US EPA RECORDS CENTER REGION 5
513040

(1)

MEMORANDUM

TO: Dave Hendren

FROM: Gary Hahn Gary Hahn

DATE: December 19, 1995

SUBJECT: TAT-Chicago
Project No. ZT4052.EIL0903KAA

RE: 9502.852

CC: Lab File

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on December 12, 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/bjk
Enclosure

Case Narrative
TAT-Chicago
ZT4052.EIL0903KAA
9502.852

Lead was detected in the preparation blank at 0.75 mg/Kg. Levels detected in the samples exceeded this blank value by more than ten times. No corrective action was required.

Two elements were inadvertently omitted from the CCV standard analyzed at 11:44. The standard was immediately reanalyzed with all elements of interest. Recoveries were within acceptable limits.

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 19, 1995

Total number of pages in this data package is: 72 .

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: ZT4052
PROJECT NAME: GATEWAY EIL0903KAA
Activity Code:
SAMPLERS: (Print Name and Sign) Cathy Sullivan, Dean Tiebout
Page 1 of 2

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Analyte: 4oz - As, Cd, Cu, Ni, Pb, Zn Method 6010						TAG NUMBERS
1QSS01	12/11/95	1034		X	1QSS01	1	1						*One week turnaround
1QSS02	12/11/95	1047		X	1QSS02	1	1						for hard copy data.
1QSS03	12/11/95	1101		X	1QSS03	1	1						Send Results to
1QSS04	12/11/95	1108		X	1QSS04	1	1						Dave Hendren, Chicago
1QSS05	12/11/95	1118		X	1QSS05	1	1						
1QSS06	12/11/95	1130		X	1QSS06	1	1						NOTE:- Job # in ZT4052
1QSS07	12/11/95	1143		X	1QSS07	1	1						
1QSS08	12/11/95	1201		X	1QSS08	1	1						
1QSS09	12/11/95	1221		X	1QSS09	1	1						
1QSS10	12/11/95	1245		X	1QSS10	1	1						
1QSS09D	12/11/95	1221		X	1QSS09D	1	1						
1QSS11	12/11/95	1300		X	CS 12/11/95 ~~1QSS10~~ 1QSS11	1	1						
1QSS12	12/11/95	1430		X	1QSS12	1	1						Shipment is not Complete
CS 12/11/95 ~~1QSS13~~	12/11/95	1455		X	CS 12/11/95 ~~1QSS13~~ 2QSS01	1	1						
CS 12/11/95 ~~1QSS14~~	12/11/95	1508		X	CS 12/11/95 ~~1QSS14~~ 2QSS02	1	1						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Cathy Sullivan	12/11/95 1720	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) / Date / Time
Fed Ex	12.12.95 1025	12.12.95 1025

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

Airbill Number: 5177085196

Chain of Custody Seal Numbers: 44509-10

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

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recycled paper

ecology and environment

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: ZT4052
PROJECT NAME: GateWAY EIL0903KAA
Activity Code:
SAMPLERS: (Print Name and Sign) Cathy Sullivan, Dean Tiebout

Page 2 of 2

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Analyte: Hg, As, Cd, Cu, Ni, Pb, Zn Method 6010						TAG NUMBERS
2QSS03	12/11/95	1518		X	2QSS03	1	1						*One Week turnaround for
2QSS03D	12/11/95	1518		X	2QSS03D	1	1						hard copy data.
2QSS04	12/11/95	1533		X	2QSS04	1	1						Send Results to
2QSS05	12/11/95	1547		X	2QSS05	1	1						Dave Hendren, Chicago
2QSS06	12/11/95	1600		X	2QSS06	1	1						
2QSS07	12/11/95	1610		X	2QSS07	1	1						NOTE: Job # is ZT4052
2QSS08	12/11/95	1627		X	2QSS08	1	1						
2QSS09	12/11/95	1637		X	2QSS09	1	1						
													Shipment is not Complete

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Cathy Sullivan	12/11/95 1720	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) / Date / Time
FedEx	12-12-95 1025	12-12-95 1025

Ship To: Ecology & Environment, ASC
4493 Walden Avenue
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Airbill Number: 5177085196

Chain of Custody Seal Numbers: 44509-10

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

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recycled paper

ecology and environment

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

PACKAGE RECEIPT #: 1627 NUMBER OF COOLERS: 1 DATE RECEIVED: 12.12.95

E&E Project #: _____ 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 @ sum

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

4 Where custody seals dated and signed? _____ YES NO

if YES, enter Date: 12.11.95 Name: _____

5 Initial here to acknowledge receipt of cooler(s): _____

B Unpacking Phase:

Date Cooler(s) Opened: 12.12.95 C-O-C Numbers: _____

Coolers Opened By(print): J. Hendricks (sign): _____

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: 12.12.95

Samples logged in By(print): J. Hendricks (sign): _____

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? ND 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°
5177085196	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.:9502.852 SAS No.: _____ SDG No.:37296_

SOW No.: ILM03.0

EPA Sample No.	Lab Sample ID
1QSS01	37296
1QSS02	37297
1QSS03	37298
1QSS04	37299
1QSS05	37300
1QSS06	37301
1QSS07	37302
1QSS08	37303
1QSS09	37304
1QSS09D	37306
1QSS10	37305
1QSS11	37307
1QSS12	37308
2QSS01	37309
2QSS02	37310
2QSS03	37311
2QSS03D	37312
2QSS04	37313
2QSS05	37314
2QSS06	37315

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: 12-17-95 Title: Laboratory Manager

TAT - CHICAGO

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.852 SAS No.: _____ SDG No.:37296_

SOW No.: ILM03.0

EPA Sample No.	Lab Sample ID
_2QSS06D_____	_37315D_____
_2QSS06S_____	_37315S_____

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: 12-19-95 Title: Laboratory Manager

TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS01

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37296

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

% Solids: _89.7

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__	7.5			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	2.8			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	169			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	481			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	39.4			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____	1560			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

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.

1QSS02

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37297

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

% Solids: _88.9

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__	6.5			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	2.7			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	145			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	636			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	38.3			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____	1320			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

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.

1QSS03

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37298

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

% Solids: _82.6

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__	8.4			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.44	B		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	37.6			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	114			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	20.1			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____	279			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

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.

1QSS04

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37299

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

% Solids: _89.7

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__	6.8			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___	34.4			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	116			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	17.8			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____	313			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

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.

1QSS05

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37300

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

% Solids: _84.0

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__	8.9	_		P_
7440-39-3	Barium__		_		NR
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	2.3	_		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_		_		NR
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___	51.3	_		P_
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	177	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__		_		NR
7440-02-0	Nickel___	21.7	_		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____	472	_		P_
_____	Cyanide__		_		NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

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TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS06

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37301

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

% 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__	5.2			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.91			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	23.5			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	100			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	15.1			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____	217			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

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.

1QSS07

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37302

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

% Solids: _83.3

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__	8.2			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	3.3			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	207			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	634			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	48.5			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____	2010			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

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.

1QSS08

Lab Name: ECOLOGY_AND_ENVIRONMENT_ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37303

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

% Solids: _82.4

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__	8.4			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___	58.3			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	382			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	26.0			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____	543			P_
_____	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

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TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS09

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37304

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

% Solids: _80.6

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__	6.5			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.04	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	49.2			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	111			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	22.4			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____	479			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS09D

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37306

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

% Solids: _81.8

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__	6.7	_		P_
7440-39-3	Barium___		_		NR
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	0.04	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_		_		NR
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___	42.9	_		P_
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	146	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__		_		NR
7440-02-0	Nickel___	26.7	_		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____	417	_		P_
	Cyanide__		_		NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:
_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS10

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37305

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

% Solids: _86.9

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__	14.1			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	150			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	1340			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	30.9			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____	1280			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS11

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37307

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

% Solids: _85.7

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__	20.7			P
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	7.8			P
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	223			P
7439-89-6	Iron____				NR
7439-92-1	Lead____	1640			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	22.8			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____	1200			P
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1QSS12

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37308

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

% Solids: _77.9

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__	18.7			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	62.3			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____	1910			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	12.1			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____	2540			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS01

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37309

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

% Solids: _81.9

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__	8.0			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.56	B		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	140			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	148			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	19.5			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____	394			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS02

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37310

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

% Solids: _79.8

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__	8.6			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.95			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	47.1			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	320			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	21.0			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____	402			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS03

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37311

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

% Solids: _80.9

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__	6.8			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.34	B		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	48.2			P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	246			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_____	328			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:
_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

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TAT - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS03D

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37312

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

% Solids: _81.6

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__	6.6			P
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	0.23	B		P
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	50.7			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___	17.6			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____	326			P
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:
_____ARTIFACTS_=_ROCKS,_STICKS,_LEAVES_____

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TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS04

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37313

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

% Solids: _87.9

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__	8.6			P_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	69.1			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	332			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	22.3			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____	578			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS05

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37314

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

% Solids: _69.8

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__	64.8			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___	378			P
7439-89-6	Iron____				NR
7439-92-1	Lead____	825			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	42.1			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____	1670			P
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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TAT - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2QSS06

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

Matrix (soil/water): SOIL_ Lab Sample ID: 37315

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

% Solids: _82.9

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__	8.9			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___	67.4			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	437			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___	26.2			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____	700			P_
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: M_____

Color After: Y_____ Clarity After: C_____ Artifacts: YES___

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

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TAT - CHICAGO

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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	1021.42	102.1	500.0	511.11	102.2	523.24	104.6	P
Barium									NR
Beryllium									NR
Cadmium	500.0	501.23	100.2	500.0	494.89	99.0	508.91	101.8	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper	1000.0	1008.11	100.8	500.0	496.97	99.4	518.51	103.7	P
Iron									NR
Lead	1000.0	1022.81	102.3	1000.0	999.72	100.0	1023.41	102.3	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	1000.0	1038.02	103.8	500.0	496.37	99.3	509.36	101.9	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc	1000.0	1020.15	102.0	500.0	501.14	100.2	514.43	102.9	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.: 9502.852 SAS No.: _____ SDG No.: 37296_

