NOTICE:

"BEST AVAILABLE COPY"

PORTIONS OF THE FOLLOWING DOCUMENT ARE ILLEGIBLE

The Administrative Record Staff

FINAL

INTERIM REMEDIAL ACTION BENCH SCALE TREATABILITY STUDY REPORT
VOLUME V
LABORATORY REPORTS
METALS ANALYSIS

903 Pad, Mound, and
East Trenches Areas
(South Walnut Creek)

Operable Unit No 2

Environmental Restoration Program

May 22, 1992

U S DEPARTMENT OF ENERGY
Rocky Flats Plant
Golden, Colorado

REVIEWED FOR CLASSIFICATION/UCNI
By
Date June 30, 1992
8/19/92

22558/R7 TS 05 18-92/RPT/2

ADMIN RECORD

A-OU02-000372

FINAL

INTERIM REMEDIAL ACTION BENCH SCALE TREATABILITY STUDY REPORT

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By
Date June 30, 1992
8/19/92

22558/R7 TS 05-18 92/RPT/2

ADMIN RECORD

Federal Express 9295313296

February 4, 1991

RECEIVED
FEB 1 5 1991
WCC/DENVER, COLORADO

TMA/NORCAL
7030 Wright Avenue
Richmond, CA 94801-0040

Attention: Dan Stuermer

Quality Control Narrative

Scope

Twenty (20) water samples were submitted to TMA/Skinner & Sherman Labs from TMA/Norcal. The samples were taken by Woodward-Clyde Consultants on December 11, 1990 under Project Number 22558, Task 500. The client requested that the samples be analyzed for the USEPA CLP Target Analyte List metals. The analysis were performed under Skinner and Sherman work order 9012105.

Methodology

The samples were prepared and analyzed in accordance with the USEPA Contract Laboratory Program Statement of Work 7/88 (CLP SOW788), Exhibit D. The data is reported in accordance with CLP SOW788, Exhibit B. Quality control requirements are specified in Exhibit E of the SOW788.

Discussion

All quality control requirements were met for the samples with the following exceptions.

The thallium matrix spike recovery was below the control limit. This may be the result of matrix interferences (e.g. calcium). The ICP serial dilution for barium did not meet control limit requirements.

The "W" flags for the furnace elements indicate the possiblity of matrix interferences.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES

Richard Purdy
Contract Laboratory Program
Program Manager

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This report is rendered upon all of the following conditions Skinner & Sherman Laboratories, Inc. retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted. before the analysis Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.
300 Second Avenue, P O Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

TMA/SKINNER AND SHERMAN LABORATORIES, INC.
RAS INORGANIC COMPLETENESS CHECKLIST

CASE NUMBER: _____ SDG NUMBER: 10501 WORK ORDER NUMBER: 9012105

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CASE NARRATIVE	✓
METHOD REFERENCES	✓

Approved by: [signature] Date: 2/9/91.

SAMPLE LOG-IN SKINNER & SHERMAN LABORATORIES

SAMPLE CUSTODIAN A. Benney
CUSTODY SEAL present / absent
intact / not
CHAIN OF CUSTODY present / absent
021, 022

TAGS - present / absent
TAG # listed / not listed
TRAFFIC REPORTS - present / absent
SAMPLE CONTAINERS - intact / broken (comment)

INORG PREP 12/28/90 (Fri)
CN DIST (9) NO CN
TRAACS (12)
MERCURY (14) 12/26/90 (Wed)
ICP/AA (17) 12/31/90 (Mon)

MAIL OUT DP (20) 01/02/90 (Wed)

SAMPLE TEMP 4°C
SAMPLE DELIVERY GROUP (SDG #) N/A

CASE and/or SAS # Woodward Clyde
AIRBILL NUMBER # Fedex

SMO CONTACT Dan Streumer
Do tags agree with samples? yes / no (comment)
Do samples agree with TRS? yes / no (comment)
Do tags agree with TRS? yes / no (comment)
Do TRS agree with COC? yes / no (comment)
Do shipped samples agree with booked? yes / no
NA

SAMPLE IDENTIFICATION (SMO #)	(SAM #)	MATRIX WATER/SOIL	DATE RECEIVED	TESTS REQUIRED	QC REQ'D also Specify if a blank	TAG # if not on COC	COMMENT
1 04WC1006	9012105 01	WATER	12/11/90	TM	DS	–	O.K.
2 30CPF1001	02						
3 1002	03						
4 1003	04						
5 1004	05						
6 1005	06						
7 1006	07						
8 1007	08						
9 32CPF1008	09						
10 1009	10						
11 2010	11						
12 2011	12						
13 1012	13						
14 1013	14						
15 1014	15						
16 1015	16						
17 1016	17						
18 1017	18						
19 1018	19						
20 1019	20						

COMPLETE 2/12/90 AB

WOODWARD-CLYDE CONSULTANTS
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name SKINNER & SHERMAN LABS Contract. 68-D9-0088

Lab Code SKINER Case No 22558 SAS No. SDG No 10501

SOW No . 7/88

SAMPLE NUMBER	Lab Sample ID.
10501	12105-01S
10501D	12105-01S2
10501S	12105-01DS
10502	12105-02S
10503	12105-03S
10504	12105-04S
10505	12105-05S
10506	12105-06S
10507	12105-07S
10508	12105-08S
10509	12105-09S
10510	12105-10S
10511	12105-11S
10512	12105-12S
10513	12105-13S
10514	12105-14S
10515	12105-15S
10516	12105-16S
10517	12105-17S
10518	12105-18S

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:
BECAUSE OF CLP REPORTING CONSTRAINTS HAVE BEEN CHANGED. THE ACTUAL SAMPLE NUMBERS APPEAR IN THE COMMENTS SECTION OF THE FORM I.

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Richard P. Purdy

Date: Title: CLP Program Manager

WOODWARD-CLYDE CONSULTANTS
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name. SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code SKINER Case No 22558 SAS No SDG No 10501

SOW No. 7/88

SAMPLE NUMBER	Lab Sample ID
10519	12105-19S
10520	12105-20S

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:
BECAUSE OF CLP REPORTING CONSTRAINTS HAVE BEEN CHANGED. THE ACTUAL SAMPLE NUMBERS APPEAR IN THE COMMENTS SECTION OF THE FORM I.

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Richard P. Purdy

Date: Title: CLP Program Manager

FedEx Express

QUESTIONS? CALL 800 238 5355 TOLL FREE

PACKAGE TRACKING NUMBER 9727723176

9727723176

RECIPIENT'S COPY

Date 12/11/90

1 From (Your Name) Please Print: [illegible] Your Phone Number (Very important): (303) 277 1521
Company: Woodward-Clyde Federal Services
Department/Floor No.
Street Address: 1801 Tyler St
City: Golden State: CO ZIP Required: 80401

2 To (Recipient's Name) Please Print: Jack Boyce Recipient's Phone Number (Very important): (617) 890-
Company: Tilli-Skinner/Sherman
Department/F
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip + Codes.): 300 Second Ave
City: Waltham State: Mass ZIP Required: 02451

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.): 11 90 - 500

H IF HOLD FOR PICK-UP Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight Service (Delivery by next business morning)
11 [X] YOUR PACKAGING
16 [ ] FEDEX LETTER
12 [ ] FEDEX PAK
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight Service (Delivery by next business afternoon)
51 [ ]
56 [ ] FEDEX LETTER
52 [ ] FEDEX PAK
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day Service (formerly Standard Air) (Delivery by second business day)
30 [ ] ECONOMY TWO-DAY SVC

Heavyweight Service (for Extra Large or any package over 150 lbs.)
70 [ ] HEAVYWEIGHT
[illegible] HEAVYWEIGHT

DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP
2 [X] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY
4 [ ] DANGEROUS GOODS
5 [ ]
6 [ ] DRY ICE
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP
10 [ ]
11 [ ]
12 [ ] HOURLY DELIVERY

PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE
2	62	6000
Total 2	Total 62	Total 6000

DIM SHIPMENT (Chargeable Weight)

Received At: 1 [ ] Regular Stop 3 [ ] Drop Box

FedEx Emp. No.

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Dist. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X Theta Berry
Date/Time Received 12/11/90 7:30 FedEx Employee Number

5 Release Signature
Date/Time

Federal Express
Base Charges
Declared Value C
Other 1
Other 2
Total Charges

REVISION DATE 8/90
PART #119500 GBF
FORMAT #041
041

AIRBILL PACKAGE TRACKING NUMBER 9727723143

FedEx Express

QUESTIONS? CALL 800-238-5355 TOLL FREE

9727723143

RECIPIENT'S COPY

Date 12/11/90

1 From (Your Name) Please Print: [illegible] Your Phone Number (Very important): [illegible]
Company: Woodward-Clyde Federal Services
Department/Floor No.
Street Address: 1801 Tyler St
City: Golden State: CO ZIP Required: 80401

2 To (Recipient's Name) Please Print: Jack Boyce Recipient's Phone Number (Very in): (617) 890-
Company: Tilli-Skinner/Sherman
Department/F
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip + Codes.): 300 Second Ave
City: Waltham State: Mass ZIP Required: 02451

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.): 11 90 - 500

H IF HOLD FOR PICK UP Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight Service (Delivery by next business morning)
11 [X] YOUR PACKAGING
16 [ ] FEDEX LETTER
12 [ ] FEDEX PAK
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight Service (Delivery by next business afternoon)
51 [ ]
56 [ ] FEDEX LETTER
52 [ ] FEDEX PAK
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two Day Service (formerly Standard Air) (Delivery by second business day)
30 [ ] ECONOMY TWO DAY

Heavyweight Service (for Extra Large or any package over 150 lbs.)
[ ] HEAVYWEIGHT
[ ] HEAVYWEIGHT

DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK UP
2 [X] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY
4 [ ] DANGEROUS GOODS
5 [ ] DRY ICE
6 [ ] OTHER SPECIAL SERVICE
8 [ ]
[ ] SATURDAY PICK-UP
[ ]
[ ]
[ ]

PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE
1	21	2000
Total 1	Total	Total

DIM SHIPMENT

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Dist. [ ] Chg. To Hold
Street Address
City State Z
Received By: X Theta Berry
Date/Time Received 12/12/90 FedEx Employee Number 930

5 Release Signature

Base Charges

REVISION DATE 8/90
FORMAT # 4
041

→ See Sample # 03CWC1005, COC # 015 AT TMA/NORCAL For Rad Assay ←

Woodward-Clyde Consultants
Stanford Place 3 Suite 1000 4582 South Ulster Street Parkway
Denver Colorado 80237 (303) 694-2770

Chain of Custody Record
COC # 021

PROJECT NO. 22558 Task 500

SAMPLERS: (Signature) T. W. Lynch, R. Jordan

DATE	TIME	SAMPLE NUMBER	Metals	Wet Chem*	NO_3/NO_2					NUMBER OF CONTAINERS
12/7/90	1000	04CWC1006	X	X	X					3
	1230	30CPF1001	X	X	X					3
	1400	30CPF1002	X	X	X					3
	1500	30CPF1003	X	X	X					3
	1400	30CPF1004	X	X	X					3
	1500	30CPF1005	X	X	X					3
	1400	30CPF1006	X	X	X					3
	1500	30CPF1007	X	X	X					3
12/10/90	0945	32CPF1008	X	X	X					3
	1045	32CPF1009	X	X	X					3
	0945	32CPF2010	X	X	X					3
	1045	32CPF2011	X	X	X					3
	0945	32CPF1012	X	X	X					3
	1045	32CPF1013	X	X	X					3

BE Clow 12/10/90

TOTAL NUMBER OF CONTAINERS 42

REMARKS (Sample preservation handling procedures etc.)
For TMA-Skinner/Sherman

Matrix – Water

All samples stored on ice.

*Wet Chem: Cl⁻, F⁻, Carb./Bicarb., pH, Sulfate, TDS, TSS, Cond.

– Metals preserved w/ HNO_3 to pH<2
– NO_3/NO_2 Preserved w/ H_2SO_4 to pH<2

Contact personnel
Brian Clow
(303) 279-4501 x 205

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
BE Clow	12/10/90 1730				

METHOD OF SHIPMENT	SHIPPED BY (Signature)	COURIER (Signature)	RECEIVED FOR LAB BY (Signature)	DATE/TIME
			A. L. Berry	12/11 9:30

→ See Sample # OHCWC1006, CCC #020 → TMA-NORCAL For Rad Assay

Woodward-Clyde Consultants
Stanford Place 3 Suite 1000 4582 South Ulster Street Parkway
Denver Colorado 80237 (303) 694 2770

Chain of Custody Record
CCC # 022

PROJECT NO. 22558 Task 500

SAMPLERS: (Signature) B.W. Lynch, R.G. Tuttle

DATE	TIME	SAMPLE NUMBER	Metals	Wet Chem*	NO_3/NO_2					NUMBER OF CONTAINERS
12/10/90	1215	32CPF1014	X	X	X					3
	1315	32CPF1015	X	X	X					3
	1215	32CPF1016	X	X	X					3
	1315	32CPF1017	X	X	X					3
	1100	32CPF1018	X	X	X					3
	1215	32CPF1019	X	X	X					3
	1315	32CPF1020	X	X	X					3
	1500	32CPF1021	X	X	X					3
	1530	32CPF1022	X	X	X					3
	1500	32CPF1023	X	X	X					3
	1530	32CPF1024	X	X	X					3
	1500	34CPF1025	X	X	X					3
	1530	34CPF1026	X	X	X					3

BZ Clow 12/10/90

TOTAL NUMBER OF CONTAINERS 39

REMARKS (Sample preservation handling procedures etc.)
For TMA - Skinner/Shermc

Matrix - Water

All samples stored on ice.

*Wet Chem: Cl⁻, F⁻, Carb/Bicarb, pH, Sulfate, TDS, TSS, Cond.

- Metals Preserved w/ HNO_3 to pH<2
- NO_3/NO_2 Preserved w/ H_2SO_4 to pH<2

Contact personnel: Brian Clow (303) 279-4501 x205

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
BZ Clow	12/10/1730				

METHOD OF SHIPMENT	SHIPPED BY (Signature)	COURIER (Signature)	RECEIVED FOR LAB BY (Signature)	DATE/TIME
			Anita Berry	12/11 9:30

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P O Box 4040
Richmond CA 94804 0040

(415) 235-2633 Fax No (415) 235-0438

December 12, 1990

Antonia Benney
TMA/Skinner & Sherman
300 Second Ave.
P.O. Box 521
Waltham MA 02254-0521

Dear Antonia

The samples you received 12/11/90 from Woodward Clyde on COC's 21, 22 and 23 are part of the same set of samples covered on the earlier Mixed Waste Work Plan for this project and can be handled similarly.

Sincerely

David Rodgers

David Rodgers

Radiation Safety Officer

cc: D Stuermer (Norcal)

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10501

Lab Name SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code SKINER Case No. 22558 SAS No SDG No 10501

Matrix (soil/water) WATER Lab Sample ID. 12105-01S

Level (low/med) LOW Date Received. 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight) UG/L

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.80	B		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	5.30	B	W	F
7440-39-3	Barium	245 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	140000.00			P
7440-47-3	Chromium	4 00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	4.30	B		P
7439-89-6	Iron	40.00	B		P
7439-92-1	Lead	2 60	B	W	F
7439-95-4	Magnesium	36200.00			P
7439-96-5	Manganese	6.40	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	1980.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	46600.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	328.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before. CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

04CWC1006

000003

FORM I - IN 7/88

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10502

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code. SKINER Case No.. 22558 SAS No.. SDG No.. 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-02S

Level (low/med). LOW Date Received. 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight). UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.50	B		F
7440-39-3	Barium	231.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	131000.00			P
7440-47-3	Chromium	4 00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.20	B		P
7439-89-6	Iron	21.30	B		P
7439-92-1	Lead	2 70	B		F
7439-95-4	Magnesium	33400.00			P
7439-96-5	Manganese	12.80	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2130.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38800.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	325.00			P
	Cyanide				NR

Color Before COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments·

30CPF1001

000004

WOODWARD-CLYDE CONSULTANTS

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER

10503

Lab Name SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.. SDG No.: 10501

Matrix (soil/water). WATER Lab Sample ID: 12105-03S

Level (low/med) LOW Date Received: 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	231.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	130000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.00	U		P
7439-89-6	Iron	21.30	B		P
7439-92-1	Lead	2.50	B		F
7439-95-4	Magnesium	33200.00			P
7439-96-5	Manganese	12.80	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2070.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38600.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	334.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

30CPF1002

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10504

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code SKINER Case No 22558 SAS No . SDG No.: 10501

Matrix (soil/water)· WATER Lab Sample ID: 12105-04S

Level (low/med). LOW Date Received 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	226.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	129000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	3.70	B		P
7439-89-6	Iron	19.60	B		P
7439-92-1	Lead	1.60	B		F
7439-95-4	Magnesium	32700.00			P
7439-96-5	Manganese	13.30	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2060.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38000.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	5.00	B		P
7440-66-6	Zinc	308.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before· CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

30CPF1003

000006

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10505

Lab Name SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code SKINER Case No. 22558 SAS No SDG No . 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-05S

Level (low/med) LOW Date Received: 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	114.00	B		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.20	B		F
7440-39-3	Barium	232.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	132000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	2.50	B		P
7439-89-6	Iron	349.00			P
7439-92-1	Lead	3.00	B		F
7439-95-4	Magnesium	33500.00			P
7439-96-5	Manganese	13.80	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2050.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	39000.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	5.50	B		P
7440-66-6	Zinc	327.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

30CPF1004

C09007

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10506

Lab Name: SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code SKINER Case No 22558 SAS No SDG No . 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-06S

Level (low/med) LOW Date Received 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	25 70	B		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	244 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	2.00	B		P
7440-70-2	Calcium	141000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.20	B		P
7439-89-6	Iron	17.90	B		P
7439-92-1	Lead	4.70			F
7439-95-4	Magnesium	35400.00			P
7439-96-5	Manganese	14.10	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2210.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	41000.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	4.40	B		P
7440-66-6	Zinc	332.00			P
	Cyanide				NR

Color Before. COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

30CPF1005

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10507

Lab Name. SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code. SKINER Case No 22558 SAS No SDG No.. 10501

Matrix (soil/water). WATER Lab Sample ID: 12105-07S

Level (low/med) LOW Date Received· 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.30	B		F
7440-39-3	Barium	231 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	132000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.00	U		P
7439-89-6	Iron	35.40	B		P
7439-92-1	Lead	3.60			F
7439-95-4	Magnesium	33200.00			P
7439-96-5	Manganese	12.50	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2130.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38200.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.90	B		P
7440-66-6	Zinc	338.00			P
	Cyanide				NR

Color Before· COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After· CLEAR Artifacts:

Comments:

30CPF1006

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WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10508

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No . SDG No.: 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-08S

Level (low/med) LOW Date Received· 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	46.60	B		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.50	B		F
7440-39-3	Barium	231.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	133000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2 00	U		P
7440-50-8	Copper	1 20	B		P
7439-89-6	Iron	57.10	B		P
7439-92-1	Lead	3.20			F
7439-95-4	Magnesium	33500.00			P
7439-96-5	Manganese	14.10	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2170.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38600.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.30	B		P
7440-66-6	Zinc	318.00			P
	Cyanide				NR

Color Before. COLORLESS Clarity Before: CLEAR Texture:

Color After. COLORLESS Clarity After: CLEAR Artifacts:

Comments:

30CPF1007

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WOODWARD-CLYDE CONSULTANTS

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER

10509

Lab Name SKINNER & SHERMAN LABS Contract. 68-D9-0088

Lab Code· SKINER Case No.. 22558 SAS No.· SDG No . 10501

Matrix (soil/water) WATER Lab Sample ID. 12105-09S

Level (low/med) LOW Date Received 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight)· UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29 10	B		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	229.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	131000.00			P
7440-47-3	Chromium	4.50	B		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	11.30	B		P
7439-89-6	Iron	1350.00			P
7439-92-1	Lead	6.70		W	F
7439-95-4	Magnesium	33200.00			P
7439-96-5	Manganese	17.10			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2100.00	B		P
7782-49-2	Selenium	3.00	U		F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38200.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	4.30	B		P
7440-66-6	Zinc	324.00			P
	Cyanide				NR

Color Before· COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments.

32CPR1008

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WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10510

Lab Name. SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code· SKINER Case No · 22558 SAS No.· SDG No . 10501

Matrix (soil/water) WATER Lab Sample ID 12105-10S

Level (low/med). LOW Date Received: 12/11/90

% Solids 0.0

Concentration Units (ug/L or mg/Kg dry weight). UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.30	B		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	227.00		E	P
7440-41-7	Beryllium	1 00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	133000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.80	B		P
7439-89-6	Iron	20.80	B		P
7439-92-1	Lead	3.00	B		F
7439-95-4	Magnesium	33500.00			P
7439-96-5	Manganese	17.60			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2180.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38600.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	4.40	B		P
7440-66-6	Zinc	291.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before. CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments.

32CPF1009

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10511

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code. SKINER Case No.. 22558 SAS No : SDG No.. 10501

Matrix (soil/water) WATER Lab Sample ID· 12105-11S

Level (low/med) LOW Date Received· 12/11/90

% Solids 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	99.60	B		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.10	B	W	F
7440-39-3	Barium	225 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	128000.00			P
7440-47-3	Chromium	4 00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1 00	U		P
7439-89-6	Iron	1040.00			P
7439-92-1	Lead	3.80			F
7439-95-4	Magnesium	32600.00			P
7439-96-5	Manganese	17.10			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2540.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	37600.00			P
7440-28-0	Thallium	3.00	U	·NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	330.00			P
	Cyanide				NR

Color Before. COLORLESS Clarity Before CLEAR Texture:

Color After: COLORLESS Clarity After· CLEAR Artifacts:

Comments.

32CPF2010

000013

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10512

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code SKINER Case No 22558 SAS No SDG No . 10501

Matrix (soil/water) WATER Lab Sample ID 12105-12S

Level (low/med) LOW Date Received 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	219 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	126000.00			P
7440-47-3	Chromium	4 00	U		P
7440-48-4	Cobalt	2 00	U		P
7440-50-8	Copper	3 10	B		P
7439-89-6	Iron	20.80	B		P
7439-92-1	Lead	2.10	B	W	F
7439-95-4	Magnesium	32400.00			P
7439-96-5	Manganese	16.90			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2150.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	37300 00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	276.00			P
	Cyanide				NR

Color Before. COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

32CPF2011

WOODWARD-CLYDE CONSULTANTS

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER

10513

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code SKINER Case No 22558 SAS No.. SDG No. 10501

Matrix (soil/water): WATER Lab Sample ID: 12105-13S

Level (low/med) LOW Date Received: 12/11/90

% Solids 0 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	224.00		E	P
7440-41-7	Beryllium	1 00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	127000 00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.30	B		P
7439-89-6	Iron	1020.00			P
7439-92-1	Lead	3.70			F
7439-95-4	Magnesium	32600.00			P
7439-96-5	Manganese	16.40			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2060.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	37700.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	307.00			P
	Cyanide				NR

Color Before· COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After· CLEAR Artifacts:

Comments:

32CRF1012

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10514

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code· SKINER Case No · 22558 SAS No · SDG No. 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-14S

Level (low/med) LOW Date Received: 12/11/90

% Solids· 0.0

Concentration Units (ug/L or mg/Kg dry weight). UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.10	B		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	214 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 10	B		P
7440-70-2	Calcium	123000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	2.50	B		P
7439-89-6	Iron	20.00	B		P
7439-92-1	Lead	54.10			F
7439-95-4	Magnesium	31800.00			P
7439-96-5	Manganese	16.60			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2230.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	36800.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	256.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After. CLEAR Artifacts:

Comments:

32CPF1013

000016

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10515

Lab Name. SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code. SKINER Case No 22558 SAS No SDG No.. 10501

Matrix (soil/water)· WATER Lab Sample ID: 12105-15S

Level (low/med) LOW Date Received. 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	57.80	B		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	227.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	128000.00			P
7440-47-3	Chromium	4 00	U		P
7440-48-4	Cobalt	3.20	B		P
7440-50-8	Copper	10.60	B		P
7439-89-6	Iron	1080.00			P
7439-92-1	Lead	1.90	B		F
7439-95-4	Magnesium	33100.00			P
7439-96-5	Manganese	17.40			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2170.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38600.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	326.00			P
	Cyanide				NR

Color Before. COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments·

32CPF1014

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10516

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code: SKINER Case No 22558 SAS No SDG No 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-16S

Level (low/med) LOW Date Received 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight). UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	33.00	B		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	225 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	129000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2 00	U		P
7440-50-8	Copper	1.80	B		P
7439-89-6	Iron	18.80	B		P
7439-92-1	Lead	40.70			F
7439-95-4	Magnesium	33300.00			P
7439-96-5	Manganese	16.60			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2150.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38700 00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	236.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

32CPF1015

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10517

Lab Name SKINNER & SHERMAN LABS Contract· 68-D9-0088

Lab Code SKINER Case No . 22558 SAS No.. SDG No. 10501

Matrix (soil/water): WATER Lab Sample ID: 12105-17S

Level (low/med) LOW Date Received. 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	224.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	127000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	3.20	B		P
7439-89-6	Iron	1040.00			P
7439-92-1	Lead	4.00			F
7439-95-4	Magnesium	32600.00			P
7439-96-5	Manganese	16.90			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2120.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	37800.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	309.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

32CPF1016

FORM I - IN

COPIES

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10518

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code SKINER Case No 22558 SAS No · SDG No 10501

Matrix (soil/water) WATER Lab Sample ID: 12105-18S

Level (low/med) LOW Date Received. 12/11/90

% Solids 0 0

Concentration Units (ug/L or mg/Kg dry weight) UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	224.00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	130000.00			P
7440-47-3	Chromium	4 00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.00	U		P
7439-89-6	Iron	17.00	U		P
7439-92-1	Lead	4.50			F
7439-95-4	Magnesium	33100 00			P
7439-96-5	Manganese	16.90			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	2100.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	38400.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	244.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After· COLORLESS Clarity After· CLEAR Artifacts:

Comments:

32CPF1017

WOODWARD-CLYDE CONSULTANTS

1

SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10519

Lab Name. SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code SKINER Case No . 22558 SAS No.. SDG No. 10501

Matrix (soil/water). WATER Lab Sample ID: 12105-19S

Level (low/med) LOW Date Received· 12/11/90

% Solids. 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	32.50	B		P
7440-36-0	Antimony	17.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	215 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	126000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.90	B		P
7439-89-6	Iron	37.10	B		P
7439-92-1	Lead	1.70	B		F
7439-95-4	Magnesium	32100.00			P
7439-96-5	Manganese	7.90	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.00	U		P
7440-09-7	Potassium	1780.00	B		P
7782-49-2	Selenium	3.00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	40700.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	290.00			P
	Cyanide				NR

Color Before COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

32CPF1018

WOODWARD-CLYDE CONSULTANTS

1 SAMPLE NUMBER

INORGANIC ANALYSIS DATA SHEET

10520

Lab Name SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code SKINER Case No. 22558 SAS No SDG No : 10501

Matrix (soil/water): WATER Lab Sample ID: 12105-20S

Level (low/med) LOW Date Received. 12/11/90

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.00	U		P
7440-36-0	Antimony	17 00	U		P
7440-38-2	Arsenic	2 00	U		F
7440-39-3	Barium	219 00		E	P
7440-41-7	Beryllium	1.00	U		P
7440-41-7	Cadmium	1 00	U		P
7440-70-2	Calcium	129000.00			P
7440-47-3	Chromium	4.00	U		P
7440-48-4	Cobalt	2.00	U		P
7440-50-8	Copper	1.00	U		P
7439-89-6	Iron	989.00			P
7439-92-1	Lead	1.70	B		F
7439-95-4	Magnesium	32800.00			P
7439-96-5	Manganese	13.00	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4 00	U		P
7440-09-7	Potassium	2840.00	B		P
7782-49-2	Selenium	3 00	U	W	F
7440-22-4	Silver	2.00	U		P
7440-23-5	Sodium	59400.00			P
7440-28-0	Thallium	3.00	U	NW	F
7440-62-2	Vanadium	3.00	U		P
7440-66-6	Zinc	317.00			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before. CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments.

32CPF1019

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WOODWARD-CLYDE CONSULTANTS

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code· SKINER Case No. 22558 SAS No.: SDG No.· 10501

Initial Calibration Source. EPA-LV

Continuing Calibration Source SKINER

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)	M
Aluminum	2172.0	2118.00	97.5	25000.0	24882.00	99 5	25142 00	100.6	P
Antimony	978.0	1008.90	103.2	2500.0	2510 20	100 4	2616 10	104 6	P
Arsenic	47 4	48.45	102.2	50 0	48 58	97.2	50.20	100 4	F
Barium	2041.0	2102.10	103.0	2500.0	2501.20	100.0	2532.50	101 3	P
Beryllium	510.0	501.84	98.4	500.0	511.32	102.3	541 86	108.4	P
[illegible]mium	498.0	499.43	100.3	2500.0	2497.70	99.9	2680 40	107 2	P
[illegible]cium	51519.0	51248.00	99.5	25000 0	25467.00	101.9	27165.00	108.7	P
Chromium	510 0	489 41	96.0	2500.0	2498.00	99.9	2634 20	105 4	P
Cobalt	520.0	505.28	97 2	2500.0	2489.00	99.6	2629.30	105 2	P
Copper	519.0	510.91	98.4	2500.0	2480.30	99.2	2509.40	100 4	P
Iron	2044.0	2076 90	101.6	10000.0	10207.00	102.1	10688.00	106.9	P
Lead	97.5	94.03	96.4	50.0	50.12	100.2	50.42	100 8	F
Magnesium	25745.0	25342.00	98.4	25000.0	24910.00	99.6	25576.00	102.3	P
Manganese	516.0	497.57	96.4	2500.0	2494.00	99.8	2622.30	104.9	P
Mercury	5.0	4.30	86.0	2.0	2.08	104.0	2.15	107 5	CV
Nickel	497.0	495.15	99.6	2500.0	2483.50	99.3	2633.30	105.3	P
Potassium	52068.0	51621.00	99.1	25000 0	24664.00	98.7	24660.00	98.6	P
Selenium	52.6	51.65	98.2	50.0	49.53	99.1	49.57	99 1	F
Silver	500.0	506.02	101.2	500.0	497.89	99.6	508.47	101.7	P
Sodium	51368 0	51503.00	100.3	25000.0	24698.00	98.8	24773.00	99.1	P
Thallium	97 0	93.07	95.9	50 0	51.92	103.8	47.70	95.4	F
Vanadium	507 0	505 68	99.7	2500.0	2510.30	100.4	2622.80	104 9	P
Zinc	3316.0	3289.20	99.2	2500.0	2501.90	100.1	2613.60	104.5	P
Cyanide									NR

(1) Control limits. Mercury 80-120; Other Metals 90-110; Cyanide 85-115

WOODWARD-CLYDE CONSULTANTS

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name SKINNER & SHERMAN LABS Contract 68-D9-0088

Lab Code· SKINER Case No.. 22558 SAS No : SDG No · 10501

Initial Calibration Source EPA-LV

Continuing Calibration Source SKINER

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)	M
Aluminum				25000 0	24538 00	98.2	24228 00	96 9	P
Antimony				2500 0	2530 80	101.2	2529 80	101 2	P
Arsenic				50.0	49 20	98 4	47 96	95 9	F
Barium				2500.0	2488 80	99.6	2468 30	98.7	P
Beryllium				500 0	527 64	105 5	524.48	104 9	P
[illegible]mium				2500 0	2568.90	102.8	2549.30	102 0	P
Calcium				25000.0	26291.00	105.2	26111.00	104.4	P
Chromium				2500 0	2534.90	101.4	2513.90	100.6	P
Cobalt				2500.0	2517.60	100.7	2494 70	99.8	P
Copper				2500.0	2474.70	99.0	2449 40	98.0	P
Iron				10000.0	10464.00	104.6	10410.00	104.1	P
Lead				50.0	51 56	103.1	48.14	96.3	F
Magnesium				25000.0	25153.00	100.6	25045.00	100.2	P
Manganese				2500.0	2558.70	102.3	2542.60	101.7	P
Mercury				2.0	1 87	93.5	1.73	86.5	CV
Nickel				2500.0	2537.30	101.5	2521.10	100.8	P
Potassium				25000.0	24759.00	99.0	24542.00	98.2	P
Selenium				50.0	49.40	98.8	47.78	95.6	F
Silver				500.0	502.70	100.5	501.74	100.3	P
Sodium				25000.0	24433.00	97.7	24219.00	96.9	P
Thallium				50.0	48.63	97.3	46.46	92.9	F
Vanadium				2500.0	2548.10	101.9	2522.50	100.9	P
Zinc				2500.0	2548.90	102.0	2533.70	101.3	P
Cyanide									NR

(1) Control limits: Mercury 80-120, Other Metals 90-110; Cyanide 85-115

WOODWARD-CLYDE CONSULTANTS

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name SKINNER & SHERMAN LABS Contract. 68-D9-0088

Lab Code. SKINER Case No.. 22558 SAS No.: SDG No.. 10501

Initial Calibration Source EPA-LV

Continuing Calibration Source SKINER

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)	M
Aluminum				25000 0	23870 00	95.5			P
Antimony				2500.0	2446.80	97.9			P
Arsenic				50.0	47.50	95.0	48.82	97 6	F
Barium				2500 0	2436.20	97.4			P
Beryllium				500.0	508.16	101 6			P
[illegible]mium				2500.0	2448.20	97.9			P
[illegible]cium				25000.0	25059.00	100.2			P
Chromium				2500.0	2434.30	97.4			P
Cobalt				2500.0	2412.80	96.5			P
Copper				2500.0	2421.50	96.9			P
Iron				10000.0	10152.00	101.5			P
Lead	97.5	95.18	97.6	50.0	48.22	96.4	50.74	101.5	F
Magnesium				25000.0	24550.00	98.2			P
Manganese				2500.0	2462.30	98.5			P
Mercury				2.0	2.15	107.5			CV
Nickel				2500.0	2427.40	97.1			P
Potassium				25000.0	24443.00	97.8			P
Selenium				50.0	47.37	94.7	47.71	95.4	F
Silver				500.0	491.16	98.2			P
Sodium				25000.0	23961.00	95.8			P
Thallium	97 0	93.50	96.4	50.0	50.30	100.6	46.13	92.3	F
Vanadium				2500.0	2451.20	98.0			P
Zinc				2500.0	2459.70	98.4			P
Cyanide									NR

