US EPA RECORDS CENTER REGION 5
513044

(5)

MEMORANDUM

TO: Dave Hendren

FROM: Gary Hahn

DATE: December 20, 1995

SUBJECT: TAT-Chicago
Project No. ZT4052.EIL0903KAA

RE: 9502.879

CC: Lab File

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on December 14, 1995. Analyses were performed according to the procedures set forth in the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.

The chain of custody form provided herein is integral to this report and must be included with the analytical results forms upon transferral to another data user.

All samples on which this report is based will be retained by E & E for a period of thirty days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/fal
Enclosure

Case Narrative
TAT-Chicago
ZT4052.EIL0903KAA
9502.879

The preparation blank exceeded the CRDL for lead. The samples were not redigested since all the samples contained lead at concentrations well above the concentration detected in the preparation blank.

The continuing calibration verification standard analyzed on 12/19/95 at 1039 hours did not meet the recovery criteria for copper. The instrument was recalibrated and the affected samples reanalyzed.

The duplicate analysis of sample 2QSS23 slightly exceeded the RPD criteria for copper. Reported sample results have been flagged accordingly.

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

Gary Hahn

Gary Hahn - Manager
Analytical Services Center
December 20, 1995

Total number of pages in this data package is: 76 .

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

Page 2 of 2

PROJ. NO.	PROJECT NAME
ZT4052	Gateway / EIL0903KAA

SAMPLERS: *(Print Name and Sign)* Cathy Sullivan, Dean Tiebout
Cathy Sullivan, Dean Tiebout

Activity Code:

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Analyte: Hg - As, Cd, Cu, Ni, Pb, Zn Method 6010						TAG NUMBERS
3QS514	12/13/95	1052		X	3QS514	1	1						*One Week turnaround
3QS515	12/13/95	1100		X	3QS515	1	1						hard copy data.
3QS516	12/13/95	1105		X	3QS516	1	1						Send Results to
3QS517	12/13/95	1116		X	3QS517	1	1						D. Hendren, Chicago.
3QS518	12/13/95	1131		X	3QS518	1	1						
3QS519	12/13/95	1135		X	3QS519	1	1						
3QS519D	12/13/95	1135		X	3QS519D	1	1						
3QS520	12/13/95	1144		X	3QS520	1	1						
4QS522	12/13/95	1156		X	4QS522	1	1						
4QS523	12/13/95	1329		X	4QS523	1	1						
4QS524	12/13/95	1339		X	4QS524	1	1						
4QS525	12/13/95	1347		X	4QS525	1	1						
2QS521	12/13/95	1413		X	2QS521	1	1						
2QS522	12/13/95	1421		X	2QS522	1	1						Shipment is Complete
2QS523	12/13/95	1429		X	2QS523	1	1						

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Cathy Sullivan	12/13/95 1530	
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)* / Date / Time
FedEx	12-14-95 0955	12/14/95 0955

Ship To: Ecology & Environment, ASC
4493 Walden Avenue
Lancaster, NY 14086

ATTN: William Howard

Airbill Number: 5177085211

Chain of Custody Seal Numbers: 44513-14

Distribution: White - Accompanies Shipment; Pink - Coordinator Field Files; Yellow - Laboratory File

3

5-59649

Ecology and Environment, Inc.
Analytical Services ~~Center~~
Cooler Receipt Form

PACKAGE RECEIPT #: 1647 NUMBER OF COOLERS: 1 DATE RECEIVED: 12.14.95

E&E Project #: ZT4052 Project or Site Name: TAT - Chicago

A: Preliminary Examination Phase

(CIRCLE ONE)

1 Did coolers come with airbill or packing slip? YES NO

if YES, enter carrier here and print airbill # below: FedEx

2 Did cooler(s) have custody seals? YES NO

if YES, how many and where: 2@ seam

3 Were custody seals unbroken and intact on receipt? YES NO

4 Where custody seals dated and signed? YES NO

if YES, enter Date: ~ Name: ~

5 Initial here to acknowledge receipt of cooler(s): [illegible]

B Unpacking Phase:

Date Cooler(s) Opened: 12.14.95 C-O-C Numbers: ~

Coolers Opened By(print): J. Hendricks (sign): [illegible]

6 Where C-O-C forms received and sealed in plastic bag? YES NO

7 Was the project identifiable from the C-O-C form? YES NO

if YES, enter the project number and name in the heading above.

8 Was enough packing material used in cooler(s)? YES NO

Circle type of material: Vermiculite Bubble Wrap Other

9 If required, was enough ice used?: YES NO

if YES, circle type of ice: WET DRY BLUE Other

10 Was a temperature blank included inside cooler(s)? YES NO

if Yes, indicate temperature in table below.

If No, indicate Cooler temperature in table below.

11 Were all containers sealed in separate plastic bags?: YES NO

12 Did all containers arrive unbroken and in good condition? YES NO

C Login Phase:

Date Samples Logged in: 12.14.95

Samples logged in By(print). J. Hendricks (sign): [illegible]

13 Were all container labels complete(eg.date,time,preserv.)? YES NO

14 Were all C-O-C forms filled out properly in ink and signed? YES NO

15 Did the C-O-C form agree with containers received? YES NO

16 Were the correct containers used for the tests requested? YES NO

17 Were the correct preservatives listed on the sample labels? YES NO

18 Was a sufficient sample volume sent for the tests requested? YES NO

19 Were all volatile samples received without head space? N/A YES NO

Please record Temp. Blank or Cooler Temp. for each cooler, range (2 - 5 C°)*

AIRBILL #	TEMP.C°	AIRBILL #	TEMP.C°	AIRBILL #	TEMP.C°
5177085211	2.0				

* If NO or Temp. outside of acceptable range a Discrepancy form must be filed.

TAT - CHICAGO

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.:37483_

SOW No.: ILM03.0

EPA Sample No.	Lab Sample ID
2QSS21	37488
2QSS22	37489
2QSS23	37490
2QSS23D	37490D
2QSS23S	37490S
3QSS20	37483
4QSS22	37484
4QSS23	37485
4QSS24	37486
4QSS25	37487

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

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

Signature: Gary Hahn Name: Gary Hahn

Date: 12/20/95 Title: Laboratory Manager

TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS21

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37488

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _81.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	12.6			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	2.2			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	57.7		*	P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	441			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	19.7			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____	551			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:
_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

FORM I - IN ILM03.0

TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS22

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37489

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _91.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	5.6			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.20	B		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	88.2		*	P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	362			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	24.2			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____	550			P_
_____	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

FORM I - IN ILM03.0

TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS23

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37490

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _91.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	12.5			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	1.2			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	111		*	P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	657			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	27.2			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____	1030			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

3QSS20

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37483

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _79.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	12.0			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	3.6			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	63.0		*	P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	551			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	18.0			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____	542			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

FORM I - IN ILM03.0

TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

4QSS22

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37484

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _76.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	9.7			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	1.3			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	55.2		*	P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	963			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	23.0			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____	501			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

FORM I - IN ILM03.0

TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

4QSS23

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37485

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _90.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	12.6			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.1			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	59.7		*	P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	279			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	23.8			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____	597			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

FORM I - IN ILM03.0

TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

4QSS24

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37486

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _90.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	11.9			P
7440-39-3	Barium__				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	2.5			P
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	89.5		*	P
7439-89-6	Iron____				NR
7439-92-1	Lead____	503			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	24.9			P
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____	614			P
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

FORM I - IN ILM03.0

TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

4QSS25

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Lab Sample ID: 37487

Level (low/med): LOW__ Date Received: 12/14/95

% Solids: _87.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	15.4			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	2.5			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	110		*	P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	739			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	21.3			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____	900			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: H_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:
_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Initial Calibration Source: EPA-LV/P-E__

Continuing Calibration Source: VHG/NBS_____

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	1000.0	1033.44	103.3	500.0	499.44	99.9	502.44	100.5	P
Barium									NR
Beryllium									NR
Cadmium	500.0	514.01	102.8	500.0	498.72	99.7	504.01	100.8	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper	1000.0	1029.47	102.9	500.0	515.64	103.1	522.54	104.5	P
Iron									NR
Lead	1000.0	1022.55	102.3	1000.0	993.69	99.4	1006.00	100.6	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	1000.0	1049.81	105.0	500.0	497.25	99.4	500.76	100.2	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc	1000.0	1033.81	103.4	500.0	496.84	99.4	499.55	99.9	P
Cyanide									NR

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

TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Initial Calibration Source: EPA-LV/P-E__

Continuing Calibration Source: VHG/NBS_____

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				500.0	502.45	100.5	505.79	101.2	P
Barium									NR
Beryllium									NR
Cadmium				500.0	498.66	99.7	498.64	99.7	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper				500.0	512.37	102.5	506.07	101.2	P
Iron									NR
Lead				1000.0	979.84	98.0	983.56	98.4	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	498.80	99.8	499.37	99.9	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc				500.0	494.57	98.9	498.15	99.6	P
Cyanide									NR

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

TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Initial Calibration Source: EPA-LV/P-E__

Continuing Calibration Source: VHG/NBS_____

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				500.0	501.06	100.2	503.56	100.7	P
Barium									NR
Beryllium									NR
Cadmium				500.0	485.39	97.1	485.64	97.1	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper				500.0	471.34	94.3	458.90	91.8	P
Iron									NR
Lead				1000.0	985.42	98.5	982.46	98.2	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	489.69	97.9	492.68	98.5	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc				500.0	493.25	98.6	490.35	98.1	P
Cyanide									NR

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

TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Initial Calibration Source: EPA-LV/P-E__

Continuing Calibration Source: VHG/NBS_____

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				500.0	508.26	101.7	508.97	101.8	P
Barium									NR
Beryllium									NR
Cadmium				500.0	484.38	96.9	480.82	96.2	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper				500.0	447.51	89.5	434.17	86.8	P
Iron									NR
Lead				1000.0	975.52	97.6	968.38	96.8	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	493.67	98.7	494.03	98.8	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc				500.0	497.52	99.5	492.58	98.5	P
Cyanide									NR

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

FORM II (PART 1) - IN ILM03.0

TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Initial Calibration Source: EPA-LV/P-E__

Continuing Calibration Source: VHG/NBS_____

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				500.0	508.90	101.8	513.20	102.6	P
Barium									NR
Beryllium									NR
Cadmium				500.0	468.28	93.7	470.55	94.1	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper	1000.0	1005.53	100.5	500.0	512.58	102.5	494.53	98.9	P
Iron									NR
Lead				1000.0	970.78	97.1			P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	494.63	98.9	490.20	98.0	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc				500.0	481.25	96.2	484.42	96.9	P
Cyanide									NR

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

TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Initial Calibration Source: EPA-LV/P-E__

Continuing Calibration Source: VHG/NBS_____

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				500.0	510.77	102.2			P
Barium									NR
Beryllium									NR
Cadmium				500.0	469.60	93.9			P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper				500.0	487.69	97.5			P
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	491.15	98.2			P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc				500.0	484.21	96.8			P
Cyanide									NR

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

FORM II (PART 1) - IN ILM03.0

TAT - CHICAGO

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

AA CRDL Standard Source: PERKIN-ELMER

ICP CRDL Standard Source: VHG_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic				20.0	19.64	98.2	19.52	97.6
Barium								
Beryllium								
Cadmium				10.0	10.40	104.0	8.56	85.6
Calcium								
Chromium								
Cobalt								
Copper				50.0	55.51	111.0	51.46	102.9
Iron								
Lead				6.0	5.64	94.0	5.19	86.5
Magnesium								
Manganese								
Mercury								
Nickel				80.0	86.86	108.6	81.79	102.2
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc				40.0	42.63	106.6	41.58	103.9

TAT - CHICAGO

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

AA CRDL Standard Source: PERKIN-ELMER

ICP CRDL Standard Source: VHG_____

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								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper				50.0			49.43	98.9
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

TAT - CHICAGO

3
BLANKS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): 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	-3.3	B	3.1	U	3.1	U	-3.4	B	-0.323	B	P
Barium											NR
Beryllium											NR
Cadmium	0.3	U	0.3	U	0.4	B	0.3	B	0.031	B	P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper	1.8	U	1.8	U	1.8	U	1.8	U	0.180	U	P
Iron											NR
Lead	2.9	U	2.9	U	2.9	U	2.9	U	2.134		P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel	5.9	U	5.9	U	5.9	U	5.9	U	0.590	U	P
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc	3.9	U	3.9	U	3.9	U	3.9	U	0.390	U	P
Cyanide											NR

TAT - CHICAGO

3
BLANKS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

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			3.1	U	3.1	U	3.1	U			P
Barium											NR
Beryllium											NR
Cadmium			0.4	B	0.3	U	0.3	U			P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper			1.8	U	1.8	U	1.8	U			P
Iron											NR
Lead			2.9	U	2.9	U	2.9	U			P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel			5.9	U	5.9	U	5.9	U			P
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc			3.9	U	4.3	B	3.9	U			P
Cyanide											NR

FORM III - IN ILM03.0

TAT - CHICAGO

3
BLANKS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

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			-4.5	B	3.1	U	3.1	U			P
Barium											NR
Beryllium											NR
Cadmium			0.3	U	0.3	U	-0.4	B			P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper	2.0	B	1.8	U	1.8	U	1.8	U			P
Iron											NR
Lead			2.9	U	2.9	U	2.9	U			P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel			5.9	U	5.9	U	5.9	U			P
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc			5.6	B	3.9	U	3.9	U			P
Cyanide											NR

TAT - CHICAGO

3
BLANKS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.: 37483_

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			3.1	U	3.1	U					P
Barium											NR
Beryllium											NR
Cadmium			-0.3	B	-0.4	B					P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper			1.8	U	1.8	U					P
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel			5.9	U	5.9	U					P
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc			3.9	U	3.9	U					P
Cyanide											NR

FORM III - IN ILM03.0

TAT - CHICAGO

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No: _____ SDG No.: 37483_

ICP ID Number: OPTIMA_____ ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic	0	0	1	12.4		7	12.6	
Barium								
Beryllium								
Cadmium	23	873	-18	853.7	97.8	-23	791.4	90.7
Calcium								
Chromium								
Cobalt								
Copper	30	521	5	515.8	99.0	2	496.6	95.3
Iron								
Lead	67	888	6	878.5	98.9	5	861.6	97.0
Magnesium								
Manganese								
Mercury								
Nickel	31	894	11	863.0	96.5	9	849.5	95.0
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc	0	932	24	929.1	99.7	20	894.3	96.0

TAT - CHICAGO

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No: _____ SDG No.: 37483_

ICP ID Number: OPTIMA_____ ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper	30	521				2	480.1	92.1
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

TAT - CHICAGO

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

2QSS23S

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL__ Level (low/med): LOW___

% Solids for Sample: _91.6

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	245.1746		12.4893		218.34	106.6		P
Barium									NR
Beryllium									NR
Cadmium	75-125	6.7632		1.2067		5.46	101.8		P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper		125.6219		111.2121		27.80	51.8		P
Iron									NR
Lead		628.7631		657.1638		54.58	-52.0		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	75-125	79.6460		27.2209		54.58	96.1		P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc		908.8543		1029.5791		54.58	-221.2		P
Cyanide									NR

Comments:
ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

TAT - CHICAGO

6
DUPLICATES

EPA SAMPLE NO.