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	516.06	103.2	518.08	103.6	P
Barium									NR
Beryllium									NR
Cadmium				500.0	499.64	99.9	501.79	100.4	P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper				500.0	510.97	102.2	509.79	102.0	P
Iron									NR
Lead				1000.0	1007.56	100.8	1012.57	101.3	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	502.53	100.5	504.62	100.9	P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc				500.0	506.52	101.3	507.74	101.5	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.:9502.852 SAS No.: _____ SDG No.: 37296_

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	526.33	105.3			P
Barium__									NR
Beryllium									NR
Cadmium__				500.0	506.93	101.4			P
Calcium__									NR
Chromium_									NR
Cobalt___									NR
Copper___				500.0	516.15	103.2			P
Iron____									NR
Lead____				1000.0	1017.95	101.8			P
Magnesium									NR
Manganese									NR
Mercury__									NR
Nickel___				500.0	508.55	101.7			P
Potassium									NR
Selenium_									NR
Silver___									NR
Sodium___									NR
Thallium_									NR
Vanadium_									NR
Zinc____				500.0	512.58	102.5			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

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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				20.0	22.64	113.2	21.77	108.8
Barium								
Beryllium								
Cadmium				10.0	9.89	98.9	10.16	101.6
Calcium								
Chromium								
Cobalt								
Copper				50.0	51.60	103.2	53.66	107.3
Iron								
Lead				6.0	6.15	102.5	6.99	116.5
Magnesium								
Manganese								
Mercury								
Nickel				80.0	84.32	105.4	86.67	108.3
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc				40.0	41.65	104.1	43.20	108.0

TAT - CHICAGO

3
BLANKS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9502.852 SAS No.: _____ SDG No.: 37296_

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	3.1	U	3.5	B	3.1	U	3.1	U	0.310	U	P
Barium											NR
Beryllium											NR
Cadmium	0.3	U	0.3	U	0.3	U	0.3	U	0.030	U	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	0.751		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.:9502.852 SAS No.: _____ SDG No.: 37296_

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			0.4	B	0.3	U					P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper			1.8	U	1.8	U					P
Iron											NR
Lead			2.9	U	2.9	U					P
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.: 9502.852 SAS No: _____ SDG No.: 37296_

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	7	7.8		7	6.7	
Barium								
Beryllium								
Cadmium	23	873	-14	835.4	95.7	-14	854.5	97.9
Calcium								
Chromium								
Cobalt								
Copper	30	521	1	486.1	93.3	2	505.5	97.0
Iron								
Lead	67	888	7	877.9	98.9	4	895.6	100.9
Magnesium								
Manganese								
Mercury								
Nickel	31	894	9	853.8	95.5	10	875.0	97.9
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc	0	932	24	913.7	98.0	26	934.0	100.2

TAT - CHICAGO

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

2QSS06S

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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

% Solids for Sample: _82.9

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	246.4789		8.8815		241.25	98.5		P
Barium									NR
Beryllium									NR
Cadmium	75-125	7.0712		1.1542		6.03	98.1		P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper	75-125	97.4275		67.3566		30.16	99.7		P
Iron									NR
Lead		550.0084		437.3071		60.31	186.9		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	75-125	84.7877		26.1869		60.31	97.2		P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc		751.6429		699.8817		60.31	85.8		P
Cyanide									NR

Comments:

ARTIFACTS_=_ROCKS,_STICKS,_LEAVES

TAT - CHICAGO

6
DUPLICATES

EPA SAMPLE NO.

2QSS06D

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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

% Solids for Sample: _82.9 % Solids for Duplicate: __82.9

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		8.8815		8.4008		5.6		P
Barium								NR
Beryllium								NR
Cadmium	0.6	1.1542		1.6125		33.1		P
Calcium								NR
Chromium								NR
Cobalt								NR
Copper		67.3566		64.3081		4.6		P
Iron								NR
Lead		437.3071		441.5514		1.0		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel		26.1869		25.3896		3.1		P
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc		699.8817		666.9696		4.8		P
Cyanide								NR

TAT - CHICAGO

7

LABORATORY CONTROL SAMPLE

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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	99.8		80.0	120.0	99.8
Barium									
Beryllium									
Cadmium				100.0	101.9		80.0	120.0	101.9
Calcium									
Chromium									
Cobalt									
Copper				100.0	98.7		80.0	120.0	98.7
Iron									
Lead				100.0	100.2		80.0	120.0	100.2
Magnesium									
Manganese									
Mercury									
Nickel				100.0	102.1		80.0	120.0	102.1
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc				100.0	100.6		80.0	120.0	100.6
Cyanide									

TAT - CHICAGO

8
STANDARD ADDITION RESULTS

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract:_____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.:_____ SDG No.:37296_

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.

1QSS05L

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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	74.53		86.14		15.6		P
Barium							NR
Beryllium							NR
Cadmium	19.29		19.04	B	1.3		P
Calcium							NR
Chromium							NR
Cobalt							NR
Copper	430.64		438.16		1.7		P
Iron							NR
Lead	1489.59		1575.69		5.8		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel	182.16		243.37		33.6		P
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc	3966.89		4129.22		4.1		P

TAT - CHICAGO

10

Instrument Detection Limits (Quarterly)

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.: 37296_

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.: 9502.852 SAS No.: _____ SDG No.: 37296_

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.: 9502.852 SAS No.: _____ SDG No.: 37296_

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.:9502.852 SAS No.: _____ SDG No.:37296_

Method: P_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
1QSS01	12/15/95	1.00	100
1QSS02	12/15/95	1.00	100
1QSS03	12/15/95	1.00	100
1QSS04	12/15/95	1.00	100
1QSS05	12/15/95	1.00	100
1QSS06	12/15/95	1.00	100
1QSS07	12/15/95	1.00	100
1QSS08	12/15/95	1.00	100
1QSS09	12/15/95	1.00	100
1QSS09D	12/15/95	1.00	100
1QSS10	12/15/95	1.00	100
1QSS11	12/15/95	1.00	100
1QSS12	12/15/95	1.00	100
2QSS01	12/15/95	1.00	100
2QSS02	12/15/95	1.00	100
2QSS03	12/15/95	1.00	100
2QSS03D	12/15/95	1.00	100
2QSS04	12/15/95	1.00	100
2QSS05	12/15/95	1.00	100
2QSS06	12/15/95	1.00	100
2QSS06D	12/15/95	1.00	100
2QSS06S	12/15/95	1.00	100
LCSS	12/15/95	1.00	100
PBS	12/15/95	1.00	100

TAT - CHICAGO

14
ANALYSIS RUN LOG

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.: 9502.852 SAS No.: _____ SDG No.:37296_

Instrument ID Number: OPTIMA_____ Method: P_

Start Date: 12/15/95 End Date: 12/15/95

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	0845				X			X				X		X				X							X	
S	1.00	0848				X			X				X		X				X							X	
ICV	1.00	0852				X			X				X		X				X							X	
ICB	1.00	0857				X			X				X		X				X							X	
CCV	1.00	0902				X			X				X		X				X							X	
CCB	1.00	0907				X			X				X		X				X							X	
ICSA	1.00	0910				X			X				X		X				X							X	
ICSAB	1.00	0916				X			X				X		X				X							X	
CRI	1.00	0921				X			X				X		X				X							X	
PBS	1.00	0926				X			X				X		X				X							X	
LCSS	1.00	0930				X			X				X		X				X							X	
1QSS01	1.00	0933				X			X				X		X				X								
1QSS02	1.00	0937				X			X				X		X				X								
1QSS03	1.00	0942				X			X				X		X				X							X	
1QSS04	1.00	0946				X			X				X		X				X							X	
1QSS05	1.00	0950				X			X				X		X				X							X	
CCV	1.00	0955				X			X				X		X				X							X	
CCB	1.00	1000				X			X				X		X				X							X	
1QSS06	1.00	1005				X			X				X		X				X							X	
1QSS07	1.00	1008				X			X				X		X				X								
1QSS08	1.00	1012				X			X				X		X				X							X	
1QSS09	1.00	1015				X			X				X		X				X							X	
1QSS10	1.00	1018				X			X				X						X								
1QSS09D	1.00	1024				X			X				X		X				X							X	
1QSS11	1.00	1028				X			X				X						X								
1QSS12	1.00	1032				X			X				X						X								
2QSS01	1.00	1035				X			X				X		X				X							X	
2QSS02	1.00	1041				X			X				X		X				X							X	
CCV	1.00	1050				X			X				X		X				X							X	
CCB	1.00	1055				X			X				X		X				X							X	
2QSS03	1.00	1100				X			X				X		X				X							X	
2QSS03D	1.00	1105				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.: 9502.852 SAS No.: _____ SDG No.:37296_

Instrument ID Number: OPTIMA_____ Method: P_

Start Date: 12/15/95 End Date: 12/15/95

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
2QSS04	1.00	1108				X			X				X		X				X							X	
2QSS05	1.00	1112				X			X				X		X				X								
2QSS06	1.00	1116				X			X				X		X				X							X	
2QSS06S	1.00	1120				X			X				X		X				X							X	
2QSS06D	1.00	1123				X			X				X		X				X							X	
1QSS05L	5.00	1128				X			X				X		X				X							X	
ZZZZZZ	1.00	1132																									
ZZZZZZ	1.00	1138																									
CCV	1.00	1144																									
CCB	1.00	1147																									
CCV	1.00	1152				X			X				X		X				X							X	
CCB	1.00	1157				X			X				X		X				X							X	
1QSS01	10.00	1200																								X	
1QSS02	10.00	1202																								X	
1QSS07	10.00	1204																								X	
2QSS05	10.00	1205																								X	
1QSS10	10.00	1208													X											X	
1QSS11	10.00	1211													X											X	
1QSS12	10.00	1215													X											X	
ICSA	1.00	1218				X			X				X		X				X							X	
ICSAB	1.00	1223				X			X				X		X				X							X	
CRI	1.00	1228				X			X				X		X				X							X	
CCV	1.00	1233				X			X				X		X				X							X	
CCB	1.00	1238				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

12/15/95
08:40:06

Method Name: 9512150839 Read Delay: 70 Rinse Time: 0 Dil:
Format Name: clpf Replicates: 2 Data Dsp: SPEC4 Wt/Vol:
Comments: Standard Condition Default Values

Raw Data
12/15/95
DEM

Command?