(1) Control limits· Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN

WOODWARD-CLYDE CONSULTANTS

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name. SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code. SKINER Case No . 22558 SAS No.. SDG No.. 10501

Initial Calibration Source EPA-LV

Continuing Calibration Source. SKINER

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)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	97.5	96.49	99.0	50.0	50.26	100.5	52.20	104.4	F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium	97 0	95.54	98.5	50.0	51.70	103.4	49.88	99.8	F
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control limits. Mercury 80-120; Other Metals 90-110; Cyanide 85-115

WOODWARD-CLYDE CONSULTANTS

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code. SKINER Case No : 22558 SAS No.: SDG No.: 10501

Initial Calibration Source EPA-LV

Continuing Calibration Source: SKINER

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)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead				50.0	52.28	104.6	51.88	103.8	F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium				50.0	49.45	98.9	47.50	95.0	F
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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WOODWARD-CLYDE CONSULTANTS

2B
CRDL STANDARD FOR AA AND ICP

Lab Name SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code· SKINER Case No.· 22558 SAS No.· SDG No.· 10501

AA CRDL Standard Source SKINER

ICP CRDL Standard Source. SKINER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120 0	109.24	91 0	112.92	94 1
Arsenic	10.0	10 10	101.0					
Barium								
Beryllium				10.0	8.95	89.5	8.95	89 5
Cadmium				10.0	10.21	102.1	11.64	116.4
Calcium								
Chromium				20.0	21.63	108.2	21.00	105.0
Cobalt				100.0	98.38	98.4	95.84	95.8
Copper				50.0	52.62	105.2	50.77	101.5
Iron								
Lead	3.0	2.66	88.7					
Magnesium								
Manganese				30 0	28.89	96.3	29.14	97.1
Mercury								
Nickel				80.0	79 51	99.4	77.21	96.5
Potassium								
Selenium	5.0	5.18	103.6					
Silver				20.0	21.16	105.8	18.27	91.4
Sodium								
Thallium	10 0	10.26	102.6					
Vanadium				100.0	100.08	100.1	98.41	98.4
Zinc				40.0	39.01	97.5	38.51	96.3

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WOODWARD-CLYDE CONSULTANTS

2B
CRDL STANDARD FOR AA AND ICP

Lab Name SKINNER & SHERMAN LABS Contract. 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

AA CRDL Standard Source SKINER

ICP CRDL Standard Source:

Concentration Units: ug/L

	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
Analyte	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.21	107 0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium	10.0	8.87	88.7					
Vanadium								
Zinc								

WOODWARD-CLYDE CONSULTANTS

2B
CRDL STANDARD FOR AA AND ICP

Lab Name. SKINNER & SHERMAN LABS. Contract· 68-D9-0088

Lab Code. SKINER Case No . 22558 SAS No.: SDG No.· 10501

AA CRDL Standard Source SKINER

ICP CRDL Standard Source:

Concentration Units: ug/L

	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
Analyte	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
[illegible]mium								
[illegible]icium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.38	112.7					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium	10.0	8.94	89.4					
Vanadium								
Zinc								

C06030

WOODWARD-CLYDE CONSULTANTS

3
BLANKS

Lab Name· SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code. SKINER Case No.. 22558 SAS No : SDG No : 10501

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	Prepa-ration Blank	C	M
Aluminum	20.0	U	20 0	U	20 0	U	20.0	U	20 0	U	P
Antimony	17.0	U	17.0	U	17.0	U	17.0	U	17 0	U	P
Arsenic	2.0	U	2 0	U	2.0	U	2.0	U	2 0	U	F
Barium	1.0	U	2 4	B	3.2	B	2.4	B	1 0	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	-1.0	B	P
Cadmium	1.0	U	1.4	B	1.1	B	1.7	B	1.0	U	P
Calcium	10.0	U	21.6	B	28.4	B	19.9	B	15.0	B	P
Chromium	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Cobalt	2.0	U	2.0	U	3.8	B	2.0	U	2.0	U	P
Copper	-2.5	B	1.2	B	2.5	B	1.2	B	1.2	B	P
Iron	17 0	U	23.8	B	25.8	B	20.0	B	26.7	B	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	F
Magnesium	27.0	U	54.0	B	36.0	B	27.0	B	36.0	B	P
Manganese	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	CV
Nickel	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Potassium	101.0	U	110.7	B	101.0	U	101.0	U	101.0	U	P
Selenium	3 0	U	3.0	U	3.0	U	3.0	U	3.0	U	F
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	P
Sodium	39.0	U	39.0	U	39.0	U	39.0	U	39.0	U	P
Thallium	3.0	U	3 0	U	3.0	U	3.0	U	3.0	U	F
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Zinc	2.0	U	2.0	U	2.0	B	2.0	U	2.0	U	P
Cyanide											NR

WOODWARD-CLYDE CONSULTANTS

3
BLANKS

Lab Name SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code: SKINER Case No . 22558 SAS No.: SDG No.: 10501

Preparation Blank Matrix (soil/water):

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			20 0	U	25 7	B					P
Antimony			17.0	U	17.0	U					P
Arsenic			2 0	U	2 0	U	2.0	U			F
Barium			3.6	B	4.0	B					P
Beryllium			1.0	U	1 6	B					P
Cadmium			1.4	B	1.2	B					P
Calcium			20.4	B	16.2	B					P
Chromium			4.0	U	4.0	U					P
Cobalt			2.5	B	2.0	U					P
Copper			1.0	U	1.2	B					P
Iron			20.0	B	26 3	B					P
Lead			1.0	U							F
Magnesium			27.0	B	27 0	U					P
Manganese			6.0	U	6.0	U					P
Mercury			0.2	U	0.2	U					CV
Nickel			4.0	U	4.0	U					P
Potassium			101.0	U	101.0	U					P
Selenium			3.0	U	3.0	U	3.0	U			F
Silver			2.0	U	2.0	U					P
Sodium			39.0	U	39.0	U					P
Thallium			3.0	U							F
Vanadium			3.0	U	3.0	U					P
Zinc			2.0	U	2.0	U					P
Cyanide											NR

WOODWARD-CLYDE CONSULTANTS

3
BLANKS

Lab Name. SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code· SKINER Case No.: 22558 SAS No.: SDG No.. 10501

Preparation Blank Matrix (soil/water)

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.0	U	1.0	U	1.0	U					F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium	3.0	U	3.0	U	3.0	U					F
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN

WOODWARD-CLYDE CONSULTANTS

3
BLANKS

Lab Name SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code. SKINER Case No.. 22558 SAS No.: SDG No.. 10501

Preparation Blank Matrix (soil/water)

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

Analyte	Initial Calib Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.0	U	1.0	U	1.0	U	1.0	U			F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium	3 0	U	3.0	U	3.0	U	3.0	U			F
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN

WOODWARD-CLYDE CONSULTANTS

3
BLANKS

Lab Name SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code. SKINER Case No.: 22558 SAS No.: SDG No. 10501

Preparation Blank Matrix (soil/water).

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

Analyte	Initial Calib Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.0	U							F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium			3.0	U							F
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN

WOODWARD-CLYDE CONSULTANTS

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.. 22558 SAS No.: SDG No.: 10501

ICP ID Number· P1 ICS Source: ICF-1089

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	481000	536472	553810	560690.0	104.5	546170	547880.0	102.1
Antimony	0	0	-8	5.0		-15	-22.0	
Arsenic								
Barium	0	502	13	499 0	99 4	14	495.3	98.7
Beryllium	0	480	2	476.6	99.3	0	486.0	101.2
Cadmium	0	907	6	867.9	95.7	5	882.2	97.3
Calcium	448250	512228	487660	493100.0	96.3	505620	501990.0	98.0
Chromium	25	529	27	487 5	92.2	17	486 9	92 0
Cobalt	0	477	1	445.0	93.3	3	445 0	93 3
Copper	0	543	13	518.7	95.5	8	513 0	94 5
Iron	182650	199845	188760	191280.0	95.7	195910	196100 0	98 1
Lead								
Magnesium	450900	527530	503440	507280 0	96.2	512320	511780.0	97 0
Manganese	16	496	42	478.9	96.6	40	487 6	98 3
Mercury								
Nickel	0	940	13	864 7	92.0	6	871.6	92.7
Potassium	0	0	75	94.9		67	35.6	
Selenium								
Silver	0	960	-13	937.4	97.6	-17	942.8	98.2
Sodium	0	0	1733	1734 3		1708	1718.6	
Thallium								
Vanadium	0	509	-41	428.2	84.1	-35	438.8	86 2
Zinc	0	1208	202	1170 8	96.9	189	1183.3	98.0

WOODWARD-CLYDE CONSULTANTS

5A
SPIKE SAMPLE RECOVERY

SAMPLE NUMBER

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088 | 10501S

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Matrix: WATER Level (low/med). LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2175.3000		23.7900	B	2000.00	107.6		P
Antimony	75-125	519.7300		17.0000	U	500.00	103.9		P
Arsenic	75-125	43.7850		5.2700	B	40.00	96.3		F
Barium	75-125	2322.7000		245.0600		2000 00	103.9		P
Beryllium	75-125	54.2300		1.0000	U	50.00	108.5		P
Cadmium	75-125	53.5700		1.0000	U	50.00	107.1		P
Calcium									NR
Chromium	75-125	215 7500		4.0000	U	200.00	107 9		P
Cobalt	75-125	516.0700		2.0000	U	500.00	103.2		P
Copper	75-125	253 3000		4 3300	B	250 00	99 6		P
Iron	75-125	1120.3000		40.0200	B	1000.00	108 0		P
Lead	75-125	20 7150		2.5950	B	20.00	90 6		F
Magnesium									NR
Manganese	75-125	524.1600		6.3900	B	500 00	103 6		P
Mercury	75-125	0.7500		0.2000	U	1 00	75.0		CV
Nickel	75-125	525 5000		4.0000	U	500.00	105 1		P
Potassium									NR
Selenium	75-125	8.0500		3.0000	U	10.00	80.5		F
Silver	75-125	48.0700		2.0000	U	50.00	96.1		P
Sodium									NR
Thallium	75-125	32.7850		3.0000	U	50.00	65.6	N	F
Vanadium	75-125	520.5800		3.0000	U	500.00	104.1		P
Zinc	75-125	813.4300		328.2000		500.00	97 0		P
Cyanide									NR

Comments.

WOODWARD-CLYDE CONSULTANTS

6
DUPLICATES

SAMPLE NUMBER

10501D

Lab Name. SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code. SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Matrix (soil/water): WATER Level (low/med). LOW

% Solids for Sample. 0.0 % Solids for Duplicate: 0 0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		23.7900	B	20.0000	U	200.0		P
Antimony		17.0000	U	17.0000	U			P
Arsenic		5.2700	B	2.5800	B	68.5		F
Barium	200.0	245.0600		215.7200		12 7		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		1.0000	U	1.0000	U			P
Calcium		140350.0000		124430.0000		12.0		P
Chromium		4.0000	U	4.0000	U			P
Cobalt		2.0000	U	2.5300	B	200.0		P
Copper		4.3300	B	2.4800	B	54.3		P
Iron		40.0200	B	79.2200	B	65 7		P
Lead		2.5950	B	2.4500	B	5 7		F
Magnesium		36199.0000		31896.0000		12 6		P
Manganese		6.3900	B	6.3900	B	0.0		P
Mercury		0.2000	U	0.2000	U			CV
Nickel		4.0000	U	4.0000	U			P
Potassium		1980.2000	B	1751.0000	B	12.3		P
Selenium		3.0000	U	3 0000	U			F
Silver		2.0000	U	2.0000	U			P
Sodium		46560.0000		40829.0000		13 1		P
Thallium		3.0000	U	3.0000	U			F
Vanadium		3.0000	U	3.0000	U			P
Zinc		328.2000		286.0700		13.7		P
Cyanide								NR

WOODWARD-CLYDE CONSULTANTS

7

LABORATORY CONTROL SAMPLE

Lab Name· SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Solid LCS Source:

Aqueous LCS Source EPA-LV 0690

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits	%R
Aluminum	2172.0	2056.80	94.7					
Antimony	978.0	960.25	98.2					
Arsenic	47.4	45.78	96.6					
Barium	2041.0	2030.30	99.5					
Beryllium	510.0	509.21	99.8					
Cadmium	498.0	492.74	98.9					
Calcium	51519 0	49993 00	97 0					
Chromium	510.0	475 41	93.2					
Cobalt	520 0	496 40	95.5					
Copper	519 0	494 20	95 2					
Iron	2044 0	2074 00	101 5					
Lead	48 8	53 66	110 0					
Magnesium	25745 0	24181.00	93 9					
Manganese	516 0	485.29	94 0					
Mercury								
Nickel	497.0	482.86	97 2					
Potassium	52068.0	48889.00	93.9					
Selenium	52.6	49.32	93.8					
Silver	500.0	485.82	97.2					
Sodium	51368.0	49158 00	95.7					
Thallium	48 5	48 08	99.1					
Vanadium	507.0	491.75	97 0					
Zinc	3316 0	3151.20	95.0					
Cyanide								

WOODWARD-CLYDE CONSULTANTS

8

STANDARD ADDITION RESULTS

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code. SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Concentration Units: ug/L

EPA Sample No	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q

FORM VIII - IN 7/88

WOODWARD-CLYDE CONSULTANTS

9

ICP SERIAL DILUTIONS

SAMPLE NUMBER

10501L

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	23.79	B	100.00	U	100.0		P
Antimony	17.00	U	85.00	U			P
Arsenic							NR
Barium	IDL-10 245.06		270.70	B	10.5	E	P
Beryllium	1.00	U	5.00	U			P
Cadmium	1.00	U	5.00	U			P
Calcium	140350.00		150945.00		7.5		P
Chromium	4.00	U	20.00	U			P
Cobalt	2.00	U	10.00	U			P
Copper	4.33	B	5.00	U	100.0		P
Iron	40.02	B	127.15	B	217 7		P
Lead							NR
Magnesium	36199 00		38035.50		5.1		P
Manganese	6.39	B	30.00	U	100 0		P
Mercury							NR
Nickel	4.00	U	20.00	U			P
Potassium	1980.20	B	1857.70	B	6 2		P
Selenium							NR
Silver	2.00	U	10 00	U			P
Sodium	46560 00		47843.50		2.8		P
Thallium							NR
Vanadium	3.00	U	15.00	U			P
Zinc	328.20		357.00		8.8		P

CD:.142

WOODWARD-CLYDE CONSULTANTS

10

Instrument Detection Limits (Quarterly)

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code· SKINER Case No.: 22558 SAS No.: SDG No.: 10501

ICP ID Number P1 Date. 01/15/91

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308 20		200	20.0	P
Antimony	206.80		60	17.0	P
Arsenic			10		
Barium	493.40		200	1.0	P
Beryllium	313 00		5	1.0	P
Cadmium	226.50		5	1.0	P
Calcium	317.90		5000	10.0	P
Chromium	267.70		10	4.0	P
Cobalt	228 60		50	2.0	P
Copper	324 70		25	1.0	P
Iron	259 90		100	17 0	P
Lead			3		
Magnesium	279 00		5000	27 0	P
Manganese	257.60		15	6.0	P
Mercury			0 2		
Nickel	231.60		40	4.0	P
Potassium	766.40		5000	101 0	P
Selenium			5		
Silver	328 00		10	2 0	P
Sodium	588 90		5000	39.0	P
Thallium			10		
Vanadium	292.40		50	3.0	P
Zinc	213.80		20	2.0	P

Comments.
P1 THERMO JARRELL-ASH ICAP61 (#10782)

WOODWARD-CLYDE CONSULTANTS

10

Instrument Detection Limits (Quarterly)

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code SKINER Case No : 22558 SAS No.: SDG No.: 10501

ICP ID Number: Date: 01/16/91

Flame AA ID Number:

Furnace AA ID Number: F1

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic	197.20	BS	10	2.0	F
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead			3		
Magnesium			5000		
Manganese			15		
Mercury			0.2		
Nickel			40		
Potassium			5000		
Selenium	196 00	BS	5	3.0	F
Silver			10		
Sodium			5000		
Thallium			10		
Vanadium			50		
Zinc			20		

Comments

F1: THERMO JARRELL-ASH VIDEO 22E (#2486)

WOODWARD-CLYDE CONSULTANTS

10

Instrument Detection Limits (Quarterly)

Lab Name. SKINNER & SHERMAN LABS. Contract 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

ICP ID Number: Date: 01/15/91

Flame AA ID Number:

Furnace AA ID Number: F2

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic			10		
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead	283 30	BS	3	1.0	F
Magnesium			5000		
Manganese			15		
Mercury			0.2		
Nickel			40		
Potassium			5000		
Selenium			5		
Silver			10		
Sodium			5000		
Thallium	276 80	BS	10	3.0	F
Vanadium			50		
Zinc			20		

Comments.

F2· THERMO JARRELL-ASH VIDEO 22E (#2511)

WOODWARD-CLYDE CONSULTANTS

10

Instrument Detection Limits (Quarterly)

Lab Name. SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

ICP ID Number· Date: 10/15/90

Flame AA ID Number: M1

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic			10		
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead			3		
Magnesium			5000		
Manganese			15		
Mercury	253 60		0.2	0.2	CV
Nickel			40		
Potassium			5000		
Selenium			5		
Silver			10		
Sodium			5000		
Thallium			10		
Vanadium			50		
Zinc			20		

Comments.

M1 TECHNICON MERCURY ANALYZER (#SS4199A-D)

WOODWARD-CLYDE CONSULTANTS

11A

ICP Interelement Correction Factors (Annually)

Lab Name. SKINNER & SHERMAN LABS Contract. 68-D9-0088

Lab Code· SKINER Case No.: 22558 SAS No.· SDG No.· 10501

ICP ID Number: P1 Date: 07/01/90

Analyte	Wave-length (nm)	Interelement Correction Factors for· Al	Ca	Fe	Mg	Cr
Aluminum	308.20	0.0000000	0.0005900	0.0000000	0.0000000	0.0000000
Antimony	206.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0084500
Arsenic						
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0002200	0.0000000	0.0000000
Calcium	317.90	0.0000000	0.0000000	-0.0003400	0.0000000	0.0000000
Chromium	267.70	0.0000000	0.0000000	-0.0000200	0.0000000	0.0000000
Cobalt	228 60	0.0000000	0.0000000	-0.0000100	0.0000000	0.0000000
Copper	324.70	0.0000000	0.0000000	-0.0001000	0.0000000	0 0000000
Iron	259.90	0.0002200	0 0000000	0.0000000	0 0000000	0.0000000
Lead						
Magnesium	279 00	0 0000000	0 0000000	0 0000000	0 0000000	0.0000000
Manganese	257.60	0.0000000	0 0000000	0.0000000	0 0000000	0 0000000
Mercury						
Nickel	231.60	0.0000000	0 0000000	0 0000000	0.0000000	0.0000000
Potassium	766.40	0.0000000	0 0000000	0.0000000	0 0000000	0.0000000
Selenium						
Silver	328.00	0 0000000	0 0000000	-0.0000400	0 0000000	0 0000000
Sodium	588.90	0.0000000	0 0000000	0.0000000	0.0000000	0.0000000
Thallium						
Vanadium	292 40	0.0000000	0.0000000	0.0000000	0.0000000	-0.0027600
Zinc	213 80	0.0000000	0 0000000	0.0001800	0 0000000	0.0000000

Comments

WOODWARD-CLYDE CONSULTANTS

11B

ICP Interelement Correction Factors (Annually)

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

ICP ID Number: P1 Date: 07/01/90

Analyte	Wave-length (nm)	Interelement Correction Factors for: Cu	Mn	Ni
Aluminum	308.20	0.0000000	0.0019200	0.0000000
Antimony	206.80	0.0000000	0.0000000	-0.0027300
Arsenic				
Barium	493.40	0.0000000	0.0000000	0.0000000
Beryllium	313.00	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	-0.0001000
Calcium	317.90	0.0000000	0.0000000	0.0000000
Chromium	267.70	0.0000000	0.0000000	0.0000000
Cobalt	228.60	0.0000000	0.0000000	0.0000000
Copper	324.70	0.0000000	0.0000000	0 0000000
Iron	259.90	0.0000000	0.0000000	0.0000000
Lead				
Magnesium	279.00	0.0000000	0.0000000	0.0000000
Manganese	257.60	0 0000000	0.0000000	0 0000000
Mercury				
Nickel	231.60	0.0000000	0.0000000	0.0000000
Potassium	766.40	0.0000000	0.0000000	0.0000000
Selenium				
Silver	328.00	0.0000000	0.0001500	-0.0000100
Sodium	588.90	0.0000000	0.0000000	0.0000000
Thallium		.		
Vanadium	292.40	0 0037600	-0.0001300	0.0000000
Zinc	213.80	-0.0000600	0.0004900	0.0040200

Comments

WOODWARD-CLYDE CONSULTANTS

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ICP Linear Ranges (Quarterly)

Name· SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No : 22558 SAS No.: SDG No.. 10501

ICP ID Number: P1 Date: 01/15/91

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	5.00	1000000.0	
Antimony	5.00	50000.0	
Arsenic			NR
Barium	5.00	100000.0	
Beryllium	5.00	25000.0	
Cadmium	5.00	25000.0	
Calcium	5.00	1200000.0	
Chromium	5.00	200000.0	
Cobalt	5.00	100000 0	
Copper	5 00	250000.0	
Iron	5 00	1000000.0	
Lead			NR
Magnesium	5.00	1000000.0	
Manganese	5 00	100000 0	
Mercury			NR
Nickel	5.00	250000 0	
Potassium	5.00	1000000 0	
Selenium			NR
Silver	5.00	100000.0	
Sodium	5 00	1000000.0	
Thallium			NR
Vanadium	5.00	25000.0	
Zinc	5 00	150000.0	

Comments

WOODWARD-CLYDE CONSULTANTS

13

PREPARATION LOG

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
10501	01/04/91		100
10501D	01/04/91		100
10501S	01/04/91		100
10502	01/04/91		100
10503	01/04/91		100
10504	01/04/91		100
10505	01/04/91		100
10506	01/04/91		100
10507	01/04/91		100
10508	01/04/91		100
10509	01/04/91		100
10510	01/04/91		100
10511	01/04/91		100
10512	01/04/91		100
10513	01/04/91		100
10514	01/04/91		100
10515	01/04/91		100
10516	01/04/91		100
10517	01/04/91		100
10518	01/04/91		100
10519	01/04/91		100
10520	01/04/91		100
PBW	01/04/91		100

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WOODWARD-CLYDE CONSULTANTS

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PREPARATION LOG

Lab Name: SKINNER & SHERMAN LABS. Contract· 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Method· F

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
10501	01/14/91		100
10501D	01/14/91		50
10501S	01/14/91		100
10502	01/14/91		100
10503	01/14/91		100
10504	01/14/91		100
10505	01/14/91		100
10506	01/14/91		100
10507	01/14/91		100
10508	01/14/91		100
10509	01/14/91		100
10510	01/14/91		100
10511	01/14/91		100
10512	01/14/91		100
10513	01/14/91		100
10514	01/14/91		100
10515	01/14/91		100
10516	01/14/91		100
10517	01/14/91		100
10518	01/14/91		100
10519	01/14/91		100
10520	01/14/91		100
LCSW	01/14/91		100
PBW	01/14/91		100

WOODWARD-CLYDE CONSULTANTS

13

PREPARATION LOG

Lab Name SKINNER & SHERMAN LABS. Contract· 68-D9-0088

Lab Code. SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Method. P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
10501	01/14/91		100
10501D	01/14/91		50
10501S	01/14/91		50
10502	01/14/91		100
10503	01/14/91		100
10504	01/14/91		100
10505	01/14/91		100
10506	01/14/91		100
10507	01/14/91		100
10508	01/14/91		100
10509	01/14/91		100
10510	01/14/91		100
10511	01/14/91		100
10512	01/14/91		100
10513	01/14/91		100
10514	01/14/91		100
10515	01/14/91		100
10516	01/14/91		100
10517	01/14/91		100
10518	01/14/91		100
10519	01/14/91		100
10520	01/14/91		100
LCSW	01/14/91		100
PBW	01/14/91		100

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WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name. SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number: M1 Method: CV

Start date: 01/04/91 End date: 01/04/91

EPA Sample No.	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	1000																X									
S0.5	1.00	1003																X									
S1.0	1.00	1006																X									
S2.0	1.00	1009																X									
S5.0	1.00	1012																X									
ICV	2.00	1015																X									
ICB	1.00	1018																X									
CCV	1.00	1021																X									
CCB	1 00	1024																X									
ZZZZ	1.00	1027																									
ZZZZ	1.00	1030																									
ZZZZZ	1.00	1033																									
ZZZZZ	1.00	1036																									
CCV	1 00	1039																X									
CCB	1 00	1042																X									
PBW	1.00	1045																X									
10501	1.00	1048																X									
10501D	1.00	1051																X									
10501S	1.00	1054																X									
10502	1.00	1057																X									
10503	1 00	1100																X									
10504	1.00	1103																X									
10505	1.00	1106																X									
10506	1.00	1109																X									
10507	1.00	1112																X									
CCV	1.00	1115																X									
CCB	1 00	1118																X									
10508	1 00	1121																X									
10509	1.00	1124																X									
10510	1.00	1127																X									
10511	1.00	1130																X									
10512	1 00	1133																X									

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract· 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number· M1 Method: CV

Start date: 01/04/91 End date: 01/04/91

EPA Sample No	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
10513	1.00	1136																X									
10514	1.00	1139																X									
10515	1.00	1142																X									
10516	1.00	1145																X									
10517	1.00	1148																X									
CCV	1.00	1151																X									
CCB	1.00	1154																X									
10518	1.00	1157																X									
10519	1.00	1200																X									
10520	1.00	1203																X									
CCV	1 00	1206																X									
CCB	1.00	1209																X									

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WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code. SKINER Case No.· 22558 SAS No.: SDG No.. 10501

Instrument ID Number F2 Method: F

Start date· 01/30/91 End date: 01/30/91

	EPA Sample No.	D/F	Time	% R	Analytes																						
					AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	AN	TL	V	ZN	CN
	S0	1.00	1957													X											
	S3	1.00	2001													X											
	S50	1.00	2005													X											
	S100	1.00	2009													X											
Ø	ICV	2.00	2016													X											
Ø	ICB	1.00	2020													X											
1	CRA	1.00	2025													X											
1	CCV	1 00	2029													X											
1	CCB	1.00	2033													X											
	[illegible]W	1.00	2038																								
	[illegible]WA	1.00	2042	132.6																							
	LCSW	1 00	2046													X											
	LCSWA	1 00	2051	79 0												X											
	10501	1.00	2055													X											
	10501A	1 00	2059	84 1												X											
	10501D	1 00	2104													X											
	10501DA	1 00	2108	91.7												X											
	10501S	1 00	2112													X											
	ZZZZZ	1 00	2117																								
2	CCV	1 00	2121													X											
2	CCB	1.00	2125													X											
	10502	1.00	2130													X											
	10502A	1 00	2134	94.1												X											
	10503	1.00	2138													X											
	10503A	1.00	2143	92.3												X											
	10504	1.00	2147													X											
	10504A	1 00	2151	99 3												X											
	10505	1 00	2156													X											
	10505A	1 00	2200	96.9												X											
	10506	1.00	2204													X											
	10506A	1.00	2209	85 7												X											
3	CCV	1 00	2213													X											

C0054

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number F2 Method: F

Start date· 01/30/91 End date: 01/30/91

EPA Sample No.	D/F	Time	% R	Analytes																						
				ALB	SBS	ASA	BAE	BCD	CAR	CRO	COU	CUE	FEB	PBG	MGN	MNG	HGI	NIK	SEG	AGA	NAL	TL	VZN	CN
3 CCB	1.00	2218											X											
10507	1.00	2222											X											
10507A	1.00	2226	89.8										X											
10508	1.00	2231											X											
10508A	1.00	2235	88.5										X											
10509	1.00	2239											X											
10509A	1.00	2244	83.2										X											
10510	1.00	2248											X											
10510A	1 00	2252	88.6										X											
[illegible]511	1 00	2257											X											
[illegible]511A	1 00	2301	98 8										X											
4 CCV	1 00	2305											X											
4 CCB	1 00	2310											X											

FORM XIV - IN 7/88

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number· F1 Method. F

Start date: 01/30/91 End date: 01/30/91

EPA Sample No	D/F	Time	% R	Analytes																					
				ALSB	ASA	BAE	BCD	CAR	CRO	CUE	FEB	PBG	MGN	HGI	NIK	SEG	AGA	NAL	TLN	VCN				
S0	1.00	1911			X																			
S10	1.00	1915			X																			
S50	1.00	1919			X																			
S100	1.00	1923			X																			
ICV	1.00	1928			X																			
ICB	1.00	1933			X																			
CRA	1.00	1937			X																			
CCV	1.00	1941			X																			
CCB	1.00	1946			X																			
[illegible]W	1.00	1950			X																			
[illegible]SWA	1 00	1954	93 2		X																			
LCSW	1 00	1959			X																			
LCSWA	1 00	2003	89 2		X																			
10501	1 00	2007			X																			
10501A	1 00	2012	75 8		X																			
10501D	1.00	2016			X																			
10501DA	1 00	2020	85 2		X																			
10501S	1.00	2025			X																			
ZZZZZ	1 00	2029																						
CCV	1.00	2033			X																			
CCB	1.00	2038			X																			
10502	1.00	2042			X																			
10502A	1 00	2046	86.5		X																			
10503	1 00	2051			X																			
10503A	1 00	2055	96 2		X																			
10504	1.00	2059			X																			
10504A	1.00	2104	98 6		X																			
10505	1 00	2108			X																			
10505A	1 00	2112	90.7		X																			
10506	1.00	2117			X																			
10506A	1.00	2121	102.4		X																			
CCV	1 00	2125			X																			

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code· SKINER Case No.: 22558 SAS No.: SDG No.· 10501

Instrument ID Number· F1 Method. F

Start date 01/30/91 End date: 01/30/91

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	AN	TL	V	ZN	CN
CCB	1.00	2130				X																					
10507	1.00	2134				X																					
10507A	1.00	2138	85.4			X																					
10508	1.00	2142				X																					
10508A	1.00	2147	85.7			X																					
10509	1.00	2151				X																					
10509A	1.00	2155	96.8			X																					
10510	1.00	2200				X																					
10510A	1.00	2204	94 0			X																					
[illegible]0511	1.00	2208				X																					
[illegible]0511A	1.00	2213	82.8			X																					
CCV	1.00	2217				X																					
CCB	1.00	2221				X																					
10512	1.00	2226				X																					
10512A	1 00	2230	99 7			X																					
10513	1 00	2234				X																					
10513A	1.00	2239	95.2			X																					
10514	1.00	2243				X																					
10514A	1 00	2247	96 0			X																					
10515	1.00	2252				X																					
10515A	1.00	2256	94.4			X																					
10516	1.00	2300				X																					
10516A	1.00	2305	93.1			X																					
CCV	1.00	2309				X																					
CCB	1 00	2313				X																					
10517	1.00	2318				X																					
10517A	1 00	2322	92 4			X																					
10518	1.00	2326				X																					
10518A	1.00	2331	95 5			X																					
10519	1 00	2335				X																					
10519A	1.00	2339	94.2			X																					
10520	1.00	2344				X																					

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name: SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number. F1 Method: F

Start date. 01/30/91 End date. 01/30/91

EPA Sample No.	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
10520A	1.00	2348	93.7			X																					
CCV	1.00	2352				X																					
CCB	1.00	2357				X																					

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name. SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code· SKINER Case No.: 22558 SAS No.: SDG No · 10501

Instrument ID Number. F2 Method: F

Start date: 01/30/91 End date: 01/30/91

EPA Sample No.	D/F	Time	% R	Analytes																						
				ALS	SBA	ASE	BED	CDA	CRO	COU	CFE	PBG	MGN	MNG	HGI	NIK	SEG	AGN	NAL	TL	V	ZN	CN
S0	1.00	1957																		X			
S10	1.00	2001																		X			
S50	1.00	2005																		X			
S100	1.00	2009																		X			
ICV	2.00	2016																		X			
ICB	1.00	2020																		X			
CRA	1 00	2025																		X			
CCV	1.00	2029																		X			
CCB	1.00	2033																		X			
BW	1.00	2038																					
PBWA	1.00	2042	101 8																				
LCSW	1.00	2046																		X			
LCSWA	1.00	2051	106 7																	X			
10501	1.00	2055																		X			
10501A	1.00	2059	67 5																	X			
10501D	1.00	2104																		X			
10501DA	1 00	2108	67.8																	X			
10501S	1 00	2112																		X			
ZZZZZ	1 00	2117																					
CCV	1 00	2121																		X			
CCB	1.00	2125																		X			
10502	1.00	2130																		X			
10502A	1 00	2134	69.1																	X			
10503	1.00	2138																		X			
10503A	1 00	2143	69 6																	X			
10504	1.00	2147																		X			
10504A	1 00	2151	66.6																	X			
10505	1.00	2156																		X			
10505A	1.00	2200	68 4																	X			
10506	1.00	2204																		X			
10506A	1 00	2209	70 4																	X			
CCV	1 00	2213																		X			

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name· SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number: F2 Method. F

Start date: 01/30/91 End date. 01/30/91

EPA Sample No.	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
CCB	1.00	2218																						X			
10507	1.00	2222																						X			
10507A	1.00	2226	65.0																					X			
10508	1.00	2231																						X			
10508A	1.00	2235	65.4																					X			
10509	1.00	2239																						X			
10509A	1.00	2244	61.4																					X			
10510	1.00	2248																						X			
10510A	1.00	2252	64.7																					X			
10511	1 00	2257																						X			
10511A	1.00	2301	67 2																					X			
CCV	1.00	2305																						X			
CCB	1 00	2310																						X			

