



THE MEMPHIS DEPOT TENNESSEE

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 52

**Groundwater Monitoring
Results Report
for
Defense Depot
Memphis, Tennessee**

Volume 9 of 9

**Prepared for
U.S. Army Corps of Engineers,
Huntsville Division**

**Prepared by
Environmental Science
& Engineering, Inc.**

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January 1994

APPENDIX D

CLP-LIKE DATA RESULTS FOR
MW-9, MW-10, MW-11, MW-12,
MW-22, AND MW-37

VOLUMES 3 THROUGH 9

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Total Metals and Dissolved Metals

003054

TOTAL METALS AND DISSOLVED METALS

SDG No. G45235

Lab Name: ESE

Project No.: 7934082G

SDG No: G45235

Client ID	Laboratory ID	Matrix (S/W)	Analysis	Date Collected	Date Received	Date Analyzed
ICV1	ICV*PE-PURE*	W	AS	00/00/00	00/00/00	12/17/93
PBLK1	MB*QC*1	W	AS	00/00/00	00/00/00	12/17/93
SP1	SP1*QC*1	W	AS	00/00/00	00/00/00	12/17/93
CCV1	CCV*QC*1	W	AS	00/00/00	00/00/00	12/17/93
CCB1	CCB*QC*1	W	AS	00/00/00	00/00/00	12/17/93
SPX1	SPX*CDDMTW*2	W	AS	11/17/93	11/18/93	12/17/93
CCV2	CCV*QC*2	W	AS	00/00/00	00/00/00	12/17/93
CCB2	CCB*QC*2	W	AS	00/00/00	00/00/00	12/17/93
MW9	CDDMTW*9	W	AS	11/15/93	11/16/93	12/17/93
MW10SP	CDDMTW*10	W	AS	11/11/93	11/12/93	12/17/93
MW11	CDDMTW*11	W	AS	11/13/93	11/15/93	12/17/93
MW12SP	CDDMTW*12	W	AS	11/11/93	11/12/93	12/17/93
MW37SP	CDDMTW*37	W	AS	11/18/93	11/19/93	12/17/93
CCV3	CCV*QC*3	W	AS	00/00/00	00/00/00	12/17/93
CCB3	CCB*QC*3	W	AS	00/00/00	00/00/00	12/17/93
MW22SP	CDDMTW*22	W	AS	11/17/93	11/18/93	12/17/93
MW22SPMS	SPM1*CDDMTW*	W	AS	11/17/93	11/18/93	12/17/93
MW22SPMSD	SPM2*CDDMTW*	W	AS	11/17/93	11/18/93	12/17/93

Comments:

ANALYSIS DATA SHEET

Client ID

52

8

PBLK1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: MB*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	2.5	U
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

9

SP1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: SP1*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	39.1	
7440-38-2	ARSENIC, DISS (UG/L)	39.1	

ANALYSIS DATA SHEET

Client ID

52

10

CCV1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CCV*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

51.3

7440-38-2

ARSENIC, DISS (UG/L)

51.3

ANALYSIS DATA SHEET

Client ID

52

11

CCB1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

2.5

U

7440-38-2

ARSENIC, DISS (UG/L)

2.5

U

ANALYSIS DATA SHEET

Client ID

52

12

SPX1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: SPX+CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	117.	D
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

14

CCV2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CCV+QC+2

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

50.2

7440-38-2

ARSENIC, DISS (UG/L)

50.2

ANALYSIS DATA SHEET

Client ID

52 13

SPX1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: SPX+CDDMTW*22

Sample wt/vol:

Lab File ID:

%Moisture:

pH:

Dilution Factor: 2.00

Date Analyzed: 12/17/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	117.	D
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

15

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*2

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

2.5 U

7440-38-2

ARSENIC, DISS (UG/L)

2.5 U

ANALYSIS DATA SHEET

Client ID

52 16

MW9

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/16/93

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	4.2	
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

17

MW10SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*10

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

12.4

7440-38-2

ARSENIC, DISS (UG/L)

2.5

U

ANALYSIS DATA SHEET

Client ID

52 18

MW11

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*11

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/15/93

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	4.6	
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52 19

MW12SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*12

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

7.1

7440-38-2

ARSENIC, DISS (UG/L)

2.5 U

ANALYSIS DATA SHEET

Client ID

52 20

MW37SP

Lab Name: ESE Project No.: 7934082G SDG No.: G45235
Matrix: (soil/water) WATER Lab Sample ID: CDDMTW*37
Sample wt/vol: Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/17/93 Date Received: 11/19/93

CAS NO.	COMPOUND	Q	
7440-38-2	ARSENIC, TOTAL (UG/L)	2.5	U
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52 21

CCV3

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CCV*QC*3

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

51.7

7440-38-2

ARSENIC, DISS (UG/L)

51.7

ANALYSIS DATA SHEET

Client ID

52

22

CCB3

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*3

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7440-38-2

ARSENIC, TOTAL (UG/L)

2.5 U

7440-38-2

ARSENIC, DISS (UG/L)

2.5 U

52 23

MW22SP

SDG No. : G45235

Lab Sample ID: CDDMTW*22

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/18/93

①

7440-38-2	ARSENIC, TOTAL (UG/L)	6.0	
7440-38-2	ARSENIC, DISS (UG/L)	2.5	U

Client ID

MW22SPMS

Date Received: 11/18/93

Q

003073

ANALYSIS DATA SHEET

Client ID

52 25

MW22SPMSD

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

Matrix: (soil/water) WATER

Lab Sample ID: SPM2*CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7440-38-2	ARSENIC, TOTAL (UG/L)	5.1	
7440-38-2	ARSENIC, DISS (UG/L)	43.1	

Lab Name: ESE

Project No.: 7934082G

SDG No: G45057

Client ID	Laboratory ID	Matrix (S/W)	Analysis	Date Collected	Date Received	Date Analyzed
MW37SPMS	SPM1*CDDMTW*	W	PB	11/18/93	11/19/93	12/14/93
SD1	SD*CDDMTW*9	W	PB	11/15/93	11/16/93	12/14/93
MW37SP	CDDMTW*37	W	PB	11/18/93	11/19/93	12/14/93
MW9	CDDMTW*9	W	PB	11/15/93	11/16/93	12/14/93
MW10SP	CDDMTW*10	W	PB	11/11/93	11/12/93	12/14/93
MW11	CDDMTW*11	W	PB	11/13/93	11/15/93	12/14/93
MW12SP	CDDMTW*12	W	PB	11/11/93	11/12/93	12/14/93
MW22SP	CDDMTW*22	W	PB	11/17/93	11/18/93	12/14/93
MW37SPMSD	SPM2*CDDMTW*	W	PB	11/18/93	11/19/93	12/15/93
ICV1	ICV*PE-PURE*	W	PB	00/00/00	00/00/00	12/15/93
PBLK1	MB*QC*1	W	PB	00/00/00	00/00/00	12/15/93
SP1	SP*QC*1	W	PB	00/00/00	00/00/00	12/15/93
CCV1	CCV*QC*1	W	PB	00/00/00	00/00/00	12/15/93
CCB1	CCB*QC*1	W	PB	00/00/00	00/00/00	12/15/93
CCV2	CCV*QC*2	W	PB	00/00/00	00/00/00	12/15/93
CCB2	CCB*QC*2	W	PB	00/00/00	00/00/00	12/15/93

Comments:

ANALYSIS DATA SHEET

52 27

Client ID

MW37SPMS

Lab Name: ESE Project No.: 7934082G SDG No.: G45057
Matrix: (soil/water) WATER Lab Sample ID: SPM1*CDDMTW*37
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/14/93 Date Received: 11/19/93

CAS NO.	COMPOUND	Q
7439-92-1	LEAD, TOTAL (UG/L)	22.3
7439-92-1	LEAD, DISS (UG/L)	21.5

ANALYSIS DATA SHEET

52 28

Client ID

SD1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: SD*CDDMTW*9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/14/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	10.0	UD
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 29

SD1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: SD*CDDMTW*9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 5.00

Date Analyzed: 12/14/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	10.0	UD
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 30

MW37SP

Lab Name: ESE Project No.: 7934082G SDG No.: G45057
Matrix: (soil/water) WATER Lab Sample ID: CDDMTW*37
Sample wt/vol: Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/14/93 Date Received: 11/19/93

CAS NO.	COMPOUND		Q
7439-92-1	LEAD, TOTAL (UG/L)	2.5	
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 31

MW9

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW+9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/14/93

Date Received: 11/16/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	83.2	
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 32

MW10SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*10

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/14/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	477.	D
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 33

MW10SP

Lab Name: ESE Project No.: 7934082G SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*10

Sample wt/vol: .

Lab File ID:

%Moisture: pH:

Dilution Factor: 10.00

Date Analyzed: 12/14/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	477.	D
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52

34

MW11

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*11

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/14/93

Date Received: 11/15/93

CAS NO.

COMPOUND

Q

7439-92-1

LEAD, TOTAL (UG/L)

163.

D

7439-92-1

LEAD, DISS (UG/L)

2.0

U

ANALYSIS DATA SHEET

Client ID

52

35

MW11

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*11

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 4.00

Date Analyzed: 12/14/93

Date Received: 11/15/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	163.	D
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 36

MW12SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*12

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/14/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	57.4	
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52

37

MW22SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/14/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	91.5	D
7439-92-1	LEAD, DISS (UG/L)	2.0	U

ANALYSIS DATA SHEET

Client ID

52 38

MW22SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 3.00

Date Analyzed: 12/14/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	91.5	D
7439-92-1	LEAD, DISS (UG/L)	2.0	U

Client ID

MW37SPMSD

Date Received: 11/19/93

003088

ANALYSIS DATA SHEET

Client ID

52 40

PBLK1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: MB*QC*1

Sample wt/vol:

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/15/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	2.0	U
7439-92-1	LEAD, DISS (UG/L)	2.0	U

Client ID

41

SP1

SDG No. : G45057

Lab Sample ID: SP*QC*1

Lab File ID:

Dilution Factor: 1.00

Date Received: 00/00/00

Q

7439-92-1	LEAD, TOTAL (UG/L)	18.7
7439-92-1	LEAD, DISS (UG/L)	18.7

Client ID

CCV1

Date Received: 00/00/00

Q

7439-92-1	LEAD, TOTAL (UG/L) _____	52.9
7439-92-1	LEAD, DISS (UG/L) _____	52.9

ANALYSIS DATA SHEET

Client ID

52 43

CCB1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/15/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	2.0	U
7439-92-1	LEAD, DISS (UG/L)	2.0	U

Client ID

52 44

Date Received: 00/00/00

Q

7439-92-1	LEAD, TOTAL (UG/L)	52.4
7439-92-1	LEAD, DISS (UG/L)	52.4

ANALYSIS DATA SHEET

Client ID

52

45

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*2

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/15/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-92-1	LEAD, TOTAL (UG/L)	2.0	U
7439-92-1	LEAD, DISS (UG/L)	2.0	U

Lab Name: ESE

Project No.: 7934082G

SDG No: G45234

Client ID	Laboratory ID	Matrix (S/W)	Analysis	Date Collected	Date Received	Date Analyzed
ICV1	ICV*PE-PURE*	W	SE	00/00/00	00/00/00	12/17/93
PBLK1	MB*QC*1	W	SE	00/00/00	00/00/00	12/17/93
SP1	SP1*QC*1	W	SE	00/00/00	00/00/00	12/17/93
CCB1	CCB*QC*1	W	SE	00/00/00	00/00/00	12/17/93
CCV1	CCV*QC*1	W	SE	00/00/00	00/00/00	12/17/93
ICV2	ICV*PE-PURE*	W	SE	00/00/00	00/00/00	12/17/93
SPX1	SPX*CDDMTW*2	W	SE	11/17/93	11/18/93	12/17/93
MW22SP	CDDMTW*22	W	SE	11/17/93	11/18/93	12/17/93
MW22SPMS	SPM1*CDDMTW*	W	SE	11/17/93	11/18/93	12/17/93
MW22SPMSD	SPM2*CDDMTW*	W	SE	11/17/93	11/18/93	12/17/93
CCV2	CCV*QC*2	W	SE	00/00/00	00/00/00	12/17/93
CCB2	CCB*QC*2	W	SE	00/00/00	00/00/00	12/17/93
ICV3	ICV*PE-PURE*	W	SE	00/00/00	00/00/00	12/22/93
MW9	CDDMTW*9	W	SE	11/15/93	11/16/93	12/22/93
MW10SP	CDDMTW*10	W	SE	11/11/93	11/12/93	12/22/93
MW11	CDDMTW*11	W	SE	11/13/93	11/15/93	12/22/93
MW12SP	CDDMTW*12	W	SE	11/11/93	11/12/93	12/22/93
MW37SP	CDDMTW*37	W	SE	11/18/93	11/19/93	12/22/93
CCV3	CCV*QC*3	W	SE	00/00/00	00/00/00	12/22/93
CCB3	CCB*QC*3	W	SE	00/00/00	00/00/00	12/22/93

Comments:

52 47

PELK1

SDG No. : G45234

Lab Sample ID: MB*QC*1

Lab File ID:

Dilution Factor: 1.00

Date Received: 00/00/00

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

Client ID

SP1

Date Received: 00/00/00

Q

003097

ANALYSIS DATA SHEET

Client ID

52 49

CCB1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7782-49-2

SELENIUM, TOTAL (UG/L) _____

2.5 U

7782-49-2

SELENIUM, DISS (UG/L) _____

2.5 U

Client ID

50

CCV1

SDG No. : G45234

Lab Sample ID: CCV*QC*1

Lab File ID:

Dilution Factor: 1.00

Date Received: 00/00/00

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	45.0
7782-49-2	SELENIUM, DISS (UG/L)	45.0

52 51

SPX1

SDG No. : G45234

Lab Sample ID: SPX*CDDMTW*22

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/18/93

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	101.	D
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

52

SPX1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: SPX*CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 2.00

Date Analyzed: 12/17/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM, TOTAL (UG/L) _____	101.	D
7782-49-2	SELENIUM, DISS (UG/L) _____	2.5	U

Client ID

52 53

MW22SP

SDG No. : G45234

Lab Sample ID: CDDMTW*22

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/18/93

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

54

MW22SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: SPM1*CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM,TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM,DISS (UG/L)	10.6	

ANALYSIS DATA SHEET

Client ID

52

55

MW22SPMSD

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: SPM2*CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/17/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	10.8	

Client ID

52 56

CCV2

SDG No. : G45234

Lab Sample ID: CCV*QC*2

Lab File ID:

Dilution Factor: 1.00

Date Received: 00/00/00

7782-49-2	SELENIUM,TOTAL (UG/L)	49.7
7782-49-2	SELENIUM,DISS (UG/L)	49.7

Client ID

CCB2

SDG No. : G45234

Lab Sample ID: CCB*QC*2

Lab File ID:

Dilution Factor: 1.00

Date Received: 00/00/00

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52 58

MW9

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/22/93

Date Received: 11/16/93

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

59

MW10SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*10

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/22/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

Client ID

MW11

SDG No. : G45234

Lab Sample ID: CDDMTW*11

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/15/93

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

61

MW12SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*12

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/22/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

Client ID

62

MW37SP

SDG No. : G45234

Lab Sample ID: CDDMTW*37

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/19/93

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM, DISS (UG/L)	2.5	U

ANALYSIS DATA SHEET

Client ID

52

63

CCV3

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: CCV*QC*3

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/22/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM, TOTAL (UG/L)	48.8	
7782-49-2	SELENIUM, DISS (UG/L)	48.8	

ANALYSIS DATA SHEET

Client ID

52 64

CCB3

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*3

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/22/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7782-49-2	SELENIUM,TOTAL (UG/L)	2.5	U
7782-49-2	SELENIUM,DISS (UG/L)	2.5	U

QUALITY CONTROL DATA

003114

CALIBRATION CURVES

Lab Name: ESE

Analyte: ARSENIC, TOTAL

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	12/17/93	0. 2.5 5. 10. 25. 50. 100.	0. .004 .013 .021 .049 .101 .198			

Comments:

CALIBRATION CURVES

52 67

Lab Name: ESE

SDG #: G45235

Analyte: ARSENIC, DISS

Instrument ID:

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	12/17/93	0.	0.			
		2.5	.004			
		5.	.013			
		10.	.021			
		25.	.049			
		50.	.101			
		100.	.198			

Control Limits: $r = 0.995$

Comments:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Client ID

52 68

MW22SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45235

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
=====	=====	=====	=====	=====	=====
ARSENIC, TOTAL	40.0	6.0	0.2	0.5 *	75-117
ARSENIC, DISS	40.0	0.	42.3	105.8	75-117

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
ARSENIC, TOTAL	40.0	0	0 *	200.0 *	21 75-117
ARSENIC, DISS	40.0	43.1	107.8	1.9	21 75-117

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

ESE METHOD BLANK SUMMARY

Client ID

52

69

PBLK1

Lab Name: ESE

Project No: 7934082G

SDG No.: G45235

Lab Sample ID: MB*QC*1

Lab File ID:

Matrix: (soil/water) WATER

Instrument ID:

Date Analyzed : 12/17/93

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

CLIENT SAMPLE NO. =====	LAB SAMPLE ID =====	DATE ANALYZED =====
MW9	CDDMTW*9	12/17/93
MW10SP	CDDMTW*10	12/17/93
MW11	CDDMTW*11	12/17/93
MW12SP	CDDMTW*12	12/17/93
MW22SP	CDDMTW*22	12/17/93
MW22SPMS	SPM1*CDDMTW*22	12/17/93
MW22SPMSD	SPM2*CDDMTW*22	12/17/93
MW37SP	CDDMTW*37	12/17/93

COMMENTS:

52 70

Client ID

REFERENCE STANDARD

SP1

Lab Name: ESE

SDG No: G45235

Lab Sample ID: SP1*QC*1

Date Analyzed: 12/17/93

Standard Source:

Instrument ID:

Analyte	True	Found	C	%Recv	Limits
AS	40.0	39.1		97.8	75-117
AS, DISS	40.0	39.1		97.8	75-117

Comments:

FORM V ESE

003119

Client ID

CCB2

SDG No: G45235

Instrument ID:

[illegible]

Client ID

CALIBRATION BLANKS

CCB3

Lab Name: ESE

Project No.: 7934082G

SDG No: G45235

Lab Sample ID: CCB*QC*3

Instrument ID:

Analyte	Conc	C	CRDL
AS	0.9	U	2.5
AS, DISS	0.9	U	2.5

75

52

CCV1

SDG No: G45235

Date Analyzed: 12/17/93

Lab Name: ESE

[illegible]

Comments:

77 Client ID

CCV3

Project No: 7934082G

SDG No: G45235

Date Analyzed: 12/17/93

Date Analyzed: 12/17/93

[illegible]

Comments :

52 79

SDG #: G45057

Instrument ID:

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	12/14/93	0. 2.5 10. 25. 50. 75. 100.	.002 .013 .05 .11 .205 .281 .358			

Comments:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

MW37SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45057

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
=====	=====	=====	=====	=====	=====
LEAD, TOTAL	20.0	2.5	19.8	99.0	76-126
LEAD, DISS	20.0	0.	21.5	107.5	76-126

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
LEAD, TOTAL	20.0	20.1	100.5	1.5	25 76-126
LEAD, DISS	20.0	20.9	104.5	2.8	25 76-126

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

ESE METHOD BLANK SUMMARY

Client ID

52

81

PBLK1

Lab Name: ESE

Project No: 7934082G

SDG No.: G45057

Lab Sample ID: MB*QC*1

Lab File ID:

Matrix: (soil/water) WATER

Instrument ID:

Date Analyzed : 12/15/93

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
=====	=====	=====
MW9	CDDMTW*9	12/14/93
MW10SP	CDDMTW*10	12/14/93
MW11	CDDMTW*11	12/14/93
MW12SP	CDDMTW*12	12/14/93
MW22SP	CDDMTW*22	12/14/93
MW37SP	CDDMTW*37	12/14/93
MW37SPMS	SPM1*CDDMTW*37	12/14/93
MW37SPMSD	SPM2*CDDMTW*37	12/15/93

COMMENTS:

52 82

Client ID

REFERENCE STANDARD

SP1

Lab Name: ESE

SDG No: G45057

Lab Sample ID: SP*QC*1

Date Analyzed: 12/15/93

Standard Source:

Instrument ID:

Analyte	True	Found	C	%Recv	Limits
PB	20.0	18.7		93.5	76-126
PB,DISS	20.0	18.7		93.5	76-126

Comments:

FORM V ESE

003131

Client ID

CCB1

SDG No: G45057

Instrument ID:

Analyte	Conc	C	CRDL
PB	1.0	U	2.0
PB, DISS	1.0	U	2.0

84

Client ID

CCB2

Project No. : 7934082G

G45057

Instrument ID:

Analyte	Conc	C	CRDL
PB	0.9	U	2.0
PB, DISS	0.9	U	2.0

Client ID

CALIBRATION VERIFICATION

ICV1

SDG No: G45057

Date Analyzed: 12/15/93

Instrument ID:

[illegible]

Comments :

Client ID

CALIBRATION VERIFICATION

CCV1

SDG No: G45057

Date Analyzed: 12/15/93

Instrument ID:

[illegible]

Comments:

Client ID

CCV2

SDG No: G45057

Date Analyzed: 12/15/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
PB	50.0	52.4		4.8	
PB, DISS	50.0	52.4		4.8	

Comments :

52 88

SDG #: G45234

Instrument ID:

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	12/17/93	0. 5. 10. 25. 50. 75. 100.	.003 .022 .044 .098 .196 .286 .353			

Comments :

CALIBRATION CURVES

52 89

Lab Name: ESE

SDG #: G45234

Analyte: SELENIUM, DISS

Instrument ID:

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	12/17/93	0.	.003			
		5.	.022			
		10.	.044			
		25.	.098			
		50.	.196			
		75.	.286			
		100.	.353			

Control Limits: $r = 0.995$

Comments:

52 90

Client ID

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

MW22SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G45234

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
SELENIUM, TOTAL	10.0	0.	0.0	0.0 *	76-122
SELENIUM, DISS	10.0	0.	10.6	106.0	76-122

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
SELENIUM, TOTAL	10.0	0	0 *	0.0	23 76-122
SELENIUM, DISS	10.0	10.8	108.0	1.9	23 76-122

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

52
ESE METHOD BLANK SUMMARY

91 Client ID

PBLK1

Lab Name: ESE

Project No: 7934082G

SDG No.: G45234

Lab Sample ID: MB*QC*1

Lab File ID:

Matrix:(soil/water) WATER

Instrument ID:

Date Analyzed : 12/17/93

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
MW22SP	CDDMTW*22	12/17/93
MW22SPMS	SPM1*CDDMTW*22	12/17/93
MW22SPMSD	SPM2*CDDMTW*22	12/17/93
MW9	CDDMTW*9	12/22/93
MW10SP	CDDMTW*10	12/22/93
MW11	CDDMTW*11	12/22/93
MW12SP	CDDMTW*12	12/22/93
MW37SP	CDDMTW*37	12/22/93

COMMENTS:

52 92

Client ID

REFERENCE STANDARD

SP1

Lab Name: ESE

SDG No: G45234

Lab Sample ID: SP1*QC*1

Date Analyzed: 12/17/93

Standard Source:

Instrument ID:

Analyte	True	Found	C	%Recv	Limits
SE	10.0	8.3		83.0	76-122
SE, DISS	10.0	8.3		83.0	76-122

Comments:

FORM V ESE

003141

52 93

client ID

CALIBRATION BLANKS

CCB1

Lab Name: ESE

Project No.: 7934082G

SDG No: G45234

Lab Sample ID: CCB*QC*1

Instrument ID:

Analyte	Conc	C	CRDL
SE	0.2	U	2.5
SE,DISS	0.2	U	2.5

52 94 Client ID

CALIBRATION BLANKS

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No: G45234

Lab Sample ID: CCB*QC*2

Instrument ID:

Analyte	Conc	C	CRDL
SE	-.4	U	2.5
SE, DISS	-.4	U	2.5

Client ID

CCB3

Instrument ID:

Analyte	Conc	C	CRDL
SE	0.5	U	2.5
SE, DISS	0.5	U	2.5

Client ID

CALIBRATION VERIFICATION

ICV1

Lab Name: ESE

Project No: 7934082G

SDG No: G45234

Lab Sample ID: ICV*PE-PURE*1

Date Analyzed: 12/17/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
SE	25.0	23.8		4.8	
SE, DISS	25.0	23.8		4.8	

Comments :

Client ID

CCV1

SDG No: G45234

Date Analyzed: 12/17/93

Analyte	True	Found	C	%Diff	Limit
SE	50.0	45.0		10.0	
SE, DISS	50.0	45.0		10.0	

page 1 of 1

FORM VIII ESE

003146

Client ID

CALIBRATION VERIFICATION

ICV2

Lab Name: ESE

Project No: 7934082G

SDG No: G45234

Lab Sample ID: ICV*PE-PURE*2

Date Analyzed: 12/17/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
SE	25.0	26.9		7.6	
SE, DISS	25.0	26.9		7.6	

99

CCV2

Client ID

CALIBRATION VERIFICATION

ICV3

SDG No: G45234

Date Analyzed: .12/22/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
SE	75.0	77.3		3.1	
SE, DISS	75.0	77.3		3.1	

Comments:

Client ID

CALIBRATION VERIFICATION

CCV3

Lab Name: ESE

Project No: 7934082G

SDG No: G45234

Lab Sample ID: CCV*QC*3

Date Analyzed: 12/22/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
SE	50.0	48.8		2.4	
SE, DISS	50.0	48.8		2.4	

Comments:

RAW DATA

003151

52 103

METALS BATCH DOCUMENTATION CHECKLIST

Batch No.: G45235
QC Type: FDEK

Initial or NA

- LD 1. Batch printout
LD 2. Instrument logbook pages - copies (with instrument ID, conditions, method used)
LD 3. Raw data (labeled, dated, unused data marked and explained)
LD 4. Sample prep logbook pages - copies

The above documents should be numbered and placed in the folder in the order indicated.

NOTES:

X

LD
Analyst Initials

12/21/93
Date

KWB
Checked By

12/22/93
Date

002152

REL BATCH : G45235

52 104

QC TYPE : FDER/SW
ANALYST : LULAMAE OSBORNE
EXTRACTOR : DENISE RODRIGUEZ
DATA ENTRY : GFAA UPLOAD

REPORT DATE/TIME : 12/21/93 14:02:06
ANALYSIS DATE : 12/17/93
EXTRACT DATE : 12/16/93

STATUS : ACTIVE

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP QC TYPE PROJECT NUMBER PROJECT NAME LAB COORDINATOR
CDDMTW 79340826 0201 HUNTSVILLE COE - DDMT PATRICK WILBER

Sample Specific Row Data

SAMPLE CODE	EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	SAMPLE VOL or WT (NA)	EXTRACT VOL or WT (NA)	INJECTION VOLUME (NA)	MOISTURE
ICV*PE-PURE*1	12/16/93	12/17/93	11:25AM				
MR*OC*1	12/16/93	12/17/93	11:34AM				
SP1*OC*1	12/16/93	12/17/93	11:39AM				
DA*CDDMTW*9	12/16/93	12/17/93	01:38PM				
DA*CDDMTW*10	12/16/93	12/17/93	01:44PM				
DA*CDDMTW*11	12/16/93	12/17/93	01:49PM				
DA*CDDMTW*12	12/16/93	12/17/93	01:54PM				
DA*CDDMTW*22	12/16/93	12/17/93	04:18PM				
SPR1*CDDMTW*22	12/16/93	12/17/93	04:16PM				
SPM2*CDDMTW*22	12/16/93	12/17/93	04:21PM				
DA*CDDMTW*37	12/16/93	12/17/93	01:55PM				
ICV*OC*1	12/16/93	12/17/93	12:25PM				
CCR*OC*1	12/16/93	12/17/93	12:30PM				
SPY*CDDMTW*22	12/16/93	12/17/93	12:35PM				
CCV*OC*2	12/16/93	12/17/93	01:23PM				
CCR*OC*2	12/16/93	12/17/93	01:28PM				
CCV*OC*3	12/16/93	12/17/93	02:04PM				
CCR*OC*3	12/16/93	12/17/93	02:09PM				

003153

SAMPLE CODE	STORET METHOD	STATUS	RESPONSE (UG/L)	DIL	TYPE	CURVE	RET TIME	SPIKE SOL CONC (UG/L)	SPIKE SAMP VOL (NA)	SPIKE VOLUME (NA)	DIL CODE	CALC'D TARGET (UG/L)
ICV-PC-PDR(1)	1002-7060-	OK	50.4									50.0
	1000-7060-	OK	50.4									50.0
MB-DC-1	1002-7060-	OK	0									
	1000-7060-	OK	0									
SP1-DC-1	1002-7060-	OK	39.1									40.0
	1000-7060-	OK	39.1									40.0
DA-CDDMTW-9	1002-7060-	OK	4.2									
	1000-7060-	OK	.8									
DA-CDDMTW-10	1002-7060-	OK	12.4									
	1000-7060-	OK	1.1									
DA-CDDMTW-11	1002-7060-	OK	4.6									
	1000-7060-	OK	1.3									
DA-CDDMTW-12	1002-7060-	OK	7.1									
	1000-7060-	OK	0									
DA-CDDMTW-22	1002-7060-	OK	6									
	1000-7060-	OK	0									
SPH1-CDDMTW-22	1002-7060-	OK	6.2									40.0
	1000-7060-	OK	42.3									40.0
SPH2-CDDMTW-22	1002-7060-	OK	5.1									40.0
	1000-7060-	OK	43.1									40.0
DA-CDDMTW-37	1002-7060-	OK	.8									
	1000-7060-	OK	1.5									
CCV-DC-1	1002-7060-	OK	51.3									50.0
	1000-7060-	OK	51.3									50.0
CCB-DC-1	1002-7060-	OK	.6									
	1000-7060-	OK	.6									
SPX-CDDMTW-22	1002-7060-	OK	50.3	2								100.0
CCV-DC-2	1002-7060-	OK	50.2									50.0
	1000-7060-	OK	50.2									50.0
CCB-DC-2	1002-7060-	OK	1.7									
	1000-7060-	OK	1.7									
CCV-DC-3	1002-7060-	OK	51.7									50.0
	1000-7060-	OK	51.7									50.0
CCB-DC-3	1002-7060-	OK	.9									
	1000-7060-	OK	.9									

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 2.5 DATE: 12/17/93 LARGEST RESPONSE= XRSO=

CONC	0	2.5	5	10	25	50	100
RESP	0	.004	.013	.021	.049	.101	.190
CONC							

CONC = *RESP+ *RESP**2+ *RESP**3
 95% C.I. =
 CORRELATION COEFFICIENT =

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
OC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
OC*1	0.6	
OC*2	1.7	
OC*3	0.9	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCES
OC*1	51.3	50.0	2.6
OC*2	50.2	50.0	0.4
OC*3	51.7	50.0	3.4

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCES
PI-PIRE*1	50.4	50.0	0.8

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1*OC*1	0.0	39.1	39.1	40.0	97.8	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPH*CODMTW*22	6.0	6.2	6.2	40.0	0.5	
SPH2*CODMTW*22	6.0	5.1	-0.9	40.0	-2.3	311.1

Recovery Exceeds criteria. (<75)

Relative Percent Difference exceeds criteria (>21)

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1*CODMTW*22	6.0	112	111	100.0	111.0	

STORET: JAR2 METHOD: 7868-G ARSENIC DISS. UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 2.5 DATE: 12/17/93 LARGEST RESPONSE= XRSO=

CONC	0	2.5	5	10	25	50	100
RESP	0	.004	.013	.021	.049	.101	.190
CONC							

CONC = *RESP+ *RESP**2+ *RESP**3
 95% C.I. =
 CORRELATION COEFFICIENT =

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
OC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
OC*1	0.6	
OC*2	1.7	
OC*3	0.9	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCES
OC*1	51.3	50.0	2.6
OC*2	50.2	50.0	0.4
OC*3	51.7	50.0	3.4

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCES
PI-PIRE*1	50.4	50.0	0.8

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1*OC*1	0.0	39.1	39.1	40.0	97.8	

SAMPLE MATRIX SPIKE(S)

003155

SAMPLE ID	UNSP CONC	SPA CONC	FOUND	TARGET	% RECV	RELS DIFF.
SPH1-CDDHLE-22	0.0	42.3	42.3	40.0	105.8	
SPH2-CDDHTW-22	0.0	43.1	43.1	40.0	107.8	1.9

52 107

003156

SAMPLE RESULTS

	RR2*7868-G	000*7868-G
	ARSENIC, TO	ARSENIC, DI
	TAL	SS
SAMPLE ID	UG/L	UG/L
CD08TW*9	4.2	<2.5
CD08TW*10	12.4	<2.5
CD08TW*11	4.6	<2.5
CD08TW*12	7.1	<2.5
CD08TW*22	6.0	<2.5
CD08TW*37	<2.5	<2.5

52 108

003157

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINAL CONCENTRATION	UG/L
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

52 109

$$\text{FINAL CONC} = \frac{\text{CURV CONC} \cdot \text{EXT VOL} \cdot \text{DIL} \cdot 1}{\text{INJ VOL} \cdot \text{SAMP VOL} \cdot ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) \cdot (\text{NA}) \cdot 1}{(\text{NA}) \cdot (\text{NA})} = \text{ug/L}$$

$$1 = \frac{(\text{UG/L}) \cdot (\text{NA}) \cdot 1}{(\text{NA}) \cdot (\text{NA}) \cdot ((100 - (\text{NA})) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} \cdot \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} \cdot ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) \cdot (\text{NA})}{(\text{NA})} = \text{ug/L}$$

N/A - Data is in final concentration,
 12/21/93
 12/21/93

003158

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G45235

Analysis Date: 12/17/93

Analyst: LULAMAE OSBORNE

52 110

	"Exceptions"	
	Yes	No Comment / Corrective Action
Are All units documented in batch?	X	
Analysis holding time within criteria?	X	
Extract holding time within criteria?	X	
GCW present?	X	
GCW within acceptance criteria?	X	
ICV present?	X	
ICV within acceptance criteria?	X	
Method blank present?	X	
Method blank within acceptance criteria?	X	
Standard matrix spike present?	X	
Standard matrix spike within acceptance criteria?	X	
Sample matrix spike present?	X	
Sample matrix spike within acceptance criteria?	X	X 1002-7060- <i>Very bad matrix interference</i>
Sample matrix spike duplicate present?	X	
Sample matrix spike duplicate within acceptance criteria?	X	X 1002-7060- <i>Reprepped to verify that SPM's were spiked and no recovery due to matrix effects</i>

Note: Any "NO" answer requires a comment.

003159

Batch No.: G45235

Analysis Date: 12/17/93

Analyst: LULAMAE OSBORNE

	N/A	Yes	No	"Exceptions"	
				Comment	Corrective Action
Is the method blank free of contamination? If not, has the data been blank corrected?		☒			
Are reported values consistent with the required units?		☒			
Are detection limits reported correctly?		☒			
Are dilution factors entered correctly?		☒			
Is the calibration curve (if applicable) entered correctly?		☒			
Are all the correct elements included in the spikes?		☒			
Is the batch checked for data entry error(s)?		☒			
Are continuing calibration blanks analyzed at a frequency specified in the appropriate QA/QC Plan (i.e., AP, COE or FDER QA/QC plan)? If not, is an appropriate explanation provided?		☒			
Are continuing calibration verification (CCV) standards analyzed at a frequency specified in the appropriate QA/QC Plan? If not, is an appropriate explanation provided?		☒			
Is an example calculation provided?		☒			
Has the batch documentation checklist been completed?		☒			

Note: Any "NO" answer requires a comment.
Additional Comments:

Completed By: *[Signature]*
Date: 12/21/93

Reviewed By: *[Signature]*
Date: 12/21/93

Notification of appropriate Laboratory Coordinators required for "Exceptions":

Signature	Date	Comments
<i>[Signature]</i>	12/27/93	<i>[Signature]</i>

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

(2)

ELEMENT: As METHOD # AsM3233-011
 ANALYST: L.D. bwyke EMP. # 2826

BK# S PG# 42A
 DATE: 12/17/93

SAMPLES ANALYZED:

COON TW * 9-12, 2437 (N+NF)

BATCH # 645235

GRAVIMETRIC, 12/21/93, 482

INSTRUMENT PARAMETERS:

Inst. model 41007L
 Wavelength 1930
 Bandwidth 0.7L
 (ED) HCLM 536
 Energy/Watts 531-398
 Power Supply 5468W-15
 HGA model 41007L
 Tube type TRANSVERSE
 Sample aliq. 20uL
 Modifier 500 uM (1.00) 12
 Modifier aliq. 5uL
 Zeeman type TRANSVERSE

STANDARDS:

1000 ppm stock
 Manufacturer Fisher
 Lot number 925461-24
 Date received 7/28/93
 Date expires 7/94

Working Standards

Date prep'd: 11/22/93
 10 mg/L std. 12/17/93
 100 ug/L std. 12/17/93
 10 ug/L std. 12/17/93

CALIBRATION CURVE:

	conc.	abs.
Blank	0.0	0.000
Std. 1	2.5	0.0004
Std. 2	5.0	0.002
Std. 3	10.0	0.0020
Std. 4	25.0	0.0048
Std. 5	50.0	0.0100
Std. 6	100.0	0.0198
Std. 7		
Std. 8		
cc:	0.19998 (Linear)	
Det. L	2.5412	

HGA KEYBOARD ENTRIES:

STEP	1	2	3	4	5
Temp(C)	130	300	2250	2500	
Ramp (sec)	5	5	0	1	
Hold (sec)	40	35	3	3	
Read Step			X		
Gas (ml/min)	250	250	0	250	

PREVENTATIVE MAINTENANCE/COMMENTS:

Corrections to runlog reflect corrections to raw data.

12/21/93 482

READ AND UNDERSTOOD BY:

Lisa Seay 12/21/93

000042

003161

Analyst: L. Osborne Date: 12/17/93 Element As Inst. 44071 Book: S Pg: 428

Print #	Sample I. D.	Peak Area	Conc. (ppb)	Target (ppb)	Comments		
1	Calib. Blank	-0.0009	-0.5				
2	Standard 1	0.0029	1.6				
3	Standard 2	0.0121	10.4		(Conv. 0.99978 (Linear))		
4	Standard 3	0.0200	8.7				
5	Standard 4	0.0483	23.3				
6	Standard 5	0.1001	51.2				
7	Standard 6	0.1974	99.1				
8	ICV*PE-PURE*1	0.0998	50.4	50.0	100.8% / 1.0		
9	MB*QC*1	0.0008	0.4				
10	SP1*QC*1	0.0774	39.1	40.0	97.8% / 1.0		
11	CDDMTW*9	0.0084	4.2				
12	CDDMTW*10	0.0246	12.4				
13	CDDMTW*11	0.0091	4.6				
14	CDDMTW*12	0.0141	7.1				
15	CDDMTW*22	0.0095	4.8		High KSD - term - See also 28		
16	SPM1*CDDMTW*22	0.0122	6.2	40.0	High KSD - term - See also 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000		
17	SPM2*CDDMTW*22	0.0100	5.1	40.0	51.6 = -0.9 -2.2% / 1.0		
18	CDDMTW*37	0.0017	0.8				
19	CCV*QC*1	0.1015	51.3	50.0	102.6% / 1.0		
20	CCB*QC*1	0.0011	0.6				
21	SPX*CDDMTW*22	0.1154	58.3	100.0	58.3% = 11.6% - 11.6% 110.6% / 1.0		
22	CDDMTW*22NF	0.0027	1.4				
23	SPM1*CDDMTW*22NF	0.0836	42.3	40.0	105.8% / 1.0		
24	SPM2*CDDMTW*22NF	0.0853	43.1	40.0	107.8% / 1.0		
25	CDDMTW*22 1:2	0.0048	2.4		For use in fraction only		
26	SPM1*CDDMTW*22 1:2	0.0058	2.9		↓ ↓ ↓		
27	SPM2*CDDMTW*22 1:2	0.0051	2.6				
28	CDDMTW*22	0.0120	6				
29	SPM1*CDDMTW*22	0.0075	3.8		KSD still high - the original data - See April		
30	CCV*QC*2	0.0994	50.2	50.0	100.4% / 1.0		
31	CCB*QC*2	0.0033	1.7				
32	SPM1*CDDMTW*22	0.0068	3.4		Not used - data not used		
33	CDDMTW*9NF	0.0016	0.8				
34	CDDMTW*10NF	0.0022	1.1				
35	CDDMTW*11NF	0.0026	1.3				
36	CDDMTW*12NF	0.0000	0				
37	CDDMTW*37NF	0.0029	1.5				
38	CCV*QC*3	0.1024	51.7	50.0	103.4% / 1.0		
39	CCB*QC*3	0.0018	0.9				

003162

The SPX was prepared by adding one part high standard to one part sample. A dilution factor of 2 is entered in the data batch and the target will equal the high standard concentration.

003163

Element File: AS_FURN.GEL Element: As Wavelength: 193.7
 Date: 12/17/93 Time: 10:51 Slit: 0.70 L
 Data File: AS_12_17.DAT ID/Wt File: AS.IDW Lamp Current: 0
 Technique: HGA Calib. Type: Linear Energy: 53

Remark 1: CDDMTW:9-12,22,37 (N + NF)
 Remark 2: Analyzed by Lula Osborne
 Remark 3: December 17, 1993 Data on Lula 2
 Remark 4: 4100ZL
 Remark 5: Lamp No. 536 (EDL-SYS II) Modifier: 500 PPM PD(N03)2

AS ID: Calib. Blank Seq. No.: 00001 A/S Pos.: 36 Date: 12/17/93

Replicate 1 Time: 10:51
 Peak Area (A-s): 0.001 Peak Height (A): 0.014
 Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.037
 Blank Corrected Pk Area (A-s): 0.000
 Concentration (ug/L): 0.0

Replicate 2 Time: 10:54
 Peak Area (A-s): -0.001 Peak Height (A): 0.011
 Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.038
 Blank Corrected Pk Area (A-s): -0.002
 Concentration (ug/L): -1.0

Mean Conc (ug/L): -0.5 SD: 0.70 RSD(%): 142.29

Auto zero performed

AS ID: Standard 1 Seq. No.: 00002 A/S Pos.: 1 Date: 12/17/93

Replicate 1 Time: 10:56
 Peak Area (A-s): 0.003 Peak Height (A): 0.017
 Background Pk Area (A-s): 0.028 Background Pk Height (A): 0.033
 Blank Corrected Pk Area (A-s): 0.002
 Concentration (ug/L): 1.3

Replicate 2 Time: 10:59
 Peak Area (A-s): 0.004 Peak Height (A): 0.022
 Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.035
 Blank Corrected Pk Area (A-s): 0.003
 Concentration (ug/L): 1.9

Mean Conc (ug/L): 1.6 SD: 0.45 RSD(%): 28.32

Standard number 1 applied. [2.5]

Correlation coefficient: 1.00000 Slope: 0.0012

AS ID: Standard 2 Seq. No.: 00003 A/S Pos.: 2 Date: 12/17/93

Replicate 1 Time: 11:01
 Peak Area (A-s): 0.011 Peak Height (A): 0.040
 Background Pk Area (A-s): 0.025 Background Pk Height (A): 0.035
 Blank Corrected Pk Area (A-s): 0.011
 Concentration (ug/L): 9.1

003164

Replicate 2
 Peak Area (A-s): 0.014
 Background Pk Area (A-s): 0.022
 Blank Corrected Pk Area (A-s): 0.014
 Concentration (ug/L): 11.8

Time: 11:04
 Peak Height (A): 0.043
 Background Pk Height (A): 0.032

Mean Conc (ug/L): 10.4

SD: 1.94

RSD(%): 18.52

Standard number 2 applied. [5.0]
 Correlation coefficient: 0.69676

Slope: 0.0023

As ID: Standard 3

Seq. No.: 00004

A/S Pos.: 3

Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.020
 Background Pk Area (A-s): 0.028
 Blank Corrected Pk Area (A-s): 0.019
 Concentration (ug/L): 8.4

Time: 11:06
 Peak Height (A): 0.065
 Background Pk Height (A): 0.035

Replicate 2
 Peak Area (A-s): 0.021
 Background Pk Area (A-s): 0.022
 Blank Corrected Pk Area (A-s): 0.021
 Concentration (ug/L): 9.0

Time: 11:09
 Peak Height (A): 0.079
 Background Pk Height (A): 0.036

Mean Conc (ug/L): 8.7

SD: 0.45

RSD(%): 5.20

Standard number 3 applied. [10.0]
 Correlation coefficient: 0.96598

Slope: 0.0021

As ID: Standard 4

Seq. No.: 00005

A/S Pos.: 4

Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.051
 Background Pk Area (A-s): 0.023
 Blank Corrected Pk Area (A-s): 0.051
 Concentration (ug/L): 24.5

Time: 11:11
 Peak Height (A): 0.177
 Background Pk Height (A): 0.040

Replicate 2
 Peak Area (A-s): 0.046
 Background Pk Area (A-s): 0.027
 Blank Corrected Pk Area (A-s): 0.046
 Concentration (ug/L): 22.0

Time: 11:14
 Peak Height (A): 0.181
 Background Pk Height (A): 0.032

Mean Conc (ug/L): 23.3

SD: 1.73

RSD(%): 7.45

Standard number 4 applied. [25.0]
 Correlation coefficient: 0.99564

Slope: 0.0020

As ID: Standard 5

Seq. No.: 00006

A/S Pos.: 5

Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.100
 Background Pk Area (A-s): 0.026
 Blank Corrected Pk Area (A-s): 0.099
 Concentration (ug/L): 50.8

Time: 11:16
 Peak Height (A): 0.363
 Background Pk Height (A): 0.052

Replicate 2
 Peak Area (A-s): 0.101
 Background Pk Area (A-s): 0.023
 Blank Corrected Pk Area (A-s): 0.101
 Concentration (ug/L): 51.6

Time: 11:19
 Peak Height (A): 0.342
 Background Pk Height (A): 0.042

Mean Conc (ug/L): 51.2

SD: 0.56

RSD(%): 1.10

Standard number 5 applied. [50.0]

Correlation coefficient: 0.99905

Slope: 0.0020

AS ID: Standard 6

Seq. No.: 00007

A/S Pos.: 6

Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.200
 Background Pk Area (A-s): 0.026
 Blank Corrected Pk Area (A-s): 0.200
 Concentration (ug/L): 100.2

Time: 11:22
 Peak Height (A): 0.676
 Background Pk Height (A): 0.057

Replicate 2
 Peak Area (A-s): 0.195
 Background Pk Area (A-s): 0.029
 Blank Corrected Pk Area (A-s): 0.195
 Concentration (ug/L): 98.0

Time: 11:24
 Peak Height (A): 0.668
 Background Pk Height (A): 0.060

Mean Conc (ug/L): 99.1

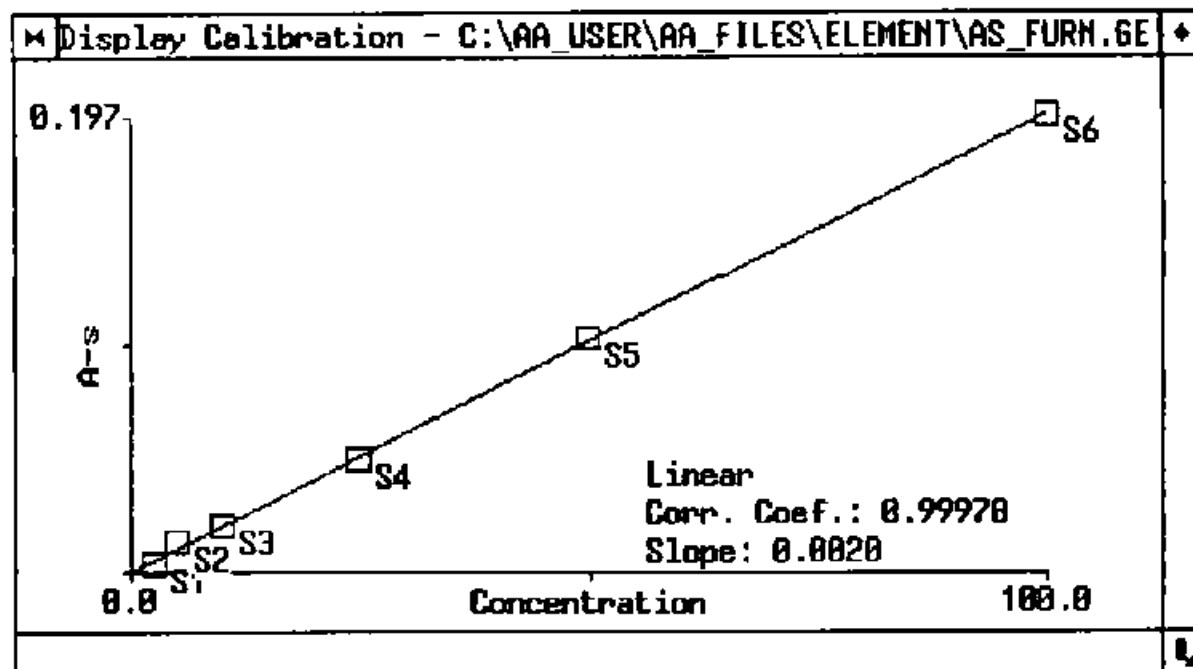
SD: 1.58

RSD(%): 1.60

Standard number 6 applied. [100.0]

Correlation coefficient: 0.99978

Slope: 0.0020



AS ID: ICV*PE-PURE*1 Seq. No.: 00008 A/S Pos.: 7 Date: 12/17/93

Replicate 1 Time: 11:29
Peak Area (A-s): 0.095 Peak Height (A): 0.368
Background Pk Area (A-s): 0.028 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 47.6

Replicate 2 Time: 11:31
Peak Area (A-s): 0.106 Peak Height (A): 0.401
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s): 0.105
Concentration (ug/L): 53.3

Mean Conc (ug/L): 50.4 SD: 4.01 RSD(%): 7.94

AS ID: MB*OC*1 Seq. No.: 00009 A/S Pos.: 8 Date: 12/17/93

Replicate 1 Time: 11:34
Peak Area (A-s): 0.001 Peak Height (A): 0.012
Background Pk Area (A-s): 0.023 Background Pk Height (A): 0.031
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.4

Replicate 2 Time: 11:36
Peak Area (A-s): 0.001 Peak Height (A): 0.011
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.3

Mean Conc (ug/L): 0.4 SD: 0.08 RSD(%): 19.87

AS ID: SP1*OC*1 Seq. No.: 00010 A/S Pos.: 9 Date: 12/17/93

Replicate 1 Time: 11:39
Peak Area (A-s): 0.074 Peak Height (A): 0.219
Background Pk Area (A-s): 0.025 Background Pk Height (A): 0.039
Blank Corrected Pk Area (A-s): 0.073
Concentration (ug/L): 37.3

Replicate 2 Time: 11:42
Peak Area (A-s): 0.082 Peak Height (A): 0.241
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.037
Blank Corrected Pk Area (A-s): 0.081
Concentration (ug/L): 41.1

Mean Conc (ug/L): 39.1 SD: 2.84 RSD(%): 7.26

AS ID: CDDMTW*9 Seq. No.: 00011 A/S Pos.: 10 Date: 12/17/93

Replicate 1 Time: 11:44
Peak Area (A-s): 0.008 Peak Height (A): 0.022
Background Pk Area (A-s): 0.136 Background Pk Height (A): 0.195
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 3.8

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Replicate 2
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.140
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 4.7

Time: 11:47
Peak Height (A): 0.027
Background Pk Height (A): 0.195

Mean Conc (ug/L): 4.2 SD: 0.65 RSD(%): 15.18

AS ID: CDDMTW*10 Seq. No.: 00012 A/S Pos.: 11 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.025
Background Pk Area (A-s): 0.546
Blank Corrected Pk Area (A-s): 0.025
Concentration (ug/L): 12.5

Time: 11:49
Peak Height (A): 0.071
Background Pk Height (A): 1.027

Replicate 2
Peak Area (A-s): 0.025
Background Pk Area (A-s): 0.584
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 12.4

Time: 11:52
Peak Height (A): 0.176
Background Pk Height (A): 1.495

Mean Conc (ug/L): 12.4 SD: 0.10 RSD(%): 0.77

AS ID: CDDMTW*11 Seq. No.: 00013 A/S Pos.: 12 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.240
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.8

Time: 11:54
Peak Height (A): 0.025
Background Pk Height (A): 0.293

Replicate 2
Peak Area (A-s): 0.009
Background Pk Area (A-s): 0.235
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 4.3

Time: 11:57
Peak Height (A): 0.019
Background Pk Height (A): 0.288

Mean Conc (ug/L): 4.6 SD: 0.35 RSD(%): 7.70

AS ID: CDDMTW*12 Seq. No.: 00014 A/S Pos.: 13 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.015
Background Pk Area (A-s): 0.173
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 7.5

Time: 11:59
Peak Height (A): 0.030
Background Pk Height (A): 0.233

Replicate 2
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.180
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 6.7

Time: 12:02
Peak Height (A): 0.037
Background Pk Height (A): 0.235

Mean Conc (ug/L): 7.1 SD: 0.57 RSD(%): 8.00

003168

As ID: CDDMTW*22 Seq. No.: 00015 A/S Pos.: 14 Date: 12/17/93

Replicate 1 Time: 12:04
Peak Area (A-s): 0.012 Peak Height (A): 0.043
Background Pk Area (A-s): 0.541 Background Pk Height (A): 0.721
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 6.2

Replicate 2 Time: 12:07
Peak Area (A-s): 0.007 Peak Height (A): 0.034
Background Pk Area (A-s): 0.493 Background Pk Height (A): 0.725
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 3.5

Mean Conc (ug/L): 4.8 SD: 1.90 RSD(%): 39.48

As ID: SPM1*CDDMTW*22 Seq. No.: 00016 A/S Pos.: 15 Date: 12/17/93

Replicate 1 Time: 12:09
Peak Area (A-s): 0.010 Peak Height (A): 0.028
Background Pk Area (A-s): 0.343 Background Pk Height (A): 0.419
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.9

Replicate 2 Time: 12:12
Peak Area (A-s): 0.015 Peak Height (A): 0.026
Background Pk Area (A-s): 0.337 Background Pk Height (A): 0.389
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 7.5

Mean Conc (ug/L): 6.2 SD: 1.86 RSD(%): 30.17

As ID: SPM2*CDDMTW*22 Seq. No.: 00017 A/S Pos.: 16 Date: 12/17/93

Replicate 1 Time: 12:14
Peak Area (A-s): 0.010 Peak Height (A): 0.029
Background Pk Area (A-s): 0.368 Background Pk Height (A): 0.408
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.8

Replicate 2 Time: 12:17
Peak Area (A-s): 0.011 Peak Height (A): 0.026
Background Pk Area (A-s): 0.365 Background Pk Height (A): 0.417
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 5.3

Mean Conc (ug/L): 5.1 SD: 0.33 RSD(%): 6.50

As ID: CDDMTW*37 Seq. No.: 00018 A/S Pos.: 17 Date: 12/17/93

Replicate 1 Time: 12:20
Peak Area (A-s): 0.001 Peak Height (A): 0.014
Background Pk Area (A-s): 0.040 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.2

003169

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.037
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.5

Time: 12:22 52 121
Peak Height (A): 0.020
Background Pk Height (A): 0.044

Mean Conc (ug/L): 0.8 SD: 0.88 RSD(%): 104.30

As ID: CCB*QC*1 Seq. No.: 00019 A/S Pos.: 18 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.105
Background Pk Area (A-s): 0.023
Blank Corrected Pk Area (A-s): 0.104
Concentration (ug/L): 52.7

Time: 12:25
Peak Height (A): 0.319
Background Pk Height (A): 0.039

Replicate 2
Peak Area (A-s): 0.099
Background Pk Area (A-s): 0.026
Blank Corrected Pk Area (A-s): 0.099
Concentration (ug/L): 49.9

Time: 12:27
Peak Height (A): 0.308
Background Pk Height (A): 0.040

Mean Conc (ug/L): 51.3 SD: 1.95 RSD(%): 3.80

As ID: CCB*QC*1 Seq. No.: 00020 A/S Pos.: 19 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.023
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.6

Time: 12:30
Peak Height (A): 0.012
Background Pk Height (A): 0.037

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.6

Time: 12:32
Peak Height (A): 0.010
Background Pk Height (A): 0.035

Mean Conc (ug/L): 0.6 SD: 0.01 RSD(%): 1.52

As ID: SPX*CDDMTW*22 Seq. No.: 00021 A/S Pos.: 20 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.118
Background Pk Area (A-s): 0.213
Blank Corrected Pk Area (A-s): 0.118
Concentration (ug/L): 59.7

Time: 12:35
Peak Height (A): 0.343
Background Pk Height (A): 0.315

Replicate 2
Peak Area (A-s): 0.113
Background Pk Area (A-s): 0.246
Blank Corrected Pk Area (A-s): 0.113
Concentration (ug/L): 57.0

Time: 12:38
Peak Height (A): 0.326
Background Pk Height (A): 0.322

Mean Conc (ug/L): 58.3 SD: 1.93 RSD(%): 3.31

003170

As ID: CDDMTW*22NF Seq. No.: 00022 A/S Pos.: 25 Date: 12/17/93

Replicate 1 Time: 12:40
Peak Area (A-s): 0.003 Peak Height (A): 0.014
Background Pk Area (A-s): 0.054 Background Pk Height (A): 0.100
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.1

Replicate 2 Time: 12:43
Peak Area (A-s): 0.004 Peak Height (A): 0.011
Background Pk Area (A-s): 0.052 Background Pk Height (A): 0.104
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.6

Mean Conc (ug/L): 1.4 SD: 0.37 RSD(%): 26.99

As ID: SPM1*CDDMTW*22NF Seq. No.: 00023 A/S Pos.: 26 Date: 12/17/93

Replicate 1 Time: 12:45
Peak Area (A-s): 0.085 Peak Height (A): 0.236
Background Pk Area (A-s): 0.057 Background Pk Height (A): 0.108
Blank Corrected Pk Area (A-s): 0.085
Concentration (ug/L): 42.9

Replicate 2 Time: 12:48
Peak Area (A-s): 0.083 Peak Height (A): 0.212
Background Pk Area (A-s): 0.058 Background Pk Height (A): 0.105
Blank Corrected Pk Area (A-s): 0.082
Concentration (ug/L): 41.7

Mean Conc (ug/L): 42.3 SD: 0.84 RSD(%): 1.99

As ID: SPM2*CDDMTW*22NF Seq. No.: 00024 A/S Pos.: 27 Date: 12/17/93

Replicate 1 Time: 12:50
Peak Area (A-s): 0.085 Peak Height (A): 0.234
Background Pk Area (A-s): 0.057 Background Pk Height (A): 0.102
Blank Corrected Pk Area (A-s): 0.084
Concentration (ug/L): 42.7

Replicate 2 Time: 12:53
Peak Area (A-s): 0.086 Peak Height (A): 0.226
Background Pk Area (A-s): 0.058 Background Pk Height (A): 0.102
Blank Corrected Pk Area (A-s): 0.086
Concentration (ug/L): 43.5

Mean Conc (ug/L): 43.1 SD: 0.59 RSD(%): 1.38

As ID: CDDMTW*22 1:2 Seq. No.: 00025 A/S Pos.: 31 Date: 12/17/93

Replicate 1 Time: 12:56
Peak Area (A-s): 0.004 Peak Height (A): 0.025
Background Pk Area (A-s): 0.227 Background Pk Height (A): 0.304
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 2.1

003171

Replicate 2
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.225
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 2.7

Time: 12:58
Peak Height (A): 0.018
Background Pk Height (A): 0.312

Mean Conc (ug/L): 2.4 SD: 0.43 RSD(%): 17.91

AS ID: SPM1*CDDMTW*22 ^{1.2} Seq. No.: 00026 A/S Pos.: 32 Date: 12/17/93
12/21/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.156
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.6

Time: 13:01
Peak Height (A): 0.013
Background Pk Height (A): 0.230

Replicate 2
Peak Area (A-s): 0.009
Background Pk Area (A-s): 0.148
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 4.2

Time: 13:03
Peak Height (A): 0.016
Background Pk Height (A): 0.241

Mean Conc (ug/L): 2.9 SD: 1.85 RSD(%): 63.54

AS ID: SPM2*CDDMTW*22 ^{1.2} Seq. No.: 00027 A/S Pos.: 33 Date: 12/17/93
12/21/93

Replicate 1
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.170
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.8

Time: 13:06
Peak Height (A): 0.019
Background Pk Height (A): 0.241

Replicate 2
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.168
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 3.3

Time: 13:08
Peak Height (A): 0.015
Background Pk Height (A): 0.247

Mean Conc (ug/L): 2.6 SD: 1.06 RSD(%): 40.93

AS ID: CDDMTW*22 Seq. No.: 00028 A/S Pos.: 14 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.502
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 6.8

Time: 13:13
Peak Height (A): 0.048
Background Pk Height (A): 0.647

Replicate 2
Peak Area (A-s): 0.011
Background Pk Area (A-s): 0.499
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 5.3

Time: 13:15
Peak Height (A): 0.045
Background Pk Height (A): 0.658

Mean Conc (ug/L): 6.0 SD: 1.02 RSD(%): 16.83

003172

As ID: SPM1*CDDMTW*32 Seq. No.: 00029 A/S Pos.: 15 Date: 12/17/93

Replicate 1 Time: 13:18
Peak Area (A-s): 0.005 Peak Height (A): 0.022
Background Pk Area (A-s): 0.259 Background Pk Height (A): 0.392
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 2.5

Replicate 2 Time: 13:20
Peak Area (A-s): 0.010 Peak Height (A): 0.029
Background Pk Area (A-s): 0.339 Background Pk Height (A): 0.411
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 5.1

Mean Conc (ug/L): 3.8 SD: 1.84 RSD(%): 48.79

As ID: CCV*QC*2 Seq. No.: 00030 A/S Pos.: 29 Date: 12/17/93

Replicate 1 Time: 13:23
Peak Area (A-s): 0.102 Peak Height (A): 0.312
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.040
Blank Corrected Pk Area (A-s): 0.102
Concentration (ug/L): 51.6

Replicate 2 Time: 13:25
Peak Area (A-s): 0.097 Peak Height (A): 0.294
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.097
Concentration (ug/L): 48.9

Mean Conc (ug/L): 50.2 SD: 1.87 RSD(%): 3.72

As ID: CCB*QC*2 Seq. No.: 00031 A/S Pos.: 30 Date: 12/17/93

Replicate 1 Time: 13:28
Peak Area (A-s): 0.004 Peak Height (A): 0.013
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.8

Replicate 2 Time: 13:30
Peak Area (A-s): 0.003 Peak Height (A): 0.013
Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.5

Mean Conc (ug/L): 1.7 SD: 0.19 RSD(%): 11.24

As ID: SPM1*CDDMTW*22 Seq. No.: 00032 A/S Pos.: 15 Date: 12/17/93

Replicate 1 Time: 13:33
Peak Area (A-s): 0.003 Peak Height (A): 0.021
Background Pk Area (A-s): 0.329 Background Pk Height (A): 0.415
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.6

003173

Replicate 2
Peak Area (A-s): 0.011
Background Pk Area (A-s): 0.341
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 5.3

Time: 13:36
Peak Height (A): 0.024
Background Pk Height (A): 0.409

Mean Conc (ug/L): 3.4 SD: 2.58 RSD(%): 75.16

AS ID: CDDMTW*9NF Seq. No.: 00033 A/S Pos.: 21 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.039
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.0

Time: 13:38
Peak Height (A): 0.013
Background Pk Height (A): 0.043

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.039
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.6

Time: 13:41
Peak Height (A): 0.015
Background Pk Height (A): 0.048

Mean Conc (ug/L): 0.8 SD: 0.26 RSD(%): 32.54

AS ID: CDDMTW*10NF Seq. No.: 00034 A/S Pos.: 22 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.039
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.1

Time: 13:44
Peak Height (A): 0.013
Background Pk Height (A): 0.043

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.039
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.2

Time: 13:46
Peak Height (A): 0.013
Background Pk Height (A): 0.041

Mean Conc (ug/L): 1.1 SD: 0.04 RSD(%): 3.73

AS ID: CDDMTW*11NF Seq. No.: 00035 A/S Pos.: 23 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.044
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.6

Time: 13:49
Peak Height (A): 0.012
Background Pk Height (A): 0.067

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.042
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 2.0

Time: 13:51
Peak Height (A): 0.013
Background Pk Height (A): 0.064

Mean Conc (ug/L): 1.3 SD: 1.01 RSD(%): 76.15

003174

As ID: CDDMTW*12NF Seq. No.: 00036 A/S Pos.: 24 Date: 12/17/93

Replicate 1 Time: 13:54
Peak Area (A-s): 0.002 Peak Height (A): 0.014
Background Pk Area (A-s): 0.032 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.1

Replicate 2 Time: 13:56
Peak Area (A-s): -0.002 Peak Height (A): 0.014
Background Pk Area (A-s): 0.036 Background Pk Height (A): 0.033
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -1.1

Mean Conc (ug/L): 0.0 SD: 1.51 RSD(%): 17991.94

As ID: CDDMTW*37NF Seq. No.: 00037 A/S Pos.: 28 Date: 12/17/93

Replicate 1 Time: 13:59
Peak Area (A-s): 0.005 Peak Height (A): 0.016
Background Pk Area (A-s): 0.038 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 2.6

Replicate 2 Time: 14:01
Peak Area (A-s): 0.001 Peak Height (A): 0.016
Background Pk Area (A-s): 0.040 Background Pk Height (A): 0.045
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.3

Mean Conc (ug/L): 1.5 SD: 1.59 RSD(%): 109.24

As ID: CCV*QC*3 Seq. No.: 00038 A/S Pos.: 29 Date: 12/17/93

Replicate 1 Time: 14:04
Peak Area (A-s): 0.106 Peak Height (A): 0.312
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.046
Blank Corrected Pk Area (A-s): 0.106
Concentration (ug/L): 53.4

Replicate 2 Time: 14:07
Peak Area (A-s): 0.099 Peak Height (A): 0.319
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.042
Blank Corrected Pk Area (A-s): 0.099
Concentration (ug/L): 50.1

Mean Conc (ug/L): 51.7 SD: 2.35 RSD(%): 4.54

As ID: CCB*QC*3 Seq. No.: 00039 A/S Pos.: 30 Date: 12/17/93

Replicate 1 Time: 14:09
Peak Area (A-s): 0.002 Peak Height (A): 0.014
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.033
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.0

003175

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.8

Time: 14:12
Peak Height (A): 0.011
Background Pk Height (A): 0.032

52 127

Mean Conc (ug/L): 0.9

SD: 0.11

RSD(%): 11.57

003176

ATOMIC SPECTROSCOPY SAMPLE PREP

4

REPREP

Book No. 21 Pg. No. 000168Matrix WATERMethod/QC Type GFAA/FDERSOP No. ASH3233-005Lot No.(s) N/ASpike Solutions Used
1. AST3233-007 SOLN "A"
2.Prep Date 12-6-93 Prep'd by DER Exp. Date 1-9-94Final Vol. (mL) 50mlPipets Used EPENDORF N30939Balance No. N/AHood No. 7Hotplate No. 5

Sample No.	Weight (g)/ Init Vol. (mL)	Spike Information
MB	50ml	
SP		
CDDMTW*9 (N)		0.5ml #1
10		
11		
12		
22		
SPM1*22		0.5ml #1
SPM2*22		0.5ml #1
37		
9 (NF)		
10		
11		
12		
22		
SPM1*22		0.5ml #1
SPM2*22		0.5ml #1
37		

Rodriguez 12/16/93
Signed Date

[Signature] 12/16/93
Read & Understood By Date
003177

ELEMENT	STOCK CONC.	ML'S USED	FINAL CONC. (ppb)	TARGET	LOT #	EXP. DATE
As	1,000	4.0	4,000	40	390806	10-94
Cr	↑	2.0	2,000	20	291028	1-94
Pb	↑	2.0	2,000	20	390907	11-94
Mn	↑	2.0	2,000	20	290923	1-94
Se	↑	1.0	1,000	10	390421	7-94
Ti	↓	5.0	5,000	50	390907	10-94
V	1000	2.0	2,000	20	291015	1-94

All Stock Solutions Are High Purity
 Solution is 1% HNO₃

Volume (Final): 1000 ml
 Pipets Used: 1, 2, 4, 5 ml Class "A" Volumetrics

Solution Expires 12/9/94 WI 12/6/93
 1/9/94

Continued on Page

Obadiah
 Signed

12/6/93
 Date

Read and Understood By

Cl 12/6/93
 Signed

003178

12/6/93
 Date

1000 ppm Stock Solutions:

Element	Manufacturer	Lot No.	Date Received	Date Expires
As	Fisher	92524-04	7/28/93	7/94
Se	Baker	F17647	4/1/93	5/94
Pb	Baker	E48620	7/7/92	12/31/93
Tl	Mallinckrodt	H584-KTSG-P	4/2/93	10/94

10 ppm standard: 2.0 ml of each of the above stock solutions was transferred to a 200 ml volumetric flask containing 100 ml conc HNO_3 and DI water. Then the solution was brought to volume with DI water.
(Expires: 12/25/93)

Working Standards:

100 ppb: 2.0 ml of the 10 ppm standard was transferred to a 200 ml volumetric flask containing 100 ml conc HNO_3 and DI water. Then solution brought to volume with DI H_2O .
10 ppb: 10.0 ml of the 100 ppb solution was transferred to a 100 ml volumetric flask containing 50 ml conc HNO_3 and DI water. Then solution brought to volume with DI water.
50 ppb: 0.5 ml of the 10 ppm standard was transferred to a 100 ml volumetric flask containing 50 ml conc HNO_3 and DI water. Then solution brought to volume with DI water.