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

Δ 9502.852 As, Cd, Co, Ni, Pb, Zn

Δ PBS, LCS i30

recycled paper

12/15/95 08:43
blank

rep	1	ASILM	sf	-18.1
rep	1	CD	sf	-39.5
rep	1	CU	sf	-271.6
rep	1	NI	sf	-38.3
rep	1	PBILM	sf	1.2
rep	1	ZN	sf	81.8
rep	2	ASILM	sf	-18.1
rep	2	CD	sf	-41.7
rep	2	CU	sf	-267.6
rep	2	NI	sf	-33.2
rep	2	PBILM	sf	5.1
rep	2	ZN	sf	81.4

12/15/95 08:45
blank

ASILM	av	-18.11	sf	sd	0.040	%cv	0.22
CD	av	-40.61	sf	sd	1.569	%cv	3.86
CU	av	-269.62	sf	sd	2.837	%cv	1.05
NI	av	-35.75	sf	sd	3.641	%cv	10.18
PBILM	av	3.12	sf	sd	2.766	%cv	88.75
ZN	av	81.63	sf	sd	0.307	%cv	0.38

12/15/95 08:47
#1 standard

rep	1	ASILM	sf	812.1
rep	1	CD	sf	23949.3
rep	1	CU	sf	75188.3
rep	1	NI	sf	8109.2
rep	1	PBILM	sf	3939.2
rep	1	ZN	sf	22526.7
rep	2	ASILM	sf	811.3
rep	2	CD	sf	23481.9
rep	2	CU	sf	72915.1
rep	2	NI	sf	8085.4
rep	2	PBILM	sf	3933.0
rep	2	ZN	sf	21934.8

12/15/95 08:48
#1 standard

ASILM	av	811.73	sf	sd	0.563	%cv	0.07	conc	1000.0
CD	av	23715.64	sf	sd	330.512	%cv	1.39	conc	1000.0
CU	av	74051.72	sf	sd	1607.387	%cv	2.17	conc	1000.0
NI	av	8097.33	sf	sd	16.843	%cv	0.21	conc	1000.0
PBILM	av	3936.12	sf	sd	4.390	%cv	0.11	conc	2000.0
ZN	av	22230.72	sf	sd	418.541	%cv	1.88	conc	1000.0

12/15/95 08:51
ICV

rep	1	ASILM	conc	1016.51	ppb
rep	1	CD	conc	501.21	ppb
rep	1	CU	conc	998.49	ppb
rep	1	NI	conc	1037.52	ppb
rep	1	PBILM	conc	1023.66	ppb
rep	1	ZN	conc	1007.25	ppb
rep	2	ASILM	conc	1026.32	ppb

rep	2	CD	conc	501.26	ppb
rep	2	CU	conc	1017.74	ppb
rep	2	NI	conc	1038.51	ppb
rep	2	PBILM	conc	1021.96	ppb
rep	2	ZN	conc	1033.06	ppb

12/15/95 08:52
ICV

ASILM	av	1021.42	ppb	sd	6.936	%cv	0.68
CD	av	501.23	ppb	sd	0.034	%cv	0.01
CU	av	1008.11	ppb	sd	13.611	%cv	1.35
NI	av	1038.02	ppb	sd	0.699	%cv	0.07
PBILM	av	1022.81	ppb	sd	1.199	%cv	0.12
ZN	av	1020.15	ppb	sd	18.248	%cv	1.79

12/15/95 08:55
ICB

rep	1	ASILM	conc	3.34	ppb
rep	1	CD	conc	0.20	ppb
rep	1	CU	conc	-0.03	ppb
rep	1	NI	conc	-0.36	ppb
rep	1	PBILM	conc	-1.16	ppb
rep	1	ZN	conc	0.27	ppb
rep	2	ASILM	conc	1.09	ppb
rep	2	CD	conc	0.16	ppb
rep	2	CU	conc	-0.06	ppb
rep	2	NI	conc	-0.22	ppb
rep	2	PBILM	conc	1.02	ppb
rep	2	ZN	conc	0.06	ppb

12/15/95 08:57
ICB

ASILM	av	2.21	ppb	sd	1.587	%cv	71.69
CD	av	0.18	ppb	sd	0.029	%cv	16.64
CU	av	-0.05	ppb	sd	0.026	%cv	57.22
NI	av	-0.29	ppb	sd	0.097	%cv	33.90
PBILM	av	-0.07	ppb	sd	1.539	%cv	2114.
ZN	av	0.16	ppb	sd	0.148	%cv	91.94

12/15/95 09:00
CCV1

rep	1	ASILM	conc	513.33	ppb
rep	1	CD	conc	495.89	ppb
rep	1	CU	conc	498.50	ppb
rep	1	NI	conc	497.30	ppb
rep	1	PBILM	conc	1000.84	ppb
rep	1	ZN	conc	502.24	ppb
rep	2	ASILM	conc	508.89	ppb
rep	2	CD	conc	493.88	ppb
rep	2	CU	conc	495.45	ppb
rep	2	NI	conc	495.43	ppb
rep	2	PBILM	conc	998.61	ppb
rep	2	ZN	conc	500.04	ppb

12/15/95 09:02
CCV1

ASILM	av	511.11	ppb	sd	3.144	%cv	0.62
CD	av	494.89	ppb	sd	1.421	%cv	0.29

CU	av	496.97 ppb	sd	2.155	%cv	0.43
NI	av	496.37 ppb	sd	1.382	%cv	0.27
PBILM	av	999.72 ppb	sd	1.575	%cv	0.16
ZN	av	501.14 ppb	sd	1.560	%cv	0.31

12/15/95 09:05
CCB1

rep	1	ASILM	conc	2.37	ppb
rep	1	CD	conc	0.13	ppb
rep	1	CU	conc	0.04	ppb
rep	1	NI	conc	0.13	ppb
rep	1	PBILM	conc	0.91	ppb
rep	1	ZN	conc	0.01	ppb
rep	2	ASILM	conc	4.62	ppb
rep	2	CD	conc	0.04	ppb
rep	2	CU	conc	-0.06	ppb
rep	2	NI	conc	0.10	ppb
rep	2	PBILM	conc	1.07	ppb
rep	2	ZN	conc	0.07	ppb

12/15/95 09:07
CCB1

ASILM	av	3.49 ppb	sd	1.587	%cv	45.43
CD	av	0.09 ppb	sd	0.059	%cv	68.42
CU	av	-0.01 ppb	sd	0.076	%cv	764.1
NI	av	0.12 ppb	sd	0.027	%cv	23.20
PBILM	av	0.99 ppb	sd	0.116	%cv	11.73
ZN	av	0.04 ppb	sd	0.040	%cv	95.90

12/15/95 09:10
ICSAI

rep	1	ASILM	conc	6.72	ppb
rep	1	CD	conc	-13.62	ppb
rep	1	CU	conc	1.37	ppb
rep	1	NI	conc	9.08	ppb
rep	1	PBILM	conc	4.66	ppb
rep	1	ZN	conc	23.51	ppb
rep	2	ASILM	conc	7.87	ppb
rep	2	CD	conc	-13.90	ppb
rep	2	CU	conc	1.39	ppb
rep	2	NI	conc	9.88	ppb
rep	2	PBILM	conc	8.41	ppb
rep	2	ZN	conc	24.23	ppb

12/15/95 09:10
ICSAI

ASILM	av	7.29 ppb	sd	0.815	%cv	11.18
CD	av	-13.76 ppb	sd	0.203	%cv	1.48
CU	av	1.38 ppb	sd	0.015	%cv	1.07
NI	av	9.48 ppb	sd	0.564	%cv	5.95
PBILM	av	6.54 ppb	sd	2.650	%cv	40.54
ZN	av	23.87 ppb	sd	0.513	%cv	2.15

12/15/95 09:14
ICSABI

rep	1	ASILM	conc	6.59	ppb
rep	1	CD	conc	834.41	ppb
rep	1	CU	conc	485.08	ppb

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ecology and environment

rep	1	NI	conc	853.43	ppb
rep	1	PBILM	conc	876.54	ppb
rep	1	ZN	conc	913.01	ppb
rep	2	ASILM	conc	9.05	ppb
rep	2	CD	conc	836.49	ppb
rep	2	CU	conc	487.03	ppb
rep	2	NI	conc	854.14	ppb
rep	2	PBILM	conc	879.19	ppb
rep	2	ZN	conc	914.37	ppb

12/15/95 09:16
ICSABI

ASILM	av	7.82	ppb	sd	1.739	%cv	22.25
CD	av	835.45	ppb	sd	1.468	%cv	0.18
CU	av	486.05	ppb	sd	1.373	%cv	0.28
NI	av	853.79	ppb	sd	0.502	%cv	0.06
PBILM	av	877.86	ppb	sd	1.873	%cv	0.21
ZN	av	913.69	ppb	sd	0.963	%cv	0.11

12/15/95 09:19
CRII

rep	1	ASILM	conc	23.24	ppb
rep	1	CD	conc	9.83	ppb
rep	1	CU	conc	51.64	ppb
rep	1	NI	conc	84.51	ppb
rep	1	PBILM	conc	6.03	ppb
rep	1	ZN	conc	41.80	ppb
rep	2	ASILM	conc	22.05	ppb
rep	2	CD	conc	9.95	ppb
rep	2	CU	conc	51.55	ppb
rep	2	NI	conc	84.13	ppb
rep	2	PBILM	conc	6.26	ppb
rep	2	ZN	conc	41.49	ppb

12/15/95 09:21
CRII

ASILM	av	22.65	ppb	sd	0.837	%cv	3.69
CD	av	9.89	ppb	sd	0.082	%cv	0.83
CU	av	51.60	ppb	sd	0.066	%cv	0.13
NI	av	84.32	ppb	sd	0.269	%cv	0.32
PBILM	av	6.15	ppb	sd	0.166	%cv	2.71
ZN	av	41.65	ppb	sd	0.222	%cv	0.53

