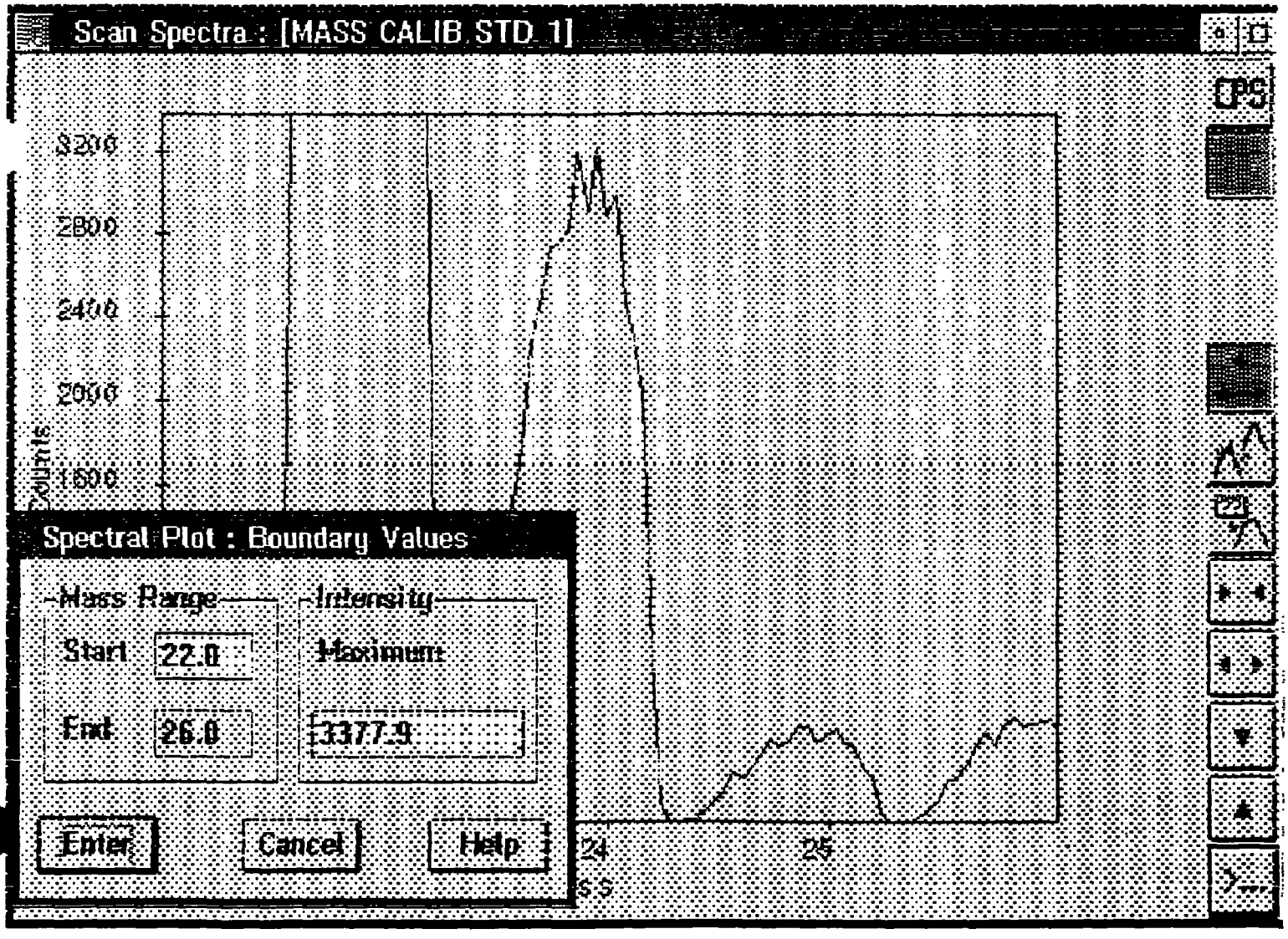
MASS CALIBRATION DATA
Fri Mar 1 2002
08:33:07

| Actual Mass | Found DAC | Calculated DAC | Calculated Mass |
|---|---|---|---|
| 6.01512E+0 | 1297 | 1284 | 6.07422E+0 |
| 9.01218E+0 | 1936 | 1936 | 9.01229E+0 |
| 2.39850E+1 | 5185 | 5193 | 2.39455E+1 |
| 5.89332E+1 | 12790 | 12805 | 5.88641E+1 |
| 1.14904E+2 | 25030 | 25018 | 1.14959E+2 |
| 2.07977E+2 | 45388 | 45389 | 2.07971E+2 |
| 2.08980E+2 | 45613 | 45609 | 2.08997E+2 |
| 2.38051E+2 | 51985 | 51988 | 2.38034E+2 |

New Mass calibration coeffs
y = a + bx + cx^2 + dx^3
1.09630E-1 4.59932E-3 -4.33369E-10 0.00000E+0
Regression coeff = 1.0000E+0

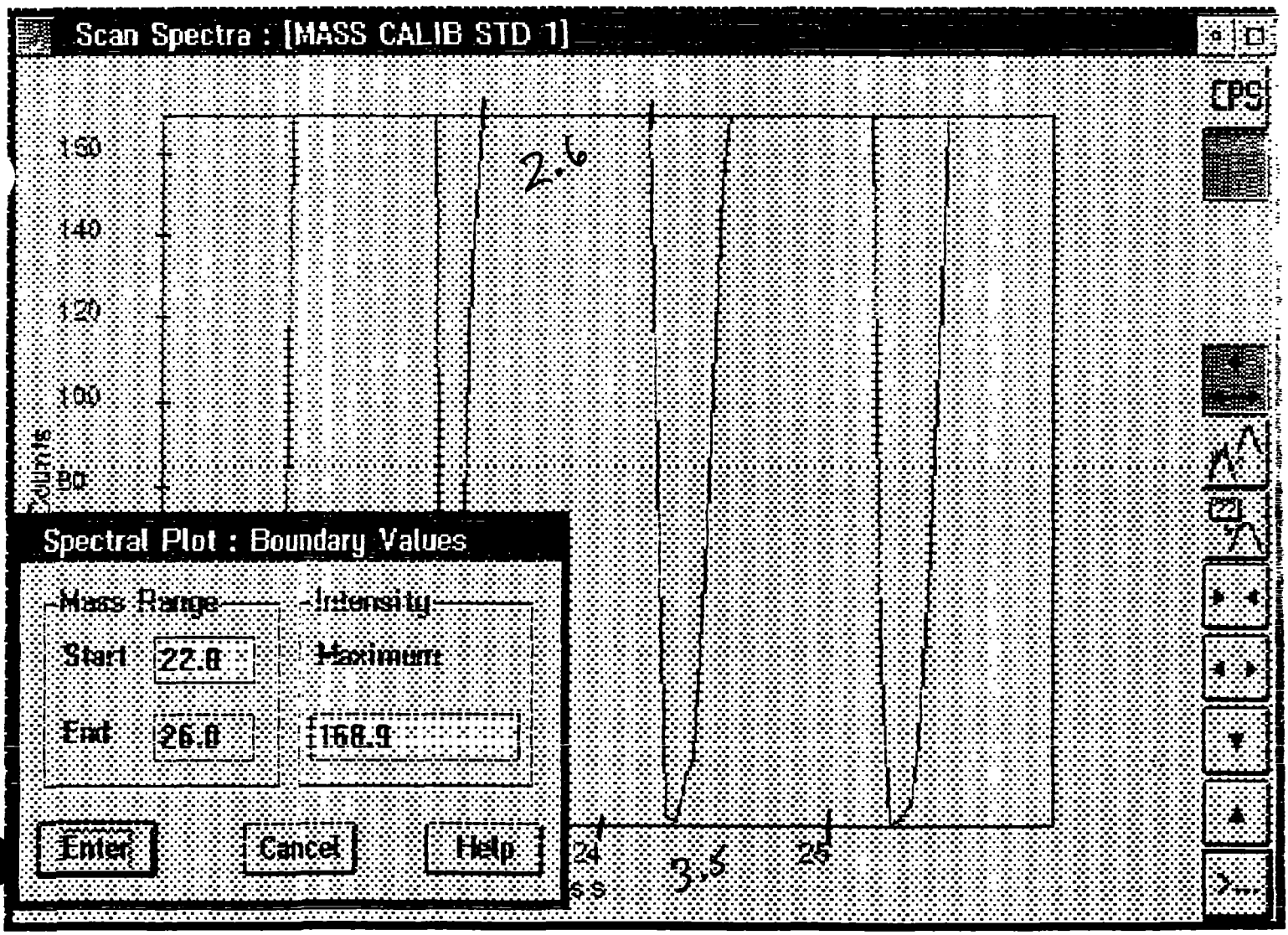
---

PEAK Height

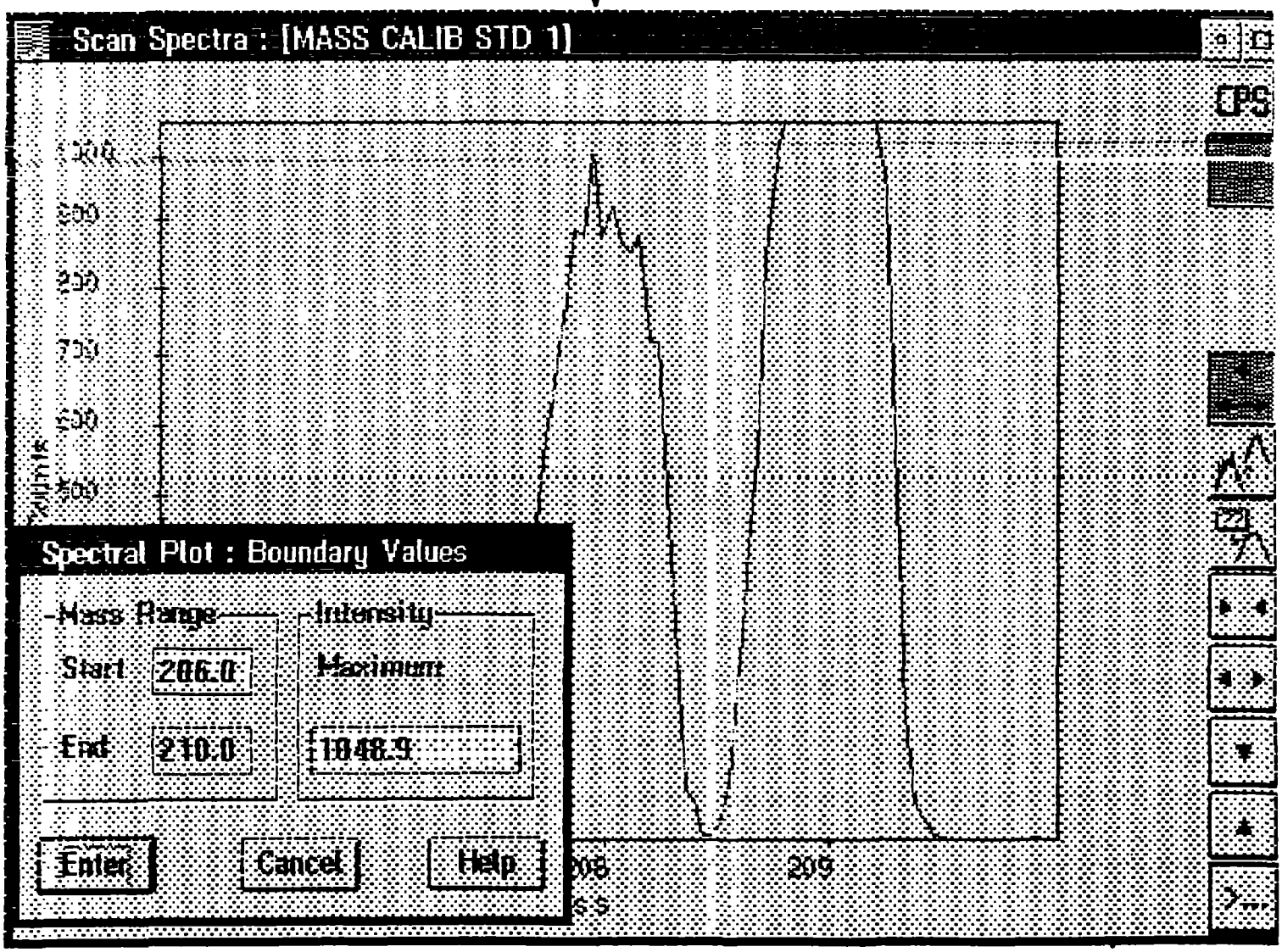

Scan Spectra : [MASS CALIB STD 1]
3200
2800
2400
2000
1600
Counts
24
25
Spectral Plot : Boundary Values
Mass Range
Start 22.0
End 26.0
Intensity
Maximum
3377.9
Enter
Cancel
Help