NOTE: Standards are 5% conc HNO_3 .

Working Standards Remarks:

Date	Initials	Date	Initials	Date	Initials	Date	Initials
11/33/93	ms	12/7/93	CAM				
11/24/93	LOS	12/13/93	WZ CAM				
11/29/93	LOS	12/14/93	MAH				
11/30/93	MS	12/15/93	MS				
12/1/93	MS	12/16/93	MS				
12/2/93	MS	12/17/93	MS				
12/3/93	MS	12/18/93	MS				
12/4/93	MS	12/19/93	MS				
12/5/93	MS	12/20/93	MS				
12/6/93	MS						
12/7/93	MS						

Continued on Page

Julianne Z. Deane
Signed

11/22/93
Date

Read and Understood By

[Signature]
Signed

11-22-93
Date

003179

Transferred 0.5ml of the PE PURE stock solution (Lot No. 5-69AS, CUS No. 7697-37-2, Received-9/28/93, Expires-9/30/94) to a 1000 ml volumetric flask containing 50.0 ml conc HNO_3 and DI water. Then the solution was brought to volume with DI water.

Element	Stock Soln Conc (ppm)	ICN Soln Conc (ppb)
Ca	25	12.5
Se	25	12.5
As	100	50
Be		
Cr		
Co		
Cu		
Fe		
Pb		
Mn		
Ni	↓	↓
Zn	100	50
V	250	125
Al	500	250
Hg	5.0	2.5

NOTE: Solution is 5% conc HNO_3 .

Solution is stored at room temperature.

Expires: 5/2/94

Continued on Page

Richard S. Danner
Signed

12/2/93
Date

Read and Understood By

Marion Danner
Signed

12/2/93
Date

003180

*** PROJECT REQUIREMENTS ***
Department 3233

52 132

Project Name: *Huntsville CDE - Dom T*

Lab Coordinator: *P. Wilber*

Field Groups: *CDomTW*
CDomTWD

Project No.: *7934082G 0201*

QC Type:

QC Requirements:

003181

PROJECT NUMBER 79340826 0201
FIELD GROUP CDDMTW

PROJECT NAME HUNTSVILLE COE - DDNT
PROJECT MANAGER P.C. WILBER

52 133

STORET CODE:	1002	1051	1147	1145	1000	
METHOD CODE:	7060-G	7421-G	7740-G	7740-G	7060-G	
PARAMETER:	AS	PB	SE	SE,DISS	AS,DISS	Pb,di'ss
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/L	

FLO.GRP.	#	SAMPLE ID	DATE	TIME
CDDMTW	9	NW9	11/15/93	17:11
CDDMTW	10	NW10SP	11/11/93	18:00
CDDMTW	11	NW11	11/13/93	09:30
CDDMTW	12	NW12SP	11/11/93	15:30
CDDMTW	22	NW22SP	11/17/93	15:00
CDDMTW	37	NW37SP	11/18/93	11:30

003182

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
M E M O R A N D U M
GAINESVILLE, FL

To: Department Managers

From: Patrick Wilber

Date: November 16, 1993

Subject: Huntsville COE

Field Group -
CDDMTW memo
update

ESE station ID's * 10, 12, 22, 37, 11, and 9 for the referenced field group receive an inhouse generated CLP-like package for the deliverable (forms, raw data, narrative, etc.), following SW846 methodology for all the analyses groups. I will update you as to when these station IDs will arrive so that they can be extracted, analyzed and batched together. The other stations will receive a standard COE deliverable following SW846 methodology. If you have any questions please contact me immediately.

Thanks

cc:DHG
PCG

003183

ATOMIC SPECTROSCOPY SAMPLE PREP

Book No. 21 Pg. No. 000138

Matrix WATERS Method/QC Type GFAA/FAER

SOP No. ASM3233-005 Lot No.(s) NA

Spike Solutions Used

1. ASM3233-007 Spike A Prep Date 11-10-93 Prep'd by DDZ Exp. Date 12-12-93

2.

Final Vol. (mL) 50mL Pipets Used BIOHIT 1000 #1

Balance No. NA Hood No. 5 Hotplate No. 2

Sample No.	Weight (g)/ Init. Vol. (mL)	Spike Information
<u>MB</u>	<u>50mL</u>	
<u>SP</u>		<u>0.5mL #1</u>
<u>000mLW #9 (N)</u>		
<u>10</u>		
<u>11</u>		
<u>SPM1 #11</u>		<u>0.5mL #1</u>
<u>SPM2 #11</u>		<u>0.5mL #1</u>
<u>12</u>		
<u>22</u>		
<u>37</u>		
<u>9 (N)</u>		
<u>10</u>		
<u>11</u>		
<u>SPM1 #11</u>		<u>0.5mL #1</u>
<u>SPM2 #11</u>		<u>0.5mL #1</u>
<u>12</u>		
<u>22</u>		
<u>37</u>		

OBodriguez 12/3/93

Signed Date

Marshall L. L. 12-3-93

Read & Understood By Date

003184

	(ppm)		(ppb)					
ELEMENT	STOCK CONC.	M/S USED	FINAL CONC.	TARGET	MFR	LOT#		EXP.
As	1,000	4.0	4,000	40	FISHER	925464-34		7-94
Cr	↑	2.0	2,000	20	MALWIKRODT	457041-40		7-94
Pb		2.0	2,000	20	BAKER	EY8620		12-93
Mo		2.0	2,000	20	BAKER	FO1630		1-94
Se		1.0	1,000	10	BAKER	F17647		5-94
Tl		5.0	5,000	50	MALWIKRODT	457041-40		10-94
V	↓ 1,000	2.0	2,000	20	BAKER	F27405		2-95

FINAL VOLUME = 1000 m/s (1% HNO₃)

PIPETTS USED: DICHIT 1000 #2
CLASS "A" VOL. 2.5 ml
SOLN EXPIRES 12-5-93

REMADE
11-10-93

BY
DYZ

EXPIRES
12-12-93

Continued on Page

Frank R. Roll
Signed

11-2-93
Date

Read and Understood By

N. Marshall
Signed

11/2/93
Date

005285

Element File: AS_FURN.GEL Element: As Wavelength: 193.7
Date: 12/15/93 Time: 10:08 Slit: 0.70 L
Data File: A:AS_12_15.DAT ID/Wt File: AS.IDW Lamp Current: 0
Technique: HGA Calib Type: Linear Energy: 52
Remark 1: CDDMTW*6,13,16,19-21,35,36,41,42 (N + NF)
Remark 2: Analyzed by Lula Osborne
Remark 3: December 15, 1993 Data on Lula 3
Remark 4: 4100ZL
Remark 5: Lamp No. 536 (EDL-SYS II) Modifier: 500 PPM PD(N03)2

As ID: Calib. Blank Seq. No.: 00001 A/S Pos.: 36 Date: 12/15/93

Replicate 1 Time: 10:08
Peak Area (A-s): 0.000 Peak Height (A): 0.011
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.032
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -1.2

Replicate 2 Time: 10:10
Peak Area (A-s): 0.000 Peak Height (A): 0.016
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -1.4

Mean Conc (ug/L): -1.3 SD: 0.12 RSD(%): 9.08

Auto-zero performed.

As ID: Standard 1 Seq. No.: 00002 A/S Pos.: 40 Date: 12/15/93

Replicate 1 Time: 10:13
Peak Area (A-s): 0.009 Peak Height (A): 0.021
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 3.8

Replicate 2 Time: 10:16
Peak Area (A-s): 0.009 Peak Height (A): 0.022
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.035
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 3.8

Mean Conc (ug/L): 3.8 SD: 0.04 RSD(%): 1.15

Standard number 1 applied. [2.5]
Correlation coefficient: 1.00000 Slope: 0.0036

As ID: Standard 2 Seq. No.: 00003 A/S Pos.: 1 Date: 12/15/93

Replicate 1 Time: 10:18
Peak Area (A-s): 0.013 Peak Height (A): 0.042
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.037
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 3.7

003186

Replicate 2
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.022
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 2.7

Time: 10:21
Peak Height (A): 0.037
Background Pk Height (A): 0.042

52 138

Mean Conc (ug/L): 3.2 SD: 0.68 RSD(%): 21.33

Standard number 2 applied. [5.0]
Correlation coefficient: 0.77998 Slope: 0.0027

As ID: Standard 3 Seq. No.: 00004 A/S Pos.: 1 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.024
Background Pk Area (A-s): 0.015
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 9.0

Time: 10:24
Peak Height (A): 0.062
Background Pk Height (A): 0.036

Replicate 2
Peak Area (A-s): 0.024
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 8.9

Time: 10:26
Peak Height (A): 0.059
Background Pk Height (A): 0.037

Mean Conc (ug/L): 9.0 SD: 0.09 RSD(%): 0.96

Standard number 3 applied. [10.0]
Correlation coefficient: 0.97381 Slope: 0.0025

As ID: Standard 4 Seq. No.: 00005 A/S Pos.: 2 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.061
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.061
Concentration (ug/L): 24.7

Time: 10:29
Peak Height (A): 0.166
Background Pk Height (A): 0.046

Replicate 2
Peak Area (A-s): 0.061
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.061
Concentration (ug/L): 24.9

Time: 10:32
Peak Height (A): 0.169
Background Pk Height (A): 0.045

Mean Conc (ug/L): 24.8 SD: 0.12 RSD(%): 0.50

Standard number 4 applied. [25.0]
Correlation coefficient: 0.99751 Slope: 0.0024

As ID: Standard 5 Seq. No.: 00006 A/S Pos.: 2 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.118
Background Pk Area (A-s): 0.022
Blank Corrected Pk Area (A-s): 0.118
Concentration (ug/L): 48.5

Time: 10:34
Peak Height (A): 0.326
Background Pk Height (A): 0.052

003187

Replicate 2
Peak Area (A-s): 0.121
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.121
Concentration (ug/L): 49.8

Time: 10:37 52 139
Peak Height (A): 0.325
Background Pk Height (A): 0.041

Mean Conc (ug/L): 49.1

SD: 0.88

RSD(%): 1.60

Standard number 5 applied. [50.0]

Correlation coefficient: 0.99945

Slope: 0.0024

AS ID: Standard 6

Seq. No.: 00007

A/S Pos.: 2

Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.236
Background Pk Area (A-s): 0.023
Blank Corrected Pk Area (A-s): 0.236
Concentration (ug/L): 98.0

Time: 10:40
Peak Height (A): 0.569
Background Pk Height (A): 0.048

Replicate 2
Peak Area (A-s): 0.238
Background Pk Area (A-s): 0.023
Blank Corrected Pk Area (A-s): 0.237
Concentration (ug/L): 98.7

Time: 10:42
Peak Height (A): 0.577
Background Pk Height (A): 0.053

Mean Conc (ug/L): 98.3

SD: 0.51

RSD(%): 0.52

Standard number 6 applied. [100.0]

Correlation coefficient: 0.99983

Slope: 0.0024

AS ID: Standard 2

Seq. No.: 00008

A/S Pos.: 1

Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 7.3

Time: 10:45
Peak Height (A): 0.041
Background Pk Height (A): 0.037

Replicate 2
Peak Area (A-s): 0.013
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 5.4

Time: 10:48
Peak Height (A): 0.045
Background Pk Height (A): 0.034

Mean Conc (ug/L): 6.4

SD: 1.32

RSD(%): 20.77

Standard number 2 applied. [5.0]

Correlation coefficient: 0.99970

Slope: 0.0024

AS ID: Standard 2

Seq. No.: 00009

A/S Pos.: 1

Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 5.6

Time: 10:52
Peak Height (A): 0.045
Background Pk Height (A): 0.034

003188

52 140

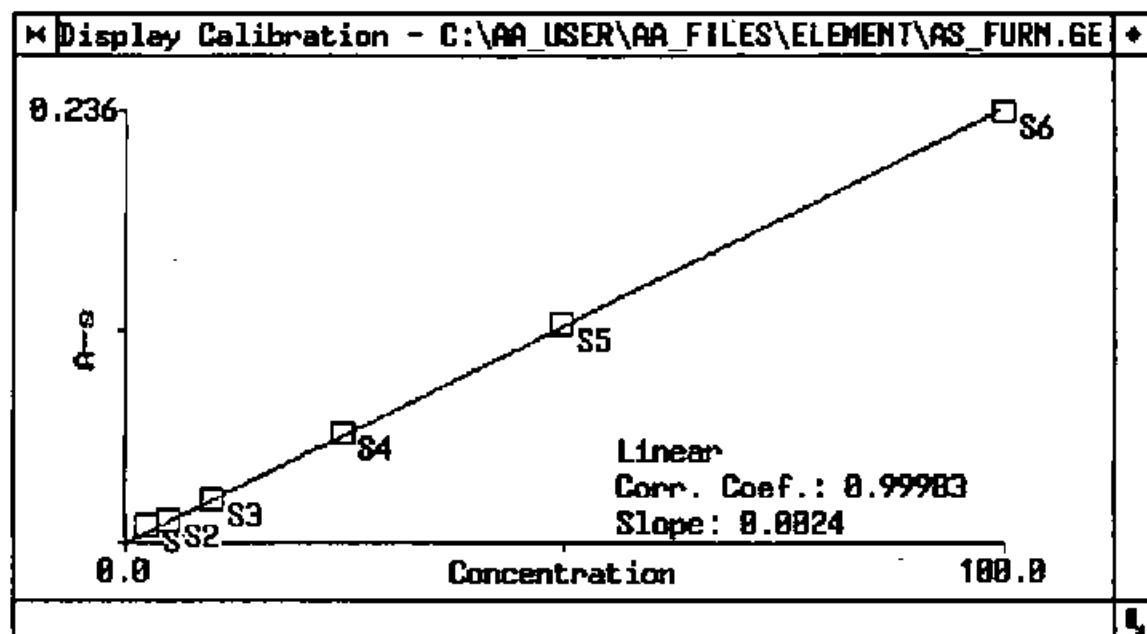
Replicate 2
Peak Area (A-s): 0.012
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 5.0

Time: 10:55
Peak Height (A): 0.039
Background Pk Height (A): 0.037

Mean Conc (ug/L): 5.3 SD: 0.45 RSD(%): 8.41

Standard number 2 applied. [5.0]
Correlation coefficient: 0.99983

Slope: 0.0024



003189

Element File: AS_FURN.GEL Element: As Wavelength: 193.7
Date: 12/15/93 Time: 14:39 Slit: 0.70 L
Data File: A:AS_12_15.DAT ID/Wt File: AS.IDW Lamp Current: 0
Technique: HGA Calib. Type: Linear Energy: 52
Remark 1: CDDMTW*9-12,22,37 (N + NF)
Remark 2: Analyzed by Lula Osborne
Remark 3: December 15, 1993 Data on Lula 3
Remark 4: 4100ZL
Remark 5: Lamp No. 536 (EDL-SYS II) Modifier: 500 PPM PD(N03)2

AS ID: ICV*PE-PURE*2 Seq. No.: 00047 A/S Pos.: 3 Date: 12/15/93

Replicate 1 Time: 14:42
Peak Area (A-s): 0.115 Peak Height (A): 0.332
Background Pk Area (A-s): 0.025 Background Pk Height (A): 0.043
Blank Corrected Pk Area (A-s): 0.115
Concentration (ug/L): 48.5

Replicate 2 Time: 14:44
Peak Area (A-s): 0.119 Peak Height (A): 0.357
Background Pk Area (A-s): 0.021 Background Pk Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.119
Concentration (ug/L): 50.2

Mean Conc (ug/L): 49.3 SD: 1.20 RSD(%): 2.44

AS ID: MB*QC*2 Seq. No.: 00048 A/S Pos.: 4 Date: 12/15/93

Replicate 1 Time: 14:57
Peak Area (A-s): 0.001 Peak Height (A): 0.017
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.038
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

Replicate 2 Time: 14:59
Peak Area (A-s): 0.002 Peak Height (A): 0.018
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.040
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.9

Mean Conc (ug/L): 0.5 SD: 0.43 RSD(%): 78.99

AS ID: SP1*QC*2 Seq. No.: 00049 A/S Pos.: 5 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.092
Background Pk Area (A-s): 0.019
Blank Corrected Pk Area (A-s): 0.092
Concentration (ug/L): 38.8
Time: 15:02
Peak Height (A): 0.244
Background Pk Height (A): 0.043

Replicate 2
Peak Area (A-s): 0.088
Background Pk Area (A-s): 0.020
Blank Corrected Pk Area (A-s): 0.088
Concentration (ug/L): 37.0
Time: 15:04
Peak Height (A): 0.226
Background Pk Height (A): 0.047

Mean Conc (ug/L): 37.9 SD: 1.26 RSD(%): 3.34

AS ID: CDDMTW*9 Seq. No.: 00050 A/S Pos.: 6 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.008
Background Pk Area (A-s): 0.195
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 3.1
Time: 15:07
Peak Height (A): 0.023
Background Pk Height (A): 0.209

Replicate 2
Peak Area (A-s): 0.012
Background Pk Area (A-s): 0.200
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 4.8
Time: 15:09
Peak Height (A): 0.029
Background Pk Height (A): 0.202

Mean Conc (ug/L): 3.9 SD: 1.25 RSD(%): 31.60

AS ID: CDDMTW*10 Seq. No.: 00051 A/S Pos.: 7 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.586
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.6
Time: 15:12
Peak Height (A): 0.199
Background Pk Height (A): 1.114

Replicate 2
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.602
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.2
Time: 15:14
Peak Height (A): 0.226
Background Pk Height (A): 0.930

Mean Conc (ug/L): 2.9 SD: 1.89 RSD(%): 65.31

AS ID: CDDMTW*11 Seq. No.: 00052 A/S Pos.: 8 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.008
Background Pk Area (A-s): 0.388
Time: 15:17
Peak Height (A): 0.055
Background Pk Height (A): 0.479

003191

Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 3.2

52 143

Replicate 2
Peak Area (A-s): 0.008
Background Pk Area (A-s): 0.399
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 3.1

Time: 15:19
Peak Height (A): 0.064
Background Pk Height (A): 0.482

Mean Conc (ug/L): 3.2 SD: 0.07 RSD(%): 2.37

As ID: SPM1*CDDMTW*11 Seq. No.: 00053 A/S Pos.: 9 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.299
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 2.9

Time: 15:22
Peak Height (A): 0.030
Background Pk Height (A): 0.300

Replicate 2
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.296
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 2.7

Time: 15:25
Peak Height (A): 0.021
Background Pk Height (A): 0.298

Mean Conc (ug/L): 2.8 SD: 0.11 RSD(%): 3.79

As ID: SPM2*CDDMTW*11 Seq. No.: 00054 A/S Pos.: 10 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.286
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 2.6

Time: 15:27
Peak Height (A): 0.021
Background Pk Height (A): 0.290

Replicate 2
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.283
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 3.0

Time: 15:30
Peak Height (A): 0.030
Background Pk Height (A): 0.293

Mean Conc (ug/L): 2.8 SD: 0.25 RSD(%): 8.87

As ID: CDDMTW*12 Seq. No.: 00055 A/S Pos.: 11 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.181
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 2.9

Time: 15:32
Peak Height (A): 0.016
Background Pk Height (A): 0.197

Replicate 2
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.183
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 2.3

Time: 15:35
Peak Height (A): 0.022
Background Pk Height (A): 0.203

003192

Mean Conc (ug/L): 2.6 SD: 0.40 RSD(%): 15.49

AS ID: CDDMTW*22 Seq. No.: 00056 A/S Pos.: 12 Date: 12/15/93

Replicate 1 Time: 15:37
Peak Area (A-s): -0.006 Peak Height (A): 0.117
Background Pk Area (A-s): 0.559 Background Pk Height (A): 0.923
Blank Corrected Pk Area (A-s): -0.007
Concentration (ug/L): -2.8

Replicate 2 Time: 15:40
Peak Area (A-s): -0.009 Peak Height (A): 0.102
Background Pk Area (A-s): 0.544 Background Pk Height (A): 0.841
Blank Corrected Pk Area (A-s): -0.009
Concentration (ug/L): -3.8

Mean Conc (ug/L): -3.3 SD: 0.69 RSD(%): 20.84

AS ID: CDDMTW*37 Seq. No.: 00057 A/S Pos.: 13 Date: 12/15/93

Replicate 1 Time: 15:42
Peak Area (A-s): 0.006 Peak Height (A): 0.017
Background Pk Area (A-s): 0.048 Background Pk Height (A): 0.051
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 2.2

Replicate 2 Time: 15:45
Peak Area (A-s): 0.007 Peak Height (A): 0.024
Background Pk Area (A-s): 0.048 Background Pk Height (A): 0.051
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 2.8

Mean Conc (ug/L): 2.5 SD: 0.37 RSD(%): 14.70

AS ID: CCB*QC*1 Seq. No.: 00058 A/S Pos.: 14 Date: 12/15/93

Replicate 1 Time: 15:47
Peak Area (A-s): 0.118 Peak Height (A): 0.370
Background Pk Area (A-s): 0.021 Background Pk Height (A): 0.043
Blank Corrected Pk Area (A-s): 0.118
Concentration (ug/L): 49.5

Replicate 2 Time: 15:50
Peak Area (A-s): 0.117 Peak Height (A): 0.334
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.048
Blank Corrected Pk Area (A-s): 0.117
Concentration (ug/L): 49.2

Mean Conc (ug/L): 49.4 SD: 0.20 RSD(%): 0.40

AS ID: CCB*QC*1 Seq. No.: 00059 A/S Pos.: 15 Date: 12/15/93

Replicate 1 Time: 15:52
Peak Area (A-s): 0.001 Peak Height (A): 0.013
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.034

003193

Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.5

52 145

Replicate 2
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.015
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 2.6

Time: 15:55
Peak Height (A): 0.018
Background Pk Height (A): 0.037

Mean Conc (ug/L): 1.5 SD: 1.49 RSD(%): 96.59

As ID: SPX*CDDMTW*11 Seq. No.: 00060 A/S Pos.: 16 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.120
Background Pk Area (A-s): 0.240
Blank Corrected Pk Area (A-s): 0.120
Concentration (ug/L): 50.3

Time: 15:58
Peak Height (A): 0.306
Background Pk Height (A): 0.250

Replicate 2
Peak Area (A-s): 0.127
Background Pk Area (A-s): 0.237
Blank Corrected Pk Area (A-s): 0.127
Concentration (ug/L): 53.4

Time: 16:00
Peak Height (A): 0.295
Background Pk Height (A): 0.246

Mean Conc (ug/L): 51.9 SD: 2.18 RSD(%): 4.19

As ID: CDDMTW*11NF Seq. No.: 00061 A/S Pos.: 19 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.044
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.7

Time: 16:03
Peak Height (A): 0.013
Background Pk Height (A): 0.068

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.044
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.3

Time: 16:06
Peak Height (A): 0.015
Background Pk Height (A): 0.075

Mean Conc (ug/L): 1.5 SD: 0.30 RSD(%): 20.01

As ID: SPM1*CDDMTW*11N Seq. No.: 00062 A/S Pos.: 20 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.097
Background Pk Area (A-s): 0.046
Blank Corrected Pk Area (A-s): 0.097
Concentration (ug/L): 40.6

Time: 16:08
Peak Height (A): 0.235
Background Pk Height (A): 0.071

Replicate 2
Peak Area (A-s): 0.098
Background Pk Area (A-s): 0.048
Blank Corrected Pk Area (A-s): 0.098
Concentration (ug/L): 41.3

Time: 16:11
Peak Height (A): 0.223
Background Pk Height (A): 0.064

003194

Mean Conc (ug/L): 41.0 SD: 0.47 RSD(%): 1.16

As ID: SPM2*CDDMTW*11N Seq. No.: 00063 A/S Pos.: 21 Date: 12/15/93

Replicate 1 Time: 16:13
Peak Area (A-s): 0.101 Peak Height (A): 0.230
Background Pk Area (A-s): 0.046 Background Pk Height (A): 0.067
Blank Corrected Pk Area (A-s): 0.101
Concentration (ug/L): 42.3

Replicate 2 Time: 16:16
Peak Area (A-s): 0.094 Peak Height (A): 0.240
Background Pk Area (A-s): 0.047 Background Pk Height (A): 0.068
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 39.5

Mean Conc (ug/L): 40.9 SD: 1.97 RSD(%): 4.81

As ID: CCV*QC*2 Seq. No.: 00064 A/S Pos.: 25 Date: 12/15/93

Replicate 1 Time: 16:18
Peak Area (A-s): 0.115 Peak Height (A): 0.337
Background Pk Area (A-s): 0.021 Background Pk Height (A): 0.043
Blank Corrected Pk Area (A-s): 0.115
Concentration (ug/L): 48.5

Replicate 2 Time: 16:21
Peak Area (A-s): 0.117 Peak Height (A): 0.351
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.047
Blank Corrected Pk Area (A-s): 0.116
Concentration (ug/L): 49.0

Mean Conc (ug/L): 48.8 SD: 0.34 RSD(%): 0.69

As ID: CCB*QC*2 Seq. No.: 00065 A/S Pos.: 26 Date: 12/15/93

Replicate 1 Time: 16:24
Peak Area (A-s): 0.004 Peak Height (A): 0.015
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.038
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.6

Replicate 2 Time: 16:26
Peak Area (A-s): 0.004 Peak Height (A): 0.019
Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.033
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.5

Mean Conc (ug/L): 1.6 SD: 0.09 RSD(%): 5.97

ATOMIC SPECTROSCOPY SAMPLE PREP

000166

REPREP

Book No. 21 Pg. No. 000166Matrix WATERSMethod/QC Type GRAA/POERSOP No. ASM3233-005Lot No.(s) N/A

Spike Solutions Used
 1. ASM3233-007 spike "A" Prep Date 12/6/93 Prep'd by DER Exp. Date 1/9/94
 2.

Final Vol. (mL) 50mlPipets Used Eppendorf N30939Balance No. N/AHood No. 6Hotplate No. 3

Sample No.	Weight (g)/ Init. Vol. (mL)	Spike Information
MB	50ml	
SP		0.5ml #1
COOMT W+9 (N)		
10		
11		
12		
SPM1*12		0.5ml #1
SPM2*12		0.5ml #1
22		
37		
9 (NF)		
10		
11		
12		
SPM1*12		0.5ml #1
SPM2*12		0.5ml #1
22		
37		

Rodriguez 12/15/93
 Signed Date

DER 12/15/93
 Read & Understood By Date

003196

Element file: A5_FURN.GEL Element: As Wavelength: 193.7
Date: 12/16/93 Time: 13:40 Slit: 0.70 L
Data File: A5_12_16.DAT ID/Wt File: A5.IDW Lamp Current: 0
Technique: HGA Calib. Type: Linear Energy: 53
Remark 1: CDDMTW*9-12,22,37 (N + NF)
Remark 2: Analyzed by Lula Osborne
Remark 3: December 16, 1993 Data on Lula 4
Remark 4: 4100ZL
Remark 5: Lamp No. 536 (EDL-SYS II) Modifier: 500 PPM PD(N03)2

As ID: Calib. Blank Seq. No.: 00001 A/S Pos.: 36 Date: 12/16/93

Replicate 1 Time: 13:40
Peak Area (A-s): 0.003 Peak Height (A): 0.016
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.003

Replicate 2 Time: 13:43
Peak Area (A-s): 0.001 Peak Height (A): 0.013
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): 0.001

Mean Pk Area (A-s): 0.002 SD: 0.0012 RSD(%): 59.82

Auto-zero performed.

As ID: Standard 1 Seq. No.: 00002 A/S Pos.: 1 Date: 12/16/93

Replicate 1 Time: 13:45
Peak Area (A-s): 0.005 Peak Height (A): 0.024
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.003

Replicate 2 Time: 13:48
Peak Area (A-s): 0.005 Peak Height (A): 0.030
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.003

Mean Pk Area (A-s): 0.003 SD: 0.0004 RSD(%): 12.13

Standard number 1 applied. [2.5]

Correlation coefficient: 1.00000 Slope: 0.0012

As ID: Standard 2 Seq. No.: 00003 A/S Pos.: 1 Date: 12/16/93

Replicate 1 Time: 13:51
Peak Area (A-s): 0.011 Peak Height (A): 0.039
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 7.5

Replicate 2 Time: 13:53
Peak Area (A-s): 0.010 Peak Height (A): 0.038
Background Pk Area (A-s): 0.015 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.008

003197

Concentration (ug/L): 6.5

52 149

Mean Conc (ug/L): 7.0

SD: 0.69

RSD(%): 9.79

Standard number 2 applied. [5.0]

Correlation coefficient: 0.92363

Slope: 0.0016

AS ID: Standard 3

Seq. No.: 00004

A/S Pos.: 1

Date: 12/16/93

Replicate 1

Time: 13:56

Peak Area (A-s): 0.023

Peak Height (A): 0.078

Background Pk Area (A-s): 0.010

Background Pk Height (A): 0.020

Blank Corrected Pk Area (A-s): 0.021

Concentration (ug/L): 13.3

Replicate 2

Time: 13:58

Peak Area (A-s): 0.019

Peak Height (A): 0.071

Background Pk Area (A-s): 0.012

Background Pk Height (A): 0.025

Blank Corrected Pk Area (A-s): 0.017

Concentration (ug/L): 10.9

Mean Conc (ug/L): 12.1

SD: 1.71

RSD(%): 14.06

Standard number 3 applied. [10.0]

Correlation coefficient: 0.97941

Slope: 0.0018

AS ID: Standard 4

Seq. No.: 00005

A/S Pos.: 2

Date: 12/16/93

Replicate 1

Time: 14:01

Peak Area (A-s): 0.052

Peak Height (A): 0.167

Background Pk Area (A-s): 0.013

Background Pk Height (A): 0.029

Blank Corrected Pk Area (A-s): 0.050

Concentration (ug/L): 27.1

Replicate 2

Time: 14:04

Peak Area (A-s): 0.049

Peak Height (A): 0.181

Background Pk Area (A-s): 0.014

Background Pk Height (A): 0.032

Blank Corrected Pk Area (A-s): 0.047

Concentration (ug/L): 25.5

Mean Conc (ug/L): 26.3

SD: 1.15

RSD(%): 4.36

Standard number 4 applied. [25.0]

Correlation coefficient: 0.99752

Slope: 0.0019

AS ID: Standard 5

Seq. No.: 00006

A/S Pos.: 2

Date: 12/16/93

Replicate 1

Time: 14:07

Peak Area (A-s): 0.106

Peak Height (A): 0.397

Background Pk Area (A-s): 0.016

Background Pk Height (A): 0.034

Blank Corrected Pk Area (A-s): 0.104

Concentration (ug/L): 54.0

Replicate 2

Time: 14:09

Peak Area (A-s): 0.109

Peak Height (A): 0.387

Background Pk Area (A-s): 0.015

Background Pk Height (A): 0.040

003198

Blank Corrected Pk Area (A-s): 0.107
Concentration (ug/L): 55.3

52 150

Mean Conc (ug/L): 54.7 SD: 0.91 RSD(%): 1.67

Standard number 5 applied. [50.0]

Correlation coefficient: 0.99810

Slope: 0.0021

AS ID: Standard 6 Seq. No.: 00007 A/S Pos.: 2 Date: 12/16/93

Replicate 1

Time: 14:12

Peak Area (A-s): 0.192

Peak Height (A): 0.687

Background Pk Area (A-s): 0.017

Background Pk Height (A): 0.047

Blank Corrected Pk Area (A-s): 0.191

Concentration (ug/L): 92.1

Replicate 2

Time: 14:14

Peak Area (A-s): 0.196

Peak Height (A): 0.678

Background Pk Area (A-s): 0.020

Background Pk Height (A): 0.048

Blank Corrected Pk Area (A-s): 0.194

Concentration (ug/L): 93.9

Mean Conc (ug/L): 93.0

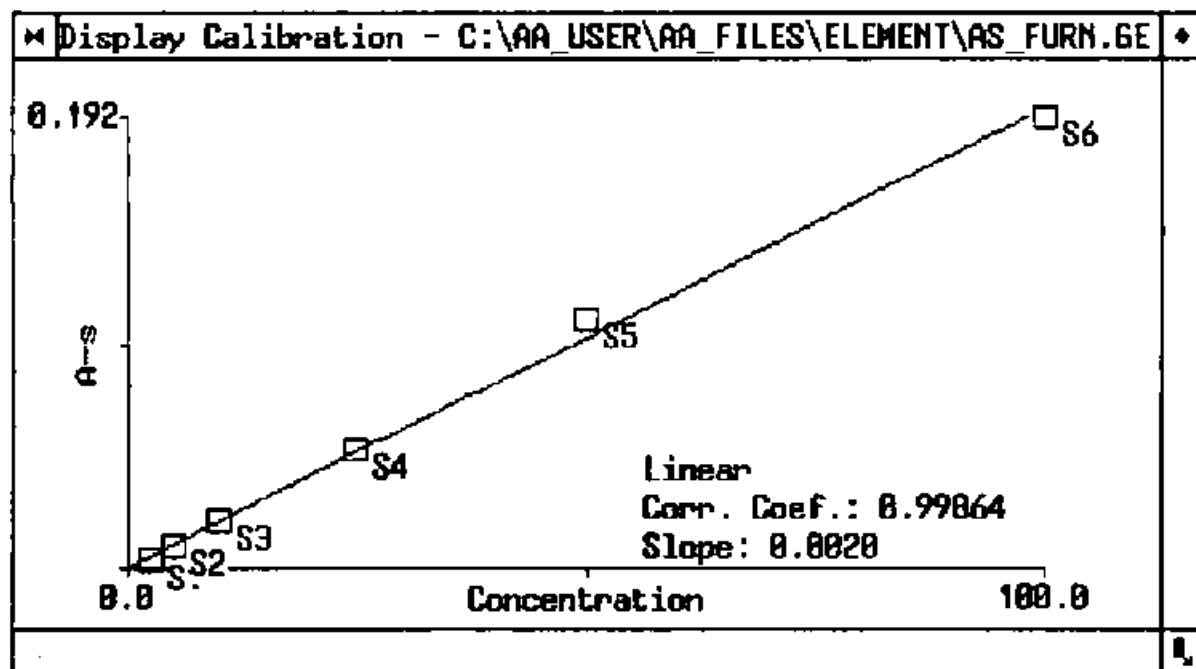
SD: 1.29

RSD(%): 1.39

Standard number 6 applied. [100.0]

Correlation coefficient: 0.99864

Slope: 0.0020



AS ID: ICV*PE-PURE*1 Seq. No.: 00008 A/S Pos.: 3 Date: 12/16/93

Replicate 1

Time: 14:19

Peak Area (A-s): 0.100

Peak Height (A): 0.367

003199

Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): 0.098
Concentration (ug/L): 49.8

Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.103
Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): 0.101
Concentration (ug/L): 51.3

Time: 14:21
Peak Height (A): 0.359
Background Pk Height (A): 0.032

Mean Conc (ug/L): 50.6 SD: 1.12 RSD(%): 2.21

As ID: MB*QC*1 Seq. No.: 00009 A/S Pos.: 4 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 2.3

Time: 14:26
Peak Height (A): 0.016
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.6

Time: 14:28
Peak Height (A): 0.018
Background Pk Height (A): 0.020

Mean Conc (ug/L): 1.5 SD: 1.19 RSD(%): 82.25

As ID: SP1*QC*1 Seq. No.: 00010 A/S Pos.: 5 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.5

Time: 14:31
Peak Height (A): 0.013
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Time: 14:33
Peak Height (A): 0.012
Background Pk Height (A): 0.026

Mean Conc (ug/L): 0.2 SD: 0.43 RSD(%): 216.01

As ID: CDDMTW*12 Seq. No.: 00011 A/S Pos.: 9 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.103
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.9

Time: 14:36
Peak Height (A): 0.018
Background Pk Height (A): 0.131

Replicate 2
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.104
Blank Corrected Pk Area (A-s): 0.008

Time: 14:39
Peak Height (A): 0.020
Background Pk Height (A): 0.125

Concentration (ug/L): 4.1

52 152

Mean Conc (ug/L): 3.0

SD: 1.52

RSD(%): 50.63

As ID: SPM1*CDDMTW*12 Seq. No.: 00012 A/S Pos.: 10 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.012
Background Pk Area (A-s): 0.123
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 5.3

Time: 14:41
Peak Height (A): 0.039
Background Pk Height (A): 0.146

Replicate 2
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.117
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 6.3

Time: 14:44
Peak Height (A): 0.033
Background Pk Height (A): 0.142

Mean Conc (ug/L): 5.8

SD: 0.69

RSD(%): 11.79

As ID: SPM2*CDDMTW*12 Seq. No.: 00013 A/S Pos.: 11 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.136
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 6.2

Time: 14:46
Peak Height (A): 0.031
Background Pk Height (A): 0.156

Replicate 2
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.137
Blank Corrected Pk Area (A-s): 0.014
Concentration (ug/L): 7.3

Time: 14:49
Peak Height (A): 0.033
Background Pk Height (A): 0.158

Mean Conc (ug/L): 6.7

SD: 0.76

RSD(%): 11.36

As ID: SPX*CDDMTW*12 Seq. No.: 00014 A/S Pos.: 16 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.119
Background Pk Area (A-s): 0.060
Blank Corrected Pk Area (A-s): 0.117
Concentration (ug/L): 59.5

Time: 14:51
Peak Height (A): 0.296
Background Pk Height (A): 0.083

Replicate 2
Peak Area (A-s): 0.116
Background Pk Area (A-s): 0.058
Blank Corrected Pk Area (A-s): 0.114
Concentration (ug/L): 58.0

Time: 14:54
Peak Height (A): 0.292
Background Pk Height (A): 0.080

Mean Conc (ug/L): 58.7

SD: 1.07

RSD(%): 1.83

As ID: CDDMTW*12NF Seq. No.: 00015 A/S Pos.: 20 Date: 12/16/93

Replicate 1

Time: 14:57

003201

Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.025
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -1.4

Peak Height (A): 0.010
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.027
Blank Corrected Pk Area (A-s): -0.004
Concentration (ug/L): -1.8

Time: 14:59
Peak Height (A): 0.014
Background Pk Height (A): 0.029

Mean Conc (ug/L): -1.6

SD: 0.29

RSD(%): 18.52

As ID: SPM1*CDDMTW*12N Seq. No.: 00016 A/S Pos.: 21 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.089
Background Pk Area (A-s): 0.032
Blank Corrected Pk Area (A-s): 0.087
Concentration (ug/L): 44.1

Time: 15:02
Peak Height (A): 0.266
Background Pk Height (A): 0.031

Replicate 2
Peak Area (A-s): 0.091
Background Pk Area (A-s): 0.029
Blank Corrected Pk Area (A-s): 0.089
Concentration (ug/L): 45.4

Time: 15:04
Peak Height (A): 0.266
Background Pk Height (A): 0.024

Mean Conc (ug/L): 44.8

SD: 0.90

RSD(%): 2.01

As ID: SPM2*CDDMTW*12N Seq. No.: 00017 A/S Pos.: 22 Date: 12/16/93

Replicate 1
Peak Area (A-s): 0.085
Background Pk Area (A-s): 0.030
Blank Corrected Pk Area (A-s): 0.083
Concentration (ug/L): 42.5

Time: 15:07
Peak Height (A): 0.261
Background Pk Height (A): 0.030

Replicate 2
Peak Area (A-s): 0.083
Background Pk Area (A-s): 0.032
Blank Corrected Pk Area (A-s): 0.081
Concentration (ug/L): 41.4

Time: 15:09
Peak Height (A): 0.249
Background Pk Height (A): 0.026

Mean Conc (ug/L): 41.9

SD: 0.80

RSD(%): 1.90

As ID: SP1*OC*1 Seq. No.: 00018 A/S Pos.: 5 Date: 12/16/93

Replicate 1
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): -0.004
Concentration (ug/L): -2.1

Time: 15:12
Peak Height (A): 0.012
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.010

Time: 15:15
Peak Height (A): 0.014
Background Pk Height (A): 0.023

Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

52 154

Mean Conc (ug/L): -1.1 SD: 1.42 RSD(%): 132.98

As ID: CCV*QC*1 Seq. No.: 00019 A/S Pos.: 14 Date: 12/16/93

Replicate 1 Time: 15:17
Peak Area (A-s): 0.105 Peak Height (A): 0.395
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.035
Blank Corrected Pk Area (A-s): 0.103
Concentration (ug/L): 52.4

Replicate 2 Time: 15:20
Peak Area (A-s): 0.104 Peak Height (A): 0.355
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): 0.102
Concentration (ug/L): 52.0

Mean Conc (ug/L): 52.2 SD: 0.33 RSD(%): 0.63

As ID: CCB*QC*1 Seq. No.: 00020 A/S Pos.: 15 Date: 12/16/93

Replicate 1 Time: 15:22
Peak Area (A-s): -0.001 Peak Height (A): 0.013
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -1.4

Replicate 2 Time: 15:25
Peak Area (A-s): 0.000 Peak Height (A): 0.013
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.8

Mean Conc (ug/L): -1.1 SD: 0.40 RSD(%): 36.63

003203

52 155

METALS BATCH DOCUMENTATION CHECKLIST

Batch No.: G 45057
QC Type: EDER

Initial or NA

- ✓ 1. Batch printout
- ✓ 2. Instrument logbook pages - copies (with instrument ID, conditions, method used)
- ✓ 3. Raw data (labeled, dated, unused data marked and explained)
- ✓ 4. Sample prep logbook pages - copies

The above documents should be numbered and placed in the folder in the order indicated.

NOTES:

OK✓
Analyst Initials12/15/93
DateMFA
Checked By12/17/93
Date003204
Form 50201

LSE BATCH : 045057

QC TYPE : FDER/SW
ANALYST : SONG HU
EXTRACTOR : DENISE RODRIGUEZ
DATA ENTRY : CFAA UPLOAD

REPORT DATE/TIME : 12/15/93 21:07:03
ANALYSIS DATE : 12/14/93
EXTRACT DATE : 12/03/93

①

52 156

STATUS : ACTIVE

METHOD BLANK CORRECTION METHOD : NONE

FIELD CRP QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDDMTW	7934BB2C 0201	HUNTSVILLE COE - DDMT	PATRICK WILBER

Sample Specific Row Data

SAMPLE CODE	EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	SAMPLE VOL or WT (NA)	EXTRACT VOL or WT (NA)	INJECTION VOLUME (NA)	MOISTURE
TCV*PE-PURE*1	12/03/93	12/15/93	12:27AM				
MB*QC*1	12/03/93	12/15/93	12:32AM				
SP*QC*1	12/03/93	12/15/93	12:37AM				
CCV*QC*1	12/03/93	12/15/93	01:10AM				
CCB*QC*1	12/03/93	12/15/93	01:23AM				
CCV*QC*2	12/03/93	12/15/93	02:19AM				
CCB*QC*2	12/03/93	12/15/93	02:24AM				
DA*CDDMTW*9	12/03/93	12/14/93	11:30PM				
DA*CDDMTW*10	12/03/93	12/14/93	11:35PM				
DA*CDDMTW*11	12/03/93	12/14/93	11:40PM				
DA*CDDMTW*12	12/03/93	12/14/93	11:45PM				
DA*CDDMTW*22	12/03/93	12/14/93	11:50PM				
SD*CDDMTW*9	12/03/93	12/14/93	10:59PM				
DA*CDDMTW*37	12/03/93	12/14/93	11:04PM				
SPH1-CDDMTW*37	12/03/93	12/14/93	12:01AM				
SPH2-CDDMTW*37	12/03/93	12/15/93	12:06AM				

003205

Parameter Specific Raw Data

52 157

SAMPLE CODE	STORET METHOD	STATUS	RESPONSE (UG/L)	DIL	TYPE	CURVE	RET TIME	SPIKE SOL CONC (NA)	SPIKE SAMP VOL (NA)	SPIKE VOLUME (NA)	DIL CODE	CALC'D TARGET (UG/L)
ICV*PC-PURC*1	1051*7421-	OK	51.3									50
	1049*7421-	OK	51.3									50
MB*QC*1	1051*7421-	OK	0									
	1049*7421-	OK	0									
SP*QC*1	1051*7421-	OK	18.7									20
	1049*7421-	OK	18.7									20
CCV*QC*1	1051*7421-	OK	52.9									50
	1049*7421-	OK	52.9									50
CCB*QC*1	1051*7421-	OK	1									
	1049*7421-	OK	1									
CCV*QC*2	1051*7421-	OK	52.4									50
	1049*7421-	OK	52.4									50
CCB*QC*2	1051*7421-	OK	.9									
	1049*7421-	OK	.9									
DA*CODNTW*9	1051*7421-	OK	83.2									
	1049*7421-	OK	1.2									
DA*CODNTW*10	1051*7421-	OK	47.7	10								
	1049*7421-	OK	.6									
DA*CODNTW*11	1051*7421-	OK	48.7	4								
	1049*7421-	OK	1									
DA*CODNTW*12	1051*7421-	OK	57.4									
	1049*7421-	OK	.6									
DA*CODNTW*22	1051*7421-	OK	38.5	3								
	1049*7421-	OK	.6									
SD*CODNTW*9	1051*7421-	OK	17.5	5								83.2
DA*CODNTW*37	1051*7421-	OK	2.5									
	1049*7421-	OK	0									
SPM1*CODNTW*37	1051*7421-	OK	22.3									20
	1049*7421-	OK	21.5									20
SPM2*CODNTW*37	1051*7421-	OK	22.6									20
	1049*7421-	OK	20.9									20

003206

STORET: 1051 METHOD: 7421-G LEAD TOTAL, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 2.0 DATE: 12/14/93 LARGEST RESPONSE= KRSD=

CONC	0	2.5	10	25	50	75	100
RESP	.002	.013	.05	.11	.205	.281	.358
CONC							

CONC = + *RESP+ *RESP**2+ *RESP**3
 95% C.I.=
 CORRELATION COEFFICIENT =

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC#1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC#1	1.0	
QC#2	0.9	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
QC#1	52.9	50.0	5.8
QC#2	52.4	50.0	4.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
PE-PURE-1	51.3	50.0	2.6

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CD01W#9	87.5	83.2	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELKDIFF.
SP#QC#1	0.0	18.7	18.7	20.0	93.5	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELKDIFF.
SP#1-CD01W#37	2.5	22.3	19.8	20.0	99.0	
SP#2-CD01W#37	2.5	22.6	20.1	20.0	100.5	1.5

STORET: 1049 METHOD: 7421-G LEAD DISS, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 2.0 DATE: 12/14/93 LARGEST RESPONSE= KRSD=

CONC	0	2.5	10	25	50	75	100
RESP	.002	.013	.05	.11	.205	.281	.358
CONC							

CONC = + *RESP+ *RESP**2+ *RESP**3
 95% C.I.=
 CORRELATION COEFFICIENT =

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC#1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC#1	1.0	
QC#2	0.9	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
QC#1	52.9	50.0	5.8
QC#2	52.4	50.0	4.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
PE-PURE-1	51.3	50.0	2.6

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELKDIFF.
SP#QC#1	0.0	18.7	18.7	20.0	93.5	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELKDIFF.

003207

SPM1*CDOM1W*37
SPM2*CDOM1W*37

0.0	21.5	21.5	20.0	107.5	
0.0	20.9	20.9	20.0	104.5	2.0

52 159

003208

SAMPLE RESULTS

	051*7421-G	049*7421-G
	LEAD, TOTAL	LEAD, DISS
SAMPLE ID	UG/L	UG/L
CD0NTW*9	83.2	<2.0
CD0NTW*10	477	<2.0
CD0NTW*11	163	<2.0
CD0NTW*12	57.4	<2.0
CD0NTW*22	91.5	<2.0
CD0NTW*37	2.5	<2.0

52 160

003209

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED
 FINAL CONCENTRATION UG/L
 INJECTION VOLUME NA
 SAMPLE VOLUME NA
 EXTRACT VOLUME NA
 CURVE CONCENTRATION UG/L
 SPIKE SOLN CONCENTRATION NA
 SPIKE VOLUME NA
 SPIKE SAMPLE VOLUME NA
 TARGET CONCENTRATION UG/L
 RESPONSE DESCRIPTION UG/L
 CONVERSION FACTOR 1000

52 161

$$\text{FINAL CONC} = \frac{\text{CURV CONC} \times \text{EXT VOL} \times \text{DIL} \times 1000}{\text{INJ VOL} \times \text{SAMP VOL} \times ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) \times (\text{NA}) \times 1000}{(\text{NA}) \times (\text{NA})}$$

$$(\text{ }) = \frac{(\text{ }) \times (\text{ }) \times (\text{ })}{(\text{ }) \times (\text{ }) \times ((100 - (\text{ }) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} \times \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} \times ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{NA}) \times (\text{NA})}{(\text{NA})}$$

All samples in final conc. units

12/15/93

003210

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: 645857

Analysis Date: 12/14/93

Analyst: SONG MU

52 162

	Yes	"Exceptions"	
		No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
GCV present?	X		
GCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

003211

Environmental Science and Engineering Analytical Services
Internal QA/QC Batch Checklist For Atomic Spectroscopy

52 163

Batch No.: 645857

Analysis Date: 12/14/93

Analyst: SONG MU

	N/A	Yes	No	"Exceptions"
				Comment / Corrective Action
Is the method blank free of contamination?		✓		
If not, has the data been blank corrected?	✓			
Are reported values consistent with the required units?		✓		
Are detection limits reported correctly?		✓		
Are dilution factors entered correctly?		✓		
Is the calibration curve (if applicable) entered correctly?		✓		
Are all the correct elements included in the spikes?		✓		
Is the batch checked for data entry error(s)?		✓		
Are continuing calibration blanks analyzed at a frequency specified in the appropriate QA/QC Plan (i.e. AF, COE or FDER QA/QC plan)?		✓		
If not, is an appropriate explanation provided?	✓			
Are continuing calibration verification (CCV) standards analyzed at a frequency specified in the appropriate QA/QC Plan?		✓		
If not, is an appropriate explanation provided?	✓			
Is an example calculation provided?		✓		
Has the batch documentation checklist been completed?		✓		

Note: Any "NO" answer requires a comment.
Additional Comments:

Completed By [Signature]
Date 12/14/93

Reviewed By [Signature]
Date 12/14/93

Notification of appropriate Laboratory Coordinators required for "Exceptions":

Signature	Date	Comments

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

003212

ELEMENT: Pb METHOD # ASm3233-012
 ANALYST: Song Mu EMP. # 3379

BK# 39 PC# 45 A
 DATE: 12/14/93

SAMPLES ANALYZED:

BATCH #

CDDMTW* 6, 13, 16, 19-21, 35, 36, 41, 42 (N+NF) → G45056 ~
 CDDMTW* 9-12, 22, 37 (N+NF) → G45057 12/15/93

INSTRUMENT PARAMETERS:

Inst. model 5100 A
 Wavelength 283.3
 Bandwidth 0.70 nm
 EDL (HCL#) 515478
 Energy/Watts 67
 Power Supply N/A
 HGA model 600
 Tube type Pyro w/ platform
 Sample aliq. 20ul
 Modifier 10 ppm Pd
 Modifier aliq. 5ul
 Zeeman type Longitudinal

STANDARDS:

1000 ppm stock
 Manufacturer Baker
 Lot number E48620
 Date received 7/92
 Date expires 12/93

Working Standards

Date prep'd: 11/22/93
 10 mg/L std. 12/14/93
 100 ug/L std. 12/14/93
 10 ug/L std. 12/14/93
 N/A N/A

CALIBRATION CURVE:

	conc.	abs.
Blank	0.0	0.000
Std.1	2.5	0.012
Std.2	10.0	0.048
Std.3	35.0	0.109
Std.4	50.0	0.204
Std.5	75.0	0.280
Std.6	100.0	0.356
Std.7		
Std.8		
cc:	0.99953 (nonlinear)	
Det. L.	2.0 ug/L	

HGA KEYBOARD ENTRIES:

STEP	1	2	3	4	5
Temp (C)	140	700	20	1900	2900
Ramp (sec)	10	3	1	0	1
Hold (sec)	40	35	5	4	5
Read Step				*	
Gas (ml/min)	300	300	300	0	300

PREVENTATIVE MAINTENANCE/COMMENTS:

Print # 1-7 - Calibration Curve

Print # 8-44 - Data for batch G45056

Print # 45-70 - Data for batch G45057

Dilution made based on ICAp data ~ 12/15/93

READ AND UNDERSTOOD BY:

Ch Hel

12/15/93

000045

003213

Analyst: Song Mu Date: 12/14/98 Element Pb Inst. 5700A Book: 39 Pg: 458

Print #	Sample I. D.	Peak Area	Conc. (ppb)	Target (ppb)	Comments
1	Calib. Blank	-0.0000	0		
2	Standard 1	0.0114	2.3		
3	Standard 2	0.0476	10.4		
4	Standard 3	0.1088	21.4		
5	Standard 4	0.2034	49		
6	Standard 5	0.2795	72.9		
7	Standard 6	0.3562	123.8		CC = 0.99953 (monolingua)
8	ICV*PE-PURE*1	0.2065	50.7	50	101.4%
9	MB*QC*1	0.0023	0.5		
10	SP*QC*1	0.0938	21.1	20	106%
11	CDDMTW*6	0.1834	44.1		
12	SPM1*CDDMTW*6	0.2526	64.6	20	$(64.6-44.1) \div 20 = 102\%$
13	SPM2*CDDMTW*6	0.2522	64.5	20	$(64.5-44.1) \div 20 = 102\%$
14	CDDMTW*13	0.2296	57.5		
15	CDDMTW*16	0.0929	20.9		
16	CDDMTW*19	0.2075	50.9		
17	CDDMTW*20	0.3129	85.2		
18	CCV*QC*1	0.2018	49.3	50	99%
19	CCB*QC*1	0.0004	0.1		
20	CDDMTW*21	0.2847	75.2		
21	CDDMTW*35	0.1532	36		
22	CDDMTW*36	0.0289	6.2		
23	CDDMTW*41	0.7627	798.3		Over calibration range. dilute and re-run
24	CDDMTW*42	0.1498	35.1		
25	CDDMTW*6NF	0.0056	1.2		
26	SPM1*CDDMTW*6NF	0.0990	22.3	20	112%
27	SPM2*CDDMTW*6NF	0.0995	22.5	20	112%
28	CDDMTW*13NF	0.0019	0.4		
29	CDDMTW*16NF	0.0020	0.4		
31	CCV*QC*2	0.2051	50.2	50	100.4%
32	CCB*QC*2	0.0014	0.3		
33	CDDMTW*19NF	0.0029	0.6		
34	CDDMTW*20NF	0.0056	1.2		
35	CDDMTW*21NF	0.0002	0		
36	CDDMTW*35NF	0.0031	0.7		
37	CDDMTW*36NF	0.0063	1.3		
38	CDDMTW*41NF	0.0037	0.8		
39	CDDMTW*42NF	0.0042	0.9		
40	CDDMTW*41 1:5	0.3102	84.2		$84.2 \times 5 = 421$
41	SD*CDDMTW*20	0.0854	19.1	85.2	19.1×5 Pour up fresh and re-run
42	SD*CDDMTW*20	0.0833	18.6	85.2	$18.6 \times 5 \div 85.2 = 109\%$
43	CCV*QC*3	0.2062	50.6	50	101%
44	CCB*QC*3	0.0031	0.7		

Batch
G45056

003214

Analyst: Song Mu Date: 12/14/93 Element Pb Inst. 5100A Book: 39 Pg: 45C

Print #	Sample I. D.	Peak Area	Conc. (ppb)	Target (ppb)	Comments
45	ICV*PE-PURE*1	0.2089	51.3	50	103%
46	MB*QC*1	0.0036	0.8		
47	SP*QC*1	0.0835	18.7	20	94%
48	CDDMTW*9	0.3076	83.2		
49	CDDMTW*10	-----	---		Single burn, data not used
50	CDDMTW*10 1:10	0.1964	47.7		$47.7 \times 10 = 477$
51	CDDMTW*11 1:4	0.1709	40.7		$40.7 \times 4 = 162.8$
52	CDDMTW*12	0.2295	57.4		
53	CDDMTW*22 1:3	0.1319	30.5		$30.5 \times 3 = 91.5$
54	SD*CDDMTW*9	0.0832	18.6	83.2	Pur up fresh & re-run
55	SD*CDDMTW*9	0.0785	17.5	83.2	$17.5 \times 5 = 87.5 \approx 105\%$
56	CDDMTW*37	0.0117	2.5		
57	CCV*QC*1	0.2141	52.9	50	106%
58	CCB*QC*1	0.0046	1		
59	SPM1*CDDMTW*37	0.0990	22.3	20	112%
60	SPM2*CDDMTW*37	0.0999	22.6	20	113%
61	CDDMTW*9NF	0.0057	1.2		
62	CDDMTW*10NF	0.0031	0.6		
63	CDDMTW*11NF	0.0046	1		
64	CDDMTW*12NF	0.0028	0.6		
65	CDDMTW*22NF	0.0028	0.6		
66	CDDMTW*37NF (WISN)	0.0053	1.1		
67	SPM1*CDDMTW*37NF	0.0955	21.5	20	107.5%
68	SPM2*CDDMTW*37NF	0.0930	20.9	20	104.5%
69	CCV*QC*2	0.2127	52.4	50	105%
70	CCB*QC*2	0.0043	0.9		

Batch
G45057

Element File: PB_FURN.GEL Element: Pb Wavelength: 283.3
Date: 12/14/93 Time: 17:45 Slit: 0.70 L
Data File: A:PB_12_14.DAT ID/Wt File: PB.IDW Lamp Current: 20
Technique: HGA Calib. Type: Nonlinear Energy: 67
Remark 1: CDDMTW*6,13,16,19-21,35,36,41,42
Remark 2: Analyzed by SONG MU
Remark 3: 12-14-93 ON MS 1
Remark 4: S100-A
Remark 5: Lamp No. 515478 HCL Modifier: 10 PPM PD

Pb ID: Calib. Blank Seq. No.: 00001 A/S Pos.: 36 Date: 12/14/93

Replicate 1 Time: 17:45
Peak Area (A-s): 0.001 Peak Height (A): 0.004
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Replicate 2 Time: 17:48
Peak Area (A-s): 0.002 Peak Height (A): 0.004
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

Mean Conc (ug/L): -0.0 SD: 0.21 RSD(%): 18949.44

Auto-zero performed.