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number F1 Method: F

Start date· 01/30/91 End date· 01/30/91

EPA Sample No.	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	1911																			X						
S5	1.00	1915																			X						
S50	1.00	1919																			X						
S100	1.00	1923																			X						
ICV	1.00	1928																			X						
ICB	1.00	1933																			X						
CRA	1.00	1937																			X						
CCV	1.00	1941																			X						
CCB	1.00	1946																			X						
[illegible]W	1.00	1950																			X						
[illegible]WA	1.00	1954	90.9																		X						
LCSW	1.00	1959																			X						
LCSWA	1 00	2003	81 0																		X						
10501	1.00	2007																			X						
10501A	1 00	2012	79.6																		X						
10501D	1 00	2016																			X						
10501DA	1.00	2020	80.8																		X						
10501S	1 00	2025																			X						
ZZZZZ	1 00	2029																									
CCV	1.00	2033																			X						
CCB	1.00	2038																			X						
10502	1.00	2042																			X						
10502A	1 00	2046	79.6																		X						
10503	1.00	2051																			X						
10503A	1 00	2055	83.5																		X						
10504	1.00	2059																			X						
10504A	1.00	2104	80 1																		X						
10505	1.00	2108																			X						
10505A	1.00	2112	77 4																		X						
10506	1.00	2117																			X						
10506A	1.00	2121	73.2																		X						
CCV	1 00	2125																			X						

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code. SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number· F1 Method: F

Start date· 01/30/91 End date: 01/30/91

EPA Sample No	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
CCB	1 00	2130																			X						
10507	1.00	2134																			X						
10507A	1.00	2138	73.0																		X						
10508	1.00	2142																			X						
10508A	1.00	2147	78.3																		X						
10509	1.00	2151																			X						
10509A	1 00	2155	89 4																		X						
10510	1 00	2200																			X						
10510A	1.00	2204	74.8																		X						
10511	1 00	2208																			X						
10511A	1 00	2213	71.1																		X						
CCV	1 00	2217																			X						
CCB	1 00	2221																			X						
10512	1 00	2226																			X						
10512A	1 00	2230	74.0																		X						
10513	1 00	2234																			X						
10513A	1 00	2239	82.8																		X						
10514	1 00	2243																			X						
10514A	1 00	2247	76.1																		X						
10515	1 00	2252																			X						
10515A	1 00	2256	78 8																		X						
10516	1 00	2300																			X						
10516A	1 00	2305	72.0																		X						
CCV	1.00	2309																			X						
CCB	1 00	2313																			X						
10517	1 00	2318																			X						
10517A	1 00	2322	75 4																		X						
10518	1 00	2326																			X						
10518A	1 00	2331	80.6																		X						
10519	1.00	2335																			X						
10519A	1.00	2339	80 1																		X						
10520	1 00	2344																			X						

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name· SKINNER & SHERMAN LABS. Contract· 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No.. SDG No.. 10501

Instrument ID Number: F1 Method: F

Start date· 01/30/91 End date: 01/30/91

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	AN	TL	V	ZN	CN
10520A	1.00	2348	78.6																		X						
CCV	1.00	2352																			X						
CCB	1.00	2357																			X						

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name: SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number: F2 Method: F

Start date: 01/31/91 End date: 01/31/91

EPA Sample No.	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	1026													X												
S3	1.00	1030													X												
S50	1.00	1034													X												
S100	1.00	1038													X												
ICV	2.00	1042													X												
ICB	1.00	1047													X												
CRA	1.00	1051													X												
CCV	1.00	1055													X												
CCB	1.00	1100													X												
[illegible]W	1.00	1104													X												
PBWA	1 00	1108	112.7												X												
10512	1.00	1113													X												
10512A	1 00	1117	83.7												X												
10513	1.00	1121													X												
10513A	1 00	1126	98.2												X												
10514	1 00	1130													X												
10514A	1.00	1134	85.6												X												
10515	1.00	1139													X												
10515A	1 00	1143	92 6												X												
CCV	1.00	1147													X												
CCB	1.00	1152													X												

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract: 68-D9-0088

Lab Code. SKINER Case No : 22558 SAS No.: SDG No · 10501

Instrument ID Number· F2 Method· F

Start date: 01/31/91 End date: 01/31/91

EPA Sample No	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	1322													X												
S3	1 00	1326													X												
S50	1.00	1330													X												
S100	1.00	1334													X												
ICV	2.00	1340													X												
ICB	1.00	1344													X												
CRA	1.00	1349													X												
CCV	1.00	1353													X												
CCB	1.00	1357													X												
ZZZZZ	1.00	1402																									
10516	1 00	1406													X												
10516A	1.00	1410	97 0												X												
10517	1 00	1415													X												
10517A	1 00	1419	94.0												X												
10518	1 00	1424													X												
10518A	1.00	1428	98.2												X												
10519	1 00	1432													X												
10519A	1 00	1437	96 1												X												
CCV	1 00	1441													X												
CCB	1 00	1445													X												
10520	1.00	1450													X												
10520A	1.00	1454	103 8												X												
ZZZZZ	1 00	1458																									
ZZZZZ	1.00	1503																									
CCV	1 00	1507													X												
CCB	1.00	1512													X												
ZZZZZ	1 00	1517																									
ZZZZZ	1.00	1521																									
CCV	1 00	1525													X												
CCB	1 00	1530													X												

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name. SKINNER & SHERMAN LABS Contract: 68-D9-0088

Lab Code: SKINER Case No.· 22558 SAS No.: SDG No.: 10501

Instrument ID Number. F2 Method: F

Start date: 01/31/91 End date: 01/31/91

EPA Sample No	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	1026																						X			
S10	1.00	1030																						X			
S50	1.00	1034																						X			
S100	1.00	1038																						X			
ICV	2.00	1042																						X			
ICB	1.00	1047																						X			
CRA	1.00	1051																						X			
CCV	1.00	1055																						X			
CCB	1.00	1100																						X			
[illegible]W	1.00	1104																						X			
PBWA	1 00	1108	97 2																					X			
10512	1.00	1113																						X			
10512A	1 00	1117	70 4																					X			
10513	1 00	1121																									
10513A	1.00	1126	67 8																								
10514	1.00	1130																						X			
10514A	1 00	1134	60.2																					X			
10515	1 00	1139																						X			
10515A	1 00	1143	69.4																					X			
CCV	1 00	1147																						X			
CCB	1.00	1152																						X			

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name. SKINNER & SHERMAN LABS. Contract· 68-D9-0088

Lab Code SKINER Case No.: 22558 SAS No.: SDG No.: 10501

Instrument ID Number: F2 Method: F

Start date: 01/31/91 End date: 01/31/91

EPA Sample No	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	1322																						X			
S10	1.00	1326																						X			
S50	1.00	1330																						X			
S100	1.00	1334																						X			
ICV	2.00	1340																						X			
ICB	1.00	1344																						X			
CRA	1.00	1349																						X			
CCV	1.00	1353																						X			
CCB	1.00	1357																						X			
ZZZZ	1.00	1402																									
10516	1 00	1406																						X			
10516A	1.00	1410	81.4																					X			
10517	1.00	1415																						X			
10517A	1.00	1419	77.6																					X			
10518	1.00	1424																						X			
10518A	1.00	1428	71.3																					X			
10519	1 00	1432																						X			
10519A	1.00	1437	67.6																					X			
CCV	1 00	1441																						X			
CCB	1.00	1445																						X			
10520	1.00	1450																						X			
10520A	1.00	1454	70.1																					X			
ZZZZZ	1.00	1458																									
ZZZZZ	1.00	1503																									
CCV	1 00	1507																						X			
CCB	1.00	1512																						X			
10513	1 00	1517																						X			
10513A	1.00	1521	77.2																					X			
CCV	1 00	1525																						X			
CCB	1 00	1530																						X			

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name SKINNER & SHERMAN LABS. Contract. 68-D9-0088

Lab Code SKINER Case No.. 22558 SAS No.: SDG No.: 10501

Instrument ID Number. P1 Method: P

Start date 01/28/91 End date: 01/28/91

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	AN	TL	V	ZN	CN
S0	1.00	1424		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
S	1.00	1427		X						X				X		X				X			X				
S	1.00	1429			X		X	X	X		X	X	X				X		X						X	X	
S	1.00	1434																				X					
ICV	1.00	1437		X			X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ICV	1.00	1440																									
ICV	1.00	1443			X																						
ICB	1.00	1446		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ICSA	1.00	1449		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
ICSAB	1.00	1452		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CRI	1 00	1454			X			X	X		X	X	X				X		X			X			X	X	
CCV	1.00	1457		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CCB	1 00	1500		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
PBW	1.00	1503		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
LCSW	1 00	1506		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10501	1 00	1508		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10501D	1.00	1511		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10501S	1.00	1514		X	X		X	X	X		X	X	X	X			X		X			X			X	X	
10501L	5 00	1517		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10502	1.00	1519		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10503	1 00	1522		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10504	1.00	1525		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10505	1.00	1528		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CCV	1.00	1530		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
CCB	1.00	1533		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10506	1.00	1536		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10507	1 00	1539		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10508	1.00	1541		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10509	1 00	1544		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10510	1.00	1547		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10511	1 00	1550		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
10512	1.00	1552		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	

WOODWARD-CLYDE CONSULTANTS

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ANALYSIS RUN LOG

Lab Name. SKINNER & SHERMAN LABS Contract. 68-D9-0088

Lab Code: SKINER Case No.: 22558 SAS No : SDG No.. 10501

Instrument ID Number: P1 Method: P

Start date 01/28/91 End date: 01/28/91

	EPA Sample No.	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
	10513	1.00	1555		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10514	1.00	1558		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10515	1.00	1600		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
3	CCV	1.00	1603		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
3	CCB	1.00	1606		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10516	1.00	1609		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10517	1.00	1612		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10518	1.00	1614		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10519	1.00	1617		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10520	1.00	1620		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	10501A	1.00	1622																									
4	CCV	1.00	1625		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
4	CCB	1 00	1628		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	ICSA	1 00	1631		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	ICSAB	1 00	1634		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	CRI	1.00	1636			X			X	X		X	X	X				X		X			X			X	X	
	CCV	1 00	1639		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	
	CCB	1.00	1642		X	X		X	X	X	X	X	X	X	X		X	X		X	X		X	X		X	X	

FORM XIV - IN 7/88

WOODWARD CLYDE

[illegible] id F1 9101202 — Acquired 01/2[illegible]/91 by SRP
THERMO TARRELL-ASH ICAP61 (#10722) — Crunched 01/2[illegible]/91 by SRP
Time 1716
Element Multi-Element — Processing protocol 7/88

Al Sb Ba Be Cd Ca Cr Co Cu
Fe Mg Mn Ni K Ag Na V Zn

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
6	ICV1	ICV		ICV	01/28/91	14 37
7	ICV2	ICV		ICV	01/28/91	14 40
8	ICV3	ICV		ICV	01/28/91	14 43
9	STDB	ICB		ICB	01/28/91	14 46
10	ICSAA	ICSAO		ICSA	01/28/91	14 49
11	ICSABB	ICSABO		ICSAB	01/28/91	14 52
12	2XCRDL	CRIO		CRI	01/28/91	14 54
13	HALFSTD	CCV		CCV	01/28/91	14 57
14	STDB	CCB		CCB	01/28/91	15 00
15	PB	PBW	ICP	PBW	01/28/91	15 03
16	LCSPW	LCSW	ICP	LCSW	01/28/91	15 06
17	9012105-01	S	ICP	10501	01/28/91	15 08
18	9012105-01	S2	ICP	10501D	01/28/91	15 11
19	9012105-01	DS	ICP	10501S	01/28/91	15 14
20	9012105-01	ISD	ICP	10501L	01/28/91	15 17
[illegible]	9012105-02	S	ICP	10502	01/28/91	15 19
22	9012105-03	S	ICP	10503	01/28/91	15 22
23	9012105-04	S	ICP	10504	01/28/91	15 25
24	9012105-05	S	ICP	10505	01/28/91	[illegible]
25	HALFSTD	CCV		CCV	01/28/91	[illegible]
26	STDB	CCB		CCB	01/28/91	[illegible]
27	9012105-0[illegible]	S	ICP	10506	01/28/91	15 36
28	9012105-07	S	ICP	10507	01/28/91	15 39
29	9012105-08	S	ICP	10508	01/28/91	15 41
30	9012105-09	S	ICP	10509	01/28/91	15 44
31	9012105-10	S	ICP	10510	01/28/91	15 47
32	9012105-11	S	ICP	10511	01/28/91	15 50
33	9012105-12	S	ICP	10512	01/28/91	15 52
34	9012105-13	S	ICP	10513	01/28/91	15 55
35	9012105-14	S	ICP	10514	01/28/91	15 5[illegible]
36	9012105-[illegible]	S	ICP	10515	01/[illegible]/91	16 00
37	HALFSTD	CCV		CCV	01/28/91	16 0[illegible]
[illegible]	STDB	CCB		CCB	01/[illegible]	[illegible]
[illegible]	[illegible]		ICP	[illegible]	[illegible]	[illegible]
40	9012105-1[illegible]	S	ICP	10517	[illegible]	[illegible]
41	9012105-17	S	ICP	~~105~~ 10518	01/28/91	[illegible]
42	9012105-18	S	ICP	10519	01/28/91	16 17
43	[illegible]	S	ICP	105[illegible]	[illegible]	[illegible]
44	[illegible]		ICP	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]		[illegible]		
[illegible]	[illegible]			[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]		
[illegible]	[illegible]	ICV-AB		ICV-AB	01/[illegible]	[illegible]

[illegible]

WHOLEWARE GUIDE

Pos	Sample	Code	Preparation Method	Client ID		
49	LXCRDL	CRI1		CRI	01/28/91	1[illegible] 3[illegible]
50	HALFSTD	CCV		CCV	01/28/91	15 [illegible]
51	STD8	CCB		CCB	01/28/91	16 42
53	STD8	WS0		S0	01/28/91	14 24
54	STD3	WS1		S	01/28/91	14 27
55	STD1	WS2		S	01/28/91	14 29
56	STD2	WS3		S	01/28/91	14 34

Method. CLFOLD Standard: STDB

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Avge	.00773	.00013	.00000	.00007	.00000	-.00040	.00233
SDev	.00042	.00042	.00000	.00012	.00000	.00111	.00045
%RSD	5.3836	312.25	.00000	173.21	.00000	-278.39	19.423
#1	.00760	.00000	.00000	.00000	.00000	.00060	.00280
#2	.00820	-.00020	.00000	.00020	.00000	-.00020	.00190
#3	.00740	.00060	.00000	.00000	.00000	-.00160	.00230

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Avge	.00020	-.00007	.00027	.00000	.00060	.00007	.00073
SDev	.00000	.00012	.00012	.00000	.00111	.00012	.00012
%RSD	.00000	-173.21	43.301	.00000	185.59	173.21	15.746
#1	.00020	.00000	.00020	.00000	-.00060	.00000	.00080
#2	.00020	.00000	.00040	.00000	.00160	.00000	.00080
#3	.00020	-.00020	.00020	.00000	.00080	.00020	.00060

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Avge	.00040	-.00180	.00127	.04633	.00007	.00060
SDev	.00020	.00069	.00012	.00129	.00012	.00000
%RSD	50.000	-38.490	9.1161	2.7752	173.21	.00000
#1	.00060	-.00100	.00140	.04780	.00000	.00060
#2	.00020	-.00220	.00120	.04580	.00020	.00060
#3	.00040	-.00220	.00120	.04540	.00000	.00060

Method: CLP LD Standard: STD3

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Avge	6.8695	.00053	.00273	.00013	.00000	.00813	6.7076
SDev	.0314	.00031	.00064	.00012	.00000	.00099	.0303
%RSD	.45729	57.282	23.521	86.603	.00000	12.130	.45235
#1	6.8376	.00020	.00320	.00020	.00000	.00700	6.6766
#2	6.8706	.00060	.00300	.00000	.00000	.00860	6.7088
#3	6.9004	.00080	.00200	.00020	.00000	.00880	6.7373

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Avge	.00080	.00000	.00020	3.1994	.00627	.37033	.00153
SDev	.00020	.00000	.00000	.0141	.00042	.00090	.00012
%RSD	25.000	.00000	.00000	.44101	6.6476	.24352	7.5307
#1	.00060	.00000	.00020	3.1856	.00640	.36940	.00160
#2	.00100	.00000	.00020	3.1988	.00660	.37040	.00140
#3	.00080	.00000	.00020	3.2138	.00580	.37120	.00160

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Avge	.00067	.84153	.00113	7.8879	.00007	.00093
SDev	.00031	.00602	.00012	.0319	.00012	.00012
%RSD	45.826	.71509	10.189	.40442	173.21	12.372
#1	.00060	.83580	.00100	7.8514	.00000	.00100
#2	.00040	.84780	.00120	7.9016	.00000	.00100
#3	.00100	.84100	.00120	7.9106	.00020	.00080

Method. CLFOLD Standard: STD1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Avge	.00733	.27327	.09620	.83113	.12660	9.3230	.00874
SDev	.00150	.00076	.00035	.00133	.00020	.0119	.00241
%RSD	20.470	.27709	.36010	1.6022	.15798	.12798	27.550
#1	.00880	.27240	.09600	.83260	.12660	9.3106	.01150
#2	.00740	.27380	.09600	.83000	.12640	9.3240	.00760
#3	.00580	.27360	.09660	.83080	.12680	9.3344	.00711

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Avge	.52400	.52507	.53873	.00367	.94847	.00033	1.3044
SDev	.00140	.00031	.00042	.00122	.00192	.00012	.0002
%RSD	.26717	.05818	.07728	33.328	.20262	34.641	.01533
#1	.52240	.52500	.53860	.00340	.94640	.00040	1.3046
#2	.52460	.52480	.53840	.00260	.95020	.00020	1.3042
#3	.52500	.52540	.53920	.00500	.94880	.00040	1.3044

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Avge	.86813	-.00100	.00113	.05233	.59827	.65460
SDev	.00090	.00035	.00023	.00153	.00083	.00072
%RSD	.10388	-34.641	20.377	2.9188	.13918	.11016
#1	.86720	-.00120	.00100	.05400	.59760	.65400
#2	.86820	-.00120	.00100	.05200	.59800	.65440
#3	.86900	-.00060	.00140	.05100	.59920	.65540

Method. CLFOLD Standard: STD2

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Avge	.00687	.00007	.00000	.00020	.00000	- 00020	.00187
SDev	.00071	.00071	.00000	.00000	.00000	00160	.00021
%RSD	4.4491	458.26	.00000	.00000	.00000	-800.00	11.298
#1	.00680	-.00020	.00000	.00020	.00000	.00140	.00170
#2	.00720	.00040	.00000	.00020	.00000	-.00180	.00181
#3	.00660	.00000	.00000	.00020	.00000	-.00020	.00211

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Avge	.00033	.00013	.00033	.00000	.00087	.00013	.00073
SDev	.00012	.00031	.00012	.00000	.00204	.00012	.00012
%RSD	34.641	229.13	34.641	.00000	235.72	86.603	15.746
#1	.00020	.00020	.00040	.00000	-.00060	.00020	.00080
#2	.00040	.00040	.00020	.00000	.00000	.00000	.00080
#3	.00040	-.00020	.00040	.00000	.00320	.00020	.00060

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Avge	.00020	-.00120	.13987	.05060	.00020	.00047
SDev	.00020	.00100	.00197	.00060	.00020	.00012
%RSD	100.00	-83.333	1.4107	1.1858	100.00	24.744
#1	.00020	-.00020	.13760	.05120	.00020	.00060
#2	.00000	-.00120	.14080	.05000	.00000	.00040
#3	.00040	-.00220	.14120	.05060	.00040	.00040

Method. CLP6LD Sample Name: ICV1.ICV Operator. SFF
Run Time: 01/28/91 14:37:58
Comment: ICV#1
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.1180	-.00332	-.00986	2.1021	.50184	.49943	51.248
SDev	.0156	.00769	.00006	.0057	.00091	.00172	.064
%RSD	.73572	-231.41	-.64173	.27051	.18175	.34509	.12515
#1	2.1316	-.00950	-.00992	2.1065	.50237	.50140	51.312
#2	2.1010	.00529	-.00979	2.1041	.50237	.49872	51.250
#3	2.1214	-.00576	-.00987	2.0957	.50079	.49818	51.183
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.1720			2.0410	.51000	.49800	51.519
Range	10.000			10.000	10.000	10.000	10.000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.48941	.50529	.51092	2.0769	5.0553	25.342	.49757
SDev	.00441	.00000	.00107	.0014	.0184	.068	.00160
%RSD	.90087	.00001	.20988	.06943	.36309	.26820	.32091
#1	.49451	.50529	.51216	2.0786	5.0486	25.405	.49885
#2	.48687	.50529	.51030	2.0761	5.0761	25.351	.49808
#3	.48687	.50529	.51030	2.0761	5.0413	25.270	.49578
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.51000	.52000	.51900	2.0440	5.1400	25.745	.51600
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.49516	51.621	.50603	51.503	.50569	3.2892
SDev	.00067	.207	.00144	.050	.00167	.0058
%RSD	.13437	.40139	.28520	.09669	.32966	.17724
#1	.49554	51.794	.50603	51.535	.50570	3.2918
#2	.49554	51.391	.50458	51.529	.50735	3.2933
#3	.49439	51.676	.50747	51.446	.50402	3.2826
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.49700	52.068	.49800	51.368	.50700	3.3160
Range	10.000	10.000	10.000	10.000	10.000	10.000

Method CLP0LD Sample Name: ICV1.ICV Operator SRF
Run Time. 01/28/91 14:40.50
Comment: ICV#1
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be3170	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00247	.00245	0.25740	.00080	.00057	.00085	.01295
SDev	.00607	.01061	.00602	.00120	.00091	.00028	.01445
%RSD	249.85	472.72	2.2746	150.00	172.21	32.722	111.57
#1	.00927	.00856	0.24990	.00201	.00000	.00064	.02967
#2	-.00243	-.00979	0.24995	-.00040	.00158	.00074	.00500
#3	.00049	.00859	0.26075	.00080	.00000	.00117	.00422
Errors	NOCHECK	NOCHECK	QC Fail	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value			.19000				
Range			10.000				

Elem	Cr2677	Co2286	Cu1247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00064	.00190	.00062	.02627	.00246	.00900	.00026
SDev	.00292	.00110	.00107	.00000	.01336	.01559	.00000
%RSD	-458.64	57.727	172.47	.00508	544.01	172.21	.00000
#1	.00191	.00254	.00124	.02627	-.00001	-.00900	.00026
#2	-.00782	.00064	.00124	.02627	-.00950	.01801	.00026
#3	.00000	.00254	-.00062	.02627	.01688	.01801	.00026
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ni2316	K 7664	Ag2290	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.05178	.00227	.17556	.00000	.00718
SDev	.0022	.02984	.00167	.00571	.0010	.00089
%RSD	-960e6	58.076	49.472	3.0242	-20875.	12.440
#1	-.00230	.04743	.00241	.18151	.00111	.00770
#2	.00000	.02772	.00241	.17121	-.00057	.00770
#3	.00230	.08700	.00529	.17786	-.00056	.00615
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value						
Range						

Analysis Report QC Standard Mon 01-29-91 02:46:18 PM page 1

Method: CLFULD Sample Name: ICV1:ICV Operator EFF
Run Time: 01/28/91 14:47.44
Comment: ICV#1
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1170	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02477	1.0089	-.00010	.00000	.00000	.00076	-.00050
SDev	.00084	.0207	.00001	.0007	.00000	.00081	.00181
%RSD	7.7946	2.0102	-6.7291	-7581e6	.00000	225.24	-367.51
#1	.02526	.98802	-.00010	-.00040	.00000	-.00011	-.00026
#2	.02526	1.0101	-.00010	-.00040	.00000	-.00011	.00118
#3	.02380	1.0285	-.00009	.00080	.00000	.00129	-.00241
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		.97800					
Range		10.000					

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00782	.00254	.00124	-.00001	.00210	.00000	.00051
SDev	.00371	.00000	.00000	.00000	.01284	.01559	.00044
%RSD	86.607	.00000	.00000	-3.3946	612.28	.00000	86.607
#1	.00191	.00254	.00124	-.00001	-.00423	.01801	.00026
#2	.00764	.00254	.00124	-.00001	-.00675	-.00900	.00102
#3	.00191	.00254	.00124	-.00001	.01687	-.00900	.00026
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00115	.78740	.00144	-.00170	-.00055	.00000
SDev	.00115	.07812	.00087	.00725	.00001	.0000
%RSD	-100.000	9.9419	57.741	-426.47	-1.6675	-21616
#1	-.00270	.42688	.00096	.00425	-.00055	.00000
#2	.00000	.75577	.00096	.00047	-.00057	.00000
#3	-.00115	.76759	.00240	-.00978	-.00055	.00000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value						
Range						

Method: CLFOLD Sample Name: STDB·ICB Operator· SRF
Run Time: 01/28/91 14:46.32
Comment· ICB#1
Mode. CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00874	-.00122	.00004	-.00040	.00000	.00021	-.00517
SDev	.00937	.00212	.00004	.00000	.00000	.00028	.00091
%RSD	-107.18	-173.25	104.44	.00000	.00000	132.29	-17.575
#1	.00195	-.00246	-.00001	-.00040	.00000	.00000	-.00462
#2	-.01554	.00122	.00007	-.00040	.00000	.00054	-.00622
#3	-.01263	-.00244	.00005	-.00040	.00000	.00011	-.00468
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00127	.00127	-.00248	.00000	.00071	.00000	-.00102
SDev	.00110	.00110	.00000	.00000	.00440	.01559	.00044
%RSD	-86.603	86.603	.00000	107.18	620.74	.00000	-43.301
#1	.00000	.00063	-.00248	.00000	-.00422	-.00900	-.00128
#2	-.00191	.00254	-.00248	.00000	.00212	-.00900	-.00051
#3	-.00191	.00063	-.00248	.00000	.00423	.01801	-.00128
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni2316	Pb 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00269	.07510	.00048	-.01190	-.00056	-.00101
SDev	.00370	.01811	.00083	.00702	.00000	.00088
%RSD	-137.77	24.119	173.15	-59.010	-.54922	-87.411
#1	-.00115	.05929	.00096	-.01870	-.00056	-.00153
#2	-.00691	.07115	.00096	-.01233	-.00056	-.00150
#3	.00000	.09486	-.00048	-.00468	-.00056	.00001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

Method CLFOLD Sample Name: ICSAA:ICSA Operator: SRF
Run Time: 01/28/91 14:49:21
Comment
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	553.81	-.00754	-.65093	.01324	.00158	.00606	487.66
SDev	2.52	.00713	.00701	.00070	.00000	.00101	2.13
%RSD	.45498	-94.560	-1.0769	5.2486	.00000	16.693	.43671
#1	556.59	-.00047	-.65850	.01404	.00158	.00561	490.11
#2	553.16	-.01472	-.64467	.01283	.00158	.00721	486.36
#3	551.68	-.00742	-.64961	.01287	.00158	.00534	486.50
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	648.07						592.85
Low	432.04						395.23

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02668	.00125	.01330	188.76	-.01428	503.44	.04219
SDev	.00189	.00109	.00118	1.04	.00448	2.67	.00044
%RSD	7.0918	87.270	8.8350	.54989	-31.378	.53096	1.0497
#1	.02480	.00063	.01466	189.95	-.01743	506.52	.04244
#2	.02667	.00252	.01261	188.05	-.01625	502.09	.04244
#3	.02858	.00061	.01264	188.27	-.00915	501.71	.04168
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	NOCHECK
High				247.48		637.63	
Low				164.99		425.09	

Elem	Ni2315	[illegible] 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01305	.07510	-.01255	1.7327	-.04070	.20220
SDev	.00256	.05968	.00087	.0082	.00186	.00196
%RSD	20.377	79.472	-6.9076	.47319	-4.5707	.97150
#1	.01152	.08300	-.01165	1.7386	-.03973	.19993
#2	.01152	.13047	-.01317	1.7361	-.04285	.20336
#3	.01613	.01186	-.01316	1.7233	-.03953	.20330
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

Method: CLPOLD Sample Name: ICSABB:ICSAB Operator: SFF
Run Time: 01/28/91 14:52:11
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1170	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	560.69	.00497	-.52299	.49896	.47657	.86792	497.10
SDev	1.67	.01472	.15269	.00120	.00241	.00648	2.40
%RSD	.29746	296.15	-29.195	.24116	.50677	.74657	.48599
#1	558.76	.00525	-.68882	.49775	.47397	.86071	490.37
#2	561.59	.01955	-.49191	.50016	.47867	.87725	494.50
#3	561.71	-.00989	-.38823	.49896	.47709	.86980	494.46
Errors	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High	647.77			.60240	.57600	1.0884	614.67
Low	429.18			.40160	.78400	.72560	409.78

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.48747	.44497	.51869	191.28	4.4826	507.28	.47891
SDev	.00297	.00292	.00112	.88	.0228	1.65	.00352
%RSD	.60089	.65525	.21521	.46055	.50935	.32599	.73399
#1	.48490	.44247	.51797	190.26	4.4596	505.41	.47507
#2	.49066	.44434	.51998	191.75	4.5057	508.54	.48197
#3	.48685	.44815	.51817	191.81	4.4830	507.90	.47967
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.67480	.57240	.65160	229.81	5.6690	677.04	.59520
Low	.42720	.78160	.47440	159.88	7.7790	422.02	.79680

Elem	Ni2716	K 7664	Ag2280	Na5889	V_2924	Zn2178
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.86470	.09486	.97776	1.7744	.42819	1.1708
SDev	.00290	.07557	.00168	.0097	.00159	.0067
%RSD	.77579	77.500	.17951	.56159	.37214	.57404
#1	.86202	.17047	.97676	1.7259	.42667	1.1678
#2	.86472	.09486	.97970	1.7722	.42981	1.1759
#3	.86778	.05929	.93642	1.7450	.42817	1.1728
Errors	LC Pass	NOCHECK	LC Pass	NOCHECK	LC Pass	LC Pass
High	1.1280		1.1520		.61080	1.4496
Low	.75200		.76800		.40720	.96640

Method. CLP CLD Sample Name: 2XCRDL:CRI Operator: SFF
Run Time: 01/28/91 14.54:59
Comment:
Mode. CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.17385	.10925	-.00078	.00201	.00895	.01021	.16954
SDev	.09468	.00850	.00038	.00120	.00091	.00081	.08875
%RSD	54.460	7.7793	-48.400	60.000	10.189	7.8983	52.344
#1	.27441	.10434	-.00118	.00201	.00948	.00974	.26389
#2	.16074	.11906	-.00073	.00080	.00948	.01114	.15701
#3	.08641	.10435	-.00043	.00321	.00790	.00976	.08773

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02164	.09839	.05263	.08794	.04772	.20706	.02889
SDev	.00220	.00110	.00215	.05234	.00155	.09738	.00044
%RSD	10.183	1.1179	4.0839	59.520	3.2491	47.029	1.5328
#1	.01909	.09966	.05511	.14380	.04941	.31509	.02940
#2	.02291	.09775	.05139	.08002	.04738	.18005	.02864
#3	.02291	.09775	.05138	.04001	.04637	.12604	.02864

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.07952	.05534	.02116	.00553	.10008	.03902
SDev	.00305	.08740	.00144	.00128	.00097	.00178
%RSD	3.8344	157.95	6.8144	23.077	.96560	4.5482
#1	.07506	.15415	.02117	.00680	.09951	.04107
#2	.08067	.02372	.01972	.00553	.10120	.03799
#3	.08182	-.01186	.02261	.00425	.09953	.03799

Method CLFOLD Sample Name: HALFSTD:CCV Operator: SFF
Run Time: 01/28/91 14:57.41
Comment CCV#1
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4934	Be1130	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	24.882	2.5102	2.5385	2.5012	.51132	2.4977	25.467
SDev	.204	.0167	.0151	.0230	.00456	.0124	.158
%RSD	.81987	.66721	.60397	.91784	.89189	.49760	.61856
#1	24.752	2.4919	2.5425	2.4892	.50869	2.4877	25.329
#2	25.117	2.5248	2.5514	2.5277	.51659	2.5116	25.638
#3	24.778	2.5139	2.5216	2.4868	.50869	2.4937	25.431
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	27.500	2.7500	2.7500	2.7500	.55000	2.7500	27.500
Low	22.500	2.2500	2.2500	2.2500	.45000	2.2500	22.500

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.4980	2.4890	2.4803	10.207	2.5010	24.910	2.4940
SDev	.0180	.0164	.0236	.066	.0126	.174	.0194
%RSD	.72241	.65966	.95132	.65102	.50386	.69705	.77626
#1	2.4840	2.4744	2.4667	10.166	2.4891	24.784	2.4810
#2	2.5187	2.5068	2.5075	10.283	2.5142	25.108	2.5162
#3	2.4916	2.4858	2.4667	10.171	2.4997	24.878	2.4848
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	2.7500	2.7500	11.000	2.7500	27.500	2.7500
Low	2.2500	2.2500	2.2500	9.0000	2.2500	22.500	2.2500

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.4935	24.664	.49789	24.698	2.5103	2.5019
SDev	.0091	.160	.00300	.220	.0224	.0139
%RSD	.36832	.64681	.60327	.88988	.89352	.55371
#1	2.4766	24.534	.49453	24.584	2.4941	2.4891
#2	2.4939	24.842	.50030	24.951	2.5359	2.5166
#3	2.4800	24.617	.49986	24.558	2.5008	2.4999
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	27.500	.55000	27.500	2.7500	2.7500
Low	2.2500	22.500	.45000	22.500	2.2500	2.2500