Res = 2.6 / 3.5 = 0.74

5% peak height



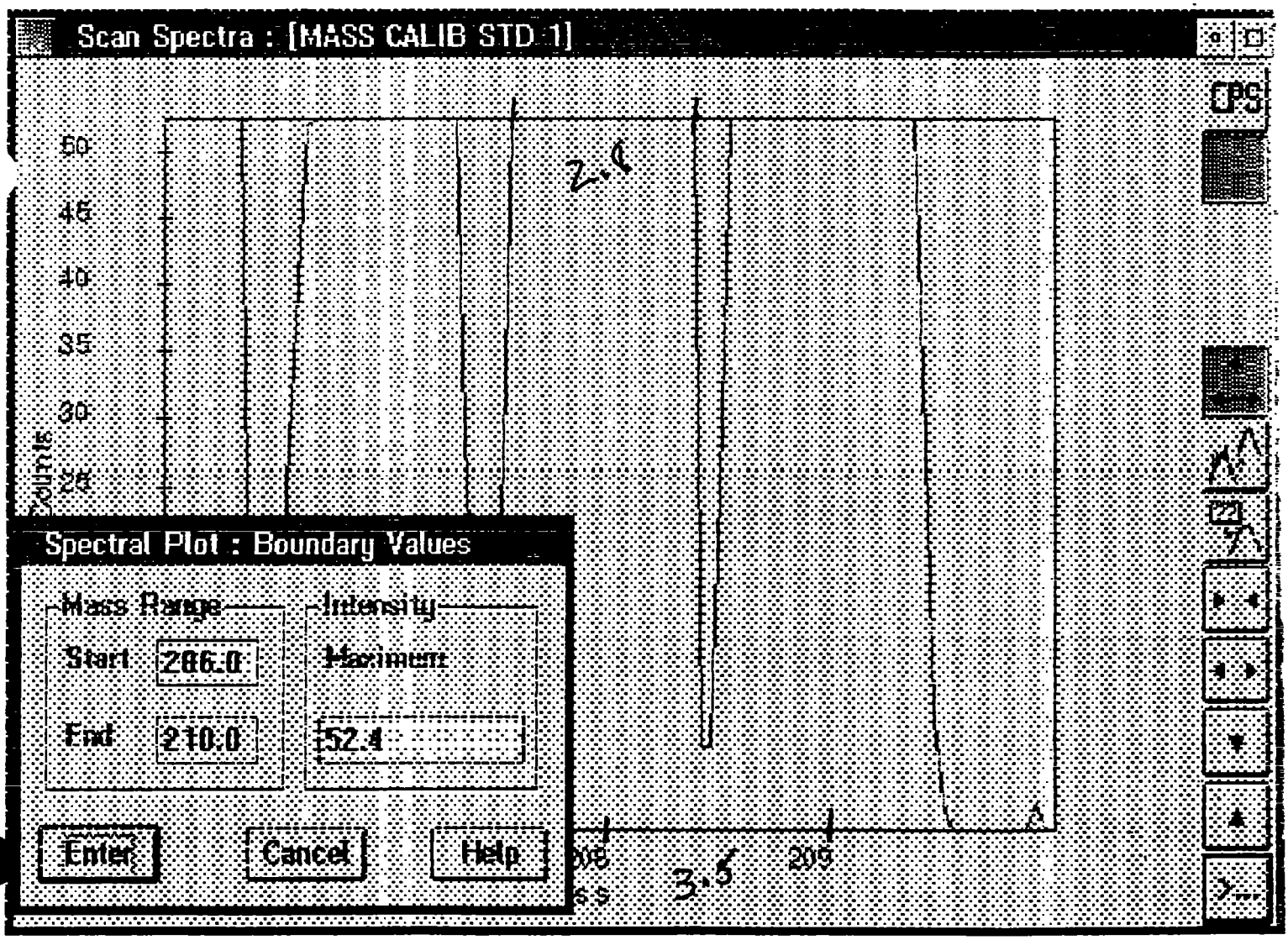
Peak Height




00033

Res = 2.8/3.5 = 0.80

50% peak Height




00034

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : CALIB

Analysis procedure : SHORT TERM STABILITY PROC

Sample name : Short Term Stability

First repeat started at : Fri Mar 1 2002 06:36:02

Last repeat started at : Fri Mar 1 2002 06:37:46

Interference Equations : DEFAULT

Dilution Factor : 1.0000 Concentration units : ppb

| Element | Beryllium | Magnesium | Cobalt | Indium | Lead | Bismuth | Uranium |
|---|---|---|---|---|---|---|---|
| Isotope | Be 9 | Mg 24 | Co 59 | In 115 | Pb 208 | Bi 209 | U 238 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.92 | 24.82 | 24.64 | 24.84 | 24.86 | 24.90 | 24.84 |
| Run 2 | 24.86 | 24.71 | 24.65 | 24.67 | 24.78 | 24.69 | 24.86 |
| Run 3 | 24.75 | 24.82 | 24.70 | 24.72 | 24.72 | 24.61 | 24.82 |
| Run 4 | 24.71 | 24.81 | 24.57 | 24.72 | 24.78 | 24.63 | 24.78 |
| Run 5 | 24.74 | 24.67 | 24.75 | 24.55 | 24.87 | 24.54 | 25.01 |
| Mean | 24.80 | 24.77 | 24.66 | 24.70 | 24.80 | 24.67 | 24.86 |
| Std Dev | 0.0864 | 0.0730 | 0.0660 | 0.1050 | 0.0647 | 0.1352 | 0.0898 |
| %D | 0.3485 | 0.2949 | 0.2674 | 0.4251 | 0.2609 | 0.5478 | 0.3572 |

Multi-Element Calibration Fri Mar 1 2002

Calibration graph coefficients for selected isotopes.

Experiment name : 030102A
User Name : GREG
Analysis procedure : EPA Method 6020/200.8
Introduction method : DEFAULT
First sample started at : Fri Mar 1 2002 13:24:21
Last sample started at : **********
Internal standards : Sc 45 In 115 Lu 175 (Interpolating)
Polynomial fit : y = a0 + a1.x + a2.x^2
Units of response : y = counts per second
Units of concentration : x = ppb

| Element | Symbol | Mass | a0 | a1 | a2 | regression |
|---|---|---|---|---|---|---|
| Chromium | Cr | 52 | 3335 | 19112 | 0.0 | 1.0000 |
| Chromium | Cr | 53 | 496.3 | 2272 | 0.0 | 1.0000 |
| Manganese | Mn | 55 | 5014 | 25970 | 0.0 | 1.0000 |
| Zinc | Zn | 66 | 327.2 | 2126 | 0.0 | 1.0000 |
| Zinc | Zn | 67 | 93.24 | 360.8 | 0.0 | 1.0000 |
| Zinc | Zn | 68 | 244.5 | 1480 | 0.0 | 1.0000 |
| Arsenic | As | 75 | 88.83 | 1721 | 0.0 | 1.0000 |
| Selenium | Se | 77 | 40.26 | 107.8 | 0.0 | 1.0000 |
| Selenium | Se | 78 | 3079 | 344.5 | 0.0 | 1.0000 |
| Selenium | Se | 82 | 56.65 | 137.5 | 0.0 | 1.0000 |
| Molybdenum | Mo | 95 | 128.8 | 3691 | 0.0 | 1.0000 |
| Molybdenum | Mo | 97 | 95.54 | 2275 | 0.0 | 1.0000 |
| Molybdenum | Mo | 98 | 210.7 | 5927 | 0.0 | 1.0000 |
| Silver | Ag | 107 | 293.9 | 8937 | 0.0 | 1.0000 |
| Silver | Ag | 109 | 299.7 | 8555 | 0.0 | 1.0000 |
| Cadmium | Cd | 111 | 306.1 | 2003 | 0.0 | 1.0000 |
| Cadmium | Cd | 112 | 339.4 | 3770 | 0.0 | 1.0000 |
| Cadmium | Cd | 114 | 431.0 | 4550 | 0.0 | 1.0000 |
| Barium | Ba | 135 | 31.29 | 1308 | 0.0 | 1.0000 |
| Barium | Ba | 137 | 40.23 | 2263 | 0.0 | 1.0000 |
| Barium | Ba | 138 | 110.4 | 14510 | 0.0 | 1.0000 |
| Lead | Pb | 206 | 44.05 | 5400 | 0.0 | 1.0000 |
| Lead | Pb | 207 | 45.28 | 4580 | 0.0 | 1.0000 |
| Lead | Pb | 208 | 149.3 | 21051 | 0.0 | 1.0000 |

PQ-S #971114 Operator: Greg Jasper KAC:09961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Blank
First repeat started at : Fri Mar 1 2002 13:24:21
Last repeat started at : Fri Mar 1 2002 13:23:22
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0033 | 0.0121 | 0.0017 | 0.0208 | 0.0093 | 0.0076 | -0.0944 |
| Run 2 | -0.0052 | 0.0046 | -0.0018 | -0.0088 | -0.0315 | -0.0108 | 0.0861 |
| Run 3 | 0.0019 | -0.0167 | 0.0001 | -0.0120 | 0.0221 | 0.0032 | 0.0084 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0000 |
| Std Dev | 0.0046 | 0.0149 | 0.0018 | 0.0180 | 0.0230 | 0.0096 | 0.0905 |
| %SD | 395720 | 968300 | 102360 | 4149000 | 3388300 | 506780 | 21028000 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0050 | 0.1662 | -0.5050 | 0.0050 | 0.0036 | 0.0065 |
| Run 2 | -0.0556 | 0.3373 | 0.3794 | -0.0024 | 0.0049 | -0.0092 |
| Run 3 | 0.0606 | -0.5036 | 0.1256 | -0.0026 | -0.0035 | 0.0027 |
| Mean | 0.0000 | 0.0000 | 0.0000 | -0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0582 | 0.4444 | 0.4553 | 0.0043 | 0.0074 | 0.0082 |
| %SD | 8221400 | 190880000 | 375489984 | 1589000 | 336840 | 490560 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0009 | 0.0053 | -0.0193 | 0.0029 | 0.0015 | -0.0008 |
| Run 2 | 0.0029 | -0.0032 | 0.0068 | -0.0007 | -0.0057 | -0.0007 |
| Run 3 | -0.0037 | -0.0021 | 0.0125 | -0.0022 | 0.0041 | 0.0014 |
| Mean | 0.0000 | -0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0034 | 0.0046 | 0.0170 | 0.0026 | 0.0051 | 0.0012 |
| %SD | 185440 | 571100 | 3146800 | 177130 | 1368200 | 192200 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0027 | 0.0008 | 0.0007 | -0.0011 | 0.0001 |
| Run 2 | 0.0015 | -0.0009 | -0.0008 | 0.0017 | 0.0001 |
| Run 3 | 0.0012 | 0.0002 | 0.0001 | -0.0006 | -0.0002 |
| Mean | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Std Dev | 0.0024 | 0.0009 | 0.0007 | 0.0015 | 0.0002 |
| %SD | 81437 | 34749 | 81407 | 107510 | 23530 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 100.8 | 101.7 | 99.90 |
| 2 | 100.5 | 100.6 | 100.8 |
| run 3 | 98.69 | 97.65 | 99.29 |
| Mean | 100.00 | 100.00 | 100.00 |
| Std Dev | 1.141 | 2.105 | 0.7679 |

PQ-S #971114 Operator: Greg Jasper KA010[illegible]

Multi-Element Concentrations Fri Mar 1 [illegible]
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Calibration Standard
First repeat started at : Fri Mar 1 2002 13:26:1[illegible]
Last repeat started at : Fri Mar 1 2002 13:27:1[illegible]
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.86 | 25.38 | 25.31 | 25.02 | 24.75 | 25.72 | 24.31 |
| Run 2 | 24.81 | 24.61 | 24.61 | 25.07 | 24.81 | 24.44 | 25.31 |
| Run 3 | 25.33 | 25.01 | 25.07 | 24.90 | 25.44 | 24.84 | 25.38 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.2876 | 0.3857 | 0.3573 | 0.0881 | 0.3802 | 0.6530 | 0.5999 |
| %SD | 1.150 | 1.543 | 1.429 | 0.3523 | 1.521 | 2.612 | 2.400 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 26.48 | 25.93 | 25.72 | 25.21 | 24.63 | 25.45 |
| Run 2 | 23.54 | 24.97 | 26.14 | 25.68 | 25.29 | 24.81 |
| Run 3 | 24.98 | 24.11 | 23.14 | 24.11 | 25.07 | 24.74 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 1.471 | 0.9090 | 1.622 | 0.8013 | 0.3366 | 0.3906 |
| %SD | 5.883 | 3.636 | 6.489 | 3.205 | 1.346 | 1.562 |

MSI-24-B

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.77 | 25.00 | 25.86 | 24.96 | 25.02 | 24.96 |
| Run 2 | 25.17 | 25.54 | 24.76 | 25.27 | 25.50 | 25.26 |
| Run 3 | 25.06 | 24.46 | 24.38 | 24.77 | 24.48 | 24.77 |
| Mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.2075 | 0.5379 | 0.7677 | 0.2521 | 0.5115 | 0.2488 |
| %SD | 0.8302 | 2.151 | 3.071 | 1.008 | 2.046 | 0.9950 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.99 | 25.16 | 24.26 | 25.08 | 25.09 |
| Run 2 | 25.04 | 24.93 | 25.48 | 24.53 | 24.98 |
| 3 | 24.96 | 24.91 | 25.25 | 25.38 | 24.93 |
| mean | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 |
| Std Dev | 0.0398 | 0.1415 | 0.6481 | 0.4288 | 0.0803 |
| %SD | 0.1592 | 0.5659 | 2.592 | 1.715 | 0.3213 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 97.88 | 97.67 | 100.0 |
| Run 2 | 99.72 | 98.08 | 99.13 |
| Run 3 | 98.27 | 99.87 | 99.48 |
| Mean | 98.63 | 98.54 | 99.54 |
| Std Dev | 0.9714 | 1.167 | 0.4531 |

PG-3 #971114 Operator: Greg Jasper <A0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #1
First repeat started at : Fri Mar 1 2002 10:28:34
Last repeat started at : Fri Mar 1 2002 10:29:34
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.05 | 23.25 | 49.22 | 49.64 | 55.97 | 52.91 | 48.15 |
| Run 2 | 20.56 | 23.80 | 49.25 | 49.51 | 58.15 | 55.42 | 49.81 |
| Run 3 | 20.41 | 23.94 | 49.30 | 49.37 | 58.25 | 56.92 | 47.38 |
| Mean | 20.34 | 23.66 | 49.26 | 49.51 | 57.79 | 55.08 | 48.45 |
| Std Dev | 0.2575 | 0.3649 | 0.0404 | 0.1364 | 1.673 | 2.028 | 1.241 |
| %RSD | 1.266 | 1.542 | 0.0820 | 0.2754 | 2.895 | 3.682 | 2.563 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 47.87 | 50.24 | 46.70 | 49.41 | 49.47 | 48.98 |
| Run 2 | 47.47 | 47.54 | 51.14 | 50.44 | 50.65 | 48.65 |
| Run 3 | 49.51 | 49.37 | 48.17 | 50.54 | 51.69 | 50.39 |
| Mean | 48.29 | 49.05 | 48.67 | 50.13 | 50.60 | 49.34 |
| Std Dev | 1.081 | 1.376 | 2.262 | 0.6285 | 1.109 | 0.9225 |
| %RSD | 2.239 | 2.806 | 4.647 | 1.254 | 2.192 | 1.870 |