Pb ID: Standard 1 Seq. No.: 00002 A/S Pos.: 1 Date: 12/14/93

Replicate 1 Time: 17:50
Peak Area (A-s): 0.013 Peak Height (A): 0.022
Background Pk Area (A-s): 0.005 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 2.3

Replicate 2 Time: 17:53
Peak Area (A-s): 0.013 Peak Height (A): 0.025
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 2.3

Mean Conc (ug/L): 2.3 SD: 0.04 RSD(%): 1.58

Standard number 1 applied. [2.5]
Correlation coefficient: 1.00000 Slope: 0.0046

Pb ID: Standard 2 Seq. No.: 00003 A/S Pos.: 1 Date: 12/14/93

Replicate 1 Time: 17:56
Peak Area (A-s): 0.049 Peak Height (A): 0.085
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.047
Concentration (ug/L): 10.3

Replicate 2
Peak Area (A-s): 0.050
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.048
Concentration (ug/L): 10.5

Time: 17:58 52 168
Peak Height (A): 0.083
Background Pk Height (A): 0.026

Mean Conc (ug/L): 10.4 SD: 0.13 RSD(%): 1.25

Standard number 2 applied. [10.0]
Correlation coefficient: 1.00000 Slope: 0.0045

Pb ID: Standard 3 Seq. No.: 00004 A/S Pos.: 2 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.108
Background Pk Area (A-s): 0.035
Blank Corrected Pk Area (A-s): 0.107
Concentration (ug/L): 21.0

Time: 18:01
Peak Height (A): 0.179
Background Pk Height (A): 0.059

Replicate 2
Peak Area (A-s): 0.112
Background Pk Area (A-s): 0.038
Blank Corrected Pk Area (A-s): 0.111
Concentration (ug/L): 21.7

Time: 18:04
Peak Height (A): 0.183
Background Pk Height (A): 0.061

Mean Conc (ug/L): 21.4 SD: 0.49 RSD(%): 2.31

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 3 applied. [25.0]
Correlation coefficient: 0.99947 Slope: 0.0047

Pb ID: Standard 4 Seq. No.: 00005 A/S Pos.: 2 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.208
Background Pk Area (A-s): 0.071
Blank Corrected Pk Area (A-s): 0.206
Concentration (ug/L): 49.8

Time: 18:06
Peak Height (A): 0.326
Background Pk Height (A): 0.117

Replicate 2
Peak Area (A-s): 0.202
Background Pk Area (A-s): 0.070
Blank Corrected Pk Area (A-s): 0.201
Concentration (ug/L): 48.3

Time: 18:09
Peak Height (A): 0.320
Background Pk Height (A): 0.113

Mean Conc (ug/L): 49.0 SD: 1.08 RSD(%): 2.20

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 4 applied. [50.0]
Correlation coefficient: 0.99991 Slope: 0.0047

Pb ID: Standard 5 Seq. No.: 00006 A/S Pos.: 2 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.284
Background Pk Area (A-s): 0.103

Time: 18:12
Peak Height (A): 0.440
Background Pk Height (A): 0.171

003217

Blank Corrected Pk Area (A-s): 0.283
Concentration (ug/L): 73.9

52 169

Replicate 2
Peak Area (A-s): 0.278
Background Pk Area (A-s): 0.100
Blank Corrected Pk Area (A-s): 0.276
Concentration (ug/L): 71.9

Time: 18:14
Peak Height (A): 0.420
Background Pk Height (A): 0.161

Mean Conc (ug/L): 72.9

SD: 1.45

RSD(%): 1.98

Standard number 5 applied. [75.0]
Correlation coefficient: 0.99974

Slope: 0.0047

Pb ID: Standard 6

Seq. No.: 00007

A/S Pos.: 2

Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.358
Background Pk Area (A-s): 0.134
Blank Corrected Pk Area (A-s): 0.357
Concentration (ug/L): 124.1

Time: 18:17
Peak Height (A): 0.544
Background Pk Height (A): 0.230

Replicate 2
Peak Area (A-s): 0.357
Background Pk Area (A-s): 0.135
Blank Corrected Pk Area (A-s): 0.356
Concentration (ug/L): 123.4

Time: 18:20
Peak Height (A): 0.550
Background Pk Height (A): 0.231

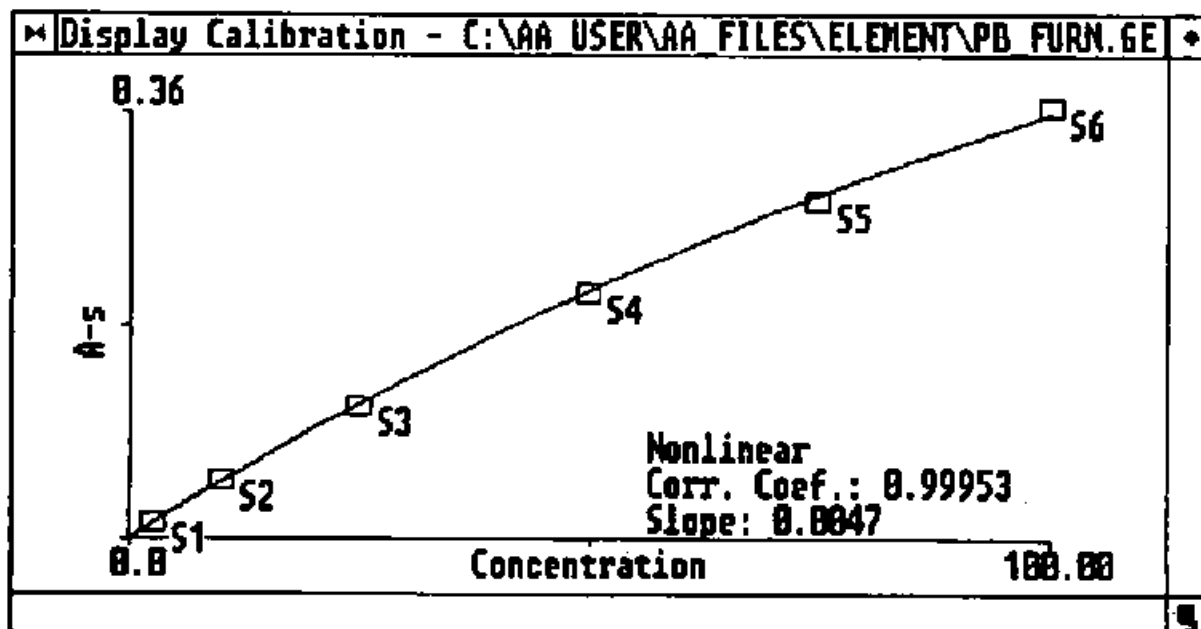
Mean Conc (ug/L): 123.8

SD: 0.49

RSD(%): 0.40

Standard number 6 applied. [100.0]
Correlation coefficient: 0.99953

Slope: 0.0047



003218

Pb ID: ICV*PE-PURE*1 Seq. No.: 00045 A/S Pos.: 3 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.209
Background Pk Area (A-s): 0.071
Blank Corrected Pk Area (A-s): 0.207
Concentration (ug/L): 50.9

Time: 21:32
Peak Height (A): 0.436 52 170
Background Pk Height (A): 0.154

Replicate 2
Peak Area (A-s): 0.212
Background Pk Area (A-s): 0.073
Blank Corrected Pk Area (A-s): 0.210
Concentration (ug/L): 51.8

Time: 21:35
Peak Height (A): 0.445
Background Pk Height (A): 0.157

Mean Conc (ug/L): 51.3 SD: 0.64 RSD(%): 1.24

Pb ID: MB*QC*1 Seq. No.: 00046 A/S Pos.: 4 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.1

Time: 21:37
Peak Height (A): 0.010
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.4

Time: 21:40
Peak Height (A): 0.006
Background Pk Height (A): 0.004

Mean Conc (ug/L): 0.8 SD: 0.51 RSD(%): 67.51

003219

Pb ID: SP*QC*1 Seq. No.: 00047 A/S Pos.: 5 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.085
Background Pk Area (A-s): 0.029
Blank Corrected Pk Area (A-s): 0.083
Concentration (ug/L): 18.6

Time: 21:42 52 171
Peak Height (A): 0.166
Background Pk Height (A): 0.053

Replicate 2
Peak Area (A-s): 0.085
Background Pk Area (A-s): 0.029
Blank Corrected Pk Area (A-s): 0.084
Concentration (ug/L): 18.7

Time: 21:45
Peak Height (A): 0.163
Background Pk Height (A): 0.052

Mean Conc (ug/L): 18.7 SD: 0.07 RSD(%): 0.38

Pb ID: CDDMTW*9 Seq. No.: 00048 A/S Pos.: 6 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.307
Background Pk Area (A-s): 0.126
Blank Corrected Pk Area (A-s): 0.306
Concentration (ug/L): 82.6

Time: 21:48
Peak Height (A): 0.666
Background Pk Height (A): 0.284

Replicate 2
Peak Area (A-s): 0.311
Background Pk Area (A-s): 0.127
Blank Corrected Pk Area (A-s): 0.309
Concentration (ug/L): 83.8

Time: 21:50
Peak Height (A): 0.664
Background Pk Height (A): 0.278

Mean Conc (ug/L): 83.2 SD: 0.86 RSD(%): 1.04

Pb ID: CDDMTW*10 Seq. No.: 00049 A/S Pos.: 7 Date: 12/14/93

Sample abs. is greater than that of the largest standard.

Replicate 1
Peak Area (A-s): 0.802
Background Pk Area (A-s): 0.524
Blank Corrected Pk Area (A-s): 0.801
Concentration (ug/L): 1333.6

Time: 21:53
Peak Height (A): 1.038
Background Pk Height (A): 1.105

Pb ID: CDDMTW*10 1:10 Seq. No.: 00050 A/S Pos.: 7 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.199
Background Pk Area (A-s): 0.140
Blank Corrected Pk Area (A-s): 0.197
Concentration (ug/L): 48.0

Time: 22:32
Peak Height (A): 0.393
Background Pk Height (A): 0.136

Replicate 2
Peak Area (A-s): 0.197
Background Pk Area (A-s): 0.103
Blank Corrected Pk Area (A-s): 0.196
Concentration (ug/L): 47.5

Time: 22:34
Peak Height (A): 0.387
Background Pk Height (A): 0.130

003220

Mean Conc (ug/L): 47.7 SD: 0.33 RSD(%): 0.70

Pb ID: CDDMTW*11 1:4 Seq. No.: 00051 A/S Pos.: 8 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.174
Background Pk Area (A-s): 0.104
Blank Corrected Pk Area (A-s): 0.172
Concentration (ug/L): 41.0

Time: 22:37
Peak Height (A): 0.321 52 172
Background Pk Height (A): 0.104

Replicate 2
Peak Area (A-s): 0.171
Background Pk Area (A-s): 0.094
Blank Corrected Pk Area (A-s): 0.170
Concentration (ug/L): 40.4

Time: 22:40
Peak Height (A): 0.317
Background Pk Height (A): 0.105

Mean Conc (ug/L): 40.7 SD: 0.48 RSD(%): 1.18

Pb ID: CDDMTW*12 Seq. No.: 00052 A/S Pos.: 9 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.230
Background Pk Area (A-s): 0.103
Blank Corrected Pk Area (A-s): 0.229
Concentration (ug/L): 57.3

Time: 22:42
Peak Height (A): 0.504
Background Pk Height (A): 0.187

Replicate 2
Peak Area (A-s): 0.232
Background Pk Area (A-s): 0.098
Blank Corrected Pk Area (A-s): 0.230
Concentration (ug/L): 57.6

Time: 22:45
Peak Height (A): 0.507
Background Pk Height (A): 0.187

Mean Conc (ug/L): 57.4 SD: 0.24 RSD(%): 0.41

Pb ID: CDDMTW*22 1:3 Seq. No.: 00053 A/S Pos.: 10 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.134
Background Pk Area (A-s): 0.066
Blank Corrected Pk Area (A-s): 0.132
Concentration (ug/L): 30.5

Time: 22:47
Peak Height (A): 0.251
Background Pk Height (A): 0.083

Replicate 2
Peak Area (A-s): 0.133
Background Pk Area (A-s): 0.061
Blank Corrected Pk Area (A-s): 0.132
Concentration (ug/L): 30.4

Time: 22:50
Peak Height (A): 0.251
Background Pk Height (A): 0.081

Mean Conc (ug/L): 30.5 SD: 0.09 RSD(%): 0.30

Pb ID: SD*CDDMTW*9 Seq. No.: 00054 A/S Pos.: 11 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.085
Background Pk Area (A-s): 0.046

Time: 22:52
Peak Height (A): 0.174
Background Pk Height (A): 0.053

003221

Blank Corrected Pk Area (A-s): 0.084
Concentration (ug/L): 18.7

52 173

Replicate 2
Peak Area (A-s): 0.084
Background Pk Area (A-s): 0.044
Blank Corrected Pk Area (A-s): 0.083
Concentration (ug/L): 18.5

Time: 22:55
Peak Height (A): 0.172
Background Pk Height (A): 0.052

Mean Conc (ug/L): 18.6 SD: 0.18 RSD(%): 0.96

Pb ID: SD*CDDMTW*9 Seq. No.: 00055 A/S Pos.: 11 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.081
Background Pk Area (A-s): 0.043
Blank Corrected Pk Area (A-s): 0.080
Concentration (ug/L): 17.7

Time: 22:59
Peak Height (A): 0.166
Background Pk Height (A): 0.050

Replicate 2
Peak Area (A-s): 0.079
Background Pk Area (A-s): 0.042
Blank Corrected Pk Area (A-s): 0.078
Concentration (ug/L): 17.2

Time: 23:02
Peak Height (A): 0.159
Background Pk Height (A): 0.050

Mean Conc (ug/L): 17.5 SD: 0.34 RSD(%): 1.96

Pb ID: CDDMTW*37 Seq. No.: 00056 A/S Pos.: 12 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.014
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 2.6

Time: 23:04
Peak Height (A): 0.027
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.013
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 2.4

Time: 23:07
Peak Height (A): 0.025
Background Pk Height (A): 0.009

Mean Conc (ug/L): 2.5 SD: 0.17 RSD(%): 6.97

Pb ID: CCV*QC*1 Seq. No.: 00057 A/S Pos.: 13 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.215
Background Pk Area (A-s): 0.069
Blank Corrected Pk Area (A-s): 0.213
Concentration (ug/L): 52.6

Time: 23:10
Peak Height (A): 0.371
Background Pk Height (A): 0.124

Replicate 2
Peak Area (A-s): 0.217
Background Pk Area (A-s): 0.070
Blank Corrected Pk Area (A-s): 0.215
Concentration (ug/L): 53.2

Time: 23:12
Peak Height (A): 0.371
Background Pk Height (A): 0.125

003222

Mean Conc (ug/L): 52.9 SD: 0.43 52 174 RSD(%): 0.02

Pb ID: CCB*QC*1 Seq. No.: 00058 A/S Pos.: 14 Date: 12/14/93

Replicate 1 Time: 23:15
Peak Area (A-s): 0.008 Peak Height (A): 0.010
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.005
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 1.4

Replicate 2 Time: 23:17
Peak Area (A-s): 0.004 Peak Height (A): 0.005
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.5

Mean Conc (ug/L): 1.0 SD: 0.61 RSD(%): 63.06

Pb ID: SPM1*CDDMTW*37 Seq. No.: 00059 A/S Pos.: 15 Date: 12/14/93

Replicate 1 Time: 23:20
Peak Area (A-s): 0.100 Peak Height (A): 0.215
Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.064
Blank Corrected Pk Area (A-s): 0.098
Concentration (ug/L): 22.1

Replicate 2 Time: 23:22
Peak Area (A-s): 0.101 Peak Height (A): 0.216
Background Pk Area (A-s): 0.037 Background Pk Height (A): 0.066
Blank Corrected Pk Area (A-s): 0.100
Concentration (ug/L): 22.5

Mean Conc (ug/L): 22.3 SD: 0.27 RSD(%): 1.19

Pb ID: SPM2*CDDMTW*37 Seq. No.: 00060 A/S Pos.: 16 Date: 12/14/93

Replicate 1 Time: 23:25
Peak Area (A-s): 0.101 Peak Height (A): 0.214
Background Pk Area (A-s): 0.036 Background Pk Height (A): 0.066
Blank Corrected Pk Area (A-s): 0.100
Concentration (ug/L): 22.5

Replicate 2 Time: 23:27
Peak Area (A-s): 0.102 Peak Height (A): 0.218
Background Pk Area (A-s): 0.037 Background Pk Height (A): 0.067
Blank Corrected Pk Area (A-s): 0.100
Concentration (ug/L): 22.6

Mean Conc (ug/L): 22.6 SD: 0.05 RSD(%): 0.21

Pb ID: CDDMTW*9NF Seq. No.: 00061 A/S Pos.: 17 Date: 12/14/93

Replicate 1 Time: 23:30
Peak Area (A-s): 0.008 Peak Height (A): 0.014
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.008

003223

Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.3

52 175

Replicate 2
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.1

Time: 23:32
Peak Height (A): 0.013
Background Pk Height (A): 0.008

Mean Conc (ug/L): 1.2 SD: 0.15 RSD(%): 12.67

Pb ID: CDDMTW*10NF Seq. No.: 00062 A/S Pos.: 18 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 0.8

Time: 23:35
Peak Height (A): 0.006
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.5

Time: 23:37
Peak Height (A): 0.006
Background Pk Height (A): 0.008

Mean Conc (ug/L): 0.6 SD: 0.16 RSD(%): 24.93

Pb ID: CDDMTW*11NF Seq. No.: 00063 A/S Pos.: 19 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.0

Time: 23:40
Peak Height (A): 0.010
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.0

Time: 23:43
Peak Height (A): 0.009
Background Pk Height (A): 0.008

Mean Conc (ug/L): 1.0 SD: 0.00 RSD(%): 0.26

Pb ID: CDDMTW*12NF Seq. No.: 00064 A/S Pos.: 20 Date: 12/14/93

Replicate 1
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.7

Time: 23:45
Peak Height (A): 0.007
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.5

Time: 23:48
Peak Height (A): 0.008
Background Pk Height (A): 0.006

003224

Mean Conc (ug/L): 0.6 SD: 0.10 52 176 RSD(%): 16.63

Pb ID: CDDMTW*22NF Seq. No.: 00065 A/S Pos.: 21 Date: 12/14/93

Replicate 1 Time: 23:50
Peak Area (A-s): 0.004 Peak Height (A): 0.009
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.6

Replicate 2 Time: 23:53
Peak Area (A-s): 0.005 Peak Height (A): 0.009
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.6

Mean Conc (ug/L): 0.6 SD: 0.03 RSD(%): 4.67

Pb ID: CDDMTW*37NF Seq. No.: 00066 A/S Pos.: 22 Date: 12/14/93

Replicate 1 Time: 23:55
Peak Area (A-s): 0.006 Peak Height (A): 0.010
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 0.9

Replicate 2 Time: 23:58
Peak Area (A-s): 0.008 Peak Height (A): 0.010
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.3

Mean Conc (ug/L): 1.1 SD: 0.29 RSD(%): 25.76

Pb ID: SPM1*CDDMTW*37NF Seq. No.: 00067 A/S Pos.: 23 Date: 12/14/93

Replicate 1 Time: 00:01
Peak Area (A-s): 0.096 Peak Height (A): 0.212
Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.064
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 21.1

Replicate 2 Time: 00:03
Peak Area (A-s): 0.099 Peak Height (A): 0.215
Background Pk Area (A-s): 0.035 Background Pk Height (A): 0.064
Blank Corrected Pk Area (A-s): 0.097
Concentration (ug/L): 21.9

Mean Conc (ug/L): 21.5 SD: 0.52 RSD(%): 2.41

Pb ID: SPM2*CDDMTW*37NF Seq. No.: 00068 A/S Pos.: 24 Date: 12/15/93

Replicate 1 Time: 00:06
Peak Area (A-s): 0.094 Peak Height (A): 0.206
Background Pk Area (A-s): 0.034 Background Pk Height (A): 0.063

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Blank Corrected Pk Area (A-s): 0.092
Concentration (ug/L): 20.7

52 177

Replicate 2
Peak Area (A-s): 0.096
Background Pk Area (A-s): 0.033
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 21.1

Time: 00:08
Peak Height (A): 0.206
Background Pk Height (A): 0.063

Mean Conc (ug/L): 20.9 SD: 0.32 RSD(%): 1.51

Pb ID: CCV*QC*2 Seq. No.: 00069 A/S Pos.: 25 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.212
Background Pk Area (A-s): 0.068
Blank Corrected Pk Area (A-s): 0.211
Concentration (ug/L): 51.9

Time: 00:11
Peak Height (A): 0.354
Background Pk Height (A): 0.118

Replicate 2
Peak Area (A-s): 0.216
Background Pk Area (A-s): 0.068
Blank Corrected Pk Area (A-s): 0.215
Concentration (ug/L): 53.0

Time: 00:13
Peak Height (A): 0.354
Background Pk Height (A): 0.119

Mean Conc (ug/L): 52.4 SD: 0.80 RSD(%): 1.53

Pb ID: CCB*QC*2 Seq. No.: 00070 A/S Pos.: 26 Date: 12/15/93

Replicate 1
Peak Area (A-s): 0.007
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.3

Time: 00:16
Peak Height (A): 0.011
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.6

Time: 00:18
Peak Height (A): 0.006
Background Pk Height (A): 0.003

Mean Conc (ug/L): 0.9 SD: 0.47 RSD(%): 50.62

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00-240

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Pg. No

Method/QC Type GPRN / FOSN

Lot No.(s) NA

Spike Solutions Used		Prep Date	Prep'd by	Exp. Date
1. ASM6233-007 Spike A"		11-10-93	DWZ	12-12-93

Pipets Used BIOHTE 1000 #1

Hood No. 6

Hotplate No. 3

D. Rodriguez 12/3/93
Signed Date

Marshall Sugh 12/3/93
Read & Understood By Date

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PROJECT ASM 3233-007 SOLNA

Continued From Page

ELEMENT	(ppm)	STOCK CONC.	M/S USED	FINAL (CALC.)	TARGET	OFFER	LOT#	EXP.
As	1,000	1	4.0	4,000	40	FISHER	25266-24	7-94
Cr	1	1	2.0	2,000	20	MALMSTROM	25266-24	7-94
Pb	1	1	2.0	2,000	20	BAKER	448620	12-93
Mo	1	1	2.0	2,000	20	BAKER	FO1630	1-94
Se	1	1	1.0	1,000	10	BAKER	F17647	5-94
Tl	1	1	5.0	5,000	50	MALMSTROM	25266-24	7-94
V	1,000	1	2.0	2,000	20	BAKER	F27605	2-95

FINAL VOLUME - 1000 ml (1% H₂O₂)

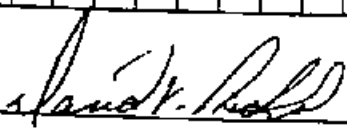
PIPETS USED: BIOHIT 1000 #2

CLASS "A" VOL. 2, 4, 5 ml

SOLNA! EXPIRES 12-5-93

REMADE
11-16-93BY
DYEEXPIRES
12-12-93

Continued on Page

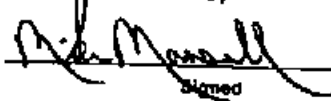


Signed

11-2-93

Date

Read and Understood By



Signed

11/2/93

Date

003228

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
M E M O R A N D U M
GAINESVILLE, FL

To: Department Managers

From: Patrick Wilber
Date: November 16, 1993

Subject: Huntsville COE
Field Group -
CDDMTW memo
update

ESE station ID's * 10, 12, 22, 37, 11, and 9 for the referenced field group receive an inhouse generated CLP-like package for the deliverable (forms, raw data, narrative, etc.), following SW846 methodology for all the analyses groups. I will update you as to when these station IDs will arrive so that they can be extracted, analyzed and batched together. The other stations will receive a standard COE deliverable following SW846 methodology. If you have any questions please contact me immediately.

Thanks

cc:DHG
PCG

003229

#	Sample Name	Pb2203 (ppm)
1	CDDMTW*7	.1096
2	CDDMTW*10	.4937
3	CDDMTW*11	.1958
4	CDDMTW*12	.0831
5	CDDMTW*22	.1709
6	CDDMTW*37	.0100
7	CDDMTW*9NF	-.0074
8	CDDMTW*10NF	.0096
9	CDDMTW*11NF	-.0039
10	CDDMTW*12NF	.0101
11	CDDMTW*22NF	.0007
12	CDDMTW*37NF	.0132

Analyzed by ICP

12-6-93

BC

Pb dilution information.

No data reported by ICP.

003230

PROJECT NUMBER 7934082G 0201
FIELD GROUP CDDMTWPROJECT NAME HUNTSVILLE COE - DDMT
PROJECT MANAGER P.C. WILBER

52 182

STORET CODE:	1002	1051	1147	1145	1000	
METHOD CODE:	7060-G	7421-G	7740-G	7740-G	7060-G	
PARAMETER:	AS	PB	SE	SE,DISS	AS,DISS	Pb,diSS
UNITS:	UG/L	UG/L	UG/L	UG/L	UG/L	

FED.GRP.	#	SAMPLE ID	DATE	TIME
CDDMTW	9	MW9	11/15/93	17:11
CDDMTW	10	MW10SP	11/11/93	18:00
CDDMTW	11	MW11	11/13/93	09:30
CDDMTW	12	MW12SP	11/11/93	15:30
CDDMTW	22	MW22SP	11/17/93	15:00
CDDMTW	37	MW37SP	11/18/93	11:30

003231

*** PROJECT REQUIREMENTS ***
Department 3233

52 183

Project Name: *Huntsville COE - DDMT*

Lab Coordinator: *P. W. Iker*

Field Groups: *CDDMTW*
CDDMTWD

Project No.: *7934082G 0201*

QC Type:

QC Requirements:

003232

1000 ppm stock solutions:

Element	Manufacturer	Lot No.	Date Received	Date Expires
As	Fisher	92526-24	7/28/93	7/94
Se	Baker	F17647	4/1/93	5/94
Pb	Baker	E48620	7/7/92	12/31/93
Tl	Mallinckrodt	H584 KTSK-P	4/2/93	10/94

10 ppm standard: 2.0 ml of each of the above stock solutions was transferred to a 200 ml volumetric flask containing 100 ml conc HNO₃ and DI water. Then the solution was brought to volume with DI water.
(Expires: 12/25/93)

Working Standards:

100 ppb: 2.0 ml of the 10 ppm standard was transferred to a 200 ml volumetric flask containing 100 ml conc HNO₃ and DI water. Then solution brought to volume with DI H₂O.
10 ppb: 10.0 ml of the 100 ppb solution was transferred to a 100 ml volumetric flask containing 50 ml conc HNO₃ and DI water. Then solution brought to volume with DI water.
50 ppb: 0.5 ml of the 10 ppm standard was transferred to a 100 ml volumetric flask containing 50 ml conc HNO₃ and DI water. Then solution brought to volume with DI water.

NOTE: Standards are 5% conc HNO₃.

Working Standards Reused:

Date	Initials	Date	Initials	Date	Initials	Date	Initials
11/23/93	ms	12/7/93	CAH				
11/24/93	AMS	12/12/93	CAH				
11/24/93	LOIS	12/13/93	MEB				
11/29/93	CAH	12/14/93	CAH				
11/30/93	MEB	12/16/93	AWN				
12/1/93	CAH	12/13/93	CAH				
12/2/93	CAH	12/14/93	CAH				
12/3/93	CAH						
12/4/93	CAH						
12/6/93	CAH						
12/7/93	CAH						

Continued on Page

William J. DeBruin
Signed

11/22/93
Date

Read and Understood By

[Signature]
Signed

11-22-93
Date

Transferred 0.5ml of the PE PURE stock solution (Lot No. 5-69AS, CUS No. 7697-37-2, Received - 9/28/93, Expires - 9/30/94) to a 1000 ml volumetric flask containing 50.0 ml conc HNO₃ and DI water. Then the solution was brought to volume with DI water.

<u>Element</u>	<u>Stock Soln Conc (ppb)</u>	<u>ICV Soln Conc (ppb)</u>
Ca	25	12.5
Se	25	12.5
As	100	50
Ba		
Cr		
Co		
Cu		
Fe		
Pb		
Mn		
Ni	↓	↓
Zn	100	50
V	250	12.5
Al	500	250
Hg	5.0	2.5

NOTE: Solution is 5% conc HNO₃.

Solution is stored at room temperature.

Expires: 5/2/94

Continued on Page

William J. Dine
Signed

12/2/93
Date

Read and Understood By

Marlene Bann
Signed

12/2/93
Date

003234

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METALS BATCH DOCUMENTATION CHECKLIST

Batch No.: G45234
QC Type: FDEX

Initial or NA

- JD 1. Batch printout
JD 2. Instrument logbook pages - copies (with instrument ID, conditions, method used)
JD 3. Raw data (labeled, dated, unused data marked and explained)
JD 4. Sample prep logbook pages - copies

The above documents should be numbered and placed in the folder in the order indicated.

NOTES:

X

JD
Analyst Initials

12/23/93
Date

KWB
Checked By

12/23/93
Date

003235

Form 3/6201

ESC BATCH : 045234

52 187

4

QC TYPE : FDER/SW
ANALYST : LULAMAL OSBORNE
EXTRACTOR : DENISE RODRIGUEZ
DATA ENTRY : CIAA UPLOAD

REPORT DATE/TIME : 12/23/93 11:11:08
ANALYSIS DATE : 12/17/93
EXTRACT DATE : 12/16/93

STATUS : ACTIVE

METHOD BLANK CORRECTION METHOD : NONE

FIELD APP QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
COOHTW	79340820 0701	MUNTSVILLE COE - DDHT	PATRICK WILBER

Sample Specific Raw Data

SAMPLE CODE	EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	SAMPLE VOL or MT (NA)	EXTRACT VOL or MT (NA)	INJECTION VOLUME (NA)	MOISTURE
ICV-PL-PURE-1	12/16/93	12/17/93	12:43PM				
MB-OC-1	12/16/93	12/17/93	12:59PM				
SP1-OC-1	12/16/93	12/17/93	01:05PM				
DA-COOHTW-22	12/16/93	12/17/93	05:30PM				
SPH1-COOHTW-22	12/16/93	12/17/93	05:43PM				
SPH2-COOHTW-27	12/16/93	12/17/93	05:49PM				
CCV-OC-1	12/16/93	12/17/93	03:20PM				
CCB-OC-1	12/16/93	12/17/93	03:15PM				
DA-COOHTW-7	12/16/93	12/22/93	12:47AM				
DA-COOHTW-10	12/16/93	12/22/93	12:52AM				
DA-COOHTW-11	12/16/93	12/22/93	12:58AM				
DA-COOHTW-12	12/16/93	12/22/93	01:04AM				
DA-COOHTW-17	12/16/93	12/22/93	01:09AM				
DA-COOHTW-22	12/16/93	12/17/93	05:09PM				
ICV-PL-PURE-2	12/16/93	12/17/93	04:52PM				
CCV-OC-2	12/16/93	12/17/93	06:02PM				
CCB-OC-2	12/16/93	12/17/93	06:08PM				
ICV-PL-PURE-3	12/16/93	12/22/93	12:20AM				
CCV-OC-3	12/16/93	12/22/93	01:15AM				
CCB-OC-3	12/16/93	12/22/93	01:21AM				

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Parameter-Specific Raw Data

SAMPLE QUMI	STORET METHOD	STATUS	RESPONSE (UG/L)	DIL	TYPE	CURVE	RET TIME	SPIKE SOL CONC (UG/L)	SPIKE SAMP VOL (NA)	SPIKE VOLUME (NA)	DIL CODE	CALC'D TARGET (UG/L)
ICV=PL-PURE-1	1147-7740-	OK	23.8									25.0
	1145-7740-	OK	23.8									25.0
MB-OC-1	1147-7740-	OK	0									
	1145-7740-	OK	0									
SP1-OC-1	1147-7740-	OK	8.3									10.0
	1145-7740-	OK	8.2									10.0
DA-CODMTW-22	1147-7740-	OK	0									
	1145-7740-	OK	0									
SPK1-CODMTW-22	1147-7740-	OK	0									10.0
	1145-7740-	OK	10.6									10.0
SPK2-CODMTW-22	1147-7740-	OK	1.1									10.0
	1145-7740-	OK	10.8									10.0
CCV-OC-1	1147-7740-	OK	45									50.0
	1145-7740-	OK	45									50.0
CCR-OC-1	1147-7740-	OK	0.2									
	1145-7740-	OK	0.2									
DA-CODMTW-9	1147-7740-	OK	1.2									
	1145-7740-	OK	1.8									
DA-CODMTW-10	1147-7740-	OK	1.2									
	1145-7740-	OK	1.9									
DA-CODMTW-11	1147-7740-	OK	1.3									
	1145-7740-	OK	0									
DA-CODMTW-12	1147-7740-	OK	1.8									
	1145-7740-	OK	1.1									
DA-CODMTW-32	1147-7740-	OK	1.1									
	1145-7740-	OK	1.1									
SPX-CODMTW-22	1147-7740-	OK	50.3	2								100.0
ICV=PL-PURE-2	1147-7740-	OK	26.9									25.0
	1145-7740-	OK	26.9									25.0
CCV-OC-2	1147-7740-	OK	49.7									50.0
	1145-7740-	OK	49.7									50.0
CCR-OC-2	1147-7740-	OK	1.4									
	1145-7740-	OK	1.4									
ICV=PL-PURE-3	1147-7740-	OK	77.3									75.0
	1145-7740-	OK	77.3									75.0
CCV-OC-3	1147-7740-	OK	48.8									50.0
	1145-7740-	OK	48.8									50.0
CCR-OC-3	1147-7740-	OK	1.5									
	1145-7740-	OK	1.5									

STORE: 1147 METHOD: 7740-G SELENIUM TOTAL, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 2.5 DATE: 12/17/93 LARGEST RESPONSE= 8950-

CONC :	0	5	10	25	50	75	100
RESP :	.003	.022	.044	.098	.196	.286	.353
CONC :							

CONC * * * * *
 95% C.I. = *RESP* *RESP**2* *RESP**3
 CORRELATION COEFFICIENT =

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC-1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC-1	0.2	
QC-2	-1.4	
QC-3	0.5	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
QC-1	45.0	50.0	-10.0
QC-2	49.7	50.0	-1.6
QC-3	40.8	50.0	-2.4

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
PI-PURE-1	23.0	25.0	4.0
PI-PURE-2	26.9	25.0	7.6
PI-PURE-3	77.3	75.0	3.1

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	RELXDIFF.
SM1-QC-1	0.0	8.3	8.3	10.0	83.0	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	RELXDIFF.
SM1-CDDMTW-22	0.0	0.0	0.0	10.0	0.0	Recovery Exceeds criteria. (<76)
SM2-CDDMTW-22	0.0	-1.1	-1.1	10.0	-1.0	200.0 Relative Percent Difference exceeds criteria (>23)

SPIN(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	RELXDIFF.
SM-CDDMTW-22	0.0	10.1	10.1	100.0	101.0	

STORE: 1145 METHOD: 7740-G SELENIUM DISS. UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 2.5 DATE: 12/17/93 LARGEST RESPONSE= 8950-

CONC :	0	5	10	25	50	75	100
RESP :	.003	.022	.044	.098	.196	.286	.353
CONC :							

CONC * * * * *
 95% C.I. = *RESP* *RESP**2* *RESP**3
 CORRELATION COEFFICIENT =

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC-1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC-1	0.2	
QC-2	-1.4	
QC-3	0.5	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
QC-1	45.0	50.0	-10.0
QC-2	49.7	50.0	-1.6
QC-3	40.8	50.0	-2.4

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
PI-PURE-1	23.0	25.0	4.0
PI-PURE-2	26.9	25.0	7.6
PI-PURE-3	77.3	75.0	3.1

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELS DIFF.
SP1=000001	0.0	0.3	0.3	10.0	100.0	

SAMPLE MATRIX SPK(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELS DIFF.
SPM1=CNDMTW-22	0.0	10.6	10.6	10.0	106.0	
SPM2=CNDMTW-22	0.0	10.0	10.8	10.0	108.0	1.9

52 190

003239

SAMPLE RESULTS

52 191

SAMPLE ID	147-7740-G SELENIUM, T DTAL UG/L	145-7740-G SELENIUM, D ISS UG/L
	UG/L	UG/L
CD001W-22	<2.5	<2.5
CD001W-2	<2.5	<2.5
CD001W-1P	<2.5	<2.5
CD001W-11	<2.5	<2.5
CD001W-12	<2.5	<2.5
CD001W-17	<2.5	<2.5

003240

	UNITS ENTERED
FINAL CONCENTRATION	UG/L
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC} \cdot \text{EXT VOL} \cdot \text{DIL} \cdot 1}{\text{INJ VOL} \cdot \text{SAMP VOL} \cdot ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) \cdot (\text{NA}) \cdot 1}{(\text{NA}) \cdot (\text{NA})} = \text{ug/L}$$

$$1 = \frac{(\text{---}) \cdot (\text{---}) \cdot (\text{---}) \cdot 1}{(\text{---}) \cdot (\text{---}) \cdot ((100 - (\text{---})) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} \cdot \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} \cdot ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) \cdot (\text{NA})}{(\text{NA})} = \text{ug/L}$$

N/A - Data is in final concentration,
12/23/93 *cto*

Batch No.: 045234

Analysis Date: 12/17/93

Analyst: EULAMAE OSBORNE

	Yes	"Exceptions"	
		No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X	X	1147-7748- <u>Very bad matrix effects</u>
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X	X	1147-7748- <u>b b b b</u>

Note: Any "NO" answer requires a comment.

12/23/93

EOS

Batch No.: 645234

Analysis Date: 12/17/93

Analyst: LULAMAC OSBORNE

	N/A	Yes	"Exceptions"	
			No	Comment / Corrective Action
Is the method blank free of contamination? If not, has the data been blank corrected?	☒	☒	☐	
Are reported values consistent with the required units?	☐	☒	☐	
Are detection limits reported correctly?	☐	☒	☐	
Are dilution factors entered correctly?	☐	☒	☐	
Is the calibration curve (if applicable) entered correctly?	☐	☒	☐	
Are all the correct elements included in the spikes?	☐	☒	☐	
Is the batch checked for data entry error(s)?	☐	☒	☐	
Are continuing calibration blanks analyzed at a frequency specified in the appropriate QA/QC Plan (i.e., AE, CCE or FDER QA/QC plan)? If not, is an appropriate explanation provided?	☒	☒	☐	
Are continuing calibration verification (CCV) standards analyzed at a frequency specified in the appropriate QA/QC Plan? If not, is an appropriate explanation provided?	☒	☒	☐	
Is an example calculation provided?	☐	☒	☐	
Has the batch documentation checklist been completed?	☐	☒	☐	

Notes: Any "NO" answer requires a comment.
Additional Comments:

Completed By: *[Signature]*
Date: 12/23/93

Reviewed By: *[Signature]*
Date: 12/23/93

Notification of appropriate Laboratory Coordinators required for "Exceptions":

Signature	Date	Comments
<i>[Signature]</i>	12/27/93	<i>[Signature]</i>

OVERRIDE COMMENTS:

BATCH OVERRIDE BY:

003243

(9)

ELEMENT: Se METHOD # ASM3233-013
 ANALYST: L. D. Swartz EMP. # 2826
L. Swartz

BK# 38 PC# 21A
 DATE: 12/17/93

SAMPLES ANALYZED:

CDDMTW * 9-12, 22, 37 (N+NF)

BATCH # 645234

(FAX) 12/21/93, 400

INSTRUMENT PARAMETERS:

Inst. model Sino-B
 Wavelength 196.0
 Bandwidth 2.0
 EDL/HCL# 4678
 Energy/Watts 621-610
 Power Supply F2A
 HGA model 1600
 Tube type Apod/Platform
 Sample aliq. 20ul
 Modifier SX011A (LND3)2
 Modifier aliq. 5ul
 Zeeman type Longitudinal

STANDARDS:

1000 ppm stock
 Manufacturer Baker
 Lot number E7649
 Date received 4/1/93
 Date expires 5/94

Working Standards

Date prep'd: 11/22/93
 10 mg/L std. 12/1/93
 100 ug/L std. 12/1/93
 10 ug/L std. 12/1/93
P/A NA

CALIBRATION CURVE:

1 of 2
 conc. abs.
 Blank 0.0 / 0.002
 Std.1 5.0 / 0.022
 Std.2 10.0 / 0.044
 Std.3 25.0 / 0.098
 Std.4 50.0 / 0.196
 Std.5 75.0 / 0.294
 Std.6 100.0 / 0.353
 Std.7 125.0 / 0.451
 Std.8 150.0 / 0.549
 cc: 0.05690 (Nonlinear)
 Det. L. 2.546

HGA KEYBOARD ENTRIES:

STEP	1	2	3	4	5
Temp(C)	140	900	20	2000	2600
Ramp (sec)	5	5	1	0	1
Hold (sec)	50	35	15	5	5
Read Step				*	
Gas (ml/min)	300	300	300	300	300

PREVENTATIVE MAINTENANCE/COMMENTS:

Corrections to runlog reflect corrections to raw data,

12/21/93 400

READ AND UNDERSTOOD BY:

Lisa Swartz 12/21/93

000021

003244

Analyst: L. Osborne Date: 12/17/93 Element Se Inst. Simba Book: 38 Pg: 21B
C. Swartz

Print #	Sample I. D.	Peak Area	Conc. (ppb)	Target (ppb)	Comments
1	Calib. Blank	0.0035	0.9		
2	Standard 1	0.0192	4.9		
3	Standard 2	0.0409	10.7		
4	Standard 3	0.0950	20.1		
5	Standard 4	0.1927	52.3		
6	Standard 5	0.2832	75		
7	Standard 6	0.3503	93.8		
8	ICV*PE-PURE*1	0.0932	23.8	25.0	95.2% recovery
9	MB*QC*1	-0.0026	-0.7		
10	SP1*QC*1	0.0326	8.3	10.0	83.0% recovery
11	CDDMTW*22	-0.0017	-0.4		
12	SPM1*CDDMTW*22	-0.0001	0	10.0	0% recovery
13	SPM2*CDDMTW*22	-0.0005	-0.1	10.0	0% recovery
14	CDDMTW*22NF	0.0021	0.5		
15	SPM1*CDDMTW*22NF	0.0346	8.8		Recovery - See No. 46
16	SPM2*CDDMTW*22NF	0.0353	9		47
17	CCV*QC*1	0.1747	45	50.0	90.0% recovery
18	CCB*QC*1	0.0007	0.2		
19	CDDMTW*9	0.0009	0.2		
20	CDDMTW*10	-0.0008	-0.2		
21	CDDMTW*11	-0.0015	-0.4		
22	CDDMTW*12	-0.0014	-0.4		
23	CDDMTW*37	-0.0017	-0.4		
24	SPX*CDDMTW*22	0.1222	31.3		
25	CDDMTW*9NF	0.0002	0.1		
26	CDDMTW*10NF	-0.0020	-0.5		
27	CDDMTW*11NF	-0.0025	-0.6		
28	CDDMTW*12NF	-0.0015	-0.4		
29	CDDMTW*37NF	-0.0024	-0.6		
30	CCV*QC*2	0.1713	44.1		
31	CCB*QC*2	-0.0011	-0.3		
32	CCV*QC*2	0.1652	42.5	50.0	85.0% recovery - failed - derelict
33	Calib. Blank	-0.0006	-0.2		
34	Standard 1	0.0179	4.6		
35	Standard 2	0.0354	9.9		
36	Standard 3	0.0907	26.8		
37	Standard 4	0.1806	48.9		
38	Standard 5	0.2617	71.7		
39	Standard 6	0.3299	93.6		
40	ICV*PE-PURE*2	0.0959	26.9	25.0	107.6% recovery
41	SPX*CDDMTW*22	0.1765	50.3	100.0	50.3% recovery = 100.6% recovery
42	CDDMTW*9NF	0.0030	0.8		
43	CDDMTW*10NF	0.0034	0.9		
44	CDDMTW*11NF	0.0002	0		
45	CDDMTW*12NF	0.0005	0.1		
46	CDDMTW*22NF	0.0007	0.2		
47	SPM1*CDDMTW*22NF	0.0382	10.6	10.0	106% recovery

003245

Analyst: L. Osborne Date: 12/17/93 Element Se Inst. Simab Book: 38 Pg: 21 C
L. Swartz

Print #	Sample I. D.	Peak Area	Conc. (ppb)	Target (ppb)	Comments

48	SPM2*CDDMTW*22NF	0.0390	10.8	<u>10.0</u>	<u>108 / Ave</u>
49	CDDMTW*37NF	-0.0003	-0.1		
50	CCV*QC*2	0.1743	49.7	<u>50.0</u>	<u>99.4 / Ave</u>
51	CCB*QC*2	-0.0014	-0.4		

The SPX was prepared by adding one part high standard to one part sample. A dilution factor of 2 is entered in the data batch and the target will equal the high standard concentration.

ELEMENT: Se METHOD # 5024
 ANALYST: L. Osborne EMP. # 2326
C. Horrell

BK# 38 PC# 27A
 DATE: 12/21/93

SAMPLES ANALYZED:

BATCH #

1. Lot XCCA → 643844
GFAA vial, 12/22/93, 100
2. CODM-TW* 9-12, 37 (W)-Lemus → 645234

INSTRUMENT PARAMETERS:

Inst. model 5100-B
 Wavelength 196.0
 Bandwidth 2.0
 (EDL)HCL# 4670
 Energy/Watts 6.1 / ~4.0
 Power Supply #2A
 HGA model 600
 Tube type Argo / Nitrogen
 Sample aliq. 2.0 mL
 Modifier 500 uM H₂SO₄
 Modifier aliq. 5.0
 Zeeman type Longitudinal

STANDARDS:

1000 ppm stock
 Manufacturer Baker
 Lot number E17647
 Date received 4/1/93
 Date expires 8/1/94
12/21/93
Working Standards
 Date prep'd: 11/22/93
 10 mg/L std. 12/21/93
 100 ug/L std. 12/21/93
 10 ug/L std. 12/21/93
D/A N/A

CALIBRATION CURVE:

10 f 2
 conc. abs.
 Blank 0.0 / 0.000
 Std. 1 2.5 / 0.010
 Std. 2 5.0 / 0.022
 Std. 3 25.0 / 0.097
 Std. 4 50.0 / 0.186
 Std. 5 75.0 / 0.256
 Std. 6 100.0 / 0.324
 Std. 7 /
 Std. 8 /
 cc: 0.44540 / 0.44540
 Det. L

HGA KEYBOARD ENTRIES:

STEP	1	2	3	4	5
Temp(C)	140	900	20	2200	2600
Ramp (sec)	5	5	1	0	1
Hold (sec)	50	35	15	4	5
Read Step				~~2~~	
Gas (ml/min)	300	300	300	0	300

PREVENTATIVE MAINTENANCE/COMMENTS:

- For Group 1 above: "RBM" in comments section of runlog denotes that the sample was run by mistake and the data is not in the batch.
- Print nos. 1-78 are data for Group 1, above.
 Print nos. 46-52 are data for curve #2.
 Print nos. 79-88 are data for Group 2 above. Group 2 run on curve 2.
- Corrections to runlog reflect corrections to raw data,
 12/23/93

READ AND UNDERSTOOD BY:

L. Osborne 12/23/93

000037

003248

Analyst: L. Osborne Date: 12/21/93 Element Se Inst. Shimadzu Book: 38 Pg: 27D

Print #	Sample I. D.	Peak Area	Conc. (ppb)	Target (ppb)	Comments
46	Calib. Blank	-0.0057	-49.7		
47	Standard 1	0.0076	4.1		
48	Standard 2	0.0196	6.4		
49	Standard 3	0.0877	9.8		
50	Standard 4	0.1700	47.2		
51	Standard 5	0.2393	70.6		
52	Standard 6	0.3044	96		
79	ICV*PE-PURE*3	0.2471	77.3	<u>75.0</u>	<u>103.17% recovery</u>
80	MB*QC*1	0.0024	0.7		
81	SP*QC*1	0.0334	9.4	<u>10.0</u>	<u>94.0% recovery</u>
82	CDDMTW*9	0.0008	0.2		
83	CDDMTW*10	0.0006	0.2		
84	CDDMTW*11	0.0011	0.3		
85	CDDMTW*12	0.0029	0.8		
86	CDDMTW*37	0.0004	0.1		
87	CCV*QC*3	0.1626	48.8	<u>50.0</u>	<u>97.6% recovery</u>
88	CCB*QC*3	0.0018	0.5		

 Element File: SE_FURN.GEL Element: Se Wavelength: 196.0
 Date: 12/17/93 Time: 11:58 Slit: 2.0 L
 Data File: SE_12_17.DAT ID/Wt File: SE.IDW Lamp Current: 0
 Technique: HGA Calib. Type: Nonlinear Energy: 62
 Remark 1: CDDMTW*9-12,22,37 (N + NF)
 Remark 2: Analyzed by Lula Osborne
 Remark 3: December 17, 1993 Data on Lula 3
 Remark 4: 5100-B
 Remark 5: Lamp No. 4670 (EDL) Modifier: 500 PPM PD(NO3)2

Se ID: Calib. Blank Seq. No.: 00001 A/S Pos.: 36 Date: 12/17/93

Replicate 1 Time: 11:57
 Peak Area (A-s): 0.003 Peak Height (A): 0.007
 Background Pk Area (A-s): 0.004 Background Pk Height (A): 0.006
 Blank Corrected Pk Area (A-s): 0.004
 Concentration (ug/L): 1.0

Replicate 2 Time: 12:00
 Peak Area (A-s): 0.002 Peak Height (A): 0.007
 Background Pk Area (A-s): 0.005 Background Pk Height (A): 0.008
 Blank Corrected Pk Area (A-s): 0.003
 Concentration (ug/L): 0.8

Mean Conc (ug/L): 0.9 SD: 0.16 RSD(%): 17.40

Auto-zero performed.

 Se ID: Standard 1 Seq. No.: 00002 A/S Pos.: 1 Date: 12/17/93

Replicate 1 Time: 12:03
 Peak Area (A-s): 0.022 Peak Height (A): 0.030
 Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.010
 Blank Corrected Pk Area (A-s): 0.019
 Concentration (ug/L): 4.9

Replicate 2 Time: 12:06
 Peak Area (A-s): 0.022 Peak Height (A): 0.026
 Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.012
 Blank Corrected Pk Area (A-s): 0.019
 Concentration (ug/L): 4.9

Mean Conc (ug/L): 4.9 SD: 0.02 RSD(%): 0.43

Standard number 1 applied. [5.0]
 Correlation coefficient: 1.00000 Slope: 0.0038

 Se ID: Standard 2 Seq. No.: 00003 A/S Pos.: 1 Date: 12/17/93

Replicate 1 Time: 12:09
 Peak Area (A-s): 0.043 Peak Height (A): 0.048
 Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.017
 Blank Corrected Pk Area (A-s): 0.040
 Concentration (ug/L): 10.5

003250

Replicate 2
Peak Area (A-s): 0.044
Background Pk Area (A-s): 0.015
Blank Corrected Pk Area (A-s): 0.042
Concentration (ug/L): 10.9

Time: 12:12
Peak Height (A): 0.054
Background Pk Height (A): 0.016

Mean Conc (ug/L): 10.7

SD: 0.28

RSD(%): 2.62

Standard number 2 applied. [10.0]
Correlation coefficient: 1.00000

Slope: 0.0036

Se ID: Standard 3

Seq. No.: 00004

A/S Pos.: 2

Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.097
Background Pk Area (A-s): 0.033
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 20.0

Time: 12:15
Peak Height (A): 0.093
Background Pk Height (A): 0.031

Replicate 2
Peak Area (A-s): 0.099
Background Pk Area (A-s): 0.033
Blank Corrected Pk Area (A-s): 0.096
Concentration (ug/L): 20.3

Time: 12:18
Peak Height (A): 0.096
Background Pk Height (A): 0.031

Mean Conc (ug/L): 20.1

SD: 0.26

RSD(%): 1.29

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 3 applied. [25.0]
Correlation coefficient: 0.99938

Slope: 0.0040

Se ID: Standard 4

Seq. No.: 00005

A/S Pos.: 2

Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.195
Background Pk Area (A-s): 0.065
Blank Corrected Pk Area (A-s): 0.192
Concentration (ug/L): 52.0

Time: 12:21
Peak Height (A): 0.200
Background Pk Height (A): 0.063

Replicate 2
Peak Area (A-s): 0.196
Background Pk Area (A-s): 0.061
Blank Corrected Pk Area (A-s): 0.194
Concentration (ug/L): 52.6

Time: 12:24
Peak Height (A): 0.181
Background Pk Height (A): 0.058

Mean Conc (ug/L): 52.3

SD: 0.39

RSD(%): 0.75

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 4 applied. [50.0]
Correlation coefficient: 0.99974

Slope: 0.0040

Se ID: Standard 5

Seq. No.: 00006

A/S Pos.: 2

Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.285
Background Pk Area (A-s): 0.092

Time: 12:27
Peak Height (A): 0.273
Background Pk Height (A): 0.087

003251

Blank Corrected Pk Area (A-s): 0.282
Concentration (ug/L): 74.7

52 203

Replicate 2
Peak Area (A-s): 0.287
Background Pk Area (A-s): 0.095
Blank Corrected Pk Area (A-s): 0.284
Concentration (ug/L): 75.3

Time: 12:30
Peak Height (A): 0.270
Background Pk Height (A): 0.088

Mean Conc (ug/L): 75.0 SD: 0.41 RSD(%): 0.55

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 5 applied. [75.0]
Correlation coefficient: 0.99991 Slope: 0.0040

Se ID: Standard 6 Seq. No.: 00007 A/S Pos.: 2 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.353
Background Pk Area (A-s): 0.114
Blank Corrected Pk Area (A-s): 0.350
Concentration (ug/L): 93.8

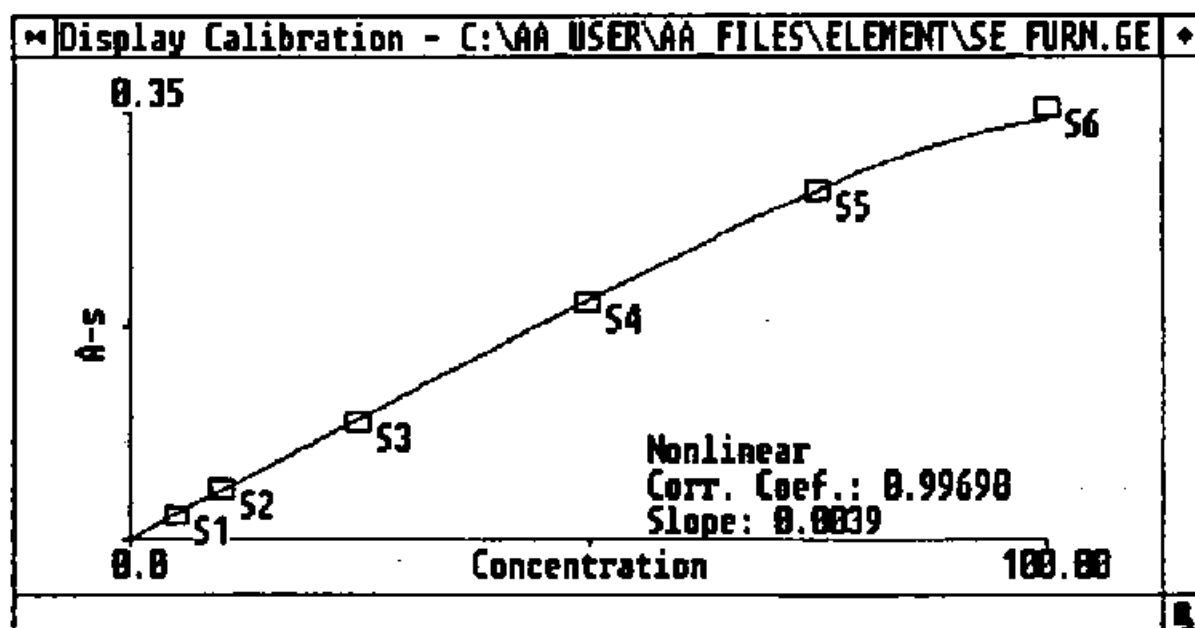
Time: 12:33
Peak Height (A): 0.342
Background Pk Height (A): 0.111

Replicate 2
Peak Area (A-s): 0.353
Background Pk Area (A-s): 0.113
Blank Corrected Pk Area (A-s): 0.351
Concentration (ug/L): 93.9

Time: 12:36
Peak Height (A): 0.330
Background Pk Height (A): 0.110

Mean Conc (ug/L): 93.8 SD: 0.11 RSD(%): 0.12

Standard number 6 applied. [100.0]
Correlation coefficient: 0.99690 Slope: 0.0039



003252

Se ID: ICV*PE-PURE*1 Seq. No.: 00008 A/S Pos.: 3 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.097
Background Pk Area (A-s): 0.034
Blank Corrected Pk Area (A-s): 0.094
Concentration (ug/L): 24.1

Time: 12:43
Peak Height (A): 0.082
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.095
Background Pk Area (A-s): 0.035
Blank Corrected Pk Area (A-s): 0.092
Concentration (ug/L): 23.6

Time: 12:46
Peak Height (A): 0.083
Background Pk Height (A): 0.028

Mean Conc (ug/L): 23.8 SD: 0.35 RSD(%): 1.48

Se ID: MB*QC*1 Seq. No.: 00009 A/S Pos.: 4 Date: 12/17/93

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.004
Concentration (ug/L): -1.0

Time: 12:59
Peak Height (A): 0.006
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.3

Time: 13:02
Peak Height (A): 0.010
Background Pk Height (A): 0.009

Mean Conc (ug/L): -0.7 SD: 0.48 RSD(%): 73.27

Se ID: SP1*QC*1 Seq. No.: 00010 A/S Pos.: 5 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.037
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.035
Concentration (ug/L): 8.8

Time: 13:05
Peak Height (A): 0.040
Background Pk Height (A): 0.016

Replicate 2
Peak Area (A-s): 0.033
Background Pk Area (A-s): 0.019
Blank Corrected Pk Area (A-s): 0.031
Concentration (ug/L): 7.8

Time: 13:08
Peak Height (A): 0.041
Background Pk Height (A): 0.015

Mean Conc (ug/L): 8.3 SD: 0.72 RSD(%): 8.66

Se ID: CDDMTW*22 Seq. No.: 00011 A/S Pos.: 10 Date: 12/17/93

Replicate 1
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.099
Blank Corrected Pk Area (A-s): -0.005
Concentration (ug/L): -1.2

Time: 13:11
Peak Height (A): 0.007
Background Pk Height (A): 0.077

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.099
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.3

Time: 13:14
Peak Height (A): 0.009
Background Pk Height (A): 0.071

Mean Conc (ug/L): -0.4 SD: 1.10 RSD(%): 246.23

Se ID: SPM1*CDDMTW*22 Seq. No.: 00012 A/S Pos.: 11 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.066
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Time: 13:17
Peak Height (A): 0.006
Background Pk Height (A): 0.041

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.065
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.1

Time: 13:19
Peak Height (A): 0.011
Background Pk Height (A): 0.042

Mean Conc (ug/L): -0.0 SD: 0.23 RSD(%): 756.30

Se ID: SPM2*CDDMTW*22 Seq. No.: 00013 A/S Pos.: 12 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.064
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Time: 13:22
Peak Height (A): 0.009
Background Pk Height (A): 0.043

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.065
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.3

Time: 13:25
Peak Height (A): 0.008
Background Pk Height (A): 0.043

Mean Conc (ug/L): -0.1 SD: 0.26 RSD(%): 200.12

Se ID: CDDMTW*22NF Seq. No.: 00014 A/S Pos.: 21 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.5

Time: 13:28
Peak Height (A): 0.007
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.6

Time: 13:31
Peak Height (A): 0.008
Background Pk Height (A): 0.009

Mean Conc (ug/L): 0.5 SD: 0.12 RSD(%): 21.14

003254

Se ID: SPM1*CDDMTW*22NF Seq. No.: 00015 A/S Pos.: 22 Date: 12/17/93

Replicate 1 Time: 13:34
Peak Area (A-s): 0.038 Peak Height (A): 0.040
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 0.035
Concentration (ug/L): 8.9

Replicate 2 Time: 13:37
Peak Area (A-s): 0.037 Peak Height (A): 0.038
Background Pk Area (A-s): 0.017 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 8.7

Mean Conc (ug/L): 8.8 SD: 0.16 RSD(%): 1.80

Se ID: SPM2*CDDMTW*22NF Seq. No.: 00016 A/S Pos.: 23 Date: 12/17/93

Replicate 1 Time: 13:40
Peak Area (A-s): 0.039 Peak Height (A): 0.045
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 0.036
Concentration (ug/L): 9.2

Replicate 2 Time: 13:43
Peak Area (A-s): 0.037 Peak Height (A): 0.043
Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 8.8

Mean Conc (ug/L): 9.0 SD: 0.29 RSD(%): 3.19

Se ID: CCV*QC*1 Seq. No.: 00017 A/S Pos.: 25 Date: 12/17/93

Replicate 1 Time: 13:46
Peak Area (A-s): 0.177 Peak Height (A): 0.164
Background Pk Area (A-s): 0.059 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.174
Concentration (ug/L): 44.8

Replicate 2 Time: 13:49
Peak Area (A-s): 0.178 Peak Height (A): 0.171
Background Pk Area (A-s): 0.056 Background Pk Height (A): 0.055
Blank Corrected Pk Area (A-s): 0.175
Concentration (ug/L): 45.2

Mean Conc (ug/L): 45.0 SD: 0.26 RSD(%): 0.57

Se ID: CCB*QC*1 Seq. No.: 00018 A/S Pos.: 26 Date: 12/17/93

Replicate 1 Time: 13:51
Peak Area (A-s): 0.003 Peak Height (A): 0.009
Background Pk Area (A-s): 0.005 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

003255

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.3

Time: 13:54
Peak Height (A): 0.011
Background Pk Height (A): 0.007

Mean Conc (ug/L): 0.2 SD: 0.23 RSD(%): 134.64

Se ID: CDDMTW*9 Seq. No.: 00019 A/S Pos.: 6 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

Time: 14:07
Peak Height (A): 0.009
Background Pk Height (A): 0.014

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.4

Time: 14:09
Peak Height (A): 0.008
Background Pk Height (A): 0.014

Mean Conc (ug/L): 0.2 SD: 0.27 RSD(%): 119.89

Se ID: CDDMTW*10 Seq. No.: 00020 A/S Pos.: 7 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.126
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Time: 14:12
Peak Height (A): 0.009
Background Pk Height (A): 0.061

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.136
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.5

Time: 14:15
Peak Height (A): 0.008
Background Pk Height (A): 0.065

Mean Conc (ug/L): -0.2 SD: 0.46 RSD(%): 226.58

Se ID: CDDMTW*11 Seq. No.: 00021 A/S Pos.: 8 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.037
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Time: 14:18
Peak Height (A): 0.009
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.032
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -0.8

Time: 14:21
Peak Height (A): 0.009
Background Pk Height (A): 0.020

Mean Conc (ug/L): -0.4 SD: 0.65 RSD(%): 175.61

Se ID: CDDMTW*12 Seq. No.: 00022 A/S Pos.: 9 Date: 12/17/93

Replicate 1 Time: 14:24
Peak Area (A-s): -0.000 Peak Height (A): 0.007
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -0.7

Replicate 2 Time: 14:26
Peak Area (A-s): 0.003 Peak Height (A): 0.010
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.0

Mean Conc (ug/L): -0.4 SD: 0.50 RSD(%): 137.59

Se ID: CDDMTW*37 Seq. No.: 00023 A/S Pos.: 13 Date: 12/17/93

Replicate 1 Time: 14:29
Peak Area (A-s): 0.002 Peak Height (A): 0.009
Background Pk Area (A-s): 0.005 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Replicate 2 Time: 14:32
Peak Area (A-s): 0.000 Peak Height (A): 0.009
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -0.6

Mean Conc (ug/L): -0.4 SD: 0.30 RSD(%): 68.78

Se ID: SPX*CDDMTW*22 Seq. No.: 00024 A/S Pos.: 16 Date: 12/17/93

Replicate 1 Time: 14:35
Peak Area (A-s): 0.122 Peak Height (A): 0.190
Background Pk Area (A-s): 0.081 Background Pk Height (A): 0.066
Blank Corrected Pk Area (A-s): 0.119
Concentration (ug/L): 30.5

Replicate 2 Time: 14:38
Peak Area (A-s): 0.128 Peak Height (A): 0.188
Background Pk Area (A-s): 0.071 Background Pk Height (A): 0.064
Blank Corrected Pk Area (A-s): 0.125
Concentration (ug/L): 32.1

Mean Conc (ug/L): 31.3 SD: 1.12 RSD(%): 3.58

Se ID: CDDMTW*9NF Seq. No.: 00025 A/S Pos.: 17 Date: 12/17/93

Replicate 1 Time: 14:41
Peak Area (A-s): 0.004 Peak Height (A): 0.010
Background Pk Area (A-s): 0.004 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

003257

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Time: 14:43
Peak Height (A): 0.010
Background Pk Height (A): 0.007

Mean Conc (ug/L): 0.1 SD: 0.21 RSD(%): 330.93

Se ID: CDDMTW*10NF Seq. No.: 00026 A/S Pos.: 18 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.1

Time: 14:46
Peak Height (A): 0.009
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): -0.005
Concentration (ug/L): -1.1

Time: 14:49
Peak Height (A): 0.008
Background Pk Height (A): 0.010

Mean Conc (ug/L): -0.5 SD: 0.90 RSD(%): 176.93

Se ID: CDDMTW*11NF Seq. No.: 00027 A/S Pos.: 19 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.2

Time: 14:52
Peak Height (A): 0.010
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.004
Concentration (ug/L): -1.1

Time: 14:55
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Mean Conc (ug/L): -0.6 SD: 0.62 RSD(%): 96.67

Se ID: CDDMTW*12NF Seq. No.: 00028 A/S Pos.: 20 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.5

Time: 14:58
Peak Height (A): 0.013
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.3

Time: 15:00
Peak Height (A): 0.007
Background Pk Height (A): 0.008

Mean Conc (ug/L): -0.4 SD: 0.15 RSD(%): 40.04

Se ID: CDDMTW*37NF Seq. No.: 00029 A/S Pos.: 24 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -0.7
Time: 15:03
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.5
Time: 15:06
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Mean Conc (ug/L): -0.6 SD: 0.13 RSD(%): 21.98

Se ID: CCV*QC*2 ² _{12/17/93} Seq. No.: 00030 A/S Pos.: 25 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.173
Background Pk Area (A-s): 0.058
Blank Corrected Pk Area (A-s): 0.170
Concentration (ug/L): 43.8
Time: 15:09
Peak Height (A): 0.141
Background Pk Height (A): 0.046

Replicate 2
Peak Area (A-s): 0.175
Background Pk Area (A-s): 0.055
Blank Corrected Pk Area (A-s): 0.172
Concentration (ug/L): 44.4
Time: 15:12
Peak Height (A): 0.161
Background Pk Height (A): 0.051

Mean Conc (ug/L): 44.1 SD: 0.39 RSD(%): 0.87

Se ID: CCB*QC*2 ² _{12/17/93} Seq. No.: 00031 A/S Pos.: 26 Date: 12/17/93

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.004
Concentration (ug/L): -0.9
Time: 15:15
Peak Height (A): 0.007
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.4
Time: 15:18
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Mean Conc (ug/L): -0.3 SD: 0.90 RSD(%): 326.75

Se ID: CCV*QC*2 ² _{12/17/93} Seq. No.: 00032 A/S Pos.: 25 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.171
Background Pk Area (A-s): 0.056
Blank Corrected Pk Area (A-s): 0.168
Concentration (ug/L): 43.3
Time: 15:28
Peak Height (A): 0.168
Background Pk Height (A): 0.052

Replicate 2
 Peak Area (A-s): 0.165
 Background Pk Area (A-s): 0.059
 Blank Corrected Pk Area (A-s): 0.162
 Concentration (ug/L): 41.6

Time: 15:30
 Peak Height (A): 0.159
 Background Pk Height (A): 0.053

Mean Conc (ug/L): 42.5 SD: 1.18 RSD(%): 2.79

Se ID: Calib. Blank Seq. No.: 00033 A/S Pos.: 36 Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.003
 Background Pk Area (A-s): 0.007
 Blank Corrected Pk Area (A-s): 0.000
 Concentration (ug/L): 0.1

Time: 16:10
 Peak Height (A): 0.009
 Background Pk Height (A): 0.010

Replicate 2
 Peak Area (A-s): 0.001
 Background Pk Area (A-s): 0.004
 Blank Corrected Pk Area (A-s): -0.002
 Concentration (ug/L): -0.4

Time: 16:13
 Peak Height (A): 0.008
 Background Pk Height (A): 0.007

Mean Conc (ug/L): -0.2 SD: 0.39 RSD(%): 238.54

Auto-zero performed.