12/15/95 09:25
PBS 130

rep	1	ASILM	conc	4.74	ppb
rep	1	CD	conc	0.25	ppb
rep	1	CU	conc	-0.05	ppb
rep	1	NI	conc	0.80	ppb
rep	1	PBILM	conc	8.46	ppb
rep	1	ZN	conc	-1.12	ppb
rep	2	ASILM	conc	1.22	ppb
rep	2	CD	conc	0.27	ppb
rep	2	CU	conc	-0.12	ppb
rep	2	NI	conc	0.40	ppb
rep	2	PBILM	conc	6.55	ppb
rep	2	ZN	conc	-1.08	ppb

12/15/95 09:26 PBS1
PBS 130

ASILM	av	2.98 ppb	sd	2.490	%cv	83.48
CD	av	0.26 ppb	sd	0.009	%cv	3.35
CU	av	-0.08 ppb	sd	0.045	%cv	53.56
NI	av	0.60 ppb	sd	0.287	%cv	47.88
PBILM	av	7.51 ppb	sd	1.347	%cv	17.95
ZN	av	-1.10 ppb	sd	0.029	%cv	2.60

12/15/95 09:29
LCS 130

rep	1	ASILM	conc	1002.37	ppb
rep	1	CD	conc	1017.97	ppb
rep	1	CU	conc	980.40	ppb
rep	1	NI	conc	1021.87	ppb
rep	1	PBILM	conc	1004.20	ppb
rep	1	ZN	conc	1010.06	ppb
rep	2	ASILM	conc	993.32	ppb
rep	2	CD	conc	1020.47	ppb
rep	2	CU	conc	993.87	ppb
rep	2	NI	conc	1020.14	ppb
rep	2	PBILM	conc	1000.51	ppb
rep	2	ZN	conc	1001.79	ppb

12/15/95 09:30 LCSS1
LCS 130

ASILM	av	997.84 ppb	sd	6.398	%cv	0.64
CD	av	1019.22 ppb	sd	1.769	%cv	0.17
CU	av	987.13 ppb	sd	9.529	%cv	0.97
NI	av	1021.00 ppb	sd	1.220	%cv	0.12
PBILM	av	1002.36 ppb	sd	2.606	%cv	0.26
ZN	av	1005.92 ppb	sd	5.848	%cv	0.58

9502.852

12/15/95 09:33
37296

rep	1	ASILM	conc	67.84	ppb
rep	1	CD	conc	25.20	ppb
rep	1	CU	conc	1521.63	ppb
rep	1	NI	conc	353.60	ppb
rep	1	PBILM	conc	4311.68	ppb
rep	1	ZN	conc	12084.49	ppb
rep	2	ASILM	conc	67.53	ppb
rep	2	CD	conc	25.04	ppb
rep	2	CU	conc	1514.87	ppb
rep	2	NI	conc	352.87	ppb
rep	2	PBILM	conc	4317.35	ppb
rep	2	ZN	conc	11988.66	ppb

Calculation
Cu in 1QSS01

$$\frac{1518.25\ \mu g/L \times 0.1\ L\ \text{final volume}}{1.0\ g \times 0.897\ \text{solids}} = 169\ mg/kg$$

12/15/95 09:33 1QSS01
37296

ASILM	av	67.69 ppb	sd	0.224	%cv	0.33
CD	av	25.12 ppb	sd	0.109	%cv	0.43
CU	av	1518.25 ppb	sd	4.780	%cv	0.31
NI	av	353.24 ppb	sd	0.513	%cv	0.15
PBILM	av	4314.51 ppb	sd	4.011	%cv	0.09
ZN	av	~~12036.58 ppb~~ DIL	sd	67.758	%cv	0.56

Ben 12/15/95

12/15/95 09:36
37297

rep	1	ASILM	conc	54.88	ppb
rep	1	CD	conc	22.73	ppb
rep	1	CU	conc	1291.01	ppb
rep	1	NI	conc	340.52	ppb
rep	1	PBILM	conc	5660.42	ppb
rep	1	ZN	conc	10677.88	ppb
rep	2	ASILM	conc	60.54	ppb
rep	2	CD	conc	24.88	ppb
rep	2	CU	conc	1286.27	ppb
rep	2	NI	conc	339.87	ppb
rep	2	PBILM	conc	5641.68	ppb
rep	2	ZN	conc	10609.27	ppb

12/15/95 09:37 1QSS02
37297

ASILM	av	57.71	ppb	sd	4.005	%cv 6.94
CD	av	23.81	ppb	sd	1.519	%cv 6.38
CU	av	1288.64	ppb	sd	3.348	%cv 0.26
NI	av	340.20	ppb	sd	0.463	%cv 0.14
PBILM	av	5651.05	ppb	sd	13.251	%cv 0.23
ZN	av	~~10643.57 ppb~~ DIL		sd	48.516	%cv 0.46

12/15/95 09:40
37298

rep	1	ASILM	conc	70.55	ppb
rep	1	CD	conc	3.50	ppb
rep	1	CU	conc	310.56	ppb
rep	1	NI	conc	165.72	ppb
rep	1	PBILM	conc	937.61	ppb
rep	1	ZN	conc	2309.75	ppb
rep	2	ASILM	conc	68.99	ppb
rep	2	CD	conc	3.71	ppb
rep	2	CU	conc	310.39	ppb
rep	2	NI	conc	166.84	ppb
rep	2	PBILM	conc	939.21	ppb
rep	2	ZN	conc	2304.74	ppb

12/15/95 09:42 1QSS03
37298

ASILM	av	69.77	ppb	sd	1.109	%cv 1.59
CD	av	3.61	ppb	sd	0.143	%cv 3.97
CU	av	310.48	ppb	sd	0.117	%cv 0.04
NI	av	166.28	ppb	sd	0.785	%cv 0.47
PBILM	av	938.41	ppb	sd	1.130	%cv 0.12
ZN	av	2307.25	ppb	sd	3.544	%cv 0.15

12/15/95 09:45
37299

rep	1	ASILM	conc	60.94	ppb
rep	1	CD	conc	11.20	ppb
rep	1	CU	conc	308.42	ppb
rep	1	NI	conc	159.17	ppb
rep	1	PBILM	conc	1039.34	ppb
rep	1	ZN	conc	2806.09	ppb
rep	2	ASILM	conc	61.83	ppb

rep	2	CD	conc	11.39	ppb
rep	2	CU	conc	308.93	ppb
rep	2	NI	conc	159.50	ppb
rep	2	PBILM	conc	1036.54	ppb
rep	2	ZN	conc	2800.19	ppb

12/15/95 09:46
37299 1Q SS04

ASILM	av	61.39	ppb	sd	0.629	%cv 1.03
CD	av	11.29	ppb	sd	0.134	%cv 1.19
CU	av	308.67	ppb	sd	0.361	%cv 0.12
NI	av	159.34	ppb	sd	0.237	%cv 0.15
PBILM	av	1037.94	ppb	sd	1.979	%cv 0.19
ZN	av	2803.14	ppb	sd	4.169	%cv 0.15

12/15/95 09:49
37300

rep	1	ASILM	conc	72.85	ppb
rep	1	CD	conc	19.28	ppb
rep	1	CU	conc	427.84	ppb
rep	1	NI	conc	182.52	ppb
rep	1	PBILM	conc	1492.02	ppb
rep	1	ZN	conc	3942.31	ppb
rep	2	ASILM	conc	76.22	ppb
rep	2	CD	conc	19.31	ppb
rep	2	CU	conc	433.45	ppb
rep	2	NI	conc	181.81	ppb
rep	2	PBILM	conc	1487.17	ppb
rep	2	ZN	conc	3991.47	ppb

12/15/95 09:50
37300 1Q SS05

ASILM	av	74.53	ppb	sd	2.384	%cv 3.20
CD	av	19.29	ppb	sd	0.020	%cv 0.10
CU	av	430.64	ppb	sd	3.964	%cv 0.92
NI	av	182.16	ppb	sd	0.504	%cv 0.28
PBILM	av	1489.59	ppb	sd	3.435	%cv 0.23
ZN	av	3966.89	ppb	sd	34.766	%cv 0.88

12/15/95 09:53
CCV2

rep	1	ASILM	conc	524.60	ppb
rep	1	CD	conc	509.81	ppb
rep	1	CU	conc	519.34	ppb
rep	1	NI	conc	510.06	ppb
rep	1	PBILM	conc	1025.68	ppb
rep	1	ZN	conc	516.38	ppb
rep	2	ASILM	conc	521.88	ppb
rep	2	CD	conc	508.02	ppb
rep	2	CU	conc	517.69	ppb
rep	2	NI	conc	508.66	ppb
rep	2	PBILM	conc	1021.14	ppb
rep	2	ZN	conc	512.48	ppb

12/15/95 09:55
CCV2

ASILM	av	523.24	ppb	sd	1.926	%cv 0.37
CD	av	508.91	ppb	sd	1.271	%cv 0.25

CU	av	518.52 ppb	sd	1.162	%cv	0.22
NI	av	509.36 ppb	sd	0.987	%cv	0.19
PBILM	av	1023.41 ppb	sd	3.213	%cv	0.31
ZN	av	514.43 ppb	sd	2.757	%cv	0.54

12/15/95 09:58
CCB2

rep	1	ASILM	conc	1.81	ppb
rep	1	CD	conc	0.24	ppb
rep	1	CU	conc	0.21	ppb
rep	1	NI	conc	-0.11	ppb
rep	1	PBILM	conc	0.74	ppb
rep	1	ZN	conc	0.64	ppb
rep	2	ASILM	conc	1.80	ppb
rep	2	CD	conc	0.12	ppb
rep	2	CU	conc	0.33	ppb
rep	2	NI	conc	-0.19	ppb
rep	2	PBILM	conc	0.96	ppb
rep	2	ZN	conc	0.47	ppb

12/15/95 10:00
CCB2

ASILM	av	1.80 ppb	sd	0.008	%cv	0.42
CD	av	0.18 ppb	sd	0.087	%cv	49.13
CU	av	0.27 ppb	sd	0.079	%cv	29.37
NI	av	-0.15 ppb	sd	0.056	%cv	38.22
PBILM	av	0.85 ppb	sd	0.151	%cv	17.71
ZN	av	0.55 ppb	sd	0.116	%cv	21.05