2QSS23D

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

% Solids for Sample: _91.6 % Solids for Duplicate: __91.6

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic		12.4893		11.5534		7.8		P
Barium								NR
Beryllium								NR
Cadmium	0.5	1.2067		1.0707		11.9		P
Calcium								NR
Chromium								NR
Cobalt								NR
Copper		111.2121		88.2831		23.0	*	P
Iron								NR
Lead		657.1638		558.6371		16.2		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel		27.2209		23.1819		16.0		P
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc		1029.5791		857.9269		18.2		P
Cyanide								NR

FORM VI - IN ILM03.0

TAT - CHICAGO

7
LABORATORY CONTROL SAMPLE

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Solid LCS Source: ERA_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic				100.0	104.4		80.0	120.0	104.4
Barium									
Beryllium									
Cadmium				100.0	108.6		80.0	120.0	108.6
Calcium									
Chromium									
Cobalt									
Copper				100.0	110.1		80.0	120.0	110.1
Iron									
Lead				100.0	109.2		80.0	120.0	109.2
Magnesium									
Manganese									
Mercury									
Nickel				100.0	109.4		80.0	120.0	109.4
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc				100.0	104.8		80.0	120.0	104.8
Cyanide									

TAT - CHICAGO

8
STANDARD ADDITION RESULTS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract:_____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.:_____ SDG No.:37483_

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 ILM03.0

TAT - CHICAGO

9

ICP SERIAL DILUTION

EPA SAMPLE NO.

2QSS23L

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

Matrix (soil/water): SOIL_ Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							NR
Antimony							NR
Arsenic	114.40		95.42		16.6		P
Barium							NR
Beryllium							NR
Cadmium	11.05		8.45	B	23.5		P
Calcium							NR
Chromium							NR
Cobalt							NR
Copper	1018.70		1023.66		0.5		P
Iron							NR
Lead	6019.62		5774.62		4.1		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel	249.34		239.94		3.8		P
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc	9430.94		9130.63		3.2		P

TAT - CHICAGO

10
Instrument Detection Limits (Quarterly)

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

ICP ID Number: OPTIMA_____ Date: 10/20/95

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic	188.98		10	3.1	P
Barium			200		NR
Beryllium			5		NR
Cadmium	226.50		5	0.3	P
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper	324.75		25	1.8	P
Iron			100		NR
Lead	220.35		3	2.9	P
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel	231.60		40	5.9	P
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc	213.84		20	3.9	P

Comments:

FORM X - IN ILM03.0

TAT - CHICAGO

11A
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

ICP ID Number: OPTIMA_____ Date: 08/25/95

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	___
Aluminum	308.21	0.0000000	0.0000070	0.0001230	0.0000730	
Antimony	206.83	0.0000280	0.0000000	0.0000140	0.0000020	
Arsenic	188.98	0.0000010	0.0000000	0.0000030	0.0000000	
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	
Beryllium	313.11	0.0000000	0.0000000	0.0000000	0.0000000	
Cadmium	226.50	0.0000510	0.0000010	0.0016460	0.0000050	
Calcium	315.88	0.0001570	0.0000000	0.0057220	0.0009620	
Chromium	205.55	0.0000030	0.0000060	0.0001160	0.0001730	
Cobalt	228.62	-0.0000010	0.0000020	0.0093020	0.0000020	
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	
Iron	259.94	-0.0000050	0.0000080	0.0000000	0.0000850	
Lead	220.35	0.0000540	0.0000000	-0.0000340	0.0000020	
Magnesium	279.08	0.0000100	-0.0000080	0.0008600	0.0000000	
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	
Potassium	766.48	0.0000000	0.0000000	0.0000000	0.0000000	
Selenium	196.03	0.0000010	0.0000000	-0.0000720	0.0000000	
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	
Zinc	213.84	0.0000320	0.0000030	0.0012370	0.0027810	

Comments:

FORM XI (Part 1) - IN ILM03.0

TAT - CHICAGO

12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.: 37483_

ICP ID Number: OPTIMA_____ Date: 09/22/95

Analyte	Integ. Time (sec.)	Concentration (ug/L)	M
Aluminum	10.00	50000.0	P
Antimony	10.00	2000.0	P
Arsenic	10.00	10000.0	P
Barium	10.00	5000.0	P
Beryllium	10.00	1000.0	P
Cadmium	10.00	5000.0	P
Calcium	10.00	150000.0	P
Chromium	10.00	10000.0	P
Cobalt	10.00	10000.0	P
Copper	10.00	10000.0	P
Iron	10.00	250000.0	P
Lead	10.00	10000.0	P
Magnesium	10.00	150000.0	P
Manganese	10.00	10000.0	P
Mercury			NR
Nickel	10.00	10000.0	P
Potassium	10.00	50000.0	P
Selenium	10.00	10000.0	P
Silver	10.00	10000.0	P
Sodium	10.00	50000.0	P
Thallium	10.00	10000.0	P
Vanadium	10.00	10000.0	P
Zinc	10.00	5000.0	P

Comments:

FORM XII - IN ILM03.0

TAT - CHICAGO

13
PREPARATION LOG

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.879 SAS No.: _____ SDG No.:37483_

Method: P_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
2QSS21	12/18/95	1.00	100
2QSS22	12/18/95	1.00	100
2QSS23	12/18/95	1.00	100
2QSS23D	12/18/95	1.00	100
2QSS23S	12/18/95	1.00	100
3QSS20	12/18/95	1.00	100
4QSS22	12/18/95	1.00	100
4QSS23	12/18/95	1.00	100
4QSS24	12/18/95	1.00	100
4QSS25	12/18/95	1.00	100
LCSS	12/18/95	1.00	100
PBS	12/18/95	1.00	100

TAT - CHICAGO

14
ANALYSIS RUN LOG

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.:37483_

Instrument ID Number: OPTIMA_____ Method: P_

Start Date: 12/19/95 End Date: 12/19/95

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	0418				X			X				X						X							X	
S	1.00	0423				X			X				X						X							X	
ICV	1.00	0430				X			X				X						X							X	
ICB	1.00	0435				X			X				X						X							X	
CCV	1.00	0441				X			X				X						X							X	
CCB	1.00	0446				X			X				X						X							X	
ICSA	1.00	0450				X			X				X						X							X	
ICSAB	1.00	0455				X			X				X						X							X	
CRI	1.00	0500				X			X				X						X							X	
ZZZZZZ	1.00	0508																									
ZZZZZZ	1.00	0513																									
PBS	1.00	0519				X			X				X						X							X	
LCSS	1.00	0524				X			X				X						X							X	
ZZZZZZ	1.00	0528																									
ZZZZZZ	1.00	0533																									
ZZZZZZ	1.00	0537																									
CCV	1.00	0543				X			X				X						X							X	
CCB	1.00	0549				X			X				X						X							X	
S0	1.00	0554													X												
S	1.00	0557													X												
ICV	1.00	0600													X												
ICB	1.00	0604													X												
CCV	1.00	0609				X			X				X		X				X							X	
CCB	1.00	0614				X			X				X		X				X							X	
ICSA	1.00	0618													X												
ICSAB	1.00	0621													X												
CRI	1.00	0624													X												
ZZZZZZ	1.00	0628																									
ZZZZZZ	1.00	0631																									
PBS	1.00	0634													X												
LCSS	1.00	0637													X												
ZZZZZZ	1.00	0639																									

FORM XIV - IN ILM03.0

TAT - CHICAGO

14
ANALYSIS RUN LOG

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.:37483_

Instrument ID Number: OPTIMA_____ Method: P_

Start Date: 12/19/95 End Date: 12/19/95

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
ZZZZZZ	1.00	0643																									
ZZZZZZ	1.00	0646																									
CCV	1.00	0651				X			X				X		X				X							X	
CCB	1.00	0703				X			X				X		X				X							X	
ZZZZZZ	1.00	0707																									
ZZZZZZ	1.00	0712																									
ZZZZZZ	1.00	0716																									
ZZZZZZ	1.00	0722																									
ZZZZZZ	1.00	0726																									
ZZZZZZ	1.00	0731																									
ZZZZZZ	1.00	0741																									
ZZZZZZ	1.00	0747																									
ZZZZZZ	1.00	0755																									
ZZZZZZ	1.00	0759																									
CCV	1.00	0804				X			X				X		X				X							X	
CCB	1.00	0809				X			X				X		X				X							X	
ZZZZZZ	1.00	0815																									
ZZZZZZ	1.00	0820																									
ZZZZZZ	1.00	0824																									
ZZZZZZ	1.00	0836																									
ZZZZZZ	1.00	0841																									
ZZZZZZ	1.00	0846																									
ZZZZZZ	1.00	0851																									
ZZZZZZ	1.00	0856																									
ZZZZZZ	1.00	0900																									
ZZZZZZ	1.00	0905																									
CCV	1.00	0912				X			X				X		X				X							X	
CCB	1.00	0918				X			X				X		X				X							X	
ZZZZZZ	1.00	0923																									
3QSS20	1.00	0926				X			X				X		X				X							X	
4QSS22	1.00	0930				X			X				X		X				X							X	
4QSS23	1.00	0933				X			X				X		X				X							X	

FORM XIV - IN ILM03.0

TAT - CHICAGO

14
ANALYSIS RUN LOG

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.:37483_

Instrument ID Number: OPTIMA_____ Method: P_

Start Date: 12/19/95 End Date: 12/19/95

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
4QSS24	1.00	0937				X			X				X		X				X							X	
4QSS25	1.00	0941				X			X				X		X				X							X	
2QSS21	1.00	0946				X			X				X		X				X							X	
2QSS22	1.00	0950				X			X				X		X				X							X	
2QSS23	1.00	0953				X			X				X		X				X							X	
2QSS23D	1.00	0957				X			X				X		X				X							X	
CCV	1.00	1002				X			X				X		X				X							X	
CCB	1.00	1007				X			X				X		X				X							X	
2QSS23S	1.00	1022				X			X						X				X							X	
2QSS23L	5.00	1030				X			X						X				X							X	
ZZZZZZ	1.00	1035																									
CCV	1.00	1039				X			X				X		X				X							X	
CCB	1.00	1057				X			X				X		X				X							X	
S0	1.00	1058											X														
S	1.00	1108											X														
ICV	1.00	1110											X														
ICB	1.00	1111											X														
CCV	1.00	1117				X			X				X		X				X							X	
CCB	1.00	1122				X			X				X		X				X							X	
ICSA	1.00	1126											X														
ICSAB	1.00	1128											X														
CRI	1.00	1130											X														
2QSS23S	1.00	1131											X														
2QSS23L	5.00	1133											X														
ZZZZZZ	1.00	1134																									
ZZZZZZ	1.00	1138																									
ZZZZZZ	1.00	1143																									
ZZZZZZ	1.00	1146																									
CCV	1.00	1154				X			X				X		X				X							X	
CCB	1.00	1200				X			X				X		X				X							X	
ICSA	1.00	1203				X			X				X		X				X							X	
ICSAB	1.00	1208				X			X				X		X				X							X	

FORM XIV - IN ILM03.0

TAT - CHICAGO

14
ANALYSIS RUN LOG

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.879 SAS No.: _____ SDG No.:37483_

Instrument ID Number: OPTIMA_____ Method: P_

Start Date: 12/19/95 End Date: 12/19/95

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
CRI	1.00	1213				X			X				X		X				X							X	
CCV	1.00	1217				X			X				X		X				X							X	
CCB	1.00	1223				X			X				X		X				X							X	

FORM XIV - IN ILM03.0

Instrument ID: Optima
ICS Source: VHG
Date: 8/21/95
Units: ug/L

ICP Interference Check Sample Values

ELEMENT	MEAN	STANDARD DEVIATION	LOWER VALUE	UPPER VALUE
Al	485049	7762	388039	582058
Ba	453	4.4	362	544
Be	485	8.1	388	582
Cd	873	7.2	699	1048
Cr	465	4.1	371	558
Co	447	4.1	357	536
Cu	521	5.9	417	625
Fe	167869	3829	134295	201442
Pb	888	5.9	710	1065
Mg	490819	7649	392655	588982
Mn	487	7.0	390	585
Ni	894	8.7	715	1073
Ag	951	15.6	761	1141
V	453	4.4	363	544
Zn	932	8.6	746	1118
Ca	452792	10737	362233	544350

Run #1

ANALYZE > MANUAL MODE

12/19/95
04:12:59

Method Name: 9512190412 Read Delay: 65 Rinse Time: 0 Dil:
Format Name: clpf Replicates: 2 Data Dsp: SPEC4 Wt/Vol:
Comments: Standard Condition Default Values

~~9502.841 - Ba1 Pb dilutions~~ par 12-19-95

Δ 9502.848 - As, Cd, Cu, Ni, Pb, Zn
Φ 9502.879 - As, Cd, Cu, Ni, Pb, Zn

A PBS, LCS 140
Φ PBS, LCS 141
} Samples > 10 x P.B. levels. par

Command?