Se ID: Standard 1 Seq. No.: 00034 A/S Pos.: 1 Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.018
 Background Pk Area (A-s): 0.008
 Blank Corrected Pk Area (A-s): 0.016
 Concentration (ug/L): 4.0

Time: 16:16
 Peak Height (A): 0.022
 Background Pk Height (A): 0.008

Replicate 2
 Peak Area (A-s): 0.022
 Background Pk Area (A-s): 0.010
 Blank Corrected Pk Area (A-s): 0.020
 Concentration (ug/L): 5.1

Time: 16:19
 Peak Height (A): 0.023
 Background Pk Height (A): 0.010

Mean Conc (ug/L): 4.6 SD: 0.79 RSD(%): 17.24

Standard number 1 applied. [5.0]
 Correlation coefficient: 1.00000

Slope: 0.0036

Se ID: Standard 2 Seq. No.: 00035 A/S Pos.: 1 Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.038
 Background Pk Area (A-s): 0.014
 Blank Corrected Pk Area (A-s): 0.035
 Concentration (ug/L): 9.9

Time: 16:21
 Peak Height (A): 0.038
 Background Pk Height (A): 0.013

Replicate 2
 Peak Area (A-s): 0.037
 Background Pk Area (A-s): 0.015

Time: 16:24
 Peak Height (A): 0.037
 Background Pk Height (A): 0.014

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Blank Corrected Pk Area (A-s): 0.035
Concentration (ug/L): 9.8

Mean Conc (ug/L): 9.9 SD: 0.05 RSD(%): 0.51

Standard number 2 applied. [10.0]
Correlation coefficient: 1.00000 Slope: 0.0036

Se ID: Standard 3 Seq. No.: 00036 A/S Pos.: 2 Date: 12/17/93

Replicate 1 Time: 16:27
Peak Area (A-s): 0.092 Peak Height (A): 0.090
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.090
Concentration (ug/L): 26.5

Replicate 2 Time: 16:30
Peak Area (A-s): 0.094 Peak Height (A): 0.092
Background Pk Area (A-s): 0.033 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.091
Concentration (ug/L): 27.0

Mean Conc (ug/L): 26.8 SD: 0.31 RSD(%): 1.17

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 3 applied. [25.0]
Correlation coefficient: 0.99997 Slope: 0.0035

Se ID: Standard 4 Seq. No.: 00037 A/S Pos.: 2 Date: 12/17/93

Replicate 1 Time: 16:33
Peak Area (A-s): 0.183 Peak Height (A): 0.167
Background Pk Area (A-s): 0.057 Background Pk Height (A): 0.051
Blank Corrected Pk Area (A-s): 0.181
Concentration (ug/L): 49.0

Replicate 2 Time: 16:36
Peak Area (A-s): 0.182 Peak Height (A): 0.162
Background Pk Area (A-s): 0.060 Background Pk Height (A): 0.051
Blank Corrected Pk Area (A-s): 0.180
Concentration (ug/L): 48.8

Mean Conc (ug/L): 48.9 SD: 0.11 RSD(%): 0.22

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 4 applied. [50.0]
Correlation coefficient: 0.99996 Slope: 0.0036

Se ID: Standard 5 Seq. No.: 00038 A/S Pos.: 2 Date: 12/17/93

Replicate 1 Time: 16:39
Peak Area (A-s): 0.262 Peak Height (A): 0.248
Background Pk Area (A-s): 0.088 Background Pk Height (A): 0.078
Blank Corrected Pk Area (A-s): 0.260
Concentration (ug/L): 71.3

Replicate 2
 Peak Area (A-s): 0.265
 Background Pk Area (A-s): 0.088
 Blank Corrected Pk Area (A-s): 0.263
 Concentration (ug/L): 72.1

Time: 16:42
 Peak Height (A): 0.241
 Background Pk Height (A): 0.077

Mean Conc (ug/L): 71.7 SD: 0.55 RSD(%): 0.76

S-shaped calibration curve detected. 2-coef. equation used.

Standard number 5 applied. [75.0]

Correlation coefficient: 0.99973 Slope: 0.0036

Se ID: Standard 6 Seq. No.: 00039 A/S Pos.: 2 Date: 12/17/93

Replicate 1
 Peak Area (A-s): 0.329
 Background Pk Area (A-s): 0.101
 Blank Corrected Pk Area (A-s): 0.327
 Concentration (ug/L): 92.9

Time: 16:45
 Peak Height (A): 0.303
 Background Pk Height (A): 0.095

Replicate 2
 Peak Area (A-s): 0.335
 Background Pk Area (A-s): 0.103
 Blank Corrected Pk Area (A-s): 0.332
 Concentration (ug/L): 94.4

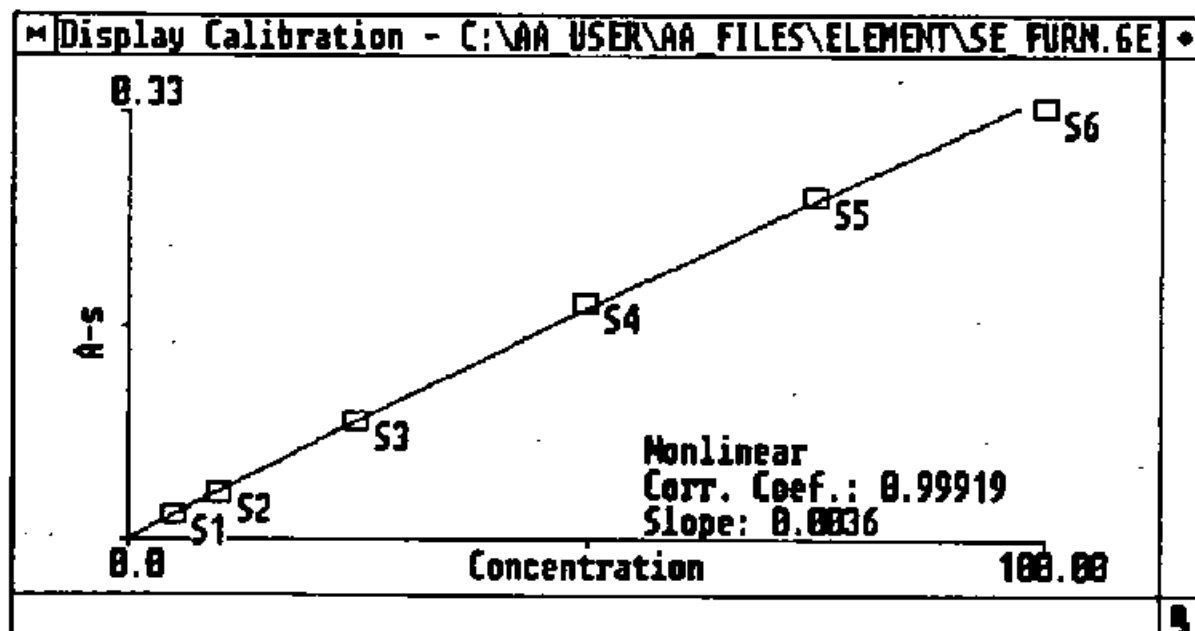
Time: 16:48
 Peak Height (A): 0.284
 Background Pk Height (A): 0.089

Mean Conc (ug/L): 93.6 SD: 1.03 RSD(%): 1.10

S-shaped calibration curve detected. 2-coef. equation used.

Standard number 6 applied. [100.0]

Correlation coefficient: 0.99919 Slope: 0.0036



Se ID: ICV*PE-PURE*2 Seq. No.: 00040 A/S Pos.: 3 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.097
Background Pk Area (A-s): 0.034
Blank Corrected Pk Area (A-s): 0.095
Concentration (ug/L): 26.6

Time: 16:52
Peak Height (A): 0.078
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.099
Background Pk Area (A-s): 0.033
Blank Corrected Pk Area (A-s): 0.097
Concentration (ug/L): 27.1

Time: 16:55
Peak Height (A): 0.078
Background Pk Height (A): 0.028

Mean Conc (ug/L): 26.9 SD: 0.35 RSD(%): 1.32

Se ID: SPX*CDDMTW*22 Seq. No.: 00041 A/S Pos.: 16 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.178
Background Pk Area (A-s): 0.062
Blank Corrected Pk Area (A-s): 0.176
Concentration (ug/L): 50.2

Time: 17:09
Peak Height (A): 0.178
Background Pk Height (A): 0.055

Replicate 2
Peak Area (A-s): 0.179
Background Pk Area (A-s): 0.059
Blank Corrected Pk Area (A-s): 0.177
Concentration (ug/L): 50.4

Time: 17:12
Peak Height (A): 0.194
Background Pk Height (A): 0.068

Mean Conc (ug/L): 50.3 SD: 0.18 RSD(%): 0.35

Se ID: CDDMTW*9NF Seq. No.: 00042 A/S Pos.: 17 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.7

Time: 17:15
Peak Height (A): 0.010
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.9

Time: 17:18
Peak Height (A): 0.012
Background Pk Height (A): 0.007

Mean Conc (ug/L): 0.8 SD: 0.12 RSD(%): 13.93

Se ID: CDDMTW*10NF Seq. No.: 00043 A/S Pos.: 18 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.4

Time: 17:21
Peak Height (A): 0.009
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.008
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 1.5

Time: 17:23
Peak Height (A): 0.011
Background Pk Height (A): 0.009

Mean Conc (ug/L): 0.9 SD: 0.83 RSD(%): 88.48

Se ID: CDDMTW*11NF Seq. No.: 00044 A/S Pos.: 19 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Time: 17:26
Peak Height (A): 0.010
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.1

Time: 17:29
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Mean Conc (ug/L): 0.0 SD: 0.14 RSD(%): 341.20

Se ID: CDDMTW*12NF Seq. No.: 00045 A/S Pos.: 20 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.5

Time: 17:32
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.8

Time: 17:35
Peak Height (A): 0.008
Background Pk Height (A): 0.008

Mean Conc (ug/L): 0.1 SD: 0.87 RSD(%): 593.97

Se ID: CDDMTW*22NF Seq. No.: 00046 A/S Pos.: 21 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.4

Time: 17:38
Peak Height (A): 0.006
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.8

Time: 17:40
Peak Height (A): 0.010
Background Pk Height (A): 0.008

Mean Conc (ug/L): 0.2 SD: 0.78 RSD(%): 389.43

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Se ID: SPM1*CDDMTW*22NF Seq. No.: 00047 A/S Pos.: 22 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.041
Background Pk Area (A-s): 0.019
Blank Corrected Pk Area (A-s): 0.039
Concentration (ug/L): 10.7

Time: 17:43
Peak Height (A): 0.042
Background Pk Height (A): 0.019

Replicate 2
Peak Area (A-s): 0.040
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.038
Concentration (ug/L): 10.5

Time: 17:46
Peak Height (A): 0.040
Background Pk Height (A): 0.014

Mean Conc (ug/L): 10.6 SD: 0.12 RSD(%): 1.15

Se ID: SPM2*CDDMTW*22NF Seq. No.: 00048 A/S Pos.: 23 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.040
Background Pk Area (A-s): 0.019
Blank Corrected Pk Area (A-s): 0.038
Concentration (ug/L): 10.5

Time: 17:49
Peak Height (A): 0.042
Background Pk Height (A): 0.016

Replicate 2
Peak Area (A-s): 0.042
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 11.1

Time: 17:52
Peak Height (A): 0.042
Background Pk Height (A): 0.016

Mean Conc (ug/L): 10.8 SD: 0.42 RSD(%): 3.88

Se ID: CDDMTW*37NF Seq. No.: 00049 A/S Pos.: 24 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.3

Time: 17:55
Peak Height (A): 0.009
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.5

Time: 17:58
Peak Height (A): 0.007
Background Pk Height (A): 0.007

Mean Conc (ug/L): -0.1 SD: 0.54 RSD(%): 678.37

Se ID: CCV*QC*2 Seq. No.: 00050 A/S Pos.: 25 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.178
Background Pk Area (A-s): 0.059
Blank Corrected Pk Area (A-s): 0.176
Concentration (ug/L): 50.0

Time: 18:02
Peak Height (A): 0.113
Background Pk Height (A): 0.036

Replicate 2
Peak Area (A-s): 0.175
Background Pk Area (A-s): 0.053
Blank Corrected Pk Area (A-s): 0.173
Concentration (ug/L): 49.3

Time: 18:05
Peak Height (A): 0.12452 217
Background Pk Height (A): 0.040

Mean Conc (ug/L): 49.7 SD: 0.51 RSD(%): 1.03

Se ID: CCB*QC*2 Seq. No.: 00051 A/S Pos.: 26 Date: 12/17/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.1

Time: 18:08
Peak Height (A): 0.007
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.6

Time: 18:11
Peak Height (A): 0.007
Background Pk Height (A): 0.007

Mean Conc (ug/L): -0.4 SD: 0.34 RSD(%): 87.18

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Element File: SE_SD21.GEL Element: Se Wavelength: 196.0
 Date: 12/21/93 Time: 14:38 Slit: 2.00 L
 Data File: XCCAL221.DAT ID/Wt File: SE.IDW Lamp Current: 0
 Technique: HGA Calib Type: Nonlinear Energy: 61
 Remark 1: LOT XCCA
 Remark 2: Analyzed by Lula Osborne
 Remark 3: December 21, 1993 Data on Lula 2
 Remark 4: 5100-B
 Remark 5: LAMB-EOL-NO 4670 Modifier: 500 PPM PD(NO3)2

Se ID: Calib. Blank Seq. No.: 00001 A/S Pos.: 36 Date: 12/21/93

Replicate 1 Time: 14:38
 Peak Area (A-s): 0.003 Peak Height (A): 0.010
 Background Pk Area (A-s): 0.010 Background Pk Height (A): 0.012
 Blank Corrected Pk Area (A-s): 0.003
 Concentration (ug/L): 0.7

Replicate 2 Time: 14:41
 Peak Area (A-s): 0.002 Peak Height (A): 0.011
 Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.008
 Blank Corrected Pk Area (A-s): 0.002
 Concentration (ug/L): 0.4

Mean Conc (ug/L): 0.6 SD: 0.21 RSD(%): 36.04

Auto-zero performed.

Se ID: Standard 1 Seq. No.: 00002 A/S Pos.: 1 Date: 12/21/93

Replicate 1 Time: 14:43
 Peak Area (A-s): 0.009 Peak Height (A): 0.021
 Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.013
 Blank Corrected Pk Area (A-s): 0.007
 Concentration (ug/L): 1.8

Replicate 2 Time: 14:46
 Peak Area (A-s): 0.012 Peak Height (A): 0.021
 Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.013
 Blank Corrected Pk Area (A-s): 0.010
 Concentration (ug/L): 2.4

Mean Conc (ug/L): 2.1 SD: 0.47 RSD(%): 22.30

Standard number 1 applied. [2.5]
 Correlation coefficient: 1.00000 Slope: 0.0033

Se ID: Standard 2 Seq. No.: 00003 A/S Pos.: 1 Date: 12/21/93

Replicate 1 Time: 14:49
 Peak Area (A-s): 0.022 Peak Height (A): 0.036
 Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.017
 Blank Corrected Pk Area (A-s): 0.020
 Concentration (ug/L): 5.9

Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 9.2

Mean Conc. (ug/L): 9.9 SD: 0.92 RSD(%): 9.33

Standard number 2 applied. [5.0]
Correlation coefficient: 1.00000 Slope: 0.0009

Se ID: Calib. Blank Seq. No.: 00046 A/S Pos.: 36 Date: 12/21/93

Replicate 1
Peak Area (A-s): 0.000 Time: 19:48
Background Pk Area (A-s): 0.006 Peak Height (A): 0.008
Blank Corrected Pk Area (A-s): -0.005 Background Pk Height (A): 0.008
Concentration (ug/L): -35.6

Replicate 2
Peak Area (A-s): -0.000 Time: 19:50
Background Pk Area (A-s): 0.012 Peak Height (A): 0.007
Blank Corrected Pk Area (A-s): -0.006 Background Pk Height (A): 0.008
Concentration (ug/L): -77.5

Mean Conc. (ug/L): -49.7 SD: 29.66 RSD(%): 52.47

Auto-zero performed.

Se ID: Standard 1 Seq. No.: 00047 A/S Pos.: 1 Date: 12/21/93

Replicate 1
Peak Area (A-s): 0.009 Time: 19:53
Background Pk Area (A-s): 0.014 Peak Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.009 Background Pk Height (A): 0.013
Concentration (ug/L): 4.4

Replicate 2
Peak Area (A-s): 0.006 Time: 19:56
Background Pk Area (A-s): 0.014 Peak Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.006 Background Pk Height (A): 0.012
Concentration (ug/L): 3.6

Mean Conc. (ug/L): 4.1 SD: 0.57 RSD(%): 14.08

Standard number 1 applied. [2.5]
Correlation coefficient: 1.00000 Slope: 0.0030

Se ID: Standard 2 Seq. No.: 00048 A/S Pos.: 1 Date: 12/21/93

Replicate 1
Peak Area (A-s): 0.020 Time: 19:59
Background Pk Area (A-s): 0.014 Peak Height (A): 0.032
Blank Corrected Pk Area (A-s): 0.020 Background Pk Height (A): 0.015
Concentration (ug/L): 6.6

Replicate 2
Peak Area (A-s): 0.019 Time: 20:02
Background Pk Area (A-s): 0.015 Peak Height (A): 0.032
Background Pk Height (A): 0.014

Blank Corrected Pk Area (A-s): 0.019
Concentration (ug/L): 6.3

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Mean Conc. (ug/L): 6.4 SD: 0.20 RSD(%): 3.05

Standard number 2 applied. [5.0]
Correlation coefficient: 1.00000 Slope: 0.0025

Se ID: Standard 3 Seq. No.: 00049 A/S Pos.: 2 Date: 12/21/93

Replicate 1 Time: 20:05
Peak Area (A-s): 0.087 Peak Height (A): 0.137
Background Pk Area (A-s): 0.036 Background Pk Height (A): 0.043
Blank Corrected Pk Area (A-s): 0.087
Concentration (ug/L): 9.8

Replicate 2 Time: 20:08
Peak Area (A-s): 0.088 Peak Height (A): 0.136
Background Pk Area (A-s): 0.031 Background Pk Height (A): 0.042
Blank Corrected Pk Area (A-s): 0.088
Concentration (ug/L): 9.9

Mean Conc. (ug/L): 9.8 SD: 0.03 RSD(%): 0.30

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 3 applied. [25.0]
Correlation coefficient: 0.99906 Slope: 0.0035

Se ID: Standard 4 Seq. No.: 00050 A/S Pos.: 2 Date: 12/21/93

Replicate 1 Time: 20:11
Peak Area (A-s): 0.168 Peak Height (A): 0.273
Background Pk Area (A-s): 0.058 Background Pk Height (A): 0.080
Blank Corrected Pk Area (A-s): 0.168
Concentration (ug/L): 46.7

Replicate 2 Time: 20:14
Peak Area (A-s): 0.172 Peak Height (A): 0.268
Background Pk Area (A-s): 0.054 Background Pk Height (A): 0.077
Blank Corrected Pk Area (A-s): 0.172
Concentration (ug/L): 47.6

Mean Conc. (ug/L): 47.2 SD: 0.65 RSD(%): 1.37

S-shaped calibration curve detected. 2-coef. equation used.
Standard number 4 applied. [50.0]
Correlation coefficient: 0.99976 Slope: 0.0035

Se ID: Standard 5 Seq. No.: 00051 A/S Pos.: 2 Date: 12/21/93

Replicate 1 Time: 20:17
Peak Area (A-s): 0.239 Peak Height (A): 0.378
Background Pk Area (A-s): 0.076 Background Pk Height (A): 0.111
Blank Corrected Pk Area (A-s): 0.239
Concentration (ug/L): 70.5

003269

Replicate 2
 Peak Area (A-s): 0.240
 Background Pk Area (A-s): 0.077
 Blank Corrected Pk Area (A-s): 0.240
 Concentration (ug/L): 70.7

Time: 20:20
 Peak Height (A): 0.360
 Background Pk Height (A): 0.113
 Mean Conc. (ug/L): 70.6 SD: 0.13 RSD(%): 0.19

S-shaped calibration curve detected. 2-coef. equation used.
 Standard number 5 applied. [75.0]
 Correlation coefficient: 0.99955 Slope: 0.0036

Se ID: Standard 6 Seq. No.: 00052 A/S Pos.: 2 Date: 12/21/93

Replicate 1
 Peak Area (A-s): 0.304
 Background Pk Area (A-s): 0.093
 Blank Corrected Pk Area (A-s): 0.304
 Concentration (ug/L): 95.9

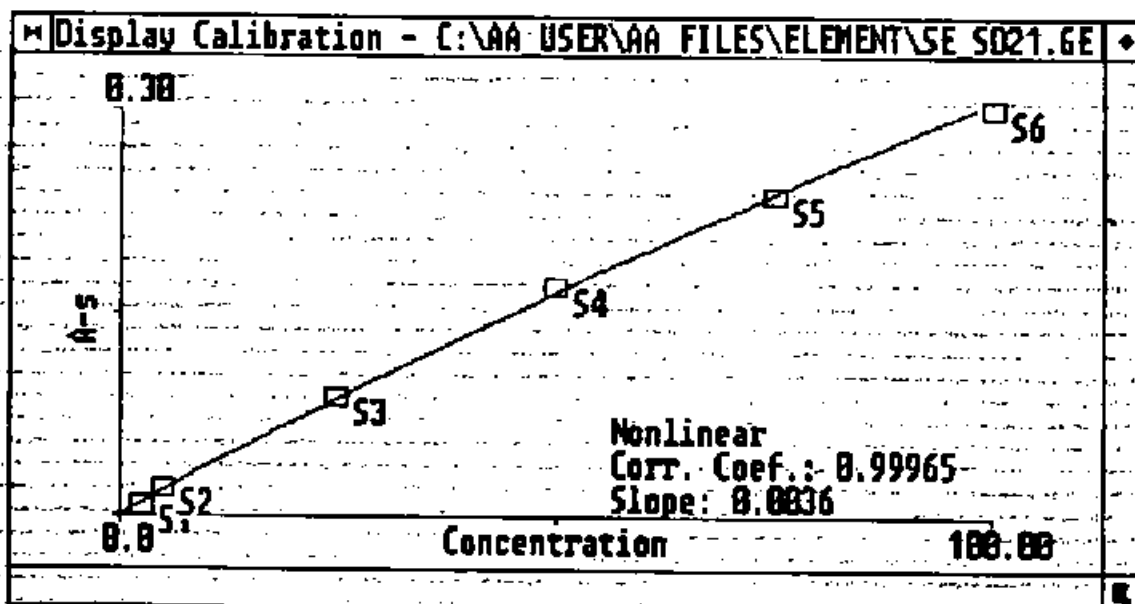
Time: 20:23
 Peak Height (A): 0.494
 Background Pk Height (A): 0.146

Replicate 2
 Peak Area (A-s): 0.305
 Background Pk Area (A-s): 0.096
 Blank Corrected Pk Area (A-s): 0.305
 Concentration (ug/L): 96.2

Time: 20:26
 Peak Height (A): 0.481
 Background Pk Height (A): 0.144

Mean Conc (ug/L): 96.0 SD: 0.26 RSD(%): 0.27

S-shaped calibration curve detected. 2-coef. equation used.
 Standard number 6 applied. [100.0]
 Correlation coefficient: 0.99965 Slope: 0.0036



Se ID: ICV*PE-PURE*3 Seq. No.: 00079 A/S Pos.: 34 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.247
Background Pk Area (A-s): 0.078
Blank Corrected Pk Area (A-s): 0.247
Concentration (ug/L): 77.4

Time: 00:28
Peak Height (A): 0.323
Background Pk Height (A): 0.091

Replicate 2
Peak Area (A-s): 0.247
Background Pk Area (A-s): 0.079
Blank Corrected Pk Area (A-s): 0.247
Concentration (ug/L): 77.3

Time: 00:31
Peak Height (A): 0.339
Background Pk Height (A): 0.101

Mean Conc (ug/L): 77.3 SD: 0.07 RSD(%): 0.09

Se ID: MB*QC*1 Seq. No.: 00080 A/S Pos.: 3 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.005
Concentration (ug/L): 1.3

Time: 00:36
Peak Height (A): 0.010
Background Pk Height (A): 0.010

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

Time: 00:38
Peak Height (A): 0.010
Background Pk Height (A): 0.010

Mean Conc (ug/L): 0.7 SD: 0.85 RSD(%): 129.03

Se ID: SP*QC*1 Seq. No.: 00081 A/S Pos.: 4 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.036
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.036
Concentration (ug/L): 10.1
Time: 00:41
Peak Height (A): 0.056
Background Pk Height (A): 0.018

Replicate 2
Peak Area (A-s): 0.031
Background Pk Area (A-s): 0.018
Blank Corrected Pk Area (A-s): 0.031
Concentration (ug/L): 8.7
Time: 00:44
Peak Height (A): 0.052
Background Pk Height (A): 0.019

Mean Conc (ug/L): 9.4 SD: 1.00 RSD(%): 10.64

Se ID: CDDMTW*9 Seq. No.: 00082 A/S Pos.: 5 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.026
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.4
Time: 00:47
Peak Height (A): 0.009
Background Pk Height (A): 0.020

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.028
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1
Time: 00:50
Peak Height (A): 0.007
Background Pk Height (A): 0.020

Mean Conc (ug/L): 0.2 SD: 0.19 RSD(%): 90.04

Se ID: CDDMTW*10 Seq. No.: 00083 A/S Pos.: 6 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.160
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.4
Time: 00:52
Peak Height (A): 0.011
Background Pk Height (A): 0.103

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.185
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1
Time: 00:55
Peak Height (A): 0.010
Background Pk Height (A): 0.106

Mean Conc (ug/L): 0.2 SD: 0.38 RSD(%): 236.00

Se ID: CDDMTW*11 Seq. No.: 00084 A/S Pos.: 7 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.071
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 0.7
Time: 00:58
Peak Height (A): 0.008
Background Pk Height (A): 0.058

003272

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.054
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.1

Time: 01:01
Peak Height (A): 0.008
Background Pk Height (A): 0.033

Mean Conc (ug/L): 0.3 SD: 0.61 RSD(%): 201.34

Se ID: CDDMTW*12 Seq. No.: 00085 A/S Pos.: 8 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.079
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.4

Time: 01:04
Peak Height (A): 0.008
Background Pk Height (A): 0.073

Replicate 2
Peak Area (A-s): 0.004
Background Pk Area (A-s): 0.037
Blank Corrected Pk Area (A-s): 0.004
Concentration (ug/L): 1.2

Time: 01:07
Peak Height (A): 0.009
Background Pk Height (A): 0.025

Mean Conc (ug/L): 0.8 SD: 0.52 RSD(%): 64.05

Se ID: CDDMTW*37 Seq. No.: 00086 A/S Pos.: 9 Date: 12/22/93

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

Time: 01:09
Peak Height (A): 0.009
Background Pk Height (A): 0.011

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.2

Time: 01:12
Peak Height (A): 0.008
Background Pk Height (A): 0.011

Mean Conc (ug/L): 0.1 SD: 0.16 RSD(%): 125.13

Se ID: CCV*QC*3 Seq. No.: 00087 A/S Pos.: 10 Date: 12/22/93

Replicate 1
Peak Area (A-s): 0.162
Background Pk Area (A-s): 0.052
Blank Corrected Pk Area (A-s): 0.163
Concentration (ug/L): 48.8

Time: 01:15
Peak Height (A): 0.247
Background Pk Height (A): 0.070

Replicate 2
Peak Area (A-s): 0.163
Background Pk Area (A-s): 0.052
Blank Corrected Pk Area (A-s): 0.163
Concentration (ug/L): 48.8

Time: 01:18
Peak Height (A): 0.255
Background Pk Height (A): 0.071

Mean Conc (ug/L): 48.8 SD: 0.03 RSD(%): 0.07

003273

Se ID: CCB*QC*3

Seq. No.: 00088

A/S Pos.: 11

Date: 12/22/93

Replicate 1

Peak Area (A-s): 0.003

Background Pk Area (A-s): 0.008

Blank Corrected Pk Area (A-s): 0.003

Concentration (ug/L): 0.9

Time: 01:21

Peak Height (A): 0.010

Background Pk Height (A): 0.010

Replicate 2

Peak Area (A-s): 0.000

Background Pk Area (A-s): 0.009

Blank Corrected Pk Area (A-s): 0.000

Concentration (ug/L): 0.1

Time: 01:23

Peak Height (A): 0.009

Background Pk Height (A): 0.012

Mean Conc (ug/L):

0.5

SD: 0.54

RSD(%): 107.41

003274

ATOMIC SPECTROSCOPY SAMPLE PREP

REPREP

Book No. 21 Pg. No. 000168Matrix WATERMethod/QC Type GFAS/FDERSOP No. AS43233-005Lot No.(s) N/A

Spike Solutions Used

1. AST3233-007 SOLN "A"Prep Date 12-6-93 Prep'd by DER Exp. Date 1-9-94Final Vol. (mL) 50mlPipets Used Appendix N30939Balance No. N/AHood No. 7Hotplate No. 5

Sample No.	Weight (g)/ ~~Init Vol. (mL)~~	Spike Information
MB	50ml	
SP		0.5ml #1
CDDMTW*9 (N)		
10		
11		
12		
22		
SPM1*22		0.5ml #1
SPM2*22		0.5ml #1
37		
9 (NF)		
10		
11		
12		
22		
SPM1*22		0.5ml #1
SPM2*22		0.5ml #1
37		

002275

Rodriguez 12/16/93
Signed Date17/16/93
Read & Understood By Date

PROJECT ASM3233-007 Soln A

Continued From Page 7

ELEMENT	STOCK CONC.	ML'S USED	FINAL CONC. (ppb)	TARGET	LOT #	EXP. DATE
As	1,000	4.0	4,000	40	390806	10-94
Cr	↑	2.0	2,000	20	291028	1-94
Pb	↑	2.0	2,000	20	390907	11-94
Mn	↑	2.0	2,000	20	290923	1-94
Se	↑	1.0	1,000	10	390421	7-94
Ti	↓	5.0	5,000	50	390707	10-94
V	1,000	2.0	2,000	20	291015	1-94

All Stock Solutions Are High Purity

Solution is 1% HNO_3

Volume (Final): 1000ml

Pipets Used: 1, 2, 4, & 5 ml Class "A" Volumetrics

Solution Expires: ~~12/9/94~~ WJ ~~12/6/93~~
1/9/94

Continued on Page

Read and Understood By

003276

D. B. Richardson
Signed12/6/93
DateC. H. H. H.
Signed12/6/93
Date

1000 ppm stock solutions:

Element	Manufacturer	Lot No.	Date Received	Date Expires
As	Fisher	925246-24	7/28/93	7/94
Se	Baker	F17647	4/1/93	5/94
Pb	Baker	E48620	7/7/92	12/31/93
Tl	Mallinckrodt	H584 K056-P	4/2/93	10/94

10 ppm standard: 2.0 ml of each of the above stock solutions was transferred to a 200 ml volumetric flask containing 10 ml conc HNO_3 and DI water. Then the solution was brought to volume with DI water.
(Expires: 12/25/93)

Working Standards:

100 ppb: 2.0 ml of the 10 ppm standard was transferred to a 200 ml volumetric flask containing 10 ml conc HNO_3 and DI water. Then solution brought to volume with DI H_2O .
10 ppb: 10.0 ml of the 100 ppb solution was transferred to a 100 ml volumetric flask containing 5 ml conc HNO_3 and DI water. Then solution brought to volume with DI water.
50 ppb: 0.5 ml of the 10 ppm standard was transferred to a 100 ml volumetric flask containing 5.0 ml conc HNO_3 and DI water. Then solution brought to volume with DI water.

NOTE: Standards are 5% conc HNO_3 .

Working Standards Remade:

Date	Initials	Date	Initials	Date	Initials	Date	Initials
11/23/93	ms	12/7/93	CAH				
11/24/93	AMS	12/7/93	CAH				
11/26/93	LMS	12/7/93	CAH				
11/29/93	MS	12/9/93	MS				
11/30/93	MS	12/9/93	MS				
12/1/93	MS	12/13/93	MS				
12/2/93	MS	12/13/93	MS				
12/3/93	MS	12/14/93	MS				
12/4/93	MS	12/15/93	MS				
12/6/93	MS	12/16/93	MS				
12/7/93	MS	12/17/93	MS				
		12/20/93	MS				
		12/21/93	MS				

Continued on Page

Signed Salvatore Z. Dubrow
Date 11/22/93

Read and Understood By

Signed [Signature] Date 11-22-93

Transferred 1.0 ml of the PE PUXE stock solution
(Lot No. S-49 AS, CAS No. 7597-37-2, Rec'd - 7/28/93, Expires - 9/30/94)
to a 1000 ml volumetric flask containing DI water and 50 ml
conc. HNO_3 . Then brought solution to volume with DI water.

Element	Stock soln conc (ppm)	Stock soln conc (ppb)
Cd	25	25
Se	25	25
As	100	100
Be		
Cr		
Co		
Cu		
Fe		
Pb		
Mn		
Ni		
Zn		
V	250	250
Al	500	500
Hg	5.0	5.0

NOTE: Solution is 5% conc HNO_3 .

Solution is stored at room temperature
Expires 2/12/94

Continued on Page

William J. [Signature]

Signed

8/12/93

Date

Read and Understood By

Markus [Signature]

Signed

8/12/93

Date

003278

*** PROJECT REQUIREMENTS ***
Department 3233

52 230

Project Name: *Huntsville CDF-DomT*

Lab Coordinator: *P.W. Iber*

Field Groups: *CDomTW*
CDomTWD

Project No.: *7934082G 0201*

QC Type:

QC Requirements:

003279

PROJECT NUMBER 79340826 0201
FIELD GROUP CDDMTW

PROJECT NAME HUNTSVILLE COE - DDMT
PROJECT MANAGER P.C. WILBER

52 231

STORET CODE:

METHOD CODE:

PARAMETER:

UNITS:

1002	1051	1147	1145	1000
7060-G	7421-G	7740-G	7740-G	7060-G
AS	PB	SE	SE,DISS	AS,DISS
UG/L	UG/L	UG/L	UG/L	UG/L

Pb, diss

FID.GRP.	#	SAMPLE ID	DATE	TIME
CDDMTW	9	MW9	11/15/93	17:11
CDDMTW	10	MW10SP	11/11/93	18:00
CDDMTW	11	MW11	11/13/93	09:30
CDDMTW	12	MW12SP	11/11/93	15:30
CDDMTW	22	MW22SP	11/17/93	15:00
CDDMTW	37	MW37SP	11/18/93	11:30

003280

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
M E M O R A N D U M
GAINESVILLE, FL

To: Department Managers

From: Patrick Wilber

Date: November 16, 1993

Subject: Huntsville COE
Field Group -
CDDMTW memo
update

ESE station ID's * 10, 12, 22, 37, 11, and 9 for the referenced field group receive an inhouse generated CLP-like package for the deliverable (forms, raw data, narrative, etc.), following SW846 methodology for all the analyses groups. I will update you as to when these station IDs will arrive so that they can be extracted, analyzed and batched together. The other stations will receive a standard COE deliverable following SW846 methodology. If you have any questions please contact me immediately.

Thanks

cc:DHG
PCG

003281

ATOMIC SPECTROSCOPY SAMPLE PREP

Book No. 21 Pg. No. 000138Matrix WATERS
SOP No. ASM3233-005Method/QC Type GRAA/PERL
Lot No.(s) NASpike Solutions Used
1. ASM3233-007 Spike A Prep Date 11-10-93 Prep'd by DJZ Exp. Date 12-12-93
2.Final Vol. (mL) 50mL Pipets Used BIOHIT 1000 #1
Balance No. NA Hood No. 5 Hotplate No. 2

Sample No.	Weight (g)/ Init. Vol. (mL)	Spike Information
<u>MB</u>	<u>50mL</u>	
<u>SP</u>		<u>0.5mL #1</u>
<u>000MTW #9 (N)</u>		
<u>10</u>		
<u>11</u>		
<u>50mL #11</u>		<u>0.5mL #1</u>
<u>50mL #11</u>		<u>0.5mL #1</u>
<u>12</u>		
<u>22</u>		
<u>37</u> ↓		
<u>9 (N+)</u>		
<u>10</u>		
<u>11</u>		
<u>50mL #11</u>		<u>0.5mL #1</u>
<u>50mL #11</u>		<u>0.5mL #1</u>
<u>12</u>		
<u>22</u>		
<u>37</u> ↓		

Ordoñez 12/3/93
Signed DateMurphy 12-1-93
Read & Understood By 003882

	(ppm)		(ppb)				
ELEMENT	STOCK CONC.	m/s USED	FINAL CONC.	TARGET	DOSE	LOT#	EXP.
As	1,000	4.0	4,000	40	FISHER	9-5266-34	7-94
Cf	↑	2.0	2,000	20	MACLENNOT	9-5266-34	7-94
Pb	↑	2.0	2,000	20	MACLENNOT	HSHKACP	7-94
Mo	↑	2.0	2,000	20	BAKER	F48620	12-93
Se	↑	2.0	2,000	20	BAKER	F01630	1-94
Si	↑	1.0	1,000	10	BAKER	F17647	5-94
Tl	↑	5.0	5,000	50	MACLENNOT	HSHKACP	10-94
V	1,000	2.0	2,000	20	BAKER	F27605	2-95

FINAL VOLUME = 1000 m/s (1% H₂O₂)

PIPETTS USED: DIO HIT 1000 #2

CLASS "A" VOL. 2 x 5 ml

SOLNA EXPIRES 12-5-93

REMADE
11-10-93

BN
DDZ

EXPIRES
12-12-93

Continued on Page

[Signature]
Signed

11-2-93
Date

Read and Understood By

[Signature]
Signed

11/2/93
Date

7 ICP - 6010

003284

7 ICP - 6010
SDG No. G44666

ANALYTICAL DATA

003286

Lab Name: ESE

Project No.: 7934082G

SDG No: G44666

Client ID	Laboratory ID	Matrix (S/W)	Analysis	Date Collected	Date Received	Date Analyzed
CCV1	CCV*STD2*1	W	AL	00/00/00	00/00/00	12/06/93
CCV2	CCV*STD3*1	W	AL	00/00/00	00/00/00	12/06/93
ICV1	ICV*ICAP19*1	W	AL	00/00/00	00/00/00	12/06/93
ICV2	ICV*ICAP7*1	W	AL	00/00/00	00/00/00	12/06/93
ICS1	ICS*A*1	W	AL	00/00/00	00/00/00	12/06/93
ICS2	ICS*AB*1	W	AL	00/00/00	00/00/00	12/06/93
PBLK1	MB*QC*1	W	AL	00/00/00	00/00/00	12/06/93
SP1	SP1*QC*1	W	AL	00/00/00	00/00/00	12/06/93
MW9	CDDMTW*9	W	AL	11/15/93	11/16/93	12/06/93
MW10SP	CDDMTW*10	W	AL	11/11/93	11/12/93	12/06/93
MW11	CDDMTW*11	W	AL	11/13/93	11/15/93	12/06/93
MW12SP	CDDMTW*12	W	AL	11/11/93	11/12/93	12/06/93
MW22SP	CDDMTW*22	W	AL	11/17/93	11/18/93	12/06/93
MW37SP	CDDMTW*37	W	AL	11/18/93	11/19/93	12/06/93
SD1	SD*CDDMTW*37	W	AL	11/18/93	11/19/93	12/06/93
SPX1	SPX*CDDMTW*3	W	AL	11/18/93	11/19/93	12/06/93
CCV3	CCV*QC*1	W	AL	00/00/00	00/00/00	12/06/93
CCB1	CCB*QC*1	W	AL	00/00/00	00/00/00	12/06/93
MW37SPMS	SPM1*CDDMTW*	W	AL	11/18/93	11/19/93	12/06/93
MW37SPMSD	SPM2*CDDMTW*	W	AL	11/18/93	11/19/93	12/06/93
CCV4	CCV*QC*2	W	AL	00/00/00	00/00/00	12/06/93
CCB2	CCB*QC*2	W	AL	00/00/00	00/00/00	12/06/93
ICS3	ICS*A*2	W	AL	00/00/00	00/00/00	12/06/93
ICS4	ICS*AB*2	W	AL	00/00/00	00/00/00	12/06/93
CCV5	CCV*QC*3	W	AL	00/00/00	00/00/00	12/06/93
CCB3	CCB*QC*3	W	AL	00/00/00	00/00/00	12/06/93

Comments:

52 239

Client ID

ANALYSIS DATA SHEET

CCV1

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: CCV*STD2*1
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/06/93 Date Received: 00/00/00

CAS NO.	COMPOUND		Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	40.0	U
7429-90-5	ALUMINUM, DISS (UG/L)	40.0	U
7440-39-3	BARIUM, TOTAL (UG/L)	1020.	
7440-39-3	BARIUM, DISS (UG/L)	1020.	
7440-43-9	CADMIUM, TOTAL (UG/L)	1010.	
7440-43-9	CADMIUM, DISS (UG/L)	1010.	
7440-48-4	COBALT, TOTAL (UG/L)	1020.	
7440-48-4	COBALT, DISS (UG/L)	1020.	
7440-47-3	CHROMIUM, TOTAL (UG/L)	1020.	
7440-47-3	CHROMIUM, DISS (UG/L)	1020.	
7440-50-8	COPPER, TOTAL (UG/L)	1010.	
7440-50-8	COPPER, DISS (UG/L)	1010.	
7440-66-6	ZINC, TOTAL (UG/L)	1010.	
7440-66-6	ZINC, DISS (UG/L)	1010.	

52 240

Client ID

ANALYSIS DATA SHEET

CCV2

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: CCV*STD3+1
Sample wt/vol: Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/06/93 Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	10000.
7429-90-5	ALUMINUM, DISS (UG/L)	10000.
7440-39-3	BARIUM, TOTAL (UG/L)	25.0 U
7440-39-3	BARIUM, DISS (UG/L)	25.0 U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	20.0 U
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0 U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	5.0 U
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	20.0 U
7440-66-6	ZINC, DISS (UG/L)	20.0 U

ANALYSIS DATA SHEET

ICS1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: ICS*A*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	508000.
7429-90-5	ALUMINUM, DISS (UG/L)	508000.
7440-39-3	BARIUM, TOTAL (UG/L)	25.0 U
7440-39-3	BARIUM, DISS (UG/L)	25.0 U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	20.0 U
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0 U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	5.0 U
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	20.0 U
7440-66-6	ZINC, DISS (UG/L)	20.0 U

ANALYSIS DATA SHEET

52 242

Client ID

ICS2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: ICS*AB*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	516000.
7429-90-5	ALUMINUM, DISS (UG/L)	516000.
7440-39-3	BARIUM, TOTAL (UG/L)	511.
7440-39-3	BARIUM, DISS (UG/L)	511.
7440-43-9	CADMIUM, TOTAL (UG/L)	950.
7440-43-9	CADMIUM, DISS (UG/L)	950.
7440-48-4	COBALT, TOTAL (UG/L)	454.
7440-48-4	COBALT, DISS (UG/L)	454.
7440-47-3	CHROMIUM, TOTAL (UG/L)	478.
7440-47-3	CHROMIUM, DISS (UG/L)	478.
7440-50-8	COPPER, TOTAL (UG/L)	509.
7440-50-8	COPPER, DISS (UG/L)	509.
7440-66-6	ZINC, TOTAL (UG/L)	976.
7440-66-6	ZINC, DISS (UG/L)	976.

52 243

Client ID

ANALYSIS DATA SHEET

PBLK1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: MB*QC*1

Sample wt/vol:

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	40.0	U
7429-90-5	ALUMINUM, DISS (UG/L)	40.0	U
7440-39-3	BARIUM, TOTAL (UG/L)	25.0	U
7440-39-3	BARIUM, DISS (UG/L)	25.0	U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0	U
7440-43-9	CADMIUM, DISS (UG/L)	5.0	U
7440-48-4	COBALT, TOTAL (UG/L)	20.0	U
7440-48-4	COBALT, DISS (UG/L)	20.0	U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0	U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0	U
7440-50-8	COPPER, TOTAL (UG/L)	5.0	U
7440-50-8	COPPER, DISS (UG/L)	5.0	U
7440-66-6	ZINC, TOTAL (UG/L)	20.0	U
7440-66-6	ZINC, DISS (UG/L)	20.0	U

ANALYSIS DATA SHEET

52 244 Client ID

SP1

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: SP1*QC*1
Sample wt/vol: Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/06/93 Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	1980.
7429-90-5	ALUMINUM, DISS (UG/L)	1980.
7440-39-3	BARIUM, TOTAL (UG/L)	1990.
7440-39-3	BARIUM, DISS (UG/L)	1990.
7440-43-9	CADMIUM, TOTAL (UG/L)	48.8
7440-43-9	CADMIUM, DISS (UG/L)	48.8
7440-48-4	COBALT, TOTAL (UG/L)	493.
7440-48-4	COBALT, DISS (UG/L)	493.
7440-47-3	CHROMIUM, TOTAL (UG/L)	197.
7440-47-3	CHROMIUM, DISS (UG/L)	197.
7440-50-8	COPPER, TOTAL (UG/L)	246.
7440-50-8	COPPER, DISS (UG/L)	246.
7440-66-6	ZINC, TOTAL (UG/L)	487.
7440-66-6	ZINC, DISS (UG/L)	487.

52 245

Client ID

ANALYSIS DATA SHEET

MW9

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 11/16/93

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	61100.
7429-90-5	ALUMINUM, DISS (UG/L)	40.0 U
7440-39-3	BARIUM, TOTAL (UG/L)	260.
7440-39-3	BARIUM, DISS (UG/L)	54.9
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	63.9
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	104.
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	138.
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	165.
7440-66-6	ZINC, DISS (UG/L)	20.0 U

003294

ANALYSIS DATA SHEET

MW10SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*10

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	139000.	
7429-90-5	ALUMINUM, DISS (UG/L)	43.3	
7440-39-3	BARIUM, TOTAL (UG/L)	1020.	
7440-39-3	BARIUM, DISS (UG/L)	76.9	
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0	U
7440-43-9	CADMIUM, DISS (UG/L)	5.0	U
7440-48-4	COBALT, TOTAL (UG/L)	90.7	
7440-48-4	COBALT, DISS (UG/L)	20.0	U
7440-47-3	CHROMIUM, TOTAL (UG/L)	263.	
7440-47-3	CHROMIUM, DISS (UG/L)	10.0	U
7440-50-8	COPPER, TOTAL (UG/L)	391.	
7440-50-8	COPPER, DISS (UG/L)	5.0	U
7440-66-6	ZINC, TOTAL (UG/L)	739.	
7440-66-6	ZINC, DISS (UG/L)	20.0	U

ANALYSIS DATA SHEET

52 247 Client ID

MW11

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
 Matrix: (soil/water) WATER Lab Sample ID: CDDMTW*11
 Sample wt/vol: . Lab File ID:
 %Moisture: pH: Dilution Factor: 1.00
 Date Analyzed: 12/06/93 Date Received: 11/15/93

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	137000.
7429-90-5	ALUMINUM, DISS (UG/L)	40.0 U
7440-39-3	BARIUM, TOTAL (UG/L)	1330.
7440-39-3	BARIUM, DISS (UG/L)	62.6
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	344.
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	309.
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	312.
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	475.
7440-66-6	ZINC, DISS (UG/L)	20.0 U

ANALYSIS DATA SHEET

MW12SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*12

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	51200.	
7429-90-5	ALUMINUM, DISS (UG/L)	40.0	U
7440-39-3	BARIUM, TOTAL (UG/L)	354.	
7440-39-3	BARIUM, DISS (UG/L)	47.4	
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0	U
7440-43-9	CADMIUM, DISS (UG/L)	5.0	U
7440-48-4	COBALT, TOTAL (UG/L)	223.	
7440-48-4	COBALT, DISS (UG/L)	20.0	U
7440-47-3	CHROMIUM, TOTAL (UG/L)	88.9	
7440-47-3	CHROMIUM, DISS (UG/L)	10.0	U
7440-50-8	COPPER, TOTAL (UG/L)	81.4	
7440-50-8	COPPER, DISS (UG/L)	5.0	U
7440-66-6	ZINC, TOTAL (UG/L)	191.	
7440-66-6	ZINC, DISS (UG/L)	20.0	U

52 249

Client ID

ANALYSIS DATA SHEET

MW22SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 11/18/93

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	198000.
7429-90-5	ALUMINUM, DISS (UG/L)	40.0 U
7440-39-3	BARIUM, TOTAL (UG/L)	462.
7440-39-3	BARIUM, DISS (UG/L)	91.6
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	79.8
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	824.
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	179.
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	841.
7440-66-6	ZINC, DISS (UG/L)	20.0 U

ANALYSIS DATA SHEET

MW37SP

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: CDDMTW*37
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/06/93 Date Received: 11/19/93

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	3210.
7429-90-5	ALUMINUM, DISS (UG/L)	40.0 U
7440-39-3	BARIUM, TOTAL (UG/L)	588.
7440-39-3	BARIUM, DISS (UG/L)	464.
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	20.0 U
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0 U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	6.5
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	20.0 U
7440-66-6	ZINC, DISS (UG/L)	20.0 U

52 251

Client ID

ANALYSIS DATA SHEET

SD1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: SD*CDDMTW*37

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 5.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	3160.	D
7429-90-5	ALUMINUM, DISS (UG/L)	200.	UD
7440-39-3	BARIUM, TOTAL (UG/L)	125.	UD
7440-39-3	BARIUM, DISS (UG/L)	125.	UD
7440-43-9	CADMIUM, TOTAL (UG/L)	25.0	UD
7440-43-9	CADMIUM, DISS (UG/L)	25.0	UD
7440-48-4	COBALT, TOTAL (UG/L)	100.0	UD
7440-48-4	COBALT, DISS (UG/L)	100.0	UD
7440-47-3	CHROMIUM, TOTAL (UG/L)	50.0	UD
7440-47-3	CHROMIUM, DISS (UG/L)	50.0	UD
7440-50-8	COPPER, TOTAL (UG/L)	25.0	UD
7440-50-8	COPPER, DISS (UG/L)	25.0	UD
7440-66-6	ZINC, TOTAL (UG/L)	100.0	UD
7440-66-6	ZINC, DISS (UG/L)	100.0	UD

52 252
ANALYSIS DATA SHEET

Client ID

SPX1

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: SPX*CDDMTW*37
Sample wt/vol: Lab File ID:
%Moisture: pH: Dilution Factor: 2.00
Date Analyzed: 12/06/93 Date Received: 11/19/93

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	7330. D
7429-90-5	ALUMINUM, DISS (UG/L)	5090. D
7440-39-3	BARIUM, TOTAL (UG/L)	1090. D
7440-39-3	BARIUM, DISS (UG/L)	963. D
7440-43-9	CADMIUM, TOTAL (UG/L)	498. D
7440-43-9	CADMIUM, DISS (UG/L)	507. D
7440-48-4	COBALT, TOTAL (UG/L)	503. D
7440-48-4	COBALT, DISS (UG/L)	499. D
7440-47-3	CHROMIUM, TOTAL (UG/L)	507. D
7440-47-3	CHROMIUM, DISS (UG/L)	506. D
7440-50-8	COPPER, TOTAL (UG/L)	512. D
7440-50-8	COPPER, DISS (UG/L)	499. D
7440-66-6	ZINC, TOTAL (UG/L)	516. D
7440-66-6	ZINC, DISS (UG/L)	514. D

ANALYSIS DATA SHEET

52 253

Client ID

CCV3

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CCV*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	5070.
7429-90-5	ALUMINUM, DISS (UG/L)	5070.
7440-39-3	BARIUM, TOTAL (UG/L)	511.
7440-39-3	BARIUM, DISS (UG/L)	511.
7440-43-9	CADMIUM, TOTAL (UG/L)	502.
7440-43-9	CADMIUM, DISS (UG/L)	502.
7440-48-4	COBALT, TOTAL (UG/L)	508.
7440-48-4	COBALT, DISS (UG/L)	508.
7440-47-3	CHROMIUM, TOTAL (UG/L)	513.
7440-47-3	CHROMIUM, DISS (UG/L)	513.
7440-50-8	COPPER, TOTAL (UG/L)	509.
7440-50-8	COPPER, DISS (UG/L)	509.
7440-66-6	ZINC, TOTAL (UG/L)	509.
7440-66-6	ZINC, DISS (UG/L)	509.

52 254

Client ID

ANALYSIS DATA SHEET

CCB1

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*1

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	40.0	U
7429-90-5	ALUMINUM, DISS (UG/L)	40.0	U
7440-39-3	BARIUM, TOTAL (UG/L)	25.0	U
7440-39-3	BARIUM, DISS (UG/L)	25.0	U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0	U
7440-43-9	CADMIUM, DISS (UG/L)	5.0	U
7440-48-4	COBALT, TOTAL (UG/L)	20.0	U
7440-48-4	COBALT, DISS (UG/L)	20.0	U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0	U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0	U
7440-50-8	COPPER, TOTAL (UG/L)	5.0	U
7440-50-8	COPPER, DISS (UG/L)	5.0	U
7440-66-6	ZINC, TOTAL (UG/L)	20.0	U
7440-66-6	ZINC, DISS (UG/L)	20.0	U

003303

52 255

Client ID

ANALYSIS DATA SHEET

MW37SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: SPM1*CDDMTW*37

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 11/19/93

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	5350.
7429-90-5	ALUMINUM, DISS (UG/L)	1980.
7440-39-3	BARIUM, TOTAL (UG/L)	2570.
7440-39-3	BARIUM, DISS (UG/L)	2450.
7440-43-9	CADMIUM, TOTAL (UG/L)	51.0
7440-43-9	CADMIUM, DISS (UG/L)	49.5
7440-48-4	COBALT, TOTAL (UG/L)	487.
7440-48-4	COBALT, DISS (UG/L)	479.
7440-47-3	CHROMIUM, TOTAL (UG/L)	198.
7440-47-3	CHROMIUM, DISS (UG/L)	194.
7440-50-8	COPPER, TOTAL (UG/L)	251.
7440-50-8	COPPER, DISS (UG/L)	244.
7440-66-6	ZINC, TOTAL (UG/L)	496.
7440-66-6	ZINC, DISS (UG/L)	485.

ANALYSIS DATA SHEET

52 256

Client ID

MW37SPMSD

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: SPM2*CDDMTW*37

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 11/19/93

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	5200.
7429-90-5	ALUMINUM, DISS (UG/L)	1970.
7440-39-3	BARIUM, TOTAL (UG/L)	2580.
7440-39-3	BARIUM, DISS (UG/L)	2410.
7440-43-9	CADMIUM, TOTAL (UG/L)	49.3
7440-43-9	CADMIUM, DISS (UG/L)	47.5
7440-48-4	COBALT, TOTAL (UG/L)	489.
7440-48-4	COBALT, DISS (UG/L)	479.
7440-47-3	CHROMIUM, TOTAL (UG/L)	199.
7440-47-3	CHROMIUM, DISS (UG/L)	195.
7440-50-8	COPPER, TOTAL (UG/L)	252.
7440-50-8	COPPER, DISS (UG/L)	242.
7440-66-6	ZINC, TOTAL (UG/L)	497.
7440-66-6	ZINC, DISS (UG/L)	485.

ANALYSIS DATA SHEET

CCV4

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: CCV*QC*2
Sample wt/vol: Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/06/93 Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	5130.
7429-90-5	ALUMINUM, DISS (UG/L)	5130.
7440-39-3	BARIUM, TOTAL (UG/L)	513.
7440-39-3	BARIUM, DISS (UG/L)	513.
7440-43-9	CADMIUM, TOTAL (UG/L)	514.
7440-43-9	CADMIUM, DISS (UG/L)	514.
7440-48-4	COBALT, TOTAL (UG/L)	510.
7440-48-4	COBALT, DISS (UG/L)	510.
7440-47-3	CHROMIUM, TOTAL (UG/L)	516.
7440-47-3	CHROMIUM, DISS (UG/L)	516.
7440-50-8	COPPER, TOTAL (UG/L)	512.
7440-50-8	COPPER, DISS (UG/L)	512.
7440-66-6	ZINC, TOTAL (UG/L)	513.
7440-66-6	ZINC, DISS (UG/L)	513.

52 258

ANALYSIS DATA SHEET

Client ID

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*2

Sample wt/vol:

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	40.0	U
7429-90-5	ALUMINUM, DISS (UG/L)	40.0	U
7440-39-3	BARIUM, TOTAL (UG/L)	25.0	U
7440-39-3	BARIUM, DISS (UG/L)	25.0	U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0	U
7440-43-9	CADMIUM, DISS (UG/L)	5.0	U
7440-48-4	COBALT, TOTAL (UG/L)	20.0	U
7440-48-4	COBALT, DISS (UG/L)	20.0	U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0	U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0	U
7440-50-8	COPPER, TOTAL (UG/L)	5.0	U
7440-50-8	COPPER, DISS (UG/L)	5.0	U
7440-66-6	ZINC, TOTAL (UG/L)	20.0	U
7440-66-6	ZINC, DISS (UG/L)	20.0	U

ANALYSIS DATA SHEET

52 259

Client ID

ICS3

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: ICS*A*2

Sample wt/vol:

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	519000.	
7429-90-5	ALUMINUM, DISS (UG/L)	519000.	
7440-39-3	BARIUM, TOTAL (UG/L)	25.0	U
7440-39-3	BARIUM, DISS (UG/L)	25.0	U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0	U
7440-43-9	CADMIUM, DISS (UG/L)	5.0	U
7440-48-4	COBALT, TOTAL (UG/L)	20.0	U
7440-48-4	COBALT, DISS (UG/L)	20.0	U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0	U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0	U
7440-50-8	COPPER, TOTAL (UG/L)	5.0	U
7440-50-8	COPPER, DISS (UG/L)	5.0	U
7440-66-6	ZINC, TOTAL (UG/L)	20.0	U
7440-66-6	ZINC, DISS (UG/L)	20.0	U

ANALYSIS DATA SHEET

52 260 Client ID

ICS4

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: ICS*AB*2

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	507000.	
7429-90-5	ALUMINUM, DISS (UG/L)	507000.	
7440-39-3	BARIUM, TOTAL (UG/L)	496.	
7440-39-3	BARIUM, DISS (UG/L)	496.	
7440-43-9	CADMIUM, TOTAL (UG/L)	953.	
7440-43-9	CADMIUM, DISS (UG/L)	953.	
7440-48-4	COBALT, TOTAL (UG/L)	460.	
7440-48-4	COBALT, DISS (UG/L)	460.	
7440-47-3	CHROMIUM, TOTAL (UG/L)	482.	
7440-47-3	CHROMIUM, DISS (UG/L)	482.	
7440-50-8	COPPER, TOTAL (UG/L)	496.	
7440-50-8	COPPER, DISS (UG/L)	496.	
7440-66-6	ZINC, TOTAL (UG/L)	995.	
7440-66-6	ZINC, DISS (UG/L)	995.	

52 261

Client ID

ANALYSIS DATA SHEET

CCV5

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

Matrix: (soil/water) WATER

Lab Sample ID: CCV*QC*3

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 12/06/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7429-90-5	ALUMINUM, TOTAL (UG/L)	5170.	
7429-90-5	ALUMINUM, DISS (UG/L)	5170.	
7440-39-3	BARIUM, TOTAL (UG/L)	499.	
7440-39-3	BARIUM, DISS (UG/L)	499.	
7440-43-9	CADMIUM, TOTAL (UG/L)	494.	
7440-43-9	CADMIUM, DISS (UG/L)	494.	
7440-48-4	COBALT, TOTAL (UG/L)	505.	
7440-48-4	COBALT, DISS (UG/L)	505.	
7440-47-3	CHROMIUM, TOTAL (UG/L)	509.	
7440-47-3	CHROMIUM, DISS (UG/L)	509.	
7440-50-8	COPPER, TOTAL (UG/L)	496.	
7440-50-8	COPPER, DISS (UG/L)	496.	
7440-66-6	ZINC, TOTAL (UG/L)	506.	
7440-66-6	ZINC, DISS (UG/L)	506.	

003310

ANALYSIS DATA SHEET

CCB3

Lab Name: ESE Project No.: 7934082G SDG No.: G44666
Matrix: (soil/water) WATER Lab Sample ID: CCB*QC*3
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 12/06/93 Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7429-90-5	ALUMINUM, TOTAL (UG/L)	40.0 U
7429-90-5	ALUMINUM, DISS (UG/L)	40.0 U
7440-39-3	BARIUM, TOTAL (UG/L)	25.0 U
7440-39-3	BARIUM, DISS (UG/L)	25.0 U
7440-43-9	CADMIUM, TOTAL (UG/L)	5.0 U
7440-43-9	CADMIUM, DISS (UG/L)	5.0 U
7440-48-4	COBALT, TOTAL (UG/L)	20.0 U
7440-48-4	COBALT, DISS (UG/L)	20.0 U
7440-47-3	CHROMIUM, TOTAL (UG/L)	10.0 U
7440-47-3	CHROMIUM, DISS (UG/L)	10.0 U
7440-50-8	COPPER, TOTAL (UG/L)	5.0 U
7440-50-8	COPPER, DISS (UG/L)	5.0 U
7440-66-6	ZINC, TOTAL (UG/L)	20.0 U
7440-66-6	ZINC, DISS (UG/L)	20.0 U

QUALITY CONTROL DATA

003312

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

MW37SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
=====	=====	=====	=====	=====	=====
ALUMINUM, TOTAL	2000	3210	2140	107.0	81-113
ALUMINUM, DISS	2000	0.	1980	99.0	81-113
BARIUM, TOTAL	2000	588	1980	99.0	86-106
BARIUM, DISS	2000	464	1990	99.5	86-106
CADMIUM, TOTAL	50.0	0.	51.0	102.0	80-108
CADMIUM, DISS	50.0	0.	49.5	99.0	80-108

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
ALUMINUM, TOTAL	2000	1990	99.5	7.3	16 81-113
ALUMINUM, DISS	2000	1970	98.5	0.5	16 81-113
BARIUM, TOTAL	2000	1990	99.5	0.5	10 86-106
BARIUM, DISS	2000	1950	97.5	2.0	10 86-106
CADMIUM, TOTAL	50.0	49.3	98.6	3.4	14 80-108
CADMIUM, DISS	50.0	47.5	95.0	4.1	14 80-108

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

MW37SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
=====	=====	=====	=====	=====	=====
COBALT, TOTAL	500	0.	487	97.4	85-105
COBALT, DISS	500	0.	479	95.8	85-105
CHROMIUM, TOTAL	200	0.	198	99.0	79-109
CHROMIUM, DISS	200	0.	194	97.0	79-109
COPPER, TOTAL	250	6.5	245	98.0	84-108
COPPER, DISS	250	0.	244	97.6	84-108

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
COBALT, TOTAL	500	489	97.8	0.4	10 85-105
COBALT, DISS	500	479	95.8	0.0	10 85-105
CHROMIUM, TOTAL	200	199	99.5	0.5	15 79-109
CHROMIUM, DISS	200	195	97.5	0.5	15 79-109
COPPER, TOTAL	250	246	98.4	0.4	12 84-108
COPPER, DISS	250	242	96.8	0.8	12 84-108

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

52 266

Client ID

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

MW37SPMS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44666

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
=====	=====	=====	=====	=====	=====
ZINC, TOTAL	500	0.	496	99.2	76-112
ZINC, DISS	500	0.	485	97.0	76-112

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
=====	=====	=====	=====	=====	=====
ZINC, TOTAL	500	497	99.4	0.2	18 76-112
ZINC, DISS	500	485	97.0	0.0	18 76-112

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

ESE METHOD BLANK SUMMARY

Client ID

PBLK1

Lab Name: ESE

Project No: 7934082G

SDG No.: G44666

Lab Sample ID: MB*QC*1

Lab File ID:

Matrix:(soil/water) WATER

Instrument ID:

Date Analyzed : 12/06/93

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
-----	-----	-----
MW9	CDDMTW*9	12/06/93
MW10SP	CDDMTW*10	12/06/93
MW11	CDDMTW*11	12/06/93
MW12SP	CDDMTW*12	12/06/93
MW22SP	CDDMTW*22	12/06/93
MW37SP	CDDMTW*37	12/06/93
MW37SPMS	SPM1*CDDMTW*37	12/06/93
MW37SPMSD	SPM2*CDDMTW*37	12/06/93

COMMENTS:

52 268

Client ID

REFERENCE STANDARD

SP1

Lab Name: ESE

SDG No: G44666

Lab Sample ID: SP1*QC*1

Date Analyzed: 12/06/93

Standard Source:

Instrument ID:

Analyte	True	Found	C	%Recv	Limits
AL	2000.	1980.		99.0	81-113
AL, DISS	2000.	1980.		99.0	81-113
BA	2000.	1990.		99.5	86-106
BA, DISS	2000.	1990.		99.5	86-106
CD	50.0	48.8		97.6	80-108
CD, DISS	50.0	48.8		97.6	80-108
CO	500.	493.		98.6	85-105
CO, DISS	500.	493.		98.6	85-105
CR	200.	197.		98.5	79-109
CR, DISS	200.	197.		98.5	79-109
CU	250.	246.		98.4	84-108
CU, DISS	250.	246.		98.4	84-108
ZN	500.	487.		97.4	76-112
ZN, DISS	500.	487.		97.4	76-112

Comments:

FORM V ESE

003317

52 269

Client ID

CALIBRATION BLANKS

CCB1

Lab Name: ESE

Project No.: 7934082G

SDG No: G44666

Lab Sample ID: CCB*QC*1

Instrument ID:

Analyte	Conc	C	CRDL
AL	17.1	U	40
AL, DISS	17.1	U	40
BA	0.5	U	25
BA, DISS	0.5	U	25
CD	0.0	U	5
CD, DISS	0.0	U	5
CO	1.5	U	20
CO, DISS	1.5	U	20
CR	1.0	U	10
CR, DISS	1.0	U	10
CU	0.0	U	5
CU, DISS	0.0	U	5
ZN	0.9	U	20
ZN, DISS	0.9	U	20

52 270

Client ID

CALIBRATION BLANKS

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No: G44666

Lab Sample ID: CCB*QC+2

Instrument ID:

Analyte	Conc	C	CRDL
AL	21.9	U	40
AL, DISS	21.9	U	40
BA	0.3	U	25
BA, DISS	0.3	U	25
CD	0.8	U	5
CD, DISS	0.8	U	5
CO	2.2	U	20
CO, DISS	2.2	U	20
CR	1.8	U	10
CR, DISS	1.8	U	10
CU	0.3	U	5
CU, DISS	0.3	U	5
ZN	0.8	U	20
ZN, DISS	0.8	U	20

52 271 Client ID

CALIBRATION BLANKS

CCB3

Lab Name: ESE

Project No.: 7934082G

SDG No: G44666

Lab Sample ID: CCB*QC*3

Instrument ID:

Analyte	Conc	C	CRDL
AL	25.6	U	40
AL,DISS	25.6	U	40
BA	0.0	U	25
BA,DISS	0.0	U	25
CD	0.0	U	5
CD,DISS	0.0	U	5
CO	0.0	U	20
CO,DISS	0.0	U	20
CR	0.0	U	10
CR,DISS	0.0	U	10
CU	0.0	U	5
CU,DISS	0.0	U	5
ZN	0.5	U	20
ZN,DISS	0.5	U	20

CALIBRATION VERIFICATION

CCV1

Lab Name: ESE

Project No: 7934082G

SDG No: G44666

Lab Sample ID: CCV*STD2*1

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
BA	1000.	1020.		2.0	
BA, DISS	1000.	1020.		2.0	
CD	1000.	1010.		1.0	
CD, DISS	1000.	1010.		1.0	
CO	1000.	1020.		2.0	
CO, DISS	1000.	1020.		2.0	
CR	1000.	1020.		2.0	
CR, DISS	1000.	1020.		2.0	
CU	1000.	1010.		1.0	
CU, DISS	1000.	1010.		1.0	
ZN	1000.	1010.		1.0	
ZN, DISS	1000.	1010.		1.0	

Comments:

52 273 Client ID

CALIBRATION VERIFICATION

CCV2

Lab Name: ESE

Project No: 7934082G

SDG No: G44666

Lab Sample ID: CCV*STD3*1

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
AL	10000.	10000.		0.0	
AL, DISS	10000.	10000.		0.0	

Comments:

52 274

Client ID

CALIBRATION VERIFICATION

ICV1

Lab Name: ESE

Project No: 7934082G

SDG No: G44666

Lab Sample ID: ICV*ICAP19*1

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
CD	1000.	1000.		0.0	
CD, DISS	1000.	1000.		0.0	
CO	1000.	1010.		1.0	
CO, DISS	1000.	1010.		1.0	
CR	1000.	1020.		2.0	
CR, DISS	1000.	1020.		2.0	
CU	1000.	1020.		2.0	
CU, DISS	1000.	1020.		2.0	
ZN	1000.	1000.		0.0	
ZN, DISS	1000.	1000.		0.0	

Comments:

Client ID

ICV2

SDG No: G44666

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
AL	1000.	1020.		2.0	
AL, DISS	1000.	1020.		2.0	
BA	1000.	1020.		2.0	
BA, DISS	1000.	1020.		2.0	

Comments:

52 276

Client ID

CALIBRATION VERIFICATION

CCV3

Lab Name: ESE

Project No: 7934082G

SDG No: G44666

Lab Sample ID: CCV*QC*1

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
AL	5000.	5070.		1.4	
AL, DISS	5000.	5070.		1.4	
BA	500.	511.		2.2	
BA, DISS	500.	511.		2.2	
CD	500.	502.		0.4	
CD, DISS	500.	502.		0.4	
CO	500.	508.		1.6	
CO, DISS	500.	508.		1.6	
CR	500.	513.		2.6	
CR, DISS	500.	513.		2.6	
CU	500.	509.		1.8	
CU, DISS	500.	509.		1.8	
ZN	500.	509.		1.8	
ZN, DISS	500.	509.		1.8	

Comments:

52 277

Client ID

CALIBRATION VERIFICATION

CCV4

Lab Name: ESE

Project No: 7934082G

SDG No: G44666

Lab Sample ID: CCV*QC*2

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
AL	5000.	5130.		2.6	
AL,DISS	5000.	5130.		2.6	
BA	500.	513.		2.6	
BA,DISS	500.	513.		2.6	
CD	500.	514.		2.8	
CD,DISS	500.	514.		2.8	
CO	500.	510.		2.0	
CO,DISS	500.	510.		2.0	
CR	500.	516.		3.2	
CR,DISS	500.	516.		3.2	
CU	500.	512.		2.4	
CU,DISS	500.	512.		2.4	
ZN	500.	513.		2.6	
ZN,DISS	500.	513.		2.6	

Comments:

52 278

Client ID

CALIBRATION VERIFICATION

CCV5

Lab Name: ESE

Project No: 7934082G

SDG No: G44666

Lab Sample ID: CCV*QC*3

Date Analyzed: 12/06/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
AL	5000.	5170.		3.4	
AL, DISS	5000.	5170.		3.4	
BA	500.	499.		0.2	
BA, DISS	500.	499.		0.2	
CD	500.	494.		1.2	
CD, DISS	500.	494.		1.2	
CO	500.	505.		1.0	
CO, DISS	500.	505.		1.0	
CR	500.	509.		1.8	
CR, DISS	500.	509.		1.8	
CU	500.	496.		0.8	
CU, DISS	500.	496.		0.8	
ZN	500.	506.		1.2	
ZN, DISS	500.	506.		1.2	

Comments:

RAW DATA

003328

METALS BATCH DOCUMENTATION CHECKLIST

Batch No.: G44666QC Type: FOER

Initial or NA

- BC 1. Batch printout
- BC 2. Instrument logbook pages - copies (with instrument ID, conditions, method used)
- BC 3. Raw data (labeled, dated, unused data marked and explained)
- BC 4. Sample prep logbook pages - copies

The above documents should be numbered and placed in the folder in the order indicated.