Method CLPOLD Sample Name: STDB:CCB Operator: SRF
Run Time: 01/28/91 15:00:11
Comment: CCB#1
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4934	Be1170	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01267	-.00861	-.00006	.00241	.00000	.00129	.02164
SDev	.01400	.00767	.00005	.00070	.00158	.00093	.00489
%RSD	110.88	-89.061	-90.068	28.868	.00000	67.274	22.617
#1	.02526	-.01720	-.00011	.00221	.00158	.00182	.02665
#2	.01506	-.00615	-.00007	.00201	.00000	.00203	.02140
#3	-.00243	-.00247	.00000	.00201	-.00158	.00072	.01687
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00127	.00190	.00124	.02376	-.00001	.05402	.00077
SDev	.00110	.00220	.00186	.00331	.00317	.01559	.00044
%RSD	86.572	115.46	149.72	13.915	-27851.	28.868	57.735
#1	.00191	.00444	.00124	.02751	-.00002	.07202	.00102
#2	.00000	.00067	.00310	.02251	-.00318	.04501	.00102
#3	.00191	.00067	-.00062	.02127	.00316	.04501	.00026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.11067	-.00144	.00128	.00111	-.00001
SDev	.0020	.00685	.00220	.00266	.00167	.00000
%RSD	-2572e6	6.1859	-152.97	208.17	149.85	-51.446
#1	.00115	.10672	-.00377	.00043	.00278	-.00001
#2	-.00270	.10672	.00096	.00425	.00111	-.00001
#3	.00115	.11858	-.00192	-.00085	-.00055	-.00001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

Method: CLPOLD Sample Name: FB:FBW Operator: ERF
Run Time: 01/29/91 15:07:20
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1170	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01760	-.01270	-.00007	.00040	-.00105	.00057	.01498
SDev	.00811	.01067	.00007	.00070	.00091	.00090	.00080
%RSD	59.657	-86.178	-50.817	177.21	-86.607	158.92	5.7237
#1	.02089	-.00617	-.00010	.00080	-.00158	.00160	.01544
#2	.01506	-.00617	-.00007	.00080	-.00158	-.00001	.01544
#3	.00486	-.02458	-.00003	-.00040	.00000	.00010	.01406
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00255	.00064	.00124	.02668	.00421	.07601	.00026
SDev	.00110	.00000	.00722	.00072	.01244	.01559	.00000
%RSD	43.297	.00114	259.25	2.7014	295.59	43.301	.00000
#1	.00782	.00064	.00496	.02752	.01476	.04501	.00026
#2	.00191	.00064	-.00062	.02627	-.00951	.04501	.00026
#3	.00191	.00064	-.00062	.02627	.00738	.01801	.00026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni2316	[illegible] 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00077	.06774	.00096	.02125	-.00055	-.00052
SDev	.00266	.02468	.00144	.00575	.00167	.00088
%RSD	-346.41	39.071	149.84	27.056	-302.74	-168.92
#1	.00270	.07115	.00096	.02087	.00112	-.00007
#2	-.00270	.08700	-.00048	.02721	-.00222	-.00157
#3	-.00270	.07557	.00241	.01577	-.00055	.00001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

Method. CLP6LD Sample Name: LCSFW:LCSW Operator: SRF
Run Time: 01/28/91 15:06:09
Comment: LCS
Mode: CONC Corr. Factor: 1

Elem	Al7082	Sb2068	As1976	Ba4974	Be3170	Cd2265	Ca7179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0568	.96026	.20567	2.0707	.50922	.49275	49.997
SDev	.0044	.01184	.00600	.0104	.00765	.00211	.706
%RSD	.21670	1.2332	2.9176	.51096	.71646	.42749	.61135
#1	2.0530	.95168	.19870	2.0283	.50711	.49075	49.777
#2	2.0559	.97377	.20911	2.0211	.50711	.49357	49.858
#3	2.0617	.95537	.20907	2.0416	.51347	.49472	50.347
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High	2.6060	1.1740		2.4490	.61200	.59580	61.820
Low	1.7380	.78200		1.6330	.40800	.40020	41.215

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.47541	.49640	.49420	2.0740	4.9278	24.181	.48530
SDev	.00191	.00291	.00215	.0105	.0260	.109	.00177
%RSD	.40161	.58600	.43403	.50579	.52892	.45139	.36503
#1	.47541	.49577	.49544	2.0686	4.9020	24.163	.48428
#2	.47750	.49386	.49173	2.0673	4.9168	24.082	.48428
#3	.47732	.49958	.49544	2.0861	4.9527	24.298	.48774
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.61200	.62400	.62280	2.4570	6.1680	30.890	.61920
Low	.40800	.41600	.41520	1.6750	4.1120	20.600	.41280

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.48287	48.889	.48583	49.158	.49176	3.1512
SDev	.00305	.177	.00144	.244	.00347	.0129
%RSD	.63144	.36219	.29705	.49680	.70651	.40702
#1	.48517	48.818	.48583	49.052	.49065	3.1409
#2	.47941	48.759	.48478	48.984	.48898	3.1471
#3	.48402	49.091	.48727	49.477	.49565	3.1655
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.59640	62.480	.59760	61.640	.60840	3.9800
Low	.39760	41.650	.39840	41.090	.40560	2.6530

Method: CLFOLD Sample Name: 9012105-01:S Operator: SRF
Run Time: 01/28/91 15:08:58
Comment: C1006
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be2130	Cd2265	Ca2179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02279	-.00370	-.01299	.24507	.00000	.00025	140.35
SDev	.00427	.01487	.01204	.00120	.00000	.00021	.48
%RSD	18.277	-402.26	-86.027	.49100	.00000	88.791	.24177
#1	.01942	-.01719	-.00009	.24286	.00000	-.00001	139.81
#2	.02379	-.00615	-.02094	.24627	.00000	.00053	140.72
#3	.02816	.01225	-.02095	.24507	.00000	.00053	140.50

Elem	Cr2677	Co2286	Cu2247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.00190	.00474	.04002	-.00424	36.199	.00629
SDev	.00000	.00220	.00107	.00000	.00902	.095	.00000
%RSD	.00240	115.45	24.721	.00240	-212.57	.26202	.00000
#1	.00000	.00064	.00310	.04003	.00526	36.100	.00629
#2	.00000	.00064	.00496	.04002	-.00530	36.289	.00629
#3	.00000	.00444	.00496	.04002	-.01269	36.208	.00639

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00192	1.9802	-.00192	46.560	.00111	.32821
SDev	.00240	.0428	.00250	.146	.00000	.00153
%RSD	-124.90	2.1590	-129.95	.31460	.00582	.46739
#1	.00000	1.9921	-.00048	46.496	.00111	.32820
#2	-.00115	1.9728	-.00049	46.727	.00111	.32974
#3	-.00461	2.0158	-.00481	46.456	.00111	.32667

Method: CLP0LD Sample Name: 9012105-01:S2 Operator: SRF
Run Time: 01/28/91 15:11:39
Comment: C1006D
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01408	-.00615	-.09035	.21579	.00000	.00041	124.47
SDev	.00878	.00638	.13021	.00070	.00000	.00021	.62
%RSD	62.410	-103.74	-144.13	.32194	.00000	52.084	.49659
#1	.00485	-.01352	-.03130	.21498	.00000	.00020	123.78
#2	.02233	-.00248	-.00012	.21619	.00000	.00063	125.01
#3	.01505	-.00246	-.23962	.21619	.00000	.00041	124.49

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00063	.00254	.00248	.07922	.00174	31.896	.00639
SDev	.00110	.00000	.00107	.00072	.00244	.154	.00000
%RSD	-173.64	.00028	43.160	.90966	140.45	.48148	.00000
#1	.00000	.00254	.00310	.07881	.00315	31.725	.00639
#2	.00000	.00254	.00125	.08005	.00314	32.022	.00639
#3	-.00191	.00254	.00310	.07880	-.00108	31.941	.00639

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	1.7510	-.00192	40.829	.00054	.28608
SDev	.0000	.0381	.00000	.182	.00097	.00321
%RSD	.00000	2.1769	-.00150	.44678	177.30	1.1203
#1	.00000	1.7668	-.00192	40.649	.00110	.28505
#2	.00000	1.7075	-.00192	41.014	.00110	.28352
#3	.00000	1.7787	-.00192	40.824	-.00057	.28967

Method. CLFOLD Sample Name: 9012105-01:DS Operator: SRF
Run Time: 01/28/91 15:14:22
Comment: C1006S
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.1757	.51977	2.0770	2.3227	.05424	.05357	130.48
SDev	.0105	.01606	.0060	.0100	.00091	.00091	.12
%RSD	.48307	3.0901	.28815	.43136	1.6816	1.7028	.09507
#1	2.1840	.53078	2.0829	2.3339	.05371	.05321	130.47
#2	2.1636	.50131	2.0736	2.3147	.05371	.05461	130.39
#3	2.1782	.52711	2.0735	2.3195	.05529	.05289	130.62

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.21575	.51607	.25330	1.1203	.51555	33.372	.52416
SDev	.00191	.00110	.00214	.0000	.00460	.000	.00157
%RSD	.88486	.21304	.84660	.00021	.89140	.00000	.29268
#1	.21575	.51480	.25578	1.1203	.52082	33.372	.52570
#2	.21766	.51671	.25206	1.1204	.51345	33.372	.52416
#3	.21384	.51671	.25206	1.1203	.51238	33.372	.52263

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.52551	1.7470	.04807	42.643	.52058	.81344
SDev	.00115	.0068	.00300	.155	.00192	.00154
%RSD	.21970	.39187	6.2490	.36436	.36894	.18887
#1	52475	1.7549	.04711	42.821	.52169	.81497
#2	52666	1 7431	.04567	42.528	.51836	.81344
#3	.52551	1.7431	.05144	42.569	.52169	.81190

07.052

Method. CLFOLD Sample Name. 9012105-01:ISD/5 Operator: SRP
Run Time: 01/28/91 15:17.06
Comment: C1006L
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00388	-.00985	-.00003	.05415	.00000	-.00011	30.189
SDev	.00878	.01104	.00003	.00070	.00000	.00106	.085
%RSD	226.24	-112.06	-121.48	1.2830	.00000	-933.42	.28315
#1	.00485	-.00983	-.00003	.05495	.00000	.00021	30.195
#2	.01214	-.02090	-.00006	.05375	.00000	-.00129	30.271
#3	-.00535	.00118	.00001	.05375	.00000	.00074	30.100

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00191	.00064	.00062	.02543	.00457	7.6071	.00179
SDev	.00191	.00000	.00107	.00072	.01119	.0468	.00000
%RSD	99.974	.00114	172.48	2.8464	245.01	.61493	.00000
#1	.00000	.00064	.00124	.02502	-.00739	7.6341	.00179
#2	.00191	.00064	.00124	.02502	.00632	7.6341	.00179
#3	.00382	.00064	-.00062	.02627	.01477	7.5531	.00179

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00307	.37154	.00000	9.5687	.00000	.07140
SDev	.00067	.07245	.00220	.0760	.00096	.00177
%RSD	-21.651	19.500	307080.	.79396	42269.	2.4846
#1	-.00230	.45059	-.00192	9.6235	-.00056	.07242
#2	-.00346	.30830	.00241	9.6006	.00111	.07243
#3	-.00346	.35573	-.00048	9.4820	-.00055	.06935

Method CLFOLD Sample Name: 9012105-02.S Operator: SRF
Run Time: 01/28/91 15:19:49
Comment: F1001
Mode: CONC Corr Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01115	-.00248	-.01047	.23103	.00000	.00021	130.83
SDev	.00445	.00736	.01805	.00070	.00000	.00067	.10
%RSD	39.943	-296.80	-172.48	.30071	.00000	319.34	.07281
#1	.01212	-.00249	-.02089	.23183	.00000	.00042	130.91
#2	.01504	-.00983	-.02089	.23063	.00000	.00075	130.73
#3	.00629	.00488	.01038	.23063	.00000	-.00054	130.87

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00191	.00127	.00124	.02126	-.00001	33.363	.01278
SDev	.00191	.00110	.00000	.00000	.00642	.016	.00044
%RSD	99.978	86.588	.00001	.00459	-50780.	.04674	3.4641
#1	.00382	.00063	.00124	.02126	.00421	33.372	.01253
#2	.00000	.00254	.00124	.02126	-.00740	33.345	.01253
#3	.00191	.00063	.00124	.02126	.00316	33.372	.01330

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00077	2.1304	-.00377	38.810	.00278	.32513
SDev	.00067	.0298	.00250	.105	.00167	.00267
%RSD	-86.603	1.4007	-74.208	.27109	59.875	.82048
#1	.00000	2.1344	-.00048	38.915	.00112	.32667
#2	-.00115	2.1581	-.00481	38.705	.00277	.32668
#3	-.00115	2.0988	-.00481	38.810	.00445	.32205

Method: CLPOLD Sample Name: 9012105-07:S Operator: SRF
Run Time: 01/28/91 15:22:77
Comment: F1002
Mode: CONC Corr. Factor: 1

Elem	Al7082	Sb2068	As1976	Ba4974	Be7170	Cd2265	Ca7179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01406	-.01597	.00688	.23067	.00000	-.00101	170.25
SDev	.00589	.00563	.01200	.00120	.00000	.00081	.96
%RSD	41.884	-35.279	174.55	.52174	.00000	-80.065	.77616
#1	.01066	-.01721	-.00006	.22942	.00000	-.00197	129.18
#2	.02086	-.02088	.02074	.23067	.00000	-.00054	130.54
#3	.01066	-.00983	-.00005	.23187	.00000	-.00054	131.04

Elem	Cr2677	Co2286	Cu7247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00191	.00127	.00062	.02126	-.00212	33.246	.01278
SDev	.00191	.00110	.00107	.00125	.00771	.180	.00044
%RSD	99.979	86.589	172.63	5.8872	-344.01	.54089	3.4641
#1	.00782	.00254	.00124	.02251	.00210	33.048	.01253
#2	.00191	.00063	.00124	.02126	.00209	33.291	.01253
#3	.00000	.00063	-.00062	.02001	-.01056	33.399	.01330

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00270	2.0711	-.00289	38.614	.00278	.33386
SDev	.00305	.0274	.00167	.266	.00001	.00237
%RSD	172.29	1.7222	-57.713	.68790	.18841	.70921
#1	.00461	2.0795	-.00192	38.382	.00279	.33128
#2	.00746	2.0870	-.00481	38.555	.00278	.33476
#3	-.00115	2.0870	-.00197	38.904	.00277	.33597

Method: CLPOLD Sample Name: 9012105-04;S Operator: SFF
Run Time: 01/28/91 15:25:17
Comment: F1007
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00775	-.00124	-.01392	.22581	.00000	-.00004	128.72
SDev	.00526	.00562	.00600	.00120	.00000	.00059	.67
%RSD	67.827	-457.21	-47.085	.53286	.00000	-1469.7	.49037
#1	.00737	-.00616	-.02085	.22461	.00000	.00000	128.01
#2	.00629	.00489	-.01045	.22581	.00000	-.00065	128.93
#3	.01358	-.00245	-.01047	.22702	.00000	.00053	129.22

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00064	.00000	.00372	.01960	.00034	32.724	.01330
SDev	.00220	.00110	.00107	.00072	.00922	.140	.00000
%RSD	346.20	561090.	28.853	3.6841	2702.7	.42884	.00000
#1	.00191	.00063	.00310	.02001	.01054	32.562	.01330
#2	.00191	.00063	.00310	.01876	-.00740	32.805	.01330
#3	-.00191	-.00127	.00495	.02001	-.00212	32.805	.01330

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00115	2.0593	-.00433	38.026	.00500	.30766
SDev	.00115	.0381	.00083	.165	.00254	.00178
%RSD	-100.000	1.8510	-19.240	.43484	50.822	.57701
#1	-.00230	2.0751	-.00337	37.843	.00445	.30664
#2	.00000	2.0158	-.00481	38.071	.00278	.30663
#3	-.00115	2.0870	-.00481	38.164	.00777	.30971

Method: CLFOLD Sample Name: 9012105-05:S Operator: SRF
Run Time: 01/28/91 15:28:01
Comment: F1004
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.11365	-.00378	.00289	.23223	.00000	.00021	131.85
SDev	.00803	.00566	.00603	.00070	.00000	.00033	.05
%RSD	7.0634	-149.92	208.97	.29914	.00000	156.71	.04013
#1	.10976	-.00995	-.00057	.22303	.00000	.00014	131.89
#2	.12288	.00117	-.00062	.23183	.00000	.00057	131.86
#3	.10830	-.00255	.00985	.23183	.00000	-.00008	131.79

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00001	.00127	.00251	.34940	.00163	33.525	.01381
SDev	.00382	.00110	.00107	.00072	.00426	.078	.00044
%RSD	54640.	86.365	42.700	.20621	261.45	.23256	3.2075
#1	.00387	.00254	.00313	.34898	-.00329	33.615	.01406
#2	-.00381	.00064	.00313	.35023	.00409	33.480	.01330
#3	.00001	.00064	.00127	.34898	.00410	33.480	.01406

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00115	2.0474	-.00287	38.996	.00552	.32713
SDev	.00200	.0274	.00167	.140	.00254	.00179
%RSD	-173.21	1.3375	-57.970	.35800	45.970	.54581
#1	-.00346	2.0158	-.00191	39.153	.00275	.32816
#2	.00000	2.0632	-.00480	38 887	.00773	.32507
#3	.00000	2.0672	-.00191	38.948	.00607	.32815

Method: CLFOLD Sample Name: HALFSTD:CCV Operator: SRF
Run Time: 01/28/91 15:10:44
Comment: CCV#2
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	25.142	2.6161	2.6446	2.5125	.54186	2.6804	27.165
SDev	.056	.0167	.0415	.0063	.00158	.0207	.202
%RSD	.22452	.63931	1.5683	.24689	.29154	.77306	.74262
#1	25.135	2.5979	2.6031	2.5361	.54028	2.6574	26.935
#2	25.089	2.6198	2.6448	2.5253	.54186	2.6863	27.249
#3	25.202	2.6307	2.6860	2.5361	.54344	2.6976	27.311
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	27.500	2.7500	2.7500	2.7500	.55000	2.7500	27.500
Low	22.500	2.2500	2.2500	2.2500	.45000	2.2500	22.500

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.6342	2.6293	2.5094	10.688	2.6334	25.576	2.6227
SDev	.0199	.0172	.0049	.056	.0223	.083	.0144
%RSD	.75439	.65319	.19572	.52025	.84783	.32260	.54906
#1	2.6119	2.6115	2.5131	10.629	2.6081	25.486	2.6068
#2	2.6405	2.6305	2.5039	10.697	2.6503	25.594	2.6252
#3	2.6501	2.6458	2.5113	10.739	2.6418	25.648	2.6351
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	2.7500	2.7500	11.000	2.7500	27.500	2.7500
Low	2.2500	2.2500	2.2500	9.0000	2.2500	22.500	2.2500

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.6333	24.660	.50848	24.773	2.6228	2.6136
SDev	.0121	.110	.00220	.068	.0126	.0111
%RSD	.46108	.44678	.43353	.27251	.48166	.42505
#1	2.6206	24.569	.50607	24.822	2.6094	2.6008
#2	2.6344	24.628	.50896	24.696	2.6245	2.6208
#3	2.6448	24.783	.51040	24.800	2.6345	2.6192
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	27.500	.55000	27.500	2.7500	2.7500
Low	2.2500	22.500	.45000	22.500	2.2500	2.2500

Method. CLFOLD Sample Name: STDB:CCB Operator: SRF
Run Time: 01/28/91 15:33:35
Comment: CCB#2
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01166	.00858	-.00006	.00321	.00000	.00114	.02836
SDev	.01213	.01277	.00004	.00000	.00000	.00045	.00228
%RSD	104.08	148.90	-77.031	.00000	.00000	39.184	8.0357
#1	.02526	.01597	-.00011	.00321	.00000	.00128	.03035
#2	.00777	-.00617	-.00005	.00321	.00000	.00150	.02886
#3	.00194	.01593	-.00002	.00321	.00000	.00064	.02587
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00127	.00381	.00248	.02585	-.00107	.03601	.00051
SDev	.00292	.00291	.00107	.00315	.00528	.01559	.00044
%RSD	229.03	76.371	43.268	12.169	-494.94	43.301	86.603
#1	-.00191	.00635	.00310	.02877	-.00107	.04501	.00102
#2	.00382	.00064	.00310	.02627	-.00634	.04501	.00026
#3	.00191	.00444	.00124	.02252	.00422	.01801	.00026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni3716	[illegible] 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00115	.09881	.00000	.02338	.00000	.00204
SDev	.00115	.02738	.00083	.00884	.00097	.00089
%RSD	100.00	27.713	86031.	37.790	128650.	43.578
#1	.00115	.08300	-.00048	.02848	-.00056	.00306
#2	.00230	.13043	.00096	.01318	.00112	.00152
#3	.00000	.08300	-.00048	.02848	-.00055	.00153
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

Method CLPOLD Sample Name: 9012105-06:S Operator: SPP
Run Time: 01/28/91 15:36:24
Comment: F1005
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02572	-.00737	-.01746	.24386	.00000	.00200	140.55
SDev	.00937	.00927	.03008	.00241	.00000	.00096	1.25
%RSD	36.429	-125.77	-172.23	.98684	.00000	48.100	.89275
#1	.01503	-.01719	-.00006	.24386	.00000	.00311	139.83
#2	.02961	-.00614	-.05219	.24146	.00000	.00139	139.83
#3	.03252	.00123	-.00013	.24627	.00000	.00150	142.00

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.00000	.00124	.01792	.00139	35.443	.01406
SDev	.00000	.00110	.00000	.00072	.00792	.342	.00000
%RSD	4.0412	613320.	.00584	4.0407	570.94	.96487	.00000
#1	.00000	.00063	.00124	.01876	-.00318	35.182	.01406
#2	.00000	.00063	.00124	.01751	-.00319	35.317	.01406
#3	.00000	-.00127	.00124	.01751	.01053	35.830	.01406

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00078	2.2055	-.00144	40.965	.00444	.33232
SDev	.00133	.0119	.00220	.361	.00167	.00444
%RSD	-346.41	.53764	-152.61	.88145	37.570	1.3370
#1	-.00115	2.2174	-.00193	40.705	.00611	.32976
#2	-.00115	2.2055	-.00337	40.813	.00277	.32976
#3	.00115	2.1937	.00096	41.378	.00444	.33746

Method. CLPOLD Sample Name: 9012105-07:S Operator: SRF
Run Time: 01/28/91 15:39:07
Comment. F1006
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01892	.00119	-.01398	.23063	.00000	-.00022	132.23
SDev	.00168	.01688	.01203	.00000	.00000	.00028	.03
%RSD	8.8869	1413.3	-86.061	.00000	.00000	-127.58	.02436
#1	.02086	.00488	-.02092	.23063	.00000	-.00001	132.23
#2	.01795	.01593	-.02092	.23063	.00000	-.00011	132.20
#3	.01795	-.01722	-.00009	.23063	.00000	-.00054	132.27

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00318	.00190	-.00062	.03544	-.00213	33.246	.01253
SDev	.00110	.00110	.00000	.00144	.00558	.062	.00077
%RSD	34.633	57.724	-.02346	4.0754	-262.22	.18760	6.1224
#1	.00191	.00064	-.00062	.03627	-.00846	33.210	.01330
#2	.00382	.00254	-.00062	.03627	.00209	33.210	.01253
#3	.00382	.00254	-.00062	.03377	-.00002	33.318	.01176

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00115	2.1304	-.00241	38.185	.00389	.33797
SDev	.00416	.0725	.00083	.061	.00254	.00237
%RSD	360.56	3.4008	-34.639	.16091	65.346	.70093
#1	-.00230	2.0514	-.00377	38.256	.00611	.34055
#2	.00576	2.1937	-.00192	38.143	.00445	.33590
#3	.00000	2.1462	-.00192	38.156	.00112	.33746

Method CLFOLD Sample Name: 9012105-08.S Operator: SFF
Run Time: 01/28/91 15:41:50
Comment: F1007
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.04661	.00364	-.00021	.23103	.00000	-.00005	133.02
SDev	.01496	.00561	.01036	.00070	.00000	.00065	.32
%RSD	32.091	154.09	-5039.2	.30071	.00000	-1338.3	.23777
#1	.04272	.00488	-.00019	.23183	.00000	-.00066	133.35
#2	.06312	.00853	.01014	.23063	.00000	.00063	132.72
#3	.03398	-.00249	-.01057	.23063	.00000	-.00012	132.98

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00318	.00190	.00124	.05712	.00066	33.525	.01406
SDev	.00220	.00440	.00186	.00145	.01014	.192	.00000
%RSD	69.257	230.87	149.32	2.5303	1525.4	.57153	.00000
#1	.00191	-.00317	.00310	.05878	.01157	33.696	.01406
#2	.00573	.00444	.00124	.05628	-.00110	33.318	.01406
#3	.00191	.00444	-.00061	.05628	-.00847	33.561	.01406

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	2.1660	-.00289	38.586	.00334	.31793
SDev	.0012	.0181	.00220	.268	.00096	.00178
%RSD	-709e6	.83624	-76.379	.69473	28.768	.55836
#1	.00115	2.1819	-.00481	38.860	.00444	.31895
#2	-.00115	2.1462	-.00048	38.325	.00279	.31588
#3	.00000	2.1700	-.00337	38.572	.00278	.31897

Method: CLFOLD Sample Name: 9012105-09.S Operator: SRF
Run Time. 01/28/91 15:44:11
Comment: F1008
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1130	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02911	-.01188	-.00419	.22862	.00000	-.00015	111.26
SDev	.00104	.00168	.01590	.00184	.00000	.00109	.28
%RSD	10.425	-26.535	-378.99	.80196	.00000	-710.62	.21554
#1	.01252	-.01384	-.00070	.22702	.00000	-.00060	111.01
#2	.02668	-.01022	-.02155	.21063	.00000	-.00094	111.57
#3	.02814	-.01758	.00967	.22822	.00000	.00109	111.21

Elem	Cr2677	Co2286	Cu1247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00448	.00128	.01128	1.1464	.00161	33.201	.01713
SDev	.00221	.00291	.00108	.0608	.00542	.122	.00077
%RSD	49.215	226.75	9.5496	4.5118	150.21	.36681	4.4776
#1	.00197	.00065	.01065	1.2809	.00819	33.075	.01636
#2	.00575	-.00126	.01066	1.3572	-.00237	33.318	.01790
#3	.00576	.00446	.01252	1.4010	.00500	33.210	.01713

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00107	2.1028	-.00180	38.197	.00431	.32411
SDev	.00176	.0807	.00166	.205	.00167	.00088
%RSD	57.282	3.8385	-43.830	.53581	38.672	.27099
#1	.00146	2.0195	-.00188	38.058	.00598	.32331
#2	.00115	2.1977	-.00476	38.412	.00264	.32485
#3	.00451	2.0751	-.00476	38.100	.00431	.32482

Method: CLFOLD Sample Name: 9012105-10:S Operator: SFF
Run Time: 01/28/91 15:47.16
Comment: F1009
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02174	-.00770	-.00009	.22702	.00000	.00014	100.15
SDev	.00589	.00764	.00002	.00120	.00000	.00097	.74
%RSD	27.597	-206.80	-25.316	.52004	.00000	667.75	.25460
#1	.02814	.00487	-.00012	.22581	.00000	.00096	102.83
#2	.01794	-.00982	-.00008	.22702	.00000	-.00086	100.51
#3	.01794	-.00613	-.00008	.22822	.00000	.00032	100.11

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00127	.00190	.00186	.02084	.00702	33.453	.01764
SDev	.00220	.00220	.00107	.00072	.00678	.071	.00044
%RSD	173.15	115.46	57.672	3.4711	96.656	.21359	2.5102
#1	.00782	.00444	.00124	.02001	.01475	33.372	.01790
#2	.00000	.00063	.00124	.02126	.00420	33.507	.01790
#3	.00000	.00063	.00310	.02126	.00209	33.480	.01713

Elem	Ni2316	K 7664	Ag2280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00077	2.1779	-.00285	38.578	.00444	.29071
SDev	.00240	.0298	.00083	.157	.00289	.00255
%RSD	312.25	1.3702	-21.641	.40576	65.103	1.2211
#1	-.00115	2.1462	-.00227	38.407	.00779	.28661
#2	.00000	2.1818	-.00481	38.613	.00277	.29277
#3	.00246	2.2055	-.00227	38.715	.00277	.29275

Method: CLPOLD Sample Name: 9012105-11:S Operator: SPF
Run Time: 01/28/91 15:50:01
Comment: F1010
Mode. CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.09955	-.00518	-.01126	.22461	.00000	.00067	127.71
SDev	.00771	.00923	.02081	.00000	.00000	.00061	.29
%RSD	7.7451	-178.13	-184.75	.00000	.00000	91.668	.22641
#1	.10538	.00460	-.01129	.22461	.00000	-.00001	127.52
#2	.10247	-.00641	.00956	.22461	.00000	.00084	128.04
#3	.09081	-.01374	-.03206	.22461	.00000	.00117	127.57

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00129	.00065	.00072	1.0403	-.00236	32.562	.01713
SDev	.00397	.00190	.00387	.0007	.00483	.047	.00077
%RSD	307.23	295.16	534.64	.06953	-205.12	.14366	4.4776
#1	.00575	-.00126	.00506	1.0395	-.00341	32.508	.01713
#2	.00002	.00255	-.00051	1.0407	.00292	32.589	.01790
#3	-.00189	.00065	-.00237	1.0407	-.00657	32.589	.01636

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00346	2.5415	-.00429	37.559	.00267	.32956
SDev	.00346	.0695	.00083	.085	.00001	.00156
%RSD	100.00	2.7338	-19.418	.22628	.42222	.47283
#1	.00346	2.6206	-.00477	37.468	.00268	.32800
#2	.00000	2.5138	-.00333	37.636	.00266	.33112
#3	.00691	2.4901	-.00477	37.572	.00266	.32956

Method: CLFOLD Sample Name: 9012105-12;S Operator: SRF
Run Time: 01/28/91 15:52:44
Comment: F1011
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01167	-.00244	-.08377	.21900	.00000	-.00025	126.19
SDev	.00890	.00368	.14577	.00139	.00000	.00065	.58
%RSD	76.582	-150.45	-174.86	.63445	.00000	-253.74	.46174
#1	.01940	-.00246	-.02091	.21739	.00000	-.00086	125.65
#2	.00191	.00124	-.24996	.21980	.00000	.00042	126.80
#3	.01357	-.00611	.02077	.21980	.00000	-.00033	126.13

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00191	.00127	.00310	.02085	-.00388	32.418	.01688
SDev	.00191	.00110	.00186	.00072	.00322	.165	.00044
%RSD	-100.02	86.589	59.960	3.4663	-83.005	.50904	2.6243
#1	.00000	.00254	.00124	.02126	-.00107	32.238	.01713
#2	-.00191	.00063	.00495	.02127	-.00317	32.562	.01636
#3	-.00382	.00063	.00310	.02001	-.00740	32.454	.01713

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00038	2.1542	-.00385	37.349	.00055	.27633
SDev	.00067	.0274	.00167	.175	.00193	.00235
%RSD	173.21	1.2712	-43.284	.46900	352.50	.84923
#1	.00000	2.1700	-.00481	37.147	-.00056	.27582
#2	.00115	2.1700	-.00193	37.465	.00277	.27888
#3	.00000	2.1225	-.00481	37.474	-.00057	.27427

Method: CLFOLD Sample Name: 9012105-13;S Operator SRP
Run Time: 01/28/91 15:55:27
Comment: F1012
Mode: CONC Corr Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01989	.00217	.00641	.22381	.00000	.00063	126.86
SDev	.00803	.00212	.01594	.00070	.00000	.00121	.61
%RSD	40.363	97.765	248.81	.31040	.00000	190.99	.47784
#1	.01940	.00095	.00989	.22341	.00000	.00203	126.20
#2	.01211	.00461	.02032	.22461	.00000	-.00001	127.39
#3	.02814	.00093	-.01099	.22341	.00000	-.00012	126.98

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00320	.00191	.00134	1.0166	-.00371	32.643	.01636
SDev	.00110	.00110	.00000	.0139	.01794	.162	.00000
%RSD	34.430	57.424	.10412	1.3721	-483.07	.49642	.00000
#1	.00193	.00255	.00134	1.0007	-.02130	32.481	.01636
#2	.00384	.00065	.00134	1.0270	-.00442	32.805	.01636
#3	.00384	.00255	.00134	1.0220	.01457	32.643	.01636

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00077	2.0553	-.00227	37.723	.00212	.30748
SDev	.00067	.0381	.00167	.182	.00096	.00321
%RSD	86.603	1.8545	-70.409	.48196	45.424	1.0437
#1	.00115	2.0395	-.00333	37.544	.00267	.30646
#2	.00000	2.0988	-.00333	37.908	.00101	.31108
#3	.00115	2.0277	-.00044	37.716	.00267	.30491

Method: CLFOLD Sample Name: 9012105-14;S Operator. SFF
Run Time: 01/28/91 15:58.10
Comment: F101I
Mode. CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1170	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01009	-.00615	-.15287	.21378	.00000	.00107	122.89
SDev	.00589	.00677	.11427	.00000	.00000	.00086	.49
%RSD	19.574	-107.64	-74.720	.00000	.00000	80.285	.39698
#1	.02177	-.00981	-.21880	.21378	.00000	.00193	122.78
#2	.01106	-.00984	-.21884	.21378	.00000	.00021	122.47
#3	.01543	.00121	-.02097	.21378	.00000	.00107	123.41

Elem	Cr2677	Co2286	Cu1247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00191	.00000	.00248	.02001	.00103	31.806	.01662
SDev	.00191	.00110	.00107	.00000	.01280	.094	.00044
%RSD	99.979	549450.	43.266	.00648	1240.3	.29415	2.6647
#1	.00000	.00063	.00124	.02001	-.00108	31.752	.01636
#2	.00382	.00063	.00310	.02001	.01475	31.752	.01676
#3	.00191	-.00127	.00310	.02001	-.01058	31.914	.01713

Elem	Ni2316	K_7664	Ag1280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00384	2.2772	-.00289	36.879	.00000	.25628
SDev	.00290	.0653	.00300	.169	.00193	.00090
%RSD	75.498	2.9244	-104.02	.45872	182470.	.34927
#1	.00346	2.2292	-.00625	36.739	-.00223	.25732
#2	.00691	2.1700	- 00048	36.743	.00112	.25575
#3	.00115	2.3004	-.00197	37.034	.00111	.25576