12/15/95 10:03
37301

rep	1	ASILM	conc	50.23	ppb
rep	1	CD	conc	7.99	ppb
rep	1	CU	conc	211.73	ppb
rep	1	NI	conc	136.19	ppb
rep	1	PBILM	conc	906.44	ppb
rep	1	ZN	conc	1964.74	ppb
rep	2	ASILM	conc	44.14	ppb
rep	2	CD	conc	8.41	ppb
rep	2	CU	conc	211.82	ppb
rep	2	NI	conc	136.71	ppb
rep	2	PBILM	conc	905.00	ppb
rep	2	ZN	conc	1962.73	ppb

12/15/95 10:05 IQ SS06
37301

ASILM	av	47.19 ppb	sd	4.307	%cv	9.13
CD	av	8.20 ppb	sd	0.297	%cv	3.62
CU	av	211.77 ppb	sd	0.063	%cv	0.03
NI	av	136.45 ppb	sd	0.373	%cv	0.27
PBILM	av	905.72 ppb	sd	1.016	%cv	0.11
ZN	av	1963.73 ppb	sd	1.423	%cv	0.07

12/15/95 10:07
37302

rep	1	ASILM	conc	71.83	ppb
rep	1	CD	conc	29.09	ppb
rep	1	CU	conc	1701.24	ppb

rep	1	NI	conc	424.46	ppb
rep	1	PBILM	conc	5287.47	ppb
rep	1	ZN	conc	14528.15	ppb
rep	2	ASILM	conc	65.22	ppb
rep	2	CD	conc	25.16	ppb
rep	2	CU	conc	1749.19	ppb
rep	2	NI	conc	384.01	ppb
rep	2	PBILM	conc	5340.11	ppb
rep	2	ZN	conc	14815.91	ppb

12/15/95 10:08 1QSS07
37302

ASILM	av	68.52 ppb	sd	4.674	%cv	6.82
CD	av	27.13 ppb	sd	2.775	%cv	10.23
CU	av	1725.21 ppb	sd	33.903	%cv	1.97
NI	av	404.24 ppb	sd	28.600	%cv	7.08
PBILM	av	5283.79 ppb	sd	79.649	%cv	1.51
ZN	av	~~14672.03 ppb~~ DIL	sd	203.480	%cv	1.39

12/15/95

12/15/95 10:11
37303

rep	1	ASILM	conc	67.37	ppb
rep	1	CD	conc	9.88	ppb
rep	1	CU	conc	489.88	ppb
rep	1	NI	conc	215.05	ppb
rep	1	PBILM	conc	3203.04	ppb
rep	1	ZN	conc	4527.44	ppb
rep	2	ASILM	conc	71.05	ppb
rep	2	CD	conc	10.47	ppb
rep	2	CU	conc	471.32	ppb
rep	2	NI	conc	213.30	ppb
rep	2	PBILM	conc	3099.79	ppb
rep	2	ZN	conc	4415.46	ppb

12/15/95 10:12 1QSS08
37303

ASILM	av	69.21 ppb	sd	2.599	%cv	3.76
CD	av	10.17 ppb	sd	0.416	%cv	4.08
CU	av	480.60 ppb	sd	13.127	%cv	2.73
NI	av	214.18 ppb	sd	1.236	%cv	0.58
PBILM	av	3151.42 ppb	sd	73.005	%cv	2.32
ZN	av	4471.45 ppb	sd	79.181	%cv	1.77

12/15/95 10:14
37304

rep	1	ASILM	conc	52.30	ppb
rep	1	CD	conc	-7.58	ppb
rep	1	CU	conc	395.31	ppb
rep	1	NI	conc	180.34	ppb
rep	1	PBILM	conc	897.17	ppb
rep	1	ZN	conc	3846.07	ppb
rep	2	ASILM	conc	52.38	ppb
rep	2	CD	conc	-11.46	ppb
rep	2	CU	conc	398.52	ppb
rep	2	NI	conc	180.67	ppb
rep	2	PBILM	conc	895.18	ppb
rep	2	ZN	conc	3869.58	ppb

12/15/95 10:15 IQ SS09
37304

ASILM	av	52.34 ppb	sd	0.054	%cv	0.10
CD	av	-9.52 ppb	sd	2.741	%cv	28.79
CU	av	396.92 ppb	sd	2.273	%cv	0.57
NI	av	180.51 ppb	sd	0.233	%cv	0.13
PBILM	av	896.18 ppb	sd	1.408	%cv	0.16
ZN	av	3857.82 ppb	sd	16.625	%cv	0.43

12/15/95 10:17
37305

rep	1	ASILM	conc	124.42 ppb
rep	1	CD	conc	35.60 ppb
rep	1	CU	conc	1301.72 ppb
rep	1	NI	conc	268.48 ppb
rep	1	PBILM	conc	10700.09 ppb
rep	1	ZN	conc	10299.58 ppb
rep	2	ASILM	conc	120.43 ppb
rep	2	CD	conc	34.45 ppb
rep	2	CU	conc	1309.94 ppb
rep	2	NI	conc	269.05 ppb
rep	2	PBILM	conc	10799.01 ppb
rep	2	ZN	conc	10351.66 ppb

12/15/95 10:18 IQ SS10
37305

ASILM	av	122.43 ppb	sd	2.824	%cv	2.31
CD	av	35.02 ppb	sd	0.817	%cv	2.33
CU	av	1305.83 ppb	sd	5.814	%cv	0.45
NI	av	268.77 ppb	sd	0.405	%cv	0.15
PBILM	av	~~10749.55 ppb~~ DIL	sd	69.950	%cv	0.65
ZN	av	~~10325.62 ppb~~ BEM 12/15/95	sd	36.825	%cv	0.36

12/15/95 10:22
37306

rep	1	ASILM	conc	54.88 ppb
rep	1	CD	conc	-0.06 ppb
rep	1	CU	conc	350.77 ppb
rep	1	NI	conc	218.29 ppb
rep	1	PBILM	conc	1194.53 ppb
rep	1	ZN	conc	3405.77 ppb
rep	2	ASILM	conc	54.86 ppb
rep	2	CD	conc	0.42 ppb
rep	2	CU	conc	351.21 ppb
rep	2	NI	conc	218.36 ppb
rep	2	PBILM	conc	1193.54 ppb
rep	2	ZN	conc	3412.09 ppb

12/15/95 10:24 IQ SS09D
37306

ASILM	av	54.87 ppb	sd	0.011	%cv	0.02
CD	av	0.18 ppb	sd	0.341	%cv	188.5
CU	av	350.99 ppb	sd	0.310	%cv	0.09
NI	av	218.32 ppb	sd	0.047	%cv	0.02
PBILM	av	1194.03 ppb	sd	0.700	%cv	0.06
ZN	av	3408.93 ppb	sd	4.464	%cv	0.13

12/15/95 10:27
37307

rep	1	ASILM	conc	179.60	ppb
rep	1	CD	conc	66.57	ppb
rep	1	CU	conc	1946.97	ppb
rep	1	NI	conc	195.40	ppb
rep	1	PBILM	conc	13458.39	ppb
rep	1	ZN	conc	9891.53	ppb
rep	2	ASILM	conc	175.55	ppb
rep	2	CD	conc	66.47	ppb
rep	2	CU	conc	1879.61	ppb
rep	2	NI	conc	195.44	ppb
rep	2	PBILM	conc	13143.57	ppb
rep	2	ZN	conc	9623.14	ppb

12/15/95 10:28 1Q SS11
37307

ASILM	av	177.57	ppb	sd	2.866	%cv	1.61
CD	av	66.52	ppb	sd	0.069	%cv	0.10
CU	av	1913.29	ppb	sd	47.634	%cv	2.49
NI	av	195.42	ppb	sd	0.032	%cv	0.02
PBILM	av	~~13300.98 ppb~~ DIL BL 12/15/95		sd	222.607	%cv	1.67
ZN	av	9757.34	ppb	sd	189.781	%cv	1.95

12/15/95 10:31
37308

rep	1	ASILM	conc	143.01	ppb
rep	1	CD	conc	479.79	ppb
rep	1	CU	conc	855.40	ppb
rep	1	NI	conc	94.97	ppb
rep	1	PBILM	conc	12956.00	ppb
rep	1	ZN	conc	17169.73	ppb
rep	2	ASILM	conc	148.75	ppb
rep	2	CD	conc	491.24	ppb
rep	2	CU	conc	871.44	ppb
rep	2	NI	conc	93.93	ppb
rep	2	PBILM	conc	13204.76	ppb
rep	2	ZN	conc	17406.68	ppb

12/15/95 10:32 1Q SS12
37308

ASILM	av	145.88	ppb	sd	4.056	%cv	2.78
CD	av	485.52	ppb	sd	8.099	%cv	1.67
CU	av	863.42	ppb	sd	11.341	%cv	1.31
NI	av	94.45	ppb	sd	0.735	%cv	0.78
PBILM	av	~~13080.38 ppb~~ DIL BL 12/15/95		sd	175.899	%cv	1.34
ZN	av	~~17288.21 ppb~~		sd	167.548	%cv	0.97

12/15/95 10:34
37309

rep	1	ASILM	conc	65.74	ppb
rep	1	CD	conc	4.79	ppb
rep	1	CU	conc	1159.05	ppb
rep	1	NI	conc	159.65	ppb
rep	1	PBILM	conc	1215.80	ppb
rep	1	ZN	conc	3234.50	ppb
rep	2	ASILM	conc	65.11	ppb

rep	2	CD	conc	4.43	ppb
rep	2	CU	conc	1141.87	ppb
rep	2	NI	conc	159.41	ppb
rep	2	PBILM	conc	1215.79	ppb
rep	2	ZN	conc	3213.49	ppb

12/15/95 10:35 2QSS01
37309

ASILM	av	65.43	ppb	sd	0.444	%cv	0.68
CD	av	4.61	ppb	sd	0.254	%cv	5.51
CU	av	1150.46	ppb	sd	12.144	%cv	1.06
NI	av	159.53	ppb	sd	0.166	%cv	0.10
PBILM	av	1215.80	ppb	sd	0.002	%cv	0.00
ZN	av	3224.00	ppb	sd	14.859	%cv	0.46