F5	F6	F7	F8	F9	F10	F11	F12
Analysis Elements	Repli-cates	Read Delay	Dilution	Wt/Vol		Format Name	Calib Summary

RAW DATA
12/19/95
PAR

12/19/95 04:16
blank

rep	1	ASILM	sf	-13.5
rep	1	CD	sf	-60.3
rep	1	CU	sf	-509.8
rep	1	NI	sf	-72.9
rep	1	PBILM	sf	2.7
rep	1	ZN	sf	77.9
rep	2	ASILM	sf	-15.5
rep	2	CD	sf	-61.4
rep	2	CU	sf	-513.5
rep	2	NI	sf	-72.9
rep	2	PBILM	sf	4.6
rep	2	ZN	sf	71.2

12/19/95 04:18
blank

ASILM	av	-14.47	sf	sd	1.430	%cv	9.89
CD	av	-60.86	sf	sd	0.775	%cv	1.27
CU	av	-511.66	sf	sd	2.576	%cv	0.50
NI	av	-72.87	sf	sd	0.021	%cv	0.03
PBILM	av	3.65	sf	sd	1.277	%cv	34.99
ZN	av	74.59	sf	sd	4.748	%cv	6.37

12/19/95 04:21
#1 standard

rep	1	ASILM	sf	761.2
rep	1	CD	sf	21437.1
rep	1	CU	sf	59674.9
rep	1	NI	sf	7604.1
rep	1	PBILM	sf	3764.3
rep	1	ZN	sf	21076.2
rep	2	ASILM	sf	768.4
rep	2	CD	sf	21492.0
rep	2	CU	sf	59990.4
rep	2	NI	sf	7607.6
rep	2	PBILM	sf	3761.8
rep	2	ZN	sf	21112.2

12/19/95 04:23
#1 standard

ASILM	av	764.79	sf	sd	5.114	%cv	0.67	conc	1000.0
CD	av	21464.57	sf	sd	38.832	%cv	0.18	conc	1000.0
CU	av	59832.65	sf	sd	223.123	%cv	0.37	conc	1000.0
NI	av	7605.84	sf	sd	2.442	%cv	0.03	conc	1000.0
PBILM	av	3763.06	sf	sd	1.789	%cv	0.05	conc	2000.0
ZN	av	21094.19	sf	sd	25.504	%cv	0.12	conc	1000.0

12/19/95 04:28
ICV

rep	1	ASILM	conc	1035.35	ppb
rep	1	CD	conc	513.26	ppb
rep	1	CU	conc	1028.19	ppb
rep	1	NI	conc	1048.44	ppb
rep	1	PBILM	conc	1034.39	ppb
rep	1	ZN	conc	1033.61	ppb
rep	2	ASILM	conc	1031.53	ppb

rep	2	CD	conc	514.77	ppb
rep	2	CU	conc	1030.76	ppb
rep	2	NI	conc	1051.19	ppb
rep	2	PBILM	conc	1033.37	ppb
rep	2	ZN	conc	1034.01	ppb

12/19/95 04:30
ICV

ASILM	av	1033.44	ppb	sd	2.702	%cv	0.26
CD	av	514.01	ppb	sd	1.073	%cv	0.21
CU	av	1029.47	ppb	sd	1.823	%cv	0.18
NI	av	1049.81	ppb	sd	1.940	%cv	0.18
PBILM	av	1033.88	ppb	sd	0.724	%cv	0.07
ZN	av	1033.81	ppb	sd	0.283	%cv	0.03

12/19/95 04:34
ICB

rep	1	ASILM	conc	-2.89	ppb
rep	1	CD	conc	0.20	ppb
rep	1	CU	conc	0.59	ppb
rep	1	NI	conc	0.89	ppb
rep	1	PBILM	conc	-0.25	ppb
rep	1	ZN	conc	0.90	ppb
rep	2	ASILM	conc	-3.63	ppb
rep	2	CD	conc	0.30	ppb
rep	2	CU	conc	0.60	ppb
rep	2	NI	conc	0.81	ppb
rep	2	PBILM	conc	0.80	ppb
rep	2	ZN	conc	0.69	ppb

12/19/95 04:35
ICB

ASILM	av	-3.26	ppb	sd	0.526	%cv	16.14
CD	av	0.25	ppb	sd	0.066	%cv	26.22
CU	av	0.59	ppb	sd	0.005	%cv	0.87
NI	av	0.85	ppb	sd	0.056	%cv	6.56
PBILM	av	0.27	ppb	sd	0.745	%cv	271.2
ZN	av	0.79	ppb	sd	0.153	%cv	19.27

12/19/95 04:39
CCV1

rep	1	ASILM	conc	502.40	ppb
rep	1	CD	conc	499.56	ppb
rep	1	CU	conc	516.67	ppb
rep	1	NI	conc	497.59	ppb
rep	1	PBILM	conc	995.60	ppb
rep	1	ZN	conc	497.26	ppb
rep	2	ASILM	conc	496.48	ppb
rep	2	CD	conc	497.89	ppb
rep	2	CU	conc	514.61	ppb
rep	2	NI	conc	496.91	ppb
rep	2	PBILM	conc	994.70	ppb
rep	2	ZN	conc	496.41	ppb

12/19/95 04:41
CCV1

ASILM	av	499.44	ppb	sd	4.188	%cv	0.84
CD	av	498.72	ppb	sd	1.178	%cv	0.24

CU	av	515.64	ppb	sd	1.458	%cv	0.28
NI	av	497.25	ppb	sd	0.482	%cv	0.10
PBILM	av	995.15	ppb	sd	0.631	%cv	0.06
ZN	av	496.84	ppb	sd	0.596	%cv	0.12

12/19/95 04:44
CCB1

rep	1	ASILM	conc	-1.97	ppb
rep	1	CD	conc	0.23	ppb
rep	1	CU	conc	0.78	ppb
rep	1	NI	conc	0.54	ppb
rep	1	PBILM	conc	-1.12	ppb
rep	1	ZN	conc	0.52	ppb
rep	2	ASILM	conc	0.60	ppb
rep	2	CD	conc	0.24	ppb
rep	2	CU	conc	0.81	ppb
rep	2	NI	conc	0.39	ppb
rep	2	PBILM	conc	-0.05	ppb
rep	2	ZN	conc	0.69	ppb

12/19/95 04:46
CCB1

ASILM	av	-0.69	ppb	sd	1.816	%cv	264.1
CD	av	0.23	ppb	sd	0.008	%cv	3.27
CU	av	0.80	ppb	sd	0.025	%cv	3.17
NI	av	0.46	ppb	sd	0.106	%cv	22.91
PBILM	av	-0.58	ppb	sd	0.752	%cv	128.6
ZN	av	0.60	ppb	sd	0.118	%cv	19.56

12/19/95 04:49
ICSAI

rep	1	ASILM	conc	3.72	ppb
rep	1	CD	conc	-18.23	ppb
rep	1	CU	conc	5.40	ppb
rep	1	NI	conc	11.70	ppb
rep	1	PBILM	conc	6.23	ppb
rep	1	ZN	conc	23.73	ppb
rep	2	ASILM	conc	-0.89	ppb
rep	2	CD	conc	-18.28	ppb
rep	2	CU	conc	5.41	ppb
rep	2	NI	conc	11.23	ppb
rep	2	PBILM	conc	6.61	ppb
rep	2	ZN	conc	23.95	ppb

12/19/95 04:50
ICSAI

ASILM	av	1.41	ppb	sd	3.262	%cv	230.6
CD	av	-18.25	ppb	sd	0.035	%cv	0.19
CU	av	5.41	ppb	sd	0.002	%cv	0.04
NI	av	11.46	ppb	sd	0.328	%cv	2.86
PBILM	av	6.42	ppb	sd	0.272	%cv	4.23
ZN	av	23.84	ppb	sd	0.156	%cv	0.65

12/19/95 04:53
ICSABI

rep	1	ASILM	conc	12.98	ppb
rep	1	CD	conc	854.00	ppb
rep	1	CU	conc	515.89	ppb

rep	1	NI	conc	862.53	ppb
rep	1	PBILM	conc	885.04	ppb
rep	1	ZN	conc	929.46	ppb
rep	2	ASILM	conc	11.78	ppb
rep	2	CD	conc	853.45	ppb
rep	2	CU	conc	515.66	ppb
rep	2	NI	conc	863.41	ppb
rep	2	PBILM	conc	890.52	ppb
rep	2	ZN	conc	928.78	ppb

12/19/95 04:55
ICSABI

ASILM	av	12.38	ppb	sd	0.849	%cv	6.86
CD	av	853.73	ppb	sd	0.386	%cv	0.05
CU	av	515.78	ppb	sd	0.160	%cv	0.03
NI	av	862.97	ppb	sd	0.626	%cv	0.07
PBILM	av	887.78	ppb	sd	3.871	%cv	0.44
ZN	av	929.12	ppb	sd	0.480	%cv	0.05

12/19/95 04:58
CRII

rep	1	ASILM	conc	22.54	ppb
rep	1	CD	conc	10.52	ppb
rep	1	CU	conc	55.44	ppb
rep	1	NI	conc	86.60	ppb
rep	1	PBILM	conc	6.84	ppb
rep	1	ZN	conc	42.81	ppb
rep	2	ASILM	conc	16.74	ppb
rep	2	CD	conc	10.28	ppb
rep	2	CU	conc	55.59	ppb
rep	2	NI	conc	87.11	ppb
rep	2	PBILM	conc	7.78	ppb
rep	2	ZN	conc	42.44	ppb

12/19/95 05:00
CRII

ASILM	av	19.64	ppb	sd	4.102	%cv	20.88
CD	av	10.40	ppb	sd	0.170	%cv	1.63
CU	av	55.51	ppb	sd	0.112	%cv	0.20
NI	av	86.86	ppb	sd	0.364	%cv	0.42
PBILM	av	7.31	ppb	sd	0.664	%cv	9.08
ZN	av	42.63	ppb	sd	0.265	%cv	0.62

12/19/95 05:06
PBS 140

rep	1	ASILM	conc	-6.16	ppb
rep	1	CD	conc	0.21	ppb
rep	1	CU	conc	1.08	ppb
rep	1	NI	conc	1.24	ppb
rep	1	PBILM	conc	42.81	ppb
rep	1	ZN	conc	-0.61	ppb
rep	2	ASILM	conc	-3.19	ppb
rep	2	CD	conc	0.09	ppb
rep	2	CU	conc	1.08	ppb
rep	2	NI	conc	1.19	ppb
rep	2	PBILM	conc	39.98	ppb
rep	2	ZN	conc	-0.72	ppb

12/19/95 05:08
PBS 140

ASILM	av	-4.68 ppb	sd	2.099	%cv	44.88
CD	av	0.15 ppb	sd	0.083	%cv	54.58
CU	av	1.08 ppb	sd	0.004	%cv	0.39
NI	av	1.21 ppb	sd	0.037	%cv	3.03
PBILM	av	~~41.39 ppb~~ 0.28 mg/kg	sd	2.002	%cv	4.84
ZN	av	-0.66 ppb	sd	0.079	%cv	11.85

12/19/95

CCB 2 out for Pb
12/19/95

12/19/95 05:11
LCS 140

rep	1	ASILM	conc	1065.12 ppb
rep	1	CD	conc	1109.72 ppb
rep	1	CU	conc	1132.47 ppb
rep	1	NI	conc	1115.57 ppb
rep	1	PBILM	conc	1121.13 ppb
rep	1	ZN	conc	1070.15 ppb
rep	2	ASILM	conc	1068.81 ppb
rep	2	CD	conc	1108.52 ppb
rep	2	CU	conc	1130.57 ppb
rep	2	NI	conc	1117.04 ppb
rep	2	PBILM	conc	1129.32 ppb
rep	2	ZN	conc	1069.49 ppb