ICV-1
MS1-22-G

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.03 | 23.96 | 23.42 | 27.13 | 25.42 | 201.3 |
| Run 2 | 25.13 | 24.28 | 23.90 | 28.27 | 26.29 | 204.8 |
| Run 3 | 24.81 | 25.16 | 25.42 | 29.94 | 27.24 | 209.7 |
| Mean | 24.65 | 24.47 | 24.25 | 28.11 | 26.31 | 205.3 |
| Std Dev | 0.5650 | 0.6198 | 1.046 | 0.9147 | 0.9120 | 4.250 |
| %RSD | 2.291 | 2.533 | 4.315 | 3.253 | 3.466 | 2.070 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 199.6 | 192.0 | 49.81 | 49.19 | 49.09 |
| Run 2 | 202.3 | 193.5 | 52.00 | 54.05 | 52.86 |
| Run 3 | 207.7 | 201.7 | 56.04 | 56.97 | 54.58 |
| Mean | 203.2 | 195.7 | 52.62 | 53.41 | 52.17 |
| Std Dev | 4.114 | 5.187 | 3.164 | 3.930 | 2.806 |
| %RSD | 2.025 | 2.650 | 6.013 | 7.359 | 5.379 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 88.60 | 90.63 | 91.15 |
| 2 | 87.25 | 88.75 | 86.80 |
| Run 3 | 87.50 | 86.20 | 83.36 |
| Mean | 87.78 | 88.53 | 87.10 |
| Std Dev | 0.7187 | 2.225 | 3.907 |

PQ-S #971114 Operator: Greg Jasper #-0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #2
First repeat started at : Fri Mar 1 2002 13:[illegible]:20
Last repeat started at : Fri Mar 1 2002 13:[illegible]:21
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.85 | 25.35 | 25.27 | 24.05 | [illegible] | 24.34 | 23.88 |
| Run 2 | 24.86 | 25.32 | 25.41 | 25.17 | [illegible] | 25.09 | 25.30 |
| Run 3 | 24.99 | 25.55 | 25.11 | 25.22 | [illegible] | 24.66 | 25.28 |
| Mean | 24.90 | 25.40 | 25.27 | 24.81 | [illegible] | 24.70 | 24.82 |
| Std Dev | 0.0760 | 0.1241 | 0.1475 | 0.6595 | [illegible] | 0.3761 | 0.8177 |
| %SD | 0.3052 | 0.4886 | 0.5836 | 2.658 | [illegible] | 1.523 | 3.295 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.86 | 24.13 | 23.67 | 25.09 | [illegible] | 25.27 |
| Run 2 | 26.63 | 24.89 | 25.01 | 25.47 | [illegible] | 25.28 |
| Run 3 | 24.51 | 26.15 | 25.30 | 24.97 | [illegible] | 25.01 |
| Mean | 25.66 | 25.05 | 24.66 | 25.16 | [illegible] | 25.19 |
| Std Dev | 1.071 | 1.019 | 0.8727 | 0.2608 | [illegible] | 0.1555 |
| %SD | 4.173 | 4.066 | 3.539 | 1.036 | [illegible] | 0.6172 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 26.84 | 26.25 | 24.03 | 25.58 | [illegible] | 24.62 |
| Run 2 | 26.39 | 25.38 | 25.00 | 25.39 | [illegible] | 24.24 |
| Run 3 | 26.34 | 24.79 | 24.33 | 24.80 | [illegible] | 24.99 |
| Mean | 26.53 | 25.47 | 24.45 | 25.25 | [illegible] | 24.62 |
| Std Dev | 0.2745 | 0.7342 | 0.4982 | 0.4058 | [illegible] | 0.3767 |
| %SD | 1.035 | 2.882 | 2.037 | 1.607 | [illegible] | 1.530 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.97 | 25.20 | 24.63 | 25.82 | [illegible] |
| Run 2 | 25.18 | 24.71 | 24.58 | 24.92 | [illegible] |
| Run 3 | 25.26 | 24.99 | 26.02 | 26.30 | [illegible] |
| Mean | 25.14 | 24.97 | 25.08 | 25.68 | [illegible] |
| Std Dev | 0.1518 | 0.2499 | 0.8219 | 0.6975 | [illegible] |
| %SD | 0.6040 | 1.001 | 3.278 | 2.716 | [illegible] |

CU-1
MS1-24-B

00043

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 93.61 | 94.47 | 93.73 |
| Run 2 | 94.61 | 93.77 | 96.00 |
| Run 3 | 92.60 | 94.65 | 92.21 |
| Mean | 93.61 | 94.30 | 93.98 |
| Std Dev | 1.003 | 0.4624 | 1.910 |

P9-S #971114 Operator: Greg Jasper <A0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #3
First repeat started at : Fri Mar 1 2002 13:36:28
Last repeat started at : Fri Mar 1 2002 13:37:29
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.0075 | -0.0109 | -0.0011 | -0.0155 | -0.0760 | 0.0098 | -0.0797 |
| Run 2 | -0.0009 | 0.0443 | -0.0072 | -0.0292 | 0.0320 | -0.0009 | -0.1657 |
| Run 3 | -0.0079 | 0.0372 | -0.0045 | -0.0214 | -0.0144 | -0.0185 | -0.2718 |
| Mean | -0.0054 | 0.0235 | -0.0043 | -0.0220 | -0.0195 | -0.0032 | -0.1724 |
| Std Dev | 0.0040 | 0.0301 | 0.0031 | 0.0069 | 0.0542 | 0.0143 | 0.0962 |
| %RSD | 72.74 | 127.7 | 71.47 | 31.26 | 278.3 | 449.1 | 55.81 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1206 | -1.585 | -0.3658 | 0.0169 | 0.0116 | -0.0020 |
| Run 2 | 0.0658 | -0.5947 | -0.7260 | 0.0082 | 0.0012 | 0.0022 |
| Run 3 | 0.0430 | -0.8254 | -1.293 | 0.0151 | -0.0044 | 0.0077 |
| Mean | 0.0764 | -1.135 | -0.7951 | 0.0134 | 0.0028 | 0.0027 |
| Std Dev | 0.0399 | 0.3987 | 0.4677 | 0.0046 | 0.0081 | 0.0049 |
| %RSD | 52.17 | 35.13 | 58.82 | 34.07 | 291.0 | 181.6 |

ICB-1

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0099 | 0.0026 | 0.0177 | -0.0011 | -0.0100 | 0.0023 |
| Run 2 | 0.0024 | -0.0018 | -0.0257 | -0.0022 | -0.0100 | 0.0256 |
| Run 3 | 0.0018 | 0.0037 | 0.0087 | -0.0140 | -0.0041 | 0.0010 |
| Mean | 0.0047 | 0.0015 | 0.0002 | -0.0058 | -0.0080 | 0.0096 |
| Std Dev | 0.0045 | 0.0029 | 0.0229 | 0.0072 | 0.0034 | 0.0138 |
| %RSD | 95.28 | 195.9 | 9872 | 123.8 | 42.28 | 143.9 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0000 | 0.0055 | -0.0003 | 0.0082 | 0.0039 |
| Run 2 | 0.0117 | 0.0051 | 0.0017 | 0.0090 | 0.0053 |
| Run 3 | 0.0034 | 0.0057 | 0.0026 | 0.0028 | 0.0037 |
| Mean | 0.0050 | 0.0054 | 0.0013 | 0.0067 | 0.0043 |
| Std Dev | 0.0060 | 0.0003 | 0.0015 | 0.0034 | 0.0009 |
| %RSD | 119.1 | 5.627 | 112.7 | 50.41 | 20.69 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 92.31 | 94.90 | 94.95 |
| 2 | 96.40 | 97.82 | 97.25 |
| Run 3 | 97.40 | 98.94 | 102.0 |
| Mean | 95.37 | 97.22 | 98.07 |
| Std Dev | 2.699 | 2.081 | 3.592 |

PQ-E #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #4
First repeat started at : Fri Mar 1 2002 13:38:44
Last repeat started at : Fri Mar 1 2002 13:39:46
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0101 | -0.0260 | -0.0007 | -0.0203 | -0.0438 | -0.0230 | -0.2092 |
| Run 2 | 0.0110 | 0.0238 | 0.0036 | -0.0446 | -0.0219 | -0.0070 | -0.0593 |
| Run 3 | 0.0241 | -0.0330 | 0.0212 | -0.0236 | -0.0680 | 0.0006 | -0.0890 |
| Mean | 0.0151 | -0.0117 | 0.0080 | -0.0295 | -0.0446 | -0.0098 | -0.1192 |
| Std Dev | 0.0079 | 0.0310 | 0.0116 | 0.0132 | 0.0231 | 0.0121 | 0.0793 |
| %SD | 51.93 | 264.4 | 144.4 | 44.80 | 51.84 | 123.0 | 66.59 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0303 | -0.8875 | -1.028 | 0.0120 | 0.0081 | 0.0095 |
| Run 2 | -0.0807 | -1.657 | -0.3938 | 0.0238 | 0.0051 | 0.0085 |
| Run 3 | 0.0476 | -2.528 | -0.4792 | -0.0024 | 0.0079 | 0.0003 |
| Mean | -0.0009 | -1.691 | -0.6337 | 0.0111 | 0.0070 | 0.0061 |
| Std Dev | 0.0696 | 0.8207 | 0.3443 | 0.0131 | 0.0017 | 0.0050 |
| %SD | 7586 | 48.54 | 54.32 | 113.2 | 23.57 | 82.18 |

CCB-1

| Element | Silver | Silver | Cadmium | Cadmium | Cesium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cs 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0015 | 0.0027 | -0.0036 | 0.0053 | -0.0124 | 0.0041 |
| Run 2 | 0.0024 | 0.0018 | -0.0091 | 0.0017 | 0.0019 | 0.0010 |
| Run 3 | 0.0188 | 0.0072 | 0.0101 | -0.0009 | -0.0149 | 0.0121 |
| Mean | 0.0076 | 0.0039 | -0.0009 | 0.0020 | -0.0084 | 0.0057 |
| Std Dev | 0.0097 | 0.0029 | 0.0099 | 0.0031 | 0.0091 | 0.0057 |
| %SD | 128.4 | 73.65 | 1152 | 154.5 | 107.3 | 99.40 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0018 | 0.0046 | 0.0073 | 0.0025 | 0.0048 |
| Run 2 | 0.0102 | 0.0072 | 0.0038 | 0.0038 | 0.0058 |
| Run 3 | 0.0013 | 0.0062 | 0.0031 | 0.0038 | 0.0051 |
| Mean | 0.0044 | 0.0060 | 0.0047 | 0.0034 | 0.0052 |
| Std Dev | 0.0050 | 0.0013 | 0.0022 | 0.0007 | 0.0005 |
| %SD | 112.6 | 21.54 | 47.45 | 21.77 | 10.11 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 95.64 | 98.15 | 101.1 |
| 2 | 95.21 | 99.34 | 100.8 |
| Run 3 | 90.27 | 95.99 | 100.9 |
| Mean | 93.70 | 97.83 | 100.9 |
| Std Dev | 2.984 | 1.700 | 0.1386 |

PQ-S #971114 Operator: Greg Jasper K-0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #5
First repeat started at : Fri Mar 1 2002 13:40:28
Last repeat started at : Fri Mar 1 2002 13:41:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2408 | 0.2136 | 0.0805 | 0.6798 | 0.8396 | 0.7367 | 0.3767 |
| Run 2 | 0.2343 | 0.2036 | 0.0607 | 0.6729 | 0.8995 | 0.7682 | 0.6212 |
| Run 3 | 0.2584 | 0.1704 | 0.0566 | 0.6443 | 0.7379 | 0.7895 | 0.4176 |
| Mean | 0.2445 | 0.1959 | 0.0659 | 0.6723 | 0.8490 | 0.7648 | 0.4718 |
| Std Dev | 0.0125 | 0.0226 | 0.0128 | 0.0077 | 0.1349 | 0.0266 | 0.1310 |
| %SD | 5.101 | 11.56 | 19.40 | 1.152 | 14.21 | 3.473 | 27.76 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9008 | 0.3626 | 0.3742 | 0.0675 | 0.1474 | 0.0537 |
| Run 2 | 0.8861 | 0.1157 | 1.451 | 0.0854 | 0.1255 | 0.0509 |
| Run 3 | 1.030 | 0.6057 | 0.6730 | 0.0604 | 0.1355 | 0.0660 |
| Mean | 0.9391 | 0.3613 | 0.8329 | 0.0664 | 0.1360 | 0.0569 |
| Std Dev | 0.0794 | 0.2450 | 0.5561 | 0.0052 | 0.0091 | 0.0081 |
| %SD | 8.459 | 67.80 | 66.77 | 7.842 | 16.17 | 14.17 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0137 | 0.0081 | 0.0441 | 0.0561 | 0.0732 | 0.0589 |
| Run 2 | 0.0153 | 0.0121 | 0.0686 | 0.0632 | 0.1021 | 0.0506 |
| Run 3 | 0.0113 | 0.0070 | 0.0483 | 0.0659 | 0.1146 | 0.0501 |
| Mean | 0.0134 | 0.0091 | 0.0536 | 0.0631 | 0.1070 | 0.0532 |
| Std Dev | 0.0020 | 0.0027 | 0.0131 | 0.0069 | 0.0130 | 0.0049 |
| %SD | 15.16 | 29.41 | 24.43 | 10.94 | 12.15 | 9.278 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0562 | 0.0613 | 0.0361 | 0.0306 | 0.0346 |
| Run 2 | 0.0589 | 0.0624 | 0.0355 | 0.0173 | 0.0297 |
| Run 3 | 0.0505 | 0.0668 | 0.0326 | 0.0359 | 0.0320 |
| Mean | 0.0552 | 0.0635 | 0.0347 | 0.0281 | 0.0321 |
| Std Dev | 0.0043 | 0.0029 | 0.0019 | 0.0093 | 0.0025 |
| %SD | 7.705 | 4.635 | 5.461 | 33.17 | 7.767 |