12/15/95 10:39
37310

rep	1	ASILM	conc	68.14	ppb
rep	1	CD	conc	7.53	ppb
rep	1	CU	conc	375.10	ppb
rep	1	NI	conc	167.48	ppb
rep	1	PBILM	conc	2548.74	ppb
rep	1	ZN	conc	3205.71	ppb
rep	2	ASILM	conc	68.83	ppb
rep	2	CD	conc	7.58	ppb
rep	2	CU	conc	377.03	ppb
rep	2	NI	conc	168.32	ppb
rep	2	PBILM	conc	2550.69	ppb
rep	2	ZN	conc	3214.25	ppb

12/15/95 10:41 2QSS02
37310

ASILM	av	68.49	ppb	sd	0.487	%cv	0.71
CD	av	7.55	ppb	sd	0.033	%cv	0.44
CU	av	376.06	ppb	sd	1.363	%cv	0.36
NI	av	167.90	ppb	sd	0.590	%cv	0.35
PBILM	av	2549.72	ppb	sd	1.376	%cv	0.05
ZN	av	3209.98	ppb	sd	6.035	%cv	0.19

12/15/95 10:48
CCV3

rep	1	ASILM	conc	516.26	ppb
rep	1	CD	conc	497.39	ppb
rep	1	CU	conc	509.75	ppb
rep	1	NI	conc	502.14	ppb
rep	1	PBILM	conc	1006.96	ppb
rep	1	ZN	conc	505.50	ppb
rep	2	ASILM	conc	515.87	ppb
rep	2	CD	conc	501.89	ppb
rep	2	CU	conc	512.19	ppb
rep	2	NI	conc	502.92	ppb
rep	2	PBILM	conc	1008.17	ppb
rep	2	ZN	conc	507.55	ppb

12/15/95 10:50
CCV3

ASILM	av	516.06	ppb	sd	0.269	%cv	0.05
CD	av	499.64	ppb	sd	3.183	%cv	0.64

CU	av	510.97 ppb	sd	1.725	%cv	0.34
NI	av	502.53 ppb	sd	0.549	%cv	0.11
PBILM	av	1007.56 ppb	sd	0.852	%cv	0.08
ZN	av	506.52 ppb	sd	1.451	%cv	0.29

12/15/95 10:54
CCB3

rep	1	ASILM	conc	2.92	ppb
rep	1	CD	conc	0.11	ppb
rep	1	CU	conc	0.49	ppb
rep	1	NI	conc	0.25	ppb
rep	1	PBILM	conc	1.52	ppb
rep	1	ZN	conc	1.21	ppb
rep	2	ASILM	conc	2.84	ppb
rep	2	CD	conc	0.15	ppb
rep	2	CU	conc	0.36	ppb
rep	2	NI	conc	0.38	ppb
rep	2	PBILM	conc	0.64	ppb
rep	2	ZN	conc	1.21	ppb

12/15/95 10:55
CCB3

ASILM	av	2.88 ppb	sd	0.055	%cv	1.92
CD	av	0.13 ppb	sd	0.027	%cv	20.09
CU	av	0.43 ppb	sd	0.091	%cv	21.18
NI	av	0.31 ppb	sd	0.093	%cv	29.65
PBILM	av	1.08 ppb	sd	0.622	%cv	57.61
ZN	av	1.21 ppb	sd	0.006	%cv	0.49

12/15/95 10:59
37311

rep	1	ASILM	conc	54.56	ppb
rep	1	CD	conc	2.56	ppb
rep	1	CU	conc	388.83	ppb
rep	1	NI	conc	145.35	ppb
rep	1	PBILM	conc	1985.19	ppb
rep	1	ZN	conc	2648.55	ppb
rep	2	ASILM	conc	54.91	ppb
rep	2	CD	conc	2.87	ppb
rep	2	CU	conc	391.34	ppb
rep	2	NI	conc	145.90	ppb
rep	2	PBILM	conc	1994.73	ppb
rep	2	ZN	conc	2655.56	ppb

12/15/95 11:00 2Q SS03
37311

ASILM	av	54.74 ppb	sd	0.246	%cv	0.45
CD	av	2.71 ppb	sd	0.222	%cv	8.18
CU	av	390.08 ppb	sd	1.772	%cv	0.45
NI	av	145.63 ppb	sd	0.385	%cv	0.26
PBILM	av	1989.96 ppb	sd	6.752	%cv	0.34
ZN	av	2652.06 ppb	sd	4.957	%cv	0.19

12/15/95 11:03
37312

rep	1	ASILM	conc	53.14	ppb
rep	1	CD	conc	1.99	ppb
rep	1	CU	conc	413.36	ppb

rep	1	NI	conc	143.86	ppb
rep	1	PBILM	conc	2278.88	ppb
rep	1	ZN	conc	2662.31	ppb
rep	2	ASILM	conc	54.53	ppb
rep	2	CD	conc	1.75	ppb
rep	2	CU	conc	413.72	ppb
rep	2	NI	conc	143.14	ppb
rep	2	PBILM	conc	2281.93	ppb
rep	2	ZN	conc	2661.24	ppb

12/15/95 11:05 2Q SS03D
37312

ASILM	av	53.84	ppb	sd	0.986	%cv 1.83
CD	av	1.87	ppb	sd	0.169	%cv 9.02
CU	av	413.54	ppb	sd	0.255	%cv 0.06
NI	av	143.50	ppb	sd	0.506	%cv 0.35
PBILM	av	2280.40	ppb	sd	2.159	%cv 0.09
ZN	av	2661.78	ppb	sd	0.755	%cv 0.03

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37313

rep	1	ASILM	conc	74.54	ppb
rep	1	CD	conc	34.68	ppb
rep	1	CU	conc	609.26	ppb
rep	1	NI	conc	196.46	ppb
rep	1	PBILM	conc	2916.27	ppb
rep	1	ZN	conc	5087.85	ppb
rep	2	ASILM	conc	75.94	ppb
rep	2	CD	conc	34.99	ppb
rep	2	CU	conc	605.62	ppb
rep	2	NI	conc	196.16	ppb
rep	2	PBILM	conc	2921.70	ppb
rep	2	ZN	conc	5074.61	ppb

K.B. 12/18/95

12/15/95 11:08 2Q ~~1~~SS04
37313

ASILM	av	75.24	ppb	sd	0.992	%cv 1.32
CD	av	34.84	ppb	sd	0.218	%cv 0.63
CU	av	607.44	ppb	sd	2.576	%cv 0.42
NI	av	196.31	ppb	sd	0.212	%cv 0.11
PBILM	av	2918.99	ppb	sd	3.841	%cv 0.13
ZN	av	5081.23	ppb	sd	9.365	%cv 0.18

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37314

rep	1	ASILM	conc	451.61	ppb
rep	1	CD	conc	17.21	ppb
rep	1	CU	conc	2644.43	ppb
rep	1	NI	conc	293.76	ppb
rep	1	PBILM	conc	5762.81	ppb
rep	1	ZN	conc	10884.87	ppb
rep	2	ASILM	conc	452.44	ppb
rep	2	CD	conc	17.68	ppb
rep	2	CU	conc	2630.81	ppb
rep	2	NI	conc	293.51	ppb
rep	2	PBILM	conc	5759.78	ppb
rep	2	ZN	conc	10849.23	ppb

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12/15/95 11:12 2Q SS05
37314

ASILM	av	452.03	ppb	sd	0.584	%cv	0.13
CD	av	17.45	ppb	sd	0.334	%cv	1.91
CU	av	2637.62	ppb	sd	9.633	%cv	0.37
NI	av	293.63	ppb	sd	0.176	%cv	0.06
PBILM	av	5761.30	ppb	sd	2.143	%cv	0.04
ZN	av	~~10867.05~~	ppb DIL	sd	25.203	%cv	0.23

BJM 12/15/95

12/15/95 11:15
37315

rep	1	ASILM	conc	75.44	ppb
rep	1	CD	conc	9.40	ppb
rep	1	CU	conc	564.14	ppb
rep	1	NI	conc	217.08	ppb
rep	1	PBILM	conc	3655.36	ppb
rep	1	ZN	conc	5862.65	ppb
rep	2	ASILM	conc	71.82	ppb
rep	2	CD	conc	9.73	ppb
rep	2	CU	conc	552.63	ppb
rep	2	NI	conc	217.10	ppb
rep	2	PBILM	conc	3595.19	ppb
rep	2	ZN	conc	5741.38	ppb

12/15/95 11:16 2Q SS06
37315

ASILM	av	73.63	ppb	sd	2.563	%cv	3.48
CD	av	9.57	ppb	sd	0.236	%cv	2.47
CU	av	558.39	ppb	sd	8.138	%cv	1.46
NI	av	217.09	ppb	sd	0.018	%cv	0.01
PBILM	av	3625.28	ppb	sd	42.543	%cv	1.17
ZN	av	5802.02	ppb	sd	85.751	%cv	1.48

12/15/95 11:19
37315.~~0~~5

BM 12/15/95

rep	1	ASILM	conc	2043.10	ppb
rep	1	CD	conc	58.56	ppb
rep	1	CU	conc	815.73	ppb
rep	1	NI	conc	702.21	ppb
rep	1	PBILM	conc	4559.98	ppb
rep	1	ZN	conc	6302.15	ppb
rep	2	ASILM	conc	2043.52	ppb
rep	2	CD	conc	58.69	ppb
rep	2	CU	conc	799.60	ppb
rep	2	NI	conc	703.56	ppb
rep	2	PBILM	conc	4559.16	ppb
rep	2	ZN	conc	6160.08	ppb

BM 12/15/95

12/15/95 11:20 2Q SS06(SPIKE)
37315.~~0~~5

REC ~~RPD~~ BM 12/15/95

ASILM	av	2043.31	ppb	98.5	sd	0.291	%cv	0.01
CD	av	58.62	ppb	98.1	sd	0.092	%cv	0.16
CU	av	807.67	ppb	100	sd	11.408	%cv	1.41
NI	av	702.89	ppb	97.2	sd	0.949	%cv	0.14
PBILM	av	4559.57	ppb	4x	sd	0.579	%cv	0.01
ZN	av	6231.12	ppb	4x	sd	100.460	%cv	1.61