12/19/95 05:13
LCS 140

ASILM	av	1066.97 ppb	sd	2.613	%cv	0.24
CD	av	1109.12 ppb	sd	0.846	%cv	0.08
CU	av	1131.52 ppb	sd	1.348	%cv	0.12
NI	av	1116.30 ppb	sd	1.034	%cv	0.09
PBILM	av	~~1125.23 ppb~~	sd	5.795	%cv	0.51
ZN	av	1069.82 ppb	sd	0.470	%cv	0.04

12/19/95 05:17
PBS 141

rep	1	ASILM	conc	-2.19 ppb
rep	1	CD	conc	0.44 ppb
rep	1	CU	conc	1.15 ppb
rep	1	NI	conc	0.67 ppb
rep	1	PBILM	conc	35.25 ppb
rep	1	ZN	conc	1.76 ppb
rep	2	ASILM	conc	-4.27 ppb
rep	2	CD	conc	0.19 ppb
rep	2	CU	conc	1.17 ppb
rep	2	NI	conc	1.63 ppb
rep	2	PBILM	conc	33.99 ppb
rep	2	ZN	conc	1.97 ppb

12/19/95 05:19 PBS1
PBS 141

ASILM	av	-3.23 ppb	sd	1.477	%cv	45.73
CD	av	0.31 ppb	sd	0.175	%cv	56.04
CU	av	1.16 ppb	sd	0.012	%cv	1.05
NI	av	1.15 ppb	sd	0.673	%cv	58.50
PBILM	av	~~34.62 ppb~~	sd	0.895	%cv	2.59
ZN	av	1.87 ppb	sd	0.148	%cv	7.93

12/19/95 05:22
LCS 141

rep	1	ASILM	conc	1045.05	ppb
rep	1	CD	conc	1083.28	ppb
rep	1	CU	conc	1098.28	ppb
rep	1	NI	conc	1094.55	ppb
rep	1	PBILM	conc	1100.84	ppb
rep	1	ZN	conc	1045.54	ppb
rep	2	ASILM	conc	1043.33	ppb
rep	2	CD	conc	1088.23	ppb
rep	2	CU	conc	1103.05	ppb
rep	2	NI	conc	1092.94	ppb
rep	2	PBILM	conc	1099.26	ppb
rep	2	ZN	conc	1050.15	ppb

12/19/95 05:24 LCSS1
LCS 141

ASILM	av	1044.19 ppb	sd	1.214	%cv	0.12
CD	av	1085.76 ppb	sd	3.499	%cv	0.32
CU	av	1100.67 ppb	sd	3.367	%cv	0.31
NI	av	1093.74 ppb	sd	1.143	%cv	0.10
PBILM	av	~~1100.05 ppb~~ 12/19/95	sd	1.118	%cv	0.10
ZN	av	1047.85 ppb	sd	3.259	%cv	0.31

12/19/95 05:27
37463

rep	1	ASILM	conc	62.77	ppb
rep	1	CD	conc	24.28	ppb
rep	1	CU	conc	439.22	ppb
rep	1	NI	conc	119.32	ppb
rep	1	PBILM	conc	4143.65	ppb
rep	1	ZN	conc	4482.67	ppb
rep	2	ASILM	conc	66.27	ppb
rep	2	CD	conc	24.43	ppb
rep	2	CU	conc	465.99	ppb
rep	2	NI	conc	119.96	ppb
rep	2	PBILM	conc	4292.05	ppb
rep	2	ZN	conc	4700.21	ppb

9502.878

12/19/95 05:28
37463

ASILM	av	64.52 ppb	sd	2.475	%cv	3.84
CD	av	24.35 ppb	sd	0.101	%cv	0.41
CU	av	452.60 ppb	sd	18.930	%cv	4.18
NI	av	119.64 ppb	sd	0.452	%cv	0.38
~~PBILM~~	~~av~~	~~4217.85 ppb~~ 12/19/95	sd	104.930	%cv	2.49
ZN	av	4591.44 ppb	sd	153.828	%cv	3.35

12/19/95 05:32
37464

rep	1	ASILM	conc	90.15	ppb
rep	1	CD	conc	14.76	ppb
rep	1	CU	conc	580.63	ppb
rep	1	NI	conc	249.85	ppb
rep	1	PBILM	conc	2924.29	ppb
rep	1	ZN	conc	3920.34	ppb
rep	2	ASILM	conc	94.08	ppb

rep	2	CD	conc	15.14	ppb
rep	2	CU	conc	584.70	ppb
rep	2	NI	conc	249.47	ppb
rep	2	PBILM	conc	2922.27	ppb
rep	2	ZN	conc	3941.57	ppb

12/19/95 05:33
37464

ASILM	av	92.11 ppb	sd	2.778	%cv	3.02
CD	av	14.95 ppb	sd	0.266	%cv	1.78
CU	av	582.67 ppb	sd	2.883	%cv	0.49
NI	av	249.66 ppb	sd	0.265	%cv	0.11
PBILM	av	~~2923.28 ppb~~	sd	1.428	%cv	0.05
ZN	av	3930.95 ppb	sd	15.008	%cv	0.38

12/19/95 05:36
37465

rep	1	ASILM	conc	93.55	ppb
rep	1	CD	conc	12.79	ppb
rep	1	CU	conc	577.19	ppb
rep	1	NI	conc	275.77	ppb
rep	1	PBILM	conc	2740.00	ppb
rep	1	ZN	conc	3856.84	ppb
rep	2	ASILM	conc	92.47	ppb
rep	2	CD	conc	13.00	ppb
rep	2	CU	conc	559.17	ppb
rep	2	NI	conc	276.20	ppb
rep	2	PBILM	conc	2750.30	ppb
rep	2	ZN	conc	3757.53	ppb

12/19/95 05:37
37465

ASILM	av	93.01 ppb	sd	0.762	%cv	0.82
CD	av	12.89 ppb	sd	0.144	%cv	1.11
CU	av	568.18 ppb	sd	12.746	%cv	2.24
NI	av	275.99 ppb	sd	0.307	%cv	0.11
PBILM	av	~~2745.15 ppb~~	sd	7.286	%cv	0.27
ZN	av	3807.19 ppb	sd	70.222	%cv	1.84

12/19/95 05:41
CCV2

rep	1	ASILM	conc	506.44	ppb
rep	1	CD	conc	504.42	ppb
rep	1	CU	conc	522.52	ppb
rep	1	NI	conc	501.77	ppb
rep	1	PBILM	conc	1021.35	ppb
rep	1	ZN	conc	499.77	ppb
rep	2	ASILM	conc	498.45	ppb
rep	2	CD	conc	503.60	ppb
rep	2	CU	conc	522.56	ppb
rep	2	NI	conc	499.75	ppb
rep	2	PBILM	conc	1011.52	ppb
rep	2	ZN	conc	499.34	ppb

12/19/95 05:43
CCV2

ASILM	av	502.44 ppb	sd	5.652	%cv	1.12
CD	av	504.01 ppb	sd	0.576	%cv	0.11

CU	av	522.54 ppb	sd	0.026	%cv	0.01
NI	av	500.76 ppb	sd	1.429	%cv	0.29
PBILM	av	1016.44 ppb	sd	6.945	%cv	0.68
ZN	av	499.55 ppb	sd	0.305	%cv	0.06

12/19/95 05:47
CCB2

rep	1	ASILM	conc	-0.22	ppb
rep	1	CD	conc	0.45	ppb
rep	1	CU	conc	0.81	ppb
rep	1	NI	conc	0.65	ppb
rep	1	PBILM	conc	2.68	ppb
rep	1	ZN	conc	1.10	ppb
rep	2	ASILM	conc	-1.07	ppb
rep	2	CD	conc	0.27	ppb
rep	2	CU	conc	0.85	ppb
rep	2	NI	conc	0.72	ppb
rep	2	PBILM	conc	5.23	ppb
rep	2	ZN	conc	1.16	ppb

12/19/95 05:49
CCB2

ASILM	av	-0.64 ppb	sd	0.602	%cv	93.33
CD	av	0.36 ppb	sd	0.122	%cv	33.90
CU	av	0.83 ppb	sd	0.024	%cv	2.84
NI	av	0.68 ppb	sd	0.049	%cv	7.10
PBILM	av	-3.95 ~~ppb~~ omit	sd	1.799	%cv	45.51
ZN	av	1.13 ppb	sd	0.041	%cv	3.66

12/19/95 05:53
blank

recalibrate for Pb

rep	1	PBILM	sf	6.6
rep	2	PBILM	sf	7.3

12/19/95 05:54
blank

PBILM	av	6.93 sf	sd	0.478	%cv	6.91

12/19/95 05:56
#1 standard

rep	1	PBILM	sf	3773.6
rep	2	PBILM	sf	3782.5

12/19/95 05:57
#1 standard

PBILM	av	3778.04 sf	sd	6.300	%cv	0.17	conc	2000.0

12/19/95 06:00
ICV

rep	1	PBILM	conc	1023.15	ppb
rep	2	PBILM	conc	1021.96	ppb

12/19/95 06:00
ICV

PBILM	av	1022.55 ppb	sd	0.835	%cv	0.08

12/19/95 06:03
ICB

rep	1	PBILM	conc	-0.54	ppb
rep	2	PBILM	conc	-1.49	ppb

12/19/95 06:04
ICB

PBILM	av	-1.01	ppb	sd	0.668	%cv	65.89

12/19/95 06:07
CCV3

rep	1	ASILM	conc	501.90	ppb
rep	1	CD	conc	499.35	ppb
rep	1	CU	conc	512.92	ppb
rep	1	NI	conc	497.74	ppb
rep	1	PBILM	conc	995.09	ppb
rep	1	ZN	conc	494.89	ppb
rep	2	ASILM	conc	503.00	ppb
rep	2	CD	conc	497.98	ppb
rep	2	CU	conc	511.82	ppb
rep	2	NI	conc	499.86	ppb
rep	2	PBILM	conc	992.28	ppb
rep	2	ZN	conc	494.24	ppb

12/19/95 06:09
CCV3

ASILM	av	502.45	ppb	sd	0.775	%cv	0.15
CD	av	498.67	ppb	sd	0.964	%cv	0.19
CU	av	512.37	ppb	sd	0.775	%cv	0.15
NI	av	498.80	ppb	sd	1.501	%cv	0.30
PBILM	av	993.69	ppb	sd	1.984	%cv	0.20
ZN	av	494.57	ppb	sd	0.457	%cv	0.09

12/19/95 06:12
CCB3

rep	1	ASILM	conc	-2.95	ppb
rep	1	CD	conc	0.16	ppb
rep	1	CU	conc	0.47	ppb
rep	1	NI	conc	0.59	ppb
rep	1	PBILM	conc	-1.41	ppb
rep	1	ZN	conc	1.05	ppb
rep	2	ASILM	conc	-3.81	ppb
rep	2	CD	conc	0.46	ppb
rep	2	CU	conc	0.59	ppb
rep	2	NI	conc	1.03	ppb
rep	2	PBILM	conc	-3.50	ppb
rep	2	ZN	conc	1.01	ppb

12/19/95 06:14
CCB3

ASILM	av	-3.38	ppb	sd	0.610	%cv	18.06
CD	av	0.31	ppb	sd	0.206	%cv	66.43
CU	av	0.53	ppb	sd	0.082	%cv	15.48
NI	av	0.81	ppb	sd	0.311	%cv	38.35
PBILM	av	-2.46	ppb	sd	1.477	%cv	60.13
ZN	av	1.03	ppb	sd	0.032	%cv	3.15

12/19/95 06:17
ICSAI

rep	1	PBILM	conc	5.40 ppb			
rep	2	PBILM	conc	7.51 ppb			

12/19/95 06:18
ICSAI

PBILM	av	6.45 ppb	sd	1.491	%cv	23.11

12/19/95 06:20
ICSABI

rep	1	PBILM	conc	876.22 ppb			
rep	2	PBILM	conc	880.80 ppb			

12/19/95 06:21
ICSABI

PBILM	av	878.51 ppb	sd	3.243	%cv	0.37

12/19/95 06:23
CRII

rep	1	PBILM	conc	5.00 ppb			
rep	2	PBILM	conc	6.29 ppb			

12/19/95 06:24
CRII

PBILM	av	5.64 ppb	sd	0.911	%cv	16.14

12/19/95 06:27
PBS 140

rep	1	PBILM	conc	35.56 ppb			
rep	2	PBILM	conc	32.10 ppb			

12/19/95 06:28
PBS 140

PBILM	av	33.83 ppb	sd	2.449	%cv	7.24

12/19/95 06:30
LCS 140

rep	1	PBILM	conc	1107.51 ppb			
rep	2	PBILM	conc	1107.13 ppb			

12/19/95 06:31
LCS 140

PBILM	av	1107.32 ppb	sd	0.263	%cv	0.02

12/19/95 06:33
PBS 141

rep	1	PBILM	conc	22.88 ppb			
rep	2	PBILM	conc	19.80 ppb			

12/19/95 06:34 PBS1
PBS 141

PBILM	av	21.34 ppb	sd	2.175	%cv	10.19

12/19/95 06:37
LCS 141

rep	1	PBILM	conc	1092.85	ppb
rep	2	PBILM	conc	1090.58	ppb

12/19/95 06:37
LCS 141

LCSS1

PBILM	av	1091.71	ppb	sd	1.602	%cv	0.15

12/19/95 06:39
37463

rep	1	PBILM	conc	4198.94	ppb
rep	2	PBILM	conc	4370.85	ppb

12/19/95 06:39
37463

PBILM	av	4284.90	ppb	sd	121.559	%cv	2.84

12/19/95 06:42
37464

rep	1	PBILM	conc	2934.06	ppb
rep	2	PBILM	conc	2926.48	ppb

12/19/95 06:43
37464

PBILM	av	2930.27	ppb	sd	5.358	%cv	0.18

12/19/95 06:45
37465

rep	1	PBILM	conc	2786.30	ppb
rep	2	PBILM	conc	2776.03	ppb

12/19/95 06:46
37465

PBILM	av	2781.17	ppb	sd	7.259	%cv	0.26

12/19/95 06:49
CCV4

rep	1	ASILM	conc	502.62	ppb
rep	1	CD	conc	499.62	ppb
rep	1	CU	conc	507.36	ppb
rep	1	NI	conc	500.18	ppb
rep	1	PBILM	conc	1006.25	ppb
rep	1	ZN	conc	499.36	ppb
rep	2	ASILM	conc	508.97	ppb
rep	2	CD	conc	497.68	ppb
rep	2	CU	conc	504.78	ppb
rep	2	NI	conc	498.56	ppb
rep	2	PBILM	conc	1005.76	ppb
rep	2	ZN	conc	496.94	ppb