Method. CLFOLD Sample Name: 9012105-15:S Operator: SRF
Run Time: 01/28/91 16.00:54
Comment: F1014
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.05777	.00583	.07219	.22742	.00053	-.00070	127.76
SDev	.01034	.00929	.12628	.00184	.00091	.00061	.30
%RSD	17.895	159.30	174.92	.80821	173.21	-87.072	.23466
#1	.05583	.01568	.21801	.22942	.00000	-.00120	127.66
#2	.06895	.00459	-.00075	.22581	.00000	-.00002	127.52
#3	.04855	-.00277	-.00068	.22702	.00158	-.00088	128.10

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00384	.00318	.01063	1.0758	.01947	33.138	.01739
SDev	.00331	.00220	.00186	.0033	.00853	.102	.00044
%RSD	86.117	69.047	17.471	.30786	43.817	.30856	2.5471
#1	.00002	.00445	.01063	1.0770	.01032	33.210	.01713
#2	.00575	.00445	.00877	1.0720	.02087	33.021	.01790
#3	.00575	.00065	.01249	1.0783	.02721	33.183	.01713

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00192	2.1739	-.00381	38.600	.00100	.32593
SDev	.00176	.0479	.00167	.120	.00168	.00090
%RSD	91.652	2.2044	-43.765	.31204	167.16	.27659
#1	.00000	2.1818	-.00477	38.733	-.00068	.32645
#2	.00230	2.2174	-.00477	38.498	.00101	.32645
#3	.00346	2.1225	-.00188	38.568	.00267	.32489

Method: CLPOLD Sample Name: HALFSTD;CCV Operator: SRF
Run Time: 01/28/91 16:03:37
Comment: CCV#1
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4934	Be1130	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	24.578	2.5308	2.5118	2.4888	.52765	2.5689	26.291
SDev	.109	.0153	.0279	.0062	.00158	.0099	.090
%RSD	.44539	.60295	1.1101	.24810	.29940	.38561	.34377
#1	24.428	2.5137	2.5227	2.4820	.52607	2.5582	26.210
#2	24.647	2.5357	2.4801	2.4940	.52923	2.5779	26.388
#3	24.529	2.5471	2.5326	2.4904	.52765	2.5705	26.277
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	27.500	2.7500	2.7500	2.7500	.55000	2.7500	27.500
Low	22.500	2.2500	2.2500	2.2500	.45000	2.2500	22.500

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.5349	2.5176	2.4747	10.464	2.5525	25.153	2.5587
SDev	.0112	.0098	.0102	.030	.0091	.041	.0081
%RSD	.44173	.38816	.41341	.28699	.35807	.16401	.31774
#1	2.5222	2.5068	2.4630	10.434	2.5578	25.108	2.5500
#2	2.5432	2.5201	2.4797	10.494	2.5577	25.189	2.5661
#3	2.5397	2.5258	2.4815	10.466	2.5419	25.162	2.5600
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	2.7500	2.7500	11.000	2.7500	27.500	2.7500
Low	2.2500	2.2500	2.2500	9.0000	2.2500	22.500	2.2500

Elem	Ni3316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.5377	24.759	.50271	24.433	2.5481	2.5489
SDev	.0087	.078	.00220	.076	.0075	.0107
%RSD	.34391	.31405	.43847	.31006	.29599	.42014
#1	2.5273	24.688	.50030	24.363	2.5409	2.5367
#2	2.5474	24.842	.50319	24.513	2.5559	2.5566
#3	2.5411	24.747	.50463	24.423	2.5476	2.5535
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	27.500	.55000	27.500	2.7500	2.7500
Low	2.2500	22.500	.45000	22.500	2.2500	2.2500

Method: CLFOLD Sample Name: STDB:CCB Operator: SRF
Run Time: 01/28/91 16:06:28
Comment: CCB#1
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00097	-.00167	-.00001	.00241	.00051	.00175	.01991
SDev	.01111	.01124	.00004	.00070	.00091	.00070	.01038
%RSD	1148.9	-305.92	-179.21	28.868	171.21	39.917	52.112
#1	.01068	.00859	-.00005	.00121	.00158	.00246	.01029
#2	.00140	-.00612	-.00002	.00201	.00000	.00107	.01996
#3	-.01117	-.01349	.00004	.00201	.00000	.00171	.00952
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00127	.00063	.00124	.02001	.00035	.02701	.00151
SDev	.00110	.00000	.00000	.00250	.00162	.01559	.00117
%RSD	-86.633	.00394	.02016	12.488	466.10	57.735	76.376
#1	.00000	.00063	.00124	.02251	-.00107	.01801	.00256
#2	-.00191	.00061	.00124	.02001	-.00001	.01801	.00179
#3	-.00191	.00061	.00124	.01752	.00211	.04501	.00026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni2316	[illegible] 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00077	.07510	-.00096	.01488	.00055	.00151
SDev	.00067	.02984	.00167	.01450	.00096	.00000
%RSD	86.601	39.736	-173.21	97.478	174.56	.20091
#1	.00115	.10672	-.00192	.03103	-.00056	.00151
#2	.00115	.04741	.00096	.01061	.00110	.00151
#3	.00000	.07115	-.00192	.00298	.00110	.00151
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

Method: CLFOLD Sample Name: 9012105-16:S Operator: SRF
Run Time: 01/28/91 16:09:18
Comment: F1015
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.03300	-.00493	-.00761	.22461	.00000	.00064	129.17
SDev	.00445	.00926	.00600	.00120	.00000	.00102	.73
%RSD	13.491	-188.08	-166.16	.53571	.00000	160.03	.56338
#1	.02814	.00489	-.01053	.22341	.00000	.00010	128.36
#2	.03689	-.00614	-.00016	.22461	.00000	.00182	129.36
#3	.03397	-.01352	-.00014	.22581	.00000	.00000	129.78

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00191	.00127	.00186	.01876	-.00354	33.300	.01662
SDev	.00000	.00110	.00107	.00125	.00266	.139	.00044
%RSD	.00171	86.590	57.677	6.6727	-74.949	.41618	2.6647
#1	.00191	.00063	.00124	.02001	-.00319	33.183	.01636
#2	.00191	.00254	.00310	.01876	-.00108	33.264	.01636
#3	.00191	.00063	.00124	.01751	-.00636	33.453	.01713

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00192	2.1542	-.00337	38.731	.00000	.23575
SDev	.00476	.0548	.00000	.179	.00096	.00152
%RSD	227.16	2.5425	-.00378	.46123	83112.	.64534
#1	- .00115	2.1225	-.00337	38.633	.00111	.23422
#2	.00691	2.2174	-.00337	38.622	-.00055	.23726
#3	.00000	2.1225	-.00337	38.937	-.00055	.23576

Method: CLPOLD Sample Name: 9012105-17:S Operator: SRF
Run Time: 01/28/91 16:12:01
Comment: F1016
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00968	-.00398	-.00398	.22381	.00000	.00034	127.23
SDev	.00829	.01394	.02624	.00070	.00000	.00043	.36
%RSD	85.585	-350.42	-659.49	.31040	.00000	126.06	.27964
#1	.01649	-.01009	-.03177	.22461	.00000	-.00012	127.37
#2	.01211	-.01381	-.00052	.22341	.00000	.00074	127.50
#3	.00045	.01197	.02036	.22341	.00000	.00042	126.83

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00320	.00065	.00320	1.0362	.00121	32.643	.01688
SDev	.00292	.00190	.00322	.0036	.01057	.135	.00044
%RSD	91.058	295.18	100.55	.34833	872.74	.41368	2.6243
#1	.00002	.00255	-.00052	1.0383	-.01075	32.778	.01636
#2	.00575	-.00126	.00506	1.0383	.00508	32.643	.01713
#3	.00384	.00065	.00506	1.0320	.00931	32.508	.01713

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00038	2.1225	-.00333	37.849	.00156	.30902
SDev	.00176	.0660	.00289	.261	.00193	.00090
%RSD	458.26	3.1105	-86.721	.68827	123.91	.29216
#1	-.00115	2.1107	-.00333	38.073	-.00067	.30955
#2	.00230	2.1937	-.00044	37.910	.00268	.30797
#3	.00000	2.0632	-.00621	37.563	.00267	.30953

Method: CLFOLD Sample Name: 9012105-18;S Operator: SRF
Run Time: 01/28/91 16.14.44
Comment: F1016
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01988	-.00246	-.07993	.22381	.00000	.00064	129.79
SDev	.00468	.00002	.14742	.00070	.00000	.00028	.42
%RSD	23.557	-.96635	-184.45	.31040	.00000	44.317	.31997
#1	.01649	-.00248	-.00008	.22341	.00000	.00085	129.59
#2	.02523	-.00245	-.25005	.22741	.00000	.00032	129.50
#3	.01794	-.00244	.01034	.22461	.00000	.00075	130.26

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.00190	.00000	.01376	.00491	33.138	.01688
SDev	.00331	.00220	.00107	.00125	.00799	.056	.00044
%RSD	1201700.	115.46	77955.	9.0950	162.79	.16966	2.6243
#1	.00382	.00063	.00124	.01501	.00843	33.156	.01636
#2	-.00191	.00444	-.00062	.01375	.01053	33.075	.01713
#3	-.00191	.00063	-.00062	.01251	-.00424	33.183	.01713

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00038	2.0988	-.00385	38.374	.00166	.24449
SDev	.00176	.0000	.00083	.185	.00193	.00088
%RSD	458.26	.00000	-21.676	.48182	116.01	.36088
#1	.00230	2.0988	-.00481	38.356	.00279	.24499
#2	-.00115	2.0988	-.00337	38.198	-.00056	.24347
#3	.00000	2.0988	-.00337	38.567	.00277	.24501

Method: CLFOLD Sample Name: 9012105-19:S Operator: SRF
Run Time: 01/28/91 16:17:27
Comment: F1018
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.03253	-.00738	-.00014	.21458	.00000	-.00012	126.21
SDev	.00874	.00927	.02081	.00184	.00000	.00160	.63
%RSD	26.878	-125.56	-15081.	.85656	.00000	-1384.8	.50237
#1	.02379	-.00615	-.02093	.21619	.00000	.00106	126.86
#2	.04128	-.01720	-.00017	.21258	.00000	.00053	125.59
#3	.03253	.00121	.02069	.21498	.00000	-.00194	126.18

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.00127	.00186	.03710	-.00460	32.148	.00793
SDev	.00000	.00110	.00107	.00072	.00703	.176	.00000
%RSD	1.9466	86.578	57.622	1.9465	-152.87	.54660	.00000
#1	.00000	.00254	.00310	.03752	-.00108	32.319	.00793
#2	.00000	.00064	.00124	.03752	-.01269	31.968	.00793
#3	.00000	.00064	.00124	.03627	-.00003	32.157	.00793

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00230	1.7826	-.00433	40.660	.00222	.28969
SDev	.00000	.0653	.00167	.239	.00096	.00154
%RSD	.00000	3.6636	-38.493	.58789	43.402	.53197
#1	-.00230	1.7194	-.00337	40.884	.00277	.28969
#2	-.00230	1.7787	-.00337	40.408	.00111	.28816
#3	-.00230	1.8498	-.00625	40.688	.00277	.29124

Method: CLFOLD Sample Name: 9012105-20:S Operator: SRF
Run Time: 01/28/91 16:20:10
Comment: F1019
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01601	-.00640	-.00398	.21859	.00000	-.00011	128.53
SDev	.00512	.01103	.02403	.00120	.00000	.00028	.49
%RSD	31.981	-172.21	-604.06	.55046	.00000	-257.06	.37829
#1	.01066	.00461	-.03173	.21739	.00000	-.00043	127.98
#2	.01649	-.00638	.00991	.21859	.00000	.00010	128.74
#3	.02086	-.01744	.00988	.21980	.00000	.00000	128.88

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00129	.00128	.00072	.98864	-.00547	32.760	.01304
SDev	.00292	.00110	.00284	.00260	.00366	.125	.00044
%RSD	225.62	85.935	395.12	.26330	-66.923	.38078	3.3962
#1	.00384	.00064	.00319	.98572	-.00335	32.616	.01330
#2	-.00189	.00255	-.00238	.99073	-.00336	32.832	.01330
#3	.00193	.00064	.00134	.98947	-.00969	32.832	.01253

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00038	2.8419	-.00285	59.411	.00212	.31725
SDev	.00466	.0906	.00083	.223	.00097	.00267
%RSD	1212.4	3.1868	-29.253	.37568	45.865	.84077
#1	-.00230	2.8221	-.00333	59.161	.00268	.31417
#2	-.00230	2.7628	-.00333	59.484	.00100	.31682
#3	.00576	2.9407	-.00189	59.590	.00267	.31877

Method: CLP0LD Sample Name: 9012105-01:FS Operator: SRF
Run Time: 01/28/91 16:22:50
Comment: C1006A
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.03010	-.00494	-.01055	.23905	.00000	-.00037	138.93
SDev	.00084	.00214	.02755	.00120	.00000	.00094	.77
%RSD	2.7957	-43.347	-261.13	.50336	.00000	-255.83	.55107
#1	.02961	-.00618	-.02096	.23785	.00000	-.00012	138.21
#2	.03107	-.00618	.02069	.23905	.00000	.00042	138.86
#3	.02961	-.00247	-.03138	.24025	.00000	-.00140	139.73

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00318	.00064	.00310	.04002	-.00319	35.722	.01176
SDev	.00110	.00000	.00186	.00000	.00548	.266	.00000
%RSD	34.632	.00000	59.923	.00046	-171.77	.74462	.00000
#1	.00382	.00064	.00310	.04002	-.00636	35.506	.01176
#2	.00382	.00064	.00496	.04002	.00314	35.641	.01176
#3	.00191	.00064	.00124	.04002	-.00636	36.019	.01176

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00154	1.9802	-.00337	45.219	.00167	.31895
SDev	.00290	.0949	.00000	.299	.00193	.00154
%RSD	188.75	4.7904	-.00086	.66213	115.45	.48205
#1	.00115	1.8854	-.00337	44.943	.00278	.31741
#2	-.00115	1.9802	-.00337	45.177	.00278	.31896
#3	.00461	2.0751	-.00337	45.537	-.00056	.32049

Method: CLFOLD Sample Name: HALFSTD:CCV Operator. SFF
Run Time: 01/28/91 16:25:37
Comment· CCV#4
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1976	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	24.228	2.5298	2.4922	2.4683	.52449	2.5493	26.111
SDev	.008	.0106	.0180	.0039	.00000	.0035	.036
%RSD	.03182	.42096	.72261	.15671	.00000	.13725	.13876
#1	24.237	2.5175	2.5130	2.4699	.52449	2.5485	26.123
#2	24.222	2.5359	2.4818	2.4639	.52449	2.5531	26.140
#3	24.225	2.5359	2.4818	2.4711	.52449	2.5462	26.070
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	27.500	2.7500	2.7500	2.7500	.55000	2.7500	27.500
Low	22.500	2.2500	2.2500	2.2500	.45000	2.2500	22.500

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.5139	2.4947	2.4494	10.410	2.5291	25.045	2.5426
SDev	.0022	.0067	.0060	.003	.0040	.016	.0029
%RSD	.08769	.26807	.24372	.03181	.15781	.06226	.11422
#1	2.5164	2.4877	2.4518	10.406	2.5377	25.054	2.5439
#2	2.5126	2.5011	2.4425	10.411	2.5274	25.027	2.5446
#3	2.5126	2.4953	2.4537	10.412	2.5263	25.054	2.5392
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	2.7500	2.7500	11.000	2.7500	27.500	2.7500
Low	2.2500	2.2500	2.2500	9.0000	2.2500	22.500	2.2500

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.5211	24.542	.50174	24.219	2.5225	2.5377
SDev	.0013	.090	.00144	.067	.0073	.0015
%RSD	.05278	.36585	.28751	.27614	.28796	.06067
#1	2.5204	24.581	.50174	24.294	2.5192	2.5321
#2	2.5227	24.439	.50319	24.165	2.5308	2.5377
#3	2.5204	24.605	.50030	24.198	2.5175	2.5352
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	27.500	.55000	27.500	2.7500	2.7500
Low	2.2500	22.500	.45000	22.500	2.2500	2.2500

Method: CLFOLD Sample Name: STDB:CCB Operator: SFF
Run Time: 01/28/91 16:28:27
Comment: CCB#4
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be1130	Cd2265	Ca1179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00680	-.00124	-.00004	.00161	.00053	.00119	.02040
SDev	.01113	.00563	.00005	.00070	.00091	.00109	.00561
%RSD	161.71	-452.70	-130.72	19.245	171.21	78.297	27.502
#1	.01651	-.00249	-.00008	.00441	.00158	.00235	.02587
#2	.00923	.00491	-.00004	.00321	.00000	.00160	.02068
#3	-.00535	-.00615	.00001	.00321	.00000	.00021	.01466
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu1247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00127	.00254	.00062	.02001	.00281	.02701	.00102
SDev	.00221	.00000	.00107	.00250	.00582	.01559	.00000
%RSD	173.15	.00099	172.61	12.489	207.23	57.735	.00000
#1	.00782	.00254	-.00062	.02251	.00315	.04501	.00102
#2	.00000	.00254	.00124	.02001	-.00317	.01801	.00102
#3	.00000	.00254	.00124	.01751	.00844	.01801	.00102
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni2316	K 7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00078	.07115	-.00192	.02295	.00111	-.00107
SDev	.00266	.08952	.00144	.01595	.00001	.00089
%RSD	-692.82	125.87	-75.071	69.467	.51979	-86.077
#1	.00115	.15415	-.00048	.04127	.00112	-.00001
#2	.00115	.08300	-.00192	.01577	.00111	-.00155
#3	-.00746	-.02772	-.00337	.01190	.00111	-.00157
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

Method CLFOLD Sample Name: ICSAA:ICSA Operator. SFF
Run Time: 01/28/91 16:01:16
Comment·
Mode: CONC Corr. Factor: 1

Elem	Al1082	Sb2068	As1976	Ba4974	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	546.17	-.01547	-.41696	.01364	.00000	.00498	505.62
SDev	1.48	.02222	.04794	.00070	.00000	.00088	.62
%RSD	.27074	-140.64	-11.498	5.0940	.00000	17.640	.12740
#1	546.20	.00540	-.40318	.01404	.00000	.00571	505.60
#2	544.67	-.01298	-.47028	.01280	.00000	.00400	505.00
#3	547.63	-.02882	-.37742	.01404	.00000	.00524	506.24
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	648.07						592.85
Low	432.04						395.23

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01665	.00259	.00845	195.91	.01502	512.32	.03989
SDev	.00110	.00000	.00106	.13	.01068	.43	.00089
%RSD	6.6064	.05050	12.586	.06687	71.068	.08484	2.2206
#1	.01728	.00259	.00782	195.87	.02416	512.27	.03938
#2	.01728	.00259	.00968	195.81	.01762	511.92	.04091
#3	.01528	.00260	.00784	196.06	.00329	512.78	.03938
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	NOCHECK
High				247.48		607.62	
Low				164.99		425.09	

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00615	.06719	-.01718	1.7080	-.03540	.18914
SDev	.00271	.02984	.00001	.0012	.00002	.00225
%RSD	60.272	44.411	-.03086	.07466	-.04899	1.2422
#1	.00461	.07115	-.01718	1.7067	-.03540	.18967
#2	.01027	.03557	-.01719	1.7080	-.03529	.18657
#3	.00746	.09486	-.01718	1.7093	-.03542	.19119
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

Method: CLPOLD Sample Name: ICSABB:ICSAB Operator: SFF
Run Time: 01/28/91 16:34:05
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	547.88	-.02204	-.36914	.49535	.48605	.88220	501.99
SDev	.31	.01322	.03158	.00120	.00091	.00012	.62
%RSD	.05699	-59.986	-8.5547	.24292	.18765	.01305	.12285
#1	547.53	-.01833	-.36774	.49414	.48499	.88218	501.30
#2	548.11	-.01106	-.40140	.49655	.48657	.88209	502.50
#3	548.01	-.03671	-.33829	.49535	.48657	.88232	502.16
Errors	LC Pass	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass
High	643.77			.60240	.57600	1.0884	614.67
Low	429.18			.40160	.38400	.72560	409.78

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.48697	.44502	.51299	196.10	4.5197	511.78	.48760
SDev	.00001	.00220	.00184	.30	.0165	.33	.00089
%RSD	.00121	.49432	.35766	.15092	.36492	.06485	.18166
#1	.48697	.44248	.51483	195.98	4.5017	511.54	.48658
#2	.48694	.44630	.51116	196.43	4.5340	512.16	.48811
#3	.48697	.44629	.51296	195.87	4.5236	511.65	.48811
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.63480	.57240	.65160	239.81	5.6690	633.04	.59520
Low	.42320	.38160	.43440	159.88	3.7790	422.02	.39680

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.87162	.03557	.94284	1.7186	.43877	1.1833
SDev	.00371	.04108	.00167	.0059	.00094	.0024
%RSD	.42502	115.47	.17713	.34272	.21465	.20086
#1	.86897	-.01186	.94092	1.7220	.43934	1.1813
#2	.87585	.05929	.94382	1.7118	.43929	1.1827
#3	.87008	.05929	.94380	1.7220	.43769	1.1859
Errors	LC Pass	NOCHECK	LC Pass	NOCHECK	LC Pass	LC Pass
High	1.1280		1.1520		.61080	1.4496
Low	.75200		.76800		.40720	.96640

Method: CLFOLD Sample Name: 2XCRDL;CFI Operator. SRF
Run Time: 01/28/91 16:36:55
Comment.
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.17677	.11293	-.00079	.00281	.00895	.01164	.16139
SDev	.10066	.00925	.00040	.00070	.00091	.00043	.09796
%RSD	56.947	8.1884	-51.056	24.744	10.189	3.7174	60.698
#1	.28607	.12273	-.00123	.00321	.00948	.01156	.27053
#2	.15637	.11169	-.00071	.00321	.00948	.01211	.13259
#3	.08787	.10436	-.00044	.00201	.00790	.01126	.08106

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02100	.09585	.05077	.09795	.04385	.18005	.02915
SDev	.00191	.00190	.00108	.05177	.00883	.09738	.00089
%RSD	9.0911	1.9866	2.1188	52.855	20.146	54.083	3.0387
#1	.02100	.09585	.05140	.15630	.04940	.28808	.02864
#2	.02291	.09395	.05139	.08002	.03366	.15304	.02864
#3	.01909	.09775	.04953	.05752	.04848	.09903	.03017

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.07721	.08696	.01828	.03613	.09841	.03852
SDev	.00000	.08329	.00382	.00765	.00097	.00234
%RSD	.00000	95.779	20.886	21.176	.98456	6.0789
#1	.07721	.00000	.01684	.02848	.09785	.04107
#2	.07721	.16601	.02261	.03613	.09953	.03801
#3	.07721	.09486	.01539	.04378	.09785	.03648

Method: CLPOLD Sample Name: HALFSTD:CCV Operator: SFF
Run Time: 01/28/91 16:39:37
Comment: CCV#5
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	23.870	2.4468	2.4210	2.4362	.50816	2.4482	25 059
SDev	.099	.0085	.0537	.0067	.00241	.0092	.101
%RSD	.41503	.34713	2.2191	.27499	.47487	.37443	.40227
#1	23.756	2.4370	2.3589	2.4302	.50553	2.4392	24.952
#2	23.934	2.4517	2.4519	2.4434	.51027	2.4575	25.152
#3	23.921	2.4517	2.4520	2.4350	.50869	2.4479	25.073
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	27.500	2.7500	2.7500	2.7500	.55000	2.7500	27.500
Low	22.500	2.2500	2.2500	2.2500	.45000	2.2500	22.500

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.4343	2.4128	2.4215	10.152	2.4337	24.550	2.4623
SDev	.0038	.0105	.0126	.030	.0058	.112	.0070
%RSD	.15688	.43469	.52214	.29567	.23931	.45801	.28267
#1	2.4305	2.4020	2.4072	10.130	2.4285	24.460	2.4549
#2	2.4382	2.4230	2.4314	10.186	2.4400	24.676	2.4687
#3	2.4343	2.4125	2.4258	10.140	2.4326	24.514	2.4677
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	2.7500	2.7500	11.000	2.7500	27.500	2.7500
Low	2.2500	2.2500	2.2500	9.0000	2.2500	22.500	2.2500

Elem	Ni3316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.4274	24.443	.49116	23.961	2.4512	2.4597
SDev	.0092	.045	.00300	.081	.0079	.0115
%RSD	.38080	18766	.61165	.33922	.32173	.46662
#1	2.4178	24.462	.48876	23.869	2.4423	2.4480
#2	2.4362	24.474	.49453	24.025	2.4573	2.4709
#3	2.4282	24.391	.49020	23.988	2.4540	2.4602
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.7500	27.500	.55000	27.500	2.7500	2.7500
Low	2.2500	22.500	.45000	22.500	2.2500	2.2500

Method: CLFOLD Sample Name: STD8:CCB Operator. SRF
Run Time: 01/28/91 16:42:27
Comment: CCB#5
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02574	-.00123	-.00011	.00401	.00158	.00117	.01619
SDev	.01132	.01061	.00004	.00070	.00000	.00049	.00711
%RSD	43.966	-862.23	-40.153	17.321	.00000	41.798	43.922
#1	.03837	.00492	-.00016	.00441	.00158	.00171	.02438
#2	.02234	.00487	-.00010	.00441	.00158	.00107	.01256
#3	.01652	-.01349	-.00007	.00321	.00158	.00075	.01162
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01800	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01800	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	.00064	.00124	.02626	.00491	.01801	.00128
SDev	.00331	.00000	.00186	.00375	.00532	.00000	.00089
%RSD	629440.	.00590	149.71	14.280	108.36	.00000	69.282
#1	-.00191	.00064	.00310	.03001	-.00003	.01801	.00179
#2	.00382	.00064	.00124	.02626	.01053	.01801	.00179
#3	-.00191	.00063	-.00062	.02251	.00421	.01801	.00026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.02000	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.02000	-5.0000	-.01500

Elem	Ni2316	K_7664	Ag3280	Na5889	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00115	.02372	-.00192	.01275	.00166	-.00053
SDev	.00115	.02054	.00144	.00195	.00097	.00177
%RSD	100.00	86.603	-75.032	15.275	58.383	-335.19
#1	.00230	.01186	-.00192	.01063	.00110	.00151
#2	.00000	.01186	-.00048	.01318	.00279	-.00155
#3	.00115	.04743	-.00337	.01445	.00110	-.00155
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

C L P M E T A L S 2.21b

Run id F1 9103004
THERMO JARRELL-ASH VIDEO 22E (#2486)

Element As

Acquired 01/30/91 by SLN
Crunched: 02/01/91 by SLN
Time: 1355
Processing protocol: 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-2	ICV		ICV	01/30/91	19 28
2	CAL BLK	ICB		ICB	01/30/91	19:33
3	CRA	CRAO		CRA	01/30/91	19 37
4	50 PPB	CCV		CCV	01/30/91	19 41
5	CAL BLK	CCB		CCB	01/30/91	19·46
6	PB	PBW	Furnace	PBW	01/30/91	19:50
7	PB	ASPBW	Furnace	PBWA	01/30/91	19·54
8	LCSFW	LCSW	Furnace	LCSW	01/30/91	19 59
9	LCSFW	ASLCSW	Furnace	LCSWA	01/30/91	20 03
10	9012105-01	S	Furnace	10501	01/30/91	20 07
11	9012105-01	AS	Furnace	10501A	01/30/91	20 12
12	9012105-01	S2	Furnace	10501D	01/30/91	20 16
13	9012105-01	ASS2	Furnace	10501DA	01/30/91	20 20
14	9012105-01	DS	Furnace	10501S	01/30/91	20·25
15	X	X		ZZZZZ	01/30/91	20 29
16	50 PPB	CCV		CCV	01/30/91	20 33
17	CAL BLK	CCB		CCB	01/30/91	20 38
18	9012105-02	S	Furnace	10502	01/30/91	20 42
19	9012105-02	AS	Furnace	10502A	01/30/91	20 46
20	9012105-03	S	Furnace	10503	01/30/91	20 51
21	9012105-03	AS	Furnace	10503A	01/30/91	20 55
22	9012105-04	S	Furnace	10504	01/30/91	20 59
23	9012105-04	AS	Furnace	10504A	01/30/91	21 04
24	9012105-05	S	Furnace	10505	01/30/91	21 08
25	9012105-05	AS	Furnace	10505A	01/30/91	21.12
26	9012105-06	S	Furnace	10506	01/30/91	21 17
27	9012105-06	AS	Furnace	10506A	01/30/91	21 21
28	50 PPB	CCV		CCV	01/30/91	21 25
29	CAL BLK	CCB		CCB	01/30/91	21 30
30	9012105-07	S	Furnace	10507	01/30/91	21.34
31	9012105-07	AS	Furnace	10507A	01/30/91	21 38
32	9012105-08	S	Furnace	10508	01/30/91	21 42
33	9012105-08	AS	Furnace	10508A	01/30/91	21 47
34	9012105-09	S	Furnace	10509	01/30/91	21 51
35	9012105-09	AS	Furnace	10509A	01/30/91	21 55
36	9012105-10	S	Furnace	10510	01/30/91	22 00
37	9012105-10	AS	Furnace	10510A	01/30/91	22 04
38	9012105-11	S	Furnace	10511	01/30/91	22 08
39	9012105-11	AS	Furnace	10511A	01/30/91	22 13
40	50 PPB	CCV		CCV	01/30/91	22 17
41	CAL BLK	CCB		CCB	01/30/91	22 21
42	9012105-12	S	Furnace	10512	01/30/91	22 26
43	9012105-12	AS	Furnace	10512A	01/30/91	22 30

s	Sample	Code	Preparation Method	Client ID		
44	9012105-13	S	Furnace	10513	01/30/91	22 34
45	9012105-13	AS	Furnace	10513A	01/30/91	22:39
46	9012105-14	S	Furnace	10514	01/30/91	22 43
47	9012105-14	AS	Furnace	10514A	01/30/91	22.47
48	9012105-15	S	Furnace	10515	01/30/91	22.52
49	9012105-15	AS	Furnace	10515A	01/30/91	22 56
50	9012105-16	S	Furnace	10516	01/30/91	23.00
51	9012105-16	AS	Furnace	10516A	01/30/91	23 05
52	50 PPB	CCV		CCV	01/30/91	23.09
53	CAL BLK	CCB		CCB	01/30/91	23 13
54	9012105-17	S	Furnace	10517	01/30/91	23.18
55	9012105-17	AS	Furnace	10517A	01/30/91	23 22
56	9012105-18	S	Furnace	~~10519~~ 10518	01/30/91	23 26
57	9012105-18	AS	Furnace	~~10519A~~ 10518A	01/30/91	23 31
58	9012105-19	S	Furnace	10519	01/30/91	23.35
59	9012105-19	AS	Furnace	10519A	01/30/91	23.39
60	9012105-20	S	Furnace	10520	01/30/91	23 44
61	9012105-20	AS	Furnace	10520A	01/30/91	23 48
62	50 PPB	CCV		CCV	01/30/91	23 52
63	CAL BLK	CCB		CCB	01/30/91	23 57
64	0 PPB	WS0		S0	01/30/91	19 11
65	10 PPB	WS1		S10	01/30/91	19 15
66	50 PPB	WS2		S50	01/30/91	19 19
67	100 PPB	WS3		S100	01/30/91	19 23

C I P M E T A L S 2 2 1 5

Run Id E1 C 03054
THERMO JARRELL-ASH VIDEO CCD (#2496)

Element Se

Acquired 01/30/91 by SLN
Crunched 02/01/91 by SLN
Time 1454
Processing protocol: 7/89

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-2	ICV		ICV	01/30/91	19 28
2	CAL BLK	ICB		ICB	01/30/91	19 33
3	CRA	CRA0		CRA	01/30/91	19 37
4	50 PPB	CCV		CCV	01/30/91	19 41
5	CAL BLK	CCB		CCB	01/30/91	19 46
6	PB	PBW	Furnace	PBW	01/30/91	19·50
7	PB	ASPBW	Furnace	PBWA	01/30/91	19 54
8	LCSFW	LCSW	Furnace	LCSW	01/30/91	19·59
9	LCSFW	ASLCSW	Furnace	LCSWA	01/30/91	20 03
10	9012105-01	S	Furnace	10501	01/30/91	20 07
11	9012105-01	AS	Furnace	10501A	01/30/91	20 12
12	9012105-01	S2	Furnace	10501D	01/30/91	20 16
13	9012105-01	ASS2	Furnace	10501DA	01/30/91	20 20
[illegible]	9012105-01	DS	Furnace	10501S	01/30/91	20 25
[illegible]	X	X		ZZZZZ	01/30/91	20 29
16	50 PPB	CCV		CCV	01/30/91	20 33
17	CAL BLK	CCB		CCB	01/30/91	20 38
18	9012105-02	S	Furnace	10502	01/30/91	[illegible]
19	9012105-02	AS	Furnace	10502A	01/30/91	[illegible]
20	9012105-03	S	Furnace	10503	01/30/91	20 51
21	9012105-03	AS	Furnace	10503A	01/30/91	20 55
22	9012105-04	S	Furnace	10504	01/30/91	20 59
23	9012105-04	AS	Furnace	10504A	01/30/91	21 04
24	9012105-05	S	Furnace	10505	01/30/91	21.08
25	9012105-05	AS	Furnace	10505A	01/30/91	21 12
26	9012105-06	S	Furnace	10506	01/30/91	21 17
27	9012105-06	AS	Furnace	10506A	01/30/91	21 21
28	50 PPB	CCV		CCV	01/30/91	21 25
29	CAL BLK	CCB		CCB	01/30/91	21 30
30	9012105-07	S	Furnace	10507	01/30/91	21 34
31	9012105-07	AS	Furnace	10507A	01/30/91	21 38
32	9012105-08	S	Furnace	10508	01/30/91	21 42
33	9012105-08	AS	Furnace	10508A	01/30/91	21 47
34	9012105-09	S	Furnace	10509	01/30/91	21 51
35	9012105-09	AS	Furnace	10509A	01/30/91	21 55
36	9012105-10	S	Furnace	10510	01/30/91	22 00
37	9012105-10	AS	Furnace	10510A	01/30/91	22 04
38	9012105-11	S	Furnace	10511	01/30/91	22 0[illegible]
39	9012105-11	AS	Furnace	10511A	01/30/91	22 [illegible]
[illegible]	50 PPB	CCV		CCV	01/30/91	22 17
[illegible]	CAL BLK	CCB		CCB	01/30/91	22 21
42	9012105-12	S	Furnace	10512	01/30/91	22 26
43	9012105-12	AS	Furnace	10512A	01/30/91	22 30

s	Sample	Code	Preparation Method	Client ID		
44	9012105-13	S	Furnace	10513	01/30/91	22 34
45	9012105-13	AS	Furnace	10513A	01/30/91	22.39
46	9012105-14	S	Furnace	10514	01/30/91	22.43
47	9012105-14	AS	Furnace	10514A	01/30/91	22 47
48	9012105-15	S	Furnace	10515	01/30/91	22 52
49	9012105-15	AS	Furnace	10515A	01/30/91	22 56
50	9012105-16	S	Furnace	10516	01/30/91	23·00
51	9012105-16	AS	Furnace	10516A	01/30/91	23 05
52	50 PPB	CCV		CCV	01/30/91	23·09
53	CAL BLK	CCB		CCB	01/30/91	23·13
54	9012105-17	S	Furnace	10517	01/30/91	23 18
55	9012105-17	AS	Furnace	10517A	01/30/91	23 22
56	9012105-18	S	Furnace	~~10519~~ 10518	01/30/91	23.26
57	9012105-18	AS	Furnace	~~10519A~~ 10518A	01/30/91	23 31
58	9012105-19	S	Furnace	10519	01/30/91	23:35
59	9012105-19	AS	Furnace	10519A	01/30/91	23 39
60	9012105-20	S	Furnace	10520	01/30/91	23 44
61	9012105-20	AS	Furnace	10520A	01/30/91	23:48
62	50 PPB	CCV		CCV	01/30/91	23:52
63	CAL BLK	CCB		CCB	01/30/91	23 57
64	0 PPB	WS0		S0	01/30/91	19 11
65	5 PPB	WS1		S5	01/30/91	19 15
66	50 PPB	WS2		S50	01/30/91	19 19
67	100 PPB	WS3		S100	01/30/91	19 23