12/15/95 11:22
37315.D

rep	1	ASILM	conc	66.90	ppb
rep	1	CD	conc	13.22	ppb
rep	1	CU	conc	531.21	ppb
rep	1	NI	conc	210.34	ppb
rep	1	PBILM	conc	3670.74	ppb
rep	1	ZN	conc	5503.61	ppb
rep	2	ASILM	conc	72.39	ppb
rep	2	CD	conc	13.51	ppb
rep	2	CU	conc	535.02	ppb
rep	2	NI	conc	210.62	ppb
rep	2	PBILM	conc	3650.18	ppb
rep	2	ZN	conc	5554.75	ppb

12/15/95 11:23 2Q SS06 (DUP)
37315.D

			RPD				
ASILM	av	69.64	ppb	5.59	sd	3.882	%cv	5.57
CD	av	13.37	ppb	33.1	sd	0.202	%cv	1.51
CU	av	533.11	ppb	4.58	sd	2.691	%cv	0.50
NI	av	210.48	ppb	3.28 ~~2.96~~	sd	0.199	%cv	0.09
PBILM	av	3660.46	ppb	0.96	sd	14.536	%cv	0.40
ZN	av	5529.18	ppb	4.82	sd	36.159	%cv	0.65

12/15/95 11:27
37300L

rep	1	ASILM	conc	17.32	ppb
rep	1	CD	conc	3.91	ppb
rep	1	CU	conc	87.27	ppb
rep	1	NI	conc	48.70	ppb
rep	1	PBILM	conc	313.08	ppb
rep	1	ZN	conc	824.16	ppb
rep	2	ASILM	conc	17.13	ppb
rep	2	CD	conc	3.71	ppb
rep	2	CU	conc	87.99	ppb
rep	2	NI	conc	48.65	ppb
rep	2	PBILM	conc	317.20	ppb
rep	2	ZN	conc	827.53	ppb

12/15/95 11:28 1Q SS05 (Serial Dilution)
37300L

ASILM	av	17.23	ppb	sd	0.134	%cv	0.78
CD	av	3.81	ppb	sd	0.137	%cv	3.59
CU	av	87.63	ppb	sd	0.505	%cv	0.58
NI	av	48.67	ppb	sd	0.040	%cv	0.08
PBILM	av	315.14	ppb	sd	2.914	%cv	0.92
ZN	av	825.84	ppb	sd	2.384	%cv	0.29

12/15/95 11:31
LRS 10PPM

rep	1	ASILM	conc	191.76	ppb
rep	1	CD	conc	10651.49	ppb
rep	1	CU	conc	10874.77	ppb
rep	1	NI	conc	11077.39	ppb
rep	1	PBILM	conc	11055.63	ppb
rep	1	ZN	conc	10307.29	ppb
rep	2	ASILM	conc	190.07	ppb

rep	2	CD	conc	10693.71	ppb
rep	2	CU	conc	10881.89	ppb
rep	2	NI	conc	10931.81	ppb
rep	2	PBILM	conc	10911.50	ppb
rep	2	ZN	conc	10311.23	ppb

12/15/95 11:32
LRS 10PPM

ASILM	av	190.92 ppb	sd	1.200	%cv	0.63
CD	av	10872.60 ppb	sd	29.855	%cv	0.28
CU	av	10878.33 ppb	sd	5.032	%cv	0.05
NI	av	11004.60 ppb	sd	102.935	%cv	0.94
PBILM	av	10983.56 ppb	sd	101.915	%cv	0.93
ZN	av	10309.26 ppb	sd	2.784	%cv	0.03

12/15/95 11:38
LRS 10PPM

rep	1	CD	conc	9815.73	ppb
rep	1	CU	conc	10013.06	ppb
rep	1	NI	conc	10301.75	ppb
rep	1	PBILM	conc	10085.29	ppb
rep	2	CD	conc	9880.73	ppb
rep	2	CU	conc	10419.29	ppb
rep	2	NI	conc	10360.54	ppb
rep	2	PBILM	conc	10229.09	ppb

12/15/95 11:38
LRS 10PPM

CD	av	9848.23 ppb	sd	45.957	%cv	0.47
CU	av	10216.18 ppb	sd	287.245	%cv	2.81
NI	av	10331.14 ppb	sd	41.571	%cv	0.40
PBILM	av	10157.19 ppb	sd	101.682	%cv	1.00

12/15/95 11:42
CCV4

rep	1	CD	conc	504.55	ppb
rep	1	CU	conc	514.83	ppb
rep	1	NI	conc	514.41	ppb
rep	1	PBILM	conc	1029.18	ppb
rep	2	CD	conc	502.07	ppb
rep	2	CU	conc	513.15	ppb
rep	2	NI	conc	512.53	ppb
rep	2	PBILM	conc	1023.08	ppb

12/15/95 11:44
CCV4

CD	av	503.31 ppb	sd	1.754	%cv	0.35
CU	av	513.99 ppb	sd	1.185	%cv	0.23
NI	av	513.47 ppb	sd	1.332	%cv	0.26
PBILM	av	1026.13 ppb	sd	4.316	%cv	0.42

12/15/95 11:46
CCB4

rep	1	CD	conc	0.56	ppb
rep	1	CU	conc	-0.12	ppb
rep	1	NI	conc	-0.14	ppb
rep	1	PBILM	conc	1.52	ppb

rep	2	CD	conc	0.48	ppb
rep	2	CU	conc	0.06	ppb
rep	2	NI	conc	-0.22	ppb
rep	2	PBILM	conc	1.76	ppb

12/15/95 11:47
CCB4

CD	av	0.52 ppb	sd	0.055	%cv	10.50
CU	av	-0.03 ppb	sd	0.122	%cv	428.5
NI	av	-0.18 ppb	sd	0.057	%cv	31.41
PBILM	av	1.64 ppb	sd	0.173	%cv	10.55

12/15/95 11:50
CCV/5
DL 12/15/95

rep	1	ASILM	conc	516.80	ppb
rep	1	CD	conc	502.66	ppb
rep	1	CU	conc	510.39	ppb
rep	1	NI	conc	504.24	ppb
rep	1	PBILM	conc	1012.17	ppb
rep	1	ZN	conc	509.08	ppb
rep	2	ASILM	conc	519.36	ppb
rep	2	CD	conc	500.92	ppb
rep	2	CU	conc	509.18	ppb
rep	2	NI	conc	505.01	ppb
rep	2	PBILM	conc	1012.97	ppb
rep	2	ZN	conc	506.40	ppb

Two elements omitted from CCV/CCB. Reanalyze CCV/CCB for all elements.
DLW 12/15/95

12/15/95 11:52
CCV/5 DLW 12/15/95

ASILM	av	518.08 ppb	sd	1.815	%cv	0.35
CD	av	501.79 ppb	sd	1.228	%cv	0.24
CU	av	509.79 ppb	sd	0.856	%cv	0.17
NI	av	504.62 ppb	sd	0.545	%cv	0.11
PBILM	av	1012.57 ppb	sd	0.571	%cv	0.06
ZN	av	507.74 ppb	sd	1.888	%cv	0.37

12/15/95 11:55
CCB5

rep	1	ASILM	conc	2.07	ppb
rep	1	CD	conc	0.47	ppb
rep	1	CU	conc	-0.03	ppb
rep	1	NI	conc	-0.20	ppb
rep	1	PBILM	conc	-0.30	ppb
rep	1	ZN	conc	-0.08	ppb
rep	2	ASILM	conc	1.33	ppb
rep	2	CD	conc	0.39	ppb
rep	2	CU	conc	-0.12	ppb
rep	2	NI	conc	-0.15	ppb
rep	2	PBILM	conc	-0.52	ppb
rep	2	ZN	conc	-0.22	ppb

12/15/95 11:57
CCB5

ASILM	av	1.70 ppb	sd	0.523	%cv	30.67
CD	av	0.43 ppb	sd	0.055	%cv	12.76
CU	av	-0.08 ppb	sd	0.066	%cv	87.40
NI	av	-0.17 ppb	sd	0.037	%cv	21.34
PBILM	av	-0.41 ppb	sd	0.156	%cv	38.36

ZN av -0.15 ppb sd 0.094 %cv 62.40

12/15/95 12:00
36296 10X

rep 1 ZN conc 1373.84 ppb

rep 2 ZN conc 1417.23 ppb

12/15/95 12:00 1Q SS01
36296 10X
ZN av 1395.53 ppb sd 30.678 %cv 2.20

12/15/95 12:02
37297

rep 1 ZN conc 1165.61 ppb

rep 2 ZN conc 1175.59 ppb

12/15/95 12:02 1QSS02
37297
ZN av 1170.60 ppb sd 7.059 %cv 0.60

12/15/95 12:04
37302 10X

rep 1 ZN conc 1677.34 ppb

rep 2 ZN conc 1667.92 ppb

12/15/95 12:04 1Q SS07
37302 10X
ZN av 1672.63 ppb sd 6.661 %cv 0.40

12/15/95 12:05
37314 10X

rep 1 ZN conc 1176.88 ppb

rep 2 ZN conc 1155.07 ppb

12/15/95 12:05 2Q SS05
37314 10X
ZN av 1165.98 ppb sd 15.423 %cv 1.32

12/15/95 12:08
37305 10X

rep 1 PBILM conc 1166.98 ppb
rep 1 ZN conc 1111.21 ppb

rep 2 PBILM conc 1160.41 ppb
rep 2 ZN conc 1109.56 ppb

12/15/95 12:08 1Q SS10
37305 10X
PBILM av 1163.69 ppb sd 4.644 %cv 0.40
ZN av 1110.39 ppb sd 1.165 %cv 0.10