12/19/95 06:51
CCV4

ASILM	av	505.80	ppb	sd	4.484	%cv	0.89
CD	av	498.65	ppb	sd	1.372	%cv	0.28

CU	av	506.07	ppb	sd	1.821	%cv	0.36
NI	av	499.37	ppb	sd	1.144	%cv	0.23
PBILM	av	1006.00	ppb	sd	0.343	%cv	0.03
ZN	av	498.15	ppb	sd	1.711	%cv	0.34

12/19/95 06:54
CCB4

rep	1	ASILM	conc	-0.41	ppb
rep	1	CD	conc	0.15	ppb
rep	1	CU	conc	0.45	ppb
rep	1	NI	conc	0.52	ppb
rep	1	PBILM	conc	0.23	ppb
rep	1	ZN	conc	1.42	ppb

Computer Hung Up
only Printed
one reading
See Rerun
CLB 12/19/95

12/19/95 06:56
CCB4

rep	2	CU	conc	0.43	ppb

12/19/95 06:56
CCB4

CU	av	0.44	ppb	sd	0.013	%cv	3.03

12/19/95 07:01
CCB4

rep	1	ASILM	conc	-3.73	ppb
rep	1	CD	conc	0.37	ppb
rep	1	CU	conc	0.42	ppb
rep	1	NI	conc	0.17	ppb
rep	1	PBILM	conc	-0.54	ppb
rep	1	ZN	conc	2.05	ppb
rep	2	ASILM	conc	-1.83	ppb
rep	2	CD	conc	0.39	ppb
rep	2	CU	conc	0.25	ppb
rep	2	NI	conc	0.60	ppb
rep	2	PBILM	conc	-0.08	ppb
rep	2	ZN	conc	1.56	ppb

12/19/95 07:03
CCB4

ASILM	av	-2.78	ppb	sd	1.340	%cv	48.22
CD	av	0.38	ppb	sd	0.010	%cv	2.66
CU	av	0.34	ppb	sd	0.118	%cv	35.00
NI	av	0.38	ppb	sd	0.302	%cv	78.66
PBILM	av	-0.31	ppb	sd	0.326	%cv	105.1
ZN	av	1.81	ppb	sd	0.348	%cv	19.25

12/19/95 07:06
37466

rep	1	ASILM	conc	82.39	ppb
rep	1	CD	conc	17.69	ppb
rep	1	CU	conc	560.67	ppb
rep	1	NI	conc	201.80	ppb
rep	1	PBILM	conc	3526.93	ppb
rep	1	ZN	conc	4924.57	ppb
rep	2	ASILM	conc	86.10	ppb
rep	2	CD	conc	17.86	ppb
rep	2	CU	conc	552.13	ppb
rep	2	NI	conc	202.05	ppb

ASILM	av	49.85	ppb	sd	2.837	%cv	5.69
CD	av	2.39	ppb	sd	0.296	%cv	12.38
CU	av	344.79	ppb	sd	0.103	%cv	0.03
NI	av	194.43	ppb	sd	0.476	%cv	0.24
PBILM	av	1009.25	ppb	sd	1.823	%cv	0.18
ZN	av	2314.12	ppb	sd	7.269	%cv	0.31

12/19/95 07:54
37474

rep	1	ASILM	conc	81.05	ppb
rep	1	CD	conc	51.19	ppb
rep	1	CU	conc	664.59	ppb
rep	1	NI	conc	181.30	ppb
rep	1	PBILM	conc	3325.47	ppb
rep	1	ZN	conc	6147.81	ppb
rep	2	ASILM	conc	83.40	ppb
rep	2	CD	conc	51.51	ppb
rep	2	CU	conc	670.11	ppb
rep	2	NI	conc	181.87	ppb
rep	2	PBILM	conc	3334.16	ppb
rep	2	ZN	conc	6225.32	ppb

12/19/95 07:55
37474

ASILM	av	82.23	ppb	sd	1.663	%cv	2.02
CD	av	51.35	ppb	sd	0.224	%cv	0.44
CU	av	667.35	ppb	sd	3.904	%cv	0.58
NI	av	181.59	ppb	sd	0.403	%cv	0.22
PBILM	av	3329.81	ppb	sd	6.144	%cv	0.18
ZN	av	6186.57	ppb	sd	54.810	%cv	0.89

12/19/95 07:58
37475

rep	1	ASILM	conc	87.91	ppb
rep	1	CD	conc	18.03	ppb
rep	1	CU	conc	1178.42	ppb
rep	1	NI	conc	176.18	ppb
rep	1	PBILM	conc	5676.01	ppb
rep	1	ZN	conc	7535.78	ppb
rep	2	ASILM	conc	91.65	ppb
rep	2	CD	conc	17.46	ppb
rep	2	CU	conc	1128.19	ppb
rep	2	NI	conc	172.82	ppb
rep	2	PBILM	conc	5500.85	ppb
rep	2	ZN	conc	7328.99	ppb

12/19/95 07:59
37475

ASILM	av	89.78	ppb	sd	2.640	%cv	2.94
CD	av	17.75	ppb	sd	0.399	%cv	2.25
CU	av	1153.31	ppb	sd	35.522	%cv	3.08
NI	av	174.50	ppb	sd	2.374	%cv	1.36
PBILM	av	5588.43	ppb	sd	123.854	%cv	2.22
ZN	av	7432.39	ppb	sd	146.226	%cv	1.97

12/19/95 08:02
CCV5

rep	1	ASILM	conc	505.03	ppb

rep	1	CD	conc	486.39	ppb
rep	1	CU	conc	471.60	ppb
rep	1	NI	conc	490.14	ppb
rep	1	PBILM	conc	982.09	ppb
rep	1	ZN	conc	494.72	ppb
rep	2	ASILM	conc	497.09	ppb
rep	2	CD	conc	484.38	ppb
rep	2	CU	conc	471.07	ppb
rep	2	NI	conc	489.24	ppb
rep	2	PBILM	conc	977.59	ppb
rep	2	ZN	conc	491.78	ppb

12/19/95 08:04
CCV5

ASILM	av	501.06 ppb	sd	5.611	%cv	1.12
CD	av	485.39 ppb	sd	1.424	%cv	0.29
CU	av	471.34 ppb	sd	0.375	%cv	0.08
NI	av	489.69 ppb	sd	0.636	%cv	0.13
PBILM	av	979.84 ppb	sd	3.183	%cv	0.32
ZN	av	493.25 ppb	sd	2.078	%cv	0.42

12/19/95 08:07
CCB5

rep	1	ASILM	conc	-4.18	ppb
rep	1	CD	conc	0.04	ppb
rep	1	CU	conc	-0.25	ppb
rep	1	NI	conc	0.02	ppb
rep	1	PBILM	conc	-0.94	ppb
rep	1	ZN	conc	4.55	ppb
rep	2	ASILM	conc	-1.12	ppb
rep	2	CD	conc	0.15	ppb
rep	2	CU	conc	-0.26	ppb
rep	2	NI	conc	-0.45	ppb
rep	2	PBILM	conc	-1.33	ppb
rep	2	ZN	conc	4.00	ppb

12/19/95 08:09
CCB5

ASILM	av	-2.65 ppb	sd	2.158	%cv	81.41
CD	av	0.10 ppb	sd	0.078	%cv	80.95
CU	av	-0.25 ppb	sd	0.007	%cv	2.95
NI	av	-0.21 ppb	sd	0.336	%cv	156.9
PBILM	av	-1.14 ppb	sd	0.277	%cv	24.35
ZN	av	4.27 ppb	sd	0.388	%cv	9.08

12/19/95 08:14
37476

rep	1	ASILM	conc	62.39	ppb
rep	1	CD	conc	2.39	ppb
rep	1	CU	conc	339.67	ppb
rep	1	NI	conc	152.85	ppb
rep	1	PBILM	conc	2451.01	ppb
rep	1	ZN	conc	2514.98	ppb
rep	2	ASILM	conc	65.08	ppb
rep	2	CD	conc	2.23	ppb
rep	2	CU	conc	343.02	ppb
rep	2	NI	conc	154.31	ppb

RPD

ASILM	av	57.13	ppb	1.0	sd	1.727	%cv	3.02
CD	av	-7.84	ppb	NC	sd	0.214	%cv	2.72
CU	av	161.79	ppb	0.22	sd	0.525	%cv	0.32
NI	av	139.96	ppb	0.61	sd	1.266	%cv	0.90
PBILM	av	767.00	ppb	1.[illegible]	sd	4.704	%cv	0.61
ZN	av	1102.46	ppb	2.7	sd	2.671	%cv	0.24

12/19/95 08:59
37482.S

rep	1	ASILM	conc	2251.51	ppb
rep	1	CD	conc	40.52	ppb
rep	1	CU	conc	416.85	ppb
rep	1	NI	conc	691.95	ppb
rep	1	PBILM	conc	1317.54	ppb
rep	1	ZN	conc	1634.98	ppb
rep	2	ASILM	conc	2260.29	ppb
rep	2	CD	conc	40.57	ppb
rep	2	CU	conc	417.45	ppb
rep	2	NI	conc	693.78	ppb
rep	2	PBILM	conc	1319.32	ppb
rep	2	ZN	conc	1638.85	ppb

12/19/95 09:00
37482.S

% Rec

ASILM	av	2255.90	ppb	110	sd	6.207	%cv	0.28
CD	av	40.54	ppb	81	sd	0.038	%cv	0.09
CU	av	417.15	ppb	103	sd	0.423	%cv	0.10
NI	av	692.86	ppb	110	sd	1.299	%cv	0.19
PBILM	av	1318.43	ppb	112	sd	1.261	%cv	0.10
ZN	av	1636.92	ppb	113	sd	2.731	%cv	0.17

12/19/95 09:03
37482.L

rep	1	ASILM	conc	8.13	ppb
rep	1	CD	conc	-1.78	ppb
rep	1	CU	conc	28.85	ppb
rep	1	NI	conc	26.64	ppb
rep	1	PBILM	conc	168.82	ppb
rep	1	ZN	conc	213.64	ppb
rep	2	ASILM	conc	11.00	ppb
rep	2	CD	conc	-1.71	ppb
rep	2	CU	conc	29.09	ppb
rep	2	NI	conc	26.86	ppb
rep	2	PBILM	conc	167.25	ppb
rep	2	ZN	conc	213.98	ppb

12/19/95 09:05
37482.L

ASILM	av	9.57	ppb	sd	2.030	%cv	21.22
CD	av	-1.74	ppb	sd	0.048	%cv	2.73
CU	av	28.97	ppb	sd	0.170	%cv	0.59
NI	av	26.75	ppb	sd	0.154	%cv	0.58
PBILM	av	168.04	ppb	sd	1.115	%cv	0.66
ZN	av	213.81	ppb	sd	0.242	%cv	0.11

12/19/95 09:10
CCV6

rep	1	ASILM	conc	505.41	ppb

rep	1	CD	conc	486.13	ppb
rep	1	CU	conc	459.89	ppb
rep	1	NI	conc	493.48	ppb
rep	1	PBILM	conc	982.37	ppb
rep	1	ZN	conc	491.14	ppb
rep	2	ASILM	conc	501.72	ppb
rep	2	CD	conc	485.16	ppb
rep	2	CU	conc	457.91	ppb
rep	2	NI	conc	491.88	ppb
rep	2	PBILM	conc	984.74	ppb
rep	2	ZN	conc	489.57	ppb

12/19/95 09:12
CCV6

ASILM	av	503.56 ppb	sd	2.611	%cv	0.52
CD	av	485.64 ppb	sd	0.684	%cv	0.14
CU	av	458.90 ppb	sd	1.401	%cv	0.31
NI	av	492.68 ppb	sd	1.131	%cv	0.23
PBILM	av	983.56 ppb	sd	1.674	%cv	0.17
ZN	av	490.35 ppb	sd	1.106	%cv	0.23

12/19/95 09:16
CCB6

rep	1	ASILM	conc	-1.73	ppb
rep	1	CD	conc	-0.16	ppb
rep	1	CU	conc	-0.68	ppb
rep	1	NI	conc	-0.55	ppb
rep	1	PBILM	conc	2.59	ppb
rep	1	ZN	conc	2.98	ppb
rep	2	ASILM	conc	-3.07	ppb
rep	2	CD	conc	-0.13	ppb
rep	2	CU	conc	-0.69	ppb
rep	2	NI	conc	-0.80	ppb
rep	2	PBILM	conc	-0.55	ppb
rep	2	ZN	conc	2.78	ppb