GRAPHITE FURNACE AA RUN BENCH SHEET

AA Sequence #: 1340 Instrument ID: F1, F2, F3, F4, F5, F6 Page 1 of 2

Date: 1/30/91 Reviewed by: _____ Instruments Method #: 150

Operator: D Standards Prepared: 1/31 8:00

Background: BS BD

Time Calibrated: 19'11

Standards Source:

1. Calibration: 10 PPM
2. ICV: ICV-2
3. CCV: 50 PPB

disc # 116

acq

901205

SKINNER AND SHERMAN

A	B
Run ID: G103004/54	Run ID: 9103054
Element: As Pb	Element: Se Tl
Wavelength (nm): 197.2	Wavelength (nm): 196.0
Slitwidth (nm): 2	Slitwidth (nm): 2
Integration Time (sec): 3	Integration Time (sec): 3
STD1: 0 STD2: 10	STD1: 0 STD2: 5
STD3: 50 STD4: 100	STD3: 50 STD4: 100

COMMENTS

	SAMPLE ID	DILUTION	COMMENTS
1	ICV		
2	ICB		
3	CRA		
4	CCV		
5	CCB		
6	PBW		
7	PBWA		
8	LCSW		
9	LCSWA		
10	O1		
11	O1A		
12	O1D		
13	O1DA		
14	O1S		
15	O1SA		
16	CCV		
17	CCB		
18	O2		
19	O2A		
20	O3		
21	O3A		
22	O4		
23	O4A		
24	O5		
25	O5A		
26	O6		
27	O6A		
28	CCV		
29	CCB		
30	O7		
31	O7A		
32	O8		
33	O8A		
34	O9		
35	O9A		
36	[illegible]		
37	[illegible]		
38	[illegible]		
39			

GFAA RUN BENCH SHEET

AA SEQUENCE #: 1340

SKINNER AND SHERMAN

A COMMENTS		SAMPLE ID	DILUTION	B COMMENTS
	40	CCV		
	41	CCB		
	42	12		
	43	12A		
	44	13		
	45	13A		
	46	14		
	47	14A		
	48	15		
	49	15A		
	50	16		
	51	16A		
	52	CCV		
	53	CCB		
	54	17		
	55	17A		
	56	18		
	57	18A		
	58	19		
	59	19A		
	60	20		
	61	20A		
	62	CCV		
	63	CCB		
	64			
	65			
	66			
	67			
	68			
	69			
	70			
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	83			
	84			
	85			

N[illegible] [illegible] [illegible] [illegible]

RINSE

		As-S	Se-S	
Standard Z				
Abs	1	0.002	0.007	STD1 0/0
Mean		0.002	0.007	
P/H		0.002	0.003	
Abs	2	-0.002	0.005	
Mean		0.000	0.006	
P/H		-0.004	0.004	

AUTO ZERO
19 11 20
Wed 30 JAN 1991

		As-S	Se-S	
Standard C				
Abs	1	0.046	0.017	
Mean		0.046	0.017	
P/H		0.090	0.027	
Abs	2	0.045	0.014	
Mean		0.045	0.015	STD2 10/5
P/H		0.080	0.027	
		As-S	Se-S	
Mean		0.045	0.015	
SD		0.001	0.002	
RSD		02.22	14.66	

		As-S	Se-S	
Standard 1				
Abs	1	0.208	0.154	
Mean		0.208	0.154	
P/H		0.345	0.262	STD3 50/50
Abs	2	0.209	0.154	
Mean		0.208	0.154	
P/H		0.341	0.264	
		As-S	Se-S	
Mean		0.208	0.154	
SD		0.001	0.000	
RSD		00.48	00.00	

		As-S	Se-S	
Standard 2				
Abs	1	0.361	0.264	
Mean		0.361	0.264	
P/H		0.521	0.408	
Abs	2	0.309	0.257	STD4 100/100
Mean		0.340	0.240	
P/H		0.504	0.383	
		As-S	Se-S	
Mean		0.340	0.240	
SD		[illegible]	[illegible]	
RSD		[illegible]	[illegible]	

CA[illegible]

S D	CONC	[illegible]
7	00.00	0.000
0	10.00	0.045
1	50.00	0.200
[illegible]	[illegible]	0.3[illegible]

[illegible]

C00127

~~[illegible]~~

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE
001	ICV-2	ICV		1.00x	30 JAN 91 19 28

	As-S	Se-S
Burn 1	49.02	52.20
Burn 2	47.88	51.10
Mean	48.45 =	51.65 =
RSD	01.66	01.50

002	CAL BLK	ICB	1.00x	30 JAN 91 19 33

	As-S	Se-S
Burn 1	01.39	00.10
Burn 2	00.91	-01.12
Mean	01.15 =	-00.51 =
RSD	29.47	DIG HI
Check	OK	OK

003	CRA	CRAO	1.00x	30 JAN 91 19 37

	As-S	Se-S
Burn 1	10.66	05.61
Burn 2	09.53	04.74
Mean	10.09 =	05.17 =
RSD	07.	11.09

004	50 PPB	CCV	1.00x	30 JAN 91 19 41

	As-S	Se-S
Burn 1	47.54	49.41
Burn 2	49.62	49.65
Mean	48.58 =	49.53 =
RSD	03.02	00.34
Check	OK	OK

[illegible]	[illegible] BLK	CCB	1.00x	30 JAN 91 19 46

	As-S	Se-S
Burn 1	01.54	-00.47
Burn 2	00.51	-00.88
Mean	01.02 =	00.[illegible]3 =
RSD	71.37	-42.64
Check	OK	OK

Instrument code F1
Run 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
006	PB	PBW		1.00x	30 JAN 91	19 50

	As-S	Se-S
Burn 1	00.04	-00.74
Burn 2	00.69	-00.85
Mean	00.36 =	-00.80 =
RSD	DIG HI	-09.75

007	PB	ASPBW		1.00x	30 JAN 91	19 54

	As-S	Se-S
Burn 1	18.08	09.00
Burn 2	19.21	09.18
Mean	18.64 =	09.09 =
RSD	04.28	01.39
Sample value	1.00U	2.00U
Spike added	20.00	10.00
Spike recovery, %	93.2	90.9

008	LCSFW	LCSW		1.00x	30 JAN 91	19 59

	As-S	Se-S
Burn 1	45.65	50.55
Burn 2	45.92	48.08
Mean	45.78 =	49.31 =
RSD	[illegible].41	03.54

009	LCSFW	ASLCSW		1.00x	30 JAN 91	20 03

	As-S	Se-S
Burn 1	62.70	57.90
Burn 2	64.56	56.93
Mean	63.63 =	57.41 =
RSD	02.06	01.19
Sample value	45.78	49.31
Spike added	20.00	10.00
Spike recovery, %	89.2	181.0

010	012 01	S	04CWC1006	1.00x	30 JAN 91	20 07

	As-S	Se-S
Burn 1	06.0[illegible]	03.27
Burn 2	04.5[illegible]	01.14
Mean	05.2[illegible] =	02.20 =
RSD	19.81	68.45

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
011	-01	AS	04CWC1006A	1.00x	30 JAN 91	20 12

	As-S	Se-S
Burn 1	21.21	08.11
Burn 2	19.67	07.82
Mean	20.44 =	07.96 =
RSD	05.32	02.57
Sample value	5.27	2.20
Spike added	20.00	10.00
Spike recovery, %	75.8	157.6

012	-01	S2	04CWC1006D	1.00x	30 JAN 91	20 16

	As-S	Se-S
Burn 1	02.87	01.37
Burn 2	02.29	00.78
Mean	02.58 =	01.07 =
RSD	15.89	38.97

ok

013	-01	ASS2	04CWC1006A	1.00x	30 JAN 91	20 20

	As-S	Se-S
Burn 1	20.28	08.4[illegible]
Burn 2	13.94	07.75
Mean	19.61 =	08.08 =
RSD	04.32	05.35
Sample value	2.58	2.00U
Spike added	20.00	10.00
Spike recovery, %	85.2	80.8

014	-01	DS	04CWC1006S	1.00x	30 JAN 91	20 25

	As-S	Se-S
Burn 1	4[illegible].09	07.35
Burn 2	42.48	08.75
Mean	43.78 =	08.05 =
RSD	04.21	12.28

015	X	X		1.00x	30 JAN 91	20 29

	As-S	Se-S
Burn 1	65.61	17.[illegible]
Burn 2	64.68	14.47
Mean	65.14 =	15.76 =
RSD	01.00	11.61

Instrument code F1
Run ID 91030 4

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
016	50 PPB	CCV 2		1.00x	30 JAN 91	20 33

	As-S	Se-S
Burn 1	50.00	48.15
Burn 2	50.39	50.99
Mean	50.19 =	49.57 =
RSD	00.54	04.05
Check	OK	OK

017	CAL BLK	CCB 2		1.00x	30 JAN 91	20 38

	As-S	Se-S
Burn 1	02.32	00.09
Burn 2	00.65	-00.48
Mean	01.48 =	-00.20 =
RSD	79.72	DIG HI
Check	OK ok	OK ok

018	-02		30CPF1001	1.00x	30 JAN 91	20 42

	As-S	Se-S
Burn 1	02.77	00.57
Burn 2	02.22	00.67
Mean	02.49 =	00.62 =
RSD	15.58	11.29

019	-02	AS	30CPF1001A	1.00x	30 JAN 91	20 46

	As-S	Se-S
Burn 1	19.97	07.98
Burn 2	19.61	07.93
Mean	19.79 =	07.95 =
RSD	01.28	00.45
Sample value	2.49	2.00U
Spike added	20.00	10.00
Spike recovery, %	86.5	59.5

020	-0[illegible]	S	30CPF1002	1.00x	30 JAN 91	20 51

	As-S	Se-S
Burn 1	02.28	0[illegible]
Burn 2	01.45	01.01
Mean	01.86 =	00.59 =
RSD	31.50 ok	DIG HI ok

In[illegible] Code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
021	-03	AS	30CPF1002A	1.00x	30 JAN 91	20 55

	As-S	Se-S
Burn 1	19.67	08.50
Burn 2	18.82	08.20
Mean	19.24 =	08.35 =
RSD	03.12	02.53
Sample value	1.86	2.00U
Spike added	20.00	10.00
Spike recovery, %	86.9	83.5

022	-04	S	30CPF1003	1.00x	30 JAN 91	20 59

	As-S	Se-S
Burn 1	01.82	00.29
Burn 2	01.65	-00.19
Mean	01.73 =	00.05 =
RSD	04.93	22.64

023	-04	AS	30CPF1003A	1.00x	30 JAN 91	21 04

	As-S	Se-S
Burn 1	20.47	08.20
Burn 2	[illegible]	07.82
Mean	19.72 =	08.01 =
RSD	05.33	03.34
Sample value	1.73	2.00U
Spike added	20.00	10.00
Spike recovery, %	90.0	80.1

024	-05	S	30CPF1004	1.00x	30 JAN 91	21 08

	As-S	Se-S
Burn 1	02.47	00.56
Burn 2	01.85	00.99
Mean	02.16 =	00.77 =
RSD	20.[illegible]	39.48

025	-05	AS	30CPF1004A	1.00x	30 JAN 91	21 12

	As-S	Se-S
Burn 1	[illegible]	03.07
Burn 2	[illegible]	07.40
Mean	[illegible] =	07.73 =
RSD	00.59	06.11
Sample value	[illegible]	[illegible]U
Spike added	20.00	10.00
Spike recovery, %	[illegible]	[illegible]

Instrument code F1
Run ID 910[illegible]

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
026	-06	S	30CPF1005	1.00x	30 JAN 91	21 17

	As-S	Se-S
Burn 1	01.24	00.41
Burn 2	01.39	00.69
Mean	01.31 =	00.55 = ok
RSD	08.09	35.81

027	-06	AS	30CPF1005A	1.00x	30 JAN 91	21 21

	As-S	Se-S
Burn 1	20.81	07.56
Burn 2	20.16	07.07
Mean	20.48 =	07.31 =
RSD	02.24	04.73
[illegible]	1.31	2.00U
Spike added	20.00	10.00
Spike recovery, %	95.8	73.1

028	50 PPB	CCV 3		1.00x	30 JAN 91	21 25

	As-S	Se-S
Burn 1	49.18	49.26
Burn 2	49.22	49.53
Mean	49.20 =	49.39 =
RSD	00.05	00.78
Check	OK	OK

029	CAL BLK	CCB 3		1.00x	30 JAN 91	21 30

	As-S	Se-S
Burn 1	01.97	-00.66
Burn 2	00.65	-01.93
Mean	01.31 =	-01.30 = ok
RSD	71.22	-69.07
Check	OK ok	OK

030	-07	S	30CPF1006	1.00x	30 JAN 91	21 34

	As-S	Se-S
Burn 1	02.61	00.26
Burn 2	01.73	00.16
Mean	02.27 = ok	00.21 = ok
RSD	31.79	33.33

[illegible]

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
031	-07		30CPF1006A	1.00x	30 JAN 91	21 38

	As-S	Se-S
Burn 1	19.42	07.81
Burn 2	19.32	06.78
Mean	19.37 =	07.29 =
RSD	00.36	09.98
[illegible]	2.[illegible]	2.00U
Spike added	20.00	10.00
Spike recovery, %	85.4	72.9

032	-08	S	30CPF1007	1.00x	30 JAN 91	21 42

	As-S	Se-S
Burn 1	02.56	00.79
Burn 2	02.42	00.41
Mean	02.[illegible] =	00.[illegible] =
RSD	00.93	44.76

033	-08	AS	30CPF1007A	1.00x	30 JAN 91	21 47

	As-S	Se-S
[illegible]	[illegible]	05.[illegible]
[illegible]	[illegible]	06.[illegible]
Mean	19.63 =	[illegible]
RSD	02.84	[illegible]
Sample value	2.49	2.00U
Spike added	20.00	10.00
Spike recovery, %	85.7	78.3

034	-07	S	32CPF1008	1.00x	30 JAN 91	21 51

	As-S	Se-S
Burn 1	01.46	0[illegible].42
Burn 2	[illegible]07	00.01
Mean	0[illegible].76 =	00.23 =
RSD	24.43	DIG HI

035	-07	AS	32CPF1008A	1.00x	30 JAN 91	21 55

	As-S	Se-S
[illegible]	[illegible]	03.[illegible]
[illegible]	19.18	09.18
Mean	19.35 =	03.94 =
RSD	01.27	03.71
[illegible]	1.76	2.00U
[illegible]	20.00	10.[illegible]
[illegible]	[illegible]	[illegible]

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
036	-10	S	32CPF1009	1.00x	30 JAN 91	22 00

	As-S	Se-S
Burn 1	02.44	00.35
Burn 2	01.31	00.37
Mean	01. =	00.36 =
RSD	42.72	03.88

037	-10	AS	32CPF1009A	1.00x	30 JAN 91	22 04

	As-S	Se-S
Burn 1	18.73	08.45
Burn 2	18.85	06.51
Mean	18.79 =	07.48 =
RSD	00.44	18.32
Sample value	1.87	2.00U
Spike added	20.00	10.00
Spike recovery, %	84.6	74.8

038	-11	S	32CPF1010	1.00x	30 JAN 91	22 08

	As-S	Se-S
Burn 1	02 56	00.69
Burn 2	01 70	-01.00
Mean	02.13 =	-00.16 =
RSD	3.34	-91.51

039	-11	AS	32CPF1010A	1.00x	30 JAN 91	22 13

	As-S	Se-S
Burn 1	18.50	06.73
Burn 2	18.89	07.49
Mean	18.69 =	07.11 =
RSD	01.47	07.55
Sample value	2.13	2.00U
Spike added	20.00	10 00
Spike recovery, %	82.8	71.1

040	50 PPB	CCV 4		1.00x	30 JAN 91	22 17

	A -	- -S
- -	48.0	48.0
Mean	47 96	47 79 =
RSD	00.23	00.69
Recovery	%	%

Instrument code F1
Run ID 91[illegible] 004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
041	CAL BLK	CCB		1.00x	30 JAN 91	22 21

	As-S	Se-S
Burn 1	[illegible]2.25	-00.52
Burn 2	00.08	-00.93
Mean	01.16 =	-00.73 =
RSD	DIG HI	-[illegible]72
Check	OK	OK

042	-12	S	32CPF1011	1.00x	30 JAN 91	22 26

	As-S	Se-S
Burn 1	02.07	00.51
Burn 2	01.29	-00.31
Mean	01.68 =	00.10 =
RSD	32.79	DIG HI

043	-12	AS	32CPF1011A	1.00x	30 JAN 91	22 30

	As-S	Se-S
Burn 1	19.83	07.64
Burn 2	20.0-	07.13
Mean	19 [illegible] =	07 [illegible]
RSD	00.74	04.68
Sample [illegible]		2 000
[illegible] added	20.00	10.00
Spike recovery, %	91.2	73.9

044	-13	[illegible]	[illegible]		0 JAN 91	22 34

	As-S	Se-S
Burn 1	02.26	00.82
Burn 2	0[illegible] 93	-00.12
Mean	01.59 =	00.35 =
R[illegible]	59.11	DIG HI

045	12	AS		1.0x	[illegible] N 91	[illegible]

	As-S	Se-S
Burn [illegible]	19 03	03.43
[illegible]	10.00	[illegible] 12
[illegible]	1[illegible]	[illegible]
[illegible]	00 [illegible]	02.64
[illegible]	1.39	2.000
Spike added	20 00	10 00
[illegible]	[illegible] 2	[illegible].7

[illegible]

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
046	-14	S	[illegible]PF1013	1.00x	30 JAN 91	22 43

	As-S	Se-S
Burn 1	01.20	00.27
Burn 2	01.52	00.32
Mean	01.36 =	00.29 =
RSD	16.61	12.41

047	-14	AS	32CPF1013A	1.00x	30 JAN 91	22 47

	As-S	Se-S
Burn 1	19.21	08.15
Burn 2	19.21	07.07
Mean	19.21 =	07.61 =
RSD	00.00	10.02
Sample value	1.36	2.00U
Spike added	20.00	10.00
Spike recovery, %	89.2	76.1

048	-15	S	32CPF1014	1.00x	30 JAN 91	22 52

	As-S	Se-S
Burn 1	01.41	00.4[illegible]
Burn 2	01.66	[illegible].57
Mean	01.53 =	00.56 = ok
RSD	11.50	26.42

049	-15	AS	32CPF1014A	1.00x	30 JAN 91	22 56

	As-S	Se-S
Burn 1	19.29	07.72
Burn 2	18.46	08.03
Mean	18.87 =	07.87 =
R[illegible]	03.10	02.78
Sam[illegible]e value	1.53	2.00U
Spi[illegible]e add[illegible]d	20.00	0.00
Spike recovery,	86.7	78.[illegible]

[illegible]		S	32CPF1015	1.00x	30 JAN 91	23 [illegible]0

	As-S	Se-S
Bur[illegible]	01.[illegible]	[illegible]
Burn 2	02.09	-00.32
M[illegible]	01.82 = ok	00.3[illegible] =
RSD	20.5[illegible]	D[illegible] ok

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
051	-16	[illegible]	[illegible]2CP[illegible]1015A	1.00x	30 JAN 91	23 05

	As-S	Se-S
Burn 1	18.51	07.04
Burn 2	18.73	07.36
Mean	18.62 =	07.20 =
RSD	00.8[illegible]	03.13
Sample value	1.82	2.00U
Spike added	20.00	10.00
Spike rec	[illegible]	72.0

052	50 PPB	CCV 5		1.00x	30 JAN [illegible]	23 09

	As-S	Se-S
Burn 1	46.93	46.94
Burn 2	48.08	47.80
Mean	47.50 =	47.37 =
RSD	01.71	01.28
Check	OK	OK

053	CAL BLK	CCB 5		1.00x	30 JA[illegible]	[illegible]13

	As-S	Se-S
Burn 1	01.90	-00.92
Burn 2	00.73	-00.42
Mean	01.31 = ok	-00.67 = ok
RSD	63.12	-52.68
Check	OK	OK

054	-17	S	32C[illegible]-[illegible]016	1.00x	30 JAN 91	23 18

	As-S	Se-S
Burn 1	09.42	00.86
Burn 2	01.06	00.07
Mean	01.74 = ok	00.46 = ok
RSD	[illegible]5.[illegible]2	[illegible]4I

055	-17	AS	32CP[illegible]1015A	1.00x	30 JAN 91	23 22

	As-S	Se-S
[illegible]	[illegible]	07.[illegible]
[illegible]		07.[illegible]
Mean	10.47 =	07.[illegible]4 =
RSD	00.99	[illegible]
Sample value	1.7[illegible]	[illegible]U
Spike added	20.00	1[illegible].00
Spike rec		73

PAW DATA FROM ADS200 DATA SYSTEM

[illegible] Mode F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
056	-18	S	32CPF101~~6~~ 1017	1.00x	30 [illegible]	[illegible] 26

	As-S	Se-S
Burn 1	02.49	00.82
Burn 2	01.48	-00.65
Mean	01.98 = ok	00.08 = ok
RSD	36.06	DIG HI

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
057	-18	AS	32CPF101~~6~~A 17	1.00x	30 JAN 91	23 31

	As-S	Se-S
Burn 1	18.94	08.95
Burn 2	19.26	07.17
Mean	[illegible]	08.06 =
RSD	01.18	15.60
Sample value	1.98	2.00U
Spike added	20.00	10.00
Spike recovery, %	85.6	80.6

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
058	-19	S	32CPF1018	1.00x	30 JAN 91	23 35

	As-S	Se-S
Burn 1	02.01	00.48
Burn 2	01.22	-01.10
Mean	01.61 = ok	-00.31 = ok
RSD	34.65	DIG HI

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
059	-19	AS	32CPF1018A	1.00x	30 JAN 91	23 39

	As-S	Se-S
Burn 1	18.52	08.66
	[illegible]	07.36
Mean	18.83 =	08.01 =
RSD	02.32	11.47
Sample value	1.41	2.00U
Spike added	20.00	10.00
Spike recovery, %	86.1	80.1

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
060	-20	S	32CPF1019	1.00x	30 JAN 91	23 44

	As-S	Se-S
Burn 1	01.59	00.42
Burn 2	01.50	00.34
Mean	01.54 =	00.38 =
RSD	04.15	14.73

Instrument code F1
Run ID 9103004

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
61	-20	AS	32CPF1019A	1.00x	30 JAN 91	23 48

	As-S	Se-S
Burn 1	18.65	08.52
Burn 2	18.82	07.21
Mean	18.73 =	07.86 =
RSD	00.64	11.78
Sample value	1.54	2.00U
Spike added	20.00	10.00
Spike recovery, %	86.0	78.6

062	50 PPB	CCV 6		1.00x	30 JAN 91 23 52

	As-S	Se-S
Burn 1	49.56	45.93
Burn 2	48.07	49.49
Mean	48.81 =	47.71 =
RSD	02.15	05.27
Check	OK	OK

063	CAL BLK	CCB 6		1.00x	30 [illegible] 57

	As-S	Se-S
Burn 1	01.51	-00.26
Burn 2	00.08	-01.23
Mean	[illegible] = ok	-00.75 = ok
RSD	DIG HI	-91.30
Check	OK	OK

END OF RUN
SW
1/31/91

C L P M E T A L - C 21b

[illegible] F2 9103002
[illegible] TIFFELL-AS- IDEO CCE (#25.1)
Ele ent Pb

Acquired 01/30/91 by SLN
Crunched 02 01/91 by SLN
Time 1456
Processing protocol 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-4	ICV		ICV	01/30/91	20 16
2	CAL BLK	ICB		ICB	01/30/91	20 20
3	CRA	CRA0		CRA	01/30/91	20·25
4	50 PPB	CCV		CCV	01/30/91	20·29
5	CAL BLK	CCB		CCB	01/30/91	20 33
6	PB	PBW	Furnace	PBW	01/30/91	20.38
7	PB	ASPBW	Furnace	PBWA	01/30/91	20 42
8	LCSFW	LCSW	Furnace	LCSW	01/30/91	20 46
9	LCSFW	ASLCSW	Furnace	LCSWA	01/30/91	20 51
10	9012105-01	S	Furnace	10501	01/30/91	20 55
11	9012105-01	AS	Furnace	10501A	01/30/91	20 59
12	9012105-01	S2	Furnace	10501D	01/30/91	21 04
13	9012105-01	ASS2	Furnace	10501DA	01/30/91	21 08
14	9012105-01	DS	Furnace	10501S	01/30/91	21 12
15	X	X		ZZZZZ	01/30/91	21 17
[illegible]	50 PPB	CCV		CCV	01/30/91	21 21
[illegible]	CAL BLK	CCB		CCB	01/30/91	21 25
18	9012105-02	S	Furnace	10502	01/30/91	21.30
19	9012105-02	AS	Furnace	10502A	01/30/91	21.34
20	9012105-03	S	Furnace	10503	01/30/91	21 38
21	9012105-03	AS	Furnace	10503A	01/30/91	21.43
22	9012105-04	S	Furnace	10504	01/30/91	21.47
23	9012105-04	AS	Furnace	10504A	01/30/91	21.51
24	9012105-05	S	Furnace	10505	01/30/91	21 56
25	9012105-05	AS	Furnace	10505A	01/30/91	22 00
26	9012105-06	S	Furnace	10506	01/30/91	22 04
27	9012105-06	AS	Furnace	10506A	01/30/91	22 09
28	50 PPB	CCV		CCV	01/30/91	22.13
29	CAL BLK	CCB		CCB	01/30/91	22 18
30	9012105-07	S	Furnace	10507	01/30/91	22:22
31	9012105-07	AS	Furnace	10507A	01/30/91	22.26
32	9012105-08	S	Furnace	10508	01/30/91	22 31
33	9012105-08	AS	Furnace	10508A	01/30/91	22 35
34	9012105-09	S	Furnace	10509	01/30/91	22 39
35	9012105-09	AS	Furnace	10509A	01/30/91	22 44
36	9012105-10	S	Furnace	10510	01/30/91	22 48
37	9012105-10	AS	Furnace	10510A	01/30/91	22 52
38	9012105-11	S	Furnace	10511	01/30/91	22 57
39	9012105-11	AS	Furnace	10511A	01/30/91	23 01
40	50 PPB	CCV		CCV	01/30/91	23·05
41	CAL BLK	CCB		CCB	01/30/91	23 10
[illegible]	0 PPB	WS0		S0	01/30/91	19·57
[illegible]	3 PPB	WS1		S3	01/30/91	20 01

[illegible]

C L P M E T A L S 2 21b

Run Id FC 9103052
T[illegible]M: JAFFELL-ASH VIDEO 22E (#2511)
Element T1

Acquired 01/30/91 by MAS
Crunched 02/01/91 by MAS
Time 1[illegible]
Processing protocol [illegible] 88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-4	ICV		ICV	01/30/91	20 16
2	CAL BLK	ICB		ICB	01/30/91	20 20
3	CRA	CRA0		CRA	01/30/91	20 25
4	50 PPB	CCV		CCV	01/30/91	20 29
5	CAL BLK	CCB		CCB	01/30/91	20 33
6	PB	PBW	Furnace	PBW	01/30/91	20 38
7	PB	ASPBW	Furnace	PBWA	01/30/91	20 42
8	LCSFW	LCSW	Furnace	LCSW	01/30/91	20 46
9	LCSFW	ASLCSW	Furnace	LCSWA	01/30/91	20 51
10	9012105-01	S	Furnace	10501	01/30/91	20 55
11	9012105-01	AS	Furnace	10501A	01/30/91	20 59
12	9012105-01	S2	Furnace	10501D	01/30/91	21 04
13	9012105-01	ASS2	Furnace	10501DA	01/30/91	21.08
14	9012105-01	DS	Furnace	10501S	01/30/91	21 12
15	X	X		ZZZZZ	01/30/91	21 17
16	50 PPB	CCV		CCV	01/30/91	21 21
[illegible]	CAL BLK	CCB		CCB	01/30/91	21.25
[illegible]	9012105-02	S	Furnace	10502	01/30/91	21 30
19	9012105-02	AS	Furnace	10502A	01/30/91	21 34
20	9012105-03	S	Furnace	10503	01/30/91	21.38
21	9012105-03	AS	Furnace	10503A	01/30/91	21 43
22	9012105-04	S	Furnace	10504	01/30/91	21 47
23	9012105-04	AS	Furnace	10504A	01/30/91	21.51
24	9012105-05	S	Furnace	10505	01/30/91	21.56
25	9012105-05	AS	Furnace	10505A	01/30/91	22.00
26	9012105-06	S	Furnace	10506	01/30/91	22.04
27	9012105-06	AS	Furnace	10506A	01/30/91	22.09
28	50 PPB	CCV		CCV	01/30/91	22.13
29	CAL BLK	CCB		CCB	01/30/91	22.18
30	9012105-07	S	Furnace	10507	01/30/91	22:22
31	9012105-07	AS	Furnace	10507A	01/30/91	22.26
32	9012105-08	S	Furnace	10508	01/30/91	22:31
33	9012105-08	AS	Furnace	10508A	01/30/91	22:35
34	9012105-09	S	Furnace	10509	01/30/91	22:39
35	9012105-09	AS	Furnace	10509A	01/30/91	22 44
36	9012105-10	S	Furnace	10510	01/30/91	22.48
37	9012105-10	AS	Furnace	10510A	01/30/91	22 52
38	9012105-11	S	Furnace	10511	01/30/91	22 57
39	9012105-11	AS	Furnace	10511A	01/30/91	23.01
40	50 PPB	CCV		CCV	01/30/91	23.05
41	CAL BLK	CCB		CCB	01/30/91	23 10
42	0 PPB	WS0		S0	01/30/91	19 57
[illegible]	10 PPB	WS1		S10	01/30/91	20.01

GRAPHITE FURNACE AA RUN BENCH SHEET

AA Sequence #: 2102 Instrument ID: F1, (F2), F3, F4, F5, F6 Page 1 of 2

Date: 1/30/91 Reviewed by: _____ Instruments Method #: 1100

Operator: KC Standards Prepared: 1 30 91 700

Background: (BS) BD

Time Calibrated: 1957

Standards Source:

1. Calibration: 10 PPM
2. ICV: ICV-415 100
3. CCV: 50 PPM

disc # 33

acq X

9012105

SKINNER AND SHERMAN

A

Run ID: 9103052

Element: As (Pb)

Wavelength (nm): 283.3

Slitwidth (nm): 1

Integration Time (sec): 3

STD1: 0 STD2: 3

STD3: 50 STD4: 100

B

Run ID: 9103052

Element: Se (Tl)

Wavelength (nm): 276.8

Slitwidth (nm): 1

Integration Time (sec): 3

STD1: 0 STD2: 10

STD3: 50 STD4: 100

	COMMENTS	SAMPLE ID	DILUTION	COMMENTS
1		ICV		
2		ICB		
3		CRA		
4		CCV		
5		CCB		
6		PBW		
7		PBWA		
8		LCSW		
9		LCSWA		
10		01		
11		01A		
12		01D		
13		01DA		
14		01S		
15		01SA		
16		CCV		
17		CCB		
18		02		
19		02A		
20		03		
21		03A		
22		04		
23		04A		
24		05		
25		05A		
26		06		
27		06A		
28		CCV		
29		CCB		
30		07		
31		07A		
32		08		
33		08A		
34		09		
35		09A		CCB/AC
36		10		
37		10A		
38		11		
39		11A		

GFAA RUN BENCH SHEET

AA SEQUENCE #: 2102

SKINNER AND SHERMAN

A COMMENTS		SAMPLE ID	DILUTION	B COMMENTS
	40	CCV		
	41	CCB		
	42	12		
	43	12A		
	44	13		
	45	13A		
	46	14		
	47	14A		
	48	15		
	49	15A	CCV	
	50	16	2ul	
	51	16A		
	52	CCV		
	53	CCB		
	54	17		
	55	17A		
	56	18		
	57	18A		
	58	19		
	59	19A		
	60	20		
	61	20A		
	62			
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	84			
	85			

[illegible] Calibration

[illegible]

[illegible]

[illegible]	1	0.001	0.000
Mean		-0.001	0.000
P/H		0.000	0.000
Abs	2	-0.001	0.002
Mean		-0.001	0.001
[illegible]		-0.002	0.002

AUTO ZERO
[illegible]