12/15/95 12:11
37307 10X

rep 1 PBILM conc 1403.69 ppb
rep 1 ZN conc 1032.56 ppb

	rep	2	PBILM	conc	1399.51 ppb
	rep	2	ZN	conc	1032.14 ppb

12/15/95 12:11
37307 10X

IQSS11

PBILM	av	1401.60	ppb	sd	2.952	%cv	0.21
ZN	av	1032.35	ppb	sd	0.297	%cv	0.03

12/15/95 12:14
37308 10X

rep	1	PBILM	conc	1487.79 ppb
rep	1	ZN	conc	1982.04 ppb
rep	2	PBILM	conc	1484.00 ppb
rep	2	ZN	conc	1978.45 ppb

12/15/95 12:15
37308 10X

IQSS12

PBILM	av	1485.90	ppb	sd	2.676	%cv	0.18
ZN	av	1980.25	ppb	sd	2.541	%cv	0.13

12/15/95 12:17
ICSAF

rep	1	ASILM	conc	6.06 ppb
rep	1	CD	conc	-13.67 ppb
rep	1	CU	conc	1.83 ppb
rep	1	NI	conc	9.54 ppb
rep	1	PBILM	conc	3.52 ppb
rep	1	ZN	conc	26.65 ppb
rep	2	ASILM	conc	8.49 ppb
rep	2	CD	conc	-13.53 ppb
rep	2	CU	conc	2.08 ppb
rep	2	NI	conc	10.55 ppb
rep	2	PBILM	conc	4.77 ppb
rep	2	ZN	conc	26.29 ppb

12/15/95 12:18
ICSAF

ASILM	av	7.28	ppb	sd	1.719	%cv	23.61
CD	av	-13.60	ppb	sd	0.103	%cv	0.76
CU	av	1.96	ppb	sd	0.176	%cv	8.97
NI	av	10.04	ppb	sd	0.715	%cv	7.12
PBILM	av	4.15	ppb	sd	0.886	%cv	21.36
ZN	av	26.47	ppb	sd	0.249	%cv	0.94

12/15/95 12:21
ICSABF

rep	1	ASILM	conc	5.17 ppb
rep	1	CD	conc	854.01 ppb
rep	1	CU	conc	504.81 ppb
rep	1	NI	conc	875.90 ppb
rep	1	PBILM	conc	896.71 ppb
rep	1	ZN	conc	934.64 ppb
rep	2	ASILM	conc	8.14 ppb
rep	2	CD	conc	854.99 ppb
rep	2	CU	conc	506.12 ppb
rep	2	NI	conc	874.06 ppb
rep	2	PBILM	conc	894.59 ppb

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	rep	2	ZN	conc	933.32	ppb		

12/15/95 12:23
ICSABF

ASILM	av	6.65	ppb	sd	2.094	%cv	31.47
CD	av	854.50	ppb	sd	0.692	%cv	0.08
CU	av	505.47	ppb	sd	0.926	%cv	0.18
NI	av	874.98	ppb	sd	1.294	%cv	0.15
PBILM	av	895.65	ppb	sd	1.502	%cv	0.17
ZN	av	933.98	ppb	sd	0.938	%cv	0.10

12/15/95 12:26
CRIF

rep	1	ASILM	conc	22.93	ppb
rep	1	CD	conc	10.26	ppb
rep	1	CU	conc	53.64	ppb
rep	1	NI	conc	86.54	ppb
rep	1	PBILM	conc	7.11	ppb
rep	1	ZN	conc	43.45	ppb
rep	2	ASILM	conc	20.63	ppb
rep	2	CD	conc	10.06	ppb
rep	2	CU	conc	53.68	ppb
rep	2	NI	conc	86.80	ppb
rep	2	PBILM	conc	6.86	ppb
rep	2	ZN	conc	42.94	ppb

12/15/95 12:28
CRIF

ASILM	av	21.78	ppb	sd	1.627	%cv	7.47
CD	av	10.16	ppb	sd	0.141	%cv	1.39
CU	av	53.66	ppb	sd	0.029	%cv	0.05
NI	av	86.67	ppb	sd	0.187	%cv	0.22
PBILM	av	6.99	ppb	sd	0.180	%cv	2.57
ZN	av	43.20	ppb	sd	0.359	%cv	0.83

12/15/95 12:31
CCV6

rep	1	ASILM	conc	527.17	ppb
rep	1	CD	conc	508.21	ppb
rep	1	CU	conc	516.96	ppb
rep	1	NI	conc	509.67	ppb
rep	1	PBILM	conc	1019.35	ppb
rep	1	ZN	conc	513.81	ppb
rep	2	ASILM	conc	525.50	ppb
rep	2	CD	conc	505.65	ppb
rep	2	CU	conc	515.34	ppb
rep	2	NI	conc	507.43	ppb
rep	2	PBILM	conc	1016.54	ppb
rep	2	ZN	conc	511.34	ppb

12/15/95 12:33
CCV6

ASILM	av	526.34	ppb	sd	1.180	%cv	0.22
CD	av	506.93	ppb	sd	1.809	%cv	0.36
CU	av	516.15	ppb	sd	1.146	%cv	0.22
NI	av	508.55	ppb	sd	1.584	%cv	0.31
PBILM	av	1017.95	ppb	sd	1.986	%cv	0.20
ZN	av	512.58	ppb	sd	1.747	%cv	0.34

12/15/95 12:36
CCB6

rep	1	ASILM	conc	1.06	ppb
rep	1	CD	conc	0.23	ppb
rep	1	CU	conc	-0.25	ppb
rep	1	NI	conc	-0.25	ppb
rep	1	PBILM	conc	-1.08	ppb
rep	1	ZN	conc	-0.97	ppb
rep	2	ASILM	conc	0.02	ppb
rep	2	CD	conc	0.28	ppb
rep	2	CU	conc	-0.20	ppb
rep	2	NI	conc	-0.08	ppb
rep	2	PBILM	conc	-0.09	ppb
rep	2	ZN	conc	-1.11	ppb

12/15/95 12:38
CCB6

ASILM	av	0.54	ppb	sd	0.739	%cv	136.3
CD	av	0.25	ppb	sd	0.034	%cv	13.48
CU	av	-0.23	ppb	sd	0.038	%cv	16.67
NI	av	-0.16	ppb	sd	0.121	%cv	73.93
PBILM	av	-0.59	ppb	sd	0.700	%cv	119.2
ZN	av	-1.04	ppb	sd	0.101	%cv	9.72

1215201 P

Test Performed: METALS DIGESTION

Date: 12-15-95

Work Performed by: Christopher L. Baldof

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)	
9502.852	37296.01				m	b2	214		1.00g	100ml	Y	C	1QSS01
	37297.01										Y	C	1QSS02
	37298.01										Y	C	1QSS03
	37299.01										Y	C	1QSS04
	37300.01										Y	C	1QSS05
	37301.01										Y	C	1QSS06
	37302.01										Y	C	1QSS07
	37303.01										Y	C	1QSS08
	37304.01										Y	C	1QSS09
	37305.01										Y	C	1QSS10
	37306.01										Y	C	1QSS09D
	37307.01										Y	C	1QSS11
	37308.01										Y	C	1QSS12
	37309.01										Y	C	2QSS01
	37310.01										Y	C	2QSS02
	37311.01										Y	C	2QSS03
	37312.01										Y	C	2QSS03D
	37313.01										Y	C	2QSS04
	37314.01										Y	C	2QSS05
	37315.01										Y	C	2QSS06
	37315.01 DUP					~~215~~ 215	215				Y	C	2QSS06 (DUP)
	37315.01 Spike Ø					~~216~~ 216	216				Y	C	2QSS06 (SPIKE)
	PBS 130		CL	C		12/15/95	21		—		CL	C	PBS1
	LCS 130		CL	C					100ml		CL	C	LCSS1

Comments:

BALANCE MODEL 5-400

CALIBRATION SERIAL # 19645

0.50g = ____

1.00g = 1.00g

2.00g = 2.00g

Circle one reference

REFERENCE	METHOD		
CLP	----------		
SW846	3050 (SOLIDS)	3010 (ICP-WATER)	3020 (FURNACE-WATER)
OTHER			

Ø Added 1.0ml of ICP Spiking Solutions #1 (1021-22-1) and #2 (1021-23-1)

Approved by: _____ Date: _____

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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)

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From Page No. ___

Test Performed: % SOLID
Method Number:
Date: 12/13/95
Work Performed By: D.E. JNIS

TIME IN: 1700 TEMP °C = 100
TIME OUT: 2100 TEMP °C = 108

Job No.	ID No.	DISH #	DISH WEIGHT	INITIAL WEIGHT (TARED)	FINAL WEIGHT	% SOLID	
9502.852	37296.01		0.99g	5.45	5.88	89.7	
	37297.01			6.13	6.44	88.9	
	37298.01			5.69	5.69	82.6	
	37299.01			5.64	6.05	89.7	
	37300.01			5.67	5.75	84.0	
	37300.01 DUP			5.53	5.66	84.4	RPD = 0.5%
	37301.01			5.69	6.13	90.3	
	37302.01			5.64	5.69	83.3	
	37303.01			5.75	5.73	82.4	
	37304.01			5.51	5.43	80.6	
	37305.01			5.95	6.16	86.9	
	37306.01			5.45	5.45	81.8	
	37307.01			6.23	6.33	85.7	
	37308.01			5.65	5.39	77.9	
	37309.01			5.81	5.75	81.9	
	37310.01			5.90	5.70	79.8	
	37311.01			5.50	5.44	80.9	
	37311.01 DUP			5.50	5.48	81.6	RPD = 0.9%
	37312.01			5.55	5.52	81.6	
	37313.01			5.70	6.00	87.9	
	37314.01			5.82	5.55	69.8	
	37315.01			5.92	5.90	82.9	
9502.862	37351.01			5.87	6.11	87.2	
	37352.01			5.50	5.77	86.9	
	37353.01		0.99g	5.73	5.56	79.8	
	FISHER BALANCE		MODEL	S-400	S/N 19645		

CAL WEIGHT	MEASURED
0.50	0.50
1.00	1.00
2.00	2.00
5.00	5.00
10.00	10.00

To Page No. ___

Witnessed & Understood by me, KW

Date 12/15/95

Invented by

Date

Recorded by

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