12/19/95 09:18
CCB6

ASILM	av	-2.40 ppb	sd	0.944	%cv	39.36
CD	av	-0.15 ppb	sd	0.024	%cv	16.22
CU	av	-0.68 ppb	sd	0.007	%cv	0.96
NI	av	-0.67 ppb	sd	0.176	%cv	26.16
PBILM	av	1.02 ppb	sd	2.219	%cv	217.9
ZN	av	2.88 ppb	sd	0.140	%cv	4.85

12/19/95 09:21
37578-10X

rep	1	ASILM	conc	9.60	ppb
rep	1	CD	conc	1.49	ppb
rep	1	CU	conc	40.48	ppb
rep	1	NI	conc	16.74	ppb
rep	1	PBILM	conc	1165.02	ppb
rep	1	ZN	conc	579.79	ppb
rep	2	ASILM	conc	10.11	ppb
rep	2	CD	conc	1.51	ppb
rep	2	CU	conc	40.34	ppb
rep	2	NI	conc	16.94	ppb

rep	2	PBILM	conc	1165.28	ppb
rep	2	ZN	conc	580.37	ppb

12/19/95 09:23
37578-10X

ASILM	av	9.86	ppb	sd	0.362	%cv	3.67
CD	av	1.50	~~ppb~~ pav 12-19-95	sd	0.010	%cv	0.68
CU	av	~~40.41~~	ppb	sd	0.094	%cv	0.23
NI	av	16.84	ppb	sd	0.138	%cv	0.82
PBILM	av	1165.15	ppb 11,652 ppb	sd	0.184	%cv	0.02
ZN	av	~~580.08 ppb~~	pav 12-19-95	sd	0.409	%cv	0.07

* take 10x dilution for Pb only

12/19/95 09:26
37483

rep	1	ASILM	conc	95.13	ppb
rep	1	CD	conc	28.94	ppb
rep	1	CU	conc	507.55	ppb
rep	1	NI	conc	143.11	ppb
rep	1	PBILM	conc	4415.08	ppb
rep	1	ZN	conc	4337.78	ppb
rep	2	ASILM	conc	95.65	ppb
rep	2	CD	conc	29.08	ppb
rep	2	CU	conc	494.78	ppb
rep	2	NI	conc	143.91	ppb
rep	2	PBILM	conc	4359.01	ppb
rep	2	ZN	conc	4284.10	ppb

9502.079

12/19/95 09:26 3QSS20
37483

ASILM	av	95.39	ppb	sd	0.371	%cv	0.39
CD	av	29.01	ppb	sd	0.097	%cv	0.33
CU	av	501.17	ppb	sd	9.033	%cv	1.80
NI	av	143.51	ppb	sd	0.560	%cv	0.39
PBILM	av	4387.04	ppb	sd	39.650	%cv	0.90
ZN	av	4310.94	ppb	sd	37.958	%cv	0.88

12/19/95 09:29
37484

rep	1	ASILM	conc	71.84	ppb
rep	1	CD	conc	9.63	ppb
rep	1	CU	conc	422.42	ppb
rep	1	NI	conc	176.13	ppb
rep	1	PBILM	conc	7330.68	ppb
rep	1	ZN	conc	3822.52	ppb
rep	2	ASILM	conc	76.27	ppb
rep	2	CD	conc	9.73	ppb
rep	2	CU	conc	420.94	ppb
rep	2	NI	conc	175.67	ppb
rep	2	PBILM	conc	7391.37	ppb
rep	2	ZN	conc	3838.36	ppb

12/19/95 09:30 4QSS22
37484

ASILM	av	74.05	ppb	sd	3.127	%cv	4.22
CD	av	9.68	ppb	sd	0.070	%cv	0.72
CU	av	421.68	ppb	sd	1.050	%cv	0.25
NI	av	175.90	ppb	sd	0.324	%cv	0.18
PBILM	av	7361.02	ppb	sd	42.915	%cv	0.58

ZN	av	3830.44 ppb	sd	11.201	%cv	0.29

12/19/95 09:32
37485

rep	1	ASILM	conc	113.04 ppb
rep	1	CD	conc	36.58 ppb
rep	1	CU	conc	533.25 ppb
rep	1	NI	conc	214.13 ppb
rep	1	PBILM	conc	2512.20 ppb
rep	1	ZN	conc	5355.78 ppb
rep	2	ASILM	conc	113.76 ppb
rep	2	CD	conc	36.51 ppb
rep	2	CU	conc	543.14 ppb
rep	2	NI	conc	215.79 ppb
rep	2	PBILM	conc	2518.03 ppb
rep	2	ZN	conc	5415.93 ppb

12/19/95 09:33 4QSSa3
37485

ASILM	av	113.40 ppb	sd	0.515	%cv	0.45
CD	av	36.55 ppb	sd	0.049	%cv	0.13
CU	av	538.19 ppb	sd	6.989	%cv	1.30
NI	av	214.96 ppb	sd	1.171	%cv	0.54
PBILM	av	2515.12 ppb	sd	4.119	%cv	0.16
ZN	av	5385.85 ppb	sd	42.533	%cv	0.79

12/19/95 09:36
37486

rep	1	ASILM	conc	106.23 ppb
rep	1	CD	conc	22.45 ppb
rep	1	CU	conc	797.17 ppb
rep	1	NI	conc	222.32 ppb
rep	1	PBILM	conc	4499.65 ppb
rep	1	ZN	conc	5488.34 ppb
rep	2	ASILM	conc	109.46 ppb
rep	2	CD	conc	22.78 ppb
rep	2	CU	conc	818.33 ppb
rep	2	NI	conc	226.81 ppb
rep	2	PBILM	conc	4578.18 ppb
rep	2	ZN	conc	5596.37 ppb

12/19/95 09:37 4QSSa4
37486

ASILM	av	107.84 ppb	sd	2.282	%cv	2.12
CD	av	22.61 ppb	sd	0.234	%cv	1.03
CU	av	807.75 ppb	sd	14.966	%cv	1.85
NI	av	224.56 ppb	sd	3.178	%cv	1.42
PBILM	av	4538.92 ppb	sd	55.528	%cv	1.22
ZN	av	5542.36 ppb	sd	76.389	%cv	1.38

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37487

rep	1	ASILM	conc	145.53 ppb
rep	1	CD	conc	23.53 ppb
rep	1	CU	conc	975.58 ppb
rep	1	NI	conc	196.42 ppb
rep	1	PBILM	conc	6484.22 ppb
rep	1	ZN	conc	7904.10 ppb

rep	2	ASILM	conc	123.76	ppb
rep	2	CD	conc	20.33	ppb
rep	2	CU	conc	948.65	ppb
rep	2	NI	conc	174.76	ppb
rep	2	PBILM	conc	6419.77	ppb
rep	2	ZN	conc	7803.38	ppb

12/19/95 09:41
37487 4QSS25

ASILM	av	134.65	ppb	sd	15.392	%cv 11.43
CD	av	21.93	ppb	sd	2.261	%cv 10.31
CU	av	962.11	ppb	sd	19.040	%cv 1.98
NI	av	185.59	ppb	sd	15.316	%cv 8.25
PBILM	av	6452.00	ppb	sd	45.573	%cv 0.71
ZN	av	7853.74	ppb	sd	71.222	%cv 0.91

12/19/95 09:45
37488

rep	1	ASILM	conc	99.59	ppb
rep	1	CD	conc	18.04	ppb
rep	1	CU	conc	476.16	ppb
rep	1	NI	conc	159.38	ppb
rep	1	PBILM	conc	3632.24	ppb
rep	1	ZN	conc	4539.38	ppb
rep	2	ASILM	conc	104.48	ppb
rep	2	CD	conc	18.32	ppb
rep	2	CU	conc	461.40	ppb
rep	2	NI	conc	160.40	ppb
rep	2	PBILM	conc	3534.99	ppb
rep	2	ZN	conc	4416.07	ppb

12/19/95 09:46 2QSS21
37488

ASILM	av	102.03	ppb	sd	3.454	%cv 3.39
CD	av	18.18	ppb	sd	0.196	%cv 1.08
CU	av	468.78	ppb	sd	10.435	%cv 2.23
NI	av	159.89	ppb	sd	0.717	%cv 0.45
PBILM	av	3583.62	ppb	sd	68.765	%cv 1.92
ZN	av	4477.72	ppb	sd	87.189	%cv 1.95

12/19/95 09:49
37489

rep	1	ASILM	conc	52.14	ppb
rep	1	CD	conc	1.82	ppb
rep	1	CU	conc	811.01	ppb
rep	1	NI	conc	221.27	ppb
rep	1	PBILM	conc	3320.79	ppb
rep	1	ZN	conc	5049.35	ppb
rep	2	ASILM	conc	49.71	ppb
rep	2	CD	conc	1.81	ppb
rep	2	CU	conc	801.51	ppb
rep	2	NI	conc	220.32	ppb
rep	2	PBILM	conc	3291.41	ppb
rep	2	ZN	conc	4997.90	ppb

12/19/95 09:50 2QSS22
37489

ASILM	av	50.93	ppb	sd	1.718	%cv	3.37
CD	av	1.82	ppb	sd	0.005	%cv	0.28
CU	av	806.26	ppb	sd	6.722	%cv	0.83
NI	av	220.79	ppb	sd	0.665	%cv	0.30
PBILM	av	3306.10	ppb	sd	20.771	%cv	0.63
ZN	av	5023.62	ppb	sd	36.382	%cv	0.72

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37490

rep	1	ASILM	conc	115.35	ppb
rep	1	CD	conc	11.59	ppb
rep	1	CU	conc	1013.00	ppb
rep	1	NI	conc	248.82	ppb
rep	1	PBILM	conc	6007.36	ppb
rep	1	ZN	conc	9387.47	ppb
rep	2	ASILM	conc	113.45	ppb
rep	2	CD	conc	10.51	ppb
rep	2	CU	conc	1024.41	ppb
rep	2	NI	conc	249.87	ppb
rep	2	PBILM	conc	6031.88	ppb
rep	2	ZN	conc	9474.42	ppb

12/19/95 09:53 2Q SS23
37490

ASILM	av	114.40	ppb	sd	1.346	%cv	1.18
CD	av	11.05	ppb	sd	0.765	%cv	6.92
CU	av	1018.70	ppb	sd	8.070	%cv	0.79
NI	av	249.34	ppb	sd	0.746	%cv	0.30
PBILM	av	6019.62	ppb	sd	17.343	%cv	0.29
ZN	av	9430.95	ppb	sd	61.478	%cv	0.65

12/19/95 09:56
37490.D

rep	1	ASILM	conc	104.73	ppb
rep	1	CD	conc	9.93	ppb
rep	1	CU	conc	818.86	ppb
rep	1	NI	conc	212.28	ppb
rep	1	PBILM	conc	5156.02	ppb
rep	1	ZN	conc	7925.13	ppb
rep	2	ASILM	conc	106.93	ppb
rep	2	CD	conc	9.69	ppb
rep	2	CU	conc	798.49	ppb
rep	2	NI	conc	212.41	ppb
rep	2	PBILM	conc	5078.21	ppb
rep	2	ZN	conc	7792.09	ppb

12/19/95 09:57 2Q SS23 (Dup)
37490.D

				RPD				
ASILM	av	105.83	ppb	7.2	sd	1.551	%cv	1.47
CD	av	9.81	ppb	12	sd	0.166	%cv	1.69
CU	av	808.67	ppb	23	sd	14.406	%cv	1.78
NI	av	212.35	ppb	16	sd	0.088	%cv	0.04
PBILM	av	5117.12	ppb	16	sd	55.017	%cv	1.08
ZN	av	7858.61	ppb	18	sd	94.068	%cv	1.20

12/19/95 10:00
CCV7

rep	1	ASILM	conc	506.28	ppb

rep	1	CD	conc	486.00	ppb
rep	1	CU	conc	448.79	ppb
rep	1	NI	conc	495.00	ppb
rep	1	PBILM	conc	987.33	ppb
rep	1	ZN	conc	500.29	ppb
rep	2	ASILM	conc	510.24	ppb
rep	2	CD	conc	482.76	ppb
rep	2	CU	conc	446.23	ppb
rep	2	NI	conc	492.35	ppb
rep	2	PBILM	conc	983.51	ppb
rep	2	ZN	conc	494.74	ppb

12/19/95 10:02
CCV7

ASILM	av	508.26 ppb	sd	2.804	%cv	0.55
CD	av	484.38 ppb	sd	2.289	%cv	0.47
CU	av	447.51 ppb	sd	1.816	%cv	0.41
NI	av	493.67 ppb	sd	1.875	%cv	0.38
PBILM	av	985.42 ppb	sd	2.699	%cv	0.27
ZN	av	497.52 ppb	sd	3.925	%cv	0.79

12/19/95 10:05
CCB7

rep	1	ASILM	conc	-5.57	ppb
rep	1	CD	conc	-0.32	ppb
rep	1	CU	conc	-0.97	ppb
rep	1	NI	conc	-0.85	ppb
rep	1	PBILM	conc	0.36	ppb
rep	1	ZN	conc	5.87	ppb
rep	2	ASILM	conc	-3.48	ppb
rep	2	CD	conc	-0.25	ppb
rep	2	CU	conc	-1.06	ppb
rep	2	NI	conc	-1.46	ppb
rep	2	PBILM	conc	0.54	ppb
rep	2	ZN	conc	5.23	ppb