Water CRA MS1-17-E

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 94.89 | 97.77 | 96.13 |
| Run 2 | 93.99 | 98.28 | 98.27 |
| Run 3 | 92.06 | 92.73 | 93.18 |
| Mean | 93.65 | 96.26 | 95.86 |
| Std Dev | 1.447 | 3.063 | 2.556 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #6
First repeat started at : Fri Mar 1 2002 13:42:31
Last repeat started at : Fri Mar 1 2002 13:43:33
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3330 | 7.270 | 0.2484 | 0.7154 | 1.691 | 0.3268 | -0.4415 |
| Run 2 | 0.3573 | 8.447 | 0.2717 | 0.3056 | 1.691 | 0.2710 | 0.0201 |
| Run 3 | 0.3316 | 7.880 | 0.2747 | 0.7337 | 1.905 | 0.3262 | -0.0938 |
| Mean | 0.3406 | 7.865 | 0.2649 | 0.7493 | 1.763 | 0.3080 | -0.1718 |
| Std Dev | 0.0145 | 0.5884 | 0.0144 | 0.0515 | 0.1254 | 0.0321 | 0.2405 |
| %SD | 4.243 | 7.481 | 5.439 | 6.860 | 7.110 | 10.41 | 140.0 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.622 | 1.540 | -1.790 | 190.8 | 195.1 | 192.4 |
| Run 2 | 3.930 | 2.658 | -0.3611 | 189.8 | 194.3 | 188.3 |
| Run 3 | 4.288 | 1.453 | -0.1104 | 194.0 | 191.3 | 188.6 |
| Mean | 3.947 | 1.883 | -0.7539 | 191.5 | 193.8 | 186.4 |
| Std Dev | 0.3333 | 0.6719 | 0.9063 | 2.211 | 1.649 | 3.496 |
| %SD | 8.445 | 35.67 | 120.2 | 1.154 | 0.8507 | 1.875 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2003 | 0.1807 | 0.5539 | 0.3019 | 0.3691 | 0.0262 |
| Run 2 | 0.2118 | 0.1895 | 0.4968 | 0.2917 | 0.3867 | 0.0385 |
| Run 3 | 0.1953 | 0.1963 | 0.4587 | 0.2711 | 0.3781 | 0.0517 |
| Mean | 0.2025 | 0.1888 | 0.5031 | 0.2882 | 0.3737 | 0.0388 |
| Std Dev | 0.0085 | 0.0078 | 0.0489 | 0.0157 | 0.0098 | 0.0127 |
| %SD | 4.201 | 4.155 | 9.531 | 5.444 | 2.590 | 32.85 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0366 | 0.0385 | 0.1109 | 0.1232 | 0.1140 |
| Run 2 | 0.0460 | 0.0508 | 0.1082 | 0.1009 | 0.1027 |
| Run 3 | 0.0528 | 0.0482 | 0.1204 | 0.0951 | 0.1031 |
| Mean | 0.0451 | 0.0458 | 0.1131 | 0.1064 | 0.1066 |
| Std Dev | 0.0081 | 0.0065 | 0.0064 | 0.0148 | 0.0064 |
| %SD | 18.00 | 14.18 | 5.675 | 13.94 | 6.028 |

ICS A
MS1-17-F

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 87.32 | 94.01 | 92.36 |
| 2 | 85.40 | 91.14 | 92.05 |
| Run 3 | 80.73 | 85.15 | 85.23 |
| Mean | 84.48 | 90.10 | 89.88 |
| Std Dev | 3.385 | 4.518 | 4.028 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #7
First repeat started at : Fri Mar 1 2002 13:44:13
Last repeat started at : Fri Mar 1 2002 13:45:13
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.42 | 27.64 | 20.15 | 19.87 | 18.02 | 19.53 | 18.61 |
| Run 2 | 20.08 | 27.38 | 20.27 | 21.11 | 18.86 | 18.67 | 19.40 |
| Run 3 | 20.42 | 28.23 | 20.44 | 20.09 | 17.50 | 20.77 | 18.54 |
| Mean | 20.31 | 27.75 | 20.29 | 20.36 | 18.13 | 19.66 | 18.85 |
| Std Dev | 0.1955 | 0.4381 | 0.1457 | 0.6635 | 0.6872 | 1.057 | 0.4791 |
| %SD | 0.9626 | 1.579 | 0.7183 | 3.259 | 3.790 | 5.377 | 2.541 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 3.268 | 2.021 | -2.031 | 197.0 | 195.5 | 187.6 |
| Run 2 | 3.666 | 3.452 | 0.6502 | 197.1 | 198.1 | 196.3 |
| Run 3 | 4.692 | 2.742 | 0.0799 | 191.8 | 192.4 | 193.0 |
| Mean | 3.875 | 2.738 | -0.4337 | 195.3 | 195.3 | 192.3 |
| Std Dev | 0.7347 | 0.7155 | 1.412 | 3.024 | 2.845 | 4.409 |
| %SD | 18.96 | 26.13 | 325.7 | 1.548 | 1.457 | 2.293 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 14.07 | 13.85 | 19.34 | 19.03 | 19.74 | 0.0526 |
| Run 2 | 17.40 | 17.36 | 18.81 | 19.53 | 19.92 | 0.0397 |
| Run 3 | 18.78 | 18.17 | 18.66 | 19.80 | 20.02 | 0.0422 |
| Mean | 16.75 | 16.46 | 18.94 | 19.45 | 19.89 | 0.0449 |
| Std Dev | 2.424 | 2.299 | 0.3532 | 0.3890 | 0.1430 | 0.0069 |
| %SD | 14.47 | 13.97 | 1.865 | 2.000 | 0.7186 | 15.27 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.0318 | 0.0407 | 0.1183 | 0.0969 | 0.1176 |
| 2 | 0.0558 | 0.0441 | 0.1221 | 0.1098 | 0.1093 |
| 3 | 0.0524 | 0.0454 | 0.1318 | 0.1136 | 0.1234 |
| Mean | 0.0467 | 0.0434 | 0.1240 | 0.1068 | 0.1168 |
| Std Dev | 0.0130 | 0.0024 | 0.0070 | 0.0087 | 0.0071 |
| %SD | 27.93 | 5.542 | 5.638 | 8.180 | 6.086 |

ICSAB
MS1-17-G

00053

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 76.23 | 80.33 | 80.23 |
| 2 | 76.45 | 80.55 | 80.34 |
| Run 3 | 75.71 | 81.39 | 76.51 |
| Mean | 76.13 | 80.76 | 79.02 |
| Std Dev | 0.3842 | 0.5594 | 2.178 |

PQ-S #971114 Operator: Greg Jasper KA01C-P61

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #8
First repeat started at : Fri Mar 1 2002 13:46:03
Last repeat started at : Fri Mar 1 2002 13:47:04
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.29 | 21.21 | 20.10 | 20.63 | 19.46 | 19.82 | 19.91 |
| Run 2 | 19.91 | 21.02 | 19.92 | 20.11 | 19.69 | 20.06 | 19.62 |
| Run 3 | 19.38 | 19.89 | 19.82 | 19.68 | 18.70 | 19.57 | 19.53 |
| Mean | 19.86 | 20.71 | 19.95 | 20.14 | 19.28 | 19.82 | 19.69 |
| Std Dev | 0.4572 | 0.7130 | 0.1423 | 0.4744 | 0.5169 | 0.2470 | 0.2002 |
| %RSD | 2.302 | 3.443 | 0.7132 | 2.355 | 2.680 | 1.246 | 1.017 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 17.95 | 21.20 | 17.94 | 20.23 | 20.28 | 20.19 |
| Run 2 | 20.42 | 21.80 | 20.19 | 20.24 | 20.43 | 19.87 |
| Run 3 | 21.06 | 19.61 | 19.51 | 20.00 | 20.13 | 19.55 |
| Mean | 19.81 | 20.87 | 19.21 | 20.16 | 20.28 | 19.87 |
| Std Dev | 1.643 | 1.129 | 1.155 | 0.1379 | 0.1471 | 0.3180 |
| %RSD | 8.296 | 5.411 | 6.014 | 0.6837 | 0.7253 | 1.600 |

1183
LCSW

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 20.82 | 20.28 | 19.18 | 19.57 | 19.74 | 19.16 |
| Run 2 | 20.66 | 20.66 | 20.23 | 19.88 | 20.03 | 19.63 |
| Run 3 | 20.77 | 20.25 | 19.24 | 18.96 | 19.78 | 18.79 |
| Mean | 20.75 | 20.40 | 19.55 | 19.47 | 19.85 | 19.19 |
| Std Dev | 0.0825 | 0.2277 | 0.5853 | 0.4684 | 0.1552 | 0.4157 |
| %RSD | 0.3978 | 1.116 | 2.993 | 2.406 | 0.7820 | 2.166 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 19.85 | 19.17 | 20.07 | 20.43 | 20.34 |
| Run 2 | 19.05 | 19.21 | 19.09 | 19.09 | 19.52 |
| Run 3 | 18.81 | 19.48 | 20.13 | 18.57 | 19.76 |
| Mean | 19.24 | 19.29 | 19.76 | 19.36 | 19.88 |
| Std Dev | 0.5431 | 0.1670 | 0.5823 | 0.9553 | 0.4230 |
| %RSD | 2.823 | 0.8660 | 2.946 | 4.933 | 2.128 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 90.53 | 93.40 | 89.27 |
| 2 | 93.64 | 94.42 | 95.83 |
| 3 | 94.36 | 96.46 | 97.07 |
| Mean | 92.84 | 94.76 | 94.06 |
| Std Dev | 2.035 | 1.556 | 4.192 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #9
First repeat started at : Fri Mar 1 2002 13:51:29
Last repeat started at : Fri Mar 1 2002 13:52:30
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0320 | 0.0751 | -0.0026 | -0.0880 | -0.0824 | 0.0014 | -0.2036 |
| Run 2 | 0.0226 | 0.0832 | -0.0005 | -0.0683 | -0.0639 | -0.0268 | -0.0843 |
| Run 3 | 0.0121 | 0.0750 | -0.0022 | -0.0787 | -0.0917 | -0.0179 | 0.0171 |
| Mean | 0.0223 | 0.0778 | -0.0018 | -0.0783 | -0.0794 | -0.0144 | -0.0903 |
| Std Dev | 0.0099 | 0.0047 | 0.0011 | 0.0099 | 0.0141 | 0.0144 | 0.1105 |
| %SD | 44.70 | 6.018 | 64.88 | 12.60 | 17.82 | 99.62 | 122.4 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1788 | -0.1054 | -0.9181 | 0.0221 | 0.0034 | 0.0099 |
| Run 2 | 0.1189 | -0.1614 | -0.4273 | 0.0138 | -0.0037 | 0.0140 |
| Run 3 | 0.1305 | -0.3206 | 0.1371 | 0.0181 | 0.0161 | 0.0103 |
| Mean | 0.1427 | -0.1958 | -0.4028 | 0.0180 | 0.0053 | 0.0114 |
| Std Dev | 0.0318 | 0.1117 | 0.5280 | 0.0042 | 0.0100 | 0.0023 |
| %SD | 22.27 | 57.03 | 131.1 | 23.03 | 190.3 | 19.77 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0080 | 0.0060 | 0.0029 | 0.0005 | 0.0011 | 0.0180 |
| Run 2 | 0.0067 | -0.0012 | -0.0026 | 0.0088 | 0.0096 | -0.0052 |
| Run 3 | 0.0032 | -0.0062 | -0.0197 | -0.0080 | -0.0012 | 0.0003 |
| Mean | 0.0060 | -0.0005 | -0.0065 | 0.0004 | 0.0032 | 0.0043 |
| Std Dev | 0.0025 | 0.0061 | 0.0118 | 0.0084 | 0.0057 | 0.0122 |
| %SD | 41.50 | 1281 | 181.9 | 2009 | 178.8 | 279.6 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0024 | 0.0013 | 0.0047 | 0.0001 | 0.0013 |
| Run 2 | 0.0030 | 0.0000 | -0.0013 | -0.0014 | 0.0000 |
| Run 3 | 0.0011 | 0.0013 | 0.0041 | -0.0012 | 0.0022 |
| Mean | 0.0006 | 0.0009 | 0.0025 | -0.0009 | 0.0012 |
| Std Dev | 0.0027 | 0.0007 | 0.0033 | 0.0008 | 0.0011 |
| %SD | 485.8 | 84.17 | 132.1 | 93.85 | 91.67 |

1183 method Blank

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 101.6 | 104.5 | 105.0 |
| 2 | 100.8 | 101.2 | 103.2 |
| Run 3 | 101.1 | 103.5 | 101.6 |
| Mean | 101.2 | 103.1 | 103.3 |
| Std Dev | 0.3832 | 1.696 | 1.698 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #10
First repeat started at : Fri Mar 1 2002 13:53:26
Last repeat started at : Fri Mar 1 2002 13:54:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2401 | 0.2830 | 0.7085 | 6.851 | 5.720 | 6.7[illegible] | -0.2585 |
| Run 2 | 0.2592 | 0.2549 | 0.6881 | 7.004 | 5.941 | 6.7[illegible] | -0.0770 |
| Run 3 | 0.2555 | 0.2380 | 0.7109 | 6.905 | 6.174 | 7.1[illegible] | -0.2334 |
| Mean | 0.2516 | 0.2586 | 0.7025 | 6.920 | 5.945 | 6.8[illegible] | -0.1896 |
| Std Dev | 0.0102 | 0.0227 | 0.0125 | 0.0776 | 0.2271 | 0.2444 | 0.0984 |
| %SD | 4.039 | 8.795 | 1.782 | 1.122 | 3.820 | 3.5[illegible] | 51.88 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | -0.2314 | 0.1786 | -1.537 | 0.1304 | 0.1264 | 0.129[illegible] |
| Run 2 | -0.0716 | 0.2029 | -0.5760 | 0.1489 | 0.1355 | 0.1[illegible] |
| Run 3 | 0.1882 | -0.5048 | -1.015 | 0.1445 | 0.1467 | 0.13[illegible] |
| Mean | -0.0387 | -0.0411 | -1.043 | 0.1413 | 0.1362 | 0.1277 |
| Std Dev | 0.2115 | 0.4018 | 0.4813 | 0.0097 | 0.0102 | 0.0[illegible] |
| %SD | 553.6 | 977.1 | 46.15 | 6.850 | 7.477 | 7.7[illegible] |