NOTES:

OKBC
Analyst Initialsper
Checked By12-7-93
Date12/2/93
Date

003329

Form 34001

ISE BATCH : 044666

QC TYPE : FDER/SW
ANALYST : ELIZABETH CREARY
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : ICAP UPLOAD

REPORT DATE/TIME : 12/06/93 16:35:33
ANALYSIS DATE : 12/06/93
EXTRACT DATE : 12/03/93

52 281

STATUS :

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDDMTM	79340820 0201	HUNTSVILLE COE - DDM1	PATRICK WILBER

Sample Specific Raw Data

SAMPLE CODE	EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	SAMPLE VOL or WT (NA)	EXTRACT VOL or WT (NA)	INJECTION VOLUME (NA)	MOISTURE
CCV*STD2*1	12/03/93	12/06/93	01:57PM				
CCV*STD3*1	12/03/93	12/06/93	02:00PM				
ICV*ICAP19*1	12/03/93	12/06/93	02:03PM				
ICV*ICAP7*1	12/03/93	12/06/93	02:06PM				
ICS*A*1	12/03/93	12/06/93	02:09PM				
ICS*AB*1	12/03/93	12/06/93	02:14PM				
MB*OC*1	12/03/93	12/06/93	02:19PM				
SPI*QC*1	12/03/93	12/06/93	02:25PM				
DA*CDDMTM*9	12/03/93	12/06/93	02:28PM				
DA*CDDMTM*10	12/03/93	12/06/93	02:31PM				
DA*CDDMTM*11	12/03/93	12/06/93	02:33PM				
DA*CDDMTM*12	12/03/93	12/06/93	02:35PM				
DA*CDDMTM*22	12/03/93	12/06/93	02:38PM				
DA*CDDMTM*37	12/03/93	12/06/93	02:42PM				
SD*CDDMTM*37	12/03/93	12/06/93	02:57PM				
SPX*CDDMTM*37	12/03/93	12/06/93	03:00PM				
CCV*QC*1	12/03/93	12/06/93	03:03PM				
CCB*QC*1	12/03/93	12/06/93	03:06PM				
SPM1*CDDMTM*37	12/03/93	12/06/93	03:09PM				
SPM2*CDDMTM*37	12/03/93	12/06/93	03:15PM				
CCV*QC*2	12/03/93	12/06/93	03:19PM				
CCB*QC*2	12/03/93	12/06/93	03:42PM				
ICS*A*2	12/03/93	12/06/93	03:51PM				
ICS*AB*2	12/03/93	12/06/93	03:53PM				
CCV*QC*3	12/03/93	12/06/93	03:56PM				
CCB*QC*3	12/03/93	12/06/93	03:59PM				

003330

Parameter Specific Raw Data

SAMPLE CODE	STORET NAME	STATUS	RESPONSE (NA)	DIL	TYPE	CURVE	RET TIME	SPIKE SOL CONC (NA)	SPIKE SAMP VOL (NA)	SPIKE VOLUME (NA)	DIL CODE	CALC'D TARGET (UG/L)
CCV*STD2*1	AL	NA	0	1	FINAL							
	BA	OK	1015.69	1	FINAL							1000
	BA, DISS	OK	1015.69	1	FINAL							1000
	CO	OK	1009.00	1	FINAL							1000
	CO, DISS	OK	1009.00	1	FINAL							1000
	CO	OK	1015.84	1	FINAL							1000
	CO, DISS	OK	1015.84	1	FINAL							1000
	CR	OK	1010	1	FINAL							1000
	CR, DISS	OK	1010	1	FINAL							1000
	CU	OK	1012.22	1	FINAL							1000
	CU, DISS	OK	1012.22	1	FINAL							1000
	ZN	OK	1006.4	1	FINAL							1000
	ZN, DISS	OK	1006.4	1	FINAL							1000
	AL	OK	10045.36	1	FINAL							10000
ICV*ICAP19*1	AL, DISS	OK	10045.36	1	FINAL							10000
	AL	NA	0	1	FINAL							
	CO	OK	1003.06	1	FINAL							1000
	CO, DISS	OK	1003.06	1	FINAL							1000
	CO	OK	1011.35	1	FINAL							1000
	CO, DISS	OK	1011.35	1	FINAL							1000
	CR	OK	1020.34	1	FINAL							1000
	CR, DISS	OK	1020.34	1	FINAL							1000
	CU	OK	1010.62	1	FINAL							1000
	CU, DISS	OK	1010.62	1	FINAL							1000
	ZN	OK	1002.05	1	FINAL							1000
	ZN, DISS	OK	1002.05	1	FINAL							1000
	AL	OK	1021.34	1	FINAL							1000
	AL, DISS	OK	1021.34	1	FINAL							1000
ICV*ICAP7*1	BA	OK	1019	1	FINAL							1000
	BA, DISS	OK	1019	1	FINAL							1000
	AL	OK	507524.41	1	FINAL							500000
	AL, DISS	OK	507524.41	1	FINAL							500000
	AL	OK	515971.13	1	FINAL							500000
	AL, DISS	OK	515971.13	1	FINAL							500000
	BA	OK	510.57	1	FINAL							500
	BA, DISS	OK	510.57	1	FINAL							500
	CO	OK	949.62	1	FINAL							1000
	CO, DISS	OK	949.62	1	FINAL							1000
	CO	OK	454.33	1	FINAL							500
	CO, DISS	OK	454.33	1	FINAL							500
	CR	OK	477.60	1	FINAL							500
	CR, DISS	OK	477.60	1	FINAL							500
MB*OC*1	CU	OK	509.49	1	FINAL							500
	CU, DISS	OK	509.49	1	FINAL							500
	ZN	OK	975.95	1	FINAL							1000
	ZN, DISS	OK	975.95	1	FINAL							1000
	AL	OK	.0000	1	FINAL							
	AL, DISS	OK	.0000	1	FINAL							
	BA	OK	.0000	1	FINAL							
	BA, DISS	OK	.0000	1	FINAL							
	CO	OK	.0000	1	FINAL							
	CO, DISS	OK	.0000	1	FINAL							
	CO	OK	.0000	1	FINAL							
	CO, DISS	OK	.0000	1	FINAL							
	CR	OK	.0000	1	FINAL							
	CR, DISS	OK	.0000	1	FINAL							
	CU	OK	.0000	1	FINAL							
	CU, DISS	OK	.0000	1	FINAL							
SPI*OC*1	ZN	OK	.0000	1	FINAL							
	AL	OK	1977.80	1	FINAL							2000
	AL, DISS	OK	1977.80	1	FINAL							2000
	BA	OK	1989.85	1	FINAL							2000
	BA, DISS	OK	1989.85	1	FINAL							2000
	CO	OK	40.0	1	FINAL							50
	CO, DISS	OK	40.0	1	FINAL							50
	CO	OK	492.96	1	FINAL							500
	CO, DISS	OK	492.96	1	FINAL							500
	CR	OK	197.4	1	FINAL							200
	CR, DISS	OK	197.4	1	FINAL							200
	CU	OK	246.26	1	FINAL							250
	CU, DISS	OK	246.26	1	FINAL							250
	ZN	OK	487.47	1	FINAL							500
	ZN, DISS	OK	487.47	1	FINAL							500
DA*CDON74*9	AL	OK	6146.3	1	FINAL							
	AL, DISS	OK	31.43	1	FINAL							
	BA	OK	260.46	1	FINAL							
	BA, DISS	OK	54.89	1	FINAL							

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DA=COORDINATE 10

CD	OK	.0000	1	FINAL
CD, DISS	OK	.0000	1	FINAL
CO	OK	63.87	1	FINAL
CD, DISS	OK	.83	1	FINAL
CR	OK	104.07	1	FINAL
CR, DISS	OK	.0000	1	FINAL
CU	OK	138.81	1	FINAL
CU, DISS	OK	3.8	1	FINAL
ZN	OK	164.66	1	FINAL
ZN, DISS	OK	11.82	1	FINAL
AL	OK	138837.72	1	FINAL
AL, DISS	OK	43.26	1	FINAL
BA	OK	1018.79	1	FINAL
BA, DISS	OK	76.89	1	FINAL
CD	OK	.0000	1	FINAL
CD, DISS	OK	.0000	1	FINAL
CO	OK	98.68	1	FINAL
CO, DISS	OK	.59	1	FINAL
CR	OK	263.36	1	FINAL
CR, DISS	OK	1.47	1	FINAL
CU	OK	391.23	1	FINAL
CU, DISS	OK	1.76	1	FINAL
ZN	OK	738.84	1	FINAL
ZN, DISS	OK	9.21	1	FINAL

DA=COORDINATE 11

AL	OK	136846.51	1	FINAL
AL, DISS	OK	36.85	1	FINAL
BA	OK	1331.16	1	FINAL
BA, DISS	OK	62.58	1	FINAL
CD	OK	.18	1	FINAL
CD, DISS	OK	.0000	1	FINAL
CO	OK	344.49	1	FINAL
CO, DISS	OK	.82	1	FINAL
CR	OK	389.21	1	FINAL
CR, DISS	OK	.73	1	FINAL
CU	OK	312.42	1	FINAL
CU, DISS	OK	1.88	1	FINAL
ZN	OK	474.88	1	FINAL
ZN, DISS	OK	6.67	1	FINAL

DA=COORDINATE 12

AL	OK	51217.59	1	FINAL
AL, DISS	OK	28.53	1	FINAL
BA	OK	353.8	1	FINAL
BA, DISS	OK	47.41	1	FINAL
CD	OK	.0000	1	FINAL
CD, DISS	OK	.0000	1	FINAL
CO	OK	222.69	1	FINAL
CO, DISS	OK	1.27	1	FINAL
CR	OK	88.86	1	FINAL
CR, DISS	OK	.62	1	FINAL
CU	OK	81.35	1	FINAL
CU, DISS	OK	2.44	1	FINAL
ZN	OK	191.19	1	FINAL
ZN, DISS	OK	2.42	1	FINAL

DA=COORDINATE 22

AL	OK	198047.19	1	FINAL
AL, DISS	OK	25.79	1	FINAL
BA	OK	461.76	1	FINAL
BA, DISS	OK	91.62	1	FINAL
CD	OK	.45	1	FINAL
CD, DISS	OK	.0000	1	FINAL
CO	OK	79.84	1	FINAL
CO, DISS	OK	.8	1	FINAL
CR	OK	824.22	1	FINAL
CR, DISS	OK	.61	1	FINAL
CU	OK	178.64	1	FINAL
CU, DISS	OK	1.35	1	FINAL
ZN	OK	848.63	1	FINAL
ZN, DISS	OK	3.6	1	FINAL

DA=COORDINATE 37

AL	OK	3286.44	1	FINAL
AL, DISS	OK	.0000	1	FINAL
BA	OK	588.1	1	FINAL
BA, DISS	OK	464.81	1	FINAL
CD	OK	.0000	1	FINAL
CD, DISS	OK	.0000	1	FINAL
CO	OK	.0000	1	FINAL
CO, DISS	OK	.0000	1	FINAL
CR	OK	.0000	1	FINAL
CR, DISS	OK	.0000	1	FINAL
CU	OK	6.49	1	FINAL
CU, DISS	OK	.0000	1	FINAL
ZN	OK	.0000	1	FINAL
ZN, DISS	OK	.0000	1	FINAL

SD=COORDINATE 37

AL	OK	632.67	5	FINAL
AL, DISS	OK	11.34	5	FINAL
BA	OK	118.32	5	FINAL
BA, DISS	OK	96.64	5	FINAL

	CO	OK	.0000	5	FINAL	
	CO, DISS	OK	.0000	5	FINAL	
	CO	OK	.47	5	FINAL	
	CO, DISS	OK	.90	5	FINAL	
	CR	OK	.90	5	FINAL	
	CR, DISS	OK	1.23	5	FINAL	
	CU	OK	.94	5	FINAL	
	CU, DISS	OK	.0000	5	FINAL	
	ZN	OK	3.32	5	FINAL	
	ZN, DISS	OK	2.73	5	FINAL	
SP1=CDDMTW=37	AL	OK	3663.16	2	FINAL	5000
	AL, DISS	OK	2543.73	2	FINAL	5000
	BA	OK	545.30	2	FINAL	500
	BA, DISS	OK	481.31	2	FINAL	500
	CD	OK	249.23	2	FINAL	500
	CD, DISS	OK	253.47	2	FINAL	500
	CO	OK	251.25	2	FINAL	500
	CO, DISS	OK	249.62	2	FINAL	500
	CR	OK	253.40	2	FINAL	500
	CR, DISS	OK	252.87	2	FINAL	500
	CU	OK	255.97	2	FINAL	500
	CU, DISS	OK	249.73	2	FINAL	500
	ZN	OK	250.10	2	FINAL	500
	ZN, DISS	OK	256.96	2	FINAL	500
CCV=QC=1	AL	OK	5073.75	1	FINAL	5000
	AL, DISS	OK	5073.75	1	FINAL	5000
	BA	OK	510.70	1	FINAL	500
	BA, DISS	OK	510.70	1	FINAL	500
	CD	OK	502.10	1	FINAL	500
	CD, DISS	OK	502.10	1	FINAL	500
	CO	OK	507.9	1	FINAL	500
	CO, DISS	OK	507.9	1	FINAL	500
	CR	OK	512.75	1	FINAL	500
	CR, DISS	OK	512.75	1	FINAL	500
	CU	OK	500.96	1	FINAL	500
	CU, DISS	OK	500.96	1	FINAL	500
	ZN	OK	509.24	1	FINAL	500
	ZN, DISS	OK	509.24	1	FINAL	500
CCB=QC=1	AL	OK	17.06	1	FINAL	
	AL, DISS	OK	17.06	1	FINAL	
	BA	OK	.53	1	FINAL	
	BA, DISS	OK	.53	1	FINAL	
	CD	OK	.0000	1	FINAL	
	CD, DISS	OK	.0000	1	FINAL	
	CO	OK	1.54	1	FINAL	
	CO, DISS	OK	1.54	1	FINAL	
	CR	OK	.96	1	FINAL	
	CR, DISS	OK	.96	1	FINAL	
	CU	OK	.0000	1	FINAL	
	CU, DISS	OK	.0000	1	FINAL	
	ZN	OK	.86	1	FINAL	
	ZN, DISS	OK	.86	1	FINAL	
SPH1=CDDMTW=37	AL	OK	5349.16	1	FINAL	2000
	AL, DISS	OK	1984.69	1	FINAL	2000
	BA	OK	2569.94	1	FINAL	2000
	BA, DISS	OK	2450.12	1	FINAL	2000
	CD	OK	50.99	1	FINAL	50
	CD, DISS	OK	49.54	1	FINAL	50
	CO	OK	486.0	1	FINAL	500
	CO, DISS	OK	479.43	1	FINAL	500
	CR	OK	197.52	1	FINAL	200
	CR, DISS	OK	194.33	1	FINAL	200
	CU	OK	250.05	1	FINAL	250
	CU, DISS	OK	244.36	1	FINAL	250
	ZN	OK	496.04	1	FINAL	500
	ZN, DISS	OK	484.54	1	FINAL	500
SPH2=CDDMTW=37	AL	OK	5197.83	1	FINAL	2000
	AL, DISS	OK	1969.50	1	FINAL	2000
	BA	OK	2577.21	1	FINAL	2000
	BA, DISS	OK	2408.37	1	FINAL	2000
	CD	OK	49.20	1	FINAL	50
	CD, DISS	OK	47.45	1	FINAL	50
	CO	OK	489.44	1	FINAL	500
	CO, DISS	OK	479.24	1	FINAL	500
	CR	OK	199.40	1	FINAL	200
	CR, DISS	OK	194.03	1	FINAL	200
	CU	OK	251.53	1	FINAL	250
	CU, DISS	OK	241.64	1	FINAL	250
	ZN	OK	497.14	1	FINAL	500
	ZN, DISS	OK	485.41	1	FINAL	500
CCV=QC=2	AL	OK	5130.3	1	FINAL	5000
	AL, DISS	OK	5130.3	1	FINAL	5000
	BA	OK	512.6	1	FINAL	500
	BA, DISS	OK	512.6	1	FINAL	500

003333

	CD	OK	514.32	J	FINAL	500
	CD, DISS	OK	514.32	J	FINAL	500
	CO	OK	509.66	J	FINAL	500
	CO, DISS	OK	509.66	J	FINAL	500
	CR	OK	516.44	J	FINAL	500
	CR, DISS	OK	516.44	J	FINAL	500
	CU	OK	511.68	J	FINAL	500
	CU, DISS	OK	511.68	J	FINAL	500
	ZN	OK	513.38	J	FINAL	500
	ZN, DISS	OK	513.38	J	FINAL	500
CCB-OC-2	AL	OK	21.93	J	FINAL	500
	AL, DISS	OK	21.93	J	FINAL	
	BA	OK	.32	J	FINAL	
	BA, DISS	OK	.32	J	FINAL	
	CO	OK	.76	J	FINAL	
	CO, DISS	OK	.76	J	FINAL	
	CR	OK	2.19	J	FINAL	
	CR, DISS	OK	2.19	J	FINAL	
	CU	OK	1.84	J	FINAL	
	CU, DISS	OK	1.84	J	FINAL	
	ZN	OK	.26	J	FINAL	
	ZN, DISS	OK	.26	J	FINAL	
ICS-A-2	AL	OK	519395.56	J	FINAL	500000
	AL, DISS	OK	519395.56	J	FINAL	500000
ICS-AB-2	AL	OK	505051.25	J	FINAL	500000
	AL, DISS	OK	505051.25	J	FINAL	500000
	BA	OK	496.47	J	FINAL	500
	BA, DISS	OK	496.47	J	FINAL	500
	CO	OK	953.06	J	FINAL	1000
	CO, DISS	OK	953.06	J	FINAL	1000
	CR	OK	459.56	J	FINAL	500
	CR, DISS	OK	459.56	J	FINAL	500
	CU	OK	402.09	J	FINAL	500
	CU, DISS	OK	402.09	J	FINAL	500
	ZN	OK	496.05	J	FINAL	500
	ZN, DISS	OK	496.05	J	FINAL	500
	AL	OK	995.01	J	FINAL	1000
	AL, DISS	OK	995.01	J	FINAL	1000
CCV-OC-3	BA	OK	5169.65	J	FINAL	5000
	BA, DISS	OK	5169.65	J	FINAL	5000
	CO	OK	498.61	J	FINAL	500
	CO, DISS	OK	498.61	J	FINAL	500
	CR	OK	493.93	J	FINAL	500
	CR, DISS	OK	493.93	J	FINAL	500
	CU	OK	505.07	J	FINAL	500
	CU, DISS	OK	505.07	J	FINAL	500
	ZN	OK	509.19	J	FINAL	500
	ZN, DISS	OK	509.19	J	FINAL	500
	AL	OK	496.23	J	FINAL	500
	AL, DISS	OK	496.23	J	FINAL	500
	BA	OK	506.37	J	FINAL	500
	BA, DISS	OK	506.37	J	FINAL	500
	CO	OK	25.57	J	FINAL	500
	CO, DISS	OK	25.57	J	FINAL	500
	CR	OK	.0000	J	FINAL	500
	CR, DISS	OK	.0000	J	FINAL	500
	CU	OK	.0000	J	FINAL	500
	CU, DISS	OK	.0000	J	FINAL	500
	ZN	OK	.0000	J	FINAL	500
	ZN, DISS	OK	.0000	J	FINAL	500
CCB-OC-3	AL	OK	.0000	J	FINAL	500
	AL, DISS	OK	.0000	J	FINAL	500
	BA	OK	.0000	J	FINAL	500
	BA, DISS	OK	.0000	J	FINAL	500
	CO	OK	.0000	J	FINAL	500
	CO, DISS	OK	.0000	J	FINAL	500
	CR	OK	.0000	J	FINAL	500
	CR, DISS	OK	.0000	J	FINAL	500
	CU	OK	.0000	J	FINAL	500
	CU, DISS	OK	.0000	J	FINAL	500
	ZN	OK	.5	J	FINAL	500
	ZN, DISS	OK	.5	J	FINAL	500

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CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 40 DATE: 06 DEC 1993 LARGEST RESPONSE= XRSO-

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC#1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC#1	17.1	
QC#2	21.9	
QC#3	25.6	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
STD2#1	NA		
STD3#1	10000	10000	0.0
QC#1	5070	5000	1.4
QC#2	5130	5000	2.6
QC#3	5170	5000	3.4

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
A#1	500000	500000	1.6
AB#1	516000	500000	3.2
A#2	519000	500000	3.8
AB#2	507000	500000	1.4

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
ICAP19#1	NA		
ICAP7#1	1020	1000	2.0

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP. 1 CONC	REP. 2 CONC	% DIFFERENCE
CD04TW#37	3160	3210	1.6

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPA CONC	FOUND	TARGET	% RECV	RELSDIFF.
SP1#QC#1	0.0	1980	1980	2000	99.0	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPA CONC	FOUND	TARGET	% RECV	RELSDIFF.
SPM1#CD04TW#37	3210	5350	2140	2000	107.0	
SPM2#CD04TW#37	3210	5200	1990	2000	99.5	7.3

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPA CONC	FOUND	TARGET	% RECV	RELSDIFF.
SPX#CD04TW#37	3210	7330	4120	5000	82.4	

Exceeds criteria. (Recovery Limit 100 +/- 15)

STORE1: 1106 METHOD: 6010-G ALUMINUM DISS, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 40 DATE: 06 DEC 1993 LARGEST RESPONSE= XRSO-

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC#1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC#1	17.1	
QC#2	21.9	
QC#3	25.6	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
STD2#1	NA		
STD3#1	10000	10000	0.0
QC#1	5070	5000	1.4
QC#2	5130	5000	2.6
QC#3	5170	5000	3.4

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
A#1	500000	500000	1.6
AB#1	516000	500000	3.2
A#2	519000	500000	3.8
AB#2	507000	500000	1.4

INITIAL CALIBRATION VERIFICATION STANDARD(S)
 SAMPLE ID CALC. CONC KNOWN CONC DIFFERENCE%
 ICAP19*1 NA
 ICAP7*1 1020 1000 2.0

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SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***
 SAMPLE ID REP.1 CONC REP.2 CONC % DIFFERENCE
 CDDMTW*37 56.7 0.0 N/A

STANDARD MATRIX SPIKE(S)
 SAMPLE ID UNSP CONC SPK CONC FOUND TARGET % RECV RELXDIFF.
 SPI*QC*1 0.0 1900 1900 2000 99.0

SAMPLE MATRIX SPIKE(S)
 SAMPLE ID UNSP CONC SPK CONC FOUND TARGET % RECV RELXDIFF.
 SPK1=CDDMTW*37 0.0 1900 1900 2000 99.0
 SPK2=CDDMTW*37 0.0 1970 1970 2000 98.5 0.5

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***
 SAMPLE ID UNSP CONC SPK CONC FOUND TARGET % RECV RELXDIFF.
 SPI=CDDMTW*37 0.0 5000 5000 5000 101.0

STORE: 1002 METHOD: 6010-G BARIUM TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
 CURVE DETECTION LIMIT= 25 DATE: 06 DEC 1993 LARGEST RESPONSE= 11500

METHOD BLANK(S)
 SAMPLE ID CONCENTRATION
 QC*1 0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID CALC. CONC C.R.D.L.
 QC*1 0.5
 QC*2 0.3
 QC*3 0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)
 SAMPLE ID CALC. CONC KNOWN CONC DIFFERENCE%
 STD2*1 1020 1000 2.0
 STD3*1 NA
 QC*1 511 500 2.2
 QC*2 513 500 2.6
 QC*3 499 500 -1.2

INTERFERENCE CALIBRATION STANDARD(S)
 SAMPLE ID CALC. CONC KNOWN CONC DIFFERENCE%
 A*1 NA
 AB*1 511 500 2.2
 A*2 NA
 AB*2 496 500 0.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)
 SAMPLE ID CALC. CONC KNOWN CONC DIFFERENCE%
 ICAP19*1 NA
 ICAP7*1 1020 1000 2.0

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***
 SAMPLE ID REP.1 CONC REP.2 CONC % DIFFERENCE
 CDDMTW*37 592 500 N/A

STANDARD MATRIX SPIKE(S)
 SAMPLE ID UNSP CONC SPK CONC FOUND TARGET % RECV RELXDIFF.
 SPI*QC*1 0.0 1990 1990 2000 99.5

SAMPLE MATRIX SPIKE(S)
 SAMPLE ID UNSP CONC SPK CONC FOUND TARGET % RECV RELXDIFF.
 SPK1=CDDMTW*37 588 2570 1900 2000 99.0
 SPK2=CDDMTW*37 588 2580 1990 2000 99.5 0.5

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***
 SAMPLE ID UNSP CONC SPK CONC FOUND TARGET % RECV RELXDIFF.
 SPI=CDDMTW*37 588 1000 502 500 100.4

STORE: 1005 METHOD: 6010-G BARIUM DISS, UG/L FINAL

CALIBRATION CURVE # 1
 CURVE DETECTION LIMIT= 25 DATE: 06 DEC 1993 LARGEST RESPONSE= 11500

METHOD BLANK(S)
 SAMPLE ID CONCENTRATION
 QC*1 0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

003336

SAMPLE ID	CALC. CONC	C.R.D.L.
QC-1	0.5	
QC-2	0.3	
QC-3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2-1	1020	1000	2.0
STD3-1	NA		
QC-1	511	500	2.2
QC-2	513	500	2.6
QC-3	499	500	-1.2

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A-1	NA		
AB-1	511	500	2.2
A-2	NA		
AB-2	496	500	0.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19-1	NA		
ICAP7-1	1020	1000	2.0

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDMW-37	463	464	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1-OC-1	0.0	1990	1990	2000	99.5	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	REL%DIFF.
SPM1-CDDMW-37	464	2450	1990	2000	99.5	
SPM2-CDDMW-37	464	2410	1950	2000	97.5	2.0

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	REL%DIFF.
SPX-CDDMW-37	464	963	499	500	99.8	

STORE1: 1027 METHOD: 6810-G CADMIUM, TOTAL, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 5 DATE: 06 DEC 1993 LARGEST RESPONSE= KRSD-

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
OC-1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC-1	0.0	
QC-2	0.0	
QC-3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2-1	1010	1000	1.0
STD3-1	NA		
QC-1	502	500	0.4
QC-2	514	500	2.8
QC-3	494	500	-1.2

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A-1	NA		
AB-1	950	1000	5.0
A-2	NA		
AB-2	953	1000	4.7

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19-1	1000	1000	0.0
ICAP7-1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDMW-37	0.0	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP. CONC	SPK. CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1-OC-1	0.0	40.0	40.0	50.0	97.6	

003337

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1=CDDMTW*37	0.0	51.0	51.0	50.0	102.0	
SPM2=CDDMTW*37	0.0	49.3	49.3	50.0	98.6	3.4

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX=CDDMTW*37	0.0	490	490	500	98.0	

STORET: 1025 METHOD: 6010-D CADMIUM DISS. UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 5 DATE: 06 DEC 1993 LARGEST RESPONSE= XMSD=

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC*1	0.0	
QC*2	0.0	
QC*3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2*1	1010	1000	1.0
STD3*1	NA		
QC*1	502	500	0.4
QC*2	514	500	2.8
QC*3	494	500	-1.2

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A*1	NA		
AB*1	950	1000	5.0
A*2	NA		
AB*2	953	1000	4.7

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19*1	1000	1000	0.0
ICAP7*1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP. 1 CONC	REP. 2 CONC	% DIFFERENCE
CDDMTW*37	0.0	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1=QC*1	0.0	40.0	40.0	50.0	97.6	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1=CDDMTW*37	0.0	49.5	49.5	50.0	99.0	
SPM2=CDDMTW*37	0.0	47.5	47.5	50.0	95.0	4.1

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX=CDDMTW*37	0.0	507	507	500	101.4	

STORET: 1037 METHOD: 6010-G COBAL TOTAL UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 20 DATE: 06 DEC 1993 LARGEST RESPONSE= XMSD=

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC*1	1.5	
QC*2	2.2	
QC*3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2*1	1020	1000	2.0
STD3*1	NA		
QC*1	508	500	1.6
QC*2	510	500	2.0
QC*3	505	500	1.0

52 289

003338

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A*1	NA		
AB*1	454	500	9.2
A*2	NA		
AB*2	460	500	8.0

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19*1	1010	1000	1.0
ICAP7*1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CD0MTW*37	2.4	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1*OC*1	0.0	493	493	500	98.6	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1*CD0MTW*37	0.0	487	487	500	97.4	
SPM2*CD0MTW*37	0.0	489	489	500	97.8	0.4

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX*CD0MTW*37	0.0	503	503	500	100.6	

STORET: 1035 METHOD: 6010-G COBALT DISS. UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 20 DATE: 05 DEC 1993 LARGEST RESPONSE= KRSD=

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
OC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
OC*1	1.5	
OC*2	2.2	
OC*3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2*1	1020	1000	2.0
STD3*1	NA		
OC*1	500	500	1.6
OC*2	510	500	2.0
OC*3	505	500	1.0

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A*1	NA		
AB*1	454	500	9.2
A*2	NA		
AB*2	460	500	8.0

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19*1	1010	1000	1.0
ICAP7*1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CD0MTW*37	4.9	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1*OC*1	0.0	493	493	500	98.6	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1*CD0MTW*37	0.0	479	479	500	95.8	
SPM2*CD0MTW*37	0.0	479	479	500	95.8	0.2

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX*CD0MTW*37	0.0	499	499	500	99.8	

STORET: 1034 METHOD: 6010-G CHROMIUM TOTAL UG/L FINAL

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= 10 DATE: 06 DEC 1993 LARGEST RESPONSE= KRSD=

52 291

METHOD BLANK(S)
SAMPLE ID CONCENTRATION
QC#1 0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC#1	1.0	
QC#2	1.0	
QC#3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2#1	1020	1000	2.0
STD3#1	NA		
QC#1	513	500	2.6
QC#2	516	500	3.2
QC#3	509	500	1.0

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A#1	NA		
AB#1	470	500	4.4
A#2	NA		
AB#2	482	500	3.6

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19#1	1020	1000	2.0
ICAP2#1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDMW#37	4.9	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1#QC#1	0.0	197	197	200	98.5	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPH1#CDDMW#37	0.0	198	198	200	99.0	
SPH2#CDDMW#37	0.0	199	199	200	99.5	0.5

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX#CDDMW#37	0.0	507	507	500	101.4	

SIDET: 1030 METHOD: 6010-G CHROMIUM, DISS. UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 10 DATE: 06 DEC 1993 LARGEST RESPONSE= KRSD=

METHOD BLANK(S)
SAMPLE ID CONCENTRATION
QC#1 0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC#1	1.0	
QC#2	1.0	
QC#3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2#1	1020	1000	2.0
STD3#1	NA		
QC#1	513	500	2.6
QC#2	516	500	3.2
QC#3	509	500	1.0

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A#1	NA		
AB#1	470	500	4.4
A#2	NA		
AB#2	482	500	3.6

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19#1	1020	1000	2.0
ICAP2#1	NA		

003340

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDMTW=37	6.2	0.0	N/A

52 292

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1=OC=1	0.0	197	197	200	98.5	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1=CDDMTW=37	0.0	194	194	200	97.0	
SPM2=CDDMTW=37	0.0	195	195	200	97.5	0.5

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX=CDDMTW=37	0.0	506	506	500	101.2	

STORE1: 1042 METHOD: 6010-G COPPER TOTAL, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 5 DATE: 06 DEC 1993 LARGEST RESPONSE= XRSO=

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
OC=1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
OC=1	0.0	
OC=2	0.3	
OC=3	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
STD2=1	1010	1000	1.0
STD3=1	NA		
OC=1	509	500	1.8
OC=2	512	500	2.4
OC=3	496	500	-1.8

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
A=1	NA		
AB=1	509	500	1.8
A=2	NA		
AB=2	496	500	0.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
ICAP19=1	1020	1000	2.0
ICAP7=1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDMTW=37	4.7	6.5	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1=OC=1	0.0	246	246	250	98.4	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1=CDDMTW=37	6.5	251	245	250	98.0	
SPM2=CDDMTW=37	6.5	252	246	250	98.4	0.4

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX=CDDMTW=37	6.5	512	506	500	101.2	

STORE1: 1040 METHOD: 6010-G COPPER DISS, UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 5 DATE: 06 DEC 1993 LARGEST RESPONSE= XRSO=

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
OC=1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
OC=1	0.0	
OC=2	0.3	
OC=3	0.0	

003341

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2*1	1010	1000	1.0
STD3*1	NA		
QC*1	509	500	1.8
QC*2	512	500	2.4
QC*3	496	500	-1.0

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A*1	NA		
AB*1	509	500	1.8
A*2	NA		
AB*2	496	500	-1.0

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19*1	1020	1000	2.0
ICAP7*1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDM*37	0.0	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPI*QC*1	0.0	246	246	250	98.4	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPH1*CDDM*37	0.0	244	244	250	97.6	
SPH2*CDDM*37	0.0	242	242	250	96.8	0.0

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPH*CDDM*37	0.0	499	499	500	99.8	

STORE1: 1092 METHOD: 6010-G ZINC TOTAL UG/L FINAL

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= 20 DATE: 06 DEC 1993 LARGEST RESPONSE= XRSO-

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC*1	0.9	
QC*2	0.8	
QC*3	0.5	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2*1	1010	1000	1.0
STD3*1	NA		
QC*1	509	500	1.8
QC*2	513	500	2.6
QC*3	506	500	1.2

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A*1	NA		
AB*1	976	1000	2.4
A*2	NA		
AB*2	995	1000	0.5

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19*1	1000	1000	0.0
ICAP7*1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDM*37	16.6	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPI*QC*1	0.0	487	487	500	97.4	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPH1*CDDM*37	0.0	496	496	500	99.2	

SPM2-CDDMTW-37 0.0 497 497 500 99.4 0.2

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX-CDDMTW-37	0.0	516	516	500	103.2	

52 294

STORE: 1898 METHOD: 6010-G ZINC DISS. UG/L FINAL

CALIBRATION CURVE R 1

CURVE DETECTION LIMIT= 20 DATE: 06 DEC 1993 LARGEST RESPONSE= XRSO

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC*1	0.9	
QC*2	0.0	
QC*3	0.5	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
STD2*1	1010	1000	1.0
STD3*1	NA		
QC*1	509	500	1.9
QC*2	513	500	2.6
QC*3	506	500	1.2

INTERFERENCE CALIBRATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
A*1	NA		
AB*1	976	1000	2.4
A*2	NA		
AB*2	995	1000	0.5

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
ICAP19*1	1000	1000	0.0
ICAP7*1	NA		

SERIAL DILUTION SAMPLE ANALYSIS *** Optional Quality Control Check ***

SAMPLE ID	REP.1 CONC	REP.2 CONC	% DIFFERENCE
CDDMTW-37	13.7	0.0	N/A

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP1-OC*1	0.0	487	487	500	97.4	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1-CDDMTW-37	0.0	485	485	500	97.0	
SPM2-CDDMTW-37	0.0	485	485	500	97.0	0.0

SPIKE(S) INTO SAMPLE MATRIX AFTER EXTRACTION *** Optional Quality Control Check ***

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPX-CDDMTW-37	0.0	514	514	500	102.8	

003343

SAMPLE RESULTS

52 295

	105*6010-G	106*6010-G	007*6010-G	005*6010-G	027*6010-G	025*6010-G	037*6010-G	035*6010-G	034*6010-G	030*6010-G
	ALUMINUM, T	ALUMINUM, D	BARIUM, TOT	BARIUM, DIS	CADMIUM, TO	CADMIUM, DI	COBALT, TOT	COBALT, DIS	CHROMIUM, T	CHROMIUM, D
	OTAL	ISS	AL	S	TAL	SS	AL	S	OTAL	ISS
SAMPLE ID	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
CDDMTW-9	61100	<40.0	260	54.9	<5.0	<5.0	63.9	<20.0	104	<10.0
CDDMTW-10	139000	43.3	1020	76.9	<5.0	<5.0	90.7	<20.0	263	<10.0
CDDMTW-11	137000	<40.0	1330	62.6	<5.0	<5.0	344	<20.0	309	<10.0
CDDMTW-12	51200	<40.0	354	47.4	<5.0	<5.0	223	<20.0	89.9	<10.0
CDDMTW-22	198000	<40.0	462	91.6	<5.0	<5.0	79.0	<20.0	024	<10.0
CDDMTW-37	3210	<40.0	500	464	<5.0	<5.0	<20.0	<20.0	<10.0	<10.0
	042*6010-G	040*6010-G	092*6010-G	090*6010-G						
	COPPER, TOT	COPPER, DIS	ZINC, TOTAL	ZINC, DISS						
	AL	S								
SAMPLE ID	UG/L	UG/L	UG/L	UG/L						
CDDMTW-9	130	<5.0	165	<20.0						
CDDMTW-10	391	<5.0	739	<20.0						
CDDMTW-11	312	<5.0	475	<20.0						
CDDMTW-12	01.4	<5.0	191	<20.0						
CDDMTW-22	179	<5.0	841	<20.0						
CDDMTW-37	6.5	<5.0	<20.0	<20.0						

003344

	UNITS ENTERED
FINAL CONCENTRATION	UG/L
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/ML
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	NA
CONVERSION FACTOR	1000

$$\text{FINAL CONC} = \frac{\text{CURV CONC} \times \text{EXT VOL} \times \text{DIL} \times 1000}{\text{INJ VOL} \times \text{SAMP VOL} \times ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/ML}) \times (\text{NA}) \times 1000}{(\text{NA}) \times (\text{NA})} \quad \checkmark$$

$$(\quad) = \frac{(\quad) \times (\quad) \times (\quad)}{(\quad) \times ((100 - (\quad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} \times \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} \times ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{NA}) \times (\text{NA})}{(\text{NA})}$$

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G44666

Analysis Date: 12/06/93

Analyst: ELIZABETH GREARY

52 297

	Yes	<u>"Exceptions"</u>	
		No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICS present?	X		
ICS within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

003346

Environmental Science and Engineering Analytical Services
Internal QA/QC Batch Checklist For Atomic Spectroscopy

Batch No.: G44666

Analysis Date: 12/06/93

Analyst: ELIZABETH GREARY

52 298

	N/A	Yes	"Exceptions"	
			No	Comment / Corrective Action
Is the method blank free of contamination? If not, has the data been blank corrected?	✓	✓		
Are reported values consistent with the required units?		✓		
Are detection limits reported correctly?		✓		
Are dilution factors entered correctly?		✓		
Is the calibration curve (if applicable) entered correctly?	✓			
Are all the correct elements included in the spikes?		✓		
Is the batch checked for data entry error(s)?		✓		
Are continuing calibration blanks analyzed at a frequency specified in the appropriate QA/QC Plan (i.e. AF, COE or FDIR QA/QC plan)? If not, is an appropriate explanation provided?	✓	✓		
Are continuing calibration verification (CCV) standards analyzed at a frequency specified in the appropriate QA/QC Plan? If not, is an appropriate explanation provided?	✓	✓		
Is an example calculation provided?		✓		Results are in final conc.
Has the batch documentation checklist been completed?		✓		

12-6-93
BC

Note: Any "NO" answer requires a comment.
Additional Comments:

Completed By: *Elizabeth Greary*
Date: 12-6-93

Reviewed By: *Pauline*
Date: 12/7/93

Notification of appropriate Laboratory Coordinators required for "Exceptions":
Signature Date Comments

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

003347

BK# 2 PG# 000008

JA 61 ICAP

Instrument Log

Analyst: Charles A. MayDate: 12-6-93PROFILING

	Initial	Final
Time		
Temp	78°F	
Humidity	65%	
Entr. Slit	740	
Ele. <u>CD</u>		
Argon Tank Level		
Argon Regulator (psi)	~80	

Element File Used SS10 / ESE
 File Name ZFFA / 120-BC

Method No. SS10 / SW6010

Maintenance/Comments:

Samples Analyzed:

Lot ZFFA

EBTSW * 22-2426-29

EBTSW X * 14, 21-23

Read & Understood By:

OPTIMIZATION

Cu/Mn 1122 / 936 = 1.1987
 Coolant flow (LPM) 15.0
 Coolant mass flow 15.0
 Nebulizer flow (LPM) 0.75
 Nebulizer mass flow 0.57
 Forward power 1.05 KW
 Reflected power ~5W
 Peristaltic pump 800
 Viewing height 15 mm above coil
 Y tongue 1 mm above torch

COMMIT * 9-12, 22, 37 (U + JF)

Sunny Pineda 12/6/93

003348

52 300

③

J A 61

12-6-93

BC

G44666

COOHTW * 9-12, 22, 37 (N+N)

003349

Method: ESE

Standard: STD1-Blank

Elem	Ag3280	Al3082	As1935	B_2496	Ba4934	Be3130	Ca
Avgc	.0023	.0287	.1568	.0006	-.0000	.0009	-.0017
SDcv	.0013	.0057	.0071	.0004	.0001	.0001	.0027
%RSD	56.73	19.70	4.529	66.67	173.2	12.37	153.7
#1	.0008	.0222	.1496	.0002	.0000	.0008	-.0048
#2	.0028	.0318	.1570	.0006	.0000	.0010	.0000
#3	.0032	.0322	.1638	.0010	-.0001	.0010	-.0004
Elem	Ca	Cd2288	Co2286	Cr2677	Cu3247	Fe	Fe
Avgc	.0048	.0002	.0001	.0013	.0020	.0010	.0012
SDcv	.0017	.0002	.0007	.0007	.0004	.0005	.0004
%RSD	39.87	100.0	1054.	55.45	20.00	52.92	33.33
#1	.0026	.0000	-.0006	.0006	.0020	.0004	.0008
#2	.0030	.0002	.0003	.0020	.0016	.0012	.0016
#3	.0062	.0004	.0000	.0012	.0024	.0014	.0012
Elem	K_7654	Ng2790	Nn2576	Mo2020	Na5889	Ni2316	Pb2203
Avgc	.0158	.0001	.0093	-.0002	.0445	.0001	.0009
SDcv	.0013	.0008	.0002	.0007	.0016	.0003	.0026
%RSD	7.505	1212.	2.492	346.4	3.620	458.3	282.9
#1	.0148	-.0008	.0090	.0008	.0428	-.0002	.0004
#2	.0154	.0002	.0094	-.0010	.0448	.0000	-.0014
#3	.0172	.0008	.0094	.0002	.0460	.0004	.0038
Elem	Sb2068	Se1960	Si2881	Sn1859	Ti3349	Ti1908	V_2524
Avgc	.0007	.1447	.0210	.0049	.0001	.0425	.0489
SDcv	.0018	.0051	.0022	.0032	.0001	.0013	.0013
%RSD	270.6	3.551	10.30	66.56	173.2	3.135	2.631
#1	-.0012	.1328	.0126	.0028	.0002	.0418	.0474
#2	.0009	.1476	.0216	.0032	.0000	.0416	.0494
#3	.0024	.1478	.0228	.0086	.0000	.0440	.0498
Elem	Zn2138						
Avgc	.0011						
SDcv	.0008						
%RSD	78.06						
#1	.0008						
#2	.0020						
#3	.0004						

Method: ESE

Standard: STD2

Elem	As1935	Ba4934	Be3130	Cd2288	Co2286	Cr2677	Cu3247
Avgc	.4163	.3121	.2885	.2479	.3027	.5448	.4920
SDcv	.0016	.0054	.0040	.0009	.0038	.0039	.0067
%RSD	.3853	1.746	1.394	.3812	1.256	.7166	1.360
#1	.4162	.3122	.2896	.2476	.3028	.5446	.4926
#2	.4148	.3175	.2918	.2490	.3064	.5488	.4996
#3	.4180	.3066	.2840	.2472	.2988	.5410	.4862

003350

Elem	Mn2574	Ni2316	Pb2203	Sb2068	Se1980	Ti1508	V_2924
Avg	.4525	.2299	.1725	.1196	.3633	.1437	.4233
SD	.0051	.0012	.0019	.0007	.0034	.0032	.0040
%RSD	1.129	.5316	1.102	.5793	.9363	2.219	.9547

#1	.4528	.2312	.1784	.1192	.3672	.1422	.4240
#2	.4574	.2288	.1706	.1192	.3608	.1416	.4270
#3	.4472	.2296	.1744	.1204	.3620	.1474	.4190

Elem	Zn2133
Avg	.5314
SD	.0038
%RSD	.7191

#1	.5310
#2	.5354
#3	.5278

Method: ESE

Standard: STD3

Elem	Al3082	Ca	Ca	Fe	Fe	K_7654	Mg2790
Avg	3.645	.6235	4.685	.3707	2.956	2.327	.6878
SD	.017	.0042	.012	.0007	.014	.009	.0011
%RSD	.4565	.6807	.2471	.1895	.4823	.5506	.1619

#1	3.635	.6206	4.672	.3706	2.944	2.317	.6880
#2	3.626	.6216	4.688	.3700	2.952	2.328	.6882
#3	3.654	.6224	4.694	.3714	2.972	2.335	.6866

Elem	Na3889
Avg	3.105
SD	.011
%RSD	.3532

#1	3.102
#2	3.095
#3	3.116

Method: ESE

Standard: STD4

Elem	Ag3280
Avg	.4576
SD	.0015
%RSD	.3300

#1	.4560
#2	.4578
#3	.4590

Method: ESE

Standard: STD5

Elem	B_2496	Mo2020	Si2881	Sn1899	Ti3249
Avg	.1277	.2211	.2409	.1978	.3845

SDav	.0011	.0021	.0001	.0059	.0014
XRSD	.2628	.9503	.0479	2.988	.3654

#1	.1289	.2232	.2408	.2044	.3858
#2	.1276	.2210	.2410	.1950	.3846
#3	.1266	.2190	.2408	.1960	.3830

Method: ESE

Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag3280	328.069	STD4	STD1-Blank	2.19619	-.004972	12/06/93 01:55:17
Al3082	308.215	STD3	STD1-Blank	2.76528	-.079456	12/06/93 01:55:17
As1936	193.696	STD2	STD1-Blank	3.85307	-.604161	12/06/93 01:55:17
B_2496	249.678	STD5	STD1-Blank	7.86201	-.004717	12/06/93 01:55:17
Ba4934	493.409	STD2	STD1-Blank	3.20376	.000107	12/06/93 01:55:17
Ba3130	313.042	STD2	STD1-Blank	3.47786	-.003246	12/06/93 01:55:17
Ca	317.933	STD3	STD1-Blank	2.13650	-.009116	12/06/93 01:55:17
Ca	307.603	STD3	STD1-Blank	15.9932	.027722	12/06/93 01:55:17
Cd2280	228.802	STD2	STD1-Blank	4.03660	-.000807	12/06/93 01:55:17
Co2286	228.616	STD2	STD1-Blank	3.30469	-.000220	12/06/93 01:55:17
Cr2677	267.716	STD2	STD1-Blank	1.83981	-.002330	12/06/93 01:55:17
Cu3247	324.754	STD2	STD1-Blank	2.03749	-.004075	12/06/93 01:55:17
Fe	259.940	STD3	STD1-Blank	3.39425	-.004061	12/06/93 01:55:17
Fe	271.441	STD3	STD1-Blank	27.0514	-.027051	12/06/93 01:55:17
K_7664	766.491	STD3	STD1-Blank	43.2693	-.683647	12/06/93 01:55:17
Rg2790	279.079	STD3	STD1-Blank	14.5405	-.000969	12/06/93 01:55:17
Mn2376	237.610	STD2	STD1-Blank	2.25632	-.020909	12/06/93 01:55:17
Mo2020	202.030	STD5	STD1-Blank	4.51943	.000904	12/06/93 01:55:17
Na5889	588.995	STD3	STD1-Blank	3.26769	-.145521	12/06/93 01:55:17
Ni2316	231.604	STD2	STD1-Blank	4.35161	-.000290	12/06/93 01:55:17
Pb2203	220.353	STD2	STD1-Blank	5.82977	-.005441	12/06/93 01:55:17
Sa2068	206.839	STD2	STD1-Blank	8.40807	-.005605	12/06/93 01:55:17
Se1960	196.026	STD2	STD1-Blank	4.57457	-.662072	12/06/93 01:55:17
Si2281	228.158	STD5	STD1-Blank	4.54821	-.095512	12/06/93 01:55:17
Sn1897	189.929	STD5	STD1-Blank	5.11109	-.024874	12/06/93 01:55:17
Ti3349	334.941	STD5	STD1-Blank	2.60146	-.000173	12/06/93 01:55:17
Ti1908	190.864	STD2	STD1-Blank	9.87492	-.419355	12/06/93 01:55:17
V_2924	292.402	STD2	STD1-Blank	2.67046	-.130497	12/06/93 01:55:17
Zn2139	213.855	STD2	STD1-Blank	1.88561	-.002011	12/06/93 01:55:17

Method: ESE

Slope = IR/Conc(SIR)

Element	Wavelen	High std	Low std	Slope	BEC	Date Standardized
Ag3280	328.069	STD4	STD1-Blank	.455833	.004978	12/06/93 01:55:17
Al3082	308.215	STD3	STD1-Blank	.361627	.079456	12/06/93 01:55:17
As1936	193.696	STD2	STD1-Blank	.259533	.604161	12/06/93 01:55:17
B_2496	249.678	STD5	STD1-Blank	.127194	.004717	12/06/93 01:55:17
Ba4934	493.409	STD2	STD1-Blank	.312133	.000107	12/06/93 01:55:17
Ba3130	313.042	STD2	STD1-Blank	.287533	.003246	12/06/93 01:55:17
Ca	317.933	STD3	STD1-Blank	.468033	.009116	12/06/93 01:55:17
Ca	307.603	STD3	STD1-Blank	.062527	.027722	12/06/93 01:55:17
Cd2280	228.802	STD2	STD1-Blank	.247733	.000807	12/06/93 01:55:17
Co2286	228.616	STD2	STD1-Blank	.302600	.000220	12/06/93 01:55:17

Element	Wavelength	High std	Low std	Slope	BEC	Date Standardized
Cr2677	267.716	STD2	STD1-Blank	.543533	.002350	12/06/93 01:55:17
Cu3247	324.754	STD2	STD1-Blank	.490800	.004075	12/06/93 01:55:17
Fe	259.940	STD3	STD1-Blank	.295467	.004061	12/06/93 01:55:17
Fe	271.441	STD3	STD1-Blank	.036967	.027051	12/06/93 01:55:17
K_7664	766.491	STD3	STD1-Blank	.023111	.683647	12/06/93 01:55:17
Mg2790	279.079	STD3	STD1-Blank	.068773	.000969	12/06/93 01:55:17
Mn2576	257.810	STD2	STD1-Blank	.443200	.020509	12/06/93 01:55:17
Mo2020	202.030	STD5	STD1-Blank	.221267	.000904	12/06/93 01:55:17
Na5889	588.995	STD3	STD1-Blank	.306027	.145521	12/06/93 01:55:17
Ni2316	231.604	STD2	STD1-Blank	.229200	.000290	12/06/93 01:55:17
Pb2203	220.353	STD2	STD1-Blank	.171533	.005441	12/06/93 01:55:17
Sb2068	206.838	STD2	STD1-Blank	.118933	.005605	12/06/93 01:55:17
Se1960	196.026	STD2	STD1-Blank	.218600	.662092	12/06/93 01:55:17
Si2881	288.158	STD5	STD1-Blank	.219867	.095512	12/06/93 01:55:17
Sn1899	189.589	STD5	STD1-Blank	.195653	.024874	12/06/93 01:55:17
Ti3349	334.941	STD5	STD1-Blank	.984400	.000173	12/06/93 01:55:17
Ti1908	190.864	STD2	STD1-Blank	.101267	.419355	12/06/93 01:55:17
V_2924	292.402	STD2	STD1-Blank	.374467	.130497	12/06/93 01:55:17
Zn2139	213.856	STD2	STD1-Blank	.330353	.002011	12/06/93 01:55:17

Method: ESE Sample Name: CCV*STD2*1

Operator: BC

Run Time: 12/06/93 13:57:55

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be9130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0004	.0071	1.024	.0028	1.016	1.012	.0023
SDev	.0022	.0150	.020	.0031	.012	.004	.0040
%RSD	582.0	211.0	1.942	112.2	1.168	.4120	169.3
#1	-.0016	.0067	1.027	-.0003	1.019	1.012	.0000
#2	-.0018	-.0077	1.003	.0028	1.026	1.016	.0001
#3	.0021	.0223	1.042	.0059	1.003	1.008	.0069
Elem	Cd2289	Co2886	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	1.009	1.016	1.018	1.012	.0001	.1183	.0102
SDev	.003	.008	.007	.007	.0024	.2534	.0215
%RSD	.3111	.7822	.7336	.6890	3392.	214.2	210.4
#1	1.007	1.008	1.010	1.011	-.0013	-.1125	-.0063
#2	1.007	1.016	1.019	1.020	-.0013	.0779	.0025
#3	1.013	1.024	1.025	1.006	.0028	.3894	.0345
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	1.015	.0025	-.0044	1.009	1.020	1.009	1.022
SDev	.004	.0009	.0116	.012	.018	.013	.033
%RSD	.3953	35.53	266.6	1.214	1.793	1.255	3.265
#1	1.010	.0025	-.0135	1.015	1.005	1.007	1.024
#2	1.018	.0016	-.0083	1.017	1.014	.9969	.9871
#3	1.016	.0034	.0087	.9950	1.040	1.022	1.054
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2139	

Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068	.0110	.0034	1.035	1.012	1.006
SD	.0086	.0027	.0003	.052	.004	.008
XRSD	127.5	24.71	8.703	5.034	.3800	.7709
#1	.0065	.0120	.0033	.9954	1.008	1.001
#2	-.0017	.0079	.0033	1.015	1.015	1.003
#3	.0156	.0130	.0038	1.094	1.013	1.015

Method: ESE Sample Name: CCV*STD3*1 Operator: BC
Run Time: 12/06/93 14:00:41
Comment:
Node: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0035	10.05	-.0137	.0022	.0005	.0007	10.03
SD	.0039	.05	.0185	.0081	.0002	.0004	.10
XRSD	132.4	.5159	134.7	358.5	34.64	55.85	1.035
#1	-.0006	10.10	-.0156	.0091	.0004	.0009	10.12
#2	-.0063	10.04	.0035	-.0067	.0004	.0003	10.05
#3	-.0006	9.996	-.0312	.0043	.0007	.0009	9.914
Elem	Cd2283	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2730
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0017	-.0004	-.0003	10.03	100.9	10.04
SD	.0013	.0027	.0024	.0012	.02	.5	.04
XRSD	307.4	161.8	649.1	457.0	.8463	.4535	.3844
#1	.0009	.0026	.0012	-.0016	10.11	100.6	10.06
#2	-.0017	-.0014	-.0031	-.0000	10.05	101.4	10.06
#3	-.0005	.0039	.0006	.0008	9.942	100.7	9.995
Elem	Ni2576	Ni2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0008	10.05	-.0002	-.0025	-.0050	-.0101
SD	.0003	.0014	.06	.0060	.0082	.0087	.0135
XRSD	91.10	172.2	.6447	3989.	326.3	173.1	152.9
#1	-.0001	-.0004	10.03	.0049	-.0018	-.0073	-.0123
#2	-.0001	.0005	10.12	.0014	-.0111	-.0124	.0063
#3	-.0006	.0023	9.997	-.0068	.0053	.0046	-.0243
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0124	-.0002	.0002	.0210	-.0035	.0011	
SD	.0147	.0120	.0006	.0228	.0018	.0002	
XRSD	118.5	5468.	346.2	108.5	52.75	19.99	
#1	.0282	.0028	-.0002	.0462	-.0014	.0009	
#2	-.0039	.0100	-.0002	.0150	-.0045	.0013	
#3	.0100	-.0135	.0009	.0018	-.0045	.0010	

003354

Method: ESE Sample Name: ICV*ICAP19*1
 Run Time: 12/06/93 14:03:05
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3120	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0379	.8762	.0137	.0017	1.004	1.072
SD	.0005	.0039	.0120	.0040	.0006	.004	.008
XRSD	71.14	10.18	1.225	28.44	37.50	.4439	.7012
#1	.0001	.0335	.9674	.0181	.0011	1.009	1.081
#2	.0010	.0395	.9892	.0134	.0017	1.002	1.065
#3	.0010	.0408	.9713	.0102	.0023	1.001	1.069
Elem	Cd2288	Co2285	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.004	1.011	1.020	1.019	1.050	-.1673	1.004
SD	.004	.006	.004	.005	.008	.2466	.013
XRSD	.4134	.5959	.4391	.5205	.7836	147.4	1.330
#1	1.000	1.017	1.024	1.024	1.060	.0779	1.001
#2	.9995	1.011	1.021	1.013	1.045	-.4154	1.018
#3	1.004	1.005	1.016	1.018	1.046	-.1644	.9922
Elem	Mn2576	Mo2020	Na3889	Ni2316	Pb2203	Sb2069	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.012	1.008	.0242	1.019	1.006	1.036	.9755
SD	.003	.004	.0047	.011	.013	.009	.0441
XRSD	.2970	.3910	19.55	1.067	1.340	.8935	4.429
#1	1.015	1.010	.0218	1.028	1.021	1.025	.9787
#2	1.010	1.009	.0296	1.022	.9979	1.042	1.045
#3	1.010	1.009	.0211	1.007	.9979	1.041	.9623
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2139	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0759	-.0039	.9775	.9816	1.016	1.003	
SD	.0052	.0044	.0045	.0140	.004	.004	
XRSD	6.789	114.4	.4546	1.420	.3493	.3955	
#1	.0702	-.0068	1.003	.9715	1.020	1.007	
#2	.0774	.0012	.9944	.9756	1.013	.9972	
#3	.0808	-.0059	.9955	.9975	1.014	1.002	

Method: ESE Sample Name: ICV*ICAP7*1
 Run Time: 12/06/93 14:06:32
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3120	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.031	1.021	-.0049	.9875	1.019	.0007	.0356
SD	.004	.026	.0140	.0031	.015	.0004	.0107
XRSD	.4065	2.560	289.1	.3183	1.435	56.57	29.39
#1	1.033	1.043	.0070	.9906	1.003	.0009	.0490

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#2	1.026	.8924	-.0012	.9875	1.023	.0009	.0310
#3	1.033	1.028	-.0263	.5843	1.031	.0002	.0298
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	.0016	.0038	.0015	.0571	10.37	.0116
SDev	.0010	.0024	.0030	.0022	.0035	.52	.0194
%RSD	314.0	146.2	78.25	150.2	6.083	5.037	166.6
#1	.0007	.0043	.0072	.0041	.0609	10.97	.0340
#2	-.0008	-.0033	.0021	.0004	.0562	10.09	-.0010
#3	.0010	.0010	.0021	-.0000	.0541	10.05	.0019
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2069	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.0009	1.008	.0026	.0076	-.0039	.0010
SDev	.0005	.0018	.002	.0065	.0226	.0132	.0163
%RSD	437.6	200.0	.2338	247.7	292.5	334.7	1628.
#1	.0007	.0027	1.005	.0097	.0336	.0110	.0195
#2	-.0002	-.0009	1.010	-.0029	-.0072	-.0070	-.0114
#3	-.0002	.0009	1.009	.0010	-.0037	-.0139	-.0051
Elem	Si2881	Sn1879	Ti3349	Tl1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avge	.5252	-.0008	.0016	.0170	-.0007	.0089	
SDev	.0223	.0207	.0030	.0206	.0028	.0011	
%RSD	4.253	2752.	192.5	121.3	376.2	12.65	
#1	.5467	.0180	.0050	.0385	.0023	.0089	
#2	.5021	.0026	-.0002	-.0026	-.0023	.0078	
#3	.5267	-.0227	-.0002	.0151	-.0023	.0100	

Method: ESE Sample Name: ICS*As-1
Run Time: 12/06/93 14:09:33
Comments:
Node: CONC Corr. Factor: 1

Operator: EC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0053	507.5	-.1472	-.0076	.0038	.0009	476.7
SDev	.0024	4.4	.0643	.0050	.0002	.0000	1.1
%RSD	45.93	.8669	43.69	65.63	4.811	.6672	.2290
#1	-.0028	502.6	-.0863	-.0056	.0040	.0009	475.4
#2	-.0076	502.9	-.1404	-.0039	.0040	.0009	477.4
#3	-.0054	511.1	L-.2146	-.0133	.0036	.0009	477.2
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0023	.0017	-.0031	.0031	176.7	-.0462	492.9
SDev	.0014	.0004	.0024	.0016	.8	.4949	3.7
%RSD	64.07	21.42	78.53	19.97	.4494	1072.	.7517
#1	-.0053	.0015	-.0056	.0098	175.8	.4240	488.7
#2	-.0022	.0022	-.0027	.0081	177.0	.0000	494.3

003356

#2	-.0006	.0015	-.0009	.0065	177.3	-.5625	495.7
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2069	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062	.0017	.0307	-.0072	.0284	-.0270	-.0586
SD	.0003	.0028	.0067	.0059	.0360	.0300	.0354
XRSD	5.110	167.5	21.73	137.9	127.0	111.0	35.83
#1	.0065	.0047	.0355	.0002	.0699	-.0610	-.0930
#2	.0061	.0011	.0231	-.0033	.0100	-.0042	-.0654
#3	.0059	-.0008	.0335	-.0185	.0052	-.0158	-.1364
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0391	.0216	.0106	-.1240	.0047	.0099	
SD	.0027	.0280	.0008	.0158	.0013	.0008	
XRSD	6.960	129.6	7.516	12.71	27.90	7.570	
#1	.0391	-.0045	.0113	-.1091	.0058	.0105	
#2	.0364	.0511	.0109	-.1222	.0050	.0102	
#3	.0419	.0182	.0097	-.1405	.0033	.0091	

Method: ESE Sample Name: ICS+AB#1

Operator: BC

Run Time: 12/05/93 14:14:02

Comment:

Node: CONC Corr. Factor: 1

Elem	Ag3280	Al3089	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9925	516.0	L-.2264	-.0056	.5106	.4951	480.0
SD	.0056	1.6	.0312	.0072	.0015	.0028	2.8
XRSD	.5604	.3150	13.78	129.0	.2898	.5659	.5751
#1	.9875	514.1	-.1986	-.0125	.5089	.4926	479.1
#2	.9985	517.1	L-.2203	.0019	.5114	.4981	483.0
#3	.9915	516.8	L-.2602	-.0061	.5114	.4947	477.7
Elem	Cd2280	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9496	.4543	.4777	.5095	179.1	-.2481	500.1
SD	.0034	.0026	.0051	.0026	1.0	.2608	.9
XRSD	.3629	.5763	1.068	.5082	.5318	105.1	.1873
#1	.9478	.4528	.4751	.5065	178.4	-.4933	499.2
#2	.9536	.4574	.4836	.5110	180.2	.0260	501.1
#3	.9475	.4588	.4744	.5110	178.7	-.2769	499.9
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2069	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4700	.0068	.1758	.9029	.9425	-.0232	-.1235
SD	.0021	.0038	.0123	.0150	.0278	.0071	.0125
XRSD	.4431	55.66	6.992	1.667	2.949	30.50	10.13
#1	.4666	.0099	.1616	.9141	.9442	-.0254	-.1107
#2	.4724	.0326	.1839	.9088	.9694	-.0289	-.1357
#3	.4689	.0081	.1819	.8858	.9139	-.0153	-.1241

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Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0229	.0222	.0101	-.1909	.4757	.9760
SDev	.0139	.0042	.0005	.0585	.0026	.0083
%RSD	60.64	18.98	5.124	30.66	.5465	.8495
#1	.0108	.0210	.0101	L-.2502	.4751	.9734
#2	.0391	.0269	.0107	-.1332	.4785	.9852
#3	.0199	.0187	.0096	-.1894	.4734	.9693

Method: ESE Sample Name: MB*GC*1
 Run Time: 12/08/93 14:19:48
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0009	.0336	.0572	.0241	.0001	.0003	.0370
SDev	.0013	.0017	.0383	.0024	.0000	.0004	.0103
%RSD	152.8	5.758	154.4	9.966	.0000	86.62	27.69
#1	-.0006	.0334	-.0013	.0220	.0001	.0002	.0370
#2	-.0023	.0317	.0141	.0236	.0001	.0009	.0269
#3	.0003	.0356	.1588	.0267	.0001	.0002	.0473
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7264	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0024	.0013	.0012	-.0001	.0223	-.1529	.0126
SDev	.0017	.0021	.0037	.0023	.0012	.6731	.0176
%RSD	71.35	160.8	300.7	1699.	5.245	440.3	139.3
#1	-.0008	.0004	.0010	-.0008	.0217	-.0865	.0106
#2	-.0042	-.0002	-.0023	-.0020	.0217	-.8567	-.0029
#3	-.0022	.0037	.0050	.0024	.0237	.4846	.0311
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0003	.0614	.0042	-.0028	-.0094	.0230
SDev	.0005	.0046	.0046	.0018	.0229	.0374	.0330
%RSD	116.2	1516.	7.547	42.18	824.7	396.6	143.5
#1	-.0002	-.0045	.0623	.0032	-.0172	-.0387	-.0045
#2	.0007	.0009	.0564	.0062	-.0148	-.0224	.0138
#3	.0007	.0045	.0656	.0032	.0236	.0327	.0595
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.3429	-.0157	.0012	.0459	-.0004	.0015	
SDev	.0079	.0701	.0024	.0538	.0027	.0002	
%RSD	2.317	447.6	197.9	117.2	717.1	14.80	
#1	.3375	-.0503	-.0002	.0209	-.0029	.0017	
#2	.3393	-.0055	-.0002	.0091	-.0007	.0014	
#3	.3520	.0482	.0040	.1076	.0025	.0014	

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Method: ESE Sample Name: SP1*00*1
 Run Time: 12/06/93 14:25:25
 Comment:
 Mode: COND Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0497	1.978	2.102	.0511	1.990	.0515	9.977
SD	.0027	.024	.231	.0054	.006	.0000	.060
%RSD	5.372	1.213	10.99	10.66	.3165	.0208	.6016

#1	.0484	1.982	1.975	.0448	1.994	.0515	9.913
#2	.0480	1.952	2.369	.0542	1.993	.0515	9.987
#3	.0528	1.999	1.964	.0542	1.983	.0515	10.03

Elem	Cd2283	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0488	.4930	.1974	.2463	.9980	9.698	9.673
SD	.0005	.0057	.0041	.0020	.0037	.667	.146
%RSD	1.150	1.162	2.067	.8181	.3734	6.903	1.510

#1	.0485	.4897	.1958	.2453	.9944	9.554	9.741
#2	.0484	.4897	.1944	.2449	.9978	9.112	9.505
#3	.0495	.4976	.2020	.2486	1.002	10.43	9.773

Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4878	.0011	9.636	.4903	.4932	.5044	2.167
SD	.0013	.0086	.110	.0049	.0155	.0208	.252
%RSD	.2661	793.7	1.141	.9961	3.149	6.117	11.62

#1	.4871	.0008	9.705	.4861	.4761	.4717	2.052
#2	.4871	.0090	9.507	.4891	.4971	.5330	2.455
#3	.4892	-.0074	9.693	.4956	.5064	.5084	1.993

Elem	Si2831	Sn1899	Ti3349	Tl1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3344	.0233	.0001	1.975	.4903	.4875
SD	.0168	.0752	.0006	.065	.0023	.0033
%RSD	5.037	322.3	447.9	3.271	.4745	.6706

#1	.3258	-.0363	-.0002	1.911	.4892	.4847
#2	.3256	.1078	-.0002	2.040	.4887	.4866
#3	.3538	-.0015	.0008	1.976	.4930	.4911

Method: ESE Sample Name: CDDMTW*9
 Run Time: 12/06/93 14:28:30
 Comment:
 Mode: COND Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	61.15	.1396	.0391	.2605	.0057	24.36
SD	.0038	.29	.0275	.0048	.0020	.0000	.13
%RSD	198.3	.4725	19.71	8.054	.7515	.2893	.5447

003359

#1	-.0002	60.82	.1194	.0643	.2583	.0057	24.44
#2	.0007	61.36	.1709	.0550	.2622	.0057	24.43
#3	-.0063	61.26	.1284	.0581	.2609	.0057	24.20
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0007	.0637	.1041	.1380	131.0	6.978	13.95
SDev	.0004	.0027	.0022	.0004	.3	.485	.03
%RSD	67.40	4.201	2.123	.2968	.2418	6.946	.1935
#1	-.0002	.0668	.1062	.1384	130.7	7.537	13.93
#2	-.0007	.0634	.1043	.1390	131.4	6.689	13.98
#3	-.0011	.0615	.1018	.1376	131.0	6.707	13.94
Elem	Mn2576	Mo2020	Na5989	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.291	.0047	21.69	.0473	.1096	-.0014	.0603
SDev	.005	.0031	.12	.0033	.0012	.0209	.0503
%RSD	.3722	66.76	.5338	6.913	1.075	1446.	50.31
#1	1.292	.0011	21.54	.0506	.1110	.0226	.0450
#2	1.295	.0065	21.75	.0471	.1089	-.0124	.0932
#3	1.285	.0065	21.73	.0441	.1090	-.0145	.0407
Elem	Si2881	Sn1899	Ti3349	Tl1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	67.88	L-.1053	.6153	.0512	.1671	.1647	
SDev	.21	.0312	.0029	.0099	.0030	.0024	
%RSD	.3078	29.63	.4709	19.31	1.782	1.425	
#1	67.93	L-.1057	.6122	.0398	.1702	.1666	
#2	68.05	L-.1262	.6158	.0359	.1668	.1654	
#3	67.65	-.0739	.6179	.0577	.1643	.1620	

Method: ESE Sample Name: CDDMTW*10
 Run Time: 12/06/93 14:31:15
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0030	138.8	.2340	.0622	1.019	.0102	35.71
SDev	.0013	1.3	.0865	.0023	.014	.0004	.25
%RSD	42.67	.9072	36.96	3.702	1.384	3.831	.6917
#1	-.0015	138.4	.1928	.0648	1.005	.0104	35.88
#2	-.0037	137.8	.3334	.0615	1.019	.0097	35.43
#3	-.0037	140.2	.1759	.0604	1.033	.0104	35.82
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0907	.2634	.3912	318.9	11.01	28.95
SDev	.0003	.0026	.0043	.0029	1.0	.33	.28
%RSD	89.33	2.827	1.628	.7379	.5634	2.957	.9772

003360

#1	-.0000	.0436	.2660	.3907	318.6	11.38	28.98
#2	-.0004	.0897	.2596	.3887	317.2	10.76	28.66
#3	-.0007	.0888	.2625	.3944	320.8	10.90	29.22
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.628	.0163	26.17	.1466	.4937	.0135	.1032
SDev	.015	.0028	.28	.0044	.0264	.0253	.0349
XRSD	.5835	16.99	1.079	3.002	5.341	187.3	33.82
#1	2.634	.0133	25.95	.1416	.5228	.0023	.0863
#2	2.610	.0188	26.07	.1494	.4713	.0425	.1434
#3	2.639	.0169	26.49	.1490	.4870	-.0043	.0800
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avge	75.04	-.0521	2.470	.0216	.3578	.7388	
SDev	.67	.0250	.023	.0341	.0030	.0075	
XRSD	.8961	48.02	.9441	158.0	.8440	1.020	
#1	75.34	-.0625	2.455	.0207	.3609	.7451	
#2	74.26	-.0236	2.458	.0560	.3549	.7305	
#3	75.50	-.0703	2.497	-.0121	.3577	.7410	

Method: ESE Sample Name: CDDMTWx11 Operator: BC

Run Time: 12/06/92 14:33:29

Comments:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0048	136.8	.2591	.0551	1.331	.0197	22.19
SDev	.0039	1.4	.1415	.0064	.004	.0004	.20
XRSD	81.55	.9763	54.60	11.56	.3320	1.939	.8920
#1	-.0094	130.3	.3503	.0479	1.326	.0193	22.01
#2	-.0029	137.6	.1092	.0578	1.333	.0199	22.15
#3	-.0028	137.5	.2780	.0597	1.334	.0199	22.40
Elem	Cd2282	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.3445	.3092	.3124	447.2	20.58	13.30
SDev	.0004	.0008	.0029	.0033	3.7	.51	.18
XRSD	225.0	.2293	.9412	1.062	.8197	2.496	1.360
#1	-.0001	.3454	.3070	.3086	443.4	20.02	13.10
#2	.0006	.3439	.3125	.3139	447.5	21.04	13.46
#3	.0000	.3443	.3081	.3147	450.7	20.68	13.34
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	6.769	.0161	23.46	.1400	.1938	-.0009	.1074
SDev	.059	.0037	.25	.0003	.0138	.0126	.0653
XRSD	.8671	23.27	1.081	.1875	7.140	1379.	60.84
#1	6.709	.0174	23.17	.1398	.1960	-.0017	.1681

#2	6.771	.0118	23.66	.1399	.1790	-.0121	.0333
#3	6.826	.0190	23.54	.1403	.2065	.0121	.1158
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avgc	79.23	-.0548	1.260	-.1012	.4032	.4749	
SDcv	.78	.0410	.009	.0880	.0043	.0046	
XRSD	.9903	74.90	.6975	86.94	1.076	.9652	
#1	78.32	-.0094	1.253	-.0009	.3983	.4706	
#2	79.65	-.0893	1.259	-.1653	.4047	.4743	
#3	79.71	-.0856	1.270	-.1375	.4066	.4797	

Method: ESE Sample Name: CDDMTW*12
 Run Time: 12/06/93 14:35:42
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3283	Al3082	Ga1936	B_2496	Ba4934	Be8130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0023	51.22	.2329	.0496	.3533	.0079	14.37
SDcv	.0018	.51	.1450	.0057	.0039	.0007	.10
XRSD	75.64	1.001	62.27	11.44	1.087	8.844	.6821
#1	-.0034	51.60	.1302	.0559	.3576	.0086	14.30
#2	-.0034	50.82	.3987	.0449	.3533	.0072	14.32
#3	-.0003	51.04	.1697	.0481	.3500	.0079	14.48
Elem	Cd2288	Co2285	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0004	.2227	.0959	.0814	207.4	4.745	8.148
SDcv	.0022	.0040	.0043	.0028	.1	.664	.085
XRSD	575.8	1.807	4.789	3.474	.0634	14.00	1.039
#1	-.0003	.2200	.0855	.0830	207.6	5.011	8.220
#2	-.0026	.2207	.0874	.0781	207.3	3.987	8.035
#3	.0018	.2273	.0937	.0830	207.4	5.234	8.168
Elem	Mn2576	Nb2020	Na5339	Ni2316	Pb2203	Sb2058	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	2.462	.0082	18.35	.0560	.0831	.0223	.1055
SDcv	.004	.0089	.27	.0009	.0213	.0130	.0742
XRSD	.1811	108.3	1.469	1.645	25.63	58.01	70.26
#1	2.459	-.0020	18.66	.0563	.0588	.0074	.0561
#2	2.460	.0143	18.18	.0550	.0920	.0302	.1908
#3	2.467	.0125	18.20	.0567	.0986	.0293	.0697
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avgc	63.93	-.0322	.6857	.0122	.1514	.1912	
SDcv	.55	.0602	.0039	.0658	.0036	.0015	
XRSD	.8536	187.0	.5696	537.2	2.346	.8008	
#1	64.14	-.0649	.6502	-.0462	.1491	.1898	
#2	63.30	.0373	.6835	.0835	.1496	.1910	

#3 64.33 - .0690 .6835 - .0007 .1555 .1928

Method: ESE Sample Name: CDDMTW*22

Operator: BC

Run Time: 12/06/93 14:38:29

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	- .0070	198.0	.2921	.0571	.4618	.0178	33.76
SD	.0020	1.4	.1475	.0026	.0044	.0004	.32
XRSD	28.56	.6882	50.50	4.527	.9614	2.238	.9592

#1	- .0075	197.3	.4621	.0542	.4643	.0182	34.11
#2	- .0082	199.6	.1991	.0583	.4643	.0175	33.68
#3	- .0049	197.2	.2151	.0590	.4566	.0175	33.42

Elem	Cd2238	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0798	.8242	.1784	748.1	10.90	20.92
SD	.0011	.0023	.0055	.0012	6.3	.16	.18
XRSD	245.6	2.897	.6704	.6559	.8367	1.588	.8780

#1	- .0007	.0622	.8288	.1793	753.9	10.25	20.76
#2	.0015	.0792	.8256	.1793	748.7	10.49	21.12
#3	.0006	.0776	.8181	.1773	741.5	10.18	20.89

Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1950
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.604	.0212	41.03	.1750	.1709	.0085	.0785
SD	.011	.0071	.33	.0098	.0309	.0242	.0559
XRSD	.6953	33.76	.8061	5.592	18.06	284.1	71.20

#1	1.614	.0294	40.74	.1643	.2063	.0255	.1390
#2	1.605	.0172	41.39	.1834	.1499	.0194	.0290
#3	1.592	.0163	40.96	.1774	.1564	- .0192	.0674

Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	80.01	- .0331	1.863	L- .2971	.4712	.8406
SD	.22	.0560	.012	.0717	.0011	.0032
XRSD	.2721	169.2	.6427	24.12	.2294	.3869

#1	79.92	.0315	1.876	L- .2190	.4722	.8437
#2	80.25	- .0628	1.873	L- .3126	.4713	.8410
#3	79.84	- .0680	1.854	L- .3598	.4700	.8372

Method: ESE Sample Name: CDDMTW*37

Operator: BC

Run Time: 12/06/93 14:42:48

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	- .0034	3.206	.3478	.0498	.5881	.0009	48.66

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SDev	.0011	.056	.0774	.0024	.0044	.0000	.27
XRSD	22.66	1.738	22.26	4.809	.7416	.5369	.5640
#1	-.0024	3.270	.2586	.0525	.5832	.0009	48.37
#2	-.0046	3.165	.3975	.0478	.5915	.0009	48.91
#3	-.0032	3.184	.3873	.0493	.5896	.0009	48.70
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0027	.0020	.0054	.0065	4.881	5.657	14.00
SDev	.0017	.0014	.0004	.0008	.034	.424	.02
XRSD	62.50	69.37	6.782	12.54	.6873	7.493	.1530
#1	-.0030	.0035	.0054	.0065	4.854	5.374	13.99
#2	-.0042	.0016	.0050	.0073	4.918	6.144	14.03
#3	-.0009	.0009	.0058	.0057	4.870	5.452	14.00
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1897	-.0011	6.675	.0062	.0100	-.0034	.1575
SDev	.0010	.0018	.042	.0036	.0079	.0121	.0335
XRSD	.5480	164.2	.6255	57.59	78.64	353.6	21.25
#1	.1885	.0007	6.658	.0023	.0161	.0045	.1168
#2	.1903	-.0011	6.723	.0092	.0128	-.0174	.1769
#3	.1903	-.0029	6.644	.0071	.0011	.0026	.1768
Elem	Si2891	Sn1897	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	14.02	.0027	.1139	.1956	.0009	.0132	
SDev	.09	.0093	.0032	.0158	.0011	.0004	
XRSD	.6103	350.9	2.856	8.090	242.8	3.196	
#1	14.93	-.0042	.1127	.1865	.0015	.0129	
#2	14.78	-.0011	.1112	.2139	.0004	.0137	
#3	14.77	.0133	.1174	.1265	-.0006	.0129	

Method: ESE Sample Name: SD*DDNTW*37

Operator: BC

Run Time: 12/06/93 14:57:15

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0025	.6327	.1217	.0096	.1183	.0005	10.07
SDev	.0015	.0142	.0290	.0016	.0000	.0004	.02
XRSD	61.91	2.248	23.81	16.44	.0000	87.98	.2431
#1	-.0041	.6223	.1542	.0060	.1183	.0002	10.06
#2	-.0010	.6489	.1122	.0111	.1183	.0002	10.10
#3	-.0023	.6268	.0987	.0095	.1183	.0009	10.05
Elem	Cd2289	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0013	.0035	.0010	.0009	.9916	1.226	2.885
SDev	.0011	.0015	.0019	.0010	.0085	.327	.020

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XRSD	85.41	318.5	178.3	108.5	.8536	26.65	.6863
#1	-.0021	-.0004	-.0005	.0020	.5975	1.584	2.878
#2	-.0018	-.0004	.0002	.0008	.9955	.9433	2.859
#3	-.0000	.0022	.0032	-.0000	.9219	1.151	2.907
Elem	Mn2576	Na2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0390	.0003	1.348	.0035	.0060	-.0062	.0619
SDev	.0003	.0014	.005	.0018	.0089	.0083	.0225
XRSD	.6677	528.8	.3359	52.30	149.0	133.4	36.29
#1	.0388	.0018	1.345	.0049	.0157	-.0007	.0797
#2	.0393	-.0009	1.353	.0040	-.0018	-.0022	.0695
#3	.0388	-.0000	1.345	.0014	.0041	-.0157	.0367
Elem	Si2831	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avgc	3.036	.0017	.0264	.0018	.0018	.0033	
SDev	.056	.0144	.0063	.0157	.0008	.0004	
XRSD	1.849	861.2	23.93	19.23	46.37	13.33	
#1	3.083	.0163	.0206	.0996	.0009	.0031	
#2	3.051	-.0061	.0331	.0758	.0025	.0031	
#3	2.974	-.0072	.0253	.0699	.0019	.0038	

Method: ESE Sample Name: SPX*COBMTW*37 Operator: BC
 Run Time: 12/06/93 15:00:05
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3820	Al3889	As1936	B_2496	Ba4924	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.2562	3.663	.4196	.2766	.5454	.2606	27.29
SDev	.0035	.013	.0403	.0036	.0014	.0007	.10
XRSD	1.376	.3561	9.617	1.312	.2561	.2651	.3490
#1	.2586	3.650	.4651	.2724	.5460	.2606	27.23
#2	.2596	3.664	.4053	.2787	.5463	.2613	27.40
#3	.2565	3.676	.3863	.2787	.5458	.2599	27.25
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7654	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.2492	.2513	.2535	.2560	4.846	5.798	9.677
SDev	.0023	.0053	.0055	.0006	.014	.277	.045
XRSD	.9139	2.106	2.179	.2418	.2836	4.769	.4624
#1	.2510	.2462	.2473	.2553	4.837	5.893	9.625
#2	.2467	.2569	.2580	.2565	4.862	5.486	9.698
#3	.2500	.2508	.2551	.2561	4.839	6.014	9.707
Elem	Mn2576	Na2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.3467	.2304	5.877	.2464	.2636	.2659	.3925
SDev	.0000	.0050	.017	.0051	.0059	.0151	.0257
XRSD	.0009	1.987	.2935	2.086	2.220	5.671	6.553

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#1	.3467	.2456	5.265	.2407	.2574	.2509	.4185
#2	.3467	.2556	5.296	.2508	.2690	.2810	.3918
#3	.3467	.2501	5.858	.2477	.2644	.2659	.3671

Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.419	.2592	.2868	.3964	.2557	.2582
SDev	.019	.0060	.0042	.0288	.0021	.0020
%RSD	.2946	2.342	1.477	7.254	.8289	.7664

#1	6.412	.2537	.2249	.4205	.2536	.2559
#2	6.405	.2651	.2917	.3646	.2578	.2589
#3	6.441	.2558	.2839	.4042	.2537	.2597

Method: ESE Sample Name: CCV*QC*1

Operator: EC

Run Time: 12/06/93 15:03:58

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1935	B_2496	Ba4934	Ba3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5245	5.074	.8466	.5065	.5108	.5179	5.225
SDev	.0018	.038	.1700	.0057	.0019	.0046	.024
%RSD	.3382	.7440	20.08	1.120	.3763	.8917	.4614

#1	.5264	5.115	.6577	.5049	.5089	.5126	5.199
#2	.5242	5.041	.9871	.5128	.5108	.5203	5.246
#3	.5229	5.066	.6950	.5017	.5127	.5209	5.230

Elem	Co2288	Co2286	Cr2677	Cu3247	Fe	K_7654	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5032	.5079	.5128	.5090	5.108	4.996	5.065
SDev	.0022	.0000	.0020	.0015	.029	.314	.037
%RSD	.4432	.0013	.3971	.2839	.5762	6.287	.7401

#1	.5044	.5079	.5114	.5106	5.073	5.227	5.107
#2	.4999	.5079	.5151	.5077	5.118	4.638	5.036
#3	.5023	.5079	.5118	.5086	5.131	5.123	5.055

Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5092	.5068	5.011	.5076	.5093	.5195	.8178
SDev	.0019	.0045	.024	.0064	.0065	.0079	.1283
%RSD	.3685	.8918	.4785	1.263	1.269	1.518	15.69

#1	.5077	.5068	5.036	.5053	.5061	.5106	.6700
#2	.5113	.5113	4.989	.5027	.5168	.5221	.9017
#3	.5104	.5023	5.008	.5149	.5051	.5258	.8815

Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.0054	.5184	.5053	.7596	.5109	.5092
SDev	.0100	.0259	.0020	.0542	.0028	.0009
%RSD	183.9	4.609	.3899	7.137	.5504	.1818

#1	.0046	.5051	.5044	.6970	.5077	.5094
#2	-.0154	.5459	.5039	.7900	.5120	.5089
#3	-.0054	.5041	.5075	.7918	.5131	.5101

Method: ESE Sample Name: CCB*CC*1 Operator: BC
 Run Time: 12/06/93 15:06:46
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Ba3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	.0171	-.0149	.0031	.0005	.0012	.0054
SD	.0004	.0062	.0138	.0042	.0007	.0004	.0077
%RSD	42.67	35.24	92.97	132.4	132.6	35.05	142.2
#1	-.0015	.0174	-.0265	.0047	.0014	.0009	.0054
#2	-.0010	.0107	-.0185	-.0016	.0001	.0016	-.0023
#3	-.0006	.0231	.0004	.0063	.0001	.0009	.0131
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7654	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	.0015	.0010	.0000	.0038	.2942	.0059
SD	.0004	.0014	.0020	.0024	.0017	.7151	.0160
%RSD	40.83	89.24	312.4	65370.	44.40	243.1	278.4
#1	-.0014	.0031	.0043	.0000	.0054	.0519	.0223
#2	-.0007	.0004	-.0016	-.0024	.0020	-.2689	-.0097
#3	-.0003	.0011	.0002	.0025	.0041	1.099	.0047
Elem	Mn3576	Mo2020	Na5889	Ni2316	Pb2203	Sb2058	Se1940
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	-.0063	-.0078	.0029	-.0121	.0005	-.0062
SD	.0003	.0103	.0059	.0043	.0154	.0093	.0206
%RSD	170.5	162.2	74.69	148.3	127.4	1595.	323.8
#1	-.0006	-.0018	-.0115	-.0020	.0015	.0011	-.0190
#2	-.0005	.0009	-.0109	.0049	-.0090	-.0073	-.0171
#3	.0003	-.0181	-.0011	.0058	-.0288	.0077	.0176
Elem	Si2381	Sr1893	Ti3349	Tl1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0173	.0039	.0005	.0171	-.0020	.0009	
SD	.0009	.0027	.0006	.0040	.0022	.0006	
%RSD	5.224	72.18	115.4	23.61	110.9	65.18	
#1	.0182	.0027	.0009	.0130	-.0023	.0010	
#2	.0173	.0017	-.0002	.0171	-.0039	.0002	
#3	.0164	.0068	.0009	.0211	.0004	.0013	

Method: ESE Sample Name: SFM1*CDMTW*37 Operator: BC
 Run Time: 12/06/93 15:09:34
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Ba3130	Ca

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Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0472	5.349	1.940	.0564	2.570	.0529	60.05
SD	.0017	.191	.019	.0042	.012	.0000	.63
%RSD	3.524	3.590	.9925	7.399	.4608	.0231	1.055
#1	.0453	5.569	1.925	.0611	2.584	.0529	59.32
#2	.0484	5.260	1.932	.0548	2.563	.0529	60.46
#3	.0480	5.218	1.962	.0532	2.563	.0529	60.37
Elem	Cd2228	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0510	.4868	.1975	.2509	5.902	15.63	24.42
SD	.0008	.0018	.0009	.0006	.050	.17	.12
%RSD	1.514	.3623	.4703	.2498	.8489	1.106	.4867
#1	.0506	.4855	.1965	.2502	5.959	15.52	24.28
#2	.0505	.4888	.1977	.2510	5.890	15.54	24.51
#3	.0519	.4868	.1984	.2514	5.866	15.83	24.47
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6782	.0030	16.55	.4774	.4885	.4845	1.975
SD	.0034	.0014	.04	.0076	.0021	.0108	.024
%RSD	.5034	46.15	.2598	1.600	.4231	2.229	1.195
#1	.6743	.0015	16.60	.4770	.4866	.4767	1.948
#2	.6906	.0033	16.53	.4700	.4893	.4968	1.990
#3	.6797	.0042	16.52	.4852	.4907	.4800	1.987
Elem	Si2881	Sn1899	Ti3349	Tl1908	V_2924	Zn2132	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	15.56	-.0206	.1189	1.932	.4963	.4960	
SD	.30	.0025	.0133	.061	.0027	.0067	
%RSD	1.949	12.32	11.21	3.152	.5341	1.343	
#1	15.91	-.0235	.1230	1.889	.4935	.4924	
#2	15.39	-.0196	.1174	2.002	.4989	.4993	
#3	15.38	-.0188	.1064	1.905	.4967	.5004	

Method: ESE Sample Name: SPM2*CDDMTW*37

Operator: BC

Run Time: 12/06/93 15:15:55

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0485	5.198	1.982	.0527	2.577	.0529	60.48
SD	.0005	.067	.021	.0018	.004	.0000	.04
%RSD	1.046	1.298	1.082	3.444	.1630	.0097	.0661
#1	.0480	5.121	1.976	.0517	2.577	.0529	60.52
#2	.0488	5.223	2.006	.0517	2.573	.0529	60.49
#3	.0488	5.249	1.965	.0548	2.582	.0529	60.44
Elem	Cd2228	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm

003368

Avge	.0493	.4894	.1995	.2515	5.911	15.66	24.51
SDev	.0021	.0040	.0010	.0005	.034	.08	.01
%RSD	4.321	.8211	.4885	.1871	.5650	.4816	.0416
#1	.0469	.4848	.2002	.2518	5.678	15.63	24.51
#2	.0499	.4921	.1999	.2510	5.908	15.61	24.51
#3	.0510	.4914	.1984	.2518	5.945	15.75	24.53
Elem	Mn2376	Mo2020	Na5989	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.6833	.0018	16.62	.4842	.4974	.4867	1.995
SDev	.0000	.0005	.04	.0035	.0044	.0147	.028
%RSD	.0005	29.18	.2681	.7248	.8772	3.027	1.390
#1	.6833	.0015	16.66	.4839	.4944	.4698	2.011
#2	.6833	.0024	16.57	.4802	.5024	.4968	2.011
#3	.6833	.0015	16.61	.4878	.4953	.4935	1.963
Elem	Si2881	Sn1899	Ti2349	Tl1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avge	15.20	-.0190	.1141	1.948	.4991	.4971	
SDev	.04	.0100	.0017	.068	.0011	.0011	
%RSD	.3936	52.92	1.466	3.513	.2233	.2185	
#1	15.21	-.0094	.1148	1.960	.4982	.4959	
#2	15.14	-.0248	.1122	1.994	.4988	.4978	
#3	15.26	-.0248	.1153	1.869	.5004	.4978	

Method: ESE Sample Name: CDDMTW*9NF
 Run Time: 12/06/93 15:18:40
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: DC

Elem	Ag2280	Al3092	As1936	B_2496	Ba4734	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0023	.0314	.1856	.0493	.0549	.0005	22.30
SDev	.0020	.0081	.1556	.0018	.0003	.0004	.10
%RSD	85.72	25.75	83.83	3.687	.5937	86.90	.4346
#1	-.0002	.0396	.1442	.0503	.0549	.0002	22.59
#2	-.0028	.0313	.3578	.0472	.0552	.0009	22.52
#3	-.0041	.0234	.0549	.0503	.0546	.0002	22.40
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0021	.0008	-.0005	.0039	.0343	2.308	11.47
SDev	.0009	.0027	.0020	.0014	.0028	.155	.09
%RSD	43.00	319.1	398.2	37.53	8.218	6.712	.8191
#1	-.0012	-.0022	-.0027	.0037	.0365	2.397	11.56
#2	-.0030	.0024	.0002	.0024	.0352	2.129	11.27
#3	-.0021	.0024	.0010	.0053	.0311	2.397	11.49
Elem	Mn2376	Mo2020	Na5989	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0045	-.0063	22.54	.0029	-.0074	-.0125	.0935

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SDev	.0005	.0083	.16	.0042	.0210	.0352	.0653
%RSD	11.71	130.9	.7081	145.5	283.4	281.9	69.76
#1	.0042	-.0154	22.72	.0027	-.0276	-.0502	.0746
#2	.0042	-.0045	22.41	-.0012	-.0090	.0197	.1662
#3	.0051	.0009	22.49	.0071	.0144	-.0070	.0399
Elem	Si2831	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	18.40	-.0623	.0016	.1307	-.0013	.0118	
SDev	.12	.0641	.0022	.0832	.0023	.0011	
%RSD	.6503	102.9	138.8	63.70	181.8	9.366	
#1	18.53	-.1353	.0009	.1291	-.0024	.0112	
#2	18.29	-.0147	-.0002	.2147	-.0029	.0131	
#3	18.38	-.0371	.0040	.0482	.0014	.0112	

Method: ESE Sample Name: CODMTW*10MF

Operator: BC

Run Time: 12/06/93 15:22:25

Comment:

Mode: COND Corr. Factor: 1

Elem	Ag3280	Al3092	Ag1936	B_2496	Ba4934	Ba3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0433	.0212	.0225	.0769	.0002	22.85
SDev	.0015	.0036	.0166	.0009	.0002	.0000	.06
%RSD	503.0	8.385	49.92	4.023	.2406	1.372	.2651
#1	-.0019	.0466	.0140	.0220	.0770	.0002	22.90
#2	.0012	.0394	.0234	.0236	.0767	.0002	22.79
#3	-.0002	.0428	.0163	.0220	.0770	.0002	22.89
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0006	.0015	.0018	.0095	1.151	10.67
SDev	.0009	.0004	.0008	.0002	.0000	.245	.05
%RSD	490.6	64.28	51.44	13.25	.0308	21.32	.4580
#1	-.0001	.0004	.0021	.0016	.0095	.9606	10.71
#2	-.0013	.0004	.0017	.0016	.0095	1.064	10.62
#3	.0007	.0010	.0006	.0020	.0095	1.428	10.68
Elem	Mn2576	Mo2020	Na5989	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1758	.0024	25.70	.0049	.0096	.0052	.0409
SDev	.0003	.0026	.11	.0034	.0071	.0063	.0064
%RSD	.1472	108.3	.4442	70.28	74.16	121.8	15.73
#1	.1761	.0009	25.78	.0010	.0018	.0096	.0409
#2	.1757	.0009	25.57	.0075	.0158	.0079	.0474
#3	.1757	.0054	25.75	.0062	.0112	-.0020	.0345
Elem	Si2831	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	18.07	-.0194	.0054	.0711	.0053	.0092	
SDev	.04	.0072	.0006	.0081	.0006	.0002	

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XRSD	.2030	37.06	11.18	11.46	11.67	2.405
#1	18.10	-.0187	.0050	.0624	.0046	.0093
#2	18.03	-.0125	.0050	.0786	.0057	.0093
#3	18.09	-.0268	.0061	.0724	.0057	.0090

Method: ESE Sample Name: CDDMTW*11NF Operator: BC
 Run Time: 12/06/93 15:24:43
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	.0369	.0578	.0246	.0626	.0002	14.95
SDev	.0012	.0100	.0267	.0018	.0008	.0000	.04
XRSD	61.06	27.15	46.59	7.378	1.354	2.894	.2394

#1	-.0032	.0222	.0753	.0236	.0616	.0002	14.91
#2	-.0015	.0300	.0268	.0267	.0629	.0002	14.98
#3	-.0010	.0483	.0712	.0236	.0632	.0002	14.96

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Ni2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0008	.0008	.0007	.0011	.0796	10.55	7.578
SDev	.0006	.0004	.0006	.0002	.0014	.18	.040
XRSD	82.09	46.42	77.84	21.82	1.766	1.691	.5276

#1	-.0014	.0010	.0006	.0012	.0781	10.66	7.534
#2	-.0002	.0010	.0014	.0008	.0808	10.95	7.612
#3	-.0006	.0004	.0002	.0012	.0801	10.65	7.586

Elem	Mn2376	Mo2020	Na5959	Ni2316	Pb2203	Sb2060	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056	-.0003	22.70	.0011	-.0039	.0026	.0427
SDev	.0003	.0038	.19	.0030	.0049	.0109	.0172
XRSD	4.694	1231.	.8193	260.2	123.8	304.3	40.25

#1	.0057	.0007	22.49	.0001	-.0055	-.0088	.0531
#2	.0053	.0027	22.85	-.0012	.0015	.0115	.0228
#3	.0057	-.0045	22.75	.0045	-.0078	.0080	.0521

Elem	Si2881	Sn1897	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.53	-.0333	.0347	.0715	.0041	.0067
SDev	.09	.0129	.0006	.0141	.0013	.0002
XRSD	.4369	38.83	12.83	19.77	33.06	3.206

#1	20.43	-.0217	.0050	.0868	.0053	.0064
#2	20.61	-.0473	.0050	.0687	.0042	.0068
#3	20.55	-.0310	.0040	.0589	.0026	.0068

Method: ESE Sample Name: CDDMTW*12NF Operator: BC
 Run Time: 12/06/93 15:27:00
 Comment:

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Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	.0285	.0928	.0273	.0474	.0007	12.68
SD	.0004	.0067	.0988	.0009	.0005	.0004	.09
XRSD	23.12	23.45	106.5	2.332	1.032	58.70	.7455
#1	-.0019	.0356	.0634	.0267	.0478	.0009	12.58
#2	-.0023	.0223	.0120	.0283	.0475	.0009	12.69
#3	-.0015	.0278	.2031	.0267	.0469	.0002	12.76
Elem	Cd2289	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0008	.0013	.0002	.0024	.0082	.5279	6.325
SD	.0006	.0027	.0007	.0000	.0024	.1145	.047
XRSD	79.40	209.2	118.9	.0446	29.01	21.69	.7444
#1	-.0013	.0044	.0006	.0024	.0057	.5711	6.301
#2	-.0009	-.0003	-.0001	.0024	.0084	.6144	6.379
#3	-.0001	-.0003	.0014	.0024	.0105	.3981	6.295
Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2069	Se1940	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0017	.0039	18.90	.0048	.0101	.0152	.0546
SD	.0000	.0019	.11	.0009	.0075	.0250	.0442
XRSD	.1128	48.04	.5686	19.21	74.41	163.8	80.89
#1	.0017	.0045	18.88	.0058	.0132	.0081	.0420
#2	.0017	.0018	19.02	.0048	.0015	-.0054	.0174
#3	.0017	.0054	18.81	.0040	.0155	.0430	.1034
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	20.30	-.0126	.0038	.0943	.0020	.0024	
SD	.08	.0346	.0003	.0459	.0006	.0011	
XRSD	.3909	275.7	7.877	48.66	30.71	44.91	
#1	20.22	-.0299	.0040	.0720	.0013	.0031	
#2	20.33	-.0250	.0040	.0638	.0023	.0012	
#3	20.50	.0273	.0035	.1471	.0023	.0031	

Method: ESE Sample Name: CDDMTW*E2NF

Operator: BC

Run Time: 12/06/93 15:29:25

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0031	.0258	.0288	.0173	.0916	.0002	26.03
SD	.0015	.0099	.0129	.0000	.0010	.0000	.11
XRSD	50.23	38.38	44.73	.0124	1.124	4.048	.4202
#1	-.0032	.0195	.0358	.0173	.0921	.0002	26.06
#2	-.0045	.0207	.0366	.0173	.0924	.0002	26.11
#3	-.0015	.0372	.0139	.0173	.0905	.0002	25.90

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Elem	Cd2288	Cd2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0011	.0008	.0006	.0014	.0066	1.370	13.66
SDev	.0008	.0010	.0004	.0010	.0007	.326	.08
%RSD	77.65	125.5	60.45	75.53	10.26	23.80	.5717
#1	-.0003	-.0003	.0006	.0004	.0059	1.064	13.67
#2	-.0019	.0010	.0002	.0012	.0066	1.333	13.73
#3	-.0009	.0017	.0010	.0024	.0073	1.713	13.57
Elem	Mn2576	Mo2020	Na5887	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0015	.0006	42.18	.0008	.0007	.0007	.0313
SDev	.0003	.0014	.37	.0027	.0068	.0069	.0111
%RSD	17.81	229.4	.8873	313.0	919.5	1053.	35.47
#1	.0013	.0009	42.33	-.0021	-.0043	-.0005	.0185
#2	.0013	-.0009	42.46	.0014	-.0020	-.0056	.0336
#3	.0018	.0018	41.75	.0032	.0085	.0080	.0368
Elem	Si2881	Sn1879	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avgc	13.85	-.0139	.0043	.0704	.0026	.0036	
SDev	.05	.0086	.0006	.0063	.0019	.0008	
%RSD	.3927	61.57	13.86	3.283	73.53	20.87	
#1	13.86	-.0085	.0040	.0678	.0010	.0036	
#2	13.90	-.0095	.0040	.0715	.0021	.0028	
#3	13.79	-.0238	.0050	.0720	.0048	.0044	

Method: ESE Sample Name: CDDMTW*37NF
Run Time: 12/04/93 15:32:18
Comment:
Mode: CONC Corr. Factor: 1

Operator: EC

Elem	Ag3260	Al3002	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0021	.0234	.0451	.0397	.4640	.0002	48.31
SDev	.0022	.0076	.0406	.0027	.0039	.0000	.31
%RSD	107.1	32.64	90.03	6.834	.8400	1.099	.6330
#1	.0003	.0317	.0332	.0413	.4595	.0002	48.03
#2	-.0041	.0167	.0904	.0413	.4666	.0002	48.64
#3	-.0024	.0218	.0118	.0366	.4659	.0002	48.26
Elem	Cd2288	Cd2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0001	.0021	.0018	.0009	3.452	5.446	14.01
SDev	.0002	.0010	.0009	.0002	.017	.169	.07
%RSD	140.5	47.99	46.51	24.63	.4948	3.107	.4790
#1	-.0003	.0019	.0013	.0008	3.436	5.608	13.93
#2	.0000	.0012	.0022	.0012	3.470	5.461	14.06
#3	-.0001	.0032	.0013	.0008	3.449	5.270	14.04
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960

003373

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1789	.0020	6.712	.0017	.0132	.0011	.0275
SD	.0009	.0029	.030	.0022	.0055	.0067	.0185
%RSD	.5219	147.5	.4453	127.1	41.94	607.8	67.15
#1	.1778	-.0001	6.678	-.0003	.0112	.0078	.0168
#2	.1796	.0053	6.724	.0014	.0194	.0011	.0488
#3	.1791	.0008	6.734	.0040	.0089	-.0056	.0168
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	8.364	.0008	.0054	.0740	.0046	.0071	
SD	.052	.0018	.0006	.0186	.0005	.0008	
%RSD	.6167	234.3	11.18	25.20	10.84	10.56	
#1	8.305	-.0003	.0061	.0566	.0041	.0063	
#2	8.402	-.0003	.0050	.0717	.0051	.0071	
#3	8.353	.0028	.0050	.0936	.0042	.0078	

Method: ESE Sample Name: SD*COBALT*37NF Operator: BC
Run Time: 12/06/93 15:34:40
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0113	.0182	.0106	.0966	.0007	10.12
SD	.0005	.0132	.0080	.0018	.0007	.0004	.06
%RSD	115.5	116.2	43.95	17.17	.7656	59.53	.6079
#1	-.0001	-.0038	.0206	.0095	.0975	.0002	10.19
#2	-.0010	.0206	.0093	.0127	.0962	.0009	10.10
#3	-.0001	.0173	.0248	.0095	.0962	.0009	10.08
Elem	Cr2289	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	.0010	.0012	-.0003	.7180	1.393	2.911
SD	.0008	.0007	.0013	.0009	.0055	.165	.009
%RSD	81.93	67.35	104.8	342.2	.7716	11.85	.3211
#1	-.0018	.0003	-.0001	-.0008	.7241	1.307	2.922
#2	-.0009	.0016	.0025	.0008	.7132	1.584	2.907
#3	-.0002	.0010	.0014	-.0008	.7166	1.289	2.904
Elem	Mn2376	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0381	.0036	1.391	.0009	.0020	.0005	.0197
SD	.0003	.0009	.013	.0013	.0047	.0009	.0097
%RSD	.6815	25.20	.9125	154.4	233.7	168.3	49.33
#1	.0384	.0036	1.402	.0023	-.0007	.0011	.0307
#2	.0380	.0045	1.377	-.0003	.0074	.0010	.0124
#3	.0380	.0027	1.394	.0006	-.0007	-.0005	.0160
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	

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Avg	1.754	.0045	.0054	.0300	.0066	.0027
SD	.009	.0116	.0006	.0198	.0014	.0004
XRSD	.5039	259.0	11.17	66.04	20.28	13.74

#1	1.752	.0079	.0050	.0148	.0052	.0027
#2	1.764	.0140	.0050	.0227	.0079	.0031
#3	1.747	-.0084	.0061	.0524	.0068	.0024

Method: ESE Sample Name: SPX*CDMTW*37NF Operator: BC
 Run Time: 12/06/93 15:37:12
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1935	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2606	2.544	.3351	.2781	.4813	.2553	26.84
SD	.0018	.003	.0078	.0024	.0008	.0008	.06
XRSD	.6912	.1086	2.334	.0653	.1761	.3147	.2159

#1	.2609	2.541	.3318	.2755	.4823	.2557	26.81
#2	.2623	2.543	.3294	.2786	.4810	.2543	26.80
#3	.2587	2.547	.3440	.2602	.4807	.2557	26.90

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2535	.2496	.2529	.2497	4.236	5.466	9.603
SD	.0016	.0013	.0004	.0005	.007	.044	.029
XRSD	.6395	.5294	.1435	.1887	.1609	.7968	.2986

#1	.2522	.2509	.2532	.2500	4.229	5.512	9.617
#2	.2530	.2496	.2525	.2492	4.242	5.426	9.570
#3	.2533	.2483	.2529	.2500	4.237	5.461	9.623

Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3399	.2520	5.834	.2573	.2560	.2518	.3386
SD	.0005	.0012	.016	.0002	.0105	.0122	.0149
XRSD	.1529	.7173	.2790	.2956	4.102	5.027	4.417

#1	.3396	.2502	5.853	.2568	.2453	.2577	.3258
#2	.3396	.2538	5.826	.2582	.2570	.2660	.3349
#3	.3405	.2520	5.823	.2568	.2663	.2408	.3550

Elem	Si2881	Sn1899	Ti3349	Tl1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.216	.2448	.2495	.3902	.2570	.2570
SD	.006	.0083	.0010	.0228	.0005	.0019
XRSD	.1347	3.395	.4170	5.850	.2092	.7386

#1	4.214	.2390	.2506	.4112	.2575	.2552
#2	4.211	.2543	.2480	.3659	.2570	.2567
#3	4.222	.2411	.2495	.3934	.2565	.2590

Method: ESE Sample Name: CCV*QC*2 Operator: BC

003375

Run Time: 12/06/93 15:39:28
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.5334	5.130	.6857	.5133	.5126	.5156	5.276
SDev	.0026	.042	.0289	.0087	.0055	.0051	.043
%RSD	.4945	.8206	4.207	1.637	1.065	.9916	.8233
#1	.5361	5.165	.7142	.5191	.5159	.5195	5.318
#2	.5334	5.143	.6862	.5175	.5156	.5175	5.280
#3	.5308	5.063	.6566	.5033	.5063	.5098	5.231
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.5143	.5097	.5164	.5117	5.152	5.091	5.165
SDev	.0042	.0021	.0039	.0042	.034	.277	.033
%RSD	.8241	.4142	.7568	.8285	.6542	5.440	.6836
#1	.5151	.5112	.5206	.5151	5.183	5.097	5.203
#2	.5097	.5105	.5158	.5130	5.158	4.811	5.109
#3	.5181	.5073	.5129	.5069	5.115	5.365	5.133
Elem	Mn2576	Nb2020	Na5989	Ni2316	Pb2203	Se2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.5116	.5101	5.073	.5076	.5174	.5089	.6841
SDev	.0027	.0054	.040	.0092	.0024	.0029	.0080
%RSD	.5279	1.068	.7800	1.818	.4624	.5750	1.176
#1	.5140	.5158	5.079	.5179	.5201	.5105	.6933
#2	.5122	.5050	5.109	.5001	.5154	.5056	.6807
#3	.5086	.5095	5.030	.5049	.5167	.5107	.6783
Elem	Si2881	Sn1899	Ti3349	Tl1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avgc	-.0105	.5050	.5042	.6944	.5147	.5134	
SDev	.0026	.0135	.0044	.0282	.0035	.0015	
%RSD	92.18	2.665	.8774	4.057	.6755	.2892	
#1	-.0108	.5194	.5075	.7235	.5184	.5150	
#2	-.0190	.5030	.5060	.6924	.5141	.5131	
#3	-.0017	.4927	.4992	.6672	.5115	.5120	

Method: ESE Sample Name: CCB*GC*2
 Run Time: 12/06/93 15:42:54
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0007	.0219	-.0266	.0052	.0003	.0005	.0041
SDev	.0020	.0030	.0067	.0045	.0004	.0004	.0020
%RSD	274.8	13.86	32.73	86.64	115.5	85.53	32.22
#1	.0025	.0234	-.0305	.0079	.0007	.0009	.0084
#2	-.0015	.0184	-.0327	.0079	.0001	.0002	.0050

003376

#3	.0012	.0240	-.0166	-.0000	.0001	.0002	.0050
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0022	.0018	.0003	.0034	.1875	.0028
SD	.0016	.0004	.0008	.0005	.0018	.2077	.0121
%RSD	210.7	17.24	41.41	174.1	52.90	110.8	138.4
#1	.0003	.0024	.0021	.0008	.0054	.4240	.0223
#2	-.0005	.0018	.0010	-.0000	.0020	.0346	-.0037
#3	.0026	.0024	.0025	-.0000	.0027	.1038	.0047
Elem	Mn2576	Mo2020	Na5887	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0024	.0054	.0009	.0066	-.0006	-.0016
SD	.0003	.0005	.0017	.0005	.0066	.0131	.0042
%RSD	48.31	21.65	31.75	57.71	100.9	2296.	253.3
#1	.0008	.0027	.0074	.0006	-.0008	.0022	.0020
#2	.0003	.0027	.0041	.0015	.0120	-.0157	-.0062
#3	.0008	.0018	.0048	.0006	.0085	.0078	-.0007
Elem	Si2881	Sn1897	Ti3347	Ti1908	V_2924	Zn2139	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0155	.0014	.0012	-.0014	.0009	.0008	
SD	.0033	.0068	.0024	.0138	.0021	.0004	
%RSD	21.26	492.2	198.0	953.0	241.2	57.78	
#1	.0164	-.0044	.0040	.0130	.0030	.0010	
#2	.0118	-.0003	-.0002	-.0027	-.0013	.0010	
#3	.0182	.0087	-.0002	-.0146	.0009	.0002	

Method: ESE Sample Name: SPH1*CDDMTW*37NF Operator: RC
Run Time: 12/06/93 15:46:23
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Ba9130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0483	1.983	1.920	.0321	2.450	.0515	59.53
SD	.0010	.007	.040	.0009	.008	.0000	.08
%RSD	2.100	.3457	2.090	2.818	.3161	.0215	.1388
#1	.0488	1.987	1.907	.0311	2.443	.0515	58.51
#2	.0471	1.988	1.887	.0326	2.458	.0515	58.46
#3	.0488	1.977	1.965	.0326	2.449	.0515	58.61
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0495	.4794	.1943	.2444	4.415	15.16	24.07
SD	.0013	.0008	.0006	.0013	.007	.33	.09
%RSD	2.701	.1580	.3287	.5360	.1550	2.201	.3685
#1	.0491	.4786	.1947	.2447	4.411	15.53	23.98
#2	.0485	.4777	.1947	.2453	4.422	15.03	24.16
#3	.0510	.4797	.1936	.2429	4.410	14.90	24.07

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Elem	Mn2376	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6593	.0012	16.48	.4678	.4970	.4906	1.930
SD	.0010	.0019	.08	.0077	.0041	.0059	.045
%RSD	.1578	150.8	.4630	1.654	.8204	1.200	2.326
#1	.6573	.0034	16.43	.4617	.5009	.4967	1.920
#2	.6591	-.0003	16.56	.4765	.4974	.4850	1.835
#3	.6591	.0006	16.44	.4652	.4927	.4900	1.975
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	8.566	-.0032	.0053	1.917	.4907	.4845	
SD	.018	.0066	.0006	.016	.0024	.0006	
%RSD	.2089	207.4	11.25	.8334	.4904	.1127	
#1	8.545	-.0004	.0060	1.923	.4882	.4841	
#2	8.575	-.0107	.0050	1.899	.4930	.4851	
#3	8.577	.0016	.0050	1.929	.4908	.4844	

Method: ESE Sample Name: SFM2*CDDMTW*G7NF

Operator: BC

Run Time: 12/06/93 15:48:59

Comment:

Node: CDNC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Ba3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0491	1.970	2.103	.0243	2.403	.0515	59.57
SD	.0007	.004	.072	.0018	.005	.0000	.22
%RSD	1.376	.1783	3.444	7.533	.1987	.0214	.3726
#1	.0475	1.967	2.021	.0264	2.405	.0516	58.32
#2	.0489	1.974	2.159	.0232	2.406	.0515	59.70
#3	.0480	1.968	2.131	.0232	2.414	.0515	58.70
Elem	Cd2289	Cd2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0475	.4792	.1948	.2416	4.391	15.03	23.62
SD	.0006	.0059	.0022	.0008	.014	.11	.05
%RSD	1.302	1.226	1.139	.3372	.3174	.7401	.2162
#1	.0482	.4726	.1925	.2408	4.390	14.95	23.62
#2	.0470	.4839	.1969	.2416	4.355	15.16	23.56
#3	.0472	.4812	.1951	.2425	4.388	14.99	23.66
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6556	.0022	16.03	.4792	.4877	.4860	2.187
SD	.0018	.0005	.04	.0094	.0102	.0101	.076
%RSD	.2749	24.24	.2765	1.955	2.090	2.069	3.458
#1	.6538	.0016	16.05	.4882	.4764	.4766	2.109
#2	.6556	.0025	15.98	.4800	.4904	.4965	2.260
#3	.6574	.0025	16.06	.4695	.4962	.4849	2.192

Elem	Si2881	Sn1897	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.460	.0026	.0050	1.987	.4880	.4854
SD	.009	.0097	.0018	.020	.0024	.0026
NRSD	.1084	371.5	36.12	1.005	.4912	.5330
#1	8.451	-.0035	.0060	2.008	.4855	.4825
#2	8.459	.0138	.0029	1.985	.4882	.4874
#3	8.470	-.0025	.0060	1.968	.4903	.4863

Method: ESE Sample Name: ICS-A*2

Operator: BC

Run Time: 12/06/93 15:51:28

Comment:

Node: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0066	519.4	.0117	-.0049	.0046	.0009	497.8
SD	.0007	7.2	.0899	.0002	.0000	.0000	7.4
NRSD	10.19	1.393	764.9	4.216	.0000	.1274	1.483
#1	-.0067	527.1	-.0920	-.0047	.0046	.0009	503.3
#2	-.0059	518.3	.0656	-.0049	.0046	.0009	500.7
#3	-.0072	512.8	.0616	-.0051	.0046	.0009	489.4

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0017	.0012	-.0028	.0069	182.1	-.4933	503.2
SD	.0019	.0024	.0018	.0012	1.7	.1996	7.0
NRSD	110.0	198.0	65.47	17.66	.9086	40.47	1.391
#1	-.0000	-.0015	-.0031	.0057	183.7	-.7010	510.9
#2	-.0014	.0032	-.0045	.0081	182.0	-.4760	501.6
#3	-.0028	.0020	-.0009	.0069	180.4	-.3629	497.2

Elem	Mn2076	Nb2020	Na5989	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068	.0030	.0407	.0023	.0332	.0337	-.0048
SD	.0003	.0042	.0041	.0020	.0169	.0175	.0142
NRSD	4.271	142.2	10.02	85.02	51.05	51.50	295.9
#1	.0070	.0062	.0420	.0045	.0137	.0162	-.0162
#2	.0068	.0045	.0440	.0019	.0417	.0345	-.0155
#3	.0064	-.0018	.0362	.0006	.0442	.0511	.0113

Elem	Si2881	Sn1897	Ti3349	Ti1908	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0473	.0430	.0095	-.0823	.0040	.0102
SD	.0009	.0222	.0008	.0045	.0003	.0007
NRSD	1.923	51.63	8.330	5.401	6.231	6.793
#1	.0464	.0198	.0087	-.0796	.0038	.0098
#2	.0482	.0451	.0097	-.0876	.0040	.0110
#3	.0473	.0641	.0102	-.0803	.0043	.0098

Method: ESE Sample Name: ICS*AB*2
 Run Time: 12/06/93 15:53:50
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.9988	506.9	.1310	-.0037	.4965	.4900	491.8
SDev	.0017	2.3	.0116	.0080	.0032	.0024	1.5
XRSD	.1665	.4544	8.872	203.9	.6464	.4974	.3105

#1	.9980	507.5	.1354	.0035	.4967	.4898	491.8
#2	1.001	509.8	.1397	-.0027	.4996	.4925	493.3
#3	.9976	504.3	.1178	-.0123	.4932	.4877	490.3

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Hg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.7531	.4596	.4821	.4961	180.3	-.0808	493.5
SDev	.0067	.0020	.0022	.0019	.7	.1285	1.6
XRSD	.7046	.4407	.4571	.3882	.3852	159.0	.3193

#1	.9514	.4574	.4821	.4967	180.2	-.1125	494.4
#2	.9473	.4600	.4843	.4975	181.0	-.1904	494.3
#3	.9605	.4614	.4999	.4939	179.6	.0606	491.7

Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2069	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.4748	.0044	.1823	.9196	.9916	.0120	.0452
SDev	.0011	.0056	.0021	.0024	.0321	.0067	.0158
XRSD	.2397	129.4	1.152	.9120	3.240	55.69	34.88

#1	.4755	.0107	.1759	.9105	1.023	.0182	.0286
#2	.4754	-.0002	.1832	.9270	.9615	.0128	.0600
#3	.4735	.0026	.1839	.9214	.9879	.0049	.0470

Elem	Si2881	Sn1899	Ti3349	Tl1908	V_2924	Zn2139
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0290	.0326	.0107	.0170	.4849	.9950
SDev	.0036	.0331	.0005	.0632	.0015	.0038
XRSD	12.53	101.5	4.885	371.4	.3155	.3776

#1	.0327	.0308	.0112	-.0540	.4859	.9960
#2	.0254	.0665	.0101	.0379	.4856	.9982
#3	.0290	.0004	.0107	.0672	.4831	.9909

Method: ESE Sample Name: CDV*QC*3
 Run Time: 12/06/93 15:56:52
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: BC

Elem	Ag3280	Al3082	As1936	B_2496	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.5166	5.170	.9348	.4955	.4986	.5103	5.390
SDev	.0049	.122	.0866	.0063	.0017	.0032	.073
XRSD	.9410	2.365	9.264	1.269	.3400	.6266	1.362

#1	.5115	5.307	.8939	.4955	.4993	.5085	5.475

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#2	.5172	5.128	.8763	.4892	.4967	.5085	5.349
#3	.5211	5.074	1.034	.5018	.4999	.5140	5.346
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Ni2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4939	.5051	.5092	.4963	5.136	4.895	5.169
SDev	.0040	.0061	.0032	.0004	.039	.330	.121
%RSD	.8095	1.215	.6199	.0812	.7519	6.742	2.349
#1	.4894	.5000	.5095	.4959	5.178	4.803	5.308
#2	.4952	.5033	.5059	.4963	5.102	5.261	5.119
#3	.4971	.5119	.5122	.4967	5.127	4.621	5.081
Elem	Mn2576	Mo2020	Na5889	Ni2316	Pb2203	Sb2068	Se1940
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5039	.5038	4.876	.5138	.5204	.5161	.8892
SDev	.0039	.0075	.002	.0046	.0168	.0183	.0479
%RSD	.7737	1.494	.0337	.9044	3.220	3.549	5.390
#1	.5005	.4977	4.876	.5114	.5023	.5038	.8602
#2	.5082	.5014	4.872	.5109	.5236	.5072	.8630
#3	.5081	.5122	4.874	.5192	.5354	.5371	.9446
Elem	Si2881	Sn1899	Ti3349	Ti1908	V_2924	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	-.0184	.5332	.4937	.7854	.5006	.5064	
SDev	.0050	.0340	.0006	.0261	.0037	.0049	
%RSD	27.07	6.368	.1216	3.576	.7404	.9754	
#1	-.0127	.5131	.4940	.7648	.5018	.5018	
#2	-.0218	.5141	.4930	.7740	.5056	.5056	
#3	-.0208	.5724	.4940	.8174	.5093	.5116	

Method: EES Sample Name: CCB*CC*3

Operator: BC

Run Time: 12/06/93 15:59:13

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1935	B_2476	Ba4934	Be3130	Ca
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0013	.0256	.0614	-.0016	.0000	.0004	.0266
SDev	.0003	.0120	.0153	.0000	.0005	.0004	.0120
%RSD	19.29	46.89	24.93	.1013	4036e6	90.78	45.07
#1	-.0010	.0322	.0633	-.0016	.0001	.0009	.0392
#2	-.0015	.0328	.0756	-.0016	.0004	.0002	.0255
#3	-.0015	.0117	.0452	-.0016	-.0005	.0002	.0152
Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe	K_7664	Ni2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0008	-.0002	-.0012	-.0014	.0144	-.2048	.0204
SDev	.0011	.0013	.0013	.0005	.0061	.2000	.0160
%RSD	132.9	579.3	108.6	36.53	42.53	97.67	78.64
#1	-.0013	-.0002	-.0023	-.0016	.0210	-.3115	.0310
#2	-.0015	.0011	.0003	-.0008	.0135	-.3288	.0281

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#3	.0004	-.0015	-.0016	-.0016	.0088	.0260	.0019
Elem	Nb2576	Nb2020	Na5987	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0009	.0022	.0011	-.0012	-.0162	.0404
SDev	.0000	.0018	.0092	.0018	.0044	.0133	.0236
XRSD	.1836	200.2	420.0	157.8	367.9	82.25	58.44
#1	.0007	-.0009	.0087	.0032	-.0043	-.0172	.0358
#2	.0007	.0027	.0051	.0006	.0038	-.0024	.0660
#3	.0008	.0009	-.0083	-.0003	-.0031	-.0290	.0194
Elem	Si2831	Sn1899	Ti3349	Ti1908	V_2724	Zn2138	
Units	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	-.0045	-.0091	.0047	.0492	.0051	.0005	
SDev	.0074	.0281	.0006	.0120	.0005	.0004	
XRSD	164.7	307.3	12.83	24.01	10.30	36.81	
#1	-.0109	-.0238	.0050	.0603	.0057	.0002	
#2	.0037	.0232	.0050	.0524	.0051	.0010	
#3	-.0063	-.0269	.0040	.0368	.0046	.0003	

ATOMIC SPECTROSCOPY SAMPLE PREP

Book No. 21 Pg. No. 000132Matrix WATERSMethod/QC Type ICAP/FDERSOP No. ASM3233-001Lot No.(s) N/A

Spike Solutions Used Prep Date Prep'd by Exp. Date
 1. ICAP/CLP SPK SOLN 11-16-93 DER 12-19-93
 2. 12-93 WT

Final Vol. (mL) 50Pipets Used 5ml CLASS A VOL. PIPETBalance No. NAHood No. 5Hotplate No. 1

Sample No.	Weight (g)/ Init. Vol. (mL)	Spike Information
<u>MB</u>	<u>50</u>	
<u>SP1</u>		<u>5 ml #1</u>
<u>(X) CDDMTW# 9</u>		
<u>10</u>		
<u>11</u>		
<u>12</u>		
<u>22</u>		
<u>37</u>		
<u>37 spm1</u>		<u>5 ml #1</u>
<u>37 spm2</u>		<u>5 ml #1</u>
<u>(NF) CDDMTW# 9</u>		
<u>10</u>		
<u>11</u>		
<u>12</u>		
<u>22</u>		
<u>37</u>		
<u>37 spm1</u>		<u>5 ml #1</u>
<u>37 spm2</u>		<u>5 ml #1</u>

Wendy V. Fred 12-3-93
 Signed Date

Wendy V. Fred 12/6/93
 Read & Understood By Date
 003383

ELEMENT	ppm Stock Conc.	Lot #	Exp	MIS USED	Final Conc.
Al	10000	291204	1-94	2.0	2.0
Sb	1000	290928	1-94	5.0	5.0
As	1000	390806	10-94	20.0	20.0
Ba	1000	390707	10-94	20.0	20.0
Be	1000	291123	1-94	0.5	0.5
Cd	1000	291012	-94	0.5	0.5
Ca	10000	390816	10-94	10.0	100.0
Cr	1000	291028	1-94	2.0	2.0
Co	1000	390806	10-94	5.0	5.0
Cu	1000	291201	3-94	2.5	2.5
Fe	10000	290724	3-94	1.0	10.0
Pb	1000	390907	11-94	5.0	0.5
Mg	10000	390923	11-94	10.0	100.0
Mn	1000	291209	1-94	5.0	5.0
Ni	1000	390917	11-94	5.0	5.0
K	10000	390527	7-94	10.0	100.0
Se	1000	390421	7-94	20.0	20.0
Ag	1000	290817	1-94	0.5	0.5
Na	10000	390527	9-94	10.0	100.0
Ti	1000	390707	9-94	20.0	20.0
V	1000	291015	1-94	5.0	5.0
Zn	1000	390305	7-94	5.0	5.0

All Stock Solns are High Purity

Final Volume = 1000 ml 20% HCl

Pipets Used: Biorhit #1

2, 5, 10, 20 ml Class "A" Volumetrics

Soln exp. 12-19-93

Continued on Page

DRodriguez
Signed

11/16/93
Date

Read and Understood By

M. Marshall
Signed

11-16-93
Date

003384

PROJECT

ICP Stds #2-5

Continued From Page

Std #2			Std #3			Std #5		
Element	Lot #	Exp. Date	Element	Lot #	Exp. Date	Element	Lot #	Exp. Date
As	390806	10/94	Al	291204	1/94	B	390106	4/94
Se	390421	7/94	Ca	390816	10/94	* La	3-71LA	10/94
Tl	390707	10/94	Fe	290724	3/94	* Li	2-252LT	10/94
Sb	290928	1/94	Mg	29124	1/94	Mn	290923	1/94
Ba	390707	10/94	K	390527	6/94	P	291006	1/94
Be	291123	1/94	Na	390527	10/94	* Si	3-115I	10/94
Cl	291012	1/94	Std #4			Sr	390520	10/94
Co	390806	10/94	Element	Lot #	Exp. Date	Ti	291217	2/94
Cr	291028	1/94	Ag	290817	1/94	Sn	390106	3/94
Cu	291201	3/94						
Pb	390907	11/94						
Mn	291209	1/94						
Ni	390917	11/94						
V	291015	1/94						
Zn	390305	7/94						

Final Volume = 1000 ml (5% conc. HNO₃; 5% conc. HCl)

Std's 2, 4, 5 - Used 1.0 ml of High Purity 1000 ppm stock solution.
(Final conc. = 1 ppm)

* Li, La, Si - Used 1.0 ml of SPEX 1000 ppm stock solution.