12/19/95 10:07
CCB7

ASILM	av	-4.53 ppb	sd	1.483	%cv	32.78
CD	av	-0.29 ppb	sd	0.049	%cv	17.05
CU	av	-1.02 ppb	sd	0.059	%cv	5.80
NI	av	-1.16 ppb	sd	0.430	%cv	37.15
PBILM	av	0.45 ppb	sd	0.125	%cv	27.85
ZN	av	5.55 ppb	sd	0.455	%cv	8.19

12/19/95 10:21
37490.5

rep	1	ASILM	conc	2243.22	ppb
rep	1	CD	conc	61.92	ppb
rep	1	CU	conc	1004.10	ppb
rep	1	NI	conc	728.91	ppb
rep	1	PBILM	conc	5750.74	ppb
rep	1	ZN	conc	8370.35	ppb
rep	2	ASILM	conc	2248.38	ppb
rep	2	CD	conc	61.99	ppb
rep	2	CU	conc	975.96	ppb
rep	2	NI	conc	730.20	ppb

rep	2	PBILM	conc	5768.20	ppb	
rep	2	ZN	conc	8279.86	ppb	

12/19/95 10:22 2QSS23 (SPIKE)
37490.S

ASILM	av	2245.80	ppb	% rec 107	sd	3.653	%cv	0.16
CD	av	61.95	ppb	102	sd	0.050	%cv	0.08
~~CU~~	av	990.03	ppb	4X	sd	19.901	%cv	2.01
NI	av	729.56	ppb	96	sd	0.912	%cv	0.13
PBILM	av	5759.47	ppb	4X	sd	12.344	%cv	0.21
ZN	av	8325.11	ppb	4X	sd	63.984	%cv	0.77

12/19/95 10:28
37490.L

rep	1	ASILM	conc	17.59	ppb
rep	1	CD	conc	1.60	ppb
rep	1	CU	conc	174.72	ppb
rep	1	NI	conc	47.74	ppb
rep	1	PBILM	conc	1151.50	ppb
rep	1	ZN	conc	1825.78	ppb
rep	2	ASILM	conc	20.58	ppb
rep	2	CD	conc	1.79	ppb
rep	2	CU	conc	174.73	ppb
rep	2	NI	conc	48.24	ppb
rep	2	PBILM	conc	1158.36	ppb
rep	2	ZN	conc	1826.47	ppb

12/19/95 10:30 2QSS23 (Serial Dilution)
37490.L

ASILM	av	19.08	ppb	sd	2.109	%cv	11.05
CD	av	1.69	ppb	sd	0.134	%cv	7.93
~~CU~~	av	174.72	ppb	sd	0.014	%cv	0.01
NI	av	47.99	ppb	sd	0.353	%cv	0.74
PBILM	av	1154.93	ppb	sd	4.851	%cv	0.42
ZN	av	1826.13	ppb	sd	0.487	%cv	0.03

12/19/95 10:33
37181

rep	1	ASILM	conc	45.17	ppb
rep	1	CD	conc	49.90	ppb
rep	1	CU	conc	68.24	ppb
rep	1	NI	conc	82.72	ppb
rep	1	PBILM	conc	58.86	ppb
rep	1	ZN	conc	424.68	ppb
rep	2	ASILM	conc	45.35	ppb
rep	2	CD	conc	51.03	ppb
rep	2	CU	conc	68.30	ppb
rep	2	NI	conc	83.10	ppb
rep	2	PBILM	conc	58.92	ppb
rep	2	ZN	conc	424.82	ppb

12/19/95 10:35
37181

ASILM	av	45.26	ppb	sd	0.127	%cv	0.28
CD	av	50.47	ppb	sd	0.798	%cv	1.58
CU	av	68.27	ppb	sd	0.045	%cv	0.07
NI	av	82.91	ppb	sd	0.268	%cv	0.32
PBILM	av	58.89	ppb	sd	0.047	%cv	0.08

ZN	av	424.75 ppb		sd	0.105	%cv	0.02

12/19/95 10:38
CCV8

rep	1	ASILM	conc	510.60	ppb
rep	1	CD	conc	481.21	ppb
rep	1	CU	conc	434.73	ppb
rep	1	NI	conc	494.81	ppb
rep	1	PBILM	conc	985.84	ppb
rep	1	ZN	conc	493.25	ppb
rep	2	ASILM	conc	507.33	ppb
rep	2	CD	conc	480.42	ppb
rep	2	CU	conc	433.60	ppb
rep	2	NI	conc	493.26	ppb
rep	2	PBILM	conc	979.07	ppb
rep	2	ZN	conc	491.92	ppb

12/19/95 10:39
CCV8

ASILM	av	508.97 ppb		sd	2.316	%cv	0.46
CD	av	480.82 ppb		sd	0.556	%cv	0.12
CU	av	~~434.17 ppb~~ see recal for CU post 12-19-95		sd	0.795	%cv	0.18
NI	av	494.03 ppb		sd	1.097	%cv	0.22
PBILM	av	982.46 ppb		sd	4.786	%cv	0.49
ZN	av	492.58 ppb		sd	0.943	%cv	0.19

12/19/95 10:55
CCB8

rep	1	ASILM	conc	-3.23	ppb
rep	1	CD	conc	-0.19	ppb
rep	1	CU	conc	-1.44	ppb
rep	1	NI	conc	-1.62	ppb
rep	1	PBILM	conc	-1.88	ppb
rep	1	ZN	conc	3.88	ppb
rep	2	ASILM	conc	-2.35	ppb
rep	2	CD	conc	-0.24	ppb
rep	2	CU	conc	-0.87	ppb
rep	2	NI	conc	-1.42	ppb
rep	2	PBILM	conc	-1.55	ppb
rep	2	ZN	conc	2.85	ppb

12/19/95 10:57
CCB8

ASILM	av	-2.79 ppb		sd	0.627	%cv	22.48
CD	av	-0.21 ppb		sd	0.033	%cv	15.38
CU	av	-1.15 ppb		sd	0.403	%cv	34.93
NI	av	-1.52 ppb		sd	0.142	%cv	9.31
PBILM	av	-1.71 ppb		sd	0.232	%cv	13.53
ZN	av	3.36 ppb		sd	0.731	%cv	21.74

12/19/95 10:58
blank

rep	1	CU	sf	-641.3
rep	2	CU	sf	-655.3

12/19/95 10:58
blank

recal for CU

```
CU          av    -648.27 sf          sd      9.927 %cv    1.53

12/19/95 11:08
#1 standard
            rep   1  CU          sf      49944.7

            rep   2  CU          sf      49190.7

12/19/95 11:08
#1 standard
CU          av   49567.73 sf          sd    533.158 %cv    1.08 conc   1000.0

12/19/95 11:10
ICV
            rep   1  CU          conc     995.50 ppb

            rep   2  CU          conc    1015.55 ppb

12/19/95 11:10
ICV
CU          av    1005.53 ppb         sd     14.183 %cv    1.41

12/19/95 11:11
ICB
            rep   1  CU          conc       1.79 ppb

            rep   2  CU          conc       2.13 ppb

12/19/95 11:11
ICB
CU          av       1.96 ppb         sd      0.240 %cv   12.28

12/19/95 11:15
CCV9
            rep   1  ASILM       conc     512.18 ppb
            rep   1  CD          conc     468.60 ppb
            rep   1  CU          conc     512.77 ppb
            rep   1  NI          conc     496.05 ppb
            rep   1  PBILM       conc     975.28 ppb
            rep   1  ZN          conc     481.86 ppb

            rep   2  ASILM       conc     505.63 ppb
            rep   2  CD          conc     467.96 ppb
            rep   2  CU          conc     512.40 ppb
            rep   2  NI          conc     493.22 ppb
            rep   2  PBILM       conc     975.76 ppb
            rep   2  ZN          conc     480.64 ppb

12/19/95 11:17
CCV9
ASILM       av     508.90 ppb         sd      4.632 %cv    0.91
CD          av     468.28 ppb         sd      0.447 %cv    0.10
CU          av     512.58 ppb         sd      0.259 %cv    0.05
NI          av     494.63 ppb         sd      2.002 %cv    0.40
PBILM       av     975.52 ppb         sd      0.342 %cv    0.04
ZN          av     481.25 ppb         sd      0.864 %cv    0.18

12/19/95 11:20
CCB9
            rep   1  ASILM       conc      -0.10 ppb
```

rep	1	CD	conc	-0.49	ppb
rep	1	CU	conc	0.35	ppb
rep	1	NI	conc	-1.47	ppb
rep	1	PBILM	conc	-0.49	ppb
rep	1	ZN	conc	1.46	ppb
rep	2	ASILM	conc	-2.26	ppb
rep	2	CD	conc	-0.24	ppb
rep	2	CU	conc	0.33	ppb
rep	2	NI	conc	-1.42	ppb
rep	2	PBILM	conc	-0.16	ppb
rep	2	ZN	conc	1.40	ppb

12/19/95 11:22
CCB9

ASILM	av	-1.18 ppb	sd	1.528	%cv	129.7
CD	av	-0.36 ppb	sd	0.177	%cv	48.61
CU	av	0.34 ppb	sd	0.017	%cv	4.88
NI	av	-1.44 ppb	sd	0.034	%cv	2.33
PBILM	av	-0.32 ppb	sd	0.236	%cv	73.02
ZN	av	1.43 ppb	sd	0.039	%cv	2.74

12/19/95 11:26
ICSAI

rep	1	CU	conc	0.53	ppb
rep	2	CU	conc	3.07	ppb

12/19/95 11:26
ICSAI

CU	av	1.80 ppb	sd	1.794	%cv	99.50

12/19/95 11:28
ICSABI

rep	1	CU	conc	493.02	ppb	
rep	2	CU	conc	500.19	ppb	

12/19/95 11:28
ICSABI

CU	av	496.60 ppb	sd	5.074	%cv	1.02

12/19/95 11:30
CRII

rep	1	CU	conc	54.03	ppb	
rep	2	CU	conc	48.89	ppb	

12/19/95 11:30
CRII

CU	av	51.46 ppb	sd	3.639	%cv	7.07

12/19/95 11:31
37490.S

rep	1	CU	conc	1161.41	ppb
rep	2	CU	conc	1139.98	ppb

12/19/95 11:31
37490.S

205823 (SPIKE)

CU	av	1150.70 ppb	4/X	sd	15.150	%cv	1.32

12/19/95 11:33
37490.L

rep	1	CU	conc	202.57	ppb
rep	2	CU	conc	206.90	ppb

12/19/95 11:33 2QSS23 (Serial Dilution)
37490.L

CU	av	204.73 ppb		sd	3.062	%cv	1.50

12/19/95 11:34
37181

rep	1	CU	conc	77.98	ppb
rep	2	CU	conc	78.35	ppb

12/19/95 11:34
37181

CU	av	78.17 ppb		sd	0.265	%cv	0.34

12/19/95 11:37
ICSAF

rep	1	ASILM	conc	4.72	ppb
rep	1	CD	conc	-22.59	ppb
rep	1	CU	conc	2.16	ppb
rep	1	NI	conc	9.22	ppb
rep	1	PBILM	conc	10.18	ppb
rep	1	ZN	conc	21.34	ppb
rep	2	ASILM	conc	2.14	ppb
rep	2	CD	conc	-22.37	ppb
rep	2	CU	conc	2.20	ppb
rep	2	NI	conc	9.71	ppb
rep	2	PBILM	conc	8.12	ppb
rep	2	ZN	conc	21.06	ppb

PAW 12-19-95
OMIT see closing below.