1183-1
no Dilution

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0490 | 0.0378 | -0.0173 | 0.0086 | 0.0212 | 0.285[illegible] |
| Run 2 | 0.0538 | 0.0526 | 0.0281 | 0.0141 | 0.0199 | 0.2[illegible] |
| Run 3 | 0.0526 | 0.0524 | 0.0090 | 0.0142 | 0.0176 | 0.29[illegible] |
| Mean | 0.0513 | 0.0476 | 0.0066 | 0.0123 | 0.0195 | 0.277[illegible] |
| Std Dev | 0.0025 | 0.0085 | 0.0228 | 0.0032 | 0.0018 | 0.02[illegible] |
| %SD | 4.857 | 17.87 | 345.4 | 25.92 | 9.264 | 8.5[illegible] |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 0.3074 | 0.2894 | 0.1059 | 0.1038 | 0.1013 |
| Run 2 | 0.2837 | 0.2984 | 0.1088 | 0.1092 | 0.1069 |
| Run 3 | 0.2938 | 0.3099 | 0.1053 | 0.0949 | 0.1040 |
| Mean | 0.2950 | 0.2993 | 0.1067 | 0.1027 | 0.1041 |
| Std Dev | 0.0119 | 0.0103 | 0.0019 | 0.0072 | 0.0028 |
| %SD | 4.021 | 3.441 | 1.788 | 7.008 | 2.699 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 99.14 | 101.0 | 98.88 |
| 2 | 99.17 | 101.0 | 93.04 |
| Run 3 | 98.57 | 97.40 | 96.91 |
| Mean | 98.96 | 99.80 | 96.27 |
| Std Dev | 0.3381 | 2.078 | 2.966 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #11
First repeat started at : Fri Mar 1 2002 13:55:09
Last repeat started at : Fri Mar 1 2002 13:56:10
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.3377 | 2.254 | 119.0 | 3.834 | 5.034 | 4.522 | 2.903 |
| Run 2 | 0.3624 | 2.316 | 123.3 | 3.986 | 5.034 | 4.7[illegible] | 3.466 |
| Run 3 | 0.3440 | 2.260 | 120.3 | 3.778 | 4.528 | 4.[illegible] | 3.347 |
| Mean | 0.3480 | 2.277 | 120.8 | 3.866 | 4.865 | 4.6[illegible] | 3.239 |
| Std Dev | 0.0128 | 0.0341 | 2.181 | 0.1077 | 0.2924 | 0.[illegible] | 0.2971 |
| %SD | 3.687 | 1.498 | 1.805 | 2.785 | 6.010 | 2.[illegible] | 9.174 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.422 | 4.684 | 3.091 | 4.002 | 4.151 | 3.9[illegible] |
| Run 2 | 4.773 | 5.872 | 4.495 | 4.011 | 4.108 | 4.1[illegible] |
| Run 3 | 3.990 | 7.219 | 4.347 | 3.908 | 4.080 | 4.0[illegible] |
| Mean | 4.728 | 5.925 | 3.978 | 3.974 | 4.113 | 4.04[illegible] |
| Std Dev | 0.7170 | 1.268 | 0.7718 | 0.0568 | 0.0357 | 0.1[illegible] |
| %SD | 15.16 | 21.41 | 19.40 | 1.430 | 0.8669 | 3.35[illegible] |

1183-2
112

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 13[illegible] |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0490 | 0.0474 | 0.0881 | 0.0689 | 0.0755 | 25.[illegible] |
| Run 2 | 0.0562 | 0.0514 | 0.1007 | 0.0620 | 0.0414 | 24.[illegible] |
| Run 3 | 0.0554 | 0.0563 | 0.0995 | 0.0469 | 0.0516 | 24.[illegible] |
| Mean | 0.0535 | 0.0517 | 0.0961 | 0.0593 | 0.0562 | 24.[illegible] |
| Std Dev | 0.0040 | 0.0045 | 0.0070 | 0.0113 | 0.0175 | 0.[illegible] |
| %SD | 7.388 | 8.634 | 7.255 | 19.00 | 31.13 | 2.[illegible] |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.32 | 24.71 | 0.1848 | 0.1557 | 0.1751 |
| Run 2 | 24.80 | 24.76 | 0.1441 | 0.1608 | 0.1600 |
| Run 3 | 24.67 | 25.16 | 0.1407 | 0.1442 | 0.1577 |
| Mean | 24.93 | 24.88 | 0.1566 | 0.1536 | 0.1643 |
| Std Dev | 0.3446 | 0.2461 | 0.0245 | 0.0085 | 0.0095 |
| %SD | 1.382 | 0.9891 | 15.68 | 5.536 | 5.773 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 89.66 | 80.47 | 74.97 |
| Run 2 | 87.63 | 77.13 | 75.67 |
| Run 3 | 87.07 | 76.37 | 72.43 |
| Mean | 88.12 | 77.99 | 74.36 |
| Std Dev | 1.363 | 2.183 | 1.706 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #12
First repeat started at : Fri Mar 1 2002 13:57:26
Last repeat started at : Fri Mar 1 2002 13:58:28
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1247 | 0.7960 | 27.41 | 0.9250 | 1.294 | 1.040 | 0.5591 |
| Run 2 | 0.1218 | 0.6945 | 27.60 | 0.9647 | 1.333 | 1.068 | 1.106 |
| Run 3 | 0.1082 | 0.6618 | 27.47 | 1.003 | 1.065 | 1.0000 | 0.5908 |
| Mean | 0.1182 | 0.7174 | 27.49 | 0.9308 | 1.230 | 1.036 | 0.7519 |
| Std Dev | 0.0088 | 0.0700 | 0.0968 | 0.0692 | 0.1448 | 0.0343 | 0.3069 |
| %SD | 7.447 | 9.753 | 0.3520 | 7.431 | 11.77 | 3.313 | 40.81 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.9666 | 4.197 | 0.1118 | 0.7943 | 0.8354 | 0.8057 |
| Run 2 | 0.9648 | 3.470 | 2.776 | 0.9042 | 0.8672 | 0.8574 |
| Run 3 | 1.178 | 3.984 | 0.7685 | 0.8440 | 0.8430 | 0.8244 |
| Mean | 1.036 | 3.883 | 1.219 | 0.8475 | 0.8485 | 0.8292 |
| Std Dev | 0.1226 | 0.3738 | 1.368 | 0.0550 | 0.0166 | 0.0262 |
| %SD | 11.52 | 9.625 | 113.9 | 6.494 | 1.953 | 3.157 |

1183.2C
1/2+1/5

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0323 | 0.0200 | 0.0081 | 0.0155 | 0.0157 | 4.804 |
| Run 2 | -0.0132 | 0.0150 | 0.0427 | -0.0005 | 0.0043 | 5.291 |
| Run 3 | 0.0190 | 0.0165 | 0.0062 | 0.0075 | 0.0215 | 5.072 |
| Mean | 0.0215 | 0.0172 | 0.0190 | 0.0075 | 0.0138 | 5.056 |
| Std Dev | 0.0098 | 0.0026 | 0.0206 | 0.0080 | 0.0087 | 0.2439 |
| %SD | 45.54 | 15.13 | 108.4 | 107.3 | 63.08 | 4.824 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 4.720 | 5.008 | 0.0374 | 0.0374 | 0.0382 |
| Run 2 | 4.723 | 4.950 | 0.0344 | 0.0351 | 0.0348 |
| Run 3 | 5.172 | 5.000 | 0.0418 | 0.0373 | 0.0379 |
| Mean | 4.872 | 4.986 | 0.0379 | 0.0366 | 0.0370 |
| Std Dev | 0.2600 | 0.0314 | 0.0037 | 0.0013 | 0.0019 |
| %SD | 5.336 | 0.6303 | 9.801 | 3.530 | 5.127 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 86.18 | 86.15 | 83.97 |
| 2 | 85.32 | 84.52 | 79.92 |
| Run 3 | 87.07 | 82.11 | 81.59 |
| Mean | 86.19 | 84.26 | 81.83 |
| Std Dev | 0.8768 | 2.033 | 2.036 |

PQ-S #971114 Operator: Greg Jasper KA010994

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A

Analysis procedure : EPA Method 6020/200.8

Sample name : Sample #13

First repeat started at : Fri Mar 1 2002 14:00:06

Last repeat started at : Fri Mar 1 2002 14:08:08

Interference Equations : DEFAULT

Dilution Factor : Concentration units : ppb

Scl 0009 @ 50ppb

Spike pos @ 50ppb

3/1/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 18.23 | 19.94 | 137.1 | 21.29 | 23.69 | 22.24 | 20.35 |
| Run 2 | 17.88 | 19.71 | 134.2 | 22.02 | 22.45 | 21.87 | 22.99 |
| Run 3 | 17.65 | 19.45 | 134.5 | 20.65 | 22.97 | 23.10 | 22.41 |
| Mean | 17.92 | 19.70 | 135.3 | 21.32 | 22.74 | 22.40 | 21.92 |
| Std Dev | 0.3330 | 0.2492 | 1.610 | 0.6863 | 0.8444 | 0.6290 | 1.386 |
| %SD | 1.860 | 1.265 | 1.190 | 3.218 | 3.713 | 2.808 | 6.326 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.71 | 26.38 | 20.14 | 23.70 | 23.76 | 23.60 |
| Run 2 | 22.41 | 28.27 | 24.96 | 23.83 | 23.97 | 24.02 |
| Run 3 | 22.74 | 29.14 | 23.55 | 23.39 | 23.28 | 23.97 |
| Mean | 22.62 | 27.93 | 22.89 | 23.64 | 23.67 | 23.86 |
| Std Dev | 0.1649 | 1.410 | 2.478 | 0.2255 | 0.3527 | 0.2301 |
| %SD | 0.727 | 5.047 | 10.83 | 0.9540 | 1.490 | 0.9643 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 16.92 | 16.26 | 19.13 | 19.62 | 20.12 | 45.25 |
| Run 2 | 18.03 | 18.17 | 19.47 | 19.53 | 19.79 | 44.11 |
| Run 3 | 18.24 | 17.56 | 19.15 | 19.35 | 19.48 | 45.82 |
| Mean | 17.77 | 17.33 | 19.25 | 19.50 | 19.80 | 45.06 |
| Std Dev | 0.7029 | 0.9759 | 0.1915 | 0.1347 | 0.3166 | 0.8683 |
| %SD | 3.954 | 5.631 | 0.9947 | 0.6910 | 1.599 | 1.927 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 45.29 | 44.71 | 19.83 | 19.65 | 20.13 |
| Run 2 | 45.24 | 43.82 | 18.75 | 19.42 | 19.31 |
| Run 3 | 44.94 | 44.41 | 16.07 | 19.62 | 19.27 |
| Mean | 45.16 | 44.32 | 18.88 | 19.56 | 19.57 |
| Std Dev | 0.2654 | 0.4513 | 0.8916 | 0.1239 | 0.4826 |
| %SD | 0.4543 | 1.018 | 4.722 | 0.6334 | 2.466 |

1183-2A
1/2
+20ppb

00065

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 84.99 | 72.66 | 66.97 |
| Run 2 | 87.81 | 73.31 | 71.49 |
| Run 3 | 87.37 | 74.35 | 70.30 |
| Mean | 86.72 | 73.44 | 69.59 |
| Std Dev | 1.517 | 0.8513 | 2.345 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #14
First repeat started at : Fri Mar 1 2002 14:02:07
Last repeat started at : Fri Mar 1 2002 14:03:08
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.014 | 10.62 | 123.1 | 12.06 | 12.43 | 12.55 | 12.10 |
| Run 2 | 8.871 | 10.49 | 122.4 | 12.15 | 12.68 | 13.04 | 12.17 |
| Run 3 | 9.160 | 10.54 | 123.8 | 12.48 | 11.88 | 12.78 | 12.42 |
| Mean | 9.015 | 10.55 | 123.1 | 12.23 | 12.33 | 12.79 | 12.23 |
| Std Dev | 0.1443 | 0.0660 | 0.6914 | 0.2169 | 0.4062 | 0.2435 | 0.1719 |
| %SD | 1.600 | 0.6255 | 0.5617 | 1.773 | 3.294 | 1.903 | 1.406 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 14.45 | 20.33 | 13.43 | 13.34 | 13.50 | 13.38 |
| Run 2 | 12.57 | 22.38 | 12.31 | 13.69 | 13.78 | 13.71 |
| Run 3 | 13.94 | 22.25 | 13.05 | 13.45 | 13.08 | 13.31 |
| Mean | 13.66 | 21.65 | 12.93 | 13.49 | 13.46 | 13.46 |
| Std Dev | 0.9718 | 1.147 | 0.5717 | 0.1761 | 0.3512 | 0.2138 |
| %SD | 7.116 | 5.297 | 4.421 | 1.305 | 2.610 | 1.587 |

1183-258K
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.970 | 9.164 | 9.533 | 9.304 | 9.905 | 34.90 |
| Run 2 | 9.087 | 9.339 | 9.729 | 9.738 | 10.13 | 34.52 |
| Run 3 | 8.766 | 8.974 | 9.345 | 9.349 | 9.446 | 33.90 |
| Mean | 8.941 | 9.159 | 9.536 | 9.464 | 9.827 | 34.44 |
| Std Dev | 0.1625 | 0.1827 | 0.1917 | 0.2388 | 0.3486 | 0.5013 |
| %SD | 1.817 | 1.995 | 2.011 | 2.523 | 3.547 | 1.456 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 34.27 | 33.13 | 9.351 | 9.797 | 9.611 |
| Run 2 | 35.88 | 32.88 | 9.920 | 9.920 | 9.780 |
| Run 3 | 33.84 | 33.75 | 9.653 | 10.04 | 10.20 |
| Mean | 34.66 | 33.25 | 9.641 | 9.921 | 9.863 |
| Std Dev | 1.075 | 0.4464 | 0.2849 | 0.1235 | 0.3017 |
| %SD | 3.100 | 1.342 | 2.955 | 1.245 | 3.059 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| 1 | 95.41 | 81.13 | 76.69 |
| 2 | 96.57 | 79.51 | 75.47 |
| Run 3 | 94.80 | 81.50 | 71.20 |
| Mean | 95.60 | 80.71 | 74.46 |
| Std Dev | 0.9016 | 1.056 | 2.883 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #15
First repeat started at : Fri Mar 1 2002 14:06:26
Last repeat started at : Fri Mar 1 2002 14:07:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.76 | 25.12 | 25.20 | 24.93 | 23.95 | 24.29 | 23.55 |
| Run 2 | 25.47 | 25.16 | 25.17 | 23.30 | 24.38 | 23.72 | 24.22 |
| Run 3 | 24.87 | 24.90 | 24.88 | 23.62 | 23.20 | 23.62 | 25.24 |
| Mean | 25.03 | 25.06 | 25.08 | 23.95 | 23.84 | 23.88 | 24.34 |
| Std Dev | 0.3802 | 0.1381 | 0.1784 | 0.8613 | 0.5942 | 0.3630 | 0.8541 |
| %SD | 1.519 | 0.5509 | 0.7112 | 3.596 | 2.492 | 1.520 | 3.509 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.54 | 29.69 | 23.83 | 25.67 | 26.12 | 25.26 |
| Run 2 | 22.71 | 29.30 | 22.68 | 25.04 | 25.91 | 25.72 |
| Run 3 | 22.50 | 27.82 | 24.60 | 25.61 | 25.99 | 24.91 |
| Mean | 22.59 | 28.94 | 23.70 | 25.44 | 25.97 | 25.30 |
| Std Dev | 0.1125 | 1.182 | 0.9672 | 0.3457 | 0.1541 | 0.4057 |
| %SD | 0.4980 | 4.085 | 4.080 | 1.359 | 0.5932 | 1.604 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.55 | 25.89 | 25.48 | 24.41 | 25.08 | 24.90 |
| Run 2 | 26.05 | 25.96 | 24.52 | 24.75 | 25.02 | 25.05 |
| Run 3 | 26.43 | 25.66 | 24.15 | 24.69 | 24.83 | 24.83 |
| Mean | 26.01 | 25.84 | 24.72 | 24.62 | 24.98 | 24.86 |
| Std Dev | 0.4398 | 0.1603 | 0.6890 | 0.1783 | 0.1280 | 0.2126 |
| %SD | 1.691 | 0.6203 | 2.787 | 0.7241 | 0.5125 | 0.8552 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 25.79 | 24.93 | 25.89 | 25.57 | 25.50 |
| Run 2 | 25.04 | 25.34 | 23.96 | 23.46 | 24.59 |
| Run 3 | 24.91 | 24.75 | 24.09 | 25.51 | 24.75 |
| Mean | 25.25 | 25.01 | 24.65 | 24.85 | 24.95 |
| Std Dev | 0.4772 | 0.2998 | 1.080 | 1.203 | 0.4835 |
| %SD | 1.890 | 1.199 | 4.382 | 4.842 | 1.938 |

CCV-2
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00069

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 87.96 | 87.71 | 82.49 |
| Run 2 | 87.14 | 86.56 | 84.39 |
| Run 3 | 88.60 | 86.60 | 85.34 |
| Mean | 87.90 | 86.96 | 84.07 |
| Std Dev | 0.7313 | 0.6535 | 1.451 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.