Wed 30 JAN 1991

		Pb-S	Tl-S
Standard C			
Abs	1	0.019	0.029
Mean		0.019	0.029
P/H		0.020	0.030
Abs	2	0.017	0.028
Mean		0.018	0.028
[illegible]		0.017	0.026
		Pb-S	Tl-S
Mean		0.018	0.028
SD		0.001	0.001
RSD		07.77	03.57
		Pb-S	Tl-S
[illegible]ndard 1			
Abs	1	0.230	0.129
Mean		0.230	0.129
P/H		0.220	0.143
Abs	2	0.217	0.127
Mean		0.223	0.128
P/H		0.219	0.150
		Pb-S	Tl-S
Mean		0.223	0.128
SD		0.009	0.001
RSD		04.12	01.09
		Pb-S	Tl-S
Standard 2			
Abs	1	0.425	0.255
Mean		0.425	0.255
P/H		0.417	0.269
Abs	2	0.423	0.250
Mean		0.424	0.252
P/H		0.412	0.256
		Pb-S	Tl-S
Mean		0.424	0.252
SD		0.001	0.004
RSD		00.33	01.42

STD 1 0/0

~~STD 3 50/5~~ 5/31/91

STD 2 3/10

STD 3 50/50

STD 4 100/10

CALIBRATE A

[illegible]TD	CONC	MEAN
Z	00.00	0.000
C	03.00	0.018
1	50.00	0.223
2	99.99	0.424

[illegible] CONC

STD Z	00.00
STD C	03.84

C00148

Instrument code F2
Run ID 9100002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
001	ICV-4	ICV		2.00x	30 JAN 91	20 16

	Pb-S		Tl-S	
Burn 1	46.80		46.03	
Burn 2	47.23		47.04	
Mean	47.01	=	46.53	=
RSD	00.64		01.53	

002	CAL BLK	ICB	1.00x	30 JAN 91	20 20

	Pb-S		Tl-S	
Burn 1	00.12		-01.20	
Burn 2	00.54		00.13	
Mean	00.33	=	-00.54	=
RSD	89.69	ok	DIG HI	ok
Check	OK		OK	

003	CRA	CRAO	1.00x	30 JAN 91	20 25

	Pb-S		Tl-S	
Burn 1	02.72		10.03	
Burn 2	02.60		10 49	
Mean	02 66	=	10.25	=
RSD	03.15		03.10	

004	50 PPB	CCV	1.00x	30 JAN 91	20 29

	Pb-S		Tl-S	
Burn 1	51.66		53.86	
Burn 2	48.57		49.98	
Mean	50.11	=	51.92	=
RSD	04.35		05.28	
Check	OK		OK	

005	CAL BLK	CCB	1.00x	30 JAN 91	20 33

	Pb-S		Tl-S	
Burn 1	-00.18		-00.03	
Burn 2	-00.88		00.14	
Mean	-00.53	=	00.05	=
RSD	-87.50	ok	DIG HI	ok
Check	[illegible]			

Instrument code F2
Run ID 9103002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
006	PB	PBW		1.00x	30 JAN 91	20 38

	Pb-S	T1-S
Burn 1	00.28	-00.32
Burn 2	00.65	00.28
Mean	00.46 =	-00.02 =
RSD	56.78	DIG HI

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
007	PB	ASPBW		1.00x	30 JAN 91	20 42

	Pb-S	T1-S
Burn 1	25.77	19.18
Burn 2	27.28	21.53
Mean	26.52 =	20.35 =
RSD	04.02	08.16
Sample value	1.00U	3.00U
Spike added	20.00	20.00
Spike recovery, %	132.6	101.8

5/31/91 [illegible]

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
008	LCSFW	LCSW		1.00x	30 JAN 91	20 46

	Pb-S	T1-S
Burn 1	53.27	46.96
Burn 2	54.04	49.21
Mean	53.65 =	48.08 =
RSD	01.01	03.30

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
009	LCSFW	ASLCSW		1.00x	30 JAN 91	20 51

	Pb-S	T1-S
Burn 1	70.11	69.14
Burn 2	68.79	69.70
Mean	69.45 =	69.42 =
RSD	01.34	00.56
Sample value	53.65	48.08
Spike added	20.00	20.00
Spike recovery, %	79.0	106.7

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
010	9012105-01	S	04CWC1006	1.00x	30 JAN 91	20 55

	Pb-S	T1-S
Burn 1	[illegible]	[illegible]
Burn 2	02.11	0.56
Mean	02.57 =	00.77 =
RSD	26.83	29.82

Instrument code F2
Run ID 9102002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
011	-01	AS	04CWC1006A	1.00x	30 JAN 91	20 59

	Pb-S	Tl-S
Burn 1	19.44	14.74
Burn 2	19.40	12.27
Mean	19.42 =	13.50 =
RSD	00.14	12.93
Sample value	2.59	3.00U
Spike added	20.00	20.00
Spike recovery, %	84.2	67.5

012	-01	S2	04CWC1006D	1.00x	30 JAN 91	21 04

	Pb-S	Tl-S
Burn 1	02.59	00.04
Burn 2	02.31	-01.38
Mean	02.45 =	-00.67 = gk
RSD	08.04	DIG HI

013	-01	AS2	04CWC1006D	1.00x	30 JAN 91	21 08

	Pb-S	Tl-S
Burn 1	20.35	13.62
Burn 2	21.22	13.51
Mean	20.79 =	13.56 =
RSD	02.99	00.57
Sample value	2.45	3.00U
Spike added	20.00	20.00
Spike recovery, %	91.7	67.8

014	-01	DS	04CWC1006S	1.00x	30 JAN 91	21 12

	Pb-S	Tl-S
Burn 1	20.19	33.21
Burn 2	21.24	32.36
Mean	[illegible] =	32.79 =
RSD	03.58	01.82

015	X	X		1.00x	30 JAN 91	21 17

	Pb-S	Tl-S
[illegible]	[illegible]	[illegible]
[illegible]	39.03	44.57
Mean	39.52 =	[illegible] =
RSD	02.[illegible]	04.57

Instrument code F2
Run ID 9103002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
016	50 PPB	CCV 2		1.00x	30 JAN 91	21 21

	Pb-S		Tl-S	
Burn 1	49.57		45.75	
Burn 2	51.26		49.65	
Mean	50.41	=	47.70	=
RSD	02.37		05.77	
Check		OK		OK

017	CAL BLK	CCB 2		1.00x	30 JAN 91	21 25

	Pb-S		Tl-S	
Burn 1	00.52		-00.52	
Burn 2	-00.27		-00.38	
Mean	00.12	= ok	-00.45	= ok
RSD	DIG HI		-21.77	
Check		OK		OK

018	-02	S	30CPF1001	1.00x	30 JAN 91	21 30

	Pb-S		Tl-S	
Burn 1	02.27		-01.04	
Burn 2	03.20		-00.10	
Mean	02.73	= ok	-00.57	= ok
RSD	24.06		DIG HI	

019	-02	AS	30CPF1001A	1.00x	30 JAN 91	21 34

	Pb-S		Tl-S	
Burn 1	21.03		14.20	
Burn 2	22.08		13.44	
Mean	21.55	=	13.82	=
RSD	03.44		03.88	
Sample value	2.73		3.00U	
Spike added	20.00		20.00	
Spike recovery %	94.1		89.1	

020	-03	S	30CPF1002	1.00x	30 JAN 91	21 38

	Pb-S		Tl-S	
Burn 1	02.[illegible]		01.[illegible]	
Burn 2	02.[illegible]		[illegible]	
Mean	02.48	= ok	00.37	= ok
RSD	07.07		DIG HI	

Instrument code F2
Run ID 9103002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
021	-03	AS	30CPF1002A	1.00x	30 JAN 91	21 43

	Pb-S	Tl-S
Burn 1	21.61	15.78
Burn 2	20.28	12.08
Mean	20.94 =	13.93 =
RSD	04.48	18.77
Sample value	2.48	3.00U
Spike added	20.00	20.00
Spike recovery, %	92.3	69.6

022	-04	S	30CPF1003	1.00x	30 JAN 91	21 47

	Pb-S	Tl-S
Burn 1	01.56	-00.46
Burn 2	01.61	00.76
Mean	01.58 =	00.15 = dl
RSD	02.27	DIG HI

023	-04	AS	30CPF1003A	1.00x	30 JAN 91	21 51

	Pb-S	Tl-S
Burn 1	22.08	13.74
Burn 2	20.80	12.90
Mean	21.44 =	13.33 =
RSD	04.22	04.56
Sample value	1.58	3.00U
Spike added	20.00	20.00
Spike recovery, %	98.3	66.6

024	-05	S	30CPF1004	1.00x	30 JAN 91	21 55

	Pb-S	Tl-S
Burn 1	02.98	00.67
Burn 2	02.99	00.42
Mean	02.98 =	00.54 = dl
RSD	00.[illegible]	32.59

025	-05	AS	30CPF1004A	1.00x	30 JAN 91	22 00

	Pb-S	Tl-S
Burn 1	[illegible]	[illegible]
Burn 2	[illegible]	[illegible]
Mean	22.37	3.47 =
RSD	01.07	01.75
Sample value	2.99	3.00U
Spike added	20.00	20.00
Spike recovery, %	[illegible]	[illegible]

Instrument code F2
Run ID 9100002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
026	-06	S	30CPF1005	1.00x	30 JAN 91	22 04

	Pb-S	Tl-S
Burn 1	04.25	-00.15
Burn 2	05.11	-01.07
Mean	04.68 =	-00.61 =
RSD	12.99	DIG HI

027	-06	AS	30CPF1005A	1.00x	30 JAN 91	22 09

	Pb-S	Tl-S
Burn 1	21.93	13.82
Burn 2	21.71	14.35
Mean	21.82 =	14.08 =
RSD	00.71	02.65
Sample value	4.68	3.00U
Spike added	20.00	20.00
Spike recovery, %	85.7	70.4

028	50 PPB	CCV 3		1.00x	30 JAN 91	22 13

	Pb-S	Tl-S
Burn 1	52.14	49.34
Burn 2	50.97	47.92
Mean	51.55 =	48.63 =
RSD	01.60	02.06
Check	OK	OK

029	CAL BLK	CCB 3		1.00x	30 JAN 91	22 18

	Pb-S	Tl-S
Burn 1	-00.43	00.45
Burn 2	-00.58	00.07
Mean	-00.51 =	00.26 =
RSD	-20.78	DIG HI
Check	OK	OK

030	-07	S	30CPF1006	1.00x	30 JAN 91	22 22

	Pb-S	Tl-S
Burn 1	[illegible]	[illegible]
Burn 2	[illegible]	[illegible]
Mean	00.58 =	[illegible] =
RSD	05.13	DIG HI

Instrument code F2
Run ID 9103002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
031	-07	AS	30CPF1006A	1.00x	30 JAN 91	22 26

	Pb-S	Tl-S
Burn 1	21.44	12.94
Burn 2	21.67	13.05
Mean	21.55 =	12.99 =
RSD	00.75	00.60
Sample value	3.59	3.00U
Spike added	20.00	20.00
Spike recovery, %	89.8	65.0

032	-08	S	30CPF1007	1.00x	30 JAN 91	22 31

	Pb-S	Tl-S
Burn 1	02.95	00.11
Burn 2	03.45	01.18
Mean	03.20 =	00.64 =
RSD	11.03	DIG HI

033	-08	AS	30CPF1007A	1.00x	30 JAN 91	22 35

	Pb-S	Tl-S
Burn 1	21.15	12.50
Burn 2	20.66	13.[illegible]
Mean	20.90 =	13.07 =
RSD	01.65	05.29
Sample value	3.20	3.00U
Spike added	20.00	20.00
Spike recovery, %	88.5	65.4

034	-09	S	32CPF1008	1.00x	30 JAN 91	22 39

	Pb-S	Tl-S
Burn 1	06.84	00.34
Burn 2	06.60	-00.38
Mean	06.72 =	-00.02 =
RSD	02.19	DIG HI

035	-09	AS	32CPF1009A	1.00x	30 JAN 91	22 44

	Pb-S	Tl-S
Burn 1	[illegible]	[illegible]
Burn 2	[illegible]	[illegible]
Mean	[illegible] =	12.[illegible]
RSD	[illegible]	12.15
Sample value	6.73	3.00U
Spike added	20.00	[illegible]
Spike recovery, %	[illegible]	[illegible]

Instrument code F2
Run ID 9103002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
036	-10	S	32CPF1009	1.00x	30 JAN 91	22 48

	Pb-S	Tl-S
Burn 1	03.03	01.99
Burn 2	02.87	01.35
Mean	02.95 =	01.67 =
RSD	03.83	27.06

037	-10	AS	32CPF1009A	1.00x	30 JAN 91	22 52

	Pb-S	Tl-S
Burn 1	20.97	13.22
Burn 2	20.35	12.66
Mean	20.66 =	12.94 =
RSD	02.12	03.05
Sample value	2.95	3.00U
Spike added	20.00	20.00
Spike recovery, %	88.6	*64.7

038	-11	S	32CPF1010	1.00x	30 JAN 91	22 57

	Pb-S	Tl-S
Burn 1	04.06	00.71
Burn 2	03.62	01.38
Mean	03.84 =	01.04 =
RSD	07.91	45.48

039	-11	AS	32CPF1010A	1.00x	30 JAN 91	23 01

	Pb-S	Tl-S
Burn 1	23.78	12.48
Burn 2	23.44	14.40
Mean	23.61 =	13.44 =
RSD	01.01	10.09
Sample value	3.84	3.00U
Spike added	20.00	20.00
Spike recovery, %	98.8	*67.2

040	50 PPB	CCV 4		1.00x	30 JAN 91	23 05

	Pb-S	Tl-S
Burn 1	[illegible]	[illegible]
Burn 2	[illegible]	[illegible]
Mean	43.14 =	[illegible] =
RSD	02.10	[illegible]
Check	OK	OK

Instrument code F2
Run ID 9103002

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
041	CAL BLK	CCB 4		1.00x	30 JAN 91	23 10

	Pb-S		Tl-S	
Burn 1	-00.69		01.14	
Burn 2	-00.27		00.57	
Mean	-00.48 =		00.85 =	
RSD	-61.66	ok	47.41	ok
Check		OK		OK

CON OUT
SN
1/31/91

C L P M E T A L S 2 21b

Run id F2 9103101
THERMO JARRELL-ASH VIDEO 22E (#2511)

Element Pb

Acquired 01/31/91 by SLN
Crunched. 02/01/91 by SLN
Time 1500
Processing protocol 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-4	ICV		ICV	01/31/91	10·42
2	CAL BLK	ICB		ICB	01/31/91	10 47
3	CRA	CRA0		CRA	01/31/91	10:51
4	50 PPB	CCV		CCV	01/31/91	10 55
5	CAL BLK	CCB		CCB	01/31/91	11:00
6	PB	PBW	Furnace	PBW	01/31/91	11.04
7	PB	ASPBW	Furnace	PBWA	01/31/91	11 08
8	9012105-12	S	Furnace	10512	01/31/91	11·13
9	9012105-12	AS	Furnace	10512A	01/31/91	11·17
10	9012105-13	S	Furnace	10513	01/31/91	11.21
11	9012105-13	AS	Furnace	10513A	01/31/91	11 26
12	9012105-14	S	Furnace	10514	01/31/91	11.30
13	9012105-14	AS	Furnace	10514A	01/31/91	11.34
14	9012105-15	S	Furnace	10515	01/31/91	11 39
[illegible]	9012105-15	AS	Furnace	10515A	01/31/91	11.43
[illegible]	50 PPB	CCV		CCV	01/31/91	11 47
17	CAL BLK	CCB		CCB	01/31/91	11 52
18	0 PPB	WS0		S0	01/31/91	10 26
19	3 PPB	WS1		S3	01/31/91	10 30
20	50 PPB	WS2		S50	01/31/91	10 34
21	100 PPB	WS3		S100	01/31/91	10 38

C L P M E T A L S 2 21b

Run id F2 9103151
THERMO JARRELL-ASH VIDEO 22E (#2511)

Element Tl

Acquired 01/31/91 by SLN
Crunched 02/01/91 by SLN
Time 1501
Processing protocol 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-4	ICV		ICV	01/31/91	10 42
2	CAL BLK	ICB		ICB	01/31/91	10.47
3	CRA	CRA0		CRA	01/31/91	10 51
4	50 PPB	CCV		CCV	01/31/91	10 55
5	CAL BLK	CCB		CCB	01/31/91	11 00
6	PB	PBW		PBW	01/31/91	11 04
7	PB	ASPBW		PBWA	01/31/91	11 08
8	9012105-12	S	Furnace	10512	01/31/91	11 13
9	9012105-12	AS	Furnace	10512A	01/31/91	11 17
10	9012105-13	S	Furnace	10513	01/31/91	11 21
11	9012105-13	AS	Furnace	10513A	01/31/91	11 26
12	9012105-14	S	Furnace	10514	01/31/91	11 30
13	9012105-14	AS	Furnace	10514A	01/31/91	11 34
14	9012105-15	S	Furnace	10515	01/31/91	11 39
15	9012105-15	AS	Furnace	10515A	01/31/91	11 43
16	50 PPB	CCV		CCV	01/31/91	11 47
17	CAL BLK	CCB		CCB	01/31/91	11 52
18	0 PPB	WS0		S0	01/31/91	10 26
19	10 PPB	WS1		S10	01/31/91	10 30
20	50 PPB	WS2		S50	01/31/91	10 34
21	100 PPB	WS3		S100	01/31/91	10 38

GRAPHITE FURNACE AA RUN BENCH SHEET

AA Sequence #: 2103 Instrument ID: F_1, F_2, F_3, F_4, F_5, F6 Page 1 of 1

Date: 1 31 91 Reviewed by: TD Instruments Method #: 160

Operator: Sw Standards Prepared: 1/31/91 8:00

Background: BS BD

Time Calibrated: 16:26 Standards Source:

1. Calibration: 10 PPM
2. ICV: ICV-4
3. CCV: 50 PPB

disc # 13

acq

SKINNER AND SHERMAN

Run ID: A 9103101	9012105	Run ID: B 9103151
Element: As (Pb)		Element: Se (Tl)
Wavelength (nm): 283.3		Wavelength (nm): 276.8
Slitwidth (nm): 1		Slitwidth (nm): 1
Integration Time (sec): 3		Integration Time (sec): 3
STD1: 0 STD2: 3		STD1: 0 STD2: 10
STD3: 50 STD4: 100		STD3: 50 STD4: 100

	SAMPLE ID	DILUTION	COMMENTS
1	ICV		
2	ICB		
3	CRA		
4	CCV		
5	CCB		
6	PBW		Pb peak
7	PBWD		
8	12		
9	12D		
10	13		7.2 257
11	13D		
12	14		
13	14D		
14	15		
15	15D		
16	CCV		
17	CCB		
18	16		
19	16D		
20	17		CCV OK
21	17D		
22	18		TD 1/31/91
23	18D		
24	19		
25	19D		
26	20		
27	20D		
28	CCV		
29	CCB		
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			

COMMENTS

Norm=1 Cal: sat --

INSC

		Pb-S	Tl-S	
Standard Z				STD 1 0/0
Abs	1	-0.002	0.004	
Mean		-0.002	0.004	
P/H		0.001	0.000	
Abs	2	-0.003	0.001	
Mean		-0.003	0.002	
P/H		0.001	-0.003	

AUTO ZERO
10 26 14
Thu 31 JAN 1991

		Pb-S	Tl-S	
Standard C				STD 2 3/10
Abs	1	0.017	0.021	
Mean		0.017	0.021	
P/H		0.012	0.026	
Abs	2	0.015	0.025	
Mean		0.016	0.023	
P/H		0.010	0.030	
		Pb-S	Tl-S	
Mean		0.016	0.023	
SD		0.001	0.003	
RSD		08.75	12.17	

		Pb-S	Tl-S	
Standard 1				STD 3 50/50
Abs	1	0.207	0.144	
Mean		0.207	0.144	
P/H		[illegible]	[illegible]	
Abs	2	0.233	[illegible]	
Mean		0.207	[illegible]	
P/H		[illegible]	[illegible]	
		Pb-S	Tl-S	
Mean		0.207	[illegible]	
SD		0.001	0.004	
RSD		00.42	02.97	

		Pb-S	Tl-S	
Standard 2				STD 4 100/100
Abs	1	0.449	0.274	
Mean		0.449	0.274	
P/H		0.477	0.313	
Abs	2	[illegible]	0.270	
Mean		[illegible]	[illegible]	
P/H		[illegible]	[illegible]	
		Pb-S	Tl-S	
Mean		0.431	[illegible]	
[illegible]		[illegible]	[illegible]	
[illegible]		[illegible]	[illegible]	

[illegible]

[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
[illegible]	50.00	[illegible]	
[illegible]	[illegible]	[illegible]	

[illegible]

[illegible]

CALIBRATE P

STD	CONC	MEAN
Z	00.00	0.000
C	10.00	0.023
1	50.00	0.141
2	99.99	0.277

APP CONC

STD Z	00.00
STD C	08.23
STD 1	50.64
STD 2	99.83

Instrument code F2
Run ID 910101

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
001	ICV-4	ICV 2		2.00x	31 JAN 91	10 42

	Pb-S	T1-S
Burn 1	48.52	46.93
Burn 2	46.66	46.57
Mean	47.59 =	46.75 =
RSD	02.76	00.54

002	CAL BLK	ICB 2	1.00x	31 JAN 91 10 47

	Pb-S	T1-S
Burn 1	00.24	-01.50
Burn 2	00.47	-01.30
Mean	00.35 = ok	-01.40 =
RSD	46.28	-10.07
Check	OK	OK

003	CRA	CRAO	1.00x	31 JAN 91 10 51

	Pb-S	T1-S
Burn 1	03.64	07.65
Burn 2	02.78	10.09
Mean	03.21 =	08.87 =
RSD	13.94	19.44

004	50 PPB	CCV \	1.00x	31 JAN 91 10 55

	Pb-S	T1-S
Burn 1	46.99	47.85
Burn 2	49.45	50.74
Mean	48.22 =	50.30 =
RSD	03.60	01.27
Check	OK	OK

005	CAL BL	CCB \	1.00x	31 JAN 91 11 00

	Pb-S	T1-S
Burn 1	00.37	-01.40
Burn 2	-00.21	00.31
Mean	00.10 =	-00.55 = ok
RSD	272.47 ok	272.47
Check		OK

Instrument code F2
Run ID 9100101

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
006	PB	PBW		1.00x	31 JAN 91	11 04

	Pb-S	T1-S
Burn 1	00.37	-00.45
Burn 2	00.25	-00.68
Mean	00.31 =	-00.57 =
RSD	27.09 ok	-28.42 ok

007	PB	ASPBW		1.00x	31 JAN 91	11 08

	Pb-S	T1-S
Burn 1	22.33	21.03
Burn 2	22.74	17.87
Mean	22.53 =	19.45 =
RSD	01.28	11.48
Sample value	1.00U	3.00U
Spike added	20.00	20.00
Spike recovery, %	112.6	97.2

SF 2/1/91

008	9012105-12	S	32CPF1011	1.00x	31 JAN 91	11 13

	Pb-S	T1-S
Burn 1	02.40	-00.02
Burn 2	01.67	-00.42
Mean	02.07 =	-00.22 =
RSD	27.63 ok	DIG HI ok

009	-12	AS	32CPF1011A	1.00x	31 JAN 91	11 17

	Pb-S	T1-S
Burn 1	18.50	13.51
Burn 2	19.12	14.65
Mean	18.81 =	14.08 =
RSD	02.32	05.72
Sample value	2.07	3.00U
Spike added	20.00	20.00
Spike recovery, %	82.7	[illegible]

010	-13	S	32CPF1012	1.00x	31 JAN 91	11 21

	Pb-S	T1-S
Burn 1	[illegible]	[illegible]
Burn 2	[illegible]	-02.[illegible]
Mean	03.7[illegible] =	-01.[illegible] =
RSD	[illegible].39 ok	-64.[illegible]

SF 2/1/91

Instrument code F2
Run ID 9100101

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
011	-13	AS	32CPF1012A	1.00x	31 JAN 91	11 26

	Pb-S	Tl-S
Burn 1	23.29	15.79
Burn 2	23.44	11.35
Mean	23.36 =	13.57 =
RSD	00.45	23.13 ***
Sample value	3.72	3.00U
Spike added	20.00	20.00
Spike recovery, %	98.2	57.8

2/1/91

012	-14	S	32CPF1013	1.00x	31 JAN 91	11 30

	Pb-S	Tl-S
Burn 1	53.10	-00.49
Burn 2	55.04	00.05
Mean	54.07 =	-00.22 =
RSD	02.53	DIG HI ***

ok

013	-14	AS	32CPF1013A	1.00x	31 JAN 91	11 34

	Pb-S	Tl-S
Burn 1	70.59	12.5
Burn 2	71.[illegible]	11.10
Mean	71.19 =	12.03 =
RSD	01.19	10.93
Sample value	54.07	3.00U
Spike added	20.00	20.00
Spike recovery, %	85.6	60.2

014	-15	S	32CPF1014	1.00x	31 JAN 91	11 39

	Pb-S	Tl-S
Burn 1	01.70	-00.76
Burn 2	02.07	-02.30
Mean	01.89 =	-01.53 =
RSD	12.86	-71.11

ok

015	-15	AS	32CPF1014A	1.00	31 JAN 91	11 43

	Pb-S	Tl-S
Burn 1	[illegible]	[illegible]
Burn 2		[illegible]
Mean	2.41 =	[illegible] =
RSD	02.42	[illegible]
Sample value	1.89	3.00U
Spike added	20.00	20.00
Spike recovery, %	[illegible]	[illegible]

Instrument code F2
Run ID P100101

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
016	50 PPB	CCV 2		1.00x	31 JAN 91	11 47

	Pb-S		Tl-S	
Burn 1	49.67		44.84	
Burn 2	51.81		47.42	
Mean	50.74	=	46.13	=
RSD	02.98		03.95	
Check		OK		OK

017	CAL BLK	CCB 2		1.00x	31 JAN 91	11 52

	Pb-S		Tl-S	
Burn 1	00.45		-01.01	
Burn 2	-00.77		-00.36	
Mean	-00.16	= ok	-00.69	= ok
RSD	DIG HI		-66.52	
Check		OK		OK

End of Run
D 1/31/91

C L P M E T A L S 2 21b

[illegible] id F2 9103112
THERMO JARRELL-ASH VIDEO 22E (#2511)

Element Pb

Acquired 01/31/91 by MAS
Crunched 02/01/91 by MAS
Time. 1624
Processing protocol. 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-4	ICV		ICV	01/31/91	13 40
2	CAL BLK	ICB		ICB	01/31/91	13 44
3	CRA	CRAO		CRA	01/31/91	13 49
4	50 PPB	CCV		CCV	01/31/91	13 53
5	CAL BLK	CCB		CCB	01/31/91	13 57
6	X	X		ZZZZZ	01/31/91	14:02
7	9012105-16	S	Furnace	10516	01/31/91	14 06
8	9012105-16	AS	Furnace	10516A	01/31/91	14.10
9	9012105-17	S	Furnace	10517	01/31/91	14:15
10	9012105-17	AS	Furnace	10517A	01/31/91	14.19
11	9012105-18	S	Furnace	~~10519~~ 10518	01/31/91	14.24
12	9012105-18	AS	Furnace	~~10519A~~ 10518A	01/31/91	14 28
13	9012105-19	S	Furnace	10519	01/31/91	14 32
14	9012105-19	AS	Furnace	10519A	01/31/91	14 37
15	50 PPB	CCV		CCV	01/31/91	14 41
[illegible]	CAL BLK	CCB		CCB	01/31/91	14 45
[illegible]	9012105-20	S	Furnace	10520	01/31/91	14 50
18	9012105-20	AS	Furnace	10520A	01/31/91	14 54
19	X	X		ZZZZZ	01/31/91	14 58
20	X	X		ZZZZZ	01/31/91	15 03
21	50 PPB	CCV		CCV	01/31/91	15 07
22	CAL BLK	CCB		CCB	01/31/91	15 12
23	X	X		ZZZZZ	01/31/91	15 17
24	X	X		ZZZZZ	01/31/91	15 21
25	50 PPB	CCV		CCV	01/31/91	15 25
26	CAL BLK	CCB		CCB	01/31/91	15 30
27	0 PPB	WS0		S0	01/31/91	13 22
28	3 PPB	WS1		S3	01/31/91	13 26
29	50 PPB	WS2		S50	01/31/91	13 30
30	100 PPB	WS3		S100	01/31/91	13 34

C L P M E T A L S 2.21b

Run id F2 9103162
THERMO JARRELL-ASH VIDEO 22E (#2511)

Element Tl

Acquired 01/31/91 by MAS
Crunched 02/01/91 by MAS
Time 1625
Processing protocol 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	ICV-4	ICV		ICV	01/31/91	13 40
2	CAL BLK	ICB		ICB	01/31/91	13 44
3	CRA	CRAO		CRA	01/31/91	13 49
4	50 PPB	CCV		CCV	01/31/91	13 53
5	CAL BLK	CCB		CCB	01/31/91	13.57
6	X	X		ZZZZZ	01/31/91	14 02
7	9012105-16	S	Furnace	10516	01/31/91	14 06
8	9012105-16	AS	Furnace	10516A	01/31/91	14 10
9	9012105-17	S	Furnace	10517	01/31/91	14 15
10	9012105-17	AS	Furnace	10517A	01/31/91	14.19
11	9012105-18	S	Furnace	~~10519~~ 10518	01/31/91	14.24
12	9012105-18	AS	Furnace	~~10519A~~ 10518A	01/31/91	14 28
13	9012105-19	S	Furnace	10519	01/31/91	14 32
14	9012105-19	AS	Furnace	10519A	01/31/91	14 37
15	50 PPB	CCV		CCV	01/31/91	14.41
16	CAL BLK	CCB		CCB	01/31/91	14 45
[illegible]	9012105-20	S	Furnace	10520	01/31/91	14 50
[illegible]	9012105-20	AS	Furnace	10520A	01/31/91	14 54
19	X	X		ZZZZZ	01/31/91	14 58
20	X	X		ZZZZZ	01/31/91	15 03
21	50 PPB	CCV		CCV	01/31/91	15 07
22	CAL BLK	CCB		CCB	01/31/91	15 12
23	9012105-13	S	Furnace	10513	01/31/91	15 17
24	9012105-13	AS	Furnace	10513A	01/31/91	15 21
25	50 PPB	CCV		CCV	01/31/91	15 25
26	CAL BLK	CCB		CCB	01/31/91	15 30
27	0 PPB	WS0		S0	01/31/91	13 22
28	10 PPB	WS1		S10	01/31/91	13 26
29	50 PPB	WS2		S50	01/31/91	13 30
30	100 PPB	WS3		S100	01/31/91	13 34

GRAPHITE FURNACE AA RUN BENCH SHEET

AA Sequence #: 2104
Date: 1/31/91
Operator: ID
Background: BS BD
Time Calibrated: 1322

Instrument ID: F_1, F_2, F_3, F_4, F_5, F6
Reviewed by: ID

Page 1 of 1
Instruments Method #: 100
Standards Prepared: 1/31/91
8.00
Standards Source:
1. Calibration: 10 PPB
2. ICV: ICV-4
3. CCV: 50 PPB

disc # 23
acq

9012105

SKINNER AND SHERMAN

A	B
Run ID: 9103102	Run ID: 9103152
Element: As (Pb)	Element: Se (Tl)
Wavelength (nm): 283.3	Wavelength (nm): 276.8
Slitwidth (nm): 1	Slitwidth (nm): 1
Integration Time (sec): 3	Integration Time (sec): 3
STD1: 0 STD2: 3	STD1: 0 STD2: 10
STD3: 50 STD4: 100	STD3: 50 STD4: 100

	COMMENTS	SAMPLE ID	DILUTION	COMMENTS
1		ICV		
2		ICB		
3		CRA		
4		CCV		
5		CCB		
6		16 X		
7		16A		
8		17 16A		
9		17A 17		
10		18 17A		
11		18A 18		
12		19 19A		
13		19A 19		
14		20 19A		
15		20 + ICV		
16		CCV CCV		
17		CCV 20		
18		13 20A		
19		13A 13		
20		13 13A		
21		ICV		
22		CCV		
23		13		
24		13A		
25		CCV		
26		CCV		
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				

[illegible] Calibration

[illegible]INCC

```
          Pb-S Tl-S
Standard Z
Abs    1 -0.003 -0.002
Mean     -0.003 -0.003
P/H      -0.004  0.001
Abs    2  0.001 -0.007
Mean     -0.001 -0.005
P/H      -0.002  0.000
AUTO ZERO
13 22 32
Thu  31 JAN 1991
          Pb-S Tl-S
Standard C
Abs    1  0.017  0.026
Mean      0.017  0.026
P/H       0.012  0.027
Abs    2  0.014  0.028
Mean      0.015  0.027
P/H       0.009  0.025
          Pb-S Tl-S
Mean      0.015  0.027
SD        0.002  0.001
RSD       14.66  05.18
          Pb-S Tl-S
Standard 1
Abs    1  0.216  0.130
Mean      0.217  0.130
P/H       [illegible]  [illegible]154
Abs    2  0.219  0.129
Mean      0.217  [illegible]29
P/H       0.240  0.155
          Pb-S Tl-S
Mean      0.2[illegible]7  0.129
SD        0.002  0.001
RSD       01.01  00.77
          Pb-S Tl-S
Standard 2
Abs    1  0.416  0.257
Mean      0.4[illegible]6  0.257
P/H       0.471  0.289
Abs    2  0.4[illegible]1  0.25[illegible]
Mean      [illegible]  0.254
P/H       [illegible]  0.2[illegible]
          Pb-S Tl-S
Mean      0.4[illegible]  0.251
SD        0.004  0.00[illegible]
RSD       [illegible]
```

STD 1 0/0

STD 2 3/10

STD 3 50/50

STD 4 100/100

[illegible]

```
[illegible]
[illegible]  [illegible]  [illegible]
[illegible]  [illegible]  0.0[illegible]
[illegible]  [illegible]  0.21
[illegible]  [illegible]  0.4[illegible]
[illegible]
```

Instrument code F2
Run ID 9102112

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
001	ICV-4	ICV 3		2.00x	31 JAN 91	13 40