12/19/95 11:38
ICSAF

ASILM	av	3.43 ppb		sd	1.828	%cv	53.32
CD	av	-22.48 ppb		sd	0.160	%cv	0.71
CU	av	2.18 ppb		sd	0.034	%cv	1.56
NI	av	9.46 ppb		sd	0.350	%cv	3.70
PBILM	av	9.15 ppb		sd	1.457	%cv	15.92
ZN	av	21.20 ppb		sd	0.196	%cv	0.92

12/19/95 11:41
ICSABF

rep	1	ASILM	conc	6.96	ppb
rep	1	CD	conc	642.86	ppb
rep	1	CU	conc	382.95	ppb
rep	1	NI	conc	600.78	ppb
rep	1	PBILM	conc	605.94	ppb
rep	1	ZN	conc	705.83	ppb
rep	2	ASILM	conc	2.07	ppb
rep	2	CD	conc	495.62	ppb
rep	2	CU	conc	285.35	ppb
rep	2	NI	conc	664.86	ppb

	rep	2	PBILM	conc	665.83	ppb		
	rep	2	ZN	conc	537.37	ppb		

12/19/95 11:43
ICSABF

ASILM	av	4.52	ppb	sd	3.456	%cv	76.49
CD	av	569.24	ppb	sd	104.113	%cv	18.29
CU	av	334.15	ppb	sd	69.019	%cv	20.66
NI	av	632.82	ppb	sd	45.308	%cv	7.16
PBILM	av	635.89	ppb	sd	42.350	%cv	6.66
ZN	av	621.60	ppb	sd	119.121	%cv	19.16

sample capillary was not completely in solution
JAW 12-19-95
see rerun below

12/19/95 11:46
CRIF

rep	1	CU	conc	51.83	ppb

12/19/95 11:52
CCV10

rep	1	ASILM	conc	513.50	ppb
rep	1	CD	conc	469.80	ppb
rep	1	CU	conc	493.92	ppb
rep	1	NI	conc	489.97	ppb
rep	1	PBILM	conc	967.68	ppb
rep	1	ZN	conc	483.44	ppb
rep	2	ASILM	conc	512.91	ppb
rep	2	CD	conc	471.29	ppb
rep	2	CU	conc	495.14	ppb
rep	2	NI	conc	490.43	ppb
rep	2	PBILM	conc	969.08	ppb
rep	2	ZN	conc	485.40	ppb

12/19/95 11:54
CCV10

ASILM	av	513.20	ppb	sd	0.414	%cv	0.08
CD	av	470.55	ppb	sd	1.054	%cv	0.22
CU	av	494.53	ppb	sd	0.860	%cv	0.17
NI	av	490.20	ppb	sd	0.330	%cv	0.07
PBILM	av	968.38	ppb	sd	0.996	%cv	0.10
ZN	av	484.42	ppb	sd	1.386	%cv	0.29

12/19/95 11:58
CCB10

rep	1	ASILM	conc	-1.22	ppb
rep	1	CD	conc	-0.28	ppb
rep	1	CU	conc	0.01	ppb
rep	1	NI	conc	-2.30	ppb
rep	1	PBILM	conc	-0.50	ppb
rep	1	ZN	conc	1.45	ppb
rep	2	ASILM	conc	-1.10	ppb
rep	2	CD	conc	-0.41	ppb
rep	2	CU	conc	-0.04	ppb
rep	2	NI	conc	-1.95	ppb
rep	2	PBILM	conc	-3.53	ppb
rep	2	ZN	conc	1.41	ppb

12/19/95 12:00
CCB10

ASILM	av	-1.16	ppb	sd	0.088	%cv	7.54

CD	av	-0.35	ppb	sd	0.090	%cv	25.79
CU	av	-0.02	ppb	sd	0.035	%cv	233.8
NI	av	-2.13	ppb	sd	0.241	%cv	11.35
PBILM	av	-2.02	ppb	sd	2.140	%cv	106.0
ZN	av	1.43	ppb	sd	0.028	%cv	1.92

12/19/95 12:02
ICSAF

rep	1	ASILM	conc	7.41	ppb
rep	1	CD	conc	-22.97	ppb
rep	1	CU	conc	1.94	ppb
rep	1	NI	conc	9.13	ppb
rep	1	PBILM	conc	4.55	ppb
rep	1	ZN	conc	19.99	ppb
rep	2	ASILM	conc	5.72	ppb
rep	2	CD	conc	-23.02	ppb
rep	2	CU	conc	1.90	ppb
rep	2	NI	conc	8.70	ppb
rep	2	PBILM	conc	5.89	ppb
rep	2	ZN	conc	19.99	ppb

12/19/95 12:03
ICSAF

ASILM	av	6.57	ppb	sd	1.193	%cv	18.16
CD	av	-22.99	ppb	sd	0.036	%cv	0.16
CU	av	1.92	ppb	sd	0.028	%cv	1.46
NI	av	8.91	ppb	sd	0.302	%cv	3.39
PBILM	av	5.22	ppb	sd	0.951	%cv	18.23
ZN	av	19.99	ppb	sd	0.003	%cv	0.01

12/19/95 12:06
ICSABF

rep	1	ASILM	conc	12.67	ppb
rep	1	CD	conc	791.72	ppb
rep	1	CU	conc	480.37	ppb
rep	1	NI	conc	848.02	ppb
rep	1	PBILM	conc	860.34	ppb
rep	1	ZN	conc	895.13	ppb
rep	2	ASILM	conc	12.49	ppb
rep	2	CD	conc	791.03	ppb
rep	2	CU	conc	479.86	ppb
rep	2	NI	conc	850.95	ppb
rep	2	PBILM	conc	862.95	ppb
rep	2	ZN	conc	893.48	ppb

12/19/95 12:08
ICSABF

ASILM	av	12.58	ppb	sd	0.129	%cv	1.03
CD	av	791.38	ppb	sd	0.490	%cv	0.06
CU	av	480.12	ppb	sd	0.365	%cv	0.08
NI	av	849.49	ppb	sd	2.075	%cv	0.24
PBILM	av	861.64	ppb	sd	1.846	%cv	0.21
ZN	av	894.30	ppb	sd	1.166	%cv	0.13

12/19/95 12:11
CRIF

rep	1	ASILM	conc	19.11	ppb
rep	1	CD	conc	8.63	ppb

rep	1	CU	conc	49.60	ppb
rep	1	NI	conc	81.85	ppb
rep	1	PBILM	conc	5.30	ppb
rep	1	ZN	conc	41.80	ppb
rep	2	ASILM	conc	19.92	ppb
rep	2	CD	conc	8.50	ppb
rep	2	CU	conc	49.27	ppb
rep	2	NI	conc	81.73	ppb
rep	2	PBILM	conc	5.08	ppb
rep	2	ZN	conc	41.35	ppb

12/19/95 12:13
CRIF

ASILM	av	19.52 ppb	sd	0.575	%cv	2.94
CD	av	8.56 ppb	sd	0.095	%cv	1.11
CU	av	49.43 ppb	sd	0.240	%cv	0.49
NI	av	81.79 ppb	sd	0.079	%cv	0.10
PBILM	av	5.19 ppb	sd	0.152	%cv	2.93
ZN	av	41.58 ppb	sd	0.321	%cv	0.77

12/19/95 12:16
CCV11

rep	1	ASILM	conc	514.72	ppb
rep	1	CD	conc	470.95	ppb
rep	1	CU	conc	489.30	ppb
rep	1	NI	conc	491.67	ppb
rep	1	PBILM	conc	971.77	ppb
rep	1	ZN	conc	485.63	ppb
rep	2	ASILM	conc	506.82	ppb
rep	2	CD	conc	468.25	ppb
rep	2	CU	conc	486.08	ppb
rep	2	NI	conc	490.64	ppb
rep	2	PBILM	conc	969.79	ppb
rep	2	ZN	conc	482.78	ppb

12/19/95 12:17
CCV11

ASILM	av	510.77 ppb	sd	5.580	%cv	1.09
CD	av	469.60 ppb	sd	1.905	%cv	0.41
CU	av	487.69 ppb	sd	2.283	%cv	0.47
NI	av	491.15 ppb	sd	0.726	%cv	0.15
PBILM	av	970.78 ppb	sd	1.398	%cv	0.14
ZN	av	484.21 ppb	sd	2.019	%cv	0.42

12/19/95 12:21
CCB11

rep	1	ASILM	conc	-2.75	ppb
rep	1	CD	conc	-0.33	ppb
rep	1	CU	conc	-0.06	ppb
rep	1	NI	conc	-2.18	ppb
rep	1	PBILM	conc	0.17	ppb
rep	1	ZN	conc	1.34	ppb
rep	2	ASILM	conc	-2.19	ppb
rep	2	CD	conc	-0.52	ppb
rep	2	CU	conc	-0.24	ppb
rep	2	NI	conc	-2.22	ppb
rep	2	PBILM	conc	-0.33	ppb

rep 2 ZN conc 1.19 ppb

12/19/95 12:23
CCB11

ASILM	av	-2.47	ppb	sd	0.399	%cv	16.14
CD	av	-0.42	ppb	sd	0.132	%cv	31.33
CU	av	-0.15	ppb	sd	0.130	%cv	88.35
NI	av	-2.20	ppb	sd	0.028	%cv	1.28
PBILM	av	-0.08	ppb	sd	0.355	%cv	439.8
ZN	av	1.27	ppb	sd	0.104	%cv	8.20

Test Performed: METALS DIGESTION

Date: 12·18·95

Work Performed by: G Plent [illegible]

Job Number	ID Number	pH (1 - 14)	Color	Clarity	Texture	Artifacts	Digestion Code (ICP)	Digestion Code (HGA)	Initial Weight or Volume	Final Weight or Volume	Color (Final)	Clarity (Final)	
9502.878	37463.01				H	1,2	21		1.00g	100ml	Y	C	
	37464.01												
	37465.01												
	37466.01												
	37467.01												
	37468.01												
	37469.01												
	37470.01												
	37471.01												
	37472.01												
	37472.01												
	37473.01												
	37474.01												
	37475.01												
	37476.01												
	37477.01												
	37478.01												
	37479.01												
	37480.01												
	37481.01												
	37482.01												
	37482.01 D												
	37482.01 ☆ SP				✓	✓			✓		✓		
	PBS 140								100ml		Cl		
	SLCS 140								100ml		Y		
9502.879	37483.01				H	1,2			1.00g				3QSS20
	37484.01												4QSS22
	37485.01												4QSS23
	37486.01				✓	✓	✓		✓	✓	✓	✓	4QSS24

Comments:

BALANCE MODEL FISHER 5400

CALIBRATION SERIAL # 19645

0.50g = ____

1.00g = 1.00g

2.00g = 2.00g

5.00g = 5.00g

10.00g = 10.00g

Circle one reference

REFERENCE	METHOD		
CLP	SOP#10		
SW846	3050 (SOLIDS)	3010 (ICP-WATER)	3020 (FURNACE-WATER)
OTHER	☆1ml ICP SPIKE 1021-22.1, 1021-23.1		

Approved by: _____ Date: _____

recycled paper

ecology and environment 0131191

Test Performed: METALS DIGESTION

Date: 12-18-95

Work Performed by: C. Pleuthner

Job Number	ID Number	pH (1 - 14)	Color	Clarity	Texture	Artifacts	Digestion Code (ICP)	Digestion Code (HGA)	Initial Weight or Volume	Final Weight or Volume	Color (Final)	Clarity (Final)	
9502.879	37487.01				H	1,2	21		1.00g	100ml	T	C	4QSS25
	37488.01												2QSS21
	37489.01												2QSS22
	37490.01												2QSS23
	37490.01 D												2QSS23 (DUP)
	37490.01 A SP				✓	✓			✓		✓		2QSS23 (SPIKE)
	PBS 141								100ml		Cl		PBS1
	SLCS 141								100ml		Y		LCSS1
9502.832	37181.01 2140				CY		✓		1.00g	✓	✓	✓	

Comments:

BALANCE CALIBRATION

MODEL FISHER 5400

SERIAL # 19645

0.50g = ____

1.00g = 1.00g

2.00g = 2.00g

5.00g = 5.00g

10.00g = 10.00g

Circle one reference

REFERENCE	METHOD		
CLP	---------- SOP # 10		
SW846	3050 (SOLIDS)	3010 (ICP-WATER)	3020 (FURNACE-WATER)
OTHER	A 1ml ICP SPIKE 1021.22.1, 1021.23.1		

Approved by: _____ Date: _____

METALS DIGESTION/EXTRACTION CODE

01 E.P. TOX Extraction Metals
02 E.P. TOX Extraction Organics
03 E.P. TOX Extraction Miscellaneous
04 E.P. TOX Digestion ICP
05 TCLP Extraction Metals
06 TCLP Extraction Organics
07 TCLP ZHE Extraction Purgeables
08 TCLP Digestion ICP
09 California Wet Test Extraction Metals
10 California Wet Test Extraction Organics
11 California Wet Test Digestion/ICP
12 Metals Available ICP
13 E.P. TOX Cr +6
14 MMWEP Extraction Metals
15 MMWEP Extraction Wet Chem.
16 MMWEP Digestion ICP
17 MMWEP Digestion Furnace
18 Cal. Wet Test Cr +6
19 TCLP Cr +6
20
21 ICP/Flame
22 Furnace
23 CR +6
24 Total Recoverable ICP
25 Total Recoverable Furnace
26 Soluble Metals ICP
27 Soluble Metals Furnace
28 Metals on Air Filters
29 Miscellaneous

COLOR CODES

R	Red
O	Orange
G	Green
Y	Yellow
B	Blue
BR	Brown
BK	Black
CL	Clear

CLARITY CODES (LIQUID)

CL	Cloudy
C	Clear

TEXTURE CODES (SOLID)

H	Homogeneous
M	Mixture
F	Fine Soil
G	Granular Soil
SL	Sludge
CY	Clay
SD	Sand

COMMENTS

1	Reactive
2	Effervescent
3	Phase Change
4	Precipitation
5	Other (Explain)

ARTIFACTS

1	Rocks
2	Sticks, Leaves
3	Shavings
4	Other (Explain)

F012119

From Page No. ___
Test Performed: % Solids
Method Number: 2014
Date: 12.18.95
Work Performed By: [illegible]

Job No.	ID No.	DISH WT(g)	INT. WT (g)	FWT(g)	% Solids	RPD
9502.876	37479.01	0.98	5.45	4.36	80.0	
	37480.01	0.98	5.61	4.74	84.5	
	37481.01	0.97	5.27	4.29	81.4	
	37482.01	0.98	5.51	4.50	81.7	
9502.879	37483.01	0.99	5.35	4.26	79.6	
	37484.01	0.98	5.94	4.54	76.4	
	37485.01	0.97	5.21	4.70	90.2	
	37486.01	0.98	5.18	4.68	90.3	
	37487.01	0.98	5.75	5.02	87.3	
	37488.01	0.98	5.03	4.09	81.3	
	37489.01	0.98	5.44	4.97	91.4	
	37490.01	0.97	5.22	4.78	91.6	
	37490.01D	0.98	5.21	4.81	91.6	0
	37488.01D	0.98	5.61	4.69	83.6	0.5

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Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by	