Experiment name : C30102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #16
First repeat started at : Fri Mar 1 2002 14:12:36
Last repeat started at : Fri Mar 1 2002 14:13:37
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0150 | 0.0145 | 0.0380 | -0.0451 | -0.1029 | 0.0197 | -0.2007 |
| Run 2 | 0.0098 | -0.0223 | 0.0287 | -0.0127 | -0.0883 | 0.0252 | -0.2742 |
| Run 3 | 0.0139 | -0.0277 | 0.0248 | -0.0193 | -0.0353 | 0.0493 | 0.0673 |
| Mean | 0.0129 | -0.0118 | 0.0305 | -0.0257 | -0.0755 | 0.0314 | -0.1359 |
| Std Dev | 0.0027 | 0.0230 | 0.0068 | 0.0171 | 0.0356 | 0.0158 | 0.1797 |
| %SD | 21.13 | 194.6 | 22.14 | 66.62 | 47.09 | 50.20 | 132.3 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1440 | 0.3336 | -0.8057 | 0.0136 | -0.0022 | -0.0080 |
| Run 2 | 0.0886 | 0.7009 | -1.282 | 0.0102 | 0.0133 | -0.0026 |
| Run 3 | 0.0208 | 0.5245 | -1.4312 | 0.0100 | 0.0033 | -0.0072 |
| Mean | 0.0845 | 0.5197 | -0.5522 | 0.0113 | 0.0048 | -0.0059 |
| Std Dev | 0.0617 | 0.1837 | 0.8842 | 0.0020 | 0.0079 | 0.0029 |
| %SD | 73.08 | 35.34 | 160.1 | 17.90 | 164.7 | 49.46 |

CIB-2

| Element | Silver | Silver | Cesium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cs 133 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0010 | -0.0035 | -0.0141 | -0.0210 | -0.0021 | 0.0013 |
| Run 2 | -0.0021 | 0.0013 | -0.0201 | -0.0083 | -0.0148 | 0.0133 |
| Run 3 | -0.0013 | -0.0015 | -0.0096 | -0.0050 | -0.0095 | -0.0033 |
| Mean | -0.0008 | -0.0012 | -0.0146 | -0.0114 | -0.0088 | 0.0038 |
| Std Dev | 0.0016 | 0.0024 | 0.0052 | 0.0084 | 0.0064 | 0.0085 |
| %SD | 199.7 | 195.3 | 35.96 | 73.82 | 72.69 | 225.5 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0012 | -0.0005 | -0.0015 | 0.0028 | 0.0005 |
| Run 2 | -0.0041 | 0.0008 | 0.0039 | 0.0020 | 0.0006 |
| Run 3 | -0.0018 | -0.0006 | 0.0020 | -0.0019 | -0.0008 |
| Mean | -0.0024 | -0.0001 | 0.0015 | 0.0010 | 0.0001 |
| Std Dev | 0.0015 | 0.0008 | 0.0027 | 0.0025 | 0.0008 |
| %SD | 63.67 | 713.5 | 189.4 | 265.7 | 828.5 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 84.27 | 87.71 | 85.41 |
| Run 2 | 83.54 | 85.83 | 88.14 |
| Run 3 | 85.74 | 85.43 | 84.15 |
| Mean | 84.51 | 86.32 | 85.90 |
| Std Dev | 1.121 | 1.217 | 2.041 |

CIB-2

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #17
First repeat started at : Fri Mar 1 2002 14:14:59
Last repeat started at : Fri Mar 1 2002 14:16:00
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.132 | 10.53 | 125.1 | 12.55 | 13.52 | 12.53 | 12.62 |
| Run 2 | 9.241 | 10.83 | 126.3 | 12.05 | 13.05 | 12.75 | 13.74 |
| Run 3 | 9.082 | 10.81 | 125.4 | 11.96 | 13.24 | 12.74 | 12.10 |
| Mean | 9.151 | 10.73 | 125.6 | 12.18 | 13.27 | 12.67 | 12.82 |
| Std Dev | 0.0812 | 0.1705 | 0.6347 | 0.3170 | 0.2384 | 0.1249 | 0.8400 |
| %SD | 0.8870 | 1.589 | 0.5054 | 2.601 | 1.796 | 0.9852 | 6.553 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 13.75 | 15.94 | 13.28 | 13.75 | 14.08 | 13.99 |
| Run 2 | 13.53 | 17.10 | 14.35 | 13.73 | 13.78 | 13.72 |
| Run 3 | 14.48 | 19.56 | 13.36 | 13.90 | 13.92 | 14.03 |
| Mean | 13.92 | 17.53 | 13.67 | 13.79 | 13.93 | 13.92 |
| Std Dev | 0.4986 | 1.846 | 0.5928 | 0.0975 | 0.1527 | 0.1685 |
| %SD | 3.582 | 10.53 | 4.338 | 0.7071 | 1.096 | 1.211 |

1183-25pk Dup

1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 5.965 | 6.282 | 9.787 | 9.888 | 10.10 | 33.64 |
| Run 2 | 7.605 | 7.536 | 9.722 | 10.08 | 10.32 | 32.88 |
| Run 3 | 8.052 | 8.234 | 10.31 | 9.948 | 9.726 | 36.37 |
| Mean | 7.207 | 7.351 | 9.940 | 9.972 | 10.05 | 34.30 |
| Std Dev | 1.099 | 0.9894 | 0.3216 | 0.0978 | 0.3014 | 1.836 |
| %SD | 15.25 | 13.46 | 3.236 | 0.9810 | 2.999 | 5.353 |

BAD - Replicate See Rerun 3/1/02 PD

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 33.28 | 33.07 | 8.871 | 9.476 | 9.123 |
| Run 2 | 34.00 | 34.18 | 9.541 | 9.816 | 9.854 |
| Run 3 | 34.74 | 34.97 | 10.27 | 9.998 | 10.15 |
| Mean | 34.01 | 34.07 | 9.560 | 9.764 | 9.710 |
| Std Dev | 0.7296 | 0.9571 | 0.6991 | 0.2649 | 0.5307 |
| %SD | 2.145 | 2.809 | 7.313 | 2.713 | 5.465 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 90.95 | 78.71 | 79.50 |
| Run 2 | 93.51 | 80.12 | 79.25 |
| Run 3 | 94.08 | 80.63 | 76.16 |
| Mean | 92.85 | 79.82 | 78.30 |
| Std Dev | 1.665 | 0.9932 | 1.858 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #18
First repeat started at : Fri Mar 1 2002 14:16:40
Last repeat started at : Fri Mar 1 2002 14:17:40
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 36.81 | 40.73 | 248.7 | 44.22 | 46.82 | 50.05 | 48.70 |
| Run 2 | 38.39 | 40.70 | 249.1 | 44.09 | 48.75 | 49.34 | 50.43 |
| Run 3 | 38.43 | 42.11 | 248.8 | 44.69 | 50.71 | 49.34 | 48.50 |
| Mean | 37.88 | 41.13 | 248.9 | 44.33 | 48.76 | 49.35 | 49.21 |
| Std Dev | 0.9199 | 0.8067 | 0.2303 | 0.3170 | 1.949 | 1.899 | 1.062 |
| %SD | 2.429 | 1.959 | 0.0925 | 0.7151 | 3.998 | 3.936 | 2.158 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 54.13 | 54.68 | 52.31 | 53.96 | 54.18 | 53.92 |
| Run 2 | 52.32 | 60.96 | 56.35 | 54.88 | 57.48 | 56.06 |
| Run 3 | 55.32 | 61.03 | 56.58 | 52.46 | 57.26 | 55.32 |
| Mean | 53.92 | 58.89 | 55.09 | 53.78 | 56.31 | 55.10 |
| Std Dev | 1.511 | 3.648 | 2.418 | 2.225 | 1.846 | 1.084 |
| %SD | 2.803 | 6.194 | 4.352 | 2.278 | 3.279 | 1.967 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.8061 | 0.7658 | 45.39 | 45.80 | 45.69 | 93.84 |
| Run 2 | 0.4616 | 0.4369 | 45.81 | 49.50 | 46.57 | 94.48 |
| Run 3 | 0.3768 | 0.4088 | 46.12 | 47.83 | 48.20 | 98.39 |
| Mean | 0.5482 | 0.5437 | 45.77 | 47.71 | 46.82 | 95.57 |
| Std Dev | 0.2274 | 0.1936 | 0.3661 | 1.855 | 1.269 | 2.461 |
| %SD | 41.48 | 35.61 | 0.7998 | 3.888 | 2.710 | 2.575 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 99.31 | 93.87 | 46.23 | 48.01 | 46.97 |
| Run 2 | 97.52 | 95.39 | 42.57 | 46.58 | 45.13 |
| Run 3 | 103.4 | 95.31 | 47.19 | 43.76 | 46.95 |
| Mean | 100.1 | 94.86 | 45.33 | 46.12 | 46.35 |
| Std Dev | 3.002 | 0.8575 | 2.438 | 2.163 | 1.055 |
| %SD | 3.000 | 0.9040 | 5.379 | 4.690 | 2.276 |

Dilute 20 3/1/02

For QC Sample

1183-2A +50ppb

00075

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 99.31 | 66.54 | 60.29 |
| Run 2 | 99.57 | 67.43 | 65.04 |
| Run 3 | 101.60 | 68.92 | 63.47 |
| Mean | 99.33 | 67.63 | 62.93 |
| Std Dev | 1.412 | 1.201 | 2.422 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #19
First repeat started at : Fri Mar 1 2002 14:19:14
Last repeat started at : Fri Mar 1 2002 14:20:14
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 9.119 | 10.69 | 127.0 | 12.28 | 13.72 | 12.82 | 12.42 |
| Run 2 | 9.112 | 10.26 | 121.9 | 11.81 | 13.73 | 12.52 | 12.48 |
| Run 3 | 9.271 | 10.25 | 123.9 | 12.39 | 13.82 | 12.90 | 13.66 |
| Mean | 9.168 | 10.40 | 124.3 | 12.16 | 13.76 | 12.75 | 12.85 |
| Std Dev | 0.0896 | 0.2502 | 2.553 | 0.3105 | 0.0522 | 0.2018 | 0.6987 |
| %SD | 0.9771 | 2.406 | 2.055 | 2.554 | 0.3793 | 1.583 | 5.436 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 12.56 | 22.10 | 9.537 | 13.73 | 13.96 | 13.72 |
| Run 2 | 13.23 | 22.54 | 13.77 | 13.46 | 13.77 | 13.68 |
| Run 3 | 12.80 | 23.17 | 15.79 | 14.16 | 13.82 | 14.17 |
| Mean | 12.86 | 22.60 | 13.03 | 13.78 | 13.85 | 13.86 |
| Std Dev | 0.3437 | 0.5383 | 3.192 | 0.3554 | 0.0956 | 0.2716 |
| %SD | 2.672 | 2.382 | 24.49 | 2.579 | 0.6902 | 1.959 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 8.312 | 8.045 | 9.872 | 9.642 | 10.45 | 33.12 |
| Run 2 | 8.122 | 8.099 | 9.164 | 9.786 | 9.758 | 33.23 |
| Run 3 | 8.899 | 8.727 | 9.711 | 9.579 | 10.13 | 35.52 |
| Mean | 8.444 | 8.290 | 9.582 | 9.669 | 10.11 | 33.96 |
| Std Dev | 0.4054 | 0.3793 | 0.3710 | 0.1058 | 0.3447 | 1.351 |
| %SD | 4.800 | 4.575 | 3.872 | 1.095 | 3.409 | 3.979 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 34.54 | 33.75 | 9.764 | 9.768 | 9.876 |
| Run 2 | 33.69 | 32.59 | 9.555 | 9.622 | 9.511 |
| Run 3 | 35.01 | 35.18 | 9.498 | 9.295 | 9.810 |
| Mean | 34.41 | 33.84 | 9.606 | 9.562 | 9.733 |
| Std Dev | 0.6716 | 1.298 | 0.1398 | 0.2423 | 0.1945 |
| %SD | 1.951 | 3.836 | 1.456 | 2.534 | 1.999 |

1183 - 25pK DUP

1/2

rerun

00077

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 93.51 | 80.55 | 75.50 |
| Run 2 | 95.07 | 82.79 | 76.91 |
| Run 3 | 95.57 | 79.36 | 72.80 |
| Mean | 94.71 | 80.90 | 75.07 |
| Std Dev | 1.074 | 1.742 | 2.088 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #20
First repeat started at : Fri Mar 1 2002 14:21:50
Last repeat started at : Fri Mar 1 2002 14:22:51
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 44.04 | 46.81 | 166.8 | 49.04 | 51.05 | 51.13 | 50.97 |
| Run 2 | 43.91 | 45.53 | 167.8 | 51.96 | 53.78 | 49.85 | 52.89 |
| Run 3 | 44.18 | 46.56 | 164.3 | 52.52 | 51.21 | 51.73 | 52.13 |
| Mean | 44.04 | 46.30 | 166.3 | 51.17 | 52.01 | 50.90 | 52.00 |
| Std Dev | 0.1357 | 0.6786 | 1.779 | 1.871 | 1.535 | 0.9597 | 0.9677 |
| %SD | 0.3081 | 1.466 | 1.069 | 3.657 | 2.952 | 1.885 | 1.861 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 52.42 | 68.65 | 58.12 | 54.49 | 55.48 | 54.54 |
| Run 2 | 53.38 | 69.20 | 52.00 | 52.77 | 54.61 | 52.99 |
| Run 3 | 56.59 | 69.84 | 59.64 | 54.95 | 56.42 | 54.75 |
| Mean | 54.13 | 69.23 | 56.59 | 54.07 | 55.50 | 54.09 |
| Std Dev | 2.182 | 0.5970 | 4.044 | 1.147 | 0.9051 | 0.9580 |
| %SD | 4.030 | 0.8623 | 7.146 | 2.122 | 1.631 | 1.771 |

1183-2A
1/2
x50ppb

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5796 | 0.5941 | 49.47 | 52.02 | 49.02 | 79.06 |
| Run 2 | 0.2753 | 0.3121 | 49.17 | 50.16 | 51.02 | 76.08 |
| Run 3 | 0.1807 | 0.1874 | 51.83 | 51.24 | 52.04 | 78.15 |
| Mean | 0.3452 | 0.3645 | 50.16 | 51.14 | 50.69 | 77.76 |
| Std Dev | 0.2085 | 0.2084 | 1.460 | 0.9326 | 1.538 | 1.525 |
| %SD | 60.38 | 57.16 | 2.911 | 1.824 | 3.033 | 1.961 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 78.39 | 75.09 | 49.80 | 49.55 | 49.33 |
| Run 2 | 76.09 | 76.48 | 48.40 | 49.88 | 49.14 |
| 3 | 77.63 | 76.07 | 47.22 | 49.96 | 48.82 |
| mean | 77.37 | 75.88 | 48.47 | 49.80 | 49.10 |
| Std Dev | 1.170 | 0.7155 | 1.288 | 0.2128 | 0.2597 |
| %SD | 1.512 | 0.9430 | 2.658 | 0.4274 | 0.5291 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 101.9 | 85.78 | 77.16 |
| 2 | 102.8 | 88.01 | 79.03 |
| Run 3 | 103.7 | 85.88 | 80.37 |
| Mean | 102.8 | 86.56 | 76.85 |
| Std Dev | 0.9031 | 1.261 | 1.611 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #21
First repeat started at : Fri Mar 1 2002 14:26:24
Last repeat started at : Fri Mar 1 2002 14:27:25
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2914 | 1.986 | 70.03 | 3.565 | 5.358 | 3.887 | 4.632 |
| Run 2 | 0.2679 | 2.208 | 71.71 | 3.612 | 5.491 | 4.161 | 4.463 |
| Run 3 | 0.2678 | 2.357 | 72.37 | 3.509 | 5.173 | 4.134 | 4.515 |
| Mean | 0.2757 | 2.184 | 71.37 | 3.562 | 5.341 | 4.060 | 4.537 |
| Std Dev | 0.0136 | 0.1864 | 1.203 | 0.0515 | 0.1596 | 0.1510 | 0.0867 |
| %SD | 4.922 | 8.534 | 1.685 | 1.445 | 2.989 | 3.719 | 1.911 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 4.219 | 14.79 | 5.919 | 3.173 | 3.162 | 3.214 |
| Run 2 | 4.977 | 16.12 | 5.116 | 3.264 | 3.264 | 3.266 |
| Run 3 | 5.389 | 15.51 | 4.387 | 3.179 | 3.072 | 2.938 |
| Mean | 4.862 | 15.47 | 5.141 | 3.205 | 3.166 | 3.139 |
| Std Dev | 0.5936 | 0.6658 | 0.7664 | 0.0508 | 0.0961 | 0.1761 |
| %SD | 12.21 | 4.302 | 14.91 | 1.584 | 3.034 | 5.611 |

1183-3
112

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0451 | 0.0390 | 0.0814 | 0.0342 | 0.0673 | 23.54 |
| Run 2 | 0.0419 | 0.0485 | 0.0813 | 0.0598 | 0.0764 | 24.47 |
| Run 3 | 0.0419 | 0.0374 | 0.0923 | 0.0344 | 0.0545 | 22.29 |
| Mean | 0.0430 | 0.0416 | 0.0850 | 0.0428 | 0.0660 | 23.43 |
| Std Dev | 0.0018 | 0.0060 | 0.0063 | 0.0147 | 0.0110 | 1.097 |
| %SD | 4.201 | 14.34 | 7.452 | 34.42 | 16.62 | 4.683 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 22.99 | 21.78 | 0.1650 | 0.1504 | 0.1470 |
| Run 2 | 24.03 | 23.70 | 0.1562 | 0.1484 | 0.1517 |
| 3 | 21.58 | 23.60 | 0.1179 | 0.1298 | 0.1385 |
| Mean | 22.87 | 23.03 | 0.1464 | 0.1429 | 0.1457 |
| Std Dev | 1.229 | 1.082 | 0.0250 | 0.0114 | 0.0067 |
| %SD | 5.374 | 4.699 | 17.10 | 7.956 | 4.585 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 102.1 | 81.07 | 77.21 |
| Run 2 | 109.7 | 86.32 | 80.28 |
| Run 3 | 111.1 | 90.28 | 84.10 |
| Mean | 107.6 | 85.89 | 80.53 |
| Std Dev | 4.817 | 4.619 | 3.454 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #22
First repeat started at : Fri Mar 1 2002 14:28:03
Last repeat started at : Fri Mar 1 2002 14:29:05
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

SCE DILUTION 3/1/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2846 | 1.291 | 607.2 | 6.466 | 7.694 | 7.096 | 1.898 |
| Run 2 | 0.2801 | 1.226 | 613.8 | 6.353 | 7.990 | 7.267 | 1.889 |
| Run 3 | 0.2555 | 1.204 | 597.3 | 6.640 | 7.348 | 7.087 | 1.810 |
| Mean | 0.2734 | 1.240 | 606.1 | 6.486 | 7.678 | 7.150 | 1.866 |
| Std Dev | 0.0156 | 0.0453 | 8.114 | 0.1446 | 0.3214 | 0.1012 | 0.0485 |
| %SD | 5.719 | 3.651 | 1.372 | 2.230 | 4.186 | 1.415 | 2.601 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.7883 | 14.32 | -0.6499 | 4.826 | 4.925 | 5.001 |
| Run 2 | 0.6692 | 15.47 | -0.2214 | 4.848 | 4.977 | 4.834 |
| Run 3 | 0.8261 | 15.13 | -0.7618 | 5.100 | 4.816 | 4.935 |
| Mean | 0.7612 | 14.97 | -0.5444 | 4.925 | 4.906 | 4.890 |
| Std Dev | 0.0819 | 0.5907 | 0.2853 | 0.1523 | 0.0818 | 0.0962 |
| %SD | 10.75 | 3.944 | 52.40 | 3.093 | 1.667 | 1.967 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0396 | 0.0378 | 0.1767 | 0.1962 | 0.1776 | 33.22 |
| Run 2 | 0.0338 | 0.0442 | 0.2100 | 0.2035 | 0.1792 | 34.52 |
| Run 3 | 0.0556 | 0.0452 | 0.1231 | 0.1909 | 0.1578 | 33.30 |
| Mean | 0.0430 | 0.0424 | 0.1699 | 0.1935 | 0.1715 | 33.68 |
| Std Dev | 0.0113 | 0.0040 | 0.0439 | 0.0115 | 0.0119 | 0.7274 |
| %SD | 26.31 | 9.423 | 25.81 | 5.936 | 6.941 | 2.160 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 33.01 | 33.66 | 0.2809 | 0.2745 | 0.2682 |
| Run 2 | 35.24 | 33.30 | 0.3009 | 0.3033 | 0.2937 |
| Run 3 | 32.67 | 33.14 | 0.2780 | 0.2437 | 0.2607 |
| Mean | 33.64 | 33.36 | 0.2866 | 0.2738 | 0.2742 |
| Std Dev | 1.394 | 0.2641 | 0.0125 | 0.0298 | 0.0173 |
| %SD | 4.145 | 0.7916 | 4.351 | 10.88 | 6.309 |

1183.4
1/2

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 108.7 | 90.19 | 82.92 |
| 2 | 110.2 | 91.04 | 77.56 |
| Run 3 | 112.4 | 92.25 | 86.38 |
| Mean | 110.4 | 91.16 | 82.29 |
| Std Dev | 1.837 | 1.037 | 4.442 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #23
First repeat started at : Fri Mar 1 2002 14:29:47
Last repeat started at : Fri Mar 1 2002 14:30:45
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.1047 | 0.5190 | 83.50 | 1.284 | 1.233 | 1.073 | 0.1942 |
| Run 2 | 0.0796 | 0.3902 | 82.51 | 1.241 | 1.202 | 1.137 | 0.1796 |
| Run 3 | 0.0722 | 0.3745 | 85.66 | 1.157 | 1.204 | 1.045 | 0.3701 |
| Mean | 0.0855 | 0.4279 | 87.39 | 1.227 | 1.213 | 1.085 | 0.2480 |
| Std Dev | 0.0171 | 0.0793 | 1.580 | 0.0645 | 0.0173 | 0.0474 | 0.1060 |
| %SD | 19.96 | 18.54 | 1.882 | 5.254 | 1.429 | 4.364 | 42.76 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.4384 | 12.69 | 0.1020 | 0.5437 | 0.4987 | 0.4923 |
| Run 2 | 0.3118 | 11.73 | 0.0064 | 0.5366 | 0.5630 | 0.4632 |
| Run 3 | 0.2474 | 10.86 | 0.7925 | 0.4921 | 0.4956 | 0.4862 |
| Mean | 0.3325 | 11.76 | 0.3003 | 0.5241 | 0.5191 | 0.4806 |
| Std Dev | 0.0972 | 0.9132 | 0.4289 | 0.0280 | 0.0381 | 0.0154 |
| %SD | 29.22 | 7.765 | 142.9 | 5.343 | 7.331 | 3.195 |

1183-4
1120

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0170 | 0.0204 | 0.0230 | 0.0242 | 0.0357 | 3.305 |
| Run 2 | 0.0111 | 0.0142 | 0.0256 | 0.0258 | 0.0203 | 3.271 |
| Run 3 | 0.0044 | 0.0079 | 0.0299 | 0.0236 | 0.0207 | 3.305 |
| Mean | 0.0109 | 0.0142 | 0.0262 | 0.0245 | 0.0256 | 3.294 |
| Std Dev | 0.0063 | 0.0062 | 0.0035 | 0.0011 | 0.0088 | 0.0195 |
| %SD | 58.08 | 44.01 | 13.38 | 4.530 | 34.41 | 0.5913 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 3.426 | 3.570 | 0.0332 | 0.0418 | 0.0402 |
| Run 2 | 3.202 | 3.354 | 0.0421 | 0.0372 | 0.0393 |
| Run 3 | 3.632 | 3.589 | 0.0365 | 0.0351 | 0.0359 |
| Mean | 3.420 | 3.504 | 0.0373 | 0.0381 | 0.0385 |
| Std Dev | 0.2150 | 0.1305 | 0.0045 | 0.0034 | 0.0023 |
| %SD | 6.285 | 3.723 | 12.04 | 8.985 | 5.913 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 107.2 | 102.5 | 86.51 |
| " 2 | 108.1 | 104.2 | 89.60 |
| Run 3 | 104.4 | 101.3 | 88.22 |
| Mean | 106.6 | 102.7 | 88.11 |
| Std Dev | 1.899 | 1.466 | 1.548 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #24
First repeat started at : Fri Mar 1 2002 14:31:27
Last repeat started at : Fri Mar 1 2002 14:32:26
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

See Dilution 3/1/02

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2886 | 1.204 | 708.9 | 5.621 | 9.698 | 8.652 | 4.078 |
| Run 2 | 0.2941 | 1.300 | 678.1 | 6.235 | 10.50 | 9.099 | 3.902 |
| Run 3 | 0.2956 | 1.214 | 680.6 | 6.385 | 10.04 | 8.269 | 4.079 |
| Mean | 0.2928 | 1.239 | 689.2 | 6.083 | 10.08 | 8.673 | 4.020 |
| Std Dev | 0.0037 | 0.0529 | 16.96 | 0.4085 | 0.4003 | 0.4157 | 0.1015 |
| %SD | 1.266 | 4.265 | 2.461 | 6.716 | 3.971 | 4.793 | 2.534 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.5287 | 10.94 | 0.5920 | 2.598 | 2.372 | 2.483 |
| Run 2 | 0.7381 | 10.97 | 0.2826 | 2.601 | 2.556 | 2.521 |
| Run 3 | 0.6347 | 10.29 | 1.332 | 2.561 | 2.363 | 2.423 |
| Mean | 0.6305 | 10.74 | 0.7375 | 2.587 | 2.430 | 2.476 |
| Std Dev | 0.0998 | 0.3855 | 0.5425 | 0.0223 | 0.1087 | 0.0495 |
| %SD | 15.82 | 3.591 | 73.56 | 0.8636 | 4.474 | 1.999 |

1183-5
1/2

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0284 | 0.0423 | 0.0751 | 0.0288 | 0.0629 | 106.3 |
| Run 2 | 0.0551 | 0.0475 | 0.0928 | 0.0553 | 0.0498 | 108.2 |
| Run 3 | 0.0437 | 0.0543 | 0.0766 | 0.0617 | 0.0468 | 104.6 |
| Mean | 0.0424 | 0.0480 | 0.0815 | 0.0486 | 0.0528 | 106.4 |
| Std Dev | 0.0134 | 0.0060 | 0.0098 | 0.0174 | 0.0088 | 1.793 |
| %SD | 31.69 | 12.55 | 12.03 | 35.89 | 16.63 | 1.686 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 102.4 | 107.3 | 0.1372 | 0.1396 | 0.1322 |
| Run 2 | 106.5 | 104.0 | 0.1214 | 0.1309 | 0.1285 |
| Run 3 | 98.07 | 98.63 | 0.1175 | 0.1191 | 0.1213 |
| Mean | 102.3 | 103.3 | 0.1254 | 0.1299 | 0.1273 |
| Std Dev | 4.205 | 4.366 | 0.0104 | 0.0103 | 0.0055 |
| %SD | 4.110 | 4.226 | 8.292 | 7.929 | 4.343 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 93.84 | 79.39 | 72.71 |
| Run 2 | 97.46 | 80.13 | 73.32 |
| Run 3 | 97.81 | 85.21 | 76.17 |
| Mean | 96.37 | 81.58 | 74.07 |
| Std Dev | 2.200 | 3.167 | 1.846 |

FQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #25
First repeat started at : Fri Mar 1 2002 14:33:05
Last repeat started at : Fri Mar 1 2002 14:34:04
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0943 | 0.4328 | 95.17 | 1.373 | 1.252 | 1.420 | 0.4455 |
| Run 2 | 0.0771 | 0.3478 | 96.32 | 1.132 | 1.279 | 1.242 | 0.2675 |
| Run 3 | 0.0783 | 0.3253 | 96.34 | 1.037 | 1.116 | 1.295 | 0.4103 |
| Mean | 0.0832 | 0.3687 | 95.94 | 1.147 | 1.215 | 1.319 | 0.3757 |
| Std Dev | 0.0096 | 0.0567 | 0.6670 | 0.1179 | 0.0874 | 0.0911 | 0.0957 |
| %SD | 11.53 | 15.37 | 0.6952 | 10.28 | 7.188 | 6.906 | 25.46 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2027 | 9.456 | 0.5428 | 0.3134 | 0.2683 | 0.2801 |
| Run 2 | 0.2710 | 8.572 | -0.2766 | 0.3296 | 0.2448 | 0.2475 |
| Run 3 | 0.2088 | 9.335 | -0.3017 | 0.2535 | 0.2482 | 0.2757 |
| Mean | 0.2275 | 9.121 | -0.0113 | 0.2955 | 0.2538 | 0.2684 |
| Std Dev | 0.0378 | 0.4791 | 0.4202 | 0.0405 | 0.0127 | 0.0165 |
| %SD | 16.61 | 5.252 | 4079 | 13.56 | 4.991 | 6.165 |

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0327 | 0.0300 | -0.0164 | -0.0088 | 0.0003 | 10.75 |
| Run 2 | 0.0148 | 0.0240 | 0.0259 | 0.0135 | 0.0059 | 10.43 |
| Run 3 | 0.0193 | 0.0082 | 0.0136 | 0.0219 | 0.0212 | 10.69 |
| Mean | 0.0222 | 0.0207 | 0.0077 | 0.0160 | 0.0091 | 10.63 |
| Std Dev | 0.0093 | 0.0112 | 0.0218 | 0.0164 | 0.0108 | 0.1750 |
| %SD | 41.89 | 54.22 | 282.2 | 164.6 | 118.0 | 1.647 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 11.30 | 11.05 | 0.0298 | 0.0194 | 0.0271 |
| Run 2 | 10.79 | 10.82 | 0.0291 | 0.0204 | 0.0237 |
| Run 3 | 10.74 | 10.87 | 0.0337 | 0.0250 | 0.0276 |
| Mean | 10.94 | 10.91 | 0.0309 | 0.0215 | 0.0261 |
| Std Dev | 0.3110 | 0.1218 | 0.0025 | 0.0030 | 0.0022 |
| %SD | 2.842 | 1.115 | 8.065 | 13.83 | 8.262 |

1183-5
120

00089

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 97.94 | 92.91 | 78.44 |
| Run 2 | 98.24 | 94.44 | 82.82 |
| Run 3 | 96.01 | 92.90 | 83.82 |
| Mean | 97.40 | 93.42 | 81.69 |
| Std Dev | 1.213 | 0.8878 | 2.862 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #26
First repeat started at : Fri Mar 1 2002 14:34:43
Last repeat started at : Fri Mar 1 2002 14:35:44
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0993 | 0.5464 | 120.5 | 0.6546 | 0.5901 | 0.5501 | 0.0602 |
| Run 2 | 0.0678 | 0.4962 | 118.1 | 0.6599 | 0.5243 | 0.5400 | 0.2377 |
| Run 3 | 0.0465 | 0.4592 | 119.4 | 0.6454 | 0.7895 | 0.5216 | 0.2554 |
| Mean | 0.0712 | 0.5006 | 119.3 | 0.6534 | 0.6346 | 0.5372 | 0.1844 |
| Std Dev | 0.0266 | 0.0438 | 1.247 | 0.0074 | 0.1381 | 0.0144 | 0.1080 |
| %SD | 37.31 | 8.740 | 1.045 | 1.128 | 21.75 | 2.684 | 58.54 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.8404 | 9.166 | -1.010 | 0.7772 | 0.8181 | 0.7312 |
| Run 2 | 0.5049 | 9.591 | -0.4491 | 0.7512 | 0.7323 | 0.7028 |
| Run 3 | 0.7314 | 8.322 | -0.1543 | 0.7691 | 0.7109 | 0.7247 |
| Mean | 0.6922 | 9.033 | -0.5377 | 0.7659 | 0.7538 | 0.7195 |
| Std Dev | 0.1712 | 0.6480 | 0.4345 | 0.0133 | 0.0567 | 0.0149 |
| %SD | 24.73 | 7.174 | 80.81 | 1.738 | 7.528 | 2.068 |

1169.14
1120

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0072 | 0.0102 | 0.0094 | 0.0026 | 0.0074 | 1.960 |
| Run 2 | 0.0144 | 0.0114 | -0.0102 | 0.0072 | 0.0163 | 1.859 |
| Run 3 | 0.0115 | 0.0191 | -0.0091 | -0.0126 | 0.0052 | 1.740 |
| Mean | 0.0110 | 0.0136 | -0.0033 | -0.0009 | 0.0096 | 1.853 |
| Std Dev | 0.0036 | 0.0048 | 0.0110 | 0.0104 | 0.0059 | 0.1102 |
| %SD | 33.04 | 35.66 | 334.9 | 1146 | 61.23 | 5.945 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 1.835 | 1.839 | 0.0215 | 0.0191 | 0.0255 |
| Run 2 | 1.866 | 1.777 | 0.0289 | 0.0233 | 0.0249 |
| 3 | 1.667 | 1.842 | 0.0218 | 0.0166 | 0.0241 |
| Mean | 1.789 | 1.819 | 0.0241 | 0.0196 | 0.0249 |
| Std Dev | 0.1071 | 0.0368 | 0.0042 | 0.0034 | 0.0007 |
| %SD | 5.984 | 2.024 | 17.46 | 17.23 | 2.824 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 100.6 | 95.16 | 83.64 |
| Run 2 | 101.0 | 96.96 | 83.22 |
| Run 3 | 100.3 | 95.52 | 85.35 |
| Mean | 100.6 | 95.88 | 84.07 |
| Std Dev | 0.3196 | 0.9516 | 1.128 |

PQ-S #971114 Operator: Greg Jasper KA0109961

Multi-Element Concentrations Fri Mar 1 2002
Statistics for Concentration Determination.
Experiment name : 030102A
Analysis procedure : EPA Method 6020/200.8
Sample name : Sample #27
First repeat started at : Fri Mar 1 2002 14:36:43
Last repeat started at : Fri Mar 1 2002 14:37:44
Interference Equations : DEFAULT
Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn 67 | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 24.75 | 24.60 | 24.30 | 24.21 | 24.23 | 23.16 | 24.55 |
| Run 2 | 24.80 | 24.63 | 24.61 | 23.39 | 24.62 | 23.91 | 23.92 |
| Run 3 | 24.72 | 25.09 | 24.31 | 24.44 | 24.49 | 23.04 | 22.71 |
| Mean | 24.76 | 24.77 | 24.41 | 24.01 | 24.45 | 23.37 | 23.72 |
| Std Dev | 0.0404 | 0.2762 | 0.1735 | 0.5517 | 0.1993 | 0.4702 | 0.9350 |
| %SD | 0.1632 | 1.115 | 0.7106 | 2.297 | 0.8152 | 2.012 | 3.941 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo 97 | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 22.56 | 32.86 | 24.40 | 24.99 | 25.01 | 25.38 |
| Run 2 | 23.29 | 32.13 | 25.15 | 24.91 | 26.27 | 24.84 |
| Run 3 | 23.74 | 31.91 | 21.66 | 25.55 | 26.19 | 25.17 |
| Mean | 23.19 | 32.30 | 23.74 | 25.15 | 25.82 | 25.13 |
| Std Dev | 0.5964 | 0.4955 | 1.840 | 0.3515 | 0.7086 | 0.2705 |
| %SD | 2.572 | 1.534 | 7.751 | 1.399 | 2.744 | 1.078 |

CCV-3
MS1-24-B

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd 114 | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 25.88 | 25.55 | 24.39 | 23.85 | 23.92 | 25.18 |
| Run 2 | 26.31 | 25.76 | 24.33 | 24.19 | 24.17 | 25.38 |
| Run 3 | 26.29 | 25.97 | 24.89 | 24.00 | 23.91 | 25.84 |
| Mean | 26.16 | 25.76 | 24.54 | 24.01 | 24.00 | 25.47 |
| Std Dev | 0.2398 | 0.2086 | 0.3044 | 0.1710 | 0.1476 | 0.3379 |
| %SD | 0.9169 | 0.8098 | 1.241 | 0.7121 | 0.6151 | 1.327 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb 208 |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | 24.52 | 25.45 | 25.16 | 24.06 | 25.44 |
| Run 2 | 24.77 | 25.28 | 23.92 | 23.93 | 23.64 |
| 3 | 24.95 | 26.36 | 23.72 | 24.93 | 24.71 |
| Mean | 24.74 | 25.70 | 24.27 | 24.31 | 24.60 |
| Std Dev | 0.2112 | 0.5807 | 0.7778 | 0.5455 | 0.9035 |
| %SD | 0.8533 | 2.259 | 3.205 | 2.244 | 3.673 |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 95.90 | 94.42 | 81.19 |
| Run 2 | 93.19 | 88.59 | 82.17 |
| Run 3 | 91.59 | 87.63 | 79.76 |
| Mean | 93.56 | 90.22 | 81.04 |
| Std Dev | 2.182 | 3.672 | 1.210 |

PQ-S #971114 Operator: Greg Jasper [illegible]109961

Multi-Element Concentrations Fri [illegible] 1 2002

Statistics for Concentration Determination.

Experiment name : 030102A

Analysis procedure : EPA Method 6020/20[illegible]

Sample name : Sample #28

First repeat started at : Fri Mar 1 2002 14:[illegible]:53

Last repeat started at : Fri Mar 1 2002 14:[illegible]:54

Interference Equations : DEFAULT

Dilution Factor : 1.0000 Concentration units : ppb

| Element | Chromium | Chromium | Manganese | Zinc | Zinc | Zinc | Arsenic |
|---|---|---|---|---|---|---|---|
| Isotope | Cr 52 | Cr 53 | Mn 55 | Zn 66 | Zn [illegible] | Zn 68 | As 75 |
| Detector | PC | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0120 | 0.0068 | 0.0241 | 0.0424 | [illegible] | 0.0346 | -0.2050 |
| Run 2 | 0.0258 | 0.0014 | 0.0264 | 0.0607 | [illegible] | 0.0184 | -0.1729 |
| Run 3 | 0.0268 | -0.0326 | 0.0375 | 0.0667 | [illegible] | 0.0328 | -0.1106 |
| Mean | 0.0215 | -0.0081 | 0.0293 | 0.0566 | [illegible] | 0.0286 | -0.1628 |
| Std Dev | 0.0083 | 0.0214 | 0.0072 | 0.0126 | [illegible] | 0.0089 | 0.0480 |
| %SD | 38.48 | 263.4 | 24.53 | 22.33 | 58[illegible] | 31.01 | 29.45 |

| Element | Selenium | Selenium | Selenium | Molybdenum | Molybdenum | Molybdenum |
|---|---|---|---|---|---|---|
| Isotope | Se 77 | Se 78 | Se 82 | Mo 95 | Mo [illegible] | Mo 98 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.2101 | 4.644 | -0.8105 | 0.0032 | [illegible] | 0.0076 |
| Run 2 | -0.0184 | 4.487 | -0.8110 | 0.0125 | [illegible] | -0.0071 |
| Run 3 | 0.0913 | 3.756 | -0.4942 | 0.0146 | [illegible] | -0.0026 |
| Mean | 0.0943 | 4.296 | -0.7052 | 0.0101 | [illegible] | -0.0007 |
| Std Dev | 0.1143 | 0.4742 | 0.1828 | 0.0061 | [illegible] | 0.0075 |
| %SD | 121.1 | 11.04 | 25.91 | 60.41 | [illegible] | 1091 |

CLB-3

| Element | Silver | Silver | Cadmium | Cadmium | Cadmium | Barium |
|---|---|---|---|---|---|---|
| Isotope | Ag 107 | Ag 109 | Cd 111 | Cd 112 | Cd [illegible] | Ba 135 |
| Detector | PC | PC | PC | PC | PC | PC |
| Run 1 | 0.0075 | -0.0100 | 0.0031 | -0.0066 | [illegible] | -0.0075 |
| Run 2 | -0.0044 | -0.0038 | -0.0128 | 0.0054 | [illegible] | 0.0048 |
| Run 3 | -0.0007 | -0.0060 | -0.0010 | -0.0165 | [illegible] | 0.0189 |
| Mean | 0.0008 | -0.0066 | -0.0035 | -0.0059 | [illegible] | 0.0054 |
| Std Dev | 0.0061 | 0.0032 | 0.0083 | 0.0110 | [illegible] | 0.0132 |
| %SD | 757.5 | 48.27 | 233.3 | 185.5 | [illegible] | 245.3 |

| Element | Barium | Barium | Lead | Lead | Lead |
|---|---|---|---|---|---|
| Isotope | Ba 137 | Ba 138 | Pb 206 | Pb 207 | Pb [illegible] |
| Detector | PC | PC | PC | PC | PC |
| Run 1 | -0.0026 | 0.0001 | 0.0026 | -0.0001 | [illegible] |
| Run 2 | 0.0018 | 0.0028 | 0.0057 | 0.0004 | [illegible] |
| Run 3 | 0.0052 | 0.0022 | 0.0017 | -0.0002 | [illegible] |
| Mean | 0.0015 | 0.0017 | 0.0034 | 0.0000 | [illegible] |
| Std Dev | 0.0039 | 0.0014 | 0.0021 | 0.0003 | [illegible] |
| %SD | 265.3 | 82.86 | 61.98 | 4385 | [illegible] |

Internal Standard Drift; % relative to mean of first sample :

| Element | Scandium | Indium | Lutetium |
|---|---|---|---|
| Isotope | Sc 45 | In 115 | Lu 175 |
| Detector | PC | PC | PC |
| Run 1 | 91.27 | 91.34 | 85.37 |
| Run 2 | 90.61 | 89.36 | 81.67 |
| Run 3 | 90.97 | 92.63 | 82.33 |
| Mean | 90.95 | 91.11 | 83.12 |
| Std Dev | 0.3304 | 1.647 | 1.975 |