	Pb-S	T1-S
Burn 1	48.88	46.43
Burn 2	47.61	49.11
Mean	48.24 =	47.77 =
RSD	01.86	03.96

002	CAL BLK	ICB 3	1.00x	31 JAN 91 13 44

	Pb-S	T1-S
Burn 1	-00.65	01.41
Burn 2	00.31	01.66
Mean	-00.17 = ok	01.53 =
RSD	DIG HI	11.50
Check	OK	OK

003	CRA	CRA0	1.00x	31 JAN 91 13 49

	Pb-S	T1-S
Burn 1	04.10	08.9[illegible]
Burn 2	02.64 → CRDL (3)	08.93
Mean	03.3[illegible] =	08.94 =
RSD	31 1[illegible]	[illegible]

004	50 PPB	CCV 1	1.00x	31 JAN 91 13 53

	P[illegible]-S	T1-S
Burn 1	51.19	53.06
Burn 2	49.32	50.34
Mean	50.25 =	51.70 =
RSD	02.63	03.71
Check	O[illegible]	OK

005	CAL BLK	CCB 1	1.00	31 JAN 91 1[illegible]

	P[illegible]-S	T1-S
Burn 1	00.70	02.37
Burn 2	00.00	[illegible]
Mean	00.35 =	[illegible]
RSD	DIG HI	[illegible]
Check	-	

ok ok

Instrument code F2
Run ID 9103112

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
006	X	X		1.00x	31 JAN 91	14 02

	Pb-S	Tl-S
Burn 1	~~00.35~~	~~-00.25~~
Burn 2	~~-00.50~~	~~00.57~~
Mean	~~-00.08~~ =	00.17 =
RSD	~~-95.89~~	DIG HI

MS 1/31/91

007	9012105-16	S	32CPF1015	1.00x	31 JAN 91	14 06

	Pb-S	Tl-S
Burn 1	40.15	00.43
Burn 2	41.20	00.48
Mean	40.67 =	00.45 =
RSD	01.82	08.00

008	-16	AS	32CPF1015A	1.00x	31 JAN 91	14 10

	Pb-S	Tl-S
Burn 1	60 01	16.97
Burn 2	60 16	15.58
Mean	60 09 =	16 27 =
RSD	00 17	06.00
Sample value	10 67	3.00
Spike added	20.00	20.00
Spike recovery, %	97.0	61.4

009	-17	[illegible]	[illegible]F1016	1.00x	31 JAN 91	14 15

	Pb-S	Tl-S
Burn 1	04.47	-00.26
Burn 2	03 55	01.30
Mean	04.01 =	00.52 =
RSD	16.20	DIG HI

dlw

010	-17	AS	[illegible]	1.00	31 JAN 91	14 19

	Pb-S	Tl-S
Burn 1	22.92	16.15
Burn 2	[illegible]	[illegible]
Mean	22.97 =	[illegible]
RSD	[illegible]	[illegible]
Sample value	[illegible]	[illegible]
Spike added	20.00	20.00
Spike recovery, %	94.0	77.6

Instrument code F2
Run ID 9103112

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
011	-18	S	32CPF1016	1.00x	31 JAN 91	14 24

	Pb-S	Tl-S
Burn 1	04.41	00.50
Burn 2	04.62	-00.38
Mean	04.51 =	00.06 = ok
RSD	03.28	DIG HI

012	-18	AS	32CPF1016A	1.00x	31 JAN 91	14 28

	Pb-S	Tl-S
Burn 1	24.49	16.01
Burn 2	23.82	12.50
Mean	24.15 =	14.25 =
RSD	01.95	17.41
Sample value	4.51	3.00U
Spike added	20.00	20.00
Spike recovery, %	98.2	71.2

013	-19	S	32CPF1018	1.00x	31 JAN 91	14 32

	Pb-S	Tl-S
Burn 1	01.[illegible]	-00.[illegible]
Burn 2	01.96	-00.23
Mean	01.[illegible] = ok	-00.[illegible] = ok
RSD	20.64	-70.70

014	-19	AS	32CPF1018A	1.00x	31 JAN 91	14 37

	Pb-S	Tl-S
Burn 1	20.40	14.15
Burn 2	21.47	12.83
Mean	20.93 =	13.51 =
RSD	03.61	06.64
Sample value	1.71	3.00U
Spike added	20.00	20.00
Spike recovery, %	[illegible]	67.6

015	50 PPB	CCV 2		1.00x	31 JAN 91	14 41

	[illegible]	[illegible]
Burn 1	52.[illegible]	[illegible]
Burn 2	[illegible]	50
Mean	52.[illegible] =	49.33 =
RSD	[illegible]	02.21
Control	OK	

Instrument code F2
Run ID 910312

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
016	CAL BLK	CCB 2		1.00x	31 JAN 91	14 45

	Pb-S	T1-S
Burn 1	00.31	01.24
Burn 2	00.41	01.84
Mean	00.36 =	01.54 = ok
RSD	19.44	27.53
Check	OK	OK

017	-20	S	32CPF1019	1.00x	31 JAN 91	14 50

	Pb-S	T1-S
Burn 1	02.07	00.14
Burn 2	01.42	00.21
Mean	01.74 = ok	00.17 = ok
RSD	26.37	29.41

018	-20	AS	32CPF1019A	1.00x	31 JAN 91	14 54

	Pb-S	T1-S
Burn 1	22 60	14.09
Burn 2	22 42	13 95
Mean	22 51 =	14 02 =
RSD	00 53	00.69
Sample value	3 74	3.000
Spike added	20 00	20 00
Spike recovery, %	107 0	70.1

019	-10	S	32CPF1012	1.00x	31 JAN 91	14 58

	Pb-S	T1-S
Burn 1	04.83	-00.16
Burn 2	04 46	00 28
Mean	04 64 =	00.06 = ok
RSD	05.62	DID NOT

020	-10	AS	32CPF1012A	1.00x	31 JAN 91	15 02

	Pb-S	T1-S
Burn 1	[illegible]	[illegible]
Burn 2	[illegible]	[illegible]
Mean	[illegible]	[illegible]
RSD	[illegible]	DID NOT ok
Sample value	[illegible]	[illegible]
Spike added	[illegible]	[illegible]
Spike recovery, %	[illegible]	[illegible]

MS 1/31/91

Instrument code F2
Run ID 9100112

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
021	50 PPB	CCV 3		1.00x	31 JAN 91	15 07

	Pb-S		Tl-S	
Burn 1	51.08		48.54	
Burn 2	53.49		50.36	
Mean	52.28	=	49.45	=
RSD	03.25		02.60	
Check		OK		OK

022	CAL BLK	CCB 3		1.00x	31 JAN 91	15 12

	Pb-S		Tl-S	
Burn 1	00.10		01.79	
Burn 2	-00.74	ok	00.39	
Mean	-00.32	=	01.09	= ok
RSD	DIG HI		90.73	
Check		OK		OK

023	-13	S	32CPF1012	1.00x	31 JAN 91	15 17

	Pb-S		Tl-S	
Burn 1	03 [illegible]		-00 20	
Burn 2	04 [illegible]		00.[illegible]3	ok
Mean	04 23	=	-00.01	*
RSD	12.03		-58 56	

024	-13	AS	32CPF1012A	1 00x	31 JAN 91	15 21

	Pb-S		Tl-S	
Burn 1	24 [illegible]		17.21	
Burn 2	25.17		13.68	
Mean	25.03	=	15.44	=
RSD	00 90		16.16	
Sample value	4 23		3.00U	
Spike added	20.00		20.00	
[illegible]	[illegible]		77.2[illegible]	

MS 1/31/91

025	50 PPB	CCV 4		1.00x	31 JAN 91	15 25

	Pb-S		Tl-S	
[illegible]	[illegible]		[illegible]	
[illegible]	[illegible]		[illegible]	
Mean	[illegible]		[illegible]	
RSD	[illegible]		[illegible]	
[illegible]		[illegible]		[illegible]

Instrument code F2
Run ID 9100112

POS	SAMPLE ID	CODE	CLIENT ID	DILUTION	DATE	TIME
026	CAL BLK	CCB 4		1.00x	31 JAN 91	15 30

	Pb-S		Tl-S	
Burn 1	00.01		00.02	
Burn 2	00.21		01.04	
Mean	00.11	=	00.53	=
RSD	DIG HI		DIG HI	
Check		OK		OK

MS 1/31/91

ok

Endofrun

MS
1/31/91

C I P M E T A L S 2.21b

[illegible]121105--MERCURY

Run id M1 91004002
TECHNICON MERCURY ANALYZER (#SS4199A-D)

Element Hg

Acquired 01/04/91 by KDT
Crunched: 01/30/91 by KDT
Time 1330
Processing protocol 7/88

Pos	Sample	Code	Preparation Method	Client ID	Date	Time
1	0 PPB	WS0		S0	01/04/91	10.00
2	0 5 PPB	WS1		S0 5	01/04/91	10 03
3	1.0 PPB	WS2		S1.0	01/04/91	10 06
4	2 0 PPB	WS3		S2.0	01/04/91	10·09
5	5 0 PPB	WS4		S5.0	01/04/91	10 12
6	ICV-5	ICV		ICV	01/04/91	10.15
7	CAL BLK	ICB		ICB	01/04/91	10 18
8	2 0 PPB	CCV		CCV	01/04/91	10.21
9	CAL BLK	CCB		CCB	01/04/91	10.24
10	X	X		ZZZZZ	01/04/91	10 27
11	X	X		ZZZZZ	01/04/91	10 30
12	X	X		ZZZZZ	01/04/91	10.33
13	X	X		ZZZZZ	01/04/91	10.36
[illegible]4	2 0 PPB	CCV		CCV	01/04/91	10 39
[illegible]5	CAL BLK	CCB		CCB	01/04/91	10 42
16	PB	PBW	Mercury	PBW	01/04/91	10 45
17	9012105-01	S	Mercury	10501	01/04/91	10 48
18	9012105-01	S2	Mercury	105010	01/04/91	10 51
19	9012105-01	DS	Mercury	105013	01/04/91	10 54
20	9012105-02	S	Mercury	10502	01/04/91	10 57
21	9012105-03	S	Mercury	10503	01/04/91	11 00
22	9012105-04	S	Mercury	10504	01/04/91	11 03
23	9012105-05	S	Mercury	10505	01/04/91	11 06
24	9012105-06	S	Mercury	10506	01/04/91	11 09
25	9012105-07	S	Mercury	10507	01/04/91	11 12
26	2 0 PPB	CCV		CCV	01/04/91	11 15
27	CAL BLK	CCB		CCB	01/04/91	11·18
28	9012105-08	S	Mercury	10508	01/04/91	11 21
29	9012105-09	S	Mercury	10509	01/04/91	11 24
30	9012105-10	S	Mercury	10510	01/04/91	11 27
31	9012105-11	S	Mercury	10511	01/04/91	11 30
[illegible]	9012105-12	S	Mercury	10512	01/04/91	11 33
33	9012105-13	S	Mercury	10513	01/04/91	11 36
34	9012105-14	S	Mercury	10514	01/04/91	11.39
35	9012105-15	S	Mercury	10515	01/04/91	11 42
36	9012105-16	S	Mercury	10516	01/04/91	11 45
[illegible]	9012105-17	S	Mercury	10517	01/04/91	11 48
38	0 PPB	CCV		CCV	01/04/91	11 51
[illegible]	CAL BLK	CCB		CCB 10514	01/04/91	11 54
[illegible]	9012105-18	S	Mercury	~~[illegible]~~ 10518	01/04/91	11 57
41	9012105-19	S	Mercury	10519	01/04/91	12 00
42	9012105-20	S	Mercury	10520	01/04/91	12 03
43	0 PPB	CCV		CCV	01/04/91	[illegible]

9012105

SEQ NO: 230 SKINER MERCURY BENCH SHEET Pg 1 of 2

RUN IDS:

91004 01 02 03 04 05 06

ANALYST

INSTR: M1(water) M2(soil)

METHOD: HG

WAVELENGTH 253.7 mm

CALIBRATION TIME 10:00

RUN DATE 1/4/91

STANDARDS PREPPED

DATE: 1/4/91

STANDARD SOURCE

CALIB: 10 ppm

ICV : 1 ppm CCV : 2 ppb

		PK HT(mm)
01	BLANK	0
02	0.5 PPB	8
03	1.0 PPB	16
04	2.0 PPB	32
05	5.0 PPB	72

r=.9989

	SAMPLE ID	CLIENT ID	PK HT(mm)	CONC(ppb)	COMMENT
06	ICV-5	ICV	32	2.15 x 2 = 4.30	
07	CAL BLK	ICB	0	<0.20	
08	CCV		31	2.08	
09	CCB		0	<0.20	
10	X		X		
11	9012108 -PB		0	<0.20	
12	18	34CPE1037	0		
13	19	1038	0		
14	CCV		32	2.15	
15	CCB		0	<0.20	
16	9012105-PB				
17	01	04CWC1006			
18	01D	10060			
19	01S	10065	12	0.75	
20	02	30CPE1001	0	<0.20	
21	03	1002			
22	04	1003			
23	05	1004			
24	06	1005			
25	07	1006			
26	CCV		28	1.87	
27	CCB		0	<0.20	
28	08	1007			
29	09	31CPE1008			
30	10	1009			
31	11	1010			
32	12	1011			
33	13	1012			
34	14	1013			
35	15	1014			
36	16	1015			
37	17	1016			
38	CCV		26	1.73	
39	CCB		0	<0.20	

01

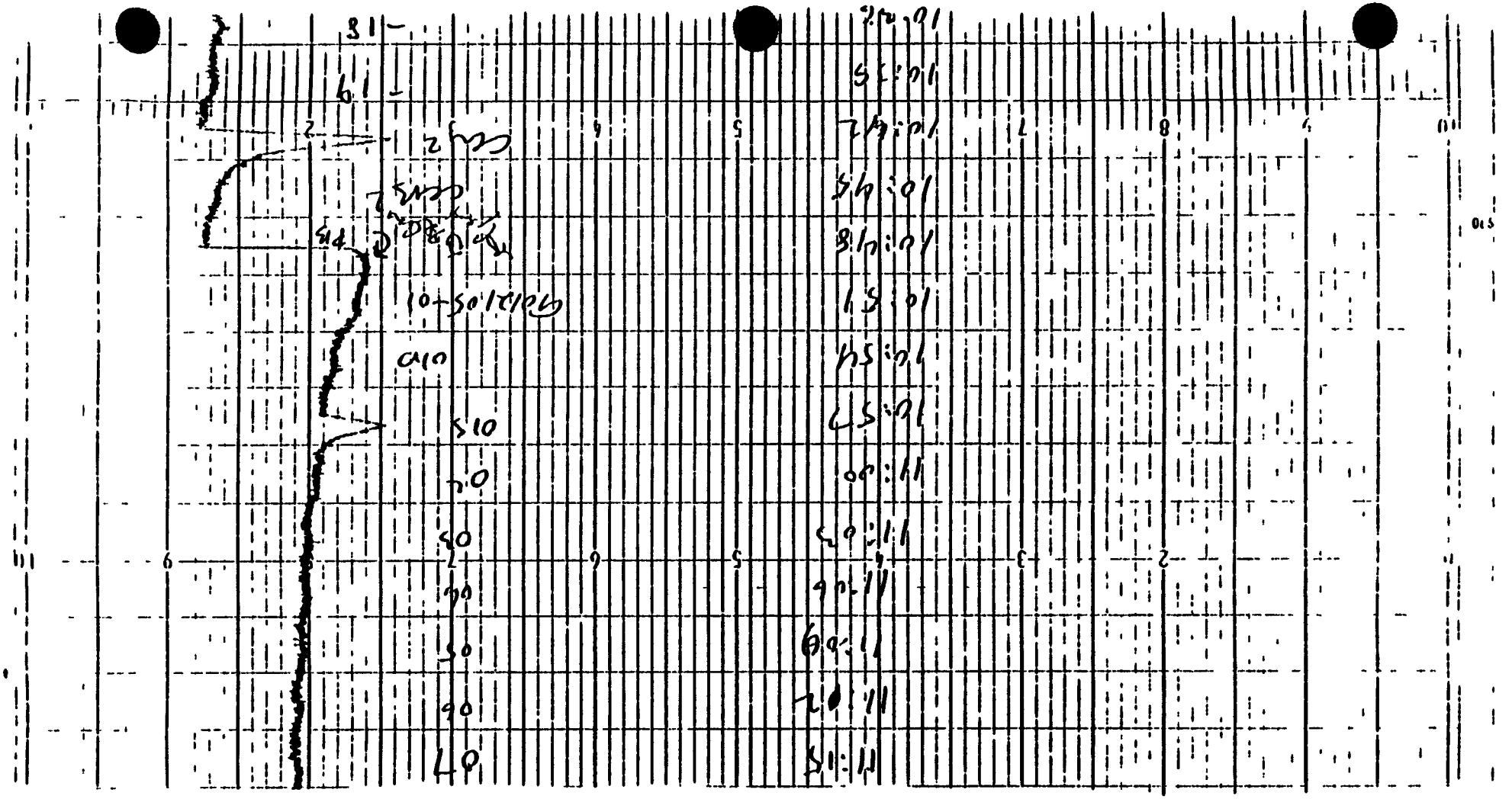
02

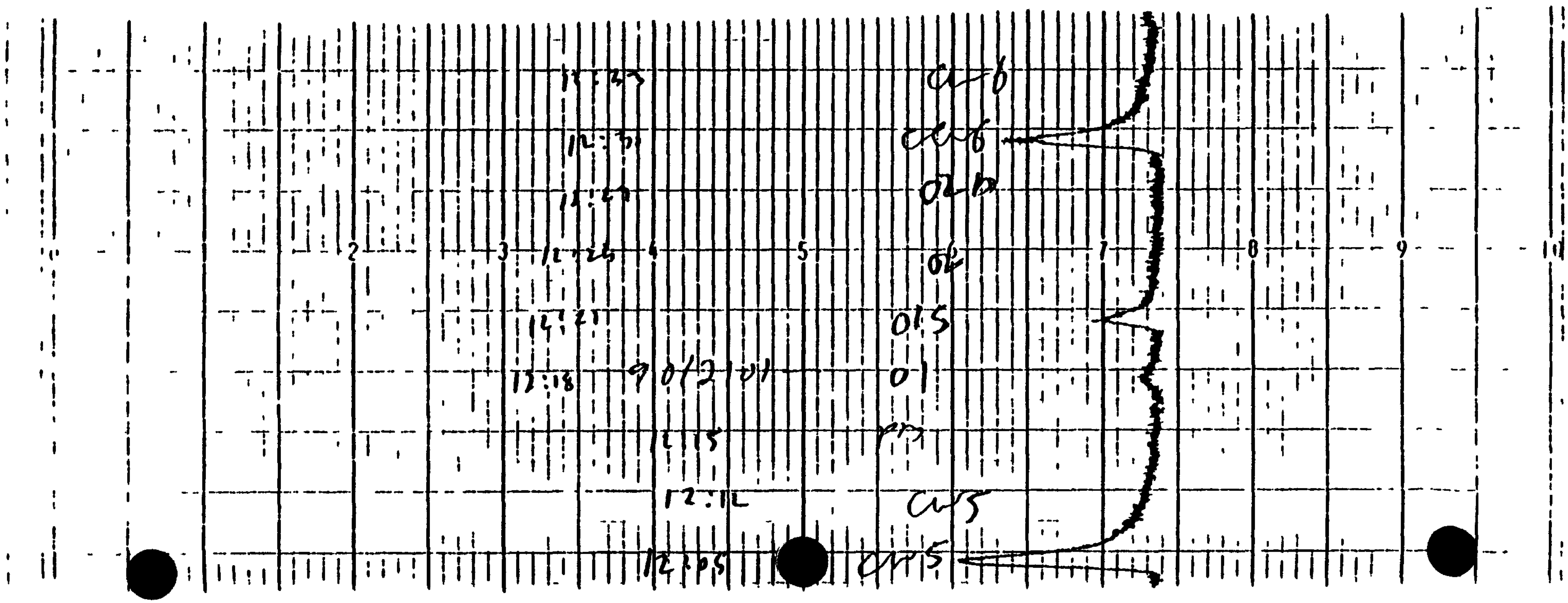
SEQ NO: 230

Skinner & Sherman Labs
COLD VAPOUR ATOMIC ABSORPTION
MERCURY BENCH SHEET

	SAMPLE ID	CLIENT ID	PK HT(mm)	CONC(ppb)	COMMENT
40	18	32CPF1017	0	<0.20	
41	19	1017	↓	↓	
42	20	1019			
43	CCV		32	2.15	
44	CCB		0	<0.20	
45	9012101-1B		0	<0.20	
46	01	MA3260	2	<0.20	
03 47	01S	7645	11	0.68	
48	02	761	0	<0.20	
49	02D	761D	0	<0.20	
50	CCV		25	1.66	
51	CCB		0	<0.20	
52	9012086-BB		↓	↓	
53	01	ASSW003005			
04 54	01D	5005D			
55	01S	5005S	10	0.61	
56	02	5006	0	<0.20	
57	CCV		30	2.01	
58	CCB		0	<0.20	
59	9012090-BB		0	↓	
60	01	ASSW003005	0		
05 61	01D	5005D	0		
62	01S	5005S	11	0.68	
63	02	5006	0	<0.20	
64	CCV		27	1.80	
65	CCB		0	<0.20	
66	9012227-01		0	<0.20	
67	01S		12	0.75	
68	02		0	<0.20	
06 69	03		↓	↓	
70	04				
71	05				
72	06				
73	07				
74	08				
75	09				
76	10				
77	11				
78	12				
79	X				
80	CCV		25	1.66	
81	CCB		0	<0.20	
82					
83					
84					
85					

10:00
10:05
10:09
10:12
10:18
10:21
10:24
10:27
10:30
10:33
0 psig
0.5 psig
1.0 psig
3.0 psig
1.5 psig
2.5 psig
4.0 psig
10 sec
20 sec
30 sec





2
3
4
5
6
7
8
9
12:05
CW5
12:12
CW5
12:18
01
12:21
015
12:31
CW6
CW6

Sid
Ethanol
Methyl
Cyclohexanol
Cyclohexanone
Cyclohexene
Cyclohexane

SAMPLE PREPARATION REPORT AQUEOUS

batch 1194

Date 01/30/91

Approved KDJ 1/30/91

Sample identification			Digest 1	Furnace	Digest 2	ICP	Digest 3	Mercury	Digest 4	
Client ID	Sample ID	Lab code	Initial vol ml	Final vol. ml	Initial vol. ml	Final vol. ml	Initial vol. ml	Final vol. ml	Initial vol. ml	Final vol. ml
10501S	9012105-01	DS	100 0	100	50 000	50	100 0	100		
10501	9012105-01	S	100 0	100	100 0	100	100 0	100		
10501D	9012105-01	S2	50 000	50	50 000	50	100 0	100		
10502	9012105-02	S	100 0	100	100 0	100	100 0	100		
10503	9012105-03	S	100 0	100	100 0	100	100 0	100		
10504	9012105-04	S	100 0	100	100 0	100	100 0	100		
10505	9012105-05	S	100 0	100	100 0	100	100 0	100		
10506	9012105-06	S	100 0	100	100 0	100	100 0	100		
10507	9012105-07	S	100 0	100	100 0	100	100 0	100		
10508	9012105-08	S	100 0	100	100 0	100	100 0	100		
10509	9012105-09	S	100 0	100	100 0	100	100 0	100		
10510	9012105-10	S	100 0	100	100 0	100	100 0	100		
10511	9012105-11	S	100 0	100	100 0	100	100 0	100		
10512	9012105-12	S	100 0	100	100 0	100	100 0	100		
10513	9012105-13	S	100 0	100	100 0	100	100 0	100		
10514	9012105-14	S	100 0	100	100 0	100	100 0	100		
[illegible]5	9012105-15	S	100 0	100	100 0	100	100 0	100		
10516	9012105-16	S	100 0	100	100 0	100	100 0	100		
10517	9012105-17	S	100 0	100	100 0	100	100 0	100		
~~10518~~ LCSW	9012105-18	S	100 0	100	100 0	100	100 0	100		
10519	9012105-19	S	100 0	100	100 0	100	100 0	100		
10520	9012105-20	S	100 0	100	100 0	100	100 0	100		
	LCSFW	LCSW	100 0	100						
	LCSPW	LCSW			100 0	100				
	PB	PBW	100 0	100	100 0	100	100 0	100		

SAMPLE PREPARATION REPORT AQUEOUS

p batch 1194

Date 01/30/91

Approved KDJ 1/30/91

Sample identification				Digest 1 Furnace			Digest 2 ICP			Digest 3 Mercury			Digest 4		
Sample ID	Lab code	pH	pH(CN)	Date extr	Anal	Overall dilution	Date extr	Anal	Overall dilution	Date extr	Anal	Overall dilution	Date extr	Anal	Overall dilution
9012105-01	DS	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-01	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-01	S2	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-02	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-03	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-04	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-05	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-06	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-07	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-08	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-09	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-10	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-11	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-12	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-13	S	2 0		01/14/91	MAS	1.00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-14	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-15	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-16	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-17	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-18	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-19	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
9012105-20	S	2 0		01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			
LCSFW	LCSW			01/14/91	MAS	1 00									
LCSPW	LCSW						01/14/91	MAS	1 00						
PB	PBW			01/14/91	MAS	1 00	01/14/91	MAS	1 00	01/04/91	KDJ	1 00			

DATE 1/14/91 ANALYST HF FOR GFAA/ICP

DATE 1/4/91 ANALYST 2D FOR MERCURY

SKINNER & SHERMAN

WATERS PREP LOG

PREP BATCH # 194

REVIEWED BY [illegible]

LCS SOURCE		Digest 1 (GFAA)		Digest 2 (ICP)			Digest 3 (Hg)	Description Color Clarity
Client ID	Lab ID	Initial Vol(ml)	Final Vol(ml)	Initial Vol(ml)	Final Vol(ml)	pH	Initial Vol(ml)	
Woodward Clyde								
04CWC 1006	901205-01	100	100	100	100	2.0	100	Colorless, clear
1006D	01Sc	50	50	50	50			
1006S	01DS	100	100	50	50			
30CPF 1001	02			100	100			
1002	03							
1003	04							
1004	05							
1005	06							
1006	07							
1007	08							
32CPF 1008	09							
1009	10							
2010	11							
2011	12							
1012	13							
1013	14							
1014	15							
1015	16							
1016	17							
1017	18							
1018	19							
1019	20							
	LCSW							
	MB						100	

CBS 1/5/91

(1)

SKINNER AND SHERMAN LABORATORIES, INC
SUBSIDIARY OF THERMO ANALYTICAL, INC.

STANDARD PREPARATION LOG
++++++++++++++++++++++++

STANDARD IDENTITY: STANDARD B

DATE PREPARED: 1/19/91
PREPARED BY: SRP

FINAL VOLUME: 1000 ml

MATRIX: 1 %HNO3
5 %HCl
___Other

MLS ADDED: 10 HNO3
50 HCl
___Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
Reprepped 1/24/91					

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

SKINNER AND SHERMAN LABORATORIES, INC
SUBSIDIARY OF THERMO ANALYTICAL, INC.

(2)

STANDARD PREPARATION LOG
++++++++++++++++++++++++

STANDARD IDENTITY: STANDARD 1

DATE PREPARED: 1/19/91
PREPARED BY: SRP

FINAL VOLUME: 1000 ml

MATRIX: 1 %HNO3
5 %HCl
___ Other

MLS ADDED: 10 HNO3
50 HCl
___ Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
Sb	MVSb-1		1000 ppm	5 ml	5 ppm
As	MVAs-3		1000 ppm	5 ml	5 ppm
Ba	MVBa-2		1000 ppm	5 ml	5 ppm
Be	MVBe-2		1000 ppm	1 ml	1 ppm
Cd	MVCd-2		1000 ppm	5 ml	5 ppm
Cr	MVCr-2		1000 ppm	5 ml	5 ppm
Co	MVCo-2		1000 ppm	5 ml	5 ppm
Cu	MVCu-2		1000 ppm	5 ml	5 ppm
Pb	MVPb-2		1000 ppm	5 ml	5 ppm
Mn	MVMn-1		1000 ppm	5 ml	5 ppm
Ni	MVNi-1		1000 ppm	5 ml	5 ppm
Se	MVSe-2		1000 ppm	5 ml	5 ppm
Tl	MVTl-2		1000 ppm	5 ml	5 ppm
V	MVV-2		1000 ppm	5 ml	5 ppm
Zn	MVZn-2		1000 ppm	5 ml	5 ppm
Ti	MVTi-1		1000 ppm	5 ml	5 ppm

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

SKINNER AND SHERMAN LABORATORIES, INC
SUBSIDIARY OF THERMO ANALYTICAL, INC.

(3)

STANDARD PREPARATION LOG
++++++++++++++++++++++++

STANDARD IDENTITY: STANDARD 2

DATE PREPARED: 12/18/90
PREPARED BY: SRP

FINAL VOLUME: 1000 ml

MATRIX: 2 %HNO3
___%HCl
___Other

MLS ADDED: 20 HNO3
___HCl
___Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
Ag	MVAg-2		1000 ppm	1 ml	1.0 ppm
Reprepped	1/14/91		SRP		

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

SKINNER AND SHERMAN LABORATORIES, INC
SUBSIDIARY OF THERMO ANALYTICAL, INC.

(4)

STANDARD PREPARATION LOG
++++++++++++++++++++++++

STANDARD IDENTITY: STANDARD 3

DATE PREPARED: 1/19/91
PREPARED BY: SRP

FINAL VOLUME: 1000 ml

MATRIX: 1 %HNO3
5 %HCl
___Other

MLS ADDED: 10 HNO3
50 HCl
___Other

ELEMENT	SOURCE LOT#	STOCK CONC	VOLUME	FINAL CONC
AL	MVAl-2	10,000 ppm	5 ml	50 ppm
Ca	MVCa-2	10,000 ppm	5 ml	50 ppm
Fe	MVFe-2	10,000 ppm	2 ml	20 ppm
Mg	MVMg-2	10,000 ppm	5 ml	50 ppm
K	MVK-2	10000 ppm	5.0 ml	50 ppm
Na	MVNa-3	10000 ppm	5.0 ml	50 ppm

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

SKINNER AND SHERMAN LABORATORIES, INC
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(5)

STANDARD PREPARATION LOG
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STANDARD IDENTITY: Initial Calibration Verification Solutions

DATE PREPARED: 1/19/91
PREPARED BY: SRP

FINAL VOLUME:

MATRIX: 2 %HNO3
___%HCl
___Other

MLS ADDED: 4/2 HNO3 ← ICV 2
___HCl
___Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
a) ICV-1	QCICV1	-40		20ml →	200ml
b) ICV-2	QCICV3	-47		20ml →	100ml
c) ICV-3	QCICV3	-25		20ml →	200ml

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

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(6)

STANDARD PREPARATION LOG
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STANDARD IDENTITY: Interference Check Sample Solutions

DATE PREPARED: 1/25/91
PREPARED BY: SRP

FINAL VOLUME: 200 ml

MATRIX: 2 %HNO3
___%HCl
___Other

MLS ADDED: 4 HNO3
___HCl
___Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
a) ICSAA	QCICSA	-43		20 ml →	200 ml
b) ICSABB	QCICSA	-43		20 ml →	200 ml
	QCICSB	-25		20 ml →	

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

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(7)

STANDARD PREPARATION LOG
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STANDARD IDENTITY: 2 x Contract Required Detection Limit Solution

DATE PREPARED: 1/4/91
PREPARED BY: SRP

FINAL VOLUME: 1000 ml

MATRIX: 1 %HNO3
5 %HCl
___ Other

MLS ADDED: 10 HNO3
50 HCl
___ Other

ELEMENT	SOURCE LOT#	STOCK CONC	VOLUME	FINAL CONC
Sb	MVSb-1	1000 ppm	120 ul	120 ppb
As	MVAs-3	1000 ppm	50 ul	50 ppb
Be	MVBe 2	1000 ppm	10 ul	10 ppb
Cd	MVCd-2	1000 ppm	10 ul	10 ppb
Cr	MVCr-2	1000 ppm	20 ul	20 ppb
Co	MVCo-2	1000 ppm	100 ul	100 ppb
Cu	MVCu-2	1000 ppm	50 ul	50 ppb
Pb	MVPb-2	1000 ppm	50 ul	50 ppb
Mn	MVMn-1	1000 ppm	30 ul	30 ppb
Ni	MVNi-1	1000 ppm	80 ul	80 ppb
Se	MVSe-2	1000 ppm	100 ul	100 ppb
V	MVV-2	1000 ppm	100 ul	100 ppb
Tl	MVTl-2	1000 ppm	500 ul	500 ppb
Ag	MVAg-2	1000 ppm	20 ul	20 ppb
Zn	MVZn-2	1000 ppm	40 ul	40 ppb
	MVTi-1			

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

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(8)

STANDARD PREPARATION LOG
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STANDARD IDENTITY: Continuing Calibration Verification Solution (HalfSTD)

DATE PREPARED: 1/19/91
PREPARED BY: SRP

FINAL VOLUME: 500 ml

MATRIX: 1 %HNO3
5 %HCl
___Other

MLS ADDED: ___HNO3
___HCl
___Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
STD 1	In House			250 ml	500 ml
STD 3	In House			250 ml	
Ag			1000 ppm	250 ul	

Reprepped 1/24/91
Reprepped 2/1/91

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

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STANDARD PREPARATION LOG
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STANDARD IDENTITY:

DATE PREPARED: Hg Cooking Standard
PREPARED BY:

FINAL VOLUME: 100 ml

MATRIX: 2 %HNO3
___%HCl
___Other

MLS ADDED: 2 HNO3
___HCl
___Other

ELEMENT	SOURCE	LOT#	STOCK CONC	VOLUME	FINAL CONC
12-24-90 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
12-26-90 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
12-27-90 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
12-31-90 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
1-2-91 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
12-28-90 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
1-3-91 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
1-4-91 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
1-7-91 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb
Cr			5%	1 ml	0.05%
12-29-90 Hg		MV-Hg-6	10 ppm	1 ml	100 ppb

SOURCES: S=Spex F=Fisher B=Baker R=Ricca O=Other (identify)

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