Std 3 - Used 1.0 ml of High Purity 10,000 ppm stock solution.
Except K - 10 ml used
(Final conc. = 10 ppm; K = 100 ppm)

Pipets used: Eppendorf # 42960

Continued on Page

Read and Understood By

Randy Brachfield
Signed

11-17-93
Date

[Signature]
Signed

11-19-93
Date

003385

PROJECT ICAP ICV 19+7

Continued From Page

ICAP 19

5 mls of QC 19 SPEX

CAS # 7697-37-2

Lot # 5-18/AS

Expires: 9-15-94

ICAP 7

5 mls of QC 7 SPEX

CAS # 7697-37-2

Lot # 5-129AS

Expires: 9-15-94

Final Vol = 500 mls 5% HNO₃ + 5% HCl

Remade: Date Initials

11-19-93

BC

Continued on Page

Read and Understood By

Kent Brakefield

Signed

10-20-93

Date

L. A. May

Signed

10-20-93

Date

003386

PROJECT ICAP - ICS A + AB

Continued From Page

ICS A

50 mls of PE-Pure * 7697-37-2
 Lot # 6-21AS
 Expires 12-31-94

ICS AB

50 mls of PE-Pure * 7697-37-2
 Lot # 6-21AS
 Expires: 12-31-94

5 mls of PE-Awe * 7697-37-2
 Lot # 5-81AS
 Expires: 9-30-94

Final vol = 500 mls (6% HCl)

Remade: Date Initials

11-19-93

EC

Continued on Page

Read and Understood By

Paul Brahefeld
 Signed

10-20-93
 Date

Thyler A. King
 Signed

10-20-93
 Date

003387

PROJECT

ICP CCV Soln.

Continued From Page

Element	Lot #	Exp. Date	(ppm) Stock conc.	Vol. Used (ml)	(ppm) Final Conc.
As	390306	10/94	1000	1.4	0.7
Se	390421	7/99			
Tl	390707	10/94			
Br	390707	10/94		1.0	0.5
SH Br	290928	1/94			
Be	291123	1/94			
CB	291012	1/94			
Co	390306	10/94			
Cu	2911201	3/94			
Cr	291028	1/94			
Pb	390907	11/94			
Mn	2911209	1/94			
Ni	390917	11/94			
V	291015	1/94			
Zn	390505	7/99			
Ag	290817	1/94			
B	390106	4/94			
Mo	290923	1/94			
Sr	390520	10/94			
Sn	390106	3/94			
Ti	291217	2/94			
Al	291204	1/94	10,000		5.0
Ca	390516	10/94			
Fe	2916724	3/94			
Mg	291124	1/94			
Na	390527	10/94			
K	390527	6/94			

High Purity Stock (except Li, In, Si - SPEX Stock)

Final Volume = 2000 ml

5% conc. HNO₃

5% conc. HCl

Pipets used: Biorbit 1000 (*1); Eppendorf #42960

Continued on Page

Read and Understood By

Alfred A. Long
Signed

11-19-93
Date

Randy Braden
Signed

11-19-93
Date

003388

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
M E M O R A N D U M
GAINESVILLE, FL

To: Department Managers

From: Patrick Wilber

Date: November 16, 1993

Subject: Huntsville COE
Field Group -
CDDMTW memo
update

ESE station ID's * 10, 12, 22, 37, 11, and 9 for the referenced field group receive an inhouse generated CLP-like package for the deliverable (forms, raw data, narrative, etc.), following SW846 methodology for all the analyses groups. I will update you as to when these station IDs will arrive so that they can be extracted, analyzed and batched together. The other stations will receive a standard COE deliverable following SW846 methodology. If you have any questions please contact me immediately.

Thanks

cc:DHG
PCG

003389

SAMPLE ID'S
 PARAMETERS
 UNITS

	MW9	MW10SP	MW11	MW12SP	MW22SP	MW37SP
STORET	CODMTW	CODMTW	CODMTW	CODMTW	CODMTW	CODMTW
METHOD	9	10	11	12	22	37

DATE
 TIME

	11/15/93	11/11/93	11/13/93	11/11/93	11/17/93	11/18/93
TIME	17:11	18:00	09:30	15:30	15:00	11:30

ALUMINUM.TOTAL	1105
UG/L	6010-G
BARIUM.TOTAL	1007
UG/L	6010-G
CADMIUM.TOTAL	1027
UG/L	6010-G
CHROMIUM.TOTAL	1034
UG/L	6010-G
COBALT.TOTAL	1037
UG/L	6010-G
COPPER.TOTAL	1042
UG/L	6010-G
ZINC.TOTAL	1092
UG/L	6010-G
ALUMINUM.DISS	1106
UG/L	6010-G
BARIUM.DISS	1005
UG/L	6010-G
CHROMIUM.DISS	1025
UG/L	6010-G
COBALT.DISS	1035
UG/L	6010-G
COPPER.DISS	1040
UG/L	6010-G
LEAD.DISS	1049
UG/L	6010-G
ZINC.DISS	1090
UG/L	6010-G

*** PROJECT REQUIREMENTS ***
Department 3233

52 342

Project Name: *Huntsville COF - Dom T*

Lab Coordinator: *P. Wilber*

Field Groups: *CDomTW*
CDomTWD

Project No.: *7934082G 0201*

QC Type:

QC Requirements:

003391

1 CVAA - 7470

1 CVAA - 7470
SDG No. G44302

ANALYTICAL DATA

003394

Lab Name: ESE

Project No.: 7934082G

SDG No: G44302

Client ID	Laboratory ID	Matrix (S/W)	Analysis	Date Collected	Date Received	Date Analyzed
ICV1	ICV*PE-PURE*	W	HG	00/00/00	00/00/00	11/29/93
PBLK1	MB*QC*1	W	HG	00/00/00	00/00/00	11/29/93
SP1	SP*QC*1	W	HG	00/00/00	00/00/00	11/29/93
MW9	CDDMTW*9	W	HG	11/15/93	11/16/93	11/29/93
MW10SP	CDDMTW*10	W	HG	11/11/93	11/12/93	11/29/93
MW11	CDDMTW*11	W	HG	11/13/93	11/15/93	11/29/93
MW12SP	CDDMTW*12	W	HG	11/11/93	11/12/93	11/29/93
MW22SP	CDDMTW*22	W	HG	11/17/93	11/18/93	11/29/93
MW37SP	CDDMTW*37	W	HG	11/18/93	11/19/93	11/29/93
MW9MS	SPM1*CDDMTW*	W	HG	11/15/93	11/16/93	11/29/93
MW9MSD	SPM2*CDDMTW*	W	HG	11/15/93	11/16/93	11/29/93
CCV1	CCV*QC*1	W	HG	00/00/00	00/00/00	11/29/93
CCB1	CCB*QC*1	W	HG	00/00/00	00/00/00	11/29/93
CCV2	CCV*QC*2	W	HG	00/00/00	00/00/00	11/29/93
CCB2	CCB*QC*2	W	HG	00/00/00	00/00/00	11/29/93

Comments:

ANALYSIS DATA SHEET

PBLK1

Lab Name: ESE Project No.: 7934082G SDG No.: G44302
Matrix: (soil/water) WATER Lab Sample ID: MB*QC*1
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 11/29/93 Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7439-97-6	MERCURY, TOTAL (UG/L) _____	0.20 U
7439-97-6	MERCURY, DISS (UG/L) _____	0.20 U

Lab Name: ESE	Project No.: 7934082G	SDG No.: G44302
Matrix: (soil/water) WATER		Lab Sample ID: CDDMTW*9
Sample wt/vol: .		Lab File ID:
%Moisture:	pH:	Dilution Factor: 1.00
Date Analyzed: 11/29/93		Date Received: 11/16/93

CAS NO.	COMPOUND		Q
7439-97-6	MERCURY, TOTAL (UG/L) _____	0.20	U
7439-97-6	MERCURY, DISS (UG/L) _____	0.20	U

ANALYSIS DATA SHEET 52 350

Client ID

MW10SP

Lab Name: ESE Project No.: 7934082G SDG No.: G44302
Matrix: (soil/water) WATER Lab Sample ID: CDDMTW*10
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 11/29/93 Date Received: 11/12/93

CAS NO.	COMPOUND	Q	
7439-97-6	MERCURY, TOTAL (UG/L)	0.77	
7439-97-6	MERCURY, DISS (UG/L)	0.20	U

52 351

Client ID

ANALYSIS DATA SHEET

MW11

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*11

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 11/29/93

Date Received: 11/15/93

CAS NO.

COMPOUND

Q

7439-97-6

MERCURY, TOTAL (UG/L)

0.74

7439-97-6

MERCURY, DISS (UG/L)

0.20

U

52 352

Client ID

ANALYSIS DATA SHEET

MW12SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*12

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 11/29/93

Date Received: 11/12/93

CAS NO.

COMPOUND

Q

7439-97-6

MERCURY, TOTAL (UG/L)

0.23

7439-97-6

MERCURY, DISS (UG/L)

0.20 U

ANALYSIS DATA SHEET

52 353

Client ID

MW22SP

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

Matrix: (soil/water) WATER

Lab Sample ID: CDDMTW*22

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 11/29/93

Date Received: 11/18/93

CAS NO.

COMPOUND

Q

7439-97-6

MERCURY, TOTAL (UG/L) _____

1.86

7439-97-6

MERCURY, DISS (UG/L) _____

0.20

U

Client ID

ANALYSIS DATA SHEET

MW37SP

SDG No. : G44302

Lab Sample ID: CDDMTW*37

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/19/93

Q

003403

52 355

Client ID

ANALYSIS DATA SHEET

MW9MS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

Matrix: (soil/water) WATER

Lab Sample ID: SPM1*CDDMTW*9

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 11/29/93

Date Received: 11/16/93

CAS NO.

COMPOUND

Q

7439-97-6

MERCURY, TOTAL (UG/L)

4.25

7439-97-6

MERCURY, DISS (UG/L)

5.16

Client ID

MW9MSD

SDG No. : G44302

Lab Sample ID: SPM2*CDDMTW*9

Lab File ID:

Dilution Factor: 1.00

Date Received: 11/16/93

Q

003405

CCV1

Lab Name: ESE Project No.: 7934082G SDG No.: G44302
Matrix: (soil/water) WATER Lab Sample ID: CCV*QC*1
Sample wt/vol: . Lab File ID:
%Moisture: pH: Dilution Factor: 1.00
Date Analyzed: 11/29/93 Date Received: 00/00/00

CAS NO.	COMPOUND	Q
7439-97-6	MERCURY, TOTAL (UG/L)	5.39
7439-97-6	MERCURY, DISS (UG/L)	5.39

52 359

Client ID

ANALYSIS DATA SHEET

CCV2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

Matrix: (soil/water) WATER

Lab Sample ID: CCV*QC*2

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 11/29/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-97-6

MERCURY, TOTAL (UG/L)

5.24

7439-97-6

MERCURY, DISS (UG/L)

5.24

52 360

Client ID

ANALYSIS DATA SHEET

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

Matrix: (soil/water) WATER

Lab Sample ID: CCB*QC*2

Sample wt/vol: .

Lab File ID:

%Moisture:

pH:

Dilution Factor: 1.00

Date Analyzed: 11/29/93

Date Received: 00/00/00

CAS NO.

COMPOUND

Q

7439-97-6	MERCURY, TOTAL (UG/L)	0.20	U
7439-97-6	MERCURY, DISS (UG/L)	0.20	U

QUALITY CONTROL DATA

003410

CALIBRATION CURVES

52 362

Lab Name: ESE

SDG #: G44302

Analyte: MERCURY, TOTAL

Instrument ID:

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	11/29/93	0.0	0.0	- .005		1.0000
		0.2	1.75	0.20		
		0.5	4.25	0.50		
		1.0	8.5	1.01		
		2.0	16.25	1.99		
		5.0	38.25	5.05		
		7.0	50.5	6.94		
		10.0	69.0	10.0		

Control Limits: $r = 0.995$

Comments:

CALIBRATION CURVES

52 363

Lab Name: ESE

SDG #: G44302

Analyte: MERCURY, DISS

Instrument ID:

Curve #	Analysis Date	Concentration	Response	Predicted Concentration	Retention Time (min)	Correlation Coeff. (r)
1	11/29/93	0.0	0.0	-.005		1.0000
		0.2	1.75	0.20		
		0.5	4.25	0.50		
		1.0	8.5	1.01		
		2.0	16.25	1.99		
		5.0	38.25	5.05		
		7.0	50.5	6.94		
		10.0	69.0	10.0		

Control Limits: $r = 0.995$

Comments:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Client ID

MW9MS

Lab Name: ESE

Project No.: 7934082G

SDG No.: G44302

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC #	QC LIMITS REC.
MERCURY, TOTAL	5.00	0.	4.05	81.0 *	85-127
MERCURY, DISS	5.00	0.	5.16	103.2	85-127

COMPOUND	SPIKE ADDED	MSD CONCENTRATION	MSD % REC #	% RPD #	QC LIMITS RPD REC.
MERCURY, TOTAL	5.00	4.23	84.6 *	4.3	21 85-127
MERCURY, DISS	5.00	5.02	100.4	2.8	21 85-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENT:

ESE METHOD BLANK SUMMARY

Client ID

PBLK1

Lab Name: ESE

Project No: 7934082G

SDG No.: G44302

Lab Sample ID: MB*QC*1

Lab File ID:

Matrix: (soil/water) WATER

Instrument ID:

Date Analyzed : 11/29/93

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
=====	=====	=====
MW9	CDDMTW*9	11/29/93
MW10SP	CDDMTW*10	11/29/93
MW11	CDDMTW*11	11/29/93
MW12SP	CDDMTW*12	11/29/93
MW22SP	CDDMTW*22	11/29/93
MW37SP	CDDMTW*37	11/29/93
MW9MS	SPM1*CDDMTW*9	11/29/93
MW9MSD	SPM2*CDDMTW*9	11/29/93

COMMENTS:

52 366

Client ID

REFERENCE STANDARD

SP1

Lab Name: ESE

SDG No: G44302

Lab Sample ID: SP*QC*1

Date Analyzed: 11/29/93

Standard Source:

Instrument ID:

Analyte	True	Found	C	%Recv	Limits
HG	5.00	5.02		100.4	85-127
HG, DISS	5.00	5.02		100.4	85-127

Comments:

FORM V ESE

003415

Client ID

CCE1

SDG No: G44302

Instrument ID:

Analyte	Conc	C	CRDL
HG	0.0	U	0.2
HG, DISS	0.0	U	0.2

52 368

Client ID

CALIBRATION BLANKS

CCB2

Lab Name: ESE

Project No.: 7934082G

SDG No: G44302

Lab Sample ID: CCB*QC*2

Instrument ID:

Analyte	Conc	C	CRDL
HG	0.0	U	0.2
HG, DISS	0.0	U	0.2

Client ID

ICV1

SDG No: G44302

Date Analyzed: 11/29/93

Instrument ID:

[illegible]

Comments:

Client ID

CALIBRATION VERIFICATION

CCV1

Project No: 7934082G

SDG No: G44302

Date Analyzed: 11/29/93

Instrument ID:

Analyte	True	Found	C	%Diff	Limit
HG	5.00	5.39		7.8	
HG, DISS	5.00	5.39		7.8	

Comments:

Client ID

CCV2

SDG No: G44302

Date Analyzed: 11/29/93

Analyte	True	Found	C	%Diff	Limit
HG	5.00	5.24		4.8	
HG, DISS	5.00	5.24		4.8	

page 1 of 1

003420

RAW DATA

52 373

METALS BATCH DOCUMENTATION CHECKLIST

Batch No.: G44302

QC Type: FDER

Initial or NA

- MASS 1. Batch printout
- MASS 2. Instrument logbook pages - copies (with instrument ID, conditions, method used)
- MASS 3. Raw data (labeled, dated, unused data marked and explained)
- MASS 4. Sample prep logbook pages - copies

The above documents should be numbered and placed in the folder in the order indicated.

NOTES:

Revised

MASS
Analyst Initials

11-30-93
Date

MASS
Checked By

12/1/93
Date

003422

ESE BATCH : C44302

QC TYPE : FDER/SW
 ANALYST : MARSHALL SEIGLER
 EXTRACTOR : MARSHALL SEIGLER
 DATA ENTRY : MARSHALL SEIGLER

REPORT DATE/TIME : 11/30/93 18:23:24
 ANALYSIS DATE : 11/29/93
 EXTRACT DATE : 11/29/93

STATUS :

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
COOHTW	7934082G 0201	MUNTSVILLE COE - DONT	PATRICK WILBER

Sample Specific Raw Data

SAMPLE CODE	EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	SAMPLE VOL or WT (NA)	EXTRACT VOL or WT (NA)	INJECTION VOLUME (NA)	MOISTURE
ICV*PE-PURE*1							
MB*QC*1							
SP*QC*1							
DA*COOHTW*9							
DA*COOHTW*10							
DA*COOHTW*11							
DA*COOHTW*12							
DA*COOHTW*22							
DA*COOHTW*37							
SPW1*COOHTW*9							
SPW2*COOHTW*9							
CCV*QC*1							
CCB*QC*1							
CCV*QC*2							
CCB*QC*2							

Parameter Specific Raw Data

SAMPLE CODE	STORET METHOD	STATUS	RESPONSE (PEAK HGT)	DIL	TYPE	CURVE	RET TIME	SPIKE SOL CONC (NA)	SPIKE SAMP VOL (NA)	SPIKE VOLUME (NA)	DIL CODE	CALC'D TARGET (UG/L)
ICV*PE-PURE*1	71900*7470	OK	38.5									5.0
	71890*7470	OK	38.5									5.0
KB*QC*1	71900*7470	OK	0.0		FINAL							
	71890*7470	OK	0.0		FINAL							
SP*QC*1	71900*7470	OK	38.0									5.0
	71890*7470	OK	38.0									5.0
DA*CODMTW*9	71900*7470	OK	1.75									
	71890*7470	OK	0.0									
DA*CODMTW*10	71900*7470	OK	6.5									
	71890*7470	OK	0.0									
DA*CODMTW*11	71900*7470	OK	6.25									
	71890*7470	OK	0.0									
DA*CODMTW*12	71900*7470	OK	2.0									
	71890*7470	OK	0.0									
DA*CODMTW*22	71900*7470	OK	15.25									
	71890*7470	OK	0.25									
DA*CODMTW*37	71900*7470	OK	0.0									
	71890*7470	OK	0.0									
SPH1*CODMTW*9	71900*7470	OK	32.75									5.0
	71890*7470	OK	39.0									5.0
SPH2*CODMTW*9	71900*7470	OK	34.0									5.0
	71890*7470	OK	38.0									5.0
CCV*QC*1	71900*7470	OK	40.5									5.0
	71890*7470	OK	40.5									5.0
CCB*QC*1	71900*7470	OK	0.0									
	71890*7470	OK	0.0									
CCV*QC*2	71900*7470	OK	39.5									5.0
	71890*7470	OK	39.5									5.0
CCB*QC*2	71900*7470	OK	0.0									
	71890*7470	OK	0.0									

CALIBRATION CURVE # 1 (UG/L)

CURVE DETECTION LIMIT= 0.2 DATE: 29 NOV 1993 LARGEST RESPONSE=69.0 XRSO=8.9100

CONC	0.0	0.2	0.5	1.0	2.0	5.0	7.0	10.0
RESP	0.0	1.75	4.25	8.5	16.25	38.25	50.5	69.0
CONC	-0.005	0.20	0.50	1.01	1.99	5.05	6.94	10.0

CONC = -5.3720E-03+ 1.1605E-01*RESP+ 4.2361E-04*RESP**2+ *RESP**3
 95% C.I.= 4.5153E-02 4.3539E-03 6.5125E-05
 CORRELATION COEFFICIENT = 1.0000

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC*1	0.0	
QC*2	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
QC*1	5.39	5.00	7.8
QC*2	5.24	5.00	4.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
PE-PURE*1	5.09	5.00	1.8

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP*QC*1	0.0	5.02	5.02	5.00	100.4	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1*CODMTW*9	0.20	4.25	4.05	5.00	81.0	Recovery Exceeds criteria. (<85)
SPM2*CODMTW*9	0.20	4.43	4.23	5.00	84.6	4.3 Recovery Exceeds criteria. (<85)

STORE1: 71890 METHOD: 7470-G MERCURY DISS. UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)

CURVE DETECTION LIMIT= 0.2 DATE: 29 NOV 1993 LARGEST RESPONSE=69.0 XRSO=8.9100

CONC	0.0	0.2	0.5	1.0	2.0	5.0	7.0	10.0
RESP	0.0	1.75	4.25	8.5	16.25	38.25	50.5	69.0
CONC	-0.005	0.20	0.50	1.01	1.99	5.05	6.94	10.0

CONC = -5.3720E-03+ 1.1605E-01*RESP+ 4.2361E-04*RESP**2+ *RESP**3
 95% C.I.= 4.5153E-02 4.3539E-03 6.5125E-05
 CORRELATION COEFFICIENT = 1.0000

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
QC*1	0.0

CONTINUING CALIBRATION BLANK(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	C.R.D.L.
QC*1	0.0	
QC*2	0.0	

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
QC*1	5.39	5.00	7.8
QC*2	5.24	5.00	4.8

INITIAL CALIBRATION VERIFICATION STANDARD(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
PE-PURE*1	5.09	5.00	1.8

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SP*QC*1	0.0	5.02	5.02	5.00	100.4	

SAMPLE MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	RELXDIFF.
SPM1*CODMTW*9	0.0	5.16	5.16	5.00	103.2	
SPM2*CODMTW*9	0.0	5.02	5.02	5.00	100.4	2.8

SAMPLE RESULTS

52 377

SAMPLE ID	900*7470-G	890*7470-G
	MERCURY, TO TAL	MERCURY, DI SS
	UG/L	UG/L
CDNWTW*9	0.20	<0.02
CDNWTW*10	0.77	<0.02
CDNWTW*11	0.74	<0.02
CDNWTW*12	0.23	<0.02
CDNWTW*22	1.86	0.02
CDNWTW*37	<0.02	<0.02

003426

UNITS ENTERED

FINAL CONCENTRATION UG/L
 INJECTION VOLUME NA
 SAMPLE VOLUME NA
 EXTRACT VOLUME NA
 CURVE CONCENTRATION UG/L
 SPIKE SOLN CONCENTRATION NA
 SPIKE VOLUME NA
 SPIKE SAMPLE VOLUME NA
 TARGET CONCENTRATION UG/L
 RESPONSE DESCRIPTION PEAK HGT
 CONVERSION FACTOR 1

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL} * 1}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) * (\text{NA}) * 1}{(\text{NA}) * (\text{NA})}$$

$$(\quad) * \left(\frac{\quad}{(\quad)} \right) * \left(\frac{\quad}{(\quad)} \right) * \left(\frac{\quad}{(\quad)} \right) * ((100 - (\quad))) / 100$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \% \text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{NA}) * (\text{NA})}{(\text{NA})}$$

Samples are batched in Peak height. Ppb concentration is calculated from the curve.

Batch No.: G44302

Analysis Date: 11/29/93

Analyst: MARSHALL SEIGLER

	<u>"Exceptions"</u>	
	Yes	No Comment / Corrective Action
Are ALL units documented in batch?	X	
Analysis holding time within criteria?	X	
Extract holding time within criteria?	X	
No. of calibration standards present acceptable?	X	
Curve correlation coefficient ≥ 0.995 ?	X	
Calibration curve y-intercept $<$ curve detection limit?	X	
Sample responses within highest standard response?	X	
CCV present?	X	
CCV within acceptance criteria?	X	
ICV present?	X	
ICV within acceptance criteria?	X	
Method blank present?	X	
Method blank within acceptance criteria?	X	
Standard matrix spike present?	X	
Standard matrix spike within acceptance criteria?	X	
Sample matrix spike present?	X	
Sample matrix spike within acceptance criteria?	X	X 71900*7470 <u>Possible matrix interference</u>
Sample matrix spike duplicate present?	X	
Sample matrix spike duplicate within acceptance criteria?	X	X 71900*7470 <u>Possible matrix interference</u>

Note: Any "NO" answer requires a comment.

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Environmental Science and Engineering Analytical Services
Internal QA/QC Batch Checklist For Atomic Spectroscopy

52 380

Batch No.: 044302 Analysis Date: 11/29/93 Analyst: MARSHALL SEIGLER

	N/A	Yes	No	"Exceptions"	
				Comment	Corrective Action
Is the method blank free of contamination? If not, has the data been blank corrected?	☒	☒	☐		
Are reported values consistent with the required units?	☐	☒	☐		
Are detection limits reported correctly?	☐	☒	☐		
Are dilution factors entered correctly?	☒	☐	☐		
Is the calibration curve (if applicable) entered correctly?	☐	☒	☐		
Are all the correct elements included in the spikes?	☐	☒	☐		
Is the batch checked for data entry error(s)?	☐	☒	☐		
Are continuing calibration blanks analyzed at a frequency specified in the appropriate QA/QC Plan (i.e. AF, COE or FDER QA/QC plan)? If not, is an appropriate explanation provided?	☒	☒	☐		
Are continuing calibration verification (CCV) standards analyzed at a frequency specified in the appropriate QA/QC Plan? If not, is an appropriate explanation provided?	☒	☒	☐		
Is an example calculation provided?	☐	☒	☐		
Has the batch documentation checklist been completed?	☐	☒	☐		

Note: Any "NO" answer requires a comment.
Additional Comments:

Completed By: Marshall Seigler Reviewed By: Marshall Seigler
Date: 11-29-93 Date: 12/1/93

Notification of appropriate Laboratory Coordinators required for "Exceptions":

Signature	Date	Comments
<u>Seigler</u>	<u>12/3/93</u>	<u>OK</u>

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

003429

MERCURY SAMPLE RUN LOG

METHOD: ASM 3273-008
ANALYST: MARSHALL SEIGER

MATRIX: WATER
EMP.# 3377

BK# 27 PG# 139
QC TYPE: FDER
DATE: 11-29-93

SAMPLES ANALYZED:

CDDMTLW * 9-12, 22, 37 (N+NF)

BATCH #, DATE, INITIALS

G44302
MS
11-29-93

INSTRUMENT PARAMETERS:

Inst. model BUCK 400
Wavelength 253.7 nm

CALIBRATION CURVE:

c.c.: 1.0000
Det. Limit: 0.2
Calib. Type: QUAD LINEAR

STANDARDS:

10 ppm stock
Manufacturer
Lot No.
Exp. date

Std.#1
HIGH PURITY
390526
4/94

Std.#2
HIGH PURITY
390824
4/94

Working Stds. made:
100 ug/L std.

11-29-93
ANN

11-29-93
AWN

COMMENTS:

Peak No.	Sample I.D.	Peak Ht.	Conc. (ug/L)	Target (ug/L)	Comments
1	0.0	0.0			
2	0.2	1.75			
3	0.5	4.25			
4	1.0	9.5			
5	2.0	16.5			
6	5.0	39.25			
7	7.0	50.5			
8	10.0	69.0			
9	ICV	38.5	5.08	5.0	102% Rec
10	MB	0.0	<0.2		
11	SP	39.0	5.01	5.0	100% Rec
12	CDDMTLW * 9 (N)	1.75	0.20		
13	* 10 (N)	6.5	0.76		
14	* 11 (N)	6.25	0.73		
15	* 12 (N)	2.0	0.23		
16	* 22 (N)	15.25	1.85		
17	* 37 (N)	0.0	<0.2		
18	* 9 (NF)	0.0	<0.2		
19	* 10 (NF)	0.0	<0.2		
20	CCV #1	40.5	5.79	5.0	109% Rec

READ AND UNDERSTOOD BY:

[Signature]

DATE: 11-30-93

003430

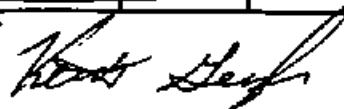
MERCURY SAMPLE RUN LOG

52 382

BK# 27 PG# 140

Print No.	Sample I.D.	Peak Ht.	Conc. (ug/L)	Target (ug/L)	Comments
21	CCB#1	0.0	<0.2		
22	CODM#2 #11 (NF)	0.0	<0.2		
23	*12 (NF)	0.0	<0.2		
24	*22 (NF)	0.0	<0.2		
25	*27 (NF)	0.0	<0.2		
26	*9(N) SPM1	32.75	4.24	5.0	95% Rec
27	*9(N) SPM2	34.0	4.42	5.0	98% Rec
28	*9(NF) SPM1	39.0	5.16	5.0	103% Rec
29	*9(NF) SPM2	38.0	5.01	5.0	100% Rec
30	CCV #2	39.5	5.23	5.0	105% Rec
31	CCB #2	0.0	<0.2		
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
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58					
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60					
61					
62					
63					
64					

READ AND UNDERSTOOD BY:



DATE: 11-30-93

003431

10

MB
(0.0)

(38.0)

52 383

9

1.0
(38.5)

8

10.0
(67.0)

7

2.0
(50.5)

10

20

30

40

50

60

70

80

90

100

6

5.0
(38.25)

5

2.0
(16.5)

4

1.0
(8.5)

3

0.5
(4.25)

2

0.2
(1.75)

1

0.0
(0.0)

10

20

30

40

50

60

70

80

90

100

644302
11-22-93
MSS
Back 400
CD-ROM 4 9-12, 20, 21 (MMS)

003432

(5)

17

*37(N)
(0.0)

52 384

16

*22(N)
(15.25)

15

*12(N)
(2.0)

14

*11(N)
(6.25)

13 10

20 *10(N)30
(6.5)

40

50

60

70

80

90

100

12

CDMTW *9(N)
(4.75)

11

SP
(38.0)

10

MB
(0.0)

9

IEU
(38.5)

8

10.0
(69.0)

7

7.0
(50.5)

10

20

30

40

50

60

70

80

90

100

6

5.0
(38.25)

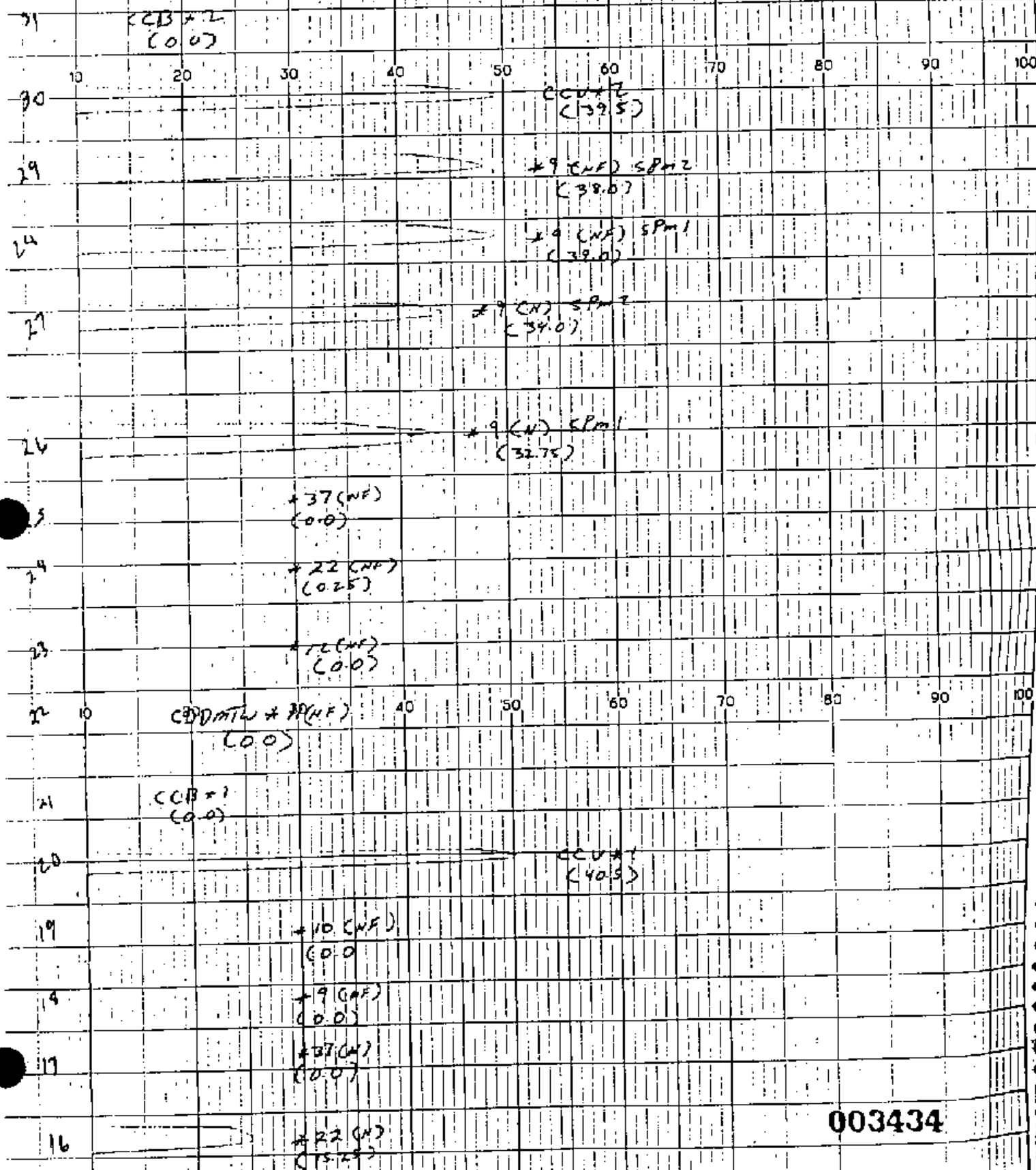
5

2.0
(16.5)

4

1.0
(8.5)0.5
(4.25)0.2
(1.75)

003433



ATOMIC SPECTROSCOPY SAMPLE PREP

00001:

Book No. 12 Pg. No. _____Matrix WATERMethod/QC Type CUAA/FDIERSOP No. 45M3233-008Lot No.(s) NA

Spike Solutions Used

1. ICV PE-PURE

2. 100 PP6 H₂ SO₄N

Prep Date 11-24-93 Prep'd by MISS Exp. Date 12-24-93

11-29-93 AWN 11-30-93

Final Vol. (mL) 100Pipets Used CLASS A 100 PIPETBalance No. NAHood No. NAHotplate No. NA

Sample No.	Weight (g)/ Unit Vol.(mL)	Spike Information
<u>ICV</u>	<u>100</u>	<u>100 ml #1</u>
<u>MB</u>	<u>100</u>	
<u>SP</u>		<u>5 ml #2</u>
<u>CDDMTW #9</u>		
<u>*9 SPM1</u>		<u>5 ml #2</u>
<u>*9 SPM2</u>		<u>5 ml #2</u>
<u>*10</u>		
<u>*11</u>		
<u>*12</u>		
<u>*22</u>		
<u>*37</u>		
<u>CDDMTW(NF) #9</u>		
<u>*9 SPM1</u>		<u>5 ml #2</u>
<u>*9 SPM2</u>		<u>5 ml #2</u>
<u>*10</u>		
<u>*11</u>		
<u>*12</u>		
<u>*22</u>		
<u>*37</u>		

Marshall Singh 11-29-93

Signed Date

Rodriguez 11-29-93

Read & Understood By Date

003435

PROJECT

100 ppb Hg Std.

Continued From Page

High Purity Lot # 390526

Transferred 1.0 ml of High Purity 10 ppm stock to a
100 ml volumetric flask, added 1.0 ml conc HNO₃ and
brought to volume with DI.

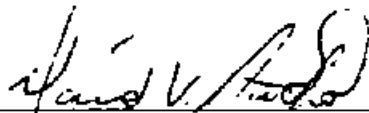
High Purity Lot # ~~340524~~ ^{AWN} 390824

Transferred 1.0 ml of High Purity 10 ppm stock to a
100 ml volumetric flask, added 1.0 ml conc HNO₃ and
brought to volume with DI.

100 ppb Hg Std - Final Volume = 100 ml 1% HNO₃Standards Received Daily:

DVA	10-13-93	MSS	11-2-93	RGB	11-12-93
MSS	10-13-93	AWN	11-3-93	AWN	11-17-93
AWN	10-14-93	KNG	11-4-93	BC	11-18-93
KNG	10-15-93	AWN	11-4-93	KNG	11-18-93
MSS	10-15-93	MSS	11-3-93	MSS	11-18-93
KNG	10-18-93	DI	11-5-93	AWN	11-19-93
AWN	10-18-93	AWN	11-9-93	MSS	11-24-93
MSS	10-19-93	KNG	11-9-93	KNG	11-24-93
AWN	10-20-93	AWN	11-10-93	MSS	11-24-93
DI	10-20-93	DI	11-11-93	DI	11-19-93
MSS	10-21-93	BC	11-11-93	AWN	11-23-93
AWN	10-22-93	AWN	11-11-93	MSS	11-24-93
MSS	10-25-93	MSS	11-11-93	AWN	11-29-93
DI	10-26-93	KNG	11-12-93		
AWN	10-26-93	AWN	11-12-93		
MSS	10-27-93	KNG	11-13-93		
AWN	10-28-93	AWN	11-15-93		
MSS	10-29-93	KNG	11-15-93		
AWN	11-1-93	MSS	11-16-93		

Continued on Page

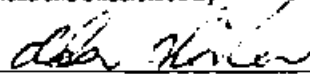


Signed

10-15-93

Date

Read and Understood By



Signed

10-15-93

Date

003436

PROJECT IICV Pe-Pure - Hg

Continued From Page

Stock Soln.

PE-Pure Lot # 5-6945 Expires Nov 30 1994

Transfer 10 ml of the 5.0 ppm Hg Stock Soln into
a 1000 ml class A volumetric flask, add 10 ml
conc. HNO_3 , bring to volume with DI water.

Final Conc. = 5.0 ppb

Vial used: Bolt # 8

Remade:

Date	Intab
10-12-93	AWN
10-14-93	DTF
10-20-93	DVIN
10-25-93	KSB
10-29-93	MSS
11-4-93	KNG
11-9-93	AWN
11-11-93	MSS
11-12-93	KNG
11-15-93	AWN
11-17-93	KSB
11-18-93	BC
11-19-93	AWN
11-21-93	MSS
11-24-93	MSS

Continued on Page

Read and Understood By

C. H. H. H.

Signed

10-12-93

Date

C. H. H. H.

Signed

10-12-93

Date

003437

*** PROJECT REQUIREMENTS ***
Department 3233

52 389

Project Name: *Huntsville COE - Dom T*

Lab Coordinator: *P. Wilber*

Field Groups: *CDDmTW*
CDDmTWD

Project No.: *7934082G 0201*

QC Type:

QC Requirements:

003438

PROJECT NUMBER 79340820 0201
FIELD GROUP COOHTW

PROJECT NAME HUNTSVILLE COE - DONT
PROJECT MANAGER S.C. WILBER

PROJECT CODE 71900 71890
METHOD CODE: 7470-G 7470-G
PARAMETER: HG HG.DISS
UNITS: UG/L UG/L

FIELD GRP.	#	SAMPLE ID	DATE	TIME
COOHTW	9	MWS	11/15/93	17:11
COOHTW	10	MW10SP	11/11/93	18:00
COOHTW	11	MW11	11/13/93	09:30
COOHTW	12	MW12SP	11/11/93	15:30
COOHTW	22	MW22SP	11/17/93	15:00
COOHTW	37	MW37SP	11/18/93	11:30

INFO ONLY

52 391

STORE: 71900 METHOD: CYAA MERCURY TOTAL, UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)

CURVE DETECTION LIMIT= DATE: 29 NOV 1993 LARGEST RESPONSE=69.0(USER DEFINED) XMSD=8.9746

CONC	0.0	0.2	0.5	1.0	2.0	5.0	7.0	10.0
RESP	0.0	1.75	4.25	8.5	16.5	38.25	50.5	69.0
CONC	-0.007	0.20	0.49	1.01	2.02	5.04	6.93	10.0

CONC = -6.9292E-03+ 1.1547E-01*RESP+ 4.3323E-04*RESP**2+ *RESP**3
 95% C.I. = 4.5995E-02 4.4228E-03 6.6152E-05
 CORRELATION COEFFICIENT = 1.0000

CONTINUING CALIBRATION VERIFICATION SAMPLE(S)

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE
0.00*1	0.0		
0.25*1	0.02		
0.50*1	0.05		
0.75*1	0.08		
1.00*1	0.11		
1.25*1	0.14		
1.50*1	0.17		
1.75*1	0.20		
2.00*1	0.23		
2.25*1	0.26		
2.50*1	0.28		
2.75*1	0.31		
3.00*1	0.34		
3.25*1	0.37		
3.50*1	0.40		
3.75*1	0.43		
4.00*1	0.46		
4.25*1	0.49		
4.50*1	0.52		
4.75*1	0.55		
5.00*1	0.58		
5.25*1	0.61		
5.50*1	0.64		
5.75*1	0.67		
6.00*1	0.70		
6.25*1	0.73		
6.50*1	0.76		
6.75*1	0.79		
7.00*1	0.82		
7.25*1	0.85		
7.50*1	0.88		
7.75*1	0.91		
8.00*1	0.94		
8.25*1	0.98		
8.50*1	1.01		
8.75*1	1.04		
9.00*1	1.07		
9.25*1	1.10		
9.50*1	1.13		
9.75*1	1.16		
10.00*1	1.19		
10.25*1	1.22		
10.50*1	1.25		
10.75*1	1.28		
11.00*1	1.32		
11.25*1	1.35		
11.50*1	1.38		
11.75*1	1.41		
12.00*1	1.44		
12.25*1	1.47		
12.50*1	1.50		
12.75*1	1.54		
13.00*1	1.57		
13.25*1	1.60		
13.50*1	1.63		
13.75*1	1.66		
14.00*1	1.69		
14.25*1	1.73		
14.50*1	1.76		
14.75*1	1.79		
15.00*1	1.82		
15.25*1	1.85		
15.50*1	1.89		
15.75*1	1.92		

003440

16.00*1	1.95
16.25*1	1.98
16.50*1	2.02
16.75*1	2.05
17.00*1	2.08
17.25*1	2.11
17.50*1	2.15
17.75*1	2.18
18.00*1	2.21
18.25*1	2.24
18.50*1	2.28
18.75*1	2.31
19.00*1	2.34
19.25*1	2.38
19.50*1	2.41
19.75*1	2.44
20.00*1	2.48
20.25*1	2.51
20.50*1	2.54
20.75*1	2.58
21.00*1	2.61
21.25*1	2.64
21.50*1	2.68
21.75*1	2.71
22.00*1	2.74
22.25*1	2.78
22.50*1	2.81
22.75*1	2.84
23.00*1	2.88
23.25*1	2.91
23.50*1	2.95
23.75*1	2.98
24.00*1	3.01
24.25*1	3.05
24.50*1	3.08
24.75*1	3.12
25.00*1	3.15
25.25*1	3.18
25.50*1	3.22
25.75*1	3.25
26.00*1	3.29
26.25*1	3.32
26.50*1	3.36
26.75*1	3.39
27.00*1	3.43
27.25*1	3.46
27.50*1	3.50
27.75*1	3.53
28.00*1	3.57
28.25*1	3.60
28.50*1	3.64
28.75*1	3.67
29.00*1	3.71
29.25*1	3.74
29.50*1	3.78
29.75*1	3.81
30.00*1	3.85
30.25*1	3.88
30.50*1	3.92
30.75*1	3.95
31.00*1	3.99
31.25*1	4.02
31.50*1	4.06
31.75*1	4.10
32.00*1	4.13
32.25*1	4.17
32.50*1	4.20
32.75*1	4.24
33.00*1	4.28
33.25*1	4.31
33.50*1	4.35
33.75*1	4.38
34.00*1	4.42
34.25*1	4.46
34.50*1	4.49
34.75*1	4.53
35.00*1	4.57
35.25*1	4.60
35.50*1	4.64
35.75*1	4.67

36.00*1	4.71
36.25*1	4.75
36.50*1	4.78
36.75*1	4.82
37.00*1	4.86
37.25*1	4.90
37.50*1	4.93
37.75*1	4.97
38.00*1	5.01
38.25*1	5.04
38.50*1	5.08
38.75*1	5.12
39.00*1	5.16
39.25*1	5.19
39.50*1	5.23
39.75*1	5.27
40.00*1	5.31
40.25*1	5.34
40.50*1	5.38
40.75*1	5.42
41.00*1	5.46
41.25*1	5.49
41.50*1	5.53
41.75*1	5.57
42.00*1	5.61
42.25*1	5.65
42.50*1	5.68
42.75*1	5.72
43.00*1	5.76
43.25*1	5.80
43.50*1	5.84
43.75*1	5.87
44.00*1	5.91
44.25*1	5.95
44.50*1	5.99
44.75*1	6.03
45.00*1	6.07
45.25*1	6.11
45.50*1	6.14
45.75*1	6.18
46.00*1	6.22
46.25*1	6.26
46.50*1	6.30
46.75*1	6.34
47.00*1	6.38
47.25*1	6.42
47.50*1	6.46
47.75*1	6.49
48.00*1	6.53
48.25*1	6.57
48.50*1	6.61
48.75*1	6.65
49.00*1	6.69
49.25*1	6.73
49.50*1	6.77
49.75*1	6.81
50.00*1	6.85
50.25*1	6.89
50.50*1	6.93
50.75*1	6.97
51.00*1	7.01
51.25*1	7.05
51.50*1	7.09
51.75*1	7.13
52.00*1	7.17
52.25*1	7.21
52.50*1	7.25
52.75*1	7.29
53.00*1	7.33
53.25*1	7.37
53.50*1	7.41
53.75*1	7.45
54.00*1	7.49
54.25*1	7.53
54.50*1	7.57
54.75*1	7.61
55.00*1	7.65
55.25*1	7.70
55.50*1	7.74
55.75*1	7.78

56.00*1	7.82
56.25*1	7.86
56.50*1	7.90
56.75*1	7.94
57.00*1	7.98
57.25*1	8.02
57.50*1	8.06
57.75*1	8.11
58.00*1	8.15
58.25*1	8.19
58.50*1	8.23
58.75*1	8.27
59.00*1	8.31
59.25*1	8.36
59.50*1	8.40
59.75*1	8.44
60.00*1	8.48
60.25*1	8.52
60.50*1	8.56
60.75*1	8.61
61.00*1	8.65
61.25*1	8.69
61.50*1	8.73
61.75*1	8.78
62.00*1	8.82
62.25*1	8.86
62.50*1	8.90
62.75*1	8.94
63.00*1	8.99
63.25*1	9.03
63.50*1	9.07
63.75*1	9.11
64.00*1	9.16
64.25*1	9.20
64.50*1	9.24
64.75*1	9.29
65.00*1	9.33
65.25*1	9.37
65.50*1	9.42
65.75*1	9.46
66.00*1	9.50
66.25*1	9.54
66.50*1	9.59
66.75*1	9.63
67.00*1	9.67
67.25*1	9.72
67.50*1	9.76
67.75*1	9.80
68.00*1	9.85
68.25*1	9.89
68.50*1	9.94
68.75*1	9.98
69.00*1	10.0
69.25*1	RE->BIGH
69.50*1	RE->BIGH
69.75*1	RE->BIGH
70.00*1	RE->BIGH
70.25*1	RE->BIGH
70.50*1	RE->BIGH
70.75*1	RE->BIGH
71.00*1	RE->BIGH
71.25*1	RE->BIGH
71.50*1	RE->BIGH
71.75*1	RE->BIGH
72.00*1	RE->BIGH
72.25*1	RE->BIGH
72.50*1	RE->BIGH
72.75*1	RE->BIGH
73.00*1	RE->BIGH
73.25*1	RE->BIGH
73.50*1	RE->BIGH
73.75*1	RE->BIGH
74.00*1	RE->BIGH
74.25*1	RE->BIGH
74.50*1	RE->BIGH
74.75*1	RE->BIGH
75.00*1	RE->BIGH
75.25*1	RE->BIGH
75.50*1	RE->BIGH
75.75*1	RE->BIGH

76.00*1
76.25*1
76.50*1
76.75*1
77.00*1

RE->B1GR
RE->B1GR
RE->B1GR
RE->B1GR
RE->B1GR

Chain of Custody

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST PH 12/3 COND MRD GETS CARBON LOGSHEET
*22 MW22SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*23 MW23 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*24 MW24 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*25 MW25 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*26 MW26 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF 11-9-93 1930 5.5 4.5

*27 MW27 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*28 MW28 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS N NF CDDMTW.1
GVL: NP NP CDDMTW.1
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REG'D BY NAME/ORGANIZATION/ DATE
CHARE BAN / ESE 11-9-93 2115 799055-4289 11/10/93 1300
2
3
ESH 11-10-93 16:18

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/10/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 4 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*49 MW49TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CF

CDDMTW.3

*50 MW50TS

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
ETC: C CF

CDDMTW.3

*51 MW51TS

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
ETC: C CF

CDDMTW.3

*52 MW52TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*53 MW53TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*54 MW54TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*55 MW55TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*56 MW56TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*57 MW57TBLK

GVL: VP VP VP VP 11-9-93 1400

CDDMTW.4

*58 MW58TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*59 MW59TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*60 MW60TBLK

GVL: VP VP VP VP VP

CDDMTW.4

NOTE

-CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CLARE BAW/ES&E 11-9-93 2115 7905844280 Michael York 11/10/93 1300

2

3

ES&E 11-10-93 16:48

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 5 (#) more samples on 11/10/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 4 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

03447

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # 1 SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#15 MW15 GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NP
GVL: NP NP
ETC: C CF
PH COND 12/3

6	MW16	GVL: C C EC EC EC LC LC GVL: MS MS N NP NP ETC: VP VP VP VP VP	11/9/93 1405	6.0	630
*17	MW17	GVL: C C EC EC EC LC LC GVL: MS MS N NP NP ETC: C CF			
*18	MW18	GVL: C C EC EC EC LC LC GVL: MS MS N NP NP ETC: C CF			
*19	MW19	GVL: C C EC EC EC LC LC GVL: MS MS N NP NP ETC: C CF			
*20	MW20	GVL: C C EC EC EC LC LC GVL: MS MS N NP NP ETC: C CF			
*21	MW21	GVL: C C EC EC EC LC LC GVL: MS MS N NP NP ETC: C CF			

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE/TIME)
1 CLARE BAIN/ESE 11-9-93 2115 7990584280 / ESE 11/10/93 1300
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/10/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; Yes, Seals Intact? Yes/No Interior Temp? 6 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

One "LC" One "H3" arrived broken
Nov 11/10/93

003448

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*49 MW49TS GVL: C EC EC EC LC LC 12/8 CDDMTW.3
GVL: LC LC MS MS N NP
GVL: NP NP
ETC: C CP

*50	MW50TS	GVL: C EC EC EC LC LC GVL: LC LC MS MS N NP GVL: NP NP ETC: C CP	CDDMTW.3
*51	MW51TS	GVL: C EC EC EC LC LC GVL: LC LC MS MS N NP GVL: NP NP ETC: C CP	CDDMTW.3
*52	MW52TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*53	MW53TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*54	MW54TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*55	MW55TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*56	MW56TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*57	MW57TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*58	MW58TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*59	MW59TBLK	GVL: VP VP VP VP VP	CDDMTW.4
*60	MW60TBLK	GVL: VP VP VP VP VP	CDDMTW.4

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)
1 CLAIRE BAN/ESE 11-10-93 2230 7934082G 11/12/93
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/11/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 62 Deg C
Observations Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

03450

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST

*49 MW49TS
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

CDDMTW.3
CDDMTW.3
CDDMTW.3
CDDMTW.3

12/10

VP VP VP VP

*50 MW50TS
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

CDDMTW.3
CDDMTW.3
CDDMTW.3
CDDMTW.3

*51 MW51TS
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

CDDMTW.3
CDDMTW.3
CDDMTW.3
CDDMTW.3

*52 MW52TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*53 MW53TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*54 MW54TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*55 MW55TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*56 MW56TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*57 MW57TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*58 MW58TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*59 MW59TBLK
GVL: VP VP VP VP VP

CDDMTW.4

*60 MW60TBLK
GVL: VP VP VP VP VP

CDDMTW.4

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC H-HIGHLY FLAMMABLE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA

1 CLAIRE BAN/ ESE / 11-12-93 / 1230 ESE-EX / 11/13/93 1300

2

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 12 (1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 4 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

Part 11-14-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#36 MW36 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

12/10

*37 MW37SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC EC EC EC MS MS N NF MRD GETS CARBON
GVL: NP NP NP NP CDDMTW.1
ETC: C CF LOGSHEET

*38 MW38 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC EC EC EC MS MS N NF
GVL: NP NP NP NP CDDMTW.1
ETC: C CF

*39 MW39 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC EC EC EC MS MS N NF
GVL: NP NP NP NP CDDMTW.1
ETC: C CF

*40 MW40DUP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC EC EC EC MS MS N NF
GVL: NP NP NP NP CDDMTW.1
ETC: C CF

*41 MW41DUP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC EC EC EC MS MS N NF
GVL: NP NP NP NP CDDMTW.1
ETC: C CF

11-11-93

*42 MW42DUP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC EC EC EC MS MS N NF
GVL: NP NP NP NP CDDMTW.1
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: 1-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) REC'D BY: (NAME/ORGANIZATION/ DATE)
1 CAIRE BAIN / ESE / 11-11-93 / 2400 7934082G 0201 / Patrick Wilber / ESE 11/12/93 1302

52

403

SAMPLER: Shipped on Ice? Yes/No: I anticipate shipping 5 (1) more samples on 11/12/93
SAMPLE CUSTODIAN: Custody, Seals Used? Yes/No: If Yes, Seals Intact? Yes/No Interior Temp? 2 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7534082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETERS LIST
#36 MW36 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF

12/10

*37 MW37SP

GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP
ETC: C CF

CDDMTW.1

MED GETS CARBON LOGSHEET

*38 MW38

GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP
ETC: C CF

CDDMTW.1

*39 MW39

GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP
ETC: C CF

CDDMTW.1

*40 MW40DUP

GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP
ETC: C CF

CDDMTW.1

*41 MW41DUP

GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP
ETC: C CF

CDDMTW.1

*42 MW42DUP

GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP
ETC: C CF

CDDMTW.1

CDDMTW.1

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
- HAZARD CODES: I-IRITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASH H-OTHER AGENT HAZARD IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CLARE BAW/ESE/11-11-93/2400

2 ESE/11-12-93/1300

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/12/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

03453

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE)
*36 MW36 GVL: C C EC EC EC LC LC
GVL: MS MS MS N NF NP NP
ETC: C CF

DATE TIME
CDDMTW.1
CDDMTW.1

12/10

*37 MW37SP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

MRD GETS CARBON LOGSHEET

*38 MW38 GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*39 MW39 GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*40 MW40DUP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*41 MW41DUP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*42 MW42DUP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: 1-IGNITABLE C-CORROSIVE R-RELATIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY: (NAME/ORGANIZATION/ DATE)

1 CURE BAN/ESE / 11-11-93 / 2400 7934082G 11-11-93
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/12/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

34 11-12-93 16.5

52

405

454

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*49 MW49TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CE

12/10

*50 MW50TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CE

*51 MW51TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CE

*52 MW52TBLK GVL: VP VP VP VP VP CDDMTW.4

*53 MW53TBLK GVL: VP VP VP VP VP CDDMTW.4

*54 MW54TBLK GVL: VP VP VP VP VP CDDMTW.4

*55 MW55TBLK GVL: VP VP VP VP VP CDDMTW.4

*56 MW56TBLK GVL: VP VP VP VP VP CDDMTW.4

*57 MW57TBLK GVL: VP VP VP VP VP CDDMTW.4

*58 MW58TBLK GVL: VP VP VP VP VP CDDMTW.4

*59 MW59TBLK GVL: VP VP VP VP VP CDDMTW.4

*60 MW60TBLK GVL: VP VP VP VP VP CDDMTW.4

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CHANGE ANN/ESE / 11-11-93 / 2400 7934082G 11/12/93 1300

2 CH 11-12-93 16:15

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 2 (#) more samples on 11/12/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 2 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

3455

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ES# 36 SITE/STA HA2? LAB FRACTIONS (CIRCLE)
MW36 GVL: C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF VP VP VP VP

DATE TIME
11-12-93 1715
PARAMETER LIST
CDDMTW.1
CDDMTW.1

12/10

*37 MW37SP GVL: C EC EC EC LC LC MRD GETS CARBON
GVL: LC LC MS MS N NF LOGSHEET
GVL: NP NP NP NP
ETC: C CF

*38 MW38 GVL: C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP NP NP
ETC: C CF

*39 MW39 GVL: C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP NP NP
ETC: C CF

*40 MW40DUP GVL: C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP NP NP
ETC: C CF

*41 MW41DUP GVL: C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP NP NP
ETC: C CF

*42 MW42DUP GVL: C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA
1 CLARE BHN/ese / 11-12-93 / 1930 ASD-EX / Malsid/et ere 11/3/93 120
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 12 (1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 6 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

3456

Post 11-14-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*2 MW2 GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1
12/10

*3 MW3 GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF 11-12-93 1500
GVL: NP NP
ETC: C CF CDDMTW.1

*4 MW4 GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

*5 MWS GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

*6 MW6 GVL: C C EC EC EC LC LC LC
GVL: MS MS MS N NF NP NP
ETC: C CF CDDMTW.1

*7 MW7 GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: 1-DANGEROUS C-CORROSIVE R-REACTIVE T-TOXIC WASTIC H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REF'D BY (NAME/ORGANIZATION/ DATE)
1 CLARE BAIN/ES&E / 11-12-93 / 1930 FOR EX / 11/12/93 BAW
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 12 (1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 60 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILHER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#2 MW2 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

#3 MW3 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF 11-12-93 1500
GVL: NP NP
ETC: C CF

#4 MW4 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

#5 MW5 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

#6 MW6 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: MS MS MS N NF NP
GVL: C CF

#7 MW7 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REQ'D BY NAME/ORGANIZATION/ DA
1 CLARE BAIN/ESE / 11-12-93 / 1930 FEB-EX / 11/25/93 1300
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 12 (1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 10 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE)
#2 MW2 GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

DATE

TIME

PARAMETER LIST
CDDMTW.1

CDDMTW.1

CDDMTW.1

11-12-93 1500

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
- HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD. IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CAROL BARN/ ESE / 11-12-93 / 1230 PERRY / Patrick Wilber ESE 11/13/93 1300

2

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 12 (1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 69 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003459

11-15-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*8 MW8 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*9 MW9 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*10 MW10SP GVL: C C EC EC EC LC LC CDDMTW.N5
GVL: LC LC MS MS MS N NF 11/11/93 1800
GVL: NP NP
ETC: C CF

*11 MW11 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*12 MW12SP GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*13 MW13 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*14 MW14 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: 1-IGNITABLE C-CORROSIVE REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME)

VIA: REC'D BY (NAME/ORGANIZATION/ DA

1 CARE/ESE/ 11-11-93 / 2400

2 790584954/11/12/93 1300

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (#) more samples on 11/12/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 2 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ES#	SITE/STA HAZ7	LAB	FRACTIONS(CIRCLE)	DATE	TIME	PARAMETER LIST
*8	MWB	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP			CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1
*9	MW9	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP			CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1
*10	MW10SP	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP	11-11-93	1800	CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1
*11	MW11	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP			CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1
*12	MW12SP	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP	11/11/93	1530	CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1
*13	MW13	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP			CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1
*14	MW14	GVL: C GVL: LC GVL: NP ETC: C	EC EC EC LC MS MS MS N MS MS MS N NP NP NP			CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1 CDDMTW.1

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
- HAZARD CODES: 1-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WAST- H-OTHER ACUTE HAZARD. IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) REC'D BY: (NAME/ORGANIZATION/ DATE)
1 CURTIS BAW/ ESE / 11-11-93 2400 7934082G 0201 11/12/93
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 5(1) more samples on 11/12/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

11-12-93 16:15

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#8 MMB GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF

*9 MW9 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF

*10 MW10SP GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF

*11 MW11 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF
VP VP VP VP 0930

*12 MW12SP GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF

*13 MW13 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF

*14 MW14 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NP
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-RELATIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA

1/14/93 ESE/ 11-13-93/1500 FEB-EX

Phonon-ESE 11/15/93 1230

34 11-15-93 16:52

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 10 (4) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp: 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003462

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

12/12

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*8 MW8 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*9 MW9 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*10 MW10SP GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*11 MW11 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*12 MW12SP GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*13 MW13 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*14 MW14 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*15 MW15 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*16 MW16 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*17 MW17 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*18 MW18 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*19 MW19 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

MRD GETS CARBON LOGSHEET

MRD GETS CARBON LOGSHEET

003465

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-INITIALLY C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/ TIME) VIA: REC'D BY: (NAME/ORGANIZATION/ DATE

1 CLARE BAW/ ESE / 11-13-93 / 1500 EPO-EX DMC Phua/ ESE 11/15/93 1230

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 10 (#) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*22 MW22SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*23 MW23 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*24 MW24 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*25 MW25 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*26 MW26 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*27 MW27 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*28 MW28 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED). HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CLARE BAW/ ESE / 11-13-93 / 1500 FEB EX ESE Phenix ESE 11/15/93 12:30

2
3 ESE 11-15-93 16:52

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 10 (1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

only 1" fraction used

003464

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 79340826 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ7
#49 MW49TS

LAB FRACTIONS (CIRCLE)
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CF

DATE TIME
CDDMTW.3
CDDMTW.3
CDDMTW.3

12/12

*50 MW50TS

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CF

CDDMTW.3
CDDMTW.3
CDDMTW.3

*51 MW51TS

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP ~~VP VP VP VP~~
ETC: C CF

CDDMTW.3
CDDMTW.3
CDDMTW.3

*52 MW52TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*53 MW53TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*54 MW54TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*55 MW55TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*56 MW56TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*57 MW57TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*58 MW58TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*59 MW59TBLK

GVL: VP VP VP VP VP

CDDMTW.4

*60 MW60TBLK

GVL: VP VP VP VP VP

CDDMTW.4

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
- HAZARD CODES: 1-IGNITABLE C-CORROSIVE REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REG'D BY (NAME/ORGANIZATION/ DATE)

CLAUDE BAW/ese / 11-13-93 / 1500 Fed-ex ESE 11/15/93 1330

2

3

34 11-15-93 16:52

SAMPLE: Shipped on Ice? Yes/No: I anticipate shipping 10(1) more samples on 11/15/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No: If Yes, Seals Intact? Yes/No Interior Temp? 33 Deg C
Preservatives Audited? Yes/No: Any Problems? Yes/No: If Yes, describe:

003465

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#8 MW8 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

12/17

R

*9 MW9 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

*10 MW10SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

MRD GETS CARBON LOGSHEET

*11 MW11 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

*12 MW12SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

MRD GETS CARBON LOGSHEET

*13 MW13 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

11-15-93 1530

*14 MW14 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF CDDMTW.1

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

CUTRE ANN / ESE / 11-15-93 / 2130 RD-EX Michael Davis ESE 11/16/93 1920

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 5 (1) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

For 11-16-93

52

417

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS (CIRCLE) DATE TIME PARAMETER LIST
*2 MW2 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

12/14

R

*3 MW3 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*4 MW4 GVL: C C EC EC EC LC LC LC CDDMTW.1.5
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

VP VP VP VP 11-15-93

*5 MW5 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*6 MW6 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP
ETC: C CF

*7 MW7 GVL: C C EC EC EC LC LC LC CDDMTW.1.5
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

11-15-93

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
- HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CLARE BAW/ ESE/ 11-15-93 / 2130

2 11-16-93 1730

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (#) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 60 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

52

418

Post 11-16-93

003467

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*49 MW49TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

12/14

*50 MW50TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

*51 MW51TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

*52 MW52TBLK GVL: VP VP VP VP VP CDDMTW.4

*53 MW53TBLK GVL: VP VP VP VP VP CDDMTW.4

*54 MW54TBLK GVL: VP VP VP VP VP CDDMTW.4

*55 MW55TBLK GVL: VP VP VP VP VP 11-14-91 1750 CDDMTW.4

*56 MW56TBLK GVL: VP VP VP VP VP CDDMTW.4

*57 MW57TBLK GVL: VP VP VP VP VP CDDMTW.4

*58 MW58TBLK GVL: VP VP VP VP VP CDDMTW.4

*59 MW59TBLK GVL: VP VP VP VP VP CDDMTW.4

*60 MW60TBLK GVL: VP VP VP VP VP CDDMTW.4

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD; IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CAROL BARN / ESE / 11-15-93 / 2130 11/16/93 ESE 11/16/93 1930
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 9 (1) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

Per 11-16-93

03468

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ES# 4 SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
MW2 11-14-93 1730 CDDMTW. NS-
MW3 12/14
VP VP VP VP VP
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*3 MW3
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*4 MW4
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*5 MW5
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*6 MW6
GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF

*7 MW7
GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)
1 Charles Brown/ESE/11-15-93/2130 Ron-ox/Spokane/11/16/93/1430
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003469

Pat 11-16-97

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*22 MW22SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*23 MW23 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS N NF NP NP CDDMTW.1
ETC: C CF 11-15-93 0930

*24 MW24 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF 11-14-93 1700

*25 MW25 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*26 MW26 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*27 MW27 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*28 MW28 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS N NF CDDMTW.1
GVL: NP NP CDDMTW.1
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-INSTABLE C-CORROSIVE R-REACTIVE T-OTHER ACUTE HAZARD; IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 Charles BAW / ESE / 11-15-93 / 8130 Patrick Wilber / ESE / 11/16/93 1430
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

003470

Pat 11-16-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESR # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*49 MW49TS GVL: C C EC EC EC LC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

12/14

*50 MW50TS GVL: C C EC EC EC LC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

*51 MW51TS GVL: C C EC EC EC LC LC LC CDDMTW.3
GVL: LC LC MS MS MS N NF
GVL: NP NP ~~VP VP VP VP~~ VP VP VP VP
ETC: C CF

*52 MW52TBLK GVL: VP VP VP VP VP 11-15-93 2130 CDDMTW.4
*53 MW53TBLK GVL: VP VP VP VP VP CDDMTW.4

*54 MW54TBLK GVL: VP VP VP VP VP CDDMTW.4
*55 MW55TBLK GVL: VP VP VP VP VP CDDMTW.4

*56 MW56TBLK GVL: VP VP VP VP VP CDDMTW.4
*57 MW57TBLK GVL: VP VP VP VP VP CDDMTW.4

*58 MW58TBLK GVL: VP VP VP VP VP CDDMTW.4
*59 MW59TBLK GVL: VP VP VP VP VP CDDMTW.4

*60 MW60TBLK GVL: VP VP VP VP VP CDDMTW.4

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CARLE BAW/ESA 11-15-93 2130 FOR BY MURPHY/ESA 11/16/93 1930

2

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping Y (1) more samples on 11/16
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 6 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

003471

For H-16 53

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*36 MW36 GVL: C EC EC EC EC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP
ETC: C CF

12/14

*37 MW37SP GVL: C C EC EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

MRD GETS CARBON LOGSHEET

*38 MW38 GVL: C C EC EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

11-15-93 1815

*39 MW39 GVL: C C EC EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

11-15-93 1340

*40 MW40DUP GVL: C C EC EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*41 MW41DUP GVL: C C EC EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*42 MW42DUP GVL: C C EC EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CUMCO 2444/058/11-15/93 2/30 FERRY/11/16/93 ESE 11/16/93 1470

2

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 6 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

52

423

Re-11-16-93

003472

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESSE #	SITE/STA HAZ?	LAB FRACTIONS(CIRCLE)	DATE	TIME	PARAMETER LIST
*8	MW8	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF			CDDMTW.1
*9	MW9	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF	11-15-93	1711	CDDMTW.NS CDDMTW.NS
*10	MW10SP	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF			CDDMTW.1 CDDMTW.1
*11	MW11	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF			CDDMTW.1 CDDMTW.1
*12	MW12SP	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF			CDDMTW.1 CDDMTW.1
*13	MW13	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF			CDDMTW.NS CDDMTW.NS
*14	MW14	GVL: C C EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP ETC: C CF			CDDMTW.1 CDDMTW.1

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD; IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REQ'D BY (NAME/ORGANIZATION/ DATE/TIME)
CARRIE BARNES/ESSE / 11-15-93 / 2100 REC-07 / Michael Jones/ESSE 11/16/93 1430

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1+) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 68 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

*9 on NP, one MS arrived broken, 11/16/93
Test 11-16-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE 1 SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#3 MW2 MW3 11-14-93 1730 CDDMTW.1
GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*3 MW3
GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*4 MW4
GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*5 MW5
GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*6 MW6
GVL: C C EC EC EC LC LC LC
GVL: MS MS MS N NF NP NP
GVL: C CF
ETC: C CF

*7 MW7
GVL: C C EC EC EC LC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IDENTIFIABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE/TIME)
1 Charles Bann/ESE/11-15-93/2130 FEB-EX Field And ESE 11/16/93 1930
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (#) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 55 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003474

Post 11-16-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE #2 SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
MW2 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*3 MW3 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*4 MW4 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*5 MW5 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*6 MW6 GVL: C C EC EC EC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP
GVL: C CF
ETC: C CF

(47) MW7 GVL: C C EC EC EC LC LC CDDMTW.15
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-DIMITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION) DATE/TIME VIA: REC'D BY (NAME/ORGANIZATION) DA
1 CARLE BAW/ES&E 11-15-93 2120 rev-ex Muller/ES&E 11/16/93 1430
2
3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (#) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME
*36 MW36 GVL: C C EC EC EC LC LC
GVL: MS MS MS N NF NP NP
ETC: C CF

PARAMETER LIST
CDDMTW.1
CDDMTW.1

12/17

*37 MW37SP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP CF
ETC: C CF

MRD GETS CARBON LOGSHEET

*38 MW38 GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP CF
ETC: C CF

11-15-93 1815

*39 MW39 GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP CF
ETC: C CF

*40 MW40DUP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP CF
ETC: C CF

*41 MW41DUP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP CF
ETC: C CF

*42 MW42DUP GVL: C C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP CF
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: 1-INITIALLY C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA

CLARK/ESC/11-15-93/2130

FOR MY MULLER/11/16/93

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (8) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

3476

Rad 11-16-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

12/11

ESE #	SITE/STA HAZ?	LAB FRACTIONS(CIRCLE)	DATE	TIME	PARAMETER LIST
*36	MW36	GVL: C GVL: MS MS N ETC: C			CDDMTW.1 CDDMTW.1
*37	MW37SP	GVL: C GVL: LC LC GVL: NP NP ETC: C			CDDMTW.1 CDDMTW.1 CDDMTW.1
*38	MW38	GVL: C GVL: LC LC GVL: NP NP ETC: C			CDDMTW.1 CDDMTW.1 CDDMTW.1
*39	MW39	GVL: C GVL: LC LC GVL: NP NP ETC: C	11-15-93	1340	CDDMTW.1 CDDMTW.1 CDDMTW.1
*40	MW40DUP	GVL: C GVL: LC LC GVL: NP NP ETC: C			CDDMTW.1 CDDMTW.1 CDDMTW.1
*41	MW41DUP	GVL: C GVL: LC LC GVL: NP NP ETC: C			CDDMTW.1 CDDMTW.1 CDDMTW.1
*42	MW42DUP	GVL: C GVL: LC LC GVL: NP NP ETC: C			CDDMTW.1 CDDMTW.1 CDDMTW.1

MRD GETS CARBON LOGSHEET

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IRREVERSIBLE C-CORROSIVE R-REACTIVE T-TOXIC W-WATER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) REC'D BY: (NAME/ORGANIZATION/ DATE)
CLAUDE BARN/ES&E/11-15-93/2130 REV-EX Patrick Wilber/ES&E/11/16/93/1340/1430

52
3
SAMPLER: Shipped on Ice? ☒ Yes/☐ No; I anticipate shipping 8 (#) more samples on 11/16/93
SAMPLE CUSTODIAN: Custody Seals Used? ☒ Yes/☐ No; If Yes, Seals Intact? ☒ Yes/☐ No Interior Temp? 6 Deg C
Preservatives Audited? ☒ Yes/☐ No Any Problems? Yes/☒ No If Yes, describe:
428
4277
Pan 11-15-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*22 MW22SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

12/14
MRD GETS CARBON
LOGSHEET

*23 MW23 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP 11-15-93 0930 CDDMTW.1
ETC: C CF

*24 MW24 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*25 MW25 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*26 MW26 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*27 MW27 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C CF

*28 MW28 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASH H-OTHER AQUIC HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: (NAME/ORGANIZATION/ DATE)

Cumec sam/esr/ 11-15-93 / 2130

FOR EX / Milled Gred EX 11/16/93 1430

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 8 (1) more samples on 11/16/93-
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 5 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

Post 11-16-93

003478

52 429

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE #	SITE/STA HAZ?	LAB FRACTIONS(CIRCLE)	GVL: C	EC	EC	EC	LC	LC	DATE	TIME	PARAMETER LIST
*2	MW2	GVL: C	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: LC	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: NP	NP	NP	NP	NP	NP	NP			CDDMTW.1
		ETC: C	CF								CDDMTW.1
*3	MW3	GVL: C	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: LC	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: NP	NP	NP	NP	NP	NP	NP			CDDMTW.1
		ETC: C	CF								CDDMTW.1
*4	MW4	GVL: C	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: LC	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: NP	NP	NP	NP	NP	NP	NP			CDDMTW.1
		ETC: C	CF								CDDMTW.1
*5	MW5	GVL: C	LC	MS	MS	MS	N	NF	11-16-93	1200	CDDMTW.1
		GVL: LC	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: NP	NP	NP	NP	NP	NP	NP			CDDMTW.1
		ETC: C	CF								CDDMTW.1
*6	MW6	GVL: C	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: LC	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: NP	NP	NP	NP	NP	NP	NP			CDDMTW.1
		ETC: C	CF								CDDMTW.1
*7	MW7	GVL: C	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: LC	LC	MS	MS	MS	N	NF			CDDMTW.1
		GVL: NP	NP	NP	NP	NP	NP	NP			CDDMTW.1
		ETC: C	CF								CDDMTW.1

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD. IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 CURTIS BOWEN/ES&E/11-16-93/1815 FEP EX 11/17/93 1300

2 3 11-17-93 16:40

SAMPLER: Shipped on Ice? Yes No: I anticipate shipping 5 (1) more samples on 11/17/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes No: If Yes, Seals Intact? Yes No Interior Temp? 3 Deg C
Preservatives Audited? Yes No Any Problems? Yes No If Yes, describe:

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*2 MW2 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*3 MW3 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*4 MW4 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

*5 MW5 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF 11-16-93 1200
GVL: NP NP
ETC: C CF

*6 MW6 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP
ETC: C CF

*7 MW7 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1/16/93 11-17-93/1900 FID-EX 11/18/93 1100

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 6 (1) more samples on 11/18/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

ALREADY LABELED IN

10-11-93

003482

52 433

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESF #8 SITE/STA HAZ? MW8

LAB FRAGMENTS(CIRCLE)
GVL: C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP VP VP VP VP
ETC: C CF

DATE TIME

11-17-93 1220

PARAMETER QTY
CDDMTW.1 5

CDDMTW.1

*9	MW9	GVL: C EC EC EC LC LC	CDDMTW.1
		GVL: LC LC MS MS N NF	
		GVL: NP NP	
		ETC: C CF	

*10	MW10SP	GVL: C EC EC EC LC LC	CDDMTW.1
		GVL: LC LC MS MS N NF	
		GVL: NP NP	
		ETC: C CF	

MRD GETS CARBON LOGSHEET

*11	MW11	GVL: C EC EC EC LC LC	CDDMTW.1
		GVL: LC LC MS MS N NF	
		GVL: NP NP	
		ETC: C CF	

*12	MW12SP	GVL: C EC EC EC LC LC	CDDMTW.1
		GVL: LC LC MS MS N NF	
		GVL: NP NP	
		ETC: C CF	

MRD GETS CARBON LOGSHEET

*13	MW13	GVL: C EC EC EC LC LC	CDDMTW.1
		GVL: LC LC MS MS N NF	
		GVL: NP NP	
		ETC: C CF	

*14	MW14	GVL: C EC EC EC LC LC	CDDMTW.1
		GVL: LC LC MS MS N NF	
		GVL: NP NP	
		ETC: C CF	

11-17-93 1545

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
- HAZARD CODES: I-IMMEDIATELY DANGEROUS; R-REACTIVE; T-TOXIC; H-OTHER ACUTE HAZARD; IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1. Chloe Bann/ESE 11-17-93/1900 RE-EX DPH/Phar ESE 11/18/93 UCL

3

SAMPLER: Shipped on Ice? Yes No; I anticipate shipping 6 (1) more samples on 11/18/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes No; If Yes, Seals Intact? Yes No Interior Temp? 3 Deg C
Preservatives Audited? Yes No Any Problems? Yes No; If Yes, describe:

52

434

Page 11-18-93

3483

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESP (1) SITE/STA HAZ? LAB FRACTIONS (CIRCLE) DATE TIME PARAMETER LIST
*22 MW22SP GVL: C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS N NE NP NP 11-17-93 1500
ETC: C CF VP VP VP VP MRD GETS CARBON LOGSHEET

*23	MW23	GVL: C C EC EC EC LC LC GVL: MS MS MS N NE NP NP ETC: C CF	CDDMTW.1 CDDMTW.1 CDDMTW.1
*24	MW24	GVL: C C EC EC EC LC LC GVL: MS MS MS N NE NP NP ETC: C CF	CDDMTW.1 CDDMTW.1
*25	MW25	GVL: C C EC EC EC LC LC GVL: MS MS MS N NE NP NP ETC: C CF	CDDMTW.1 CDDMTW.1
*26	MW26	GVL: C C EC EC EC LC LC GVL: MS MS MS N NE NP NP ETC: C CF	CDDMTW.1 CDDMTW.1
*27	MW27	GVL: C C EC EC EC LC LC GVL: MS MS MS N NE NP NP ETC: C CF	CDDMTW.1 CDDMTW.1
*28	MW28	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NE GVL: NP NP ETC: C CF	CDDMTW.1 CDDMTW.1

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-INSTABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY: (NAME/ORGANIZATION/ DATE)

1/20/93 11-17-93 / 1900 Fed-ex 11/18/93 1600

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 6 (#) more samples on 11/18/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003484

PO# 11-18-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

EST 1 SITE/STA HAZ? MW29

LAB FRACTIONS (CIRCLED)
GVL: C EC EC EC LC LC
GVL: LC LC MS MS N NF
GVL: NP NP VP VP VP VP
ETC: C

DATE TIME PARAMETERS LIST
11-17-93 0945 CDDMTW 2.5

12/16

*30	MW30	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NF GVL: NP NP NP ETC: C CF	CDDMTW.1
*31	MW31	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NF GVL: NP NP NP ETC: C CF	CDDMTW.1
*32	MW32	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NF GVL: NP NP NP ETC: C CF	CDDMTW.1
*33	MW33	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NF GVL: NP NP NP ETC: C CF	CDDMTW.1
*34	MW34	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NF GVL: NP NP NP ETC: C CF	CDDMTW.1
*35	MW35	GVL: C C EC EC EC LC LC GVL: LC LC MS MS N NF GVL: NP NP NP ETC: C CF	CDDMTW.1

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
- HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)
1. Clare Babin / ESE / 11-17-93 / 1900 RD-EX Ami Chase EPE 11/18/93 1600

52

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 6 (1) more samples on 11/18/23
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

436

Pat 11-18-97

03485

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ?
#49 MW49TS

12/16

05# ST05MH

GVL: C
GVL: LC
GVL: NP
ETC: C

151 MW51TS

GVL: C EC EC EC LC LC
 GVL: C LC NP NP MS MS N
 GVL: C LC NP NP MS MS N
 ETC: C LC NP NP MS MS N

#52 MW52TBLK

GVL: VP VP VP VP

53 MW53THLK

GVL: VP VP VP VP

#54 MWS4TBLK

GVL: VP VP VP VP

*55 MW55TBLK

GVL: VP VP VP VP

#56 MW56TBLK

GVL: VP VP VP VP

57 MW57TBLK

GVL: VP VP VP VP

58 MW58TBLK

GVL: VP VP VP VP

65# MW59TBLK

GVL: VP VP VP VP

1601 NW 67th Ave

GVZ: VP VP VP VP

11-17-93 1500

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD. IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME)	VIA:	REC'D BY (NAME/ORGANIZATION/ DATE)

Chase Bain / ESE / 11-17-93 / 1900 Feb-94

N

10

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 6 (4) more samples on 11/18/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

903486

CHAIN FOR 5 COOLERS

Page 11-18-27

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESP 1
27443
SITE/STA HAZ? MW43DUP

LAB FRACTIONS (CIRCLE)
GVL: C EC EC EC LC LC
GVL: LC LC MS MS MS N NE
GVL: NP NP VP VP VP VP
ETC: C CF

DATE TIME
11-17-93

PARAMETER LIST
CDDMTW.1

*44 MW44EBLK

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N
GVL: NF NP VP VP VP VP
ETC: C CF

DATE TIME
11-16-93 1630

CDDMTW.2

*45 MW45EBLK

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N
GVL: NF NP VP VP VP VP
ETC: C CF

CDDMTW.2

*46 MW46EBLK

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N
GVL: NF NP VP VP VP VP
ETC: C CF

CDDMTW.2

*47 MW47EBLK

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N
GVL: NF NP VP VP VP VP
ETC: C CF

CDDMTW.2

*48 MW48TS

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N
GVL: NP NP VP VP VP VP
ETC: C CF

CDDMTW.3

CDDMTW.3

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: 1-IGNITABLE C-CHANGING R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1. Chloe Babin / ESE / 11-17-93 / 1200 pen-ex Pat Wilber / ESE / 11/18/93 / 1600

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping 60 (1) more samples on 11/18/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003487

Pat 11-18-97

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESD #	SITE/STA	HAZ?	LAB FRACTIONS (CIRCLE)	DATE	TIME	PARAMETER LIST
49	MW49TS		GVL: C EC EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP NP NP NP VP VP VP VP ETC: C CF	11-19-93	1515	CDDMTW.3
50	MW50TS		GVL: C EC EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP NP NP NP VP VP VP VP ETC: C CF	11-19-93	1745	CDDMTW.3
51	MW51TS		GVL: C EC EC EC EC LC LC GVL: LC LC MS MS MS N NF GVL: NP NP NP NP NP VP VP VP VP ETC: C CF	11-19-93	1830	CDDMTW.3
52	MW52TBLK		GVL: VP VP VP VP VP			CDDMTW.4
53	MW53TBLK		GVL: VP VP VP VP VP			CDDMTW.4
54	MW54TBLK		GVL: VP VP VP VP VP			CDDMTW.4
55	MW55TBLK		GVL: VP VP VP VP VP			CDDMTW.4
56	MW56TBLK		GVL: VP VP VP VP VP			CDDMTW.4
57	MW57TBLK		GVL: VP VP VP VP VP			CDDMTW.4
58	MW58TBLK		GVL: VP VP VP VP VP			CDDMTW.4
59	MW59TBLK		GVL: VP VP VP VP VP			CDDMTW.4
60	MW60TBLK		GVL: VP VP VP VP VP			CDDMTW.4

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
- HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DATE/TIME)

Chase Brinn / ESE / 11-19-93 / 2130 REP-EX Mark Galt CTE 11/20/93 1300

SAMPLER: Shipped on Ice? ☒ Yes/☐ No; I anticipate shipping No (#) more samples on 1
SAMPLE CUSTODIAN: Custody Seals Used? ☒ Yes/☐ No; If Yes, Seals Intact? ☒ Yes/☐ No Interior Temp? 1 Deg C
Preservatives Audited? ☒ Yes/☐ No Any Problems? ☒ Yes/☐ No If Yes, describe:

Label 128 3°C x 49
967 4°C x 50
1032 4°C x 51
1002 2°C x 52

Pat 11-21-93

003488

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ7 LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*15 MW15 12/17- CDDMTW.1

*16 MW16 GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF CDDMTW.1

*17 MW17 GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF CDDMTW.1

*18 MW18 GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF CDDMTW.1

*19 MW19 GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF CDDMTW.1

*20 MW20 GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF CDDMTW.1

*21 MW21 GVL: C C EC EC EC LC LC
GVL: MS MS N NF NP NP
ETC: C CF CDDMTW.1

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
- CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
- HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
- PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION) DATE/TIME VIA: RPT'D BY (NAME/ORGANIZATION) DA
China Basin / ESE / 11-19-93 / 2130 PRO-EX / Mplu / Jada / etc 11/20/93 1300

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping No (1) more samples on 1
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 7 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

Calor 773 * 19 20C
23 120 40C

003489

Port 11-21-97

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS (CIRCLE) DATE TIME PARAMETER LIST
*43 MW43DUP GVL: C C EC EC EC LC LC CDDMTW.1
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

12/17

*44 MW44EBLK GVL: C C EC EC EC LC LC CDDMTW.2
GVL: LC LC MS MS N
GVL: NF NP
ETC: C CF

*45 MW45EBLK GVL: C C EC EC EC LC LC CDDMTW.2
GVL: LC LC MS MS N
GVL: NF NP
ETC: C CF

*46 MW46EBLK GVL: C C EC EC EC LC LC CDDMTW.2
GVL: LC LC MS MS N
GVL: NF NP
ETC: C CF

*47 MW47EBLK GVL: C C EC EC EC LC LC CDDMTW.2
GVL: LC LC MS MS N
GVL: NF NP
ETC: C CF

*48 MW48TS GVL: C C EC EC EC LC LC CDDMTW.3
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

11-19-93 VP VP VP VP 1715

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD. IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) REC'D BY (NAME/ORGANIZATION/ DATE)
Chie Baird/ESE/11-19-93/ 2130 REP-EX 11/20/93/120

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping NO (1) more samples on 1
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 3 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

003490

6068 842

Page 11-20-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ7 LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*22 MW22SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF CDDMTW.1

*23 MW23 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF CDDMTW.1

*24 MW24 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF CDDMTW.1

*25 MW25 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF CDDMTW.1

*26 MW26 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF CDDMTW.1

*27 MW27 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NE NP NP CDDMTW.1
ETC: C CF CDDMTW.1

*28 MW28 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NE 11-A-93 1830
GVL: NP NP VP VP VP VP UP
ETC: C CF CDDMTW.1

NOTE - CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)
1 Claire Bain/ESE/11-19-93/ 2130 ESE-EX Huntsville COE 11/20/93 1300

3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping NO (1) more samples on
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 44 Deg C
Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

003491 442
Coul 337
Post 11-21-93

Environmental Science & Engineering, Inc. 11-17-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DEMT LAB COORD. PATRICK WILBER

EST 162	SITE/STA HAZ?	LAB FRACTIONS (CIRCLE)	DATE	TIME	WATER USE LIST
	MW62TBLK	GVL: VP VP VP VP	11-19-93	2200	CDDMTW.4
*63	MW63TBLK	GVL: VP VP VP VP			CDDMTW.4
*64	MW64TBLK	GVL: VP VP VP VP			CDDMTW.4
*65	MW65TBLK	GVL: VP VP VP VP			CDDMTW.4
*66	MW66TBLK	GVL: VP VP VP VP			CDDMTW.4
*67	MW67TBLK	GVL: VP VP VP VP			CDDMTW.4
*68	MW68TBLK	GVL: VP VP VP VP			CDDMTW.4
*69	MW69TBLK	GVL: VP VP VP VP			CDDMTW.4
*70	MW70TBLK	GVL: VP VP VP VP			CDDMTW.4

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/DATE/TIME) VIA: RC BY (NAME/ORGANIZATION/DATE/TIME)

1 Chae Baem / ESE / 11-19-93 / 2130 Feb-ex Michael J. Jett Ex 11/20/92 1300
2
3

SAMPLER: Shipped on Ice? Yes No; I anticipate shipping NO (1) more samples on 1 Deg C
SAMPLE CUSTODIAN: Custody Seals Used? Yes No; If Yes, Seals Intact? Yes No Interior Temp? 2 Deg C
Preservatives Audited? Yes No Any Problems? Yes No; If Yes, describe:

606-1002

Pat 11-21-97

Environmental Science & Engineering, Inc. 11-17-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DENT LAB COORD. PATRICK WILBER

12/17

ESE #	SITE/STA HAZ?	LAB FRACTIONS(CIRCLE)	DATE	TIME	FIELD LIST
*62	MW62TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*63	MW63TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*64	MW64TBLK	GVL: VP VP VP VP VP	11-18-93	2000	CDDMTW.4
*65	MW65TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*66	MW66TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*67	MW67TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*68	MW68TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*69	MW69TBLK	GVL: VP VP VP VP VP			CDDMTW.4
*70	MW70TBLK	GVL: VP VP VP VP VP			CDDMTW.4

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/DATE/TIME)

1 Clare Bain/ESE/11-18-93/2100 FEO-EX Shg Phoen ESE 11/19/93 1600

2

3

SAMPLER: Shipped on Ice? Yes/No: I anticipate shipping 12 (1) more samples on 11/19/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes/No: If Yes, Seals Intact? Yes/No Interior Temp? 2 deg C
Preservatives Audited? Yes/No Any Problems? Yes/No If Yes, describe:

003495

Pd4 11-18-93 52 446

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # 36 SITE/STA HAZ? MW36 LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP CDDMTW.1
ETC: C C C C CDDMTW.1

*37 MW37SP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP NP C C CDDMTW.1
ETC: C C C C CDDMTW.1

*38 MW38 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP NP C C CDDMTW.1
ETC: C C C C CDDMTW.1

*39 MW39 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP NP C C CDDMTW.1
ETC: C C C C CDDMTW.1

*40 MW40DUP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP NP C C CDDMTW.1
ETC: C C C C CDDMTW.1

*41 MW41DUP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP NP C C CDDMTW.1
ETC: C C C C CDDMTW.1

*42 MW42DUP GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS MS N NF CDDMTW.1
GVL: NP NP NP C C CDDMTW.1
ETC: C C C C CDDMTW.1

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA
1 Claire Boivin / ESE / 11-18-93 / 2100 FEB-EX JMC/Pherson ESE 11/19/93 1100

SAMPLER: Shipped on Ice? ☒ Yes ☐ No; I anticipate shipping 12 (1) more samples on 11/19/93
SAMPLE CUSTODIAN: Custody Seals Used? ☒ Yes ☐ No; If Yes, Seals Intact? ☒ Yes ☐ No Interior Temp? Deg C
Preservatives Audited? ☒ Yes ☐ No Any Problems? ☒ Yes ☐ No If Yes, describe:

For 11-18-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # 43 SITE/STA HAZ? MW43DUP LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
GVL: C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF 12/17

*44 MW44EBLK GVL: C EC EC EC LC LC LC CDDMTW.2
GVL: LC LC MS MS MS N
GVL: NF NP
ETC: C CF

*45 MW45EBLK GVL: C EC EC EC LC LC LC CDDMTW.2
GVL: LC LC MS MS MS N
GVL: NF NP
ETC: C CF 11-18-93 1500

*46 MW46EBLK GVL: C EC EC EC LC LC LC CDDMTW.2
GVL: LC LC MS MS MS N
GVL: NF NP
ETC: C CF 11-18-93 1630

*47 MW47EBLK GVL: C EC EC EC LC LC LC CDDMTW.2
GVL: LC LC MS MS MS N
GVL: NF NP
ETC: C CF 11-18-93 1830

*48 MW48TS GVL: C EC EC EC LC LC LC CDDMTW.3
GVL: LC LC MS MS MS N
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/ TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA

Chase Bess/ESE/11-18-93/2100 FOO-EX 11/19/93 1500

SAMPLER: Shipped on Ice? Yes No; I anticipate shipping 12 (11) more samples on 11/19/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes No; If Yes, Seals Intact? Yes No Interior Temp? 22 Deg C
Preservatives Audited? Yes No Any Problems? Yes No; If Yes, describe:

003497

Print 11-19-97 448

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
*29 MW29

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

12/17

CDDMTW.1

*30 MW30

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

CDDMTW.1

*31 MW31

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

CDDMTW.1

*32 MW32

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

CDDMTW.1

*33 MW33

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

CDDMTW.1

*34 MW34

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

CDDMTW.1

*35 MW35

GVL: C C EC EC EC LC LC
GVL: LC LC MS MS MS N NF
GVL: NP NP
ETC: C CF

CDDMTW.1

CDDMTW.1

NOTE

-CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED), HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE/TIME) VIA: REC'D BY (NAME/ORGANIZATION/ DA

1 Clare Bain / ESE 11-18-93/2100

FED-EX

Dr. G. L. Hester EST. 11/19/93 1300

52

443

SAMPLER: Shipped on Ice? Yes No; I anticipate shipping 12 (1) more samples on 11/19/93
SAMPLE CUSTODIAN: Custody Seals Used? Yes No; If Yes, Seals Intact? Yes No Interior Temp? 2 Deg C
Preservatives Audited? Yes No Any Problems? Yes No If Yes, describe:

Pot 11-18-93

Environmental Science & Engineering, Inc. 11-04-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTW
PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE # SITE/STA HAZ? LAB FRACTIONS(CIRCLE) DATE TIME PARAMETER LIST
#2 MW2 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC LC MS MS N NF
GVL: NP NP
ETC: C CF 10/17

*3 MW3 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*4 MW4 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*5 MW5 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

*6 MW6 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: MS MS MS N NF NP NP 11-18-93 0900
ETC: C CF NP NP NP NP

*7 MW7 GVL: C C EC EC EC LC LC LC CDDMTW.1
GVL: LC LC MS MS N NF
GVL: NP NP
ETC: C CF

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
-CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
-HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD; IDENTIFY SPECIFICS IF KNOWN
-PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/ DATE) VIA: REC'D BY (NAME/ORGANIZATION/ DATE)

1 Claire Babin/ESE/11-18-93/2100 FOR EY Phyllis Charnes ESE 11/19/93 1500

SAMPLER: Shipped on Ice? ☒ Yes ☐ No; I anticipate shipping 12 (1) more samples on 11/19/93
SAMPLE CUSTODIAN: Custody Seals Used? ☒ Yes ☐ No; If Yes, Seals Intact? ☒ Yes ☐ No Interior Temp? ☒ Deg C
Preservatives Audited? ☒ Yes ☐ No Any Problems? ☒ Yes ☐ No If Yes, describe:

003499

CHAIN OF CUSTODY FOR 9 COOLERS

For 11-18-97

COOLER RECEIPT FORM

ESE Cooler # 1001 8308
Client Cooler # _____Project: Huntsville LOEDate/Time Received: 11/10/93 1300

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/10/93 1300
by (print) Michael Feaster (sign) [Signature]
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed. Ex 06364015
 2. Were custody seals on outside of cooler? 1 front YES NO
If YES, how many and where: 1 front
If YES, enter the following: seal date: 11/9/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: MT (date) 11/10/93
- B. LOG-IN PHASE: Date samples were logged-in: _____ by (all those involved must sign below):
(print) _____ (sign) _____
9. Describe packing: 34 no. cap vials & bubble wrap
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: _____ YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? Lab. Wilbur By whom? MT on (date) 11/10/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 1086
Client Cooler # 1024Project: Huntsville COE - DDMT Date/Time Received: 11/12/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/12/93 3:00
by (print) Michael Feaster (sign) Michael Feaster1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed. Ex. 7905849592. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 5 frontIf YES, enter the following: seal date: 11/11/93, seal name: ACB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and measurable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: MT (date) 11/12/93

B. LOG-IN PHASE: Date samples were logged-in: _____ by (all those involved must sign below):

(print) _____ (sign) _____

9. Describe packing: Plastic bubble wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by ID: YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Patrick Wilbur By whom? MT on (date) 11/12/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 1041
Client Cooler # JofyProject: Huntsville COE - DDMT Date/Time Received: 11/12/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/12/93 1300by (print) Michael Feaster (sign) [Signature]1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed. Ex. 7805849542. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 frontIf YES, enter the following: seal date: 11/11/93 seal name: ACB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and usable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: MJ (date) 11/12/93

B. LOG-IN PHASE: Date samples were logged-in: _____ by (all those involved must sign below):

(print) _____ (sign) _____

9. Describe packing: Plastic bubble wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by ID: _____ YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Patrick Wilbur By whom? MT on (date) 11/12/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 413
Client Cooler # 204Project: Huntsville COE - DONT Date/Time Received: 11/12/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/12/93 3:00
by (print) Michael Feaster (sign) Michael Feaster
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed. Ex. # 790584954
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 front
If YES, enter the following: seal date: 11/11/93, seal name: ACB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: MT (date) 11/12/93

- B. LOG-IN PHASE: Date samples were logged-in: _____ by (all those involved must sign below):
(print) _____ (sign) _____
9. Describe packing: Plastic bubble wrap
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: _____ YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? Patrick Wilbur By whom? MT on (date) 11/12/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 1028
Client Cooler # 1024Project: Huntsville COE - DDMT Date/Time Received: 11/12/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/12/93 3:40
by (print) Michael Feaster (sign) [Signature]1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed. Ex. 7005849592. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 frontIf YES, enter the following: seal date: 11/11/93 seal name: ACB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and useable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: MF (date) 11/12/93B. LOG-IN PHASE: Date samples were logged-in: _____ by (all those involved must sign below):
(print) _____ (sign) _____9. Describe packing: Plastic bubble wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by IDs: _____ YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Patrick Wilbur By whom? MF on (date) 11/12/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESI Cooler # _____
Client Cooler # _____Project: Huntsville COG - DDMT Date/Time Received: 11/13/93 1300

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/13/93 1300by (print) Michael Feaster (sign) _____

1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed. Ex. 7440584965
2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 4 - all sides
If YES, enter the following: seal date: 11/14/93, seal name: RCH
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
7. Did you sign custody papers in the appropriate place? YES NO
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
9. Have designated person initial here to acknowledge receipt of cooler: MA (date) 11/13/93

B. LOG-IN PHASE: Date samples were logged-in: 11-14-93 by (all those involved must sign below):
(print) PAUL HESTER (sign) Paul Hester

9. Describe packing: Plastic bubble wrap
10. If required, was enough ice used? YES NO
11. Were all bottles sealed in separate plastic bags? YES NO
12. Did all bottles arrive unbroken and in good condition? YES NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
15. Were correct containers used for the tests indicated? YES NO
16. Were correct preservatives used when required? YES NO
17. Was a sufficient amount of sample sent for tests indicated? YES NO
18. Bubbles present in VOA vials? If YES, list by ID#: _____ YES NO
19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
20. Who was called? Andrew Wilbur By whom? MA on (date) 11/13/93

Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 0600
Client Cooler # _____Project: HUNTSVILLE COE DMT Date/Time Received: _____

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/15/93
by (print) D. McPherson (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584976
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2
If YES, enter the following: seal date: 11/13/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: DM (date) 11/15/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/15/93 by (all those involved must sign below):
(print) D. McPherson (sign) D. McPherson
9. Describe packing: Bubble wrap
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID#: YES NO
 19. Was lab, project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPherson on (date) 11/15/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 10148
Client Cooler # _____Project: HUNTSVILLE CEE DDMT Date/Time Received: _____

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/time cooler was opened: 11/15/93
by (print) D. McPHERSON (sign) [Signature]1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584 9762. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2If YES, enter the following: seal date: 11/13/93, seal name: AICB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and useable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/15/93B. LOG-IN PHASE: Date samples were logged-in: 11/15/93 by (all those involved must sign below):(print) D. McPHERSON (sign) [Signature]9. Describe packing: BUBBLE WRAP & STYROFOAM10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by ID#: YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? P. Walker By whom? [Signature] on (date) 11/15/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 435
Client Cooler # 9049Project: Honolulu COE - DDMT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
by (print) Michael Feaster (sign) [Signature]1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed Ex - 0722851322. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 - side & sideIf YES, enter the following: seal date: 11/15/93, seal name: MCB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and useable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: MF (date) 11/16/93B. LOG-IN PHASE: Date samples were logged-in: 11-16-93 by (all those involved must sign below):(print) PAUL HESTER (sign) [Signature]9. Describe packing: Shake whole wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by ID: YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Suzanne Wainman By whom? MF on (date) 11/16/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler #

Client Cooler #

887
1804Project: Humboldt Co. - DDMTDate/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
 by (print) Michael Feaster (sign) [Signature]
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
 If YES, attach and enter carrier and air bill number here: FedEx: 0724285132
 2. Were custody seals on outside of cooler? YES NO
 If YES, how many and where: 2 - side & side
 If YES, enter the following: seal date: 11/15/93 seal name: UCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (im, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
 Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/16/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/16-93 by (all those involved must sign below):
 (print) PAUL HESTER (sign) [Signature]
9. Describe packing: plastic bubble wrap
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in WDA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? Suzanne Wainwright By whom? [Signature] on (date) 11/16/93

105:
55:
814
72
824
5
498
68:
433

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 498
Client Cooler # 7040Project: Humboldt CoE - DDT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
by (print) Michael Feaster (sign) Michael Feaster1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: FedEx 0722851322. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 - side & sideIf YES, enter the following: seal date: 11/15/93 seal name: JCB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ln, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and usable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: MT (date) 11/16/93B. LOG-IN PHASE: Date samples were logged-in: 11-16-93 by (all steps involved must sign below):(print) PAUL HESS TAT (sign) Paul Hess9. Describe packing: Double bubble wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in WGA vials? If YES, list by ID: YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Suzanne Wankel By whom? MT on (date) 11/16/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 5
Client Cooler # 2049Project: Huntsville COE - DDMT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1700
by (print) Michael Feaster (sign) [Signature]
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: FedEx - 072285132
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 - side & side
If YES, enter the following: seal date: 11/15/93 seal name: JCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/16/93
- B. LOG-IN PHASE: Date samples were logged-in: 11-16-93 by (all people involved must sign below):
(print) PAUL HESTER (sign) [Signature]
9. Describe packing: Plastic bubble wrap
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? Suzanne Wankel By whom? [Signature] on (date) 11/16/93

Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

 ESE Cooler # 824
 Client Cooler # 5049

 Project: Huntsville COE - DDMT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
 by (print) Michael Feaster (sign) [Signature]

1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
 If YES, attach and enter carrier and air bill number here: Fed Ex 072285132

2. Were custody seals on outside of cooler? YES NO
 If YES, how many and where: 2 - side & side

If YES, enter the following: seal date: 11/15/93 seal name: JCB

3. Were custody seals unbroken and intact at the date and time of arrival? YES NO

4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO

5. Were custody papers filled out properly (ink, signed, etc.)? YES NO

6. Were custody papers complete? All sample IDs legible and useable? YES NO

Turnaround time included? YES NO

7. Did you sign custody papers in the appropriate place? YES NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO

9. Have designated person initial here to acknowledge receipt of cooler: MF (date) 11/16/93

B. LOG-IN PHASE: Date samples were logged-in: 11-16-93 by (all those involved must sign below):
 (print) PAUL HESTER (sign) Paul Hester

5. Describe packing: Double bubble wrap

10. If required, was enough ice used? YES NO

11. Were all bottles sealed in separate plastic bags? YES NO

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

13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO

14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO

15. Were correct containers used for the tests indicated? YES NO

16. Were correct preservatives used when required? YES NO

17. Was a sufficient amount of sample sent for tests indicated? YES NO

18. Bubbles present in YGA vials? If YES, list by ID: YES NO

19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO

20. Who was called? Suzanne Wankewich by whom? MF on (date) 11/16/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 72
Client Cooler # 4069Project: Humboldt COE - DDAT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
by (print) Michael Feaster (sign) [Signature]1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: FedEx - 07242851322. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 - side & sideIf YES, enter the following: seal date: 11/15/93 seal name: UCB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and readable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initials here to acknowledge receipt of cooler: [Signature] (date) 11/16/93B. LOG-IN PHASE: Dtg. samples were logged-in: 11-16-93 by (all those involved must sign below):(print) PAUL HESTER (sign) [Signature]9. Describe packing: Shake handle wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by ID#: YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Suzanne W. [Signature] by whom [Signature] on (date) 11/16/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler #

814

Client Cooler #

3049

Project: Huntsville CoE - DDMTDate/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
by (print) Michael Feaster (sign) [Signature]

1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: FedEx - 072285132

2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 1 - side & side

If YES, enter the following: seal date: 11/15/93 seal name: UCB

3. Were custody seals unbroken and intact at the date and time of arrival? YES NO

4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO

5. Were custody papers filled out properly (ink, signed, etc.)? YES NO

6. Were custody papers complete? All sample IDs legible and usable? YES NO

Turnaround time included? YES NO

7. Did you sign custody papers in the appropriate place? YES NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO

9. Have designated person initial here to acknowledge receipt of cooler: MF (date) 11/16/93

B. LOG-IN PHASE: Date samples were logged-in: 11-16-93 by (all those involved must sign below):
(print) PAUL HESTER (sign) [Signature]

9. Describe packing: Plastic whole wrap

10. If required, was enough ice used? YES NO

11. Were all bottles sealed in separate plastic bags? YES NO

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

13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO

14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO

15. Were correct containers used for the tests indicated? YES NO

16. Were correct preservatives used when required? YES NO

17. Was a sufficient amount of sample sent for tests indicated? YES NO

18. Bubbles present in VOA vials? If YES, list by ID: YES NO

19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO

20. Who was called? Suzanne Wardlaw By whom: MF on (date) 11/16/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

 ESE Cooler # 555
 Client Cooler # 2049

 Project: Humboldt Co. - DDMT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93 1430
 by (print) Michael Frasier (sign) Michael Frasier
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
 If YES, attach and enter carrier and air bill number here: FedEx 072285132
 2. Were custody seals on outside of cooler? YES NO
 If YES, how many and where: 2 - side & side
 If YES, enter the following: seal date: 11/15/93 seal name: UCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside in the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and usable? YES NO
 Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: MF (date) 11/16/93
- B. LOG-IN PHASE: Date samples were logged in: 11-16-93 by (all those involved must sign below):
 (print) PAUL HESTER (sign) Paul Hester
9. Describe packing: Plastic whole wrap
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in YOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and issues discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? Suzanne Wambach by whom? MF on (date) 11/16/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESC Cooler # 1053
Client Cooler # 049Project: Huntsville C&E - DDAT Date/Time Received: 11/16/93 1430

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/16/93/1430
by (print) Michael Feaster (sign) [Signature]1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: Fed Ex. 07242851322. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 2 - side & sideIf YES, enter the following: seal date: 11/15/93 seal name: UCB3. Were custody seals unbroken and intact at the date and time of arrival? YES NO4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO5. Were custody papers filled out properly (ink, signed, etc.)? YES NO6. Were custody papers complete? All sample IDs legible and usable? YES NOTurnaround time included? YES NO7. Did you sign custody papers in the appropriate place? YES NO8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/16/93B. LOG-IN PHASE: Date samples were logged-in: 11-16-93 by (all those involved must sign below):
(print) PAUL HESTER (sign) Paul Hester9. Describe packing: Plastic bubble wrap10. If required, was enough ice used? YES NO11. Were all bottles sealed in separate plastic bags? YES NO12. Did all bottles arrive unbroken and in good condition? YES NO13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO15. Were correct containers used for the tests indicated? YES NO16. Were correct preservatives used when required? YES NO17. Was a sufficient amount of sample sent for tests indicated? YES NO18. Bubbles present in VOA vials? If YES, list by ID: YES NO19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO20. Who was called? Suzanne Woodward by whom? [Signature] on (date) 11/16/93Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.1053
553
814
72
824
5
498
887
435

COOLER RECEIPT FORM

ESE Cooler # 0738
Client Cooler #Project: HUNTSVILLE COE DDHT Date/Time Received: 11/17/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/17/93
by (print) D. McPHERSON (sign) D. McPher
- Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584210
 - Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & (R) SIDE
If YES, enter the following: seal date: 11/16/93 seal name: MCB
 - Were custody seals unbroken and intact at the date and time of arrival? YES NO
 - Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 - Were custody papers filled out properly (ink, signed, etc.)? YES NO
 - Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 - Did you sign custody papers in the appropriate place? YES NO
 - Was project identifiable from custody papers? If YES, enter project name at the end of this form. YES NO
 - Have designated person initial here to acknowledge receipt of cooler: DP (date) 11/17/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/17/93 (by those involved must sign below):
(print) D. McPHERSON (sign) D. McPher
- Describe packing: BUBBLE WRAP
 - If required, was enough ice used? YES NO
 - Were all bottles sealed in separate plastic bags? YES NO
 - Did all bottles arrive unbroken and in good condition? YES NO
 - Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 - Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 - Were correct containers used for the tests indicated? YES NO
 - Were correct preservatives used when required? YES NO
 - Was a sufficient amount of sample sent for tests indicated? YES NO
 - Bubbles present in VOA vials? If YES, list by ID: YES NO
 - Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 - Who was called? P. WILBER By whom? D. McPher on (date) 11/17/93

Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

 ESE Cooler # 0832
 Client Cooler # _____

 Project: HUNTSVILLE COE DDMT Date/Time Received: 11/17/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/17/93
- by (print) D. McPherson (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584210
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & TOP SIDE
If YES, enter the following: seal date: 11/16/93 seal name: MCA
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (int., signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: DD (date) 11/17/93
- B. LOG-IN PHASE: Date sample were logged-in: 11/17/93 by (all those involved must sign below):
(print) D. McPherson (sign) D. McPherson
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID#: YES NO
 19. Was lab, project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILDER By whom? D. McPherson on (date) 11/17/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler #
Client Cooler #

0697

Project: HUNTSVILLE COEDate/Time Received: 11/18/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/18/93
by (print) D. McPHERSON (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 4990584232
2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & (R) SIDE
If YES, enter the following: seal date: 11/17/93, seal name: MCB
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
6. Were custody papers complete? All sample IDs legible and useable? YES NO
- Turnaround time included? YES NO
7. Did you sign custody papers in the appropriate place? YES NO
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/18/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/18/93 (All those involved must sign below):
(print) D. McPHERSON (sign) D. McPherson
9. Describe packing: BUBBLE WRAP
10. If required, was enough ice used? YES NO
11. Were all bottles sealed in separate plastic bags? YES NO
12. Did all bottles arrive unbroken and in good condition? YES NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
15. Were correct containers used for the tests indicated? YES NO
16. Were correct preservatives used when required? YES NO
17. Was a sufficient amount of sample sent for tests indicated? YES NO
18. Bubbles present in VOA vials? If YES, list by ID: YES NO
19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
20. Who was called? P. WILBER By whom? D. McPherson on (date) 11/18/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 0572
Client Cooler # _____Project: HUNTSVILLE COEDate/Time Received: 11/18/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/18/93
by (print) D. McPHERSON (sign) D. McPhereson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584232
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & (R) SIDE
If YES, enter the following: seal date: 11/17/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and usable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: (initials) (date) 11/18/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/18/93 (All those involved must sign below):
(print) D. McPHERSON (sign) D. McPhereson
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: _____ YES NO
 19. Was lab. project manager called and status discussed? NO Give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPhereson on (date) 11/18/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 0294
Client Cooler #Project: HUNTSVILLE COEDate/Time Received: 11/18/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/18/93
by (print) D. McPHERSON (sign) D. McPhereson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 4990584232
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & (R) SIDE
If YES, enter the following: seal date: 11/17/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and usable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: DM (date) 11/18/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/18/93 by (print) D. McPHERSON (sign) D. McPhereson
Describe packing: BUBBLE WRAP
10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab, project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPhereson on (date) 11/18/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 0635
Client Cooler # _____Project: HUNTSVILLE COEDate/Time Received: 11/18/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/18/93
by (print) D. McPHERSON (sign) D. McPHERSON
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584232
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & (R) SIDE
If YES, enter the following: seal date: 11/17/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/18/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/18/93 by (all those who logged must sign below):
(print) D. McPHERSON (sign) D. McPHERSON
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPHERSON on (date) 11/18/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
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Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 0446
Client Cooler # _____Project: HUNTSVILLE COEDate/Time Received: 11/18/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/time cooler was opened: 11/18/93
by (print) D. McPherson (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 4990584232
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & (R) SIDE
If YES, enter the following: seal date: 11/17/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ini, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: DW (date) 11/18/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/18/93 (by those involved must sign below):
(print) D. McPherson (sign) D. McPherson
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBEE By whom? D. McPherson on (date) 11/18/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 1081
Client Cooler # _____Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPHERSON (sign) [Signature]
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & @ SIDE
If YES, enter the following: seal date: MCB 11/18/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and usable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name on the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 (print) D. McPHERSON (sign) [Signature]
9. Describe packing: BUBBLE WRAP
10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? [Signature] on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESI Cooler # 956
Client Cooler #Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPherson (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & @ SIDE
If YES, enter the following: seal date: MCB 11/18/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: (Signature) (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 by (all those involved must sign below):
(print) D. McPherson (sign) D. McPherson
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: D. McPherson YES NO
 19. Was lab. project manager called and status discussed? If YES, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPherson on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 647
Client Cooler #Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPHERSON (sign) [Signature]
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 9990584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & 2 SIDE
If YES, enter the following: seal date: MCB 11/18/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and usable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 (all those involved must sign below):
(print) D. McPHERSON (sign) [Signature]
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WIEBER By whom? [Signature] on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 093
Client Cooler #Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPHERSON (sign) D. McPHERSON
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 9990584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & 2 SIDE
If YES, enter the following: seal date: MCB 11/18/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (incl. signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 (print) D. McPHERSON (sign) D. McPHERSON
Describe packing: BUBBLE WRAP
10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WIEBER By whom? D. McPHERSON on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 374
Client Cooler #Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/time cooler was opened: 11/19/93
by (print) D. McPHERSON (sign) D. McPHERSON
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 9590584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & SIDE
If YES, enter the following: seal date: 11/18/93 name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: (Signature) (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 by (all those involved must sign below):
(print) D. McPHERSON (sign) D. McPHERSON
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in YGA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WIEBER By whom? D. McPHERSON on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler # 1143
Client Cooler # _____Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPherson (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7790584 276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & @ SIDE
If YES, enter the following: seal date: MCB 11/18/93 name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 (if those involved must sign below):
(print) D. McPherson (sign) D. McPherson
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPherson on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESE Cooler: 767
Client Cooler: 767Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPHERSON (sign) D. McPHERSON
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & 2 SIDE
If YES, enter the following: seal date: MCB 11/18/93 seal name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (int, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: (Signature) (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged in: 11/19/93 (all those involved must sign below):
(print) D. McPHERSON (sign) D. McPHERSON
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bottles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If YES, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPHERSON on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ES&E Cooler # 1144
Client Cooler # Project: HUNTSVILLE COE Date/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/time cooler was opened: 11/19/93
by (print) D. McPHERSON (sign) [Signature]
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7998584276
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & SIDE
If YES, enter the following: seal date: MCB 11/18/93 name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (incl. signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and usable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name on the back of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged-in: 11/19/93 by (print) D. McPHERSON (sign) [Signature]
(print) D. McPHERSON (sign) [Signature]
9. Describe packing: BUBBLE WRAP
 10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by ID: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPHERSON on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.

COOLER RECEIPT FORM

ESC Cooler # 548
Client Cooler #Project: HUNTSVILLE COEDate/Time Received: 11/19/93

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

- A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/19/93
by (print) D. McPherson (sign) D. McPherson
1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990 58 42 76
 2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: FRONT & 2 SIDE
If YES, enter the following: seal date: MCB 11/18/93 name: MCB
 3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
 4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
 5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
 6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
 7. Did you sign custody papers in the appropriate place? YES NO
 8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
 9. Have designated person initial here to acknowledge receipt of cooler: [Signature] (date) 11/19/93
- B. LOG-IN PHASE: Date samples were logged in: 11/19/93 (print) D. McPherson (sign) D. McPherson
Describe packing: BUBBLE WRAP
10. If required, was enough ice used? YES NO
 11. Were all bottles sealed in separate plastic bags? YES NO
 12. Did all bottles arrive unbroken and in good condition? YES NO
 13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
 14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
 15. Were correct containers used for the tests indicated? YES NO
 16. Were correct preservatives used when required? YES NO
 17. Was a sufficient amount of sample sent for tests indicated? YES NO
 18. Bubbles present in VOA vials? If YES, list by IDs: YES NO
 19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
 20. Who was called? P. WILBER By whom? D. McPherson on (date) 11/19/93

Figure 6-2
COOLER RECEIPT FORM



Environmental
Science &
Engineering, Inc.



COOLER RECEIPT FORM

52 484

LIMS# _____

CONTRACTOR COOLER# 773

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville CDEDATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Fester(SIGNED) [Signature]1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NOIF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 74905842542. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NOHOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME: MCB3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO9. IF REQUIRED, WAS ENOUGH ICE USED? YES TYPE OF ICE: H₂O NO10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MT (DATE) 11/20/93B. LOG IN PHASE: DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER(SIGNED) [Signature]11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO21. WHO WAS CALLED? Patrick Wilbur BY WHOM? MT (DATE) 11/20/93

FNPROJOPS/COMMON/COOLER.FRM

003533



52 485

COOLER RECEIPT FORM

LIMS# _____

CONTRACTOR COOLER# 1093

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville CDEDATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE : DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Foster(SIGNED) Michael Foster

1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NO
IF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 7490584254
2. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NO
HOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME: MCB
3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO
4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO
5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO
6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO
7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO
8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO
9. IF REQUIRED, WAS ENOUGH ICE USED? YES NO TYPE OF ICE: H₂O
10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MT (DATE) 11/20/93

B. LOG IN PHASE : DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER(SIGNED) Paul Hester

11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap
12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO
13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO
14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO
15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO
16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO
17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO
18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO
19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO
20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO
21. WHO WAS CALLED? Patricia Wilbur BY WHOM? MT (DATE) 11/20/93

FAPROJOPS COMMON COOLER FORM

003534



COOLER RECEIPT FORM

52 486.

LIMS# _____

CONTRACTOR COOLER# 23

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville GDEDATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Foster(SIGNED) Michael Foster

1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NO
- IF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: Fed. Ex. 7490584254
2. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NO
- HOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME MCB
3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO
4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO
5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO
6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO
7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO
8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO
9. IF REQUIRED, WAS ENOUGH ICE USED? YES NO TYPE OF ICE H₂O
10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MF (DATE) 11/20/93

B. LOG IN PHASE: DATE SAMPLES WERE LOGGED IN: 11-20-93BY (PRINT) PAUL HESTER(SIGNED) Paul Hester

11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap
12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO
13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO
14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO
15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO
16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO
17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO
18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO
19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO
20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO
21. WHO WAS CALLED? P. L. Wilbur BY WHOM? MF (DATE) 11/20/93

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003535



COOLER RECEIPT FORM

52 487

LIMS# _____

CONTRACTOR COOLER# 128

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville G.E.DATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Foster

(SIGNED) _____

1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NO
- IF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 7490584254
2. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NO
- HOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME: MCB
3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO
4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO
5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO
6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (CHK, SIGNED, ETC.)? YES NO
7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO
8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO
9. IF REQUIRED, WAS ENOUGH ICE USED? YES TYPE OF ICE: H₂O YES NO
10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MT (DATE) 11/20/93

B. LOG IN PHASE: DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER(SIGNED) Paul Hester

11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap
12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO
13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO
14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO
15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO
16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO
17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO
18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO
19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO
20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO
21. WHO WAS CALLED? Patrick Wilbur BY WHOM? MT (DATE) 11/20/93

F:\PROJOPS\COMMON\COOLER.FRM

003536



COOLER RECEIPT FORM

52 488-

LIMS# _____

CONTRACTOR COOLER# 1002

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville G.E.DATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE : DATE COOLER WAS OPENED: 11/20/93

- BY (PRINT) Michael Feaster (SIGNED) [Signature]
1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NO
 - IF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 7490584254
 2. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NO
 - HOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME: MCB
 3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO
 4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO
 5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO
 6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO
 7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO
 8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO
 9. IF REQUIRED, WAS ENOUGH ICE USED? YES TYPE OF ICE: H₂O YES NO
 10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MF (DATE) 11/20/93

B. LOG IN PHASE : DATE SAMPLES WERE LOGGED IN: 11-21-93

- BY (PRINT) PAUL HESTER (SIGNED) [Signature]
11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap
 12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO
 13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO
 14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO
 15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO
 16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO
 17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO
 18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO
 19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO
 20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO
 21. WHO WAS CALLED? Pat. Ch. Wilbur BY WHOM? MF (DATE) 11/20/93

F:\PROJOPS\COMMON\COOLER.FRM

003537



COOLER RECEIPT FORM

52 489

LIMS# _____

CONTRACTOR COOLER# 582

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville GDE DATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Foster (SIGNED) Michael Foster1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NOIF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 74905842542. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NOHOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME MCB3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO9. IF REQUIRED, WAS ENOUGH ICE USED? YES NO TYPE OF ICE H₂O10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MF (DATE) 11/20/93B. LOG IN PHASE: DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER (SIGNED) Paul Hester11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO21. WHO WAS CALLED? Patrick Wilbur BY WHOM? MF (DATE) 11/20/93

F:\PROJOPS\COMMON\COOLER.FRM

003538



COOLER RECEIPT FORM

52 490

LIMS# _____

CONTRACTOR COOLER#

372

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville GDEDATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Fender(SIGNED) Michael Fender

1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NO
- IF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: Felex 7490584254
2. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NO
- HOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME: MCB
3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO
4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO
5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO
6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO
7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO
8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO
9. IF REQUIRED, WAS ENOUGH ICE USED? YES NO TYPE OF ICE: H₂O
10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MF (DATE) 11/20/93

B. LOG IN PHASE: DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER(SIGNED) Paul Hester

11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap
12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO
13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO
14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO
15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO
16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO
17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO
18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO
19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO
20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO
21. WHO WAS CALLED? Patrick Wilbur BY WHOM? MF (DATE) 11/20/93

F:\PROJOPS\COMMON\COOLER.FRM

003539



COOLER RECEIPT FORM

52 491

LIMS# _____

CONTRACTOR COOLER# 337

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville CDEDATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Foster (SIGNED) [Signature]1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NOIF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 74905842542. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NOHOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME MCB3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO9. IF REQUIRED, WAS ENOUGH ICE USED? YES NO TYPE OF ICE H₂O10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MT (DATE) 11/20/93B. LOG IN PHASE: DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER (SIGNED) Paul Hester11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO21. WHO WAS CALLED? Patrick Wilbur BY WHOM? MT (DATE) 11/20/93

FAPROJOPS/COMMON COOLER FORM

003540



COOLER RECEIPT FORM

52 492

LIMS# _____

CONTRACTOR COOLER# 842

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville GDE DATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE : DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Feaster (SIGNED) Michael Feaster1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NOIF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 74905842542. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NOHOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME MCB3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEGGER COUNTER? YES NO5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO9. IF REQUIRED, WAS ENOUGH ICE USED? YES TYPE OF ICE H₂O NO10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MF (DATE) 11/20/93B. LOG IN PHASE : DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER (SIGNED) Paul Hester11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO21. WHO WAS CALLED? Patrick Wilbur BY WHOM? MF (DATE) 11/20/93

FAPROJOPS.COMMON.COOLER.FRM

003541



COOLER RECEIPT FORM

52 493.

LIMS# _____

CONTRACTOR COOLER# 1032

MRD COOLER# _____

NUMBER OF COOLERS _____

PROJECT: Huntsville GCEDATE RECEIVED: 11/20/93

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE : DATE COOLER WAS OPENED: 11/20/93BY (PRINT) Michael Foster(SIGNED) Michael Foster1. DID COOLER COME WITH A SHIPPING SLIP (AIR BILL, ETC.)? YES NOIF YES, ENTER CARRIER NAME & AIR BILL NUMBER HERE: FedEx 74905842542. WERE CUSTODY SEALS ON THE OUTSIDE OF COOLER? YES NOHOW MANY/WHERE: FRONT BACK L-SIDE R-SIDE, SEAL DATE: 11/19/93, SEAL NAME MCB3. WERE CUSTODY SEALS UNBROKEN AND INTACT AT THE DATE AND TIME OF ARRIVAL? YES NO4. DID YOU SCREEN SAMPLES FOR RADIOACTIVITY USING THE GEIGER COUNTER? YES NO5. WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED TO THE INSIDE OF THE LID? YES NO6. WERE CUSTODY PAPERS FILLED OUT CORRECTLY (INK, SIGNED, ETC.)? YES NO7. DID YOU SIGN THE CUSTODY PAPERS IN THE APPROPRIATE PLACE? YES NO8. WAS THE PROJECT IDENTIFIABLE FROM CUSTODY PAPERS? YES NO9. IF REQUIRED, WAS ENOUGH ICE USED? YES TYPE OF ICE H₂O10. HAVE THE DESIGNATED PERSON INITIAL HERE TO ACKNOWLEDGE RECEIPT OF COOLER: MT (DATE) 11/20/93B. LOG IN PHASE : DATE SAMPLES WERE LOGGED IN: 11-21-93BY (PRINT) PAUL HESTER(SIGNED) Paul Hester11. DESCRIBE TYPE OF PACKING IN COOLER: Plastic bubble wrap12. WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS? YES NO13. DID ALL BOTTLES ARRIVE UNBROKEN & WERE LABELS IN GOOD CONDITION? YES NO14. WERE ALL BOTTLES LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)? YES NO15. DID ALL BOTTLE LABELS AGREE WITH CUSTODY PAPERS? YES NO16. WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED? YES NO17. WERE CORRECT PRESERVATIVES ADDED TO SAMPLES? YES NO18. WAS SUFFICIENT AMOUNT OF SAMPLE SENT FOR THE TESTS INDICATED? YES NO19. WERE BUBBLES ABSENT IN THE VOA SAMPLES? YES NO20. WAS THE PROJECT MANAGER CALLED/STATUS DISCUSSED? IF YES, GIVE DETAILS ON BACK YES NO21. WHO WAS CALLED? Paul M. WilburBY WHOM? MT(DATE) 11/20/93

FAPROJOPS/COMMON/COOLER.FRM

003542

Environmental Science & Engineering, Inc. 11-11-93 *** FIELD LOGSHEET *** FIELD GROUP: CDDMTWD
 PROJECT NUMBER 7934082G 0201 PROJECT NAME: HUNTSVILLE COE - DDMT LAB COORD. PATRICK WILBER

ESE SITE/STA HAZ? FRACTIONS CIRCLED? DATE TIME PARAMETERS LIST
 MW 76 MS MS N N VP VP 11/13 11:05 CDDMTWD.1 12/0
 MW 77 MS MS N N VP VP 13:30 CDDMTWD.1
 MW 78 MS MS N N VP VP 15:35 CDDMTWD.2

NOTE -CHANGE OR ENTER SITE ID AS NECESSARY; UP TO 9 ALPHANUMERIC CHARACTERS MAY BE USED
 -CIRCLE FRACTIONS COLLECTED. ENTER DATE, TIME, FIELD DATA (IF REQUIRED) HAZARD CODE AND NOTES
 -HAZARD CODES: I-IGNITABLE C-CORROSIVE R-REACTIVE T-TOXIC WASTE H-OTHER ACUTE HAZARD: IDENTIFY SPECIFICS IF KNOWN
 -PLEASE RETURN COMPLETED LOGSHEETS WITH SAMPLES TO Environmental Science & Engineering, Inc.

RELINQUISHED BY: (NAME/ORGANIZATION/DATE/TIME) VIA: (NAME/ORGANIZATION/DATE/TIME)

1 *Patrick Wilber* 11-11-93 13:10
 2
 3

SAMPLER: Shipped on Ice? Yes/No; I anticipate shipping (#) more samples on 1
 SAMPLE CUSTODIAN: Custody Seals Used? Yes/No; If Yes, Seals Intact? Yes/No Interior Temp? 6 Deg C
 Preservatives Audited? Yes/No Any Problems? Yes/No; If Yes, describe:

52 494

003543

COOLER RECEIPT FORM

ESI Cooler # _____
Client Cooler # _____Project: Huntsville LOE - DDMT Date/Time Received: 11/11/93 1300

USE OTHER SIDE OF THIS FORM TO NOTE FURTHER DETAILS CONCERNING CHECK-IN PROBLEMS AND TO SPECIFY AND DESCRIBE ANY ACTION(S) REGARDING THE RESOLUTION(S) OF PROBLEMS. IF SHIPMENT WAS ACCEPTED AND IF REQUESTED, NOTE ON BACK THE ADDRESS WHERE THE EMPTY COOLER WAS RETURNED AND LIKEWISE IF THE SHIPMENT WAS REJECTED.

IF INFORMATION IS MISSING OR THERE ARE PROBLEMS NOTIFY LABORATORY PROJECT MANAGER SO THAT HE CAN NOTIFY THE PROJECT MANAGER IMMEDIATELY.

A. PRELIMINARY EXAMINATION PHASE: Date/Time cooler was opened: 11/11/93 1300by (print) Michael Feister (sign) [Signature]

1. Did cooler come with a shipping slip (air bill, etc.)? YES NO
If YES, attach and enter carrier and air bill number here: 7990504443
2. Were custody seals on outside of cooler? YES NO
If YES, how many and where: 1 - front
If YES, enter the following: seal date: 11/10/93 seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? YES NO
4. Were custody papers sealed in a plastic bag and taped inside to the lid? YES NO
5. Were custody papers filled out properly (ink, signed, etc.)? YES NO
6. Were custody papers complete? All sample IDs legible and useable? YES NO
Turnaround time included? YES NO
7. Did you sign custody papers in the appropriate place? YES NO
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. YES NO
9. Have designated person initial here to acknowledge receipt of cooler: MF (date) 11/11

B. LOG-IN PHASE: Data samples were logged-in: _____ by (all those involved must sign below):

(print) _____ (sign) _____

9. Describe packing: Sdyro pipette & bubble wrap
10. If required, was enough ice used? YES NO
11. Were all bottles sealed in separate plastic bags? YES NO
12. Did all bottles arrive unbroken and in good condition? YES NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? YES NO
14. Did all bottle labels agree with custody papers? If NO, indicate discrepancies on back. YES NO
15. Were correct containers used for the tests indicated? YES NO
16. Were correct preservatives used when required? YES NO
17. Was a sufficient amount of sample sent for tests indicated? YES NO
18. Bubbles present in VOA vials? If YES, list by ID: _____ YES NO
19. Was lab. project manager called and status discussed? If NO, give details on the back of this form. YES NO
20. Who was called? Patrick Wilson by whom MF on (date) 11/11/93

Figure 6-2
COOLER RECEIPT FORMEnvironmental
Science &
Engineering, Inc.



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road - Peoria, Illinois 61615
Telephone: (309) 692-4422 - Fax: (309) 692-3232

DEFENSE VERN

MEMPHIS, TN

Chain of Custody Record

No 5583

FOR LAB USE ONLY

Project Number:

Date:

Company: ESE

Address: 14220 NEWBERRY RD
GAINESVILLE, FL

Phone #: 352-3318 Fax #:

P.O. #:

Client Contact: CPT. MIKE DELL'ORO

Project # / Location: 39350216 DDMT

Sample Type: Container Type:
1. Water P - Plastic
2. Soil G - Glass
3. Sludge V - VOC
4. Oil
5. Tissue
Other:

Preservative:
1. None 3. HNO3
2. H2SO4 4. NaOH

Sample I.D. (10 Character ONLY)	Sample Type	Size	Container Type	No.	Date	Time	Preservative	Lab I.D.	Comments
CO00000-AM77	1		P		7/10/93	1330	3	13	
CO00000-AM76	1		P		7/10/93	1115	3	1	
CO00000-AM78	1		P		7/10/93	1535	3	1	
CO00000-AM77	1		P		7/10/93	1330	4	1	
CO00000-AM76	1		P		7/10/93	1115	4	1	
CO00000-AM76	1		V		7/10/93	1115	HG1	2	
CO00000-AM77	1		V		7/10/93	1330	HG1	2	
CO00000-AM76	1		G		7/10/93	1115	1	1	
CO00000-AM77	1		G		7/10/93	1330	1	1	

Relinquished By: CLAKE BAIN

Date: 7-10-93 Time: 2230

Received By:

Date: Time:

Relinquished By:

Date: Time:

TURNAROUND TIME:
☐ RUSH: day
☐ turnaround
☐ ROUTINE

FOR LAB USE ONLY:
Samples Received Chilled:
☒ Yes
☐ No

Cooper White - Client - Convey - Lab Receiving - Pk - Lab Re - Government - Returned by Sample

SPECIAL INSTRUCTIONS:

THESE SAMPLES CAME FROM TAD LAVENDER FROM DYNAMAC IN ATLANTA. DYNAMAC IS SUBCONTRACTED TO EPA. THESE ARE QA/QC SAMPLES.

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE