

45935

FURNACE DATA

— 212

AR319425

QC:

#	A/S	QC Sample	Conc. Limits	After	Periodic	At	Count
Loc.	ID	Lower	Upper	Calib	Check	End	Sample
1	36	ICV	45.00	55.00	X		
2	0	ICB	-5.00	5.00	X		
3	36	CCV	45.00	55.00		X	X
4	0	CCB	-5.00	5.00		X	X

Run Periodic QC Samples: 2, 7, 12, 17, 22, 27, 32

Out of Limit Action: Print Message Only

Matrix Check Calculations:

% Difference for Dupls: No

Locations:

% Recovery for Spike: No

Locations:

Conc:

LANCASTER LABORATORIES

GFAA AS 36501

DATE: DEC 30 1992

REVIEWER *mst 744*

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AR319426

Element File: ASFAST.GEL Element: As Wavelength: 193.7
Date: 12/30/92 Time: 11:03 Slit: 0.70 L
Data File: AS36501.DAT ID/Wt File: 36501.IDW Lamp Current: 0
Technique: HGA Calib. Type: Linear Energy: 66

As ID: S0 Seq. No.: 00001 A/S Pos.: 0 Date: 12/30/92

Replicate 1 Time: 11:03
Peak Area (A-s): -0.000 Peak Height (A): 0.005
Background Pk Area (A-s): -0.000 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.35

Replicate 2 Time: 11:05
Peak Area (A-s): -0.001 Peak Height (A): 0.006
Background Pk Area (A-s): 0.000 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.43

Mean Conc (ug/L): -0.39 SD: 0.058 RSD(%): 14.97

Auto-zero performed.

As ID: S10 Seq. No.: 00002 A/S Pos.: 40 Date: 12/30/92

Replicate 1 Time: 11:07
Peak Area (A-s): 0.010 Peak Height (A): 0.029
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.018
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 9.89

Replicate 2 Time: 11:09
Peak Area (A-s): 0.010 Peak Height (A): 0.028
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.019
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 9.85

Mean Conc (ug/L): 9.87 SD: 0.028 RSD(%): 0.28

Standard number 1 applied. [10.00]
Correlation coefficient: 1.00000 Slope: 0.0011 Int: -0.000

As ID: S20 Seq. No.: 00003 A/S Pos.: 40 Date: 12/30/92

Replicate 1 Time: 11:11
Peak Area (A-s): 0.025 Peak Height (A): 0.047
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.026
Concentration (ug/L): 23.55

Replicate 2 Time: 11:14
Peak Area (A-s): 0.022 Peak Height (A): 0.054
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.021
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 20.49

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Mean Conc (ug/L): 22.02 SD: 2.165 RSD(%): 9.83

Standard number 2 applied. [20.00]
Correlation coefficient: 0.99860 Slope: 0.0012 Int: -0.000

As ID: S40 Seq. No.: 00004 A/S Pos.: 40 Date: 12/30/92

Replicate 1 Time: 11:16
Peak Area (A-s): 0.047 Peak Height (A): 0.087
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): 0.048
Concentration (ug/L): 40.08

Replicate 2 Time: 11:18
Peak Area (A-s): 0.046 Peak Height (A): 0.087
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.046
Concentration (ug/L): 38.88

Mean Conc (ug/L): 39.48 SD: 0.842 RSD(%): 2.13

Standard number 3 applied. [40.00]
Correlation coefficient: 0.99964 Slope: 0.0012 Int: -0.000

As ID: S60 Seq. No.: 00005 A/S Pos.: 40 Date: 12/30/92

Replicate 1 Time: 11:20
Peak Area (A-s): 0.074 Peak Height (A): 0.139
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.028
Blank Corrected Pk Area (A-s): 0.075
Concentration (ug/L): 63.22

Replicate 2 Time: 11:22
Peak Area (A-s): 0.072 Peak Height (A): 0.138
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.072
Concentration (ug/L): 61.21

Mean Conc (ug/L): 62.22 SD: 1.422 RSD(%): 2.28

Standard number 4 applied. [60.00]
Correlation coefficient: 0.99957 Slope: 0.0012 Int: -0.001

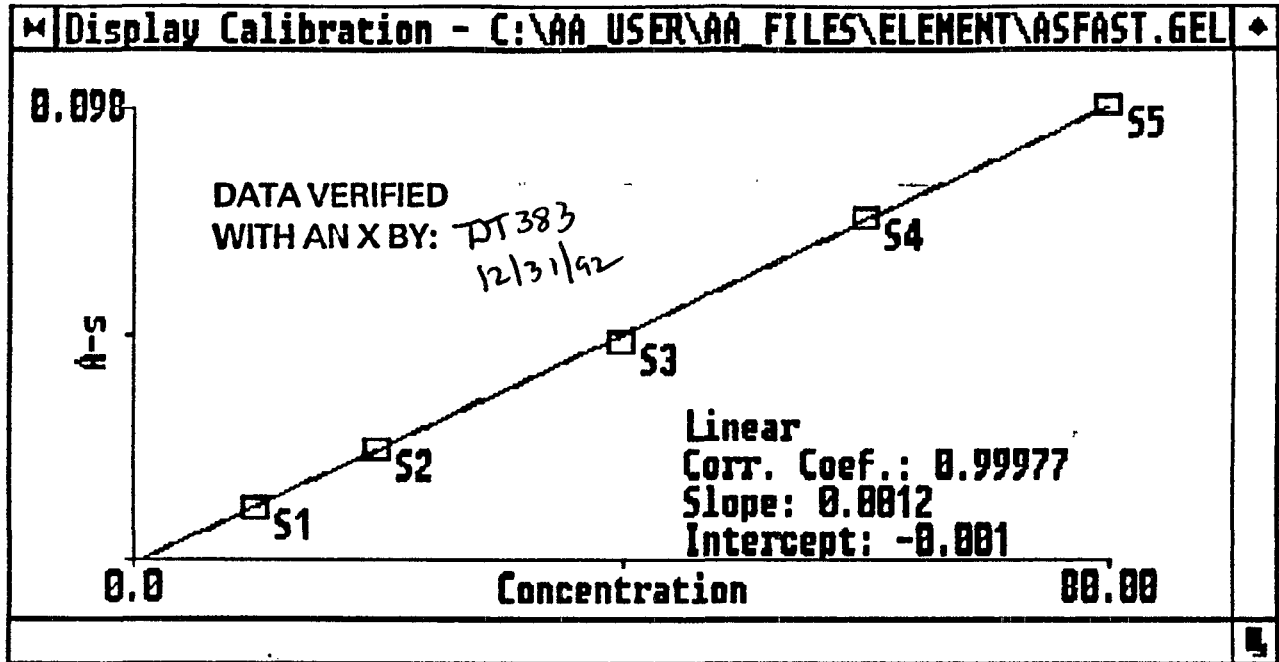
As ID: S80 Seq. No.: 00006 A/S Pos.: 40 Date: 12/30/92

Replicate 1 Time: 11:25
Peak Area (A-s): 0.096 Peak Height (A): 0.186
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.096
Concentration (ug/L): 79.35

Replicate 2 Time: 11:27
Peak Area (A-s): 0.099 Peak Height (A): 0.187
Background Pk Area (A-s): 0.005 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.099
Concentration (ug/L): 82.04

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-- next 744

Mean Conc (ug/L): 80.69 SD: 1.902 RSD(%): 2.36
 Standard number 5 applied. [80.00]
 Correlation coefficient: 0.99977 Slope: 0.0012 Int: -0.001



As ID: ICV Seq. No.: 00007 A/S Pos.: 36 Date: 12/30/92

Replicate 1 Time: 11:29
 Peak Area (A-s): 0.063 Peak Height (A): 0.142
 Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.028
 Blank Corrected Pk Area (A-s): 0.063
 Concentration (ug/L): 52.16

Replicate 2 Time: 11:32
 Peak Area (A-s): 0.062 Peak Height (A): 0.139
 Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.026
 Blank Corrected Pk Area (A-s): 0.063
 Concentration (ug/L): 51.82

Mean Conc (ug/L): 51.99 SD: 0.239 RSD(%): 0.46

QC sample is within range 45.00 - 55.00

As ID: ICB Seq. No.: 00008 A/S Pos.: 0 Date: 12/30/92

Replicate 1 Time: 11:34
 Peak Area (A-s): -0.000 Peak Height (A): 0.006
 Background Pk Area (A-s): 0.000 Background Pk Height (A): 0.023
 Blank Corrected Pk Area (A-s): 0.000
 Concentration (ug/L): 1.01

Replicate 2

Time: 11:34 29

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As ID: ICB Seq. No.: 00008 A/S Pos.: 0 Date: 12/30/92

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.000
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 1.01

Time: 11:34
Peak Height (A): 0.006
Background Pk Height (A): 0.023

LANCASTER LABORATORII
GFAA DEC 30 1992 AS 36501
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Replicate 2

Time: 11:36

Peak Area (A-s): 0.000
Background Pk Area (A-s): -0.001
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.29

Peak Height (A): 0.005
Background Pk Height (A): 0.021

Mean Conc (ug/L): 1.15 SD: 0.194 RSD(%): 16.93

QC sample is within range -5.00 - 5.00

As ID: CRA Seq. No.: 00009 A/S Pos.: 1 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.012
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.012
Concentration (ug/L): 10.62

Time: 11:38
Peak Height (A): 0.030
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.013
Background Pk Area (A-s): -0.001
Blank Corrected Pk Area (A-s): 0.014
Concentration (ug/L): 11.70

Time: 11:40
Peak Height (A): 0.030
Background Pk Height (A): 0.023

Mean Conc (ug/L): 11.16 SD: 0.766 RSD(%): 6.86

As ID: CCV Seq. No.: 00010 A/S Pos.: 36 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.062
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.062
Concentration (ug/L): 51.34

Time: 11:43
Peak Height (A): 0.140
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.063
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.064
Concentration (ug/L): 52.36

Time: 11:45
Peak Height (A): 0.136
Background Pk Height (A): 0.027

Mean Conc (ug/L): 51.85 SD: 0.725 RSD(%): 1.40

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00011 A/S Pos.: 0 Date: 12/30/92

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Time: 11:47

Replicate 1
 Peak Area (A-s): -0.002
 Background Pk Area (A-s): 0.001
 Blank Corrected Pk Area (A-s): -0.001
 Concentration (ug/L): -0.15

Time: 11:47
 Peak Height (A): 0.005
 Background Pk Height (A): 0.022

Replicate 2
 Peak Area (A-s): -0.000
 Background Pk Area (A-s): -0.001
 Blank Corrected Pk Area (A-s): 0.000
 Concentration (ug/L): 0.91

Time: 11:49
 Peak Height (A): 0.005
 Background Pk Height (A): 0.023

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Mean Conc (ug/L): 0.38 SD: 0.746 RSD(%): 196.83

QC sample is within range -5.00 - 5.00

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The background signal is changing during BOC measurement.

Replicate 1
 Peak Area (A-s): 0.046
 Background Pk Area (A-s): 0.503
 Blank Corrected Pk Area (A-s): 0.047
 Concentration (ug/L): 38.93

Time: 11:51
 Peak Height (A): 0.150
 Background Pk Height (A): 2.314

ST

The background signal is changing during BOC measurement.

Replicate 2
 Peak Area (A-s): 0.045
 Background Pk Area (A-s): 0.495
 Blank Corrected Pk Area (A-s): 0.046
 Concentration (ug/L): 37.75

Time: 11:54
 Peak Height (A): 0.143
 Background Pk Height (A): 2.313

Mean Conc (ug/L): 38.34 SD: 0.833 RSD(%): 2.17

XXXXXXXX

The background signal is changing during BOC measurement.

Replicate 1
 Peak Area (A-s): 0.059
 Background Pk Area (A-s): 0.528
 Blank Corrected Pk Area (A-s): 0.060
 Concentration (ug/L): 49.16

Time: 11:56
 Peak Height (A): 0.180
 Background Pk Height (A): 2.576

The background signal is changing during BOC measurement.

Replicate 2
 Peak Area (A-s): 0.051
 Background Pk Area (A-s): 0.548
 Blank Corrected Pk Area (A-s): 0.052
 Concentration (ug/L): 42.69

Time: 11:58
 Peak Height (A): 0.181
 Background Pk Height (A): 2.677

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Mean Conc (ug/L): 45.92 SD: 4.575 RSD(%): 9.96

Recovery is 37.9% (outside of specified limits)

AR319431

As ID: PBW 363 020 Seq. No.: 00014 A/S Pos.: 3 Date: 12/30/92

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): -0.000
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.90

Time: 12:00
Peak Height (A): 0.005
Background Pk Height (A): 0.020

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): -0.002
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.73

Time: 12:03
Peak Height (A): 0.005
Background Pk Height (A): 0.021

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Mean Conc (ug/L): 1.32 SD: 0.587 RSD(%): 44.57

As ID: PBW 363 020 Seq. No.: 00015 A/S Pos.: 3 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.79

Time: 12:05
Peak Height (A): 0.057
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.13

Time: 12:07
Peak Height (A): 0.058
Background Pk Height (A): 0.026

Mean Conc (ug/L): 18.96 SD: 1.172 RSD(%): 6.18

Recovery is 88.2%

As ID: LCSW 363 020 Seq. No.: 00016 A/S Pos.: 4 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.050
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.050
Concentration (ug/L): 41.74

Time: 12:10
Peak Height (A): 0.125
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.052
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 43.48

Time: 12:12
Peak Height (A): 0.127
Background Pk Height (A): 0.028

Mean Conc (ug/L): 42.61 SD: 1.231 RSD(%): 2.89

As ID: LCSW 363 020 Seq. No.: 00017 A/S Pos.: 4 Date: 12/30/92

Replicate 1

Time: 12:14
Peak Height (A): 0.185

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Replicate 1 *LCSWA*
Peak Area (A-s): 0.071
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.072
Concentration (ug/L): 58.91

Time: 12:14
Peak Height (A): 0.185
Background Pk Height (A): 0.030

Replicate 2
Peak Area (A-s): 0.070
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 58.32

Time: 12:16
Peak Height (A): 0.175
Background Pk Height (A): 0.029

Mean Conc (ug/L): 58.62 SD: 0.421 RSD(%): 0.72

Recovery is 80.0% (outside of specified limits)

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Replicate 1 *FLDBL*
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 1.06

Time: 12:19
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.000
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.39

Time: 12:21
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Mean Conc (ug/L): 0.34 SD: 1.025 RSD(%): 301.78

Replicate 1 *FLDBLA*
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 19.84

Time: 12:23
Peak Height (A): 0.053
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.67

Time: 12:25
Peak Height (A): 0.052
Background Pk Height (A): 0.025

Mean Conc (ug/L): 19.76 SD: 0.121 RSD(%): 0.61

Recovery is 97.1%

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AR319433

Replicate 1 *JAMES*
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): 0.17

Time: 12:28
Peak Height (A): 0.006
Background Pk Height (A): 0.029

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): 2.11

Time: 12:30
Peak Height (A): 0.007
Background Pk Height (A): 0.033

Mean Conc (ug/L): 1.14 SD: 1.370 RSD(%): 120.05

Replicate 1 *JAMESA*
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.008

Time: 12:32
Peak Height (A): 0.053
Background Pk Height (A): 0.033

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Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.37

Replicate 2
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 20.00

Time: 12:34
Peak Height (A): 0.054
Background Pk Height (A): 0.035

Mean Conc (ug/L): 19.69 SD: 0.446 RSD(%): 2.27

Recovery is 92.7%

Replicate 1
Peak Area (A-s): 0.062
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.063
Concentration (ug/L): 51.94

Time: 12:37
Peak Height (A): 0.138
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.060
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.061
Concentration (ug/L): 50.31

Time: 12:39
Peak Height (A): 0.131
Background Pk Height (A): 0.026

Mean Conc (ug/L): 51.13 SD: 1.154 RSD(%): 2.26

QC sample is within range 45.00 - 55.00

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Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.01

Time: 12:41
Peak Height (A): 0.005
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.45

Time: 12:43
Peak Height (A): 0.004
Background Pk Height (A): 0.023

Mean Conc (ug/L): -0.23 SD: 0.308 RSD(%): 133.72

QC sample is within range -5.00 - 5.00

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.65

Time: 12:45
Peak Height (A): 0.006
Background Pk Height (A): 0.026

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Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.37

Time: 12:48
Peak Height (A): 0.006
Background Pk Height (A): 0.028

Mean Conc (ug/L): 0.64 SD: 1.426 RSD(%): 223.07

Replicate 1
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.54

Time: 12:50
Peak Height (A): 0.052
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.11

Time: 12:52
Peak Height (A): 0.049
Background Pk Height (A): 0.028

Mean Conc (ug/L): 19.32 SD: 0.300 RSD(%): 1.55

Recovery is 93.4%

Replicate 1 Time: 12:54

ARS 19435

As ID: 1910244 Seq. No.: 00026 A/S Pos.: 8 Date: 12/30/92

Replicate 1
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.14

Time: 12:54
Peak Height (A): 0.005
Background Pk Height (A): 0.032

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.34

Time: 12:56
Peak Height (A): 0.007
Background Pk Height (A): 0.032

Mean Conc (ug/L): 0.60 SD: 1.045 RSD(%): 173.82

As ID: 1910244 Seq. No.: 00027 A/S Pos.: 8 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.54

Time: 12:59
Peak Height (A): 0.047
Background Pk Height (A): 0.034

Replicate 2
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.74

Time: 13:01
Peak Height (A): 0.050
Background Pk Height (A): 0.032

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Mean Conc (ug/L): 19.64 SD: 0.142 RSD(%): 0.72

Recovery is 95.2%

As ID: 1910245 Seq. No.: 00028 A/S Pos.: 9 Date: 12/30/92

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): 0.37

Time: 13:03
Peak Height (A): 0.005
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.18

Time: 13:05
Peak Height (A): 0.006
Background Pk Height (A): 0.024

Mean Conc (ug/L): 0.78 SD: 0.571 RSD(%): 73.72

As ID: 1910245 Seq. No.: 00029 A/S Pos.: 9 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.023

Time: 13:07
Peak Height (A): 0.048

AR319436

Replicate 1 *CHURFA*
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.58

Time: 13:07
Peak Height (A): 0.048
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.31

Time: 13:10
Peak Height (A): 0.048
Background Pk Height (A): 0.025

Mean Conc (ug/L): 19.44 SD: 0.194 RSD(%): 1.00

Recovery is 93.3%

Replicate 1 *FLAN*
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): 0.35

Time: 13:12
Peak Height (A): 0.005
Background Pk Height (A): 0.020

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.000
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.35

Time: 13:14
Peak Height (A): 0.006
Background Pk Height (A): 0.021

Mean Conc (ug/L): 0.00 SD: 0.496

RSD(%): 13129.69

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Replicate 1 *FLANA*
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 17.84

Time: 13:16
Peak Height (A): 0.050
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 17.64

Time: 13:19
Peak Height (A): 0.047
Background Pk Height (A): 0.022

224

Mean Conc (ug/L): 17.74 SD: 0.140 RSD(%): 0.79

Recovery is 88.7%

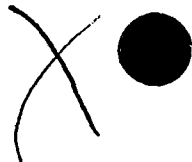
AR319437

As ID: 1910247 Seq. No.: 00032 A/S Pos.: 11 Date: 12/30/92

MIDTI

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.74

Time: 13:21
Peak Height (A): 0.005
Background Pk Height (A): 0.030



Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): 0.19

Time: 13:23
Peak Height (A): 0.005
Background Pk Height (A): 0.033

Mean Conc (ug/L): 0.46 SD: 0.392 RSD(%): 84.66

As ID: 1910247 Seq. No.: 00033 A/S Pos.: 11 Date: 12/30/92

MIDTIA

Replicate 1
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 20.09

Time: 13:25
Peak Height (A): 0.049
Background Pk Height (A): 0.032

Replicate 2
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.00

Time: 13:27
Peak Height (A): 0.049
Background Pk Height (A): 0.032

Mean Conc (ug/L): 19.04 SD: 1.479 RSD(%): 7.77

Recovery is 92.9%

As ID: CCV Seq. No.: 00034 A/S Pos.: 36 Date: 12/30/92

LANCASTER LABORATORIES
GFAA
DATE: DEC 30 1992 AS 36501
REVIEWER *met 744*

Replicate 1

Time: 13:29

Peak Area (A-s): 0.062
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.063
Concentration (ug/L): 51.65

Peak Height (A): 0.132
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.060
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.060
Concentration (ug/L): 49.57

Time: 13:32
Peak Height (A): 0.132
Background Pk Height (A): 0.029

225

Mean Conc (ug/L): 50.61 SD: 1.468 RSD(%): 2.90

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00035 A/S Pos.: 0 Date: 12/30/92

AR 319438

Replicate 1
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.25

Time: 13:34
Peak Height (A): 0.006
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.78

Time: 13:36
Peak Height (A): 0.005
Background Pk Height (A): 0.021

Mean Conc (ug/L): 1.02 SD: 0.335 RSD(%): 32.95

QC sample is within range -5.00 - 5.00

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 1.00

Time: 13:38
Peak Height (A): 0.006
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.81

Time: 13:40
Peak Height (A): 0.006
Background Pk Height (A): 0.024

Mean Conc (ug/L): 0.91 SD: 0.133 RSD(%): 14.66

Replicate 1
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 18.24

Time: 13:42
Peak Height (A): 0.046
Background Pk Height (A): 0.026

LANCASTER LABORATORIES
GFAA AS 36501
DATE: DEC 30 1992
REVIEWER met 747

Replicate 2
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 18.45

Time: 13:45
Peak Height (A): 0.045
Background Pk Height (A): 0.026

Mean Conc (ug/L): 18.34 SD: 0.154 RSD(%): 0.84

Recovery is 87.2%

Replicate 1 Time: 13:47

AR319439

AS ID: 1910328 Seq. No.: 00038 A/S Pos.: 13 Date: 12/30/92

Replicate 1 *22CHM*
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): 0.65

Time: 13:47
Peak Height (A): 0.006
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 1.02

Time: 13:49
Peak Height (A): 0.005
Background Pk Height (A): 0.030

Mean Conc (ug/L): 0.83 SD: 0.265 RSD(%): 31.85

AS ID: 1910328 Seq. No.: 00039 A/S Pos.: 13 Date: 12/30/92

Replicate 1 *22CHMA*
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 18.83

Time: 13:51
Peak Height (A): 0.043
Background Pk Height (A): 0.029

Replicate 2
Peak Area (A-s): 0.024
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 20.24

Time: 13:53
Peak Height (A): 0.048
Background Pk Height (A): 0.030

Mean Conc (ug/L): 19.53 SD: 1.000 RSD(%): 5.12

Recovery is 93.5%

AS ID: 1910329 Seq. No.: 00040 A/S Pos.: 14 Date: 12/30/92

Replicate 1 *22CMF*
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): 0.11

Time: 13:55
Peak Height (A): 0.006
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000

Time: 13:58
Peak Height (A): 0.005
Background Pk Height (A): 0.023

LANCASTER LABORATORIES
GFAA AS 36501
DATE: DEC 30 1992
REVIEWER *Met 7 94/*

Concentration (ug/L): 0.52

Mean Conc (ug/L): 0.31 SD: 0.287 RSD(%): 91.70

AS ID: 1910329 Seq. No.: 00041 A/S Pos.: 14 Date: 12/30/92

Replicate 1

Time: 14:00
Peak Height (A): 0.045

AR319440

Concentration (ug/L): 0.52

Mean Conc (ug/L): 0.31 SD: 0.287 RSD(%): 91.70

As ID: 1910329 Seq. No.: 00041 A/S Pos.: 14 Date: 12/30/92

Replicate 1 *22CMFA*
Peak Area (A-s): 0.022 Time: 14:00
Background Pk Area (A-s): 0.005 Peak Height (A): 0.045
Blank Corrected Pk Area (A-s): 0.022 Background Pk Height (A): 0.026
Concentration (ug/L): 18.68

Replicate 2
Peak Area (A-s): 0.020 Time: 14:02
Background Pk Area (A-s): 0.006 Peak Height (A): 0.040
Blank Corrected Pk Area (A-s): 0.021 Background Pk Height (A): 0.024
Concentration (ug/L): 17.75

Mean Conc (ug/L): 18.22 SD: 0.658 RSD(%): 3.61

Recovery is 89.5%

As ID: 1910330 Seq. No.: 00042 A/S Pos.: 15 Date: 12/30/92

Replicate 1 *22JAL*
Peak Area (A-s): -0.002 Time: 14:04
Background Pk Area (A-s): 0.006 Peak Height (A): 0.006
Blank Corrected Pk Area (A-s): -0.001 Background Pk Height (A): 0.029
Concentration (ug/L): -0.13

Replicate 2
Peak Area (A-s): 0.000 Time: 14:06
Background Pk Area (A-s): 0.008 Peak Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.001 Background Pk Height (A): 0.032
Concentration (ug/L): 1.45

Mean Conc (ug/L): 0.66 SD: 1.116 RSD(%): 169.90

As ID: 1910330 Seq. No.: 00043 A/S Pos.: 15 Date: 12/30/92

Replicate 1 *22JALA*
Peak Area (A-s): 0.022 Time: 14:09
Background Pk Area (A-s): 0.008 Peak Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.023 Background Pk Height (A): 0.032
Concentration (ug/L): 19.01

Replicate 2
Peak Area (A-s): 0.021 Time: 14:11
Background Pk Area (A-s): 0.009 Peak Height (A): 0.044
Blank Corrected Pk Area (A-s): 0.022 Background Pk Height (A): 0.033
Concentration (ug/L): 18.30

Mean Conc (ug/L): 18.65 SD: 0.508 RSD(%): 2.72

Recovery is 90.0%

LANCASTER LABORATORIES
GFAA - AS 36501
DATE: DEC 30 1992
REVIEWER *met* 19441



228

As ID: 1910331 Seq. No.: 00044 A/S Pos.: 16 Date: 12/30/92

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): 0.15

Time: 14:13
Peak Height (A): 0.005
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.52

Time: 14:15
Peak Height (A): 0.006
Background Pk Height (A): 0.024

Mean Conc (ug/L): -0.18 SD: 0.473 RSD(%): 261.14

As ID: 1910331 Seq. No.: 00045 A/S Pos.: 16 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 17.87

Time: 14:18
Peak Height (A): 0.044
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 17.52

Time: 14:20
Peak Height (A): 0.045
Background Pk Height (A): 0.026

Mean Conc (ug/L): 17.70 SD: 0.244 RSD(%): 1.38

Recovery is 89.4%

As ID: CCV Seq. No.: 00046 A/S Pos.: 36 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.060
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.060
Concentration (ug/L): 49.71

Time: 14:22
Peak Height (A): 0.132
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): 0.061
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.062
Concentration (ug/L): 50.84

Time: 14:24
Peak Height (A): 0.133
Background Pk Height (A): 0.026

Mean Conc (ug/L): 50.27 SD: 0.802 RSD(%): 1.60

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00047 A/S Pos.: 0 Date: 12/30/92

Replicate 1

Time: 14:27

LANCASTER LABORATORIES

GFAA

DATE: DEC 30 1992 AS 3650/ AR319442

As ID: CCB

Seq. No.: 00047

A/S Pos.: 0

Date: 12/30/92

Replicate 1

Time: 14:27

LANCASTER LABORATORIES

GFAA

AS 3450/

DATE: DEC 30 1992

REVIEWER *not 794*

Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.51

Peak Height (A): 0.005
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.64

Time: 14:29
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Mean Conc (ug/L): 0.575 SD: 1.522 RSD(%): 269.05

QC sample is within range -5.00 - 5.00

As ID: 1910332

Seq. No.: 00048

A/S Pos.: 17

Date: 12/30/92

Replicate 1 *22CHL*
Peak Area (A-s): 0.006
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 5.67

Time: 14:31
Peak Height (A): 0.015
Background Pk Height (A): 0.049

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.46

Time: 14:33
Peak Height (A): 0.007
Background Pk Height (A): 0.050

Mean Conc (ug/L): 3.56 SD: 2.976 RSD(%): 83.51

As ID: 1910332

Seq. No.: 00049

A/S Pos.: 17

Date: 12/30/92

Replicate 1 *22CHLA*
Peak Area (A-s): 0.025
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.026
Concentration (ug/L): 21.65

Time: 14:35
Peak Height (A): 0.055
Background Pk Height (A): 0.051

Replicate 2
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.024
Concentration (ug/L): 19.97

Time: 14:38
Peak Height (A): 0.052
Background Pk Height (A): 0.050

Mean Conc (ug/L): 20.81 SD: 1.189 RSD(%): 5.71

Recovery is 86.2%

As ID: 1910333

Seq. No.: 00050

A/S Pos.: 18

Date: 12/30/92

230
AR 319443

AS ID: 1910333

Seq. No.: 00050 A/S Pos.: 18

Date: 12/30/92

Replicate 1 *22CLF*
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.76

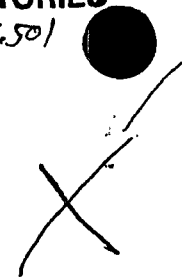
Time: 14:40
Peak Height (A): 0.006
Background Pk Height (A): 0.027

LANCASTER LABORATORIES

GFAA AS 36501

DATE: DEC 30 1992

REVIEWER *just F44*



Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.77

Time: 14:42
Peak Height (A): 0.007
Background Pk Height (A): 0.028

Mean Conc (ug/L): -0.76

SD: 0.004

RSD(%): 0.50

AS ID: 1910333

Seq. No.: 00051 A/S Pos.: 18

Date: 12/30/92

Replicate 1 *22CLFA*
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 17.77

Time: 14:44
Peak Height (A): 0.041
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 19.11

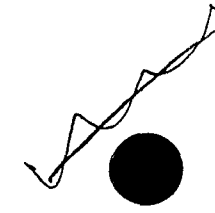
Time: 14:47
Peak Height (A): 0.046
Background Pk Height (A): 0.027

Mean Conc (ug/L): 18.44

SD: 0.943

RSD(%): 5.11

Recovery is 96.0%



AS ID: PBW 356 022

Seq. No.: 00052 A/S Pos.: 19

Date: 12/30/92

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.81

Time: 14:49
Peak Height (A): 0.015
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.005
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 5.17

Time: 14:51
Peak Height (A): 0.016
Background Pk Height (A): 0.025

Mean Conc (ug/L): 2.99

SD: 3.084

RSD(%): 103.06

R

231

AS ID: PBW 356 022

Seq. No.: 00053 A/S Pos.: 19

Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.005

Time: 14:53
Peak Height (A): 0.044
Background Pk Height (A): 0.022

AR319444

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.02

Time: 14:53
Peak Height (A): 0.044
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 18.66

Time: 14:56
Peak Height (A): 0.045
Background Pk Height (A): 0.023

LANCASTER LABORATORIES
GFAA AS36501
DATE: DEC 30 1992
REVIEWER *met 744*

Mean Conc (ug/L): 18.34 SD: 0.452 RSD(%): 2.46

Recovery is 76.8% (outside of specified limits)

Replicate 1 ZZZZZZ
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -0.67

Time: 14:58
Peak Height (A): 0.005
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.32

Time: 15:00
Peak Height (A): 0.004
Background Pk Height (A): 0.021

Mean Conc (ug/L): -0.50 SD: 0.252 RSD(%): 50.87

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.11

Time: 15:02
Peak Height (A): 0.045
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.019
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.020
Concentration (ug/L): 16.95

Time: 15:05
Peak Height (A): 0.044
Background Pk Height (A): 0.023

Mean Conc (ug/L): 17.53 SD: 0.825 RSD(%): 4.71

Recovery is 90.1%



232

As ID: LCSW 357 022 Seq. No.: 00056 A/S Pos.: 21 Date: 12/30/92

Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.053
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 43.91

Time: 15:07
Peak Height (A): 0.108
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.050
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.050
Concentration (ug/L): 41.57

Time: 15:09
Peak Height (A): 0.105
Background Pk Height (A): 0.026

Mean Conc (ug/L): 42.74 SD: 1.655 RSD(%): 3.87

LANCASTER LABORATORIES
GFAA AS 36501
DATE: DEC 30 1992
REVIEWER met 744

As ID: LCSW 357 022 Seq. No.: 00057 A/S Pos.: 21 Date: 12/30/92

Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.070
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 58.38

Time: 15:12
Peak Height (A): 0.156
Background Pk Height (A): 0.029

Replicate 2
Peak Area (A-s): 0.075
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.076
Concentration (ug/L): 62.46

Time: 15:14
Peak Height (A): 0.154
Background Pk Height (A): 0.029

Mean Conc (ug/L): 60.42 SD: 2.884 RSD(%): 4.77

Recovery is 88.4%

As ID: CCV Seq. No.: 00058 A/S Pos.: 36 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.059
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.059
Concentration (ug/L): 48.75

Time: 15:16
Peak Height (A): 0.125
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.059
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.060
Concentration (ug/L): 49.18

Time: 15:18
Peak Height (A): 0.128
Background Pk Height (A): 0.027

Mean Conc (ug/L): 48.96 SD: 0.302 RSD(%): 0.62

QC sample is within range 45.00 - 55.00

AR319446

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): 0.26

Time: 15:21
Peak Height (A): 0.007
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 1.31

Time: 15:23
Peak Height (A): 0.004
Background Pk Height (A): 0.023

Mean Conc (ug/L): 0.79 SD: 0.745 RSD(%): 94.72

QC sample is within range -5.00 - 5.00

LANCASTER LABORATORIES
GFAA AS 3650/
DATE: DEC 30 1992
REVIEWER *mr744*

Replicate 1
Peak Area (A-s): -0.003
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -1.70

Time: 15:25
Peak Height (A): 0.005
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.52

Time: 15:27
Peak Height (A): 0.005
Background Pk Height (A): 0.027

Mean Conc (ug/L): -1.11 SD: 0.833 RSD(%): 75.02

Replicate 1
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 14.74

Time: 15:29
Peak Height (A): 0.047
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.020
Concentration (ug/L): 17.27

Time: 15:32
Peak Height (A): 0.045
Background Pk Height (A): 0.025

Mean Conc (ug/L): 16.00 SD: 1.789 RSD(%): 11.18

Recovery is 85.6%

AR319447

Element: As

Print Data: Main+Suppl.

Print: Calib. Curve+Elem. Params.

Analyst: RDG 114

Peak Storage: None

INSTRUMENT: 5100

Technique: HGA

Version: 7.10

Wavelength: 193.7 Peak

Slit: 0.70 Low

Signal Type: Zeeman AA

Signal Measurement: Peak Area

Read Time: 5.0

Read Delay: 0.0

BOC Time: 2

Sample Replicates: 2

Spike Replicates: Same as Sample

CALIBRATION:

Solutions	ID	Conc	Location	Volume	Diluent Volume	Modifier	
						#1	#2
Calib. Blank	IS0		0	10	2	2	
Standard 1	IS10	10.00	40	1	11	2	
Standard 2	IS20	20.00	40	2	10	2	
Standard 3	IS40	40.00	40	4	8	2	
Standard 4	IS60	60.00	40	6	6	2	
Standard 5	IS80	80.00	40	8	4	2	
Samples				10	2	2	

Diluent Location: 0

Modifier #1 Location: 39

Modifier #2 Location:

Calibration Units: ug/L

Sample Units: ug/L

Calibration Type: Linear

Furnace Time/Temperature Program:

Step	Temp	Ramp	Hold	Gas Flow	Read	Gas Type
1	110	2	30	250		Norm
2	120	2	5	250		Norm
3	1000	6	15	250		Norm
4	2200	0	3	0	*	Norm
5	2400	1	2	250		Norm

LANCASTER LABORATORIES
INSTRUMENT ID #4724
BKG. CORR: BZ

Injection Temp: 120

Pipette Speed: 80%

Extraction System: Off

SEQUENCE:

Step Action and Parameters

1 Pipet diluent + modifier 1 + spike + sample/std

2 Run HGA steps 1 to End

CHECKS:

Recalibration Type: Completely Recalibrate

Locations: None

Conc. Above Calibration Action: Print Message Only

Alternate Sample Volumes (uL):

Run Alternate Volume Blanks: No

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GFAA AS00201
DATE: JAN 02 1993
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Recovery Measurements:

2 uL of 100 ug/L Standard at Location 37 Gives 20.00 ug/L

Measure Recovery on Samples: 2-40

Add to QC Samples: No

% Recovery Limits: 85.00 to 115.0

QC	Code	Lower Limit	Upper Limit	After Calib	Periodic Check	At End	Count Sample	As
1	08 ICV	45.00	55.00	X				
2	0 ICB	-5.00	5.00	X				
	36 CCV	45.00	55.00		X		X	
	0 CCB	-5.00	5.00		X		X	

Run Periodic QC Samples: 2, 7, 12, 17, 22, 27, 32
 Out of Limit Action: Print Message Only

Matrix Check Calculations:
 % Difference for Dupls: No
 % Recovery for Spike: No

Locations:
 Locations:
 Conc:

DATA VERIFIED
 WITH AN X BY: *DT 383*
1/5/93

LANCASTER LABORATORIES
 GFAA AS 00201
 DATE: JAN 02 1993
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AR319449

Element File: ASFAST.GEL
Date: 01/02/93
Data File: AS00201.DAT
Technique: HGA

Element: As
Time: 11:52
ID/Wt File: 00201.IDW
Calib. Type: Linear

Wavelength: 193.7
Slit: 0.70 L
Lamp Current: 0
Energy: 66

As ID: S01 Seq. No.: 00001 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001

Time: 11:52
Peak Height (A): 0.005
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001

Time: 11:54
Peak Height (A): 0.006
Background Pk Height (A): 0.022

Mean Pk Area (A-s): -0.001

SD: 0.0007

RSD(%): 57.40

Auto-zero performed.

As ID: S10 Seq. No.: 00002 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.011
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.011

Time: 11:57
Peak Height (A): 0.022
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.011
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.011

Time: 11:59
Peak Height (A): 0.022
Background Pk Height (A): 0.023

Mean Pk Area (A-s): 0.011

SD: 0.0001

RSD(%): 1.30

Standard number 1 applied. [10.00]
Correlation coefficient: 1.00000

Slope: 0.0011

Int: -0.000

As ID: S20 Seq. No.: 00003 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 20.19

Time: 12:01
Peak Height (A): 0.043
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 20.08

Time: 12:03
Peak Height (A): 0.044
Background Pk Height (A): 0.024

Mean Conc (ug/L): 20.13

SD: 0.077

RSD(%): 0.38

Standard number 2 applied. [20.00]

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GFAA AS 00201

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REVIEWER ADG-114

AR319450

S ID: S40 Seq. No.: 00004 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.047 Time: 12:05
Background Pk Area (A-s): 0.021 Peak Height (A): 0.098
Blank Corrected Pk Area (A-s): 0.048 Background Pk Height (A): 0.037
Concentration (ug/L): 42.53

Replicate 2
Peak Area (A-s): 0.045 Time: 12:07
Background Pk Area (A-s): 0.007 Peak Height (A): 0.096
Blank Corrected Pk Area (A-s): 0.045 Background Pk Height (A): 0.026
Concentration (ug/L): 40.44

Mean Conc (ug/L): 41.48 SD: 1.481 RSD(%): 3.57

Standard number 3 applied. [40.00]
Correlation coefficient: 0.99980 Slope: 0.0012 Int: -0.000

AS ID: S60 Seq. No.: 00005 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.067 Time: 12:10
Background Pk Area (A-s): 0.009 Peak Height (A): 0.135
Blank Corrected Pk Area (A-s): 0.067 Background Pk Height (A): 0.027
Concentration (ug/L): 58.35

Replicate 2
Peak Area (A-s): 0.070 Time: 12:12
Background Pk Area (A-s): 0.012 Peak Height (A): 0.157
Blank Corrected Pk Area (A-s): 0.070 Background Pk Height (A): 0.032
Concentration (ug/L): 60.80

Mean Conc (ug/L): 59.57 SD: 1.736 RSD(%): 2.91

Standard number 4 applied. [60.00]
Correlation coefficient: 0.99991 Slope: 0.0012 Int: -0.000

AS ID: S80 Seq. No.: 00006 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.088 Time: 12:14
Background Pk Area (A-s): 0.010 Peak Height (A): 0.187
Blank Corrected Pk Area (A-s): 0.089 Background Pk Height (A): 0.032
Concentration (ug/L): 77.15

Replicate 2
Peak Area (A-s): 0.088 Time: 12:16
Background Pk Area (A-s): 0.011 Peak Height (A): 0.183
Blank Corrected Pk Area (A-s): 0.088 Background Pk Height (A): 0.031
Concentration (ug/L): 76.71

Mean Conc (ug/L): 76.93 SD: 0.308 RSD(%): 0.40

LANCASTER LABORATORIES

GFAA AS0020L

DATE: JAN 02 1993

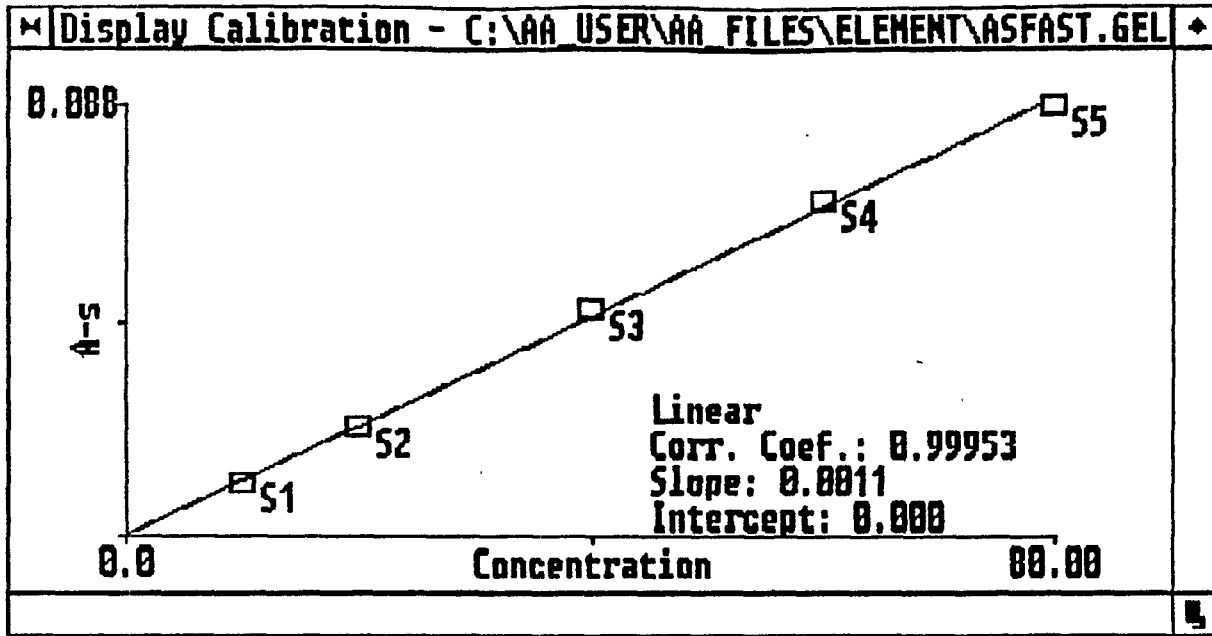
REVIEWER RDG 114

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Standard number 5 applied. [80.00]
Correlation coefficient: 0.99953

Slope: 0.0011

AR 34.9451



As ID: ICV Seq. No.: 00007 A/S Pos.: 36 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.057
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.058
Concentration (ug/L): 51.08

Time: 12:19
Peak Height (A): 0.114
Background Pk Height (A): 0.029

Replicate 2
Peak Area (A-s): 0.057
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.057
Concentration (ug/L): 50.77

Time: 12:21
Peak Height (A): 0.108
Background Pk Height (A): 0.028

Mean Conc (ug/L): 50.92 SD: 0.224 RSD(%): 0.44

QC sample is within range 45.00 - 55.00

As ID: ICB Seq. No.: 00008 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.87

Time: 12:23
Peak Height (A): 0.005
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.006

Time: 12:25
Peak Height (A): 0.005
Background Pk Height (A): 0.024

LANCASTER LABORATORIE

GFAA AS 00201

DATE: JAN 02 1993

REVIEWER: RDC-119
AR319452 239

Blank Corrected Pk Area (A-s): -0.30
Concentration (ug/L): -0.30

Mean Conc (ug/L): -0.581 SD: 0.403 RSD(%): 69.01

QC sample is within range -5.00 - 5.00

~~~~~  
ID: CRA Seq. No.: 00009 A/S Pos.: 1 Date: 01/02/93

Replicate 1 Time: 12:28  
Peak Area (A-s): 0.010 Peak Height (A): 0.021  
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.025  
Blank Corrected Pk Area (A-s): 0.011  
Concentration (ug/L ): 9.21

Replicate 2 Time: 12:30  
Peak Area (A-s): 0.011 Peak Height (A): 0.024  
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.025  
Blank Corrected Pk Area (A-s): 0.011  
Concentration (ug/L ): 9.94

Mean Conc (ug/L ): 9.571 SD: 0.517 RSD(%): 5.401

~~~~~  
As ID: CCV Seq. No.: 00010 A/S Pos.: 36 Date: 01/02/93

Replicate 1 Time: 12:32
Peak Area (A-s): 0.052 Peak Height (A): 0.104
Background Pk Area (A-s): 0.010 Background Pk Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 46.68

Replicate 2 Time: 12:34
Peak Area (A-s): 0.054 Peak Height (A): 0.102
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.054
Concentration (ug/L): 47.92

Mean Conc (ug/L): 47.301 SD: 0.880 RSD(%): 1.861

QC sample is within range 45.00 - 55.00

~~~~~  
As ID: CCB Seq. No.: 00011 A/S Pos.: 0 Date: 01/02/93

Replicate 1 Time: 12:37  
Peak Area (A-s): -0.001 Peak Height (A): 0.007  
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.025  
Blank Corrected Pk Area (A-s): -0.000  
Concentration (ug/L ): -0.51

Replicate 2 Time: 12:39  
Peak Area (A-s): -0.001 Peak Height (A): 0.005  
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.024  
Blank Corrected Pk Area (A-s): -0.000  
Concentration (ug/L ): -0.53

Mean Conc (ug/L ): -0.521 SD: 0.015 RSD(%): 2.851

LANCASTER LABORATORIES  
GFAA AS 00201  
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REVIEWER RDG 114 240

QC sample is within range -5.00 - 5.00

~~~~~  
10210452

As ID: 1910019/2 Seq. No.: 00012 A/S Pos.: 2 Date: 01/02/93

1.07
Replicate 1 ZZZZZZ
Peak Area (A-s): 0.044
Background Pk Area (A-s): 0.258
Blank Corrected Pk Area (A-s): 0.044
Concentration (ug/L): 39.35

Time: 12:41
Peak Height (A): 0.086
Background Pk Height (A): 0.431
Corrected Conc (ug/L): 78.71

Replicate 2
Peak Area (A-s): 0.043
Background Pk Area (A-s): 0.252
Blank Corrected Pk Area (A-s): 0.044
Concentration (ug/L): 38.75

Time: 12:43
Peak Height (A): 0.085
Background Pk Height (A): 0.422
Corrected Conc (ug/L): 77.51

Mean Conc (ug/L): 39.05
Corrected Conc (ug/L): 78.11

SD: 0.424 RSD(%): 1.09

As ID: 1910019/2 Seq. No.: 00013 A/S Pos.: 2 Date: 01/02/93

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.067
Background Pk Area (A-s): 0.239
Blank Corrected Pk Area (A-s): 0.067
Concentration (ug/L): 59.84

Time: 12:45
Peak Height (A): 0.137
Background Pk Height (A): 0.400
Corrected Conc (ug/L): 119.69

Replicate 2
Peak Area (A-s): 0.065
Background Pk Area (A-s): 0.236
Blank Corrected Pk Area (A-s): 0.065
Concentration (ug/L): 57.67

Time: 12:48
Peak Height (A): 0.143
Background Pk Height (A): 0.391
Corrected Conc (ug/L): 115.33

Mean Conc (ug/L): 58.76
Corrected Conc (ug/L): 117.51

SD: 1.539 RSD(%): 2.62

Recovery is 98.5%

As ID: 1910023/2 Seq. No.: 00014 A/S Pos.: 3 Date: 01/02/93

1.03
Replicate 1 ZZZZZZ
Peak Area (A-s): 0.048
Background Pk Area (A-s): 0.047
Blank Corrected Pk Area (A-s): 0.048
Concentration (ug/L): 42.60

Time: 12:50
Peak Height (A): 0.118
Background Pk Height (A): 0.100
Corrected Conc (ug/L): 85.20

Replicate 2
Peak Area (A-s): 0.049
Background Pk Area (A-s): 0.041
Blank Corrected Pk Area (A-s): 0.049
Concentration (ug/L): 43.74

Time: 12:52
Peak Height (A): 0.113
Background Pk Height (A): 0.095
Corrected Conc (ug/L): 87.48

Mean Conc (ug/L): 43.17
Corrected Conc (ug/L): 86.34

SD: 0.807 RSD(%): 1.87

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REVIEWER ADG/14

241
AR319454

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.071
Background Pk Area (A-s): 0.039
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 63.19

Time: 12:55
Peak Height (A): 0.159
Background Pk Height (A): 0.090
Corrected Conc (ug/L): 126.38

Replicate 2
Peak Area (A-s): 0.070
Background Pk Area (A-s): 0.041
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 62.93

Time: 12:57
Peak Height (A): 0.159
Background Pk Height (A): 0.089
Corrected Conc (ug/L): 125.86

Mean Conc (ug/L): 63.06
Corrected Conc (ug/L): 126.12

SD: 0.184 RSD(%): 0.29

Recovery is 99.5%

Replicate 1 ZZZZZZ
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.38

Time: 12:59
Peak Height (A): 0.005
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.89

Time: 13:01
Peak Height (A): 0.005
Background Pk Height (A): 0.029

Mean Conc (ug/L): 0.26

SD: 0.899 RSD(%): 351.16

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 19.33

Time: 13:04
Peak Height (A): 0.045
Background Pk Height (A): 0.030

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 15.64

Time: 13:06
Peak Height (A): 0.049
Background Pk Height (A): 0.028

Mean Conc (ug/L): 17.49

SD: 2.608 RSD(%): 14.91

Recovery is 86.2%

ZZZZZZ

LANCASTER LABORATORIES
GFAA AS 00201

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REVIEWER RDG 114 242

Replicate 1
Peak Area (A-s): -0.000

Time: 13:08
Peak Height (A): 0.008
Background Pk Height (A): 0.022

AR319455

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.27

Time: 13:08
Peak Height (A): 0.008
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.26

Time: 13:10
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Mean Conc (ug/L): -0.77 SD: 0.703 RSD(%): 91.72

As ID: PBW 3641056022 Seq. No.: 00019 A/S Pos.: 5 Date: 01/02/93

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 15.98

Time: 13:13
Peak Height (A): 0.043
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.58

Time: 13:15
Peak Height (A): 0.041
Background Pk Height (A): 0.026

Mean Conc (ug/L): 17.28 SD: 1.839 RSD(%): 10.64

Recovery is ~~90.2%~~ 86.4%
ADG 114
1/2/93

As ID: LCSW 3641056022 Seq. No.: 00020 A/S Pos.: 6 Date: 01/02/93

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.044
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.044
Concentration (ug/L): 38.97

Time: 13:17
Peak Height (A): 0.085
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.043
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 38.40

Time: 13:19
Peak Height (A): 0.076
Background Pk Height (A): 0.025

Mean Conc (ug/L): 38.68 SD: 0.403 RSD(%): 1.04

As ID: LCSW 3641056022 Seq. No.: 00021 A/S Pos.: 6 Date: 01/02/93

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.065
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.065
Concentration (ug/L): 58.08

Time: 13:22
Peak Height (A): 0.114
Background Pk Height (A): 0.027

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REVIEWER RDG HLL 213

AR319456

Peak Area (A-s): 0.064
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.065
Concentration (ug/L): 57.37

Peak Height (A): 0.115
Background Pk Height (A): 0.030

Mean Conc (ug/L): 57.72

SD: 0.503

RSD(%): 0.87

Recovery is 95.2%

As ID: CCV Seq. No.: 00022 A/S Pos.: 36 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.052
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 46.75

Time: 13:26
Peak Height (A): 0.094
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.052
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 46.67

Time: 13:28
Peak Height (A): 0.092
Background Pk Height (A): 0.028

Mean Conc (ug/L): 46.71

SD: 0.059

RSD(%): 0.13

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00023 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.36

Time: 13:31
Peak Height (A): 0.005
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.03

Time: 13:33
Peak Height (A): 0.005
Background Pk Height (A): 0.025

Mean Conc (ug/L): 0.17

SD: 0.281

RSD(%): 170.12

QC sample is within range -5.00 - 5.00

As ID: 1910334 Seq. No.: 00024 A/S Pos.: 7 Date: 01/02/93

Replicate 1 ZZZZZZ
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.47

Time: 13:35
Peak Height (A): 0.006
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): -0.001

Time: 13:37
Peak Height (A): 0.005

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DATE: JAN 02 1993

REVIEWER RDG 114- 214

Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.68

Background Pk Height (A): 0.026

ARJ19457

Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.68

Background Pk Height (A): 0.026

Mean Conc (ug/L): -0.58 SD: 0.146 RSD(%): 25.32

As ID: 1910334 Seq. No.: 00025 A/S Pos.: 7 Date: 01/02/93

Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.18

Time: 13:39
Peak Height (A): 0.035
Background Pk Height (A): 0.030

Replicate 2
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.021
Concentration (ug/L): 18.81

Time: 13:41
Peak Height (A): 0.038
Background Pk Height (A): 0.028

Mean Conc (ug/L): 18.49 SD: 0.450 RSD(%): 2.43

Recovery is ~~95.0%~~ 92.45%

As ID: 1910334D Seq. No.: 00026 A/S Pos.: 8 Date: 01/02/93

Replicate 1 **ZZZZZZ**
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.10

Time: 13:44
Peak Height (A): 0.004
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.01

Time: 13:46
Peak Height (A): 0.006
Background Pk Height (A): 0.023

Mean Conc (ug/L): -0.56 SD: 0.773 RSD(%): 138.98

As ID: 1910334D Seq. No.: 00027 A/S Pos.: 8 Date: 01/02/93

Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 20.39

Time: 13:48
Peak Height (A): 0.038
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 19.16

Time: 13:50
Peak Height (A): 0.039
Background Pk Height (A): 0.025

Mean Conc (ug/L): 19.77 SD: 0.870 RSD(%): 4.40

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AR319458

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As ID: 1910334R Seq. No.: 00028 A/S Pos.: 9 Date: 01/02/93

Replicate 1 **222222**
Peak Area (A-s): 0.046
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.047
Concentration (ug/L): 41.50

Time: 13:53
Peak Height (A): 0.080
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.047
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.047
Concentration (ug/L): 41.95

Time: 13:55
Peak Height (A): 0.084
Background Pk Height (A): 0.028

Mean Conc (ug/L): 41.73 SD: 0.323 RSD(%): 0.77

As ID: 1910334R Seq. No.: 00029 A/S Pos.: 9 Date: 01/02/93

Replicate 1 **222222**
Peak Area (A-s): 0.067
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.067
Concentration (ug/L): 59.71

Time: 13:57
Peak Height (A): 0.115
Background Pk Height (A): 0.030

Replicate 2
Peak Area (A-s): 0.067
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.067
Concentration (ug/L): 59.93

Time: 13:59
Peak Height (A): 0.114
Background Pk Height (A): 0.031

Mean Conc (ug/L): 59.82 SD: 0.156 RSD(%): 0.26

Recovery is 90.5%

As ID: PBW 3651056021 Seq. No.: 00030 A/S Pos.: 10 Date: 01/02/93

Replicate 1 **PBW**
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.39

Time: 14:01
Peak Height (A): 0.006
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.09

Time: 14:03
Peak Height (A): 0.005
Background Pk Height (A): 0.023

Mean Conc (ug/L): -0.35 SD: 1.049 RSD(%): 301.09

As ID: PBW 3651056021 Seq. No.: 00031 A/S Pos.: 10 Date: 01/02/93

Replicate 1 **PBW** Time: 14:06

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Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.019

Peak Height (A): 0.040
Background Pk Height (A): 0.023

AR319459

Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.019
Concentration (ug/L): 16.29

Peak Height (A): 0.040
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 19.39

Time: 14:08
Peak Height (A): 0.038
Background Pk Height (A): 0.023

Mean Conc (ug/L): 17.84 SD: 2.185 RSD(%): 12.25

Recovery is ~~90.9%~~ 89.2%

~~~~~  
As ID: LCSW 3651056021 Seq. No.: 00032 A/S Pos.: 11 Date: 01/02/93  
~~~~~

Replicate 1 *LCSW*
Peak Area (A-s): 0.040
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.041
Concentration (ug/L): 35.90

Time: 14:10
Peak Height (A): 0.072
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.042
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 37.84

Time: 14:12
Peak Height (A): 0.071
Background Pk Height (A): 0.026

Mean Conc (ug/L): 36.87 SD: 1.368 RSD(%): 3.71

~~~~~  
As ID: LCSW 3651056021 Seq. No.: 00033 A/S Pos.: 11 Date: 01/02/93  
~~~~~

Replicate 1 *LCSW**
Peak Area (A-s): 0.063
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.063
Concentration (ug/L): 56.22

Time: 14:14
Peak Height (A): 0.112
Background Pk Height (A): 0.029

Replicate 2
Peak Area (A-s): 0.065
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.065
Concentration (ug/L): 57.91

Time: 14:17
Peak Height (A): 0.114
Background Pk Height (A): 0.027

Mean Conc (ug/L): 57.07 SD: 1.195 RSD(%): 2.09

Recovery is 101.0%

~~~~~  
As ID: CCV Seq. No.: 00034 A/S Pos.: 36 Date: 01/02/93  
~~~~~

Replicate 1
Peak Area (A-s): 0.055
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.055
Concentration (ug/L): 48.78

Time: 14:19
Peak Height (A): 0.094
Background Pk Height (A): 0.027

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AR3-9460

Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 47.34

Mean Conc (ug/L): 48.06 SD: 1.014 RSD(%): 2.11

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00035 A/S Pos.: 0 Date: 01/02/93

Replicate 1 Time: 14:23
Peak Area (A-s): -0.000 Peak Height (A): 0.005
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.10

Replicate 2 Time: 14:25
Peak Area (A-s): 0.001 Peak Height (A): 0.007
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.86

Mean Conc (ug/L): 0.38 SD: 0.676 RSD(%): 178.48

QC sample is within range -5.00 - 5.00

As ID: 1911821 Seq. No.: 00036 A/S Pos.: 12 Date: 01/02/93

Replicate 1 *BRILT* Time: 14:28
Peak Area (A-s): -0.003 Peak Height (A): 0.004
Background Pk Area (A-s): 0.008 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -2.64

Replicate 2 Time: 14:30
Peak Area (A-s): -0.001 Peak Height (A): 0.005
Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.01

Mean Conc (ug/L): -1.83 SD: 1.149 RSD(%): 62.93

As ID: 1911821 Seq. No.: 00037 A/S Pos.: 12 Date: 01/02/93

Replicate 1 *BRILTA* Time: 14:32
Peak Area (A-s): 0.022 Peak Height (A): 0.042
Background Pk Area (A-s): 0.010 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 19.53

Replicate 2 Time: 14:34
Peak Area (A-s): 0.022 Peak Height (A): 0.042
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.027
Blank Corrected Pk Area (A-s): 0.022

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Concentration (ug/L): 19.69

Mean Conc (ug/L): 19.61 SD: 0.114 RSD(%): 0.58

AR31946P

Concentration (ug/L): 19.69

Mean Conc (ug/L): 19.61 SD: 0.114 RSD(%): 0.58

Recovery is ~~107.2%~~ 98.05%

RDG 114
1/2/93

As ID: 1911822 Seq. No.: 00038 A/S Pos.: 13 Date: 01/02/93

Replicate 1 *BRLTF*
Peak Area (A-s): -0.003 Time: 14:36
Background Pk Area (A-s): 0.001 Peak Height (A): 0.004
Blank Corrected Pk Area (A-s): -0.002 Background Pk Height (A): 0.014
Concentration (ug/L): -2.34

Replicate 2
Peak Area (A-s): -0.002 Time: 14:38
Background Pk Area (A-s): 0.002 Peak Height (A): 0.006
Blank Corrected Pk Area (A-s): -0.001 Background Pk Height (A): 0.016
Concentration (ug/L): -1.37

Mean Conc (ug/L): -1.85 SD: 0.686 RSD(%): 37.08

As ID: 1911822 Seq. No.: 00039 A/S Pos.: 13 Date: 01/02/93

Replicate 1 *BRLTFA*
Peak Area (A-s): 0.023 Time: 14:41
Background Pk Area (A-s): 0.002 Peak Height (A): 0.045
Blank Corrected Pk Area (A-s): 0.024 Background Pk Height (A): 0.017
Concentration (ug/L): 20.90

Replicate 2
Peak Area (A-s): 0.022 Time: 14:43
Background Pk Area (A-s): 0.002 Peak Height (A): 0.046
Blank Corrected Pk Area (A-s): 0.023 Background Pk Height (A): 0.016
Concentration (ug/L): 20.01

Mean Conc (ug/L): 20.46 SD: 0.631 RSD(%): 3.09

Recovery is ~~111.5%~~ 102.3%

RDG 114
1/2/93

As ID: 1911823 Seq. No.: 00040 A/S Pos.: 14 Date: 01/02/93

Replicate 1 *BRLTU*
Peak Area (A-s): -0.001 Time: 14:45
Background Pk Area (A-s): 0.008 Peak Height (A): 0.007
Blank Corrected Pk Area (A-s): -0.001 Background Pk Height (A): 0.026
Concentration (ug/L): -1.22

Replicate 2
Peak Area (A-s): 0.001 Time: 14:47
Background Pk Area (A-s): 0.008 Peak Height (A): 0.005
Blank Corrected Pk Area (A-s): 0.001 Background Pk Height (A): 0.026
Concentration (ug/L): 0.87

Mean Conc (ug/L): -0.17 SD: 1.480 RSD(%): 858.78

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AR319462

As ID: 1911823

Seq. No.: 00041

Replicate 1 *BRLTUA*
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 20.47

Time: 14:49
Peak Height (A): 0.042
Background Pk Height (A): 0.027

Replicate 2
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 20.61

Time: 14:52
Peak Height (A): 0.041
Background Pk Height (A): 0.029

Mean Conc (ug/L): 20.54 SD: 0.099 RSD(%): 0.48

Recovery is ~~103.6%~~ 102.7%

ADG 114 1/193

As ID: 1911824 Seq. No.: 00042 A/S Pos.: 15 Date: 01/02/93

Replicate 1 *BRLUF*
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.59

Time: 14:54
Peak Height (A): 0.005
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.47

Time: 14:56
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Mean Conc (ug/L): -1.03 SD: 0.794 RSD(%): 77.02

As ID: 1911824 Seq. No.: 00043 A/S Pos.: 15 Date: 01/02/93

Replicate 1 *BRLUFA*
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 19.55

Time: 14:58
Peak Height (A): 0.042
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.022
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 19.59

Time: 15:01
Peak Height (A): 0.042
Background Pk Height (A): 0.023

Mean Conc (ug/L): 19.57 SD: 0.027 RSD(%): 0.14

Recovery is ~~103.0%~~ 97.85%

ADG 114 1/193

As ID: 1911825R Seq. No.: 00044 A/S Pos.: 16 Date: 01/02/93

Replicate 1 *BELTUS* *time 213 1/2/93*
BELTUS

Time: 15:03

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Peak Area (A-s): 0.047
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.047

Peak Height (A): 0.086
Background Pk Height (A): 0.032

AR319463

Peak Area (A-s): 0.047
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.047
Concentration (ug/L): 42.03

Peak Height (A): 0.086
Background Pk Height (A): 0.032

Replicate 2
Peak Area (A-s): 0.048
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.048
Concentration (ug/L): 42.95

Time: 15:05
Peak Height (A): 0.086
Background Pk Height (A): 0.030

Mean Conc (ug/L): 42.49 SD: 0.648 RSD(%): 1.53

As ID: 1911825R Seq. No.: 00045 A/S Pos.: 16 Date: 01/02/93

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.071
Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 63.21

Time: 15:07
Peak Height (A): 0.123
Background Pk Height (A): 0.032

Replicate 2
Peak Area (A-s): 0.070
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.071
Concentration (ug/L): 62.98

Time: 15:09
Peak Height (A): 0.126
Background Pk Height (A): 0.031

Mean Conc (ug/L): 63.10 SD: 0.163 RSD(%): 0.26

Recovery is 103.0%

As ID: CCV Seq. No.: 00046 A/S Pos.: 36 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.051
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.052
Concentration (ug/L): 45.96

Time: 15:12
Peak Height (A): 0.086
Background Pk Height (A): 0.024

Replicate 2
Peak Area (A-s): 0.052
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 46.87

Time: 15:14
Peak Height (A): 0.097
Background Pk Height (A): 0.025

Mean Conc (ug/L): 46.42 SD: 0.640 RSD(%): 1.38

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00047 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.95

Time: 15:16
Peak Height (A): 0.007
Background Pk Height (A): 0.023

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AR319464

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.01

Time: 15:18
Peak Height (A): 0.004
Background Pk Height (A): 0.023

Mean Conc (ug/L): 0.47 SD: 0.682 RSD(%): 144.30

QC sample is within range -5.00 - 5.00

As ID: 1911826D Seq. No.: 00048 A/S Pos.: 17 Date: 01/02/93

Replicate 1 ~~BRHTDD~~ BELTUD
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.42

Time: 15:20
Peak Height (A): 0.007
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -1.95

Time: 15:22
Peak Height (A): 0.004
Background Pk Height (A): 0.027

Mean Conc (ug/L): -1.19 SD: 1.081 RSD(%): 91.14

As ID: 1911826D Seq. No.: 00049 A/S Pos.: 17 Date: 01/02/93

Replicate 1 ~~BRHTDDA~~ BRCTUDA
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 20.30

Time: 15:25
Peak Height (A): 0.042
Background Pk Height (A): 0.028

Replicate 2
Peak Area (A-s): 0.023
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 20.22

Time: 15:27
Peak Height (A): 0.045
Background Pk Height (A): 0.026

Mean Conc (ug/L): 20.26 SD: 0.057 RSD(%): 0.28

Recovery is ~~107.2%~~ 101.3%

As ID: 1911827 Seq. No.: 00050 A/S Pos.: 18 Date: 01/02/93

Replicate 1 ~~BRHTD~~ BRHTE
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.36

Time: 15:29
Peak Height (A): 0.006
Background Pk Height (A): 0.020

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): -0.002

Time: 15:31
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Concentration (ug/L): -1.64

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AR319465

RSD(%): 89.86

Concentration (ug/L): -1.64

Mean Conc (ug/L): -1.00 SD: 0.899 RSD(%): 89.86

As ID: 1911827 Seq. No.: 00051 A/S Pos.: 18 Date: 01/02/93

Replicate 1 *BRHTFA*
Peak Area (A-s): 0.021 Time: 15:34
Background Pk Area (A-s): 0.006 Peak Height (A): 0.045
Blank Corrected Pk Area (A-s): 0.022 Background Pk Height (A): 0.022
Concentration (ug/L): 19.19

Replicate 2
Peak Area (A-s): 0.022 Time: 15:36
Background Pk Area (A-s): 0.008 Peak Height (A): 0.040
Blank Corrected Pk Area (A-s): 0.023 Background Pk Height (A): 0.023
Concentration (ug/L): 20.06

Mean Conc (ug/L): 19.62 SD: 0.612 RSD(%): 3.12

Recovery is ~~103.1%~~ 98.10%
ADG 114
1/2/93

As ID: 1911828 Seq. No.: 00052 A/S Pos.: 19 Date: 01/02/93

Replicate 1 *BRIFB*
Peak Area (A-s): -0.002 Time: 15:38
Background Pk Area (A-s): 0.005 Peak Height (A): 0.005
Blank Corrected Pk Area (A-s): -0.002 Background Pk Height (A): 0.020
Concentration (ug/L): -1.67

Replicate 2
Peak Area (A-s): -0.002 Time: 15:41
Background Pk Area (A-s): 0.007 Peak Height (A): 0.004
Blank Corrected Pk Area (A-s): -0.002 Background Pk Height (A): 0.024
Concentration (ug/L): -1.64

Mean Conc (ug/L): -1.65 SD: 0.017 RSD(%): 1.02

As ID: 1911828 Seq. No.: 00053 A/S Pos.: 19 Date: 01/02/93

Replicate 1 *BRIFBA*
Peak Area (A-s): 0.021 Time: 15:43
Background Pk Area (A-s): 0.007 Peak Height (A): 0.037
Blank Corrected Pk Area (A-s): 0.021 Background Pk Height (A): 0.023
Concentration (ug/L): 18.55

Replicate 2
Peak Area (A-s): 0.021 Time: 15:45
Background Pk Area (A-s): 0.008 Peak Height (A): 0.039
Blank Corrected Pk Area (A-s): 0.021 Background Pk Height (A): 0.022
Concentration (ug/L): 18.40

Mean Conc (ug/L): 18.47 SD: 0.108 RSD(%): 0.58

Recovery is ~~100.6%~~ 92.35%
ADG 114
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AR319466

As ID: PBS 3651156001 Seq. No.: 00054 A/S Pos.: 20 Date: 01/02/93

Replicate 1 **ZZZZZZ**
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.32

Time: 15:47
Peak Height (A): 0.005
Background Pk Height (A): 0.020

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.25

Time: 15:50
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Mean Conc (ug/L): -0.79 SD: 0.659 RSD(%): 83.50

As ID: PBS 3651156001 Seq. No.: 00055 A/S Pos.: 20 Date: 01/02/93

Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.021
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.022
Concentration (ug/L): 18.94

Time: 15:52
Peak Height (A): 0.050
Background Pk Height (A): 0.023

Replicate 2
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.020
Concentration (ug/L): 17.50

Time: 15:54
Peak Height (A): 0.051
Background Pk Height (A): 0.025

Mean Conc (ug/L): 18.22 SD: 1.014 RSD(%): 5.56

Recovery is ~~95.0%~~ 91.1%
ADG 114
1/13 @

As ID: LCSS 3651156001 Seq. No.: 00056 A/S Pos.: 21 Date: 01/02/93

1.03
Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.027
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.027
Concentration (ug/L): 24.23

Time: 15:56
Peak Height (A): 0.047
Background Pk Height (A): 0.026

Replicate 2
Peak Area (A-s): 0.026
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.027
Concentration (ug/L): 23.67

Time: 15:59
Peak Height (A): 0.048
Background Pk Height (A): 0.028

Mean Conc (ug/L): 23.95 SD: 0.397 RSD(%): 1.66

As ID: LCSS 3651156001 Seq. No.: 00057 A/S Pos.: 21 Date: 01/02/93

Replicate 1 **ZZZZZZ**
Peak Area (A-s): 0.049
Background Pk Area (A-s): 0.012

Time: 16:01
Peak Height (A): 0.088
Background Pk Height (A): 0.029

LANCASTER LABORATORIES
GFAA AS 00201
DATE: JAN 02 1993
REVIEWER RDG 114

Blank Corrected Pk Area (A-s): 0.049

AR319487

Blank Corrected Pk Area (A-s): 0.049
Concentration (ug/L): 43.61

Replicate 2
Peak Area (A-s): 0.048
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.048
Concentration (ug/L): 42.97

Time: 16:03
Peak Height (A): 0.083
Background Pk Height (A): 0.029

Mean Conc (ug/L): 43.29 SD: 0.458 RSD(%): 1.06

Recovery is 96.7%

As ID: CCV Seq. No.: 00058 A/S Pos.: 36 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.052
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 46.60

Time: 16:06
Peak Height (A): 0.097
Background Pk Height (A): 0.025

Replicate 2
Peak Area (A-s): 0.051
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.052
Concentration (ug/L): 45.95

Time: 16:08
Peak Height (A): 0.094
Background Pk Height (A): 0.027

Mean Conc (ug/L): 46.28 SD: 0.462 RSD(%): 1.00

QC sample is within range 45.00 - 55.00

As ID: CCB Seq. No.: 00059 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.94

Time: 16:10
Peak Height (A): 0.005
Background Pk Height (A): 0.022

Replicate 2
Peak Area (A-s): -0.002
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.60

Time: 16:12
Peak Height (A): 0.005
Background Pk Height (A): 0.023

Mean Conc (ug/L): -1.27 SD: 0.469 RSD(%): 36.92

QC sample is within range -5.00 - 5.00

As ID: 1910402 Seq. No.: 00060 A/S Pos.: 22 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.047
Background Pk Area (A-s): 0.156
Blank Corrected Pk Area (A-s): 0.047
Concentration (ug/L): 41.80

Time: 16:14
Peak Height (A): 0.087
Background Pk Height (A): 0.264

LANCASTER LABORATORY
GFAA AS0020
DATE: JAN 02 1993
REVIEWER ADG/14 255

AR319468

Varian SpectraA 300/400
QC Protocol Report

OPERATOR RSR 171 2803 BD
DATE TUE 29 DEC 1992
BATCH PB 9236401

LANCASTER LABORATORIES
INSTRUMENT ID #2803
BKG CORR: BD

QC PROTOCOL PARAMETERS

IF THERE IS AN ERROR	STOP
NO SPIKE POSITION	52
RECOVERY LIMITS (%)	85 TO 115
RECOVERY MINIMUM LIMIT (%)	40
CORRELATION COEFFICIENT (r)	0.995
OVERRANGE VOLUME REDUCTION	1
REPLICATE RSD LIMIT (%)	100.0

PROGRAM 1 Pb CLP

INSTRUMENT MODE	ABSORBANCE
CALIBRATION MODE	CONCENTRATION
MEASUREMENT MODE	PEAK AREA
LAMP POSITION	2
LAMP CURRENT (mA)	3
SLIT WIDTH (nm)	0.5
SLIT HEIGHT	NORMAL
WAVELENGTH (nm)	283.3
SAMPLE INTRODUCTION	SAMPLER AUTOMIXING
TIME CONSTANT	0.05
MEASUREMENT TIME (sec)	1.0
REPLICATES	2
BACKGROUND CORRECTION	ON

FURNACE PARAMETERS

STPP NO.	TEMPERATURE (C)	TIME (sec)	GAS FLOW (L/min)	GAS TYPE	READ COMMAND
1	220	20.0	3.0	NORMAL	NO
2	220	10.0	3.0	NORMAL	NO
3	500	10.0	3.0	NORMAL	NO
4	900	20.0	3.0	NORMAL	NO
5	900	15.0	3.0	NORMAL	NO
6	100	4.5	3.0	NORMAL	NO
7	100	2.0	3.0	NORMAL	NO
8	100	2.0	0.0	NORMAL	NO
	2400	1.2	0.0	NORMAL	YES
	2400	2.0	0.0	NORMAL	YES
11	2500	0.2	3.0	NORMAL	NO
12	2500	3.0	3.0	NORMAL	NO
13	100	12.9	3.0	NORMAL	NO
14	100	2.0	3.0	NORMAL	NO

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AR319469

SAMPLER PARAMETERS
VOLUMES (fL)

	SOLUTION	BLANK	MODIFIER
BLANK	--	30	6
STANDARD 1	3	27	6
STANDARD 2	6	24	6
STANDARD 3	15	15	6
STANDARD 4	24	6	6
STANDARD 5	30	0	6
SAMPLE	30	0	6

RECALIBRATION RATE 0
RESLOPE RATE 0

MULTIPLE INJECT NO HOT INJECT YES PRE INJECT NO
 TEMPERATURE 95
 INJECT RATE 8

QC PROTOCOL PARAMETERS

QC STANDARD RATE 20
 QC INITIAL STANDARD POSITION 50
 QC INITIAL BLANK POSITION 51
 QC CONTINUING STANDARD POSITION 50
 QC CONTINUING BLANK POSITION 51
 QC STANDARD VOLUME (fL) 30
 QC STANDARD CONCENTRATION 20.00 ppb
 QC STANDARD LIMITS (%) 90 TO 110
 QC SPIKE RATE 1
 QC SPIKE VOLUME (fL) 12
 QC SPIKE CONCENTRATION 50.00 ppb
 MATRIX SPIKE CONCENTRATION 0.00 ppb
 INSTRUMENT DETECTION LIMIT 0.60 ppb
 REQUIRED DETECTION LIMIT 3.00 ppb

LANCASTER LABORATORIES
 GFAA PB 36401
 DATE: DEC 29 1992
 REVIEWER JAS 839

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
50 BLANK QC	0.00		-0.005	-0.002	-0.007
				29Dec92	04:07
				CONCENTRATION LESS THAN IDL	
55 STANDARD 1 QC	5.00	3.6	0.030	0.031	0.029
				29Dec92	04:14
510 STANDARD 2 QC	10.00	1.7	0.062	0.063	0.061
				29Dec92	04:20
525 STANDARD 3 QC	25.00	0.1	0.152	0.152	0.152
				29Dec92	04:26
540 STANDARD 4 QC	40.00	0.4	0.233	0.234	0.233
				29Dec92	04:33
550 STANDARD 5 QC	50.00	1.4	0.276	0.273	0.278
				29Dec92	04:39

DATA VERIFIED
 WITH AN X BY: TDT383
 12/29/92

257
 AR319470

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
● IDL	21.40	1.8	0.131	0.132	0.129
				29Dec92 04:44	
				%R =	107.0
ICR QC	0.26	99.9	0.002	0.004	-0.001
				29Dec92 04:50	
				ABS =	0.000
				CONCENTRATION LESS THAN IDL	
ORA QC	3.41	12.4	0.020	0.019	0.022
				29Dec92 04:56	
CAA QC SPIKE A	23.55	0.1	0.143	0.143	0.143
				29Dec92 05:03	
				%R =	100.7
OCV 1 QC	19.81	4.2	0.121	0.118	0.125
				29Dec92 05:09	
				%R =	99.1
OCR 1 QC	-0.37	99.9	-0.002	0.002	-0.007
				29Dec92 05:15	
				ABS =	-0.004
				CONCENTRATION LESS THAN IDL	
● PBW 363 020 QC	-1.02	15.2	-0.006	-0.007	-0.005
				29Dec92 05:21	
				CONCENTRATION LESS THAN IDL	
PBWA QC SPIKE A	19.92	2.4	0.122	0.120	0.124
				29Dec92 05:27	
				%R =	99.6
LCSW LCSW 363 020 QC	21.34	5.9	0.130	0.125	0.136
				29Dec92 05:33	
LCSWA QC SPIKE A	41.47	1.3	0.240	0.238	0.242
				29Dec92 05:39	
				%R =	100.7
FLDBL 1908355 QC	0.70	98.7	0.004	0.007	0.001
				29Dec92 05:45	
FLDBLA QC SPIKE A	22.07	2.5	0.135	0.132	0.137
				29Dec92 05:52	
				%R =	106.9
JAMES 1910242 QC	4.14	3.5	0.025	0.025	0.024
				29Dec92 05:57	
JAMESA QC SPIKE A	25.12	0.9	0.153	0.152	0.154
				29Dec92 06:04	
				%R =	104.9
JAMEF 1910243 QC	0.20	68.4	0.001	0.002	0.001
				29Dec92 06:10	
				CONCENTRATION LESS THAN IDL	

LANCASTER LABORATORIES
GFAA PB 36401
DATE: DEC 29 1992
REVIEWER JAS659

X

X

X

X

X

258

AR31947

SAMPLE CONC %RSD MEAN READINGS

JAMEFA

QC SPIKE A 21.04 1.7 0.129 0.127 0.130
 QC 29Dec92 06:16
 %R = 105.2

LANCASTER LABORATORY
 GFAA PB 36401
 DATE: DEC 29 1992
 REVIEWER: JAS 959

QC 2 19.07 0.8 0.117 0.118 0.116
 QC 29Dec92 06:22
 %R = 95.3

QC 2 -0.29 10.0 -0.002 -0.002 -0.002
 QC 29Dec92 06:28
 ABS = -0.003
 CONCENTRATION LESS THAN IDL

CHURC

1910244 2.14 2.4 0.013 0.013 0.013
 QC 29Dec92 06:34

X

CHURCA

QC SPIKE A 22.74 0.1 0.139 0.139 0.138
 QC 29Dec92 06:40
 %R = 103.0

CHURF

1910245 -0.47 97.8 -0.003 -0.001 -0.005
 QC 29Dec92 06:46
 CONCENTRATION LESS THAN IDL

CHURFA

QC SPIKE A 19.14 13.5 0.117 0.106 0.129
 QC 29Dec92 06:53
 %R = 95.7

FBLAN

1910246 -0.46 53.6 -0.003 -0.002 -0.004
 QC 29Dec92 06:58
 CONCENTRATION LESS THAN IDL

X

QC SPIKE A 20.90 1.3 0.128 0.127 0.129
 QC 29Dec92 07:05
 %R = 104.5

MIDTI

1910247 2.72 7.8 0.016 0.017 0.015
 QC 29Dec92 07:10

X

QC SPIKE A 23.54 1.1 0.143 0.144 0.142
 QC 29Dec92 07:17
 %R = 104.1

MIDFI

1910248 -0.40 54.6 -0.002 -0.001 -0.003
 QC 29Dec92 07:23
 CONCENTRATION LESS THAN IDL

MIDFIA

QC SPIKE A 19.76 4.6 0.121 0.117 0.125
 QC 29Dec92 07:29
 %R = 98.8

X

QC 3 19.42 1.3 0.119 0.120 0.118
 QC 29Dec92 07:35
 %R = 97.1

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QC 3 -0.20 84.8 -0.001 -0.000 -0.002
 QC 29Dec92 07:41
 ABS = -0.003

CONCENTRATION LESS THAN IDL AR319472

SAMPLE	CONC pph	%RSD	MEAN ABS	READINGS		
22CHM 1910328	3.17	1.4	0.019	0.019	0.019	X
QC 22CHMA				29Dec92	07:47	
QC SPIKE A QC 22CMF	21.99	5.0	0.134	0.129	0.139	X
1910329	-0.89	13.0	-0.005	29Dec92	07:53	
QC 22CMFA				%R =	94.1	
QC SPIKE A QC 22JAL	20.48	2.6	0.125	0.123	0.128	X
1910330	2.42	8.5	0.015	29Dec92	08:05	
QC 22JALA				%R =	102.4	
QC SPIKE A QC 22JLF	21.91	5.1	0.134	0.014	0.015	LANCASTER LABORATORIES GFAA FB 3640 DATE: DEC 29 1992 REVIEWER JAS 859
1910331	-0.03	99.9	-0.000	29Dec92	08:11	
QC 22JLFA				%R =	97.4	
QC SPIKE A QC 22CHL	19.96	1.5	0.122	0.001	-0.001	X
1910332	14.27	4.5	0.088	29Dec92	08:24	
QC 22CHLA				CONCENTRATION LESS THAN IDL		
QC SPIKE A QC RCV 4	33.60	1.8	0.200	0.123	0.121	X
1910333	0.28	52.6	0.002	29Dec92	08:36	
QC 22CLF				%R =	99.8	
QC SPIKE A QC RCV 4	21.14	1.3	0.129	0.085	0.091	X
1910334	19.92	1.0	0.122	29Dec92	08:42	
QC 22CLFA				%R =	96.6	
QC SPIKE A QC RCV 4	20.08	3.4	0.123	0.123	0.121	X
1910335	-0.33	14.0	-0.002	29Dec92	08:48	
QC 22CLF				%R =	99.6	
QC SPIKE A QC RCV 5	21.14	1.3	0.129	-0.002	-0.002	X
1910336	0.28	52.6	0.002	29Dec92	08:54	
QC 22CLFA				ABS =	-0.003	
QC SPIKE A QC RCV 5	21.14	1.3	0.129	CONCENTRATION LESS THAN IDL		
1910337	0.28	52.6	0.002	0.002	0.001	X
QC 22CLF				29Dec92	09:00	
QC SPIKE A QC RCV 5	20.08	3.4	0.123	CONCENTRATION LESS THAN IDL		
1910338	0.28	52.6	0.002	0.128	0.130	X
QC 22CLFA				29Dec92	09:07	
QC SPIKE A QC RCV 5	20.08	3.4	0.123	%R =	105.7	
1910339	0.28	52.6	0.002	0.120	0.126	X
QC 22CLF				29Dec92	09:13	
QC SPIKE A QC RCV 5	20.08	3.4	0.123	%R =	100.4	
1910340	0.28	52.6	0.002			

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AR319473

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
CCB 5 RC	-0.11	99.9	-0.001 /	0.000 -0.001 29Dec92 09:19 ABS = -0.002 CONCENTRATION LESS THAN IDL

LANCASTER LABORATORIES
GFAA FB 36401
DATE: DEC 29 1992
REVIEWER JAS859

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AR319474

Orion Spectra 500/400 Zeeman
QC Protocol Report

LABOR 005 859 3912 17
DATE THU 31 DEC 1997
ID 9236604

QC PROTOCOL PARAMETERS

LANCASTER LABORATORIES
INSTRUMENT ID #3812
BKG CORR: BZ

RECOVERY IS 70% ERROR STOP
SPIKE POSITION 52
RECOVERY LIMITS (%) 85 TO 115
RECOVERY MINIMUM LIMIT (%) 40
CORRELATION COEFFICIENT (R) 0.995
SAMPLER VOLUME REDUCTION 1
REPLICATE RSD LIMIT (%) 100.0

PROGRAM 3 Pb CLP

INSTRUMENT MODE ABSORBANCE
CALIBRATION MODE CONCENTRATION
MEASUREMENT MODE PEAK AREA
LAMP POSITION 6
LAMP CURRENT (mA) 5
SLIT WIDTH (nm) 0.5
SLIT HEIGHT NORMAL
WAVELENGTH (nm) 283.3
SAMPLE INTRODUCTION SAMPLER AUTOMIXING
TIME CONSTANT 0.05
MEASUREMENT TIME (sec) 1.0
REPLICATES 2
BACKGROUND CORRECTION ON
MAXIMUM ABSORBANCE 1.40

FURNACE PARAMETERS

STEP NO.	TEMPERATURE (C)	TIME (sec)	GAS FLOW (L/min)	GAS TYPE	READ COMMAND
1	220	20.0	3.0	NORMAL	NO
2	220	10.0	3.0	NORMAL	NO
3	500	20.0	3.0	NORMAL	NO
4	900	20.0	3.0	NORMAL	NO
5	900	15.0	3.0	NORMAL	NO
6	100	4.5	3.0	NORMAL	NO
7	100	2.0	3.0	NORMAL	NO
8	100	2.0	0.0	NORMAL	NO
9	2400	1.2	0.0	NORMAL	YES
10	2400	2.0	0.0	NORMAL	YES
11	2500	0.2	3.0	NORMAL	NO
12	2500	3.0	3.0	NORMAL	NO
13	100	12.9	3.0	NORMAL	NO
14	100	2.0	3.0	NORMAL	NO

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AR319475

SAMPLER PARAMETERS
VOLUMES (fL)

	SOLUTION	BLANK	MODIFIER
BLANK	--	30	6
STANDARD 1	3	27	6
STANDARD 2	6	24	6
STANDARD 3	15	15	6
STANDARD 4	24	6	6
STANDARD 5	30	0	6
SAMPLE	30	0	6

RECALIBRATION RATE 0
RESLOPE RATE 0

MULTIPLE INJECT NO HOT INJECT YES PRE INJECT NO
TEMPERATURE 95
INJECT RATE 8

QC PROTOCOL PARAMETERS

QC STANDARD RATE 20
QC INITIAL STANDARD POSITION 50
QC INITIAL BLANK POSITION 51
QC CONTINUING STANDARD POSITION 50
QC CONTINUING BLANK POSITION 51
QC STANDARD VOLUME (fL) 30
QC STANDARD CONCENTRATION 20.00 PPB
QC STANDARD LIMITS (%) 90 TO 110
QC SPIKE RATE 1
QC SPIKE VOLUME (fL) 12
QC SPIKE CONCENTRATION 50.00 PPB
MATRIX SPIKE CONCENTRATION 0.00 PPB
MATRIX DETECTION LIMIT 0.60 PPB
REQUIRED DETECTION LIMIT 3.00 PPB

LANCASTER LABORATORIES

GFAA PB 36604

DATE: DEC 31 1992

REVIEWER *Manna 823*

SAMPLE	CONC PPB	ZRSD	MEAN ABS	READINGS	
50 BLANK QC	0.00		0.000	0.000	0.000
55 STANDARD QC	5.00	9.8	0.036	0.034	0.039
510 STANDARD QC	10.00	0.7	0.066	0.066	0.066
525 STANDARD QC	25.00	0.5	0.156	0.155	0.156
540 STANDARD QC	40.00	1.1	0.234	0.236	0.232
550 STANDARD QC	50.00	0.7	0.274	0.273	0.276

31Dec92 10:21
CONCENTRATION LESS THAN IDL

263

DATA VERIFIED
WITH AN X BY:

EAF809

AR319476

SAMPLE CONC PPB %RSD MEAN ABS READINGS

ICV 20.86 2.3 0.132 0.134 0.130
QC 31Dec92 11:01
%R = 104.3

ICB -0.28 99.9 -0.002 0.000 -0.004
QC 31Dec92 11:07
ABS = -0.002
CONCENTRATION LESS THAN IDL

CRA 3.81 5.8 0.027 0.026 0.029
QC 31Dec92 11:14

C LAA
QC SPIKE A 24.26 1.3 0.152 0.150 0.153
QC 31Dec92 11:20
%R = 102.3

OCV 1 19.85 1.6 0.126 0.125 0.127
QC 31Dec92 11:27
%R = 99.2

OCB 1 -0.45 84.2 -0.003 -0.001 -0.005
QC 31Dec92 11:33
ABS = -0.003
CONCENTRATION LESS THAN IDL

ZZZZZZ

1904859 0.60 30.7 0.004 0.003 0.005
QC 31Dec92 11:39
CONCENTRATION LESS THAN IDL

ZZZZZZ

QC SPIKE A 14.38 1.5 0.093 0.094 0.092
QC 31Dec92 11:46
%R = 71.9

ZZZZZZ

SAMPLE CONC < 50% OF SPIKE CONCENTRATIC

1910365/5 6.48 2.3 0.045 0.045 0.046
QC 31Dec92 11:53

ZZZZZZ

QC SPIKE A 26.61 1.8 0.165 0.167 0.163
QC 31Dec92 11:59
%R = 100.7

LCSW LCSW
~~FCW~~ 365 0.1 18.78 4.3 0.120 0.116 0.123
QC 31Dec92 12:06

LCSWA
NSM223
12/31/92
QC SPIKE A 39.01 0.2 0.229 0.229 0.230
QC 31Dec92 12:12
%R = 101.2

PBW PBW
~~LCSW~~ 365 0.21 0.11 99.9 0.001 0.004 -0.002
QC 31Dec92 12:19
CONCENTRATION LESS THAN IDL

PBW A
QC SPIKE A 20.30 1.6 0.129 0.127 0.130
QC 31Dec92 12:26
%R = 101.5

BEILT
1911821 0.78 11.6 0.006 0.006 0.005
QC 31Dec92 12:32

LANCASTER LABORATORIE
GFAA PB 36604
DATE: DEC 31 1992
REVIEWER *Marnas 8*

X

X

X

X

X

264

AR319477

SAMPLE	CONC	%RSD	MEAN	READINGS	
ZZZZZZ	PPB		ABS		
Amc 213 17/93 QC SPIKE W	17.77	1.2	0.114	0.115 31Dec92 12:39	0.113 12:39 %R = 85.0
CCV 2 QC	20.37	1.1	0.129	0.128 31Dec92 12:45	0.130 12:45 %R = 101.8
CCB 2 QC	-0.55	43.1	-0.004	-0.003 31Dec92 12:51	-0.005 12:51 ABS = -0.004
BRLTF 1911822 QC	-0.72	11.4	-0.005	-0.006 31Dec92 12:58	-0.005 12:58 CONCENTRATION LESS THAN IDL
BALTFA QC SPIKE W	12.39	3.0	0.081	0.079 31Dec92 13:04	0.083 13:04 %R = 62.0
BRLTU 1911823 QC	1.44	12.7	0.010	0.009 31Dec92 13:11	0.011 13:11 CONCENTRATION LESS THAN IDL
BRLTUA QC SPIKE W	18.43	0.8	0.118	0.118 31Dec92 13:17	0.117 13:17 %R = 85.0
BRLUF 1911824 QC	-0.24	33.8	-0.002	-0.001 31Dec92 13:23	-0.002 13:23 CONCENTRATION LESS THAN IDL
BRLUFA QC SPIKE W	16.89	0.6	0.108	0.108 31Dec92 13:30	0.109 13:30 %R = 84.5
BRLTU BRLTUS 1911825 QC	17.80	1.8	0.114	0.112 31Dec92 13:36	0.115 13:36 CONCENTRATION LESS THAN IDL
BRLTUA ZZZZZZ QC SPIKE W	34.41	2.4	0.206	0.210 31Dec92 13:43	0.203 13:43 %R = 83.0
Amc 213 11/2/93 BRLTUD BRLTUD 1911826 QC	1.71	12.0	0.012	0.013 31Dec92 13:49	0.011 13:49 %R = 83.0
BRLTUA BRLTUDA QC SPIKE W	18.09	0.4	0.116	0.116 31Dec92 13:56	0.115 13:56 %R = 81.9
CCV 3 QC	20.59	1.1	0.130	0.129 31Dec92 14:02	0.131 14:02 %R = 103.0

LANCASTER LABORATORIES
GFAA PB 36604
DATE: DEC 31 1992
REVIEWER: *Manna 82*

X

X

R
① DT 323
11/2/93

X

① NSM 923
12/3/91

X

265

AR319478

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
CCB 3 QC <i>BRHTF</i>	-0.58	28.7	-0.004	-0.003	-0.005
				31Dec92 14:09	
				ABS = -0.004	
				CONCENTRATION LESS THAN IDL	
1911827 QC <i>BRHTFA</i>	-0.32	13.5	-0.002	-0.002	-0.003
				31Dec92 14:15	
				CONCENTRATION LESS THAN IDL	
QC SPIKE A QC <i>BRIFB</i>	17.01	0.7	0.109	0.110	0.109
				31Dec92 14:22	
				%R = 85.0	
1911828 QC <i>BRIFBA</i>	2.07	7.0	0.015	0.014	0.016
				31Dec92 14:28	
QC SPIKE A QC	22.68	0.9	0.142	0.142	0.143
				31Dec92 14:35	
				%R = 103.0	
ZZZZZZ					
FBS 365 QC	0.14	99.9	0.001	0.002	0.000
				31Dec92 14:41	
				CONCENTRATION LESS THAN IDL	
ZZZZZZ					
QC SPIKE A QC	21.01	0.6	0.133	0.132	0.133
				31Dec92 14:48	
				%R = 105.1	
ZZZZZZ					
FBS 725 QC <i>1.03</i>	24.18	0.4	0.151	0.152	0.151
				31Dec92 14:54	
QC SPIKE A QC <i>1.03</i>	41.80	2.7	0.242	0.246	0.237
				31Dec92 15:01	
				%R = 88.1	
ZZZZZZ					
1910402 QC <i>1.05</i>	OVER	0.0	0.417	0.417	0.417
				31Dec92 15:07	
QC SPIKE A QC	OVER	2.4	0.494	0.485	0.502
				31Dec92 15:14	
				%R = 0.0	
				%R LESS THAN MINIMUM LIMIT	
PCV 4 QC	21.62	2.0	0.136	0.138	0.134
				31Dec92 15:21	
				%R = 108.1	
CCB 4 QC	-0.49	37.0	-0.004	-0.003	-0.004
				31Dec92 15:27	
				ABS = -0.004	
				CONCENTRATION LESS THAN IDL	
1910402D QC	OVER	1.0	0.417	0.414	0.420
				31Dec92 15:33	
QC SPIKE A QC	OVER	1.9	0.471	0.477	0.465
				31Dec92 15:40	
				%R = -2.5	
				%R LESS THAN MINIMUM LIMIT	

LANCASTER LABORATORIES
GFAA PB 36604
DATE: DEC 31 1992
REVIEWER *Manna 82*

DF 10

DF 10

SF 256

AR319479

Element File: SEFAST.GEL
Element: Se
Print Data: Main+Suppl.
Print: Calib. Curve+Elem. Params.

Analyst: MST 744
Peak Storage: None

INSTRUMENT: 5100 Technique: HGA Version: 7.10
Wavelength: 196.0 Peak Slit: 2.0 Low
Signal Type: Zeeman AA Signal Measurement: Peak Area
Read Time: 5.0 Read Delay: 0.0 BOC Time: 3
Sample Replicates: 2
Standard Replicates: 2 Spike Replicates: Same as Sample

CALIBRATION:

Solutions	ID	Conc	Location	Volume	Diluent	Modifier	
						#1	#2
Calib. Blank	IS0		0	20	2	1	
Standard 1	IS5	5.00	40	2	20	1	
Standard 2	IS15	15.00	40	6	16	1	
Standard 3	IS25	25.00	40	10	12	1	
Standard 4	IS40	40.00	40	16	6	1	
Standard 5	IS50	50.00	40	20	2	1	
Samples				20	2	1	

Diluent Location: 0
Modifier #1 Location: 39 Modifier #2 Location:
Calibration Units: ug/L Sample Units: ug/L
Calibration Type: Linear

Furnace Time/Temperature Program:

Step	Temp	Ramp	Hold	Gas Flow	Read	Gas Type
1	120	2	35	250		Norm
2	130	2	10	250		Norm
3	220	2	5	250		Norm
4	1150	2	10	250		Norm
5	1800	0	3	0	*	Norm
6	2400	1	2	250		Norm

LANCASTER LABORATORIES
INSTRUMENT ID #4725
BKG. CORR: 8Z

Injection Temp: 120 Pipette Speed: 75% Extraction System: Off

SEQUENCE:

- Step Action and Parameters
- 1 Pipet diluent + modifier 1 + spike + sample/std
- 2 Run HGA steps 1 to End

CHECKS:

Recalibration Type: Completely Recalibrate
Locations: None

LANCASTER LABORATORIES
GFAA SE 36403
DATE: DEC 30 1992
REVIEWER *MST 744*

Conc. Above Calibration Action: Print Message Only
Alternate Sample Volumes (uL):
Run Alternate Volume Blanks: No

Recovery Measurements:

1 uL of 200 ug/L Standard at Location 37 Gives 10.00 ug/L
Measure Recovery on Samples: 2-40
Add to QC Samples: No % Recovery Limits: 85.0 to 115.0

QC:					After	Periodic	At	Count As
#	A/S	QC Sample	Conc. Limits		Calib	Check	End	Sample
	Loc.	ID	Lower	Upper				
	36	ICV	18.00	22.00	X			
	0	ICB	-3.00	3.00	X			
3	36	CCV	18.00	22.00		X	X	
4	0	CCB	-3.00	3.00		X	X	

Run Periodic QC Samples: 2, 7, 12, 17, 22, 27, 32
 Out of Limit Action: Print Message Only

Matrix Check Calculations:

% Difference for Dupls: No Locations:
 % Recovery for Spike: No Locations: Conc:

LANCASTER LABORATORIES
 GFAA SE 36403
 DATE: DEC 30 1992
 REVIEWER *mt 744*

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 AR319481

Element File: SEFAST.GEL Element: Se Wavelength: 196.0
Date: 12/29/92 Time: 20:58 Slit: 2.0 L
Data File: SE36403.DAT ID/Wt File: 36403.IDW Lamp Current: 0
Technique: HGA Calib. Type: Linear Energy: 68

Se ID: S0 Seq. No. : 00001 A/S Pos. : 0 Date: 12/29/92

Replicate 1 Time: 20:58
Peak Area (A-s): 0.001 Peak Height (A): 0.002
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.003
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.07

Replicate 2 Time: 21:00
Peak Area (A-s): 0.001 Peak Height (A): 0.003
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): 0.00

Mean Conc (ug/L): 0.003 SD: 0.051 RSD(%): 145.67

Auto-zero performed.

Se ID: S5 Seq. No. : 00002 A/S Pos. : 40 Date: 12/29/92

Replicate 1 Time: 21:03
Peak Area (A-s): 0.009 Peak Height (A): 0.009
Background Pk Area (A-s): 0.004 Background Pk Height (A): 0.005
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 3.95

Replicate 2 Time: 21:05
Peak Area (A-s): 0.010 Peak Height (A): 0.008
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.004
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.49

Mean Conc (ug/L): 4.22 SD: 0.381 RSD(%): 9.04

Standard number 1 applied. [5.00]
Correlation coefficient: 1.00000 Slope: 0.0018 Int: 0.000

Se ID: S15 Seq. No. : 00003 A/S Pos. : 40 Date: 12/29/92

Replicate 1 Time: 21:07
Peak Area (A-s): 0.026 Peak Height (A): 0.024
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.025
Concentration (ug/L): 14.31

Replicate 2 Time: 21:10
Peak Area (A-s): 0.026 Peak Height (A): 0.023
Background Pk Area (A-s): 0.007 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.025
Concentration (ug/L): 14.12

LANCASTER LABORATORIES
GFAA SE36403- 209
DATE: DEC 30 1992 AR319482
REVIEWER *MLT 7/4*

Se ID: S15

Seq. No.: 00003

A/S Pos.: 40

Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.026
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.025
Concentration (ug/L): 14.31

Time: 21:07
Peak Height (A): 0.024
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.026
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.025
Concentration (ug/L): 14.12

Time: 21:10
Peak Height (A): 0.023
Background Pk Height (A): 0.007

LANCASTER LABORATORIES

GFAA SE30403

DATE: DEC 30 1992

REVIEWER *mt744*

Mean Conc (ug/L): 14.21 SD: 0.133 RSD(%): 0.94

Standard number 2 applied. [15.00]
Correlation coefficient: 0.99979 Slope: 0.0017 Int: 0.000

Se ID: S25 Seq. No.: 00004 A/S Pos.: 40 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.043
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.042
Concentration (ug/L): 24.93

Time: 21:12
Peak Height (A): 0.037
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.041
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 23.88

Time: 21:14
Peak Height (A): 0.036
Background Pk Height (A): 0.010

Mean Conc (ug/L): 24.40 SD: 0.744 RSD(%): 3.05

Standard number 3 applied. [25.00]
Correlation coefficient: 0.99981 Slope: 0.0016 Int: 0.000

Se ID: S40 Seq. No.: 00005 A/S Pos.: 40 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.064
Background Pk Area (A-s): 0.014
Blank Corrected Pk Area (A-s): 0.063
Concentration (ug/L): 38.46

Time: 21:17
Peak Height (A): 0.058
Background Pk Height (A): 0.013

Replicate 2
Peak Area (A-s): 0.065
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.064
Concentration (ug/L): 38.72

Time: 21:19
Peak Height (A): 0.058
Background Pk Height (A): 0.013

Mean Conc (ug/L): 38.59 SD: 0.185 RSD(%): 0.48

Standard number 4 applied. [40.00]
Correlation coefficient: 0.99963 Slope: 0.0016 Int: 0.001

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Mean Conc (ug/L): 14.21 SD: 0.133 RSD(%): 0.94

Standard number 2 applied. [15.00]

Correlation coefficient: 0.99979 Slope: 0.0017 Int: 0.000

Se ID: S25 Seq. No.: 00004 A/S Pos.: 40 Date: 12/29/92

Replicate 1 Time: 21:12
Peak Area (A-s): 0.043 Peak Height (A): 0.037
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 0.042
Concentration (ug/L): 24.93

Replicate 2 Time: 21:14
Peak Area (A-s): 0.041 Peak Height (A): 0.036
Background Pk Area (A-s): 0.011 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 23.88

Mean Conc (ug/L): 24.40 SD: 0.744 RSD(%): 3.05

Standard number 3 applied. [25.00]

Correlation coefficient: 0.99981 Slope: 0.0016 Int: 0.000

Se ID: S40 Seq. No.: 00005 A/S Pos.: 40 Date: 12/29/92

Replicate 1 Time: 21:17
Peak Area (A-s): 0.064 Peak Height (A): 0.058
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.063
Concentration (ug/L): 38.46

Replicate 2 Time: 21:19
Peak Area (A-s): 0.065 Peak Height (A): 0.058
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.013
Blank Corrected Pk Area (A-s): 0.064
Concentration (ug/L): 38.72

Mean Conc (ug/L): 38.59 SD: 0.185 RSD(%): 0.48

Standard number 4 applied. [40.00]

Correlation coefficient: 0.99963 Slope: 0.0016 Int: 0.001

Se ID: S50 Seq. No.: 00006 A/S Pos.: 40 Date: 12/29/92

Replicate 1 Time: 21:22
Peak Area (A-s): 0.080 Peak Height (A): 0.073
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.016
Blank Corrected Pk Area (A-s): 0.079
Concentration (ug/L): 49.18

Replicate 2 Time: 21:24
Peak Area (A-s): 0.082 Peak Height (A): 0.144
Background Pk Area (A-s): 0.168 Background Pk Height (A): 0.601
Blank Corrected Pk Area (A-s): 0.081
Concentration (ug/L): 50.56

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GFAA

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REVIEWER *mt717*

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Se ID: S50

Seq. No.: 00006

A/S Pos.: 40

Date: 12/29/92

Replicate 1

Peak Area (A-s): 0.080

Background Pk Area (A-s): 0.018

Blank Corrected Pk Area (A-s): 0.079

Concentration (ug/L): 49.18

Time: 21:22

Peak Height (A): 0.073

Background Pk Height (A): 0.016

Replicate 2

Peak Area (A-s): 0.082

Background Pk Area (A-s): 0.168

Blank Corrected Pk Area (A-s): 0.081

Concentration (ug/L): 50.56

Time: 21:24

Peak Height (A): 0.144

Background Pk Height (A): 0.601

LANCASTER LABORATORIES

GFAA

DATE: DEC 30 1992

REVIEWER

SE 36403

mt 717

Mean Conc (ug/L): 49.87

SD: 0.977

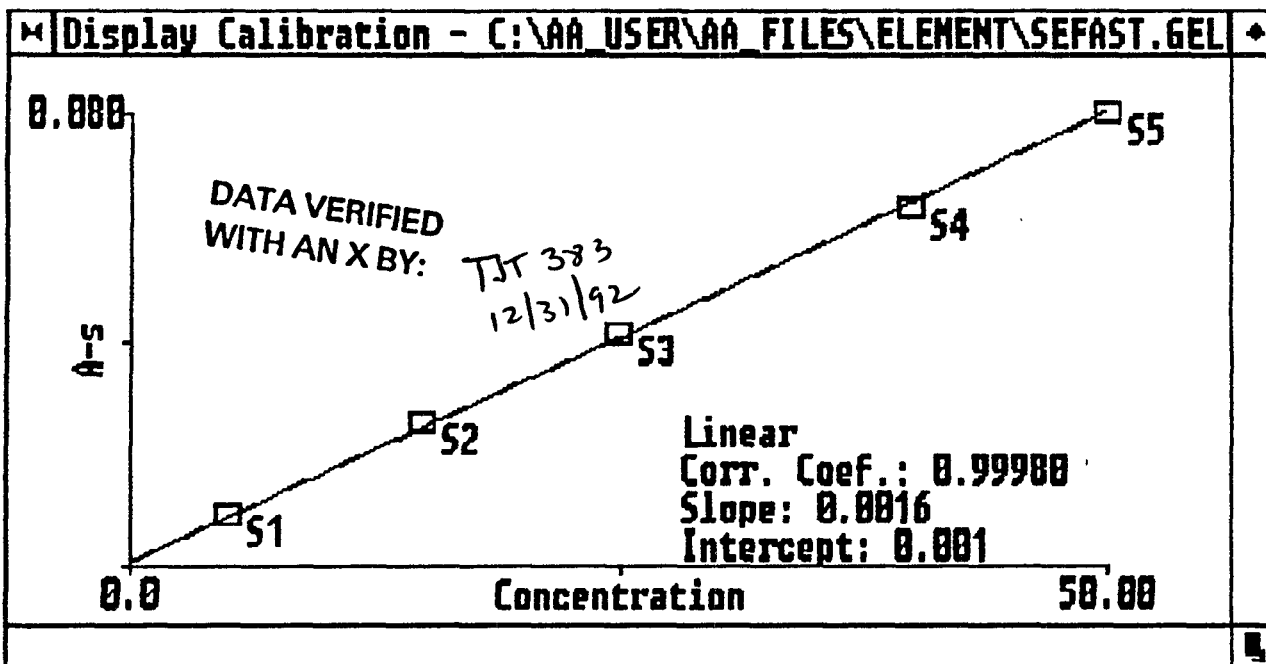
RSD(%): 1.96

Standard number 5 applied. [50.00]

Correlation coefficient: 0.99980

Slope: 0.0016

Int: 0.001



Se ID: ICV

Seq. No.: 00007

A/S Pos.: 36

Date: 12/29/92

Replicate 1

Peak Area (A-s): 0.034

Background Pk Area (A-s): 0.009

Blank Corrected Pk Area (A-s): 0.033

Concentration (ug/L): 20.39

Time: 21:27

Peak Height (A): 0.033

Background Pk Height (A): 0.008

Replicate 2

Peak Area (A-s): 0.033

Background Pk Area (A-s): 0.009

Blank Corrected Pk Area (A-s): 0.032

Time: 21:29

Peak Height (A): 0.032

Background Pk Height (A): 0.008

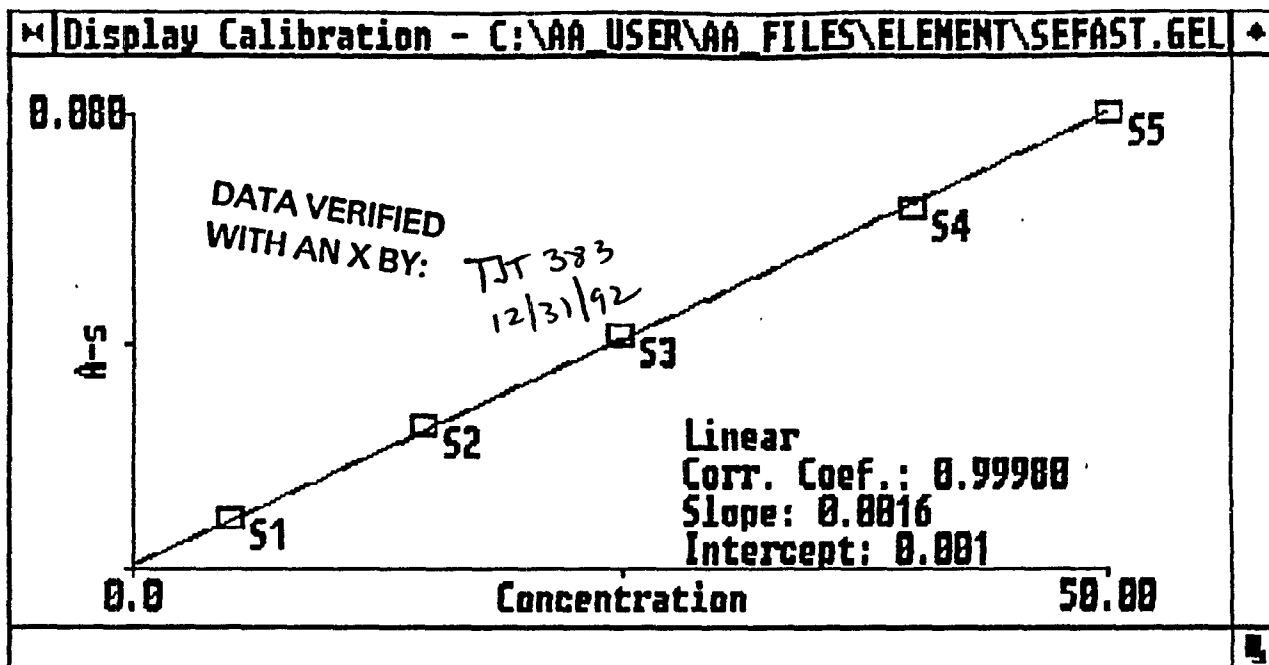
772

AB319485

Mean Conc (ug/L): 49.87
Standard number 5 applied. [50.00]
Correlation coefficient: 0.99980

SD: 0.977
Slope: 0.0016

RSD(%): 1.96
Int: 0.001



Se ID: ICV Seq. No.: 00007 A/S Pos.: 36 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.034
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 20.39

Time: 21:27
Peak Height (A): 0.033
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.033
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.032
Concentration (ug/L): 19.84

Time: 21:29
Peak Height (A): 0.032
Background Pk Height (A): 0.008

Mean Conc (ug/L): 20.11

SD: 0.387

RSD(%): 1.92

QC sample is within range 18.00 - 22.00

Se ID: ICB Seq. No.: 00008 A/S Pos.: 0 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.47

Time: 21:32
Peak Height (A): 0.003
Background Pk Height (A): 0.005

Replicate 2

Time: 21:34

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GFAA SE36403
DATE: DEC 30 1992
REVIEWER: AR319486

Replicate 1
Peak Area (A-s): 0.003
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.47

Time: 21:32
Peak Height (A): 0.003
Background Pk Height (A): 0.005

LANCASTER LABORATORIES

Replicate 2

Time: 21:34

GFAA SE 36403
DATE: DEC 30 1992

REVIEWER *mt744*

Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.31

Peak Height (A): 0.003
Background Pk Height (A): 0.004

Mean Conc (ug/L): 0.08

SD: 0.550

RSD(%): 683.66

QC sample is within range -3.00 - 3.00

Replicate 1
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 5.49

Time: 21:36
Peak Height (A): 0.010
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.009
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.008
Concentration (ug/L): 4.37

Time: 21:39
Peak Height (A): 0.009
Background Pk Height (A): 0.005

Mean Conc (ug/L): 4.93

SD: 0.789

RSD(%): 16.00

Replicate 1
Peak Area (A-s): 0.035
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 21.00

Time: 21:41
Peak Height (A): 0.036
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.035
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 20.66

Time: 21:43
Peak Height (A): 0.034
Background Pk Height (A): 0.008

Mean Conc (ug/L): 20.83

SD: 0.238

RSD(%): 1.14

QC sample is within range 18.00 - 22.00

274

Replicate 1

Time: 21:46
Peak Height (A): 0.003

AR319487

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): -0.14

Time: 21:46
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.56

Time: 21:48
Peak Height (A): 0.003
Background Pk Height (A): 0.004

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REVIEWER mat 744

Mean Conc (ug/L): -0.35 SD: 0.297 RSD(%): 84.04

QC sample is within range -3.00 - 3.00

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.82

Time: 21:50
Peak Height (A): 0.002
Background Pk Height (A): 0.004

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -1.16

Time: 21:53
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Mean Conc (ug/L): -0.99 SD: 0.245 RSD(%): 24.78

Replicate 1
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.53

Time: 21:55
Peak Height (A): 0.019
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.79

Time: 21:58
Peak Height (A): 0.019
Background Pk Height (A): 0.005

Mean Conc (ug/L): 10.16 SD: 0.518 RSD(%): 5.1

Recovery is ~~111.5%~~ 101.6%
(7/mat 12/29/92)

278

Replicate 1 Time: 22:01

AR319488

Replicate 1 *LCSW*
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.06

Time: 22:01
Peak Height (A): 0.018
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 9.94

Time: 22:03
Peak Height (A): 0.016
Background Pk Height (A): 0.005

Mean Conc (ug/L): 10.00 SD: 0.081 RSD(%): 0.81

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GFAA SE76403

DATE: DEC 30 1992

REVIEWER *ms741*

Replicate 1 *LCSWA*
Peak Area (A-s): 0.036
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.035
Concentration (ug/L): 21.79

Time: 22:06
Peak Height (A): 0.036
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.035
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 21.05

Time: 22:08
Peak Height (A): 0.034
Background Pk Height (A): 0.008

Mean Conc (ug/L): 21.42 SD: 0.524 RSD(%): 2.45

Recovery is 114.1%

Replicate 1 *FLDBL*
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.11

Time: 22:11
Peak Height (A): 0.004
Background Pk Height (A): 0.004

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.49

Time: 22:13
Peak Height (A): 0.003
Background Pk Height (A): 0.005

Mean Conc (ug/L): -0.19 SD: 0.424 RSD(%): 218.43

276

AR319489

Replicate 1 *FLDBLA*
Peak Area (A-s): 0.015
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.014
Concentration (ug/L): 8.48

Time: 22:16
Peak Height (A): 0.017
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.10

Time: 22:18
Peak Height (A): 0.020
Background Pk Height (A): 0.005

Mean Conc (ug/L): 9.29 SD: 1.149 RSD(%): 12.37

Recovery is ~~94.8%~~ *92.9%*

(7) 12/30/92

Replicate 1 *JAMES*

Time: 22:20 LANCASTER LABORATORIES
GFAA SE 3403
DATE: DEC 30 1992
REVIEWER *mt744*

Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.11

Peak Height (A): 0.004
Background Pk Height (A): 0.050

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.33

Time: 22:23
Peak Height (A): 0.004
Background Pk Height (A): 0.007

Mean Conc (ug/L): -0.11 SD: 0.305 RSD(%): 277.74

Replicate 1 *JAMESA*

Time: 22:25
Peak Height (A): 0.011
Background Pk Height (A): 0.007

Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 8.82

Replicate 2
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.18

Time: 22:28
Peak Height (A): 0.015
Background Pk Height (A): 0.046

Mean Conc (ug/L): 9.50 SD: 0.962 RSD(%): 10.2

Recovery is ~~96.4%~~ *95.0%*

(7) 12/29/92

Time: 22:30 *AR319.490*

Replicate 1 *JAMEF*
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.01

Time: 22:30
Peak Height (A): 0.003
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.32

Time: 22:33
Peak Height (A): 0.003
Background Pk Height (A): 0.022

Mean Conc (ug/L): ~~0.16~~ SD: 0.233 RSD(%): 149.19

Replicate 1 *JAMEFA*
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.023
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.72

Time: 22:35
Peak Height (A): 0.014
Background Pk Height (A): 0.071

Replicate 2

Time: 22:38

LANCASTER LABORATORIES
GFAA SE 36403
DATE: DEC 30 1992
REVIEWER *met 744*

Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.17

Peak Height (A): 0.013
Background Pk Height (A): 0.008

Mean Conc (ug/L): 9.94 SD: 0.323 RSD(%): 3.24

Recovery is ~~101.0%~~ *99.4%*
(7) met 12/29/92

Replicate 1
Peak Area (A-s): 0.032
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.031
Concentration (ug/L): 19.00

Time: 22:40
Peak Height (A): 0.032
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.032
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.031
Concentration (ug/L): 19.15

Time: 22:43
Peak Height (A): 0.031
Background Pk Height (A): 0.007

Mean Conc (ug/L): 19.08 SD: 0.103 RSD(%): 0.54

QC sample is within range 18.00 - 22.00

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.41

Time: 22:45
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.83

Time: 22:47
Peak Height (A): 0.003
Background Pk Height (A): 0.005

Mean Conc (ug/L): ~~0.21~~ SD: 0.874 RSD(%): 420.22

QC sample is within range -3.00 - 3.00

Replicate 1 *CHURC*
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.61

Time: 22:50
Peak Height (A): 0.002
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.010

Time: 22:52
Peak Height (A): 0.003
Background Pk Height (A): 0.012

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REVIEWER *mat 744*

Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.78

Mean Conc (ug/L): ~~0.70~~ SD: 0.118 RSD(%): 16.96

Replicate 1 *CHURCA*
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 9.97

Time: 22:55
Peak Height (A): 0.013
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 9.12

Time: 22:57
Peak Height (A): 0.013
Background Pk Height (A): 0.008

Mean Conc (ug/L): 9.55 SD: 0.602 RSD(%): 6.3

Recovery is ~~102.4%~~ *95.5%* 279

Se ID: 1910245 Seq. No.: 00026 A/S Pos.: 8 Date: 12/29/92

Replicate 1 *CHURF*
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.39

Time: 22:59
Peak Height (A): 0.004
Background Pk Height (A): 0.007

X
5

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): 0.27

Time: 23:02
Peak Height (A): 0.003
Background Pk Height (A): 0.008

Mean Conc (ug/L): 0.33 SD: 0.085 RSD(%): 25.91

Se ID: 1910245 Seq. No.: 00027 A/S Pos.: 8 Date: 12/29/92

Replicate 1 *CHURFA*
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 9.10

Time: 23:04
Peak Height (A): 0.012
Background Pk Height (A): 0.013

Replicate 2
Peak Area (A-s): 0.015
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.014
Concentration (ug/L): 8.49

Time: 23:07
Peak Height (A): 0.011
Background Pk Height (A): 0.011

Mean Conc (ug/L): 8.80 SD: 0.435 RSD(%): 4.94

Recovery is 84.7% (outside of specified limits)

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GFAA SE 36403
DATE: DEC 30 1992
REVIEWER *mtx44*

Se ID: 1910246 Seq. No.: 00028 A/S Pos.: 9 Date: 12/29/92

Replicate 1 *FBLAN*
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.98

Time: 23:09
Peak Height (A): 0.003
Background Pk Height (A): 0.006

X

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.73

Time: 23:12
Peak Height (A): 0.002
Background Pk Height (A): 0.006

Mean Conc (ug/L): -0.85 SD: 0.173 RSD(%): 20.31

Se ID: 1910246 Seq. No.: 00029 A/S Pos.: 9 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.015
Background Pk Area (A-s): 0.000
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.000

Time: 23:14
Peak Height (A): 0.016
Background Pk Height (A): 0.006

AR809493

Se ID: 1910246 Seq. No.: 00029 A/S Pos.: 9 Date: 12/29/92

Replicate 1 *FLANA*
Peak Area (A-s): 0.015
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.014
Concentration (ug/L): 8.37

Time: 23:14
Peak Height (A): 0.016
Background Pk Height (A): 0.006

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.74

Time: 23:17
Peak Height (A): 0.017
Background Pk Height (A): 0.006

Mean Conc (ug/L): 9.06 SD: 0.970 RSD(%): 10.70

Recovery is ~~99.1%~~ *90.6%*

(7)mt 12/29/92

Se ID: 1910247 Seq. No.: 00030 A/S Pos.: 10 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): -0.00

Time: 23:19
Peak Height (A): 0.003
Background Pk Height (A): 0.008

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): 0.33

Time: 23:21
Peak Height (A): 0.003
Background Pk Height (A): 0.008

Mean Conc (ug/L): 0.16 SD: 0.238 RSD(%): 144.95

Se ID: 1910247 Seq. No.: 00031 A/S Pos.: 10 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.009

Time: 23:24
Peak Height (A): 0.015
Background Pk Height (A): 0.008

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REVIEWER *mt 744*

Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.45

Replicate 2
Peak Area (A-s): 0.019
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 11.01

Time: 23:26
Peak Height (A): 0.015
Background Pk Height (A): 0.008

Mean Conc (ug/L): 10.73 SD: 0.397 RSD(%): 3.7

Recovery is 105.6%

281

Se ID: 1910248 Seq. No.: 00032 A/S Pos.: 11 Date: 12/29/92

AR3 19696

Se ID: 1910248 Seq. No.: 00032 A/S Pos.: 11 Date: 12/29/92

MIDFI

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.66

Time: 23:29
Peak Height (A): 0.002
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.023
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.39

Time: 23:31
Peak Height (A): 0.003
Background Pk Height (A): 0.060

Mean Conc (ug/L): -0.53 SD: 0.187 RSD(%): 35.44

Se ID: 1910248 Seq. No.: 00033 A/S Pos.: 11 Date: 12/29/92

MIDFI A

Replicate 1
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 9.27

Time: 23:33
Peak Height (A): 0.012
Background Pk Height (A): 0.029

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.39

Time: 23:36
Peak Height (A): 0.013
Background Pk Height (A): 0.015

Mean Conc (ug/L): 9.33 SD: 0.087 RSD(%): 0.93

Recovery is ~~98.5%~~ *93.3%*

(7)mt 12/30/92

Se ID: CCV Seq. No.: 00034 A/S Pos.: 36 Date: 12/29/92

Replicate 1
Peak Area (A-s): 0.034
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 20.36

Time: 23:38
Peak Height (A): 0.033
Background Pk Height (A): 0.008

Replicate 2

Time: 23:41

LANCASTER LABORATORIES
GFAA SE 36403
DATE: DEC 30 1992
REVIEWER *mt744*

Peak Area (A-s): 0.033
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.032
Concentration (ug/L): 19.40

Peak Height (A): 0.033
Background Pk Height (A): 0.008

Mean Conc (ug/L): 19.88 SD: 0.681 RSD(%): 3.43

QC sample is within range 18.00 - 22.00

282

Se ID: CCB Seq. No.: 00035 A/S Pos.: 0 Date: 12/29/92

AP 31 01 95

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.77

Time: 23:43
Peak Height (A): 0.002
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.72

Time: 23:45
Peak Height (A): 0.002
Background Pk Height (A): 0.020

Mean Conc (ug/L): -0.75 SD: 0.036 RSD(%): 4.79

QC sample is within range -3.00 - 3.00

Replicate 1 *22CHM*
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.22

Time: 23:48
Peak Height (A): 0.003
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): 0.000
Concentration (ug/L): -0.44

Time: 23:50
Peak Height (A): 0.003
Background Pk Height (A): 0.006

Mean Conc (ug/L): -0.33 SD: 0.155 RSD(%): 46.50

Replicate 1 *22CHMA*
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.32

Time: 23:52
Peak Height (A): 0.013
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 9.16

Time: 23:55
Peak Height (A): 0.012
Background Pk Height (A): 0.008

Mean Conc (ug/L): 9.24 SD: 0.114 RSD(%): 1.23

Recovery is ~~95.7%~~ *92.4%*

(7)mt 12/31/92

LANCASTER LABORATORIES

GFAA SE 36403

DATE: DEC 30 1992

REVIEWER *mt 744*
4 (3)mt 744

Replicate 1

Time: 23:57
Peak Height (A): 0.003

AR319496

Mean Conc (ug/L): 9.24 SD: 0.114 RSD(%): 1.23

Recovery is ~~95.7%~~ 92.4%

(7)ml/12/30/92

ID: 1910329 Seq. No.: 00038 A/S Pos.: 13 Date: 12/29/92

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): -0.18

Time: 23:57
Peak Height (A): 0.003
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.40

Time: 23:59
Peak Height (A): 0.003
Background Pk Height (A): 0.006

Mean Conc (ug/L): -0.29 SD: 0.157 RSD(%): 53.63

Se ID: 1910329 Seq. No.: 00039 A/S Pos.: 13 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 9.25

Time: 00:02
Peak Height (A): 0.013
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.73

Time: 00:05
Peak Height (A): 0.013
Background Pk Height (A): 0.007

Mean Conc (ug/L): 9.49 SD: 0.333 RSD(%): 3.51

Recovery is ~~97.8%~~ 94.9%

(7)ml/14/30/92

Se ID: 1910330 Seq. No.: 00040 A/S Pos.: 14 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.024
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 14.13

Time: 00:07
Peak Height (A): 0.017
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.024
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.023
Concentration (ug/L): 14.20

Time: 00:09
Peak Height (A): 0.019
Background Pk Height (A): 0.010

Mean Conc (ug/L): 14.16 SD: 0.051 RSD(%): 0.36

LANCASTER LABORATORIES

GFAA SE36403

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REVIEWER *msf* AR319497

X

X

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Se ID: 1910330 Seq. No.: 00041 A/S Pos.: 14 Date: 12/30/92

Replicate 1 *22JALA*
Peak Area (A-s): 0.040
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.039
Concentration (ug/L): 24.10

Time: 00:12
Peak Height (A): 0.030
Background Pk Height (A): 0.011

Replicate 2
Peak Area (A-s): 0.039
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.038
Concentration (ug/L): 23.24

Time: 00:14
Peak Height (A): 0.031
Background Pk Height (A): 0.011

Mean Conc (ug/L): 23.67 SD: 0.614 RSD(%): 2.59

Recovery is 95.1%

Se ID: 1910331 Seq. No.: 00042 A/S Pos.: 15 Date: 12/30/92

Replicate 1 *22JLF*
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.005
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.24

Time: 00:17
Peak Height (A): 0.003
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): -0.000
Concentration (ug/L): -0.54

Time: 00:19
Peak Height (A): 0.003
Background Pk Height (A): 0.007

Mean Conc (ug/L): -0.39 SD: 0.212 RSD(%): 54.59

Se ID: 1910331 Seq. No.: 00043 A/S Pos.: 15 Date: 12/30/92

Replicate 1 *22JLFA*
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.34

Time: 00:21
Peak Height (A): 0.014
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 9.04

Time: 00:24
Peak Height (A): 0.014
Background Pk Height (A): 0.008

Mean Conc (ug/L): 9.19 SD: 0.214 RSD(%): 2.32

Recovery is 95.8% *91.9%*

(Trust 12/30/92)

Se ID: 1910332 Seq. No.: 00044 A/S Pos.: 16 Date: 12/30/92

Replicate 1

Time: 00:26

LANCASTER LABORATORIES
GFAA
DATE: DEC 30 1992
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SEP 23 1994 98

Replicate 1 *22CHL*

Time: 00:26

LANCASTER LABORATORIES

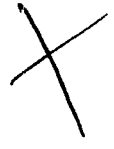
GFAA SE 36403

DATE: DEC 30 1992

REVIEWER *ms 744*

Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): -0.10

Peak Height (A): 0.003
Background Pk Height (A): 0.005



Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.53

Time: 00:29
Peak Height (A): 0.003
Background Pk Height (A): 0.005

Mean Conc (ug/L): -0.32

SD: 0.300

RSD(%): 95.11

Replicate 1 *22CHLA*

Peak Area (A-s): 0.019
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 10.82

Time: 00:31
Peak Height (A): 0.015
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.52

Time: 00:34
Peak Height (A): 0.014
Background Pk Height (A): 0.009

Mean Conc (ug/L): 10.17

SD: 0.920

RSD(%): 9.05

Recovery is ~~104.8%~~ *106.7%*
From 12/30/92

Replicate 1
Peak Area (A-s): 0.034
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 20.24

Time: 00:36
Peak Height (A): 0.033
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.034
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 20.39

Time: 00:39
Peak Height (A): 0.032
Background Pk Height (A): 0.008

Mean Conc (ug/L): 20.31

SD: 0.106

RSD(%): 0.52

QC sample is within range 18.00 - 22.00

236

AR 3123099

Replicate 1
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.28

Time: 00:41
Peak Height (A): 0.002
Background Pk Height (A): 0.004

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REVIEWED: *mat 744*

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.70

Time: 00:43
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Mean Conc (ug/L): ~~-0.49~~ SD: 0.297 RSD(%): 60.28

QC sample is within range -3.00 - 3.00

Replicate 1 *22CLF*
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.01

Time: 00:46
Peak Height (A): 0.003
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.60

Time: 00:48
Peak Height (A): 0.002
Background Pk Height (A): 0.006

Mean Conc (ug/L): ~~-0.29~~ SD: 0.426 RSD(%): 144.53

Replicate 1 *22CLFA*
Peak Area (A-s): 0.019
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 10.61

Time: 00:51
Peak Height (A): 0.015
Background Pk Height (A): 0.007

Replicate 2
Peak Area (A-s): 0.020
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.019
Concentration (ug/L): 11.75

Time: 00:53
Peak Height (A): 0.017
Background Pk Height (A): 0.007

Mean Conc (ug/L): 11.18 SD: 0.808 RSD(%): 7

Recovery is ~~114.7%~~ *111.8%*
(7/4/92 12/30/92)

Time: 00:55

AR319500

Replicate 1 **XXXXXX**
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): -0.10

Time: 00:55
Peak Height (A): 0.003
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.000

Time: 00:58
Peak Height (A): 0.003
Background Pk Height (A): 0.005

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DATE: DEC 30 1992
REVIEWER *met 744*

Concentration (ug/L): -0.33

Mean Conc (ug/L): -0.22 SD: 0.163 RSD(%): 75.24

Replicate 1 **XXXXXX**
Peak Area (A-s): 0.019
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 10.74

Time: 01:00
Peak Height (A): 0.021
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.019
Background Pk Area (A-s): 0.008
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 10.56

Time: 01:03
Peak Height (A): 0.020
Background Pk Height (A): 0.006

Mean Conc (ug/L): 10.65 SD: 0.131 RSD(%): 1.23

Recovery is ~~100.7%~~ 106.5%
72 (7)met 12/30/92

Replicate 1 **XXXXXX**
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.006
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.03

Time: 01:05
Peak Height (A): 0.019
Background Pk Height (A): 0.006

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.50

Time: 01:08
Peak Height (A): 0.017
Background Pk Height (A): 0.006

Mean Conc (ug/L): 9.77 SD: 0.370 RSD(%): 3.79

Replicate 1
Peak Area (A-s): 0.034

Time: 01:10
Peak Height (A): 0.033

AR319501

Se ID: LCSS 358 002 Seq. No.: 00053 A/S Pos.: 19 Date: 12/30/92

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.034
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 20.22

Time: 01:10
Peak Height (A): 0.033
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.035
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 20.88

Time: 01:13
Peak Height (A): 0.034
Background Pk Height (A): 0.008

Mean Conc (ug/L): 20.55 SD: 0.465 RSD(%): 2.26

Recovery is 107.8%

LANCASTER LABORATORIES
GFAA SE 36403
DATE: DEC 30 1992
REVIEWER *msf 744*

Se ID: 1909330 Seq. No.: 00054 A/S Pos.: 20 Date: 12/30/92

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.002
Background Pk Area (A-s): -0.001
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.08

Time: 01:15
Peak Height (A): 0.004
Background Pk Height (A): 0.003

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.000
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.82

Time: 01:18
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Mean Conc (ug/L): ~~0.37~~ SD: 0.638 RSD(%): 174.09

Se ID: 1909330 Seq. No.: 00055 A/S Pos.: 20 Date: 12/30/92

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.011
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 5.61

Time: 01:20
Peak Height (A): 0.012
Background Pk Height (A): 0.005

Replicate 2
Peak Area (A-s): 0.010
Background Pk Area (A-s): -0.000
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 5.07

Time: 01:23
Peak Height (A): 0.011
Background Pk Height (A): 0.004

Mean Conc (ug/L): 5.34 SD: 0.379 RSD(%): 7.2

Recovery is ~~57.0%~~ (outside of specified limits)

(Final 12/31/92) 53.4%
Se ID: 1909330D Seq. No.: 00056 A/S Pos.: 21 Date: 12/30/92
AR319502

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): -0.07

Time: 01:25
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.001
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.52

Time: 01:28
Peak Height (A): 0.003
Background Pk Height (A): 0.003

Mean Conc (ug/L): -0.30 SD: 0.318 RSD(%): 107.25

Replicate 1 ZZZZZZ
Peak Area (A-s): 0.012
Background Pk Area (A-s): 0.002

Time: 01:30
Peak Height (A): 0.012
Background Pk Height (A): 0.004

LANCASTER LABORATORIES

GFAA SE 36403

DATE: DEC 30 1992

REVIEWER *met 744*

Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 6.15

Replicate 2
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.009
Concentration (ug/L): 5.29

Time: 01:33
Peak Height (A): 0.011
Background Pk Height (A): 0.004

Mean Conc (ug/L): 5.72 SD: 0.611 RSD(%): 10.68

Recovery is ~~60.2%~~ (outside of specified limits)

(7)met 12/30/92 57.2%

Replicate 1
Peak Area (A-s): 0.037
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.036
Concentration (ug/L): 22.15

Time: 01:35
Peak Height (A): 0.044
Background Pk Height (A): 0.010

Replicate 2
Peak Area (A-s): 0.034
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.033
Concentration (ug/L): 20.25

Time: 01:38
Peak Height (A): 0.038
Background Pk Height (A): 0.009

Mean Conc (ug/L): 21.20 SD: 1.340 RSD(%): 6.32

QC sample is within range 18.00 - 22.00

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AR319503

Se ID: CCB Seq. No.: 00059 A/S Pos.: 0 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.19

Time: 01:40
Peak Height (A): 0.004
Background Pk Height (A): 0.004

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.003
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.30

Time: 01:42
Peak Height (A): 0.003
Background Pk Height (A): 0.004

Mean Conc (ug/L): -0.05 SD: 0.350 RSD(%): 663.51

QC sample is within range -3.00 - 3.00

Se ID: 1909330R Seq. No.: 00060 A/S Pos.: 22 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.008
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 3.94

Time: 01:45
Peak Height (A): 0.010
Background Pk Height (A): 0.005

LANCASTER LABORATORIES
GFAA SE 36403
DATE: DEC 30 1992
REVIEWER *ms744*

Replicate 2
Peak Area (A-s): 0.008
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L): 4.20

Time: 01:47
Peak Height (A): 0.009
Background Pk Height (A): 0.005

Mean Conc (ug/L): 4.07 SD: 0.188 RSD(%): 4.62

Se ID: 1909330R Seq. No.: 00061 A/S Pos.: 22 Date: 12/30/92

Replicate 1
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.016
Concentration (ug/L): 9.86

Time: 01:50
Peak Height (A): 0.020
Background Pk Height (A): 0.006

Replicate 2
Peak Area (A-s): 0.018
Background Pk Area (A-s): 0.004
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 10.44

Time: 01:52
Peak Height (A): 0.021
Background Pk Height (A): 0.006

Mean Conc (ug/L): 10.15 SD: 0.408 RSD(%): 4.0

Recovery is 60.8% (outside of specified limits)

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Se ID: CCV Seq. No.: 00062 A/S Pos.: 36 Date: 12/30/92

Time: 01:55

Element File: SEFAST.GEL
Element: Se
Print Data: Main+Suppl.
Print: Calib. Curve+Elem. Params.

Analyst: RDG 114
Peak Storage: None

INSTRUMENT: 5100 Technique: HGA Version: 7.10
Wavelength: 196.0 Peak Slit: 2.0 Low
Signal Type: Zeeman AA Signal Measurement: Peak Area
Read Time: 5.0 Read Delay: 0.0 BOC Time: 3
Sample Replicates: 2
Standard Replicates: 2 Spike Replicates: Same as Sample

CALIBRATION:

Solutions	ID	Conc	Location	Volume	Diluent	Modifier	
						Volume	#1 #2
Calib. Blank	IS0		0	20	2	1	
Standard 1	IS5	5.00	40	2	20	1	
Standard 2	IS15	15.00	40	6	16	1	
Standard 3	IS25	25.00	40	10	12	1	
Standard 4	IS40	40.00	40	16	6	1	
Standard 5	IS50	50.00	40	20	2	1	
Samples				20	2	1	

Diluent Location: 0

Modifier #1 Location: 39

Modifier #2 Location:

Calibration Units: ug/L

Sample Units: ug/L

Calibration Type: Linear

Furnace Time/Temperature Program:

Step	Temp	Ramp	Hold	Gas Flow	Read	Gas Type
1	120	2	35	250		Norm
2	130	2	10	250		Norm
3	220	2	5	250		Norm
4	1150	2	10	250		Norm
5	1800	0	3	0	*	Norm
6	2400	1	2	250		Norm

LANCASTER LABORATORIES
INSTRUMENT ID #4725
BKG. CORR: BZ

Injection Temp: 120

Pipette Speed: 75%

Extraction System: Off

SEQUENCE:

Step Action and Parameters

- 1 Pipet diluent + modifier 1 + spike + sample/std
- 2 Run HGA steps 1 to End

CHECKS:

Recalibration Type: Completely Recalibrate
Locations: None

LANCASTER LABORATORIES
GFAA SE 00203

DATE: JAN 02 1993

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Conc. Above Calibration Action: Print Message Only

Alternate Sample Volumes (uL):

Run Alternate Volume Blanks: No

Recovery Measurements:

1 uL of 200 ug/L Standard at Location 37 Gives 10.00 ug/L

Measure Recovery on Samples: 2-40

Add to QC Samples: No

% Recovery Limits: 85.0 to 115.0

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AR319505

QC:					After	Periodic	At	Count
#	A/S	QC Sample	Conc.	Limits	Calib	Check	End	Sample
	Loc.	ID	Lower	Upper				
1	36	ICV	18.00	22.00	X			
2	0	ICB	-3.00	3.00	X			
3	36	CCV	18.00	22.00		X	X	
4	0	CCB	-3.00	3.00		X	X	

Run Periodic QC Samples: 2,7,12,17,22,27,32
 Out of Limit Action: Print Message Only

Matrix Check Calculations:

% Difference for Dupls: No Locations:
 % Recovery for Spike: No Locations: Conc:

DATA VERIFIED
 WITH AN X BY: *TJT 383*
1/4/93

LANCASTER LABORATORIES
 GFAA SE 00203
 DATE: JAN 02 1993
 REVIEWER *ADG 114*

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 AR319506

Element File: SEFAST.GEL
Date: 01/02/93
Data File: SE00203.DAT
Technique: HGA

Element: Se
Time: 16:11
ID/Wt File: 00203.IDW
Calib. Type: Linear

Wavelength: 196.0
Slit: 2.0 L
Lamp Current: 0
Energy: 69

Se ID: S0 Seq. No.: 00001 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.007
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -0.68
Time: 16:11
Peak Height (A): 0.002
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): -0.004
Concentration (ug/L): -1.00
Time: 16:13
Peak Height (A): 0.002
Background Pk Height (A): 0.009

Mean Conc (ug/L): -0.84 SD: 0.222 RSD(%): 26.47

Auto-zero performed.

Se ID: S5 Seq. No.: 00002 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.010
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 5.04
Time: 16:15
Peak Height (A): 0.011
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): 0.009
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.58
Time: 16:18
Peak Height (A): 0.010
Background Pk Height (A): 0.008

Mean Conc (ug/L): 4.81 SD: 0.328 RSD(%): 6.83

Standard number 1 applied. [5.00]

Correlation coefficient: 1.00000 Slope: 0.0021 Int: 0.000

Se ID: S15 Seq. No.: 00003 A/S Pos.: 40 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.030
Background Pk Area (A-s): 0.013
Blank Corrected Pk Area (A-s): 0.031
Concentration (ug/L): 15.27
Time: 16:20
Peak Height (A): 0.032
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.031
Background Pk Area (A-s): 0.015
Blank Corrected Pk Area (A-s): 0.032
Concentration (ug/L): 15.34
Time: 16:22
Peak Height (A): 0.033
Background Pk Height (A): 0.009

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GFAA SE00203

DATE: JAN 02 1993

REVIEWER RDG/LL

794
AR319507

Mean Conc (ug/L): 15.31 SD: 0.052

Standard number 2 applied. [15.00]
Correlation coefficient: 0.99997 Slope: 0.0021 Int: -0.000

Se ID: S25 Seq. No.: 00004 A/S Pos.: 40 Date: 01/02/93

Replicate 1 Time: 16:25
Peak Area (A-s): 0.049 Peak Height (A): 0.051
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.050
Concentration (ug/L): 23.92

Replicate 2 Time: 16:27
Peak Area (A-s): 0.052 Peak Height (A): 0.054
Background Pk Area (A-s): 0.020 Background Pk Height (A): 0.014
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 25.30

Mean Conc (ug/L): 24.61 SD: 0.970 RSD(%): 3.94

Standard number 3 applied. [25.00]
Correlation coefficient: 0.99994 Slope: 0.0021 Int: 0.000

Se ID: S40 Seq. No.: 00005 A/S Pos.: 40 Date: 01/02/93

Replicate 1 Time: 16:29
Peak Area (A-s): 0.081 Peak Height (A): 0.084
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): 0.082
Concentration (ug/L): 39.43

Replicate 2 Time: 16:32
Peak Area (A-s): 0.081 Peak Height (A): 0.083
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.020
Blank Corrected Pk Area (A-s): 0.082
Concentration (ug/L): 39.65

Mean Conc (ug/L): 39.54 SD: 0.152 RSD(%): 0.38

Standard number 4 applied. [40.00]
Correlation coefficient: 0.99995 Slope: 0.0020 Int: 0.000

Se ID: S50 Seq. No.: 00006 A/S Pos.: 40 Date: 01/02/93

Replicate 1 Time: 16:34
Peak Area (A-s): 0.101 Peak Height (A): 0.103
Background Pk Area (A-s): 0.031 Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 0.102
Concentration (ug/L): 49.79

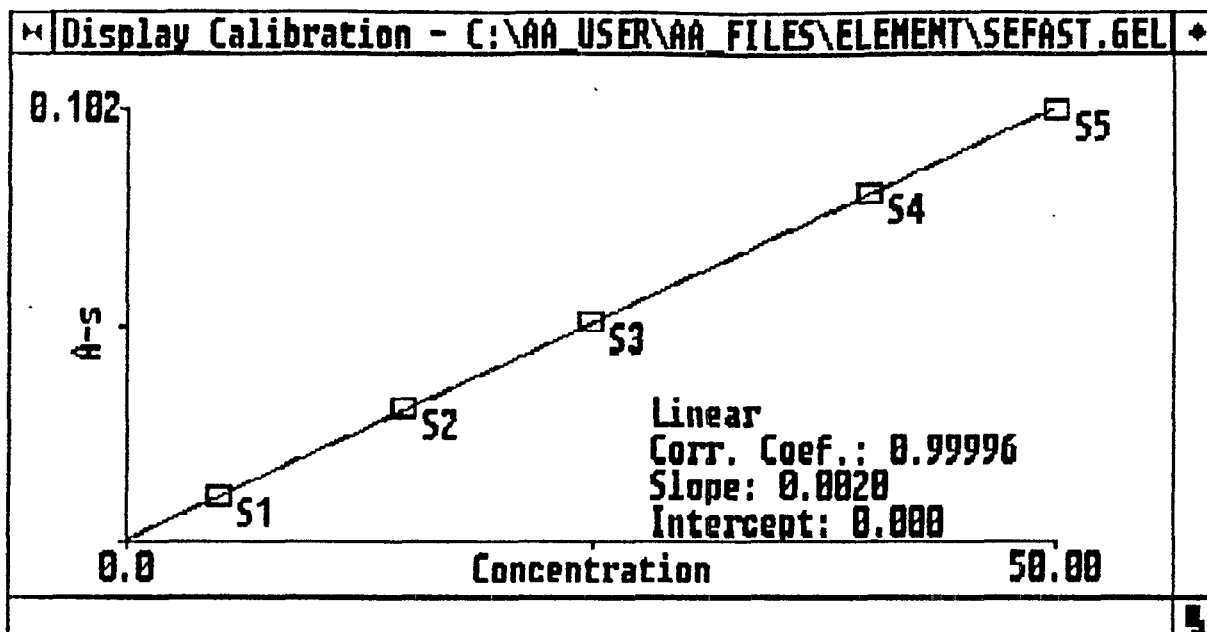
Replicate 2 Time: 16:37
Peak Area (A-s): 0.101 Peak Height (A): 0.101
Background Pk Area (A-s): 0.029 Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 0.102
Concentration (ug/L): 49.51

Mean Conc (ug/L): 49.65 SD: 0.201 RSD(%): 0.40

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GFAA SE00203
DATE: JAN 02 1993
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AR319508.40

Mean Conc (ug/L): 49.65 SD: 0.201 RSD(%): 0.40
 Standard number 5 applied. [50.00]
 Correlation coefficient: 0.99996 Slope: 0.0020 Int: 0.000



~~~~~  
 Se ID: ICV Seq. No.: 00007 A/S Pos.: 36 Date: 01/02/93

Replicate 1 Time: 16:39  
 Peak Area (A-s): 0.041 Peak Height (A): 0.041  
 Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.012  
 Blank Corrected Pk Area (A-s): 0.042  
 Concentration (ug/L ): 20.37

Replicate 2 Time: 16:42  
 Peak Area (A-s): 0.040 Peak Height (A): 0.041  
 Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.012  
 Blank Corrected Pk Area (A-s): 0.041  
 Concentration (ug/L ): 19.81

Mean Conc (ug/L ): 20.09 SD: 0.399 RSD(%): 1.99

QC sample is within range 18.00 - 22.00

~~~~~  
 Se ID: ICB Seq. No.: 00008 A/S Pos.: 0 Date: 01/02/93

Replicate 1 Time: 16:44
 Peak Area (A-s): -0.000 Peak Height (A): 0.003
 Background Pk Area (A-s): 0.010 Background Pk Height (A): 0.009
 Blank Corrected Pk Area (A-s): 0.001
 Concentration (ug/L): 0.20

Replicate 2 Time: 16:46

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 GFAA SE 00203
 DATE: JAN 02 1993
 REVIEWER RDG-114

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 AR319509

Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.07

Peak Height (A): 0.002
Background Pk Height (A): 0.009

Mean Conc (ug/L): 0.14 SD: 0.089 RSD(%): 65.16

QC sample is within range -3.00 - 3.00

Se ID: CRA Seq. No.: 00009 A/S Pos.: 1 Date: 01/02/93

Replicate 1 Time: 16:49
Peak Area (A-s): 0.010 Peak Height (A): 0.012
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.011
Concentration (ug/L): 5.01

Replicate 2 Time: 16:51
Peak Area (A-s): 0.009 Peak Height (A): 0.012
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.010
Concentration (ug/L): 4.88

Mean Conc (ug/L): 4.94 SD: 0.088 RSD(%): 1.78

Se ID: CCV Seq. No.: 00010 A/S Pos.: 36 Date: 01/02/93

Replicate 1 Time: 16:54
Peak Area (A-s): 0.039 Peak Height (A): 0.041
Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 19.64

Replicate 2 Time: 16:56
Peak Area (A-s): 0.040 Peak Height (A): 0.043
Background Pk Area (A-s): 0.019 Background Pk Height (A): 0.012
Blank Corrected Pk Area (A-s): 0.041
Concentration (ug/L): 19.75

Mean Conc (ug/L): 19.70 SD: 0.079 RSD(%): 0.40

QC sample is within range 18.00 - 22.00

Se ID: CCB Seq. No.: 00011 A/S Pos.: 0 Date: 01/02/93

Replicate 1 Time: 16:58
Peak Area (A-s): -0.001 Peak Height (A): 0.002
Background Pk Area (A-s): 0.010 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.17

Replicate 2 Time: 17:01
Peak Area (A-s): -0.000 Peak Height (A): 0.002
Background Pk Area (A-s): 0.009 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.29

Mean Conc (ug/L): 0.06 SD: 0.319

LANCASTER LABORATORIES

GFAA SE 00203

DATE: JAN 02 1993

REVIEWER ADG-44

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ABD319531081

Mean Conc (ug/L): 0.06 SD: 0.319 RSD(%): 531.81

QC sample is within range -3.00 - 3.00

Se ID: PBW 3651056021 Seq. No.: 00012 A/S Pos.: 2 Date: 01/02/93

Replicate 1 *PBW*
Peak Area (A-s): -0.001 Time: 17:03
Background Pk Area (A-s): 0.007 Peak Height (A): 0.003
Blank Corrected Pk Area (A-s): 0.000 Background Pk Height (A): 0.007
Concentration (ug/L): -0.03

Replicate 2
Peak Area (A-s): -0.001 Time: 17:06
Background Pk Area (A-s): 0.010 Peak Height (A): 0.002
Blank Corrected Pk Area (A-s): -0.000 Background Pk Height (A): 0.008
Concentration (ug/L): -0.27

Mean Conc (ug/L): -0.15 SD: 0.169 RSD(%): 109.90

Se ID: PBW 3651056021 Seq. No.: 00013 A/S Pos.: 2 Date: 01/02/93

Replicate 1 *PBW**
Peak Area (A-s): 0.020 Time: 17:08
Background Pk Area (A-s): 0.014 Peak Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.021 Background Pk Height (A): 0.009
Concentration (ug/L): 9.99

Replicate 2
Peak Area (A-s): 0.025 Time: 17:11
Background Pk Area (A-s): 0.013 Peak Height (A): 0.029
Blank Corrected Pk Area (A-s): 0.025 Background Pk Height (A): 0.008
Concentration (ug/L): 12.31

Mean Conc (ug/L): 11.15 SD: 1.641 RSD(%): 14.71

Recovery is ~~119.1%~~ 111.5%
RDG 114
1/12/93

Se ID: LCSW 3651056021 Seq. No.: 00014 A/S Pos.: 3 Date: 01/02/93

Replicate 1 *LCSW*
Peak Area (A-s): 0.022 Time: 17:13
Background Pk Area (A-s): 0.013 Peak Height (A): 0.024
Blank Corrected Pk Area (A-s): 0.023 Background Pk Height (A): 0.008
Concentration (ug/L): 11.09

Replicate 2
Peak Area (A-s): 0.022 Time: 17:16
Background Pk Area (A-s): 0.012 Peak Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.023 Background Pk Height (A): 0.008
Concentration (ug/L): 11.02

Mean Conc (ug/L): 11.05 SD: 0.051 RSD(%): 0.46

LANCASTER LABORATORIES

GFAA SE 00203

DATE: JAN 02 1993

REVIEWER *RDG 114*

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AR319511

Se ID: LCSW 3651056021 Seq. No.: 00015 A/S Pos.: 3 Date: 01/02/93

Replicate 1 *LCSWA*
Peak Area (A-s): 0.042
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 20.79

Time: 17:18
Peak Height (A): 0.046
Background Pk Height (A): 0.011

Replicate 2
Peak Area (A-s): 0.045
Background Pk Area (A-s): 0.017
Blank Corrected Pk Area (A-s): 0.046
Concentration (ug/L): 22.42

Time: 17:21
Peak Height (A): 0.049
Background Pk Height (A): 0.012

Mean Conc (ug/L): 21.60 SD: 1.151 RSD(%): 5.33

Recovery is 105.5%

Se ID: 1911821 Seq. No.: 00016 A/S Pos.: 4 Date: 01/02/93

Replicate 1 *BELT*
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.25

Time: 17:23
Peak Height (A): 0.002
Background Pk Height (A): 0.009

Replicate 2
Peak Area (A-s): 0.001
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 0.60

Time: 17:26
Peak Height (A): 0.002
Background Pk Height (A): 0.009

Mean Conc (ug/L): 0.42 SD: 0.246 RSD(%): 58.0

Se ID: 1911821 Seq. No.: 00017 A/S Pos.: 4 Date: 01/02/93

Replicate 1 *BELTA*
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 7.99

Time: 17:28
Peak Height (A): 0.013
Background Pk Height (A): 0.012

Replicate 2
Peak Area (A-s): 0.016
Background Pk Area (A-s): 0.015
Blank Corrected Pk Area (A-s): 0.017
Concentration (ug/L): 8.34

Time: 17:31
Peak Height (A): 0.013
Background Pk Height (A): 0.010

Mean Conc (ug/L): 8.16 SD: 0.250 RSD(%): 3.07

Recovery is 77.4% (outside of specified limits)

Se ID: 1911822 Seq. No.: 00018 A/S Pos.: 5 Date: 01/02/93

BELTF
The background signal is changing during BOC measurement.

LANCASTER LABORATORIES
GFAA SE 00203
DATE: JAN 02 1993
REVIEWER *ADG 114* 299

Time: 17:33
Peak Height (A): 0.002 *AP319512*

Replicate 1
Peak Area (A-s): -0.001
Background Pk Area (A-s): -0.005
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): -0.15

Time: 17:33
Peak Height (A): 0.002
Background Pk Height (A): 0.038

The background signal is changing during BOC measurement.

Replicate 2
Peak Area (A-s): -0.001
Background Pk Area (A-s): -0.055
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L): -0.40

Time: 17:36
Peak Height (A): 0.002
Background Pk Height (A): 0.017

Mean Conc (ug/L): -0.28 SD: 0.172 RSD(%): 62.32

Se ID: 1911822 Seq. No.: 00019 A/S Pos.: 5 Date: 01/02/93

The background signal is changing during BOC measurement.

Replicate 1
Peak Area (A-s): 0.014
Background Pk Area (A-s): -0.074
Blank Corrected Pk Area (A-s): 0.015
Concentration (ug/L): 7.11

Time: 17:38
Peak Height (A): 0.008
Background Pk Height (A): -0.002

The background signal is changing during BOC measurement.

Replicate 2
Peak Area (A-s): 0.012
Background Pk Area (A-s): -0.047
Blank Corrected Pk Area (A-s): 0.013
Concentration (ug/L): 6.30

Time: 17:41
Peak Height (A): 0.008
Background Pk Height (A): 0.018

Mean Conc (ug/L): 6.71 SD: 0.574 RSD(%): 8.55

Recovery is ~~69.8%~~ 67.1% (outside of specified limits)

Se ID: 1911823 Seq. No.: 00020 A/S Pos.: 6 Date: 01/02/93

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.010
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.23

Time: 17:43
Peak Height (A): 0.003
Background Pk Height (A): 0.008

Replicate 2
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.23

Time: 17:45
Peak Height (A): 0.002
Background Pk Height (A): 0.009

Mean Conc (ug/L): 0.23 SD: 0.002 RSD(%): 1.00

Se ID: 1911823 Seq. No.: 00021 A/S Pos.: 6 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.016

Time: 17:48
Peak Height (A): 0.015
Background Pk Height (A): 0.012

LANCASTER LABORATORIES

GFAA SE 00203

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REVIEWER RDG-114

AR319513 300

Concentration (ug/L): 8.52

Replicate 2
Peak Area (A-s): 0.017
Background Pk Area (A-s): 0.016
Blank Corrected Pk Area (A-s): 0.018
Concentration (ug/L): 8.53

Time: 17:51
Peak Height (A): 0.015
Background Pk Height (A): 0.012

Mean Conc (ug/L): 8.53 SD: 0.006 RSD(%): 0.07

Recovery is 83.0% (outside of specified limits)

~~~~~  
Se ID: CCV Seq. No.: 00022 A/S Pos.: 36 Date: 01/02/93

Replicate 1  
Peak Area (A-s): 0.041  
Background Pk Area (A-s): 0.017  
Blank Corrected Pk Area (A-s): 0.042  
Concentration (ug/L ): 20.20

Time: 17:53  
Peak Height (A): 0.046  
Background Pk Height (A): 0.013

Replicate 2  
Peak Area (A-s): 0.040  
Background Pk Area (A-s): 0.020  
Blank Corrected Pk Area (A-s): 0.041  
Concentration (ug/L ): 20.08

Time: 17:55  
Peak Height (A): 0.043  
Background Pk Height (A): 0.012

Mean Conc (ug/L ): 20.14 SD: 0.082 RSD(%): 0.41

QC sample is within range 18.00 - 22.00

~~~~~  
Se ID: CCB Seq. No.: 00023 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): -0.000
Background Pk Area (A-s): 0.012
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.22

Time: 17:58
Peak Height (A): 0.002
Background Pk Height (A): 0.010

Replicate 2
Peak Area (A-s): 0.000
Background Pk Area (A-s): 0.011
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.38

Time: 18:00
Peak Height (A): 0.002
Background Pk Height (A): 0.010

Mean Conc (ug/L): 0.30 SD: 0.117 RSD(%): 39.12

QC sample is within range -3.00 - 3.00

~~~~~  
Se ID: 1911824 Seq. No.: 00024 A/S Pos.: 7 Date: 01/02/93

Replicate 1 *BLUF*  
Peak Area (A-s): 0.000  
Background Pk Area (A-s): 0.013  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.43

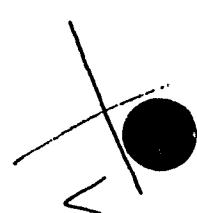
Time: 18:02  
Peak Height (A): 0.002  
Background Pk Height (A): 0.010

LANCASTER LABORATORIES

GFAA SE 00203

DATE: JAN 02 1993

REVIEWER *RDG-114*



301

AR3T9514

Replicate 2  
Peak Area (A-s): 0.000  
Background Pk Area (A-s): 0.011

Time: 18:05  
Peak Height (A): 0.003  
Background Pk Height (A): 0.000

Peak Area (A-s): 0.000  
Background Pk Area (A-s): 0.011  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.32

Peak Height (A): 0.003  
Background Pk Height (A): 0.009

Mean Conc (ug/L ): 0.37 SD: 0.075 RSD(%): 20.11

Se ID: 1911824 Seq. No.: 00025 A/S Pos.: 7 Date: 01/02/93

Replicate 1 *BELUFA*  
Peak Area (A-s): 0.016  
Background Pk Area (A-s): 0.014  
Blank Corrected Pk Area (A-s): 0.017  
Concentration (ug/L ): 8.01

Time: 18:07  
Peak Height (A): 0.014  
Background Pk Height (A): 0.011

Replicate 2  
Peak Area (A-s): 0.017  
Background Pk Area (A-s): 0.015  
Blank Corrected Pk Area (A-s): 0.018  
Concentration (ug/L ): 8.84

Time: 18:10  
Peak Height (A): 0.013  
Background Pk Height (A): 0.010

Mean Conc (ug/L ): 8.43 SD: 0.586 RSD(%): 6.95

Recovery is 80.5% (outside of specified limits)

Se ID: 1911825R Seq. No.: 00026 A/S Pos.: 8 Date: 01/02/93

Replicate 1 *BELTMS*  
*1/12/93*  
*1/12/93*  
Peak Area (A-s): 0.016  
Background Pk Area (A-s): 0.016  
Blank Corrected Pk Area (A-s): 0.017  
Concentration (ug/L ): 8.38

Time: 18:12  
Peak Height (A): 0.014  
Background Pk Height (A): 0.012

Replicate 2  
Peak Area (A-s): 0.017  
Background Pk Area (A-s): 0.016  
Blank Corrected Pk Area (A-s): 0.018  
Concentration (ug/L ): 8.43

Time: 18:14  
Peak Height (A): 0.013  
Background Pk Height (A): 0.011

Mean Conc (ug/L ): 8.41 SD: 0.037 RSD(%): 0.44

Se ID: 1911825R Seq. No.: 00027 A/S Pos.: 8 Date: 01/02/93

Replicate 1 *ZZZZZZ*  
Peak Area (A-s): 0.031  
Background Pk Area (A-s): 0.018  
Blank Corrected Pk Area (A-s): 0.032  
Concentration (ug/L ): 15.46

Time: 18:17  
Peak Height (A): 0.026  
Background Pk Height (A): 0.013

Replicate 2  
Peak Area (A-s): 0.032  
Background Pk Area (A-s): 0.019  
Blank Corrected Pk Area (A-s): 0.033  
Concentration (ug/L ): 16.05

Time: 18:19  
Peak Height (A): 0.025  
Background Pk Height (A): 0.014

LANCASTER LABORATORIES

GFAA SE 00203

DATE: JAN 02 1993

REVIEWER *RD-114*

*302*

AR319515

Mean Conc (ug/L ): 15.76 SD: 0.416 RSD(%): 2.63

Recovery is 73.5% (~~outside of specified limits~~) ok RDG 114 1/2/93

Se ID: 1911826D Seq. No.: 00028 A/S Pos.: 9 Date: 01/02/93

Replicate 1 ~~BRHTDD~~ BRLTUDD Time: 18:22  
Peak Area (A-s): 0.001 ~~Amc 213~~ 11/2/93 Peak Height (A): 0.003  
Background Pk Area (A-s): 0.012 Background Pk Height (A): 0.009  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.56

Replicate 2 Time: 18:24  
Peak Area (A-s): -0.000 Peak Height (A): 0.003  
Background Pk Area (A-s): 0.014 Background Pk Height (A): 0.009  
Blank Corrected Pk Area (A-s): 0.000  
Concentration (ug/L ): 0.06

Mean Conc (ug/L ): 0.31 SD: 0.351 RSD(%): 113.62

Se ID: 1911826D Seq. No.: 00029 A/S Pos.: 9 Date: 01/02/93

Replicate 1 ~~BRHTDDA~~ BRLTUDDA Time: 18:27  
Peak Area (A-s): 0.016 ~~Amc 213~~ 11/2/93 Peak Height (A): 0.013  
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.012  
Blank Corrected Pk Area (A-s): 0.017  
Concentration (ug/L ): 8.04

Replicate 2 Time: 18:29  
Peak Area (A-s): 0.016 Peak Height (A): 0.014  
Background Pk Area (A-s): 0.016 Background Pk Height (A): 0.011  
Blank Corrected Pk Area (A-s): 0.017  
Concentration (ug/L ): 7.97

Mean Conc (ug/L ): 8.01 SD: 0.048 RSD(%): 0.59

Recovery is 77.0% (outside of specified limits)

Se ID: 1911827 Seq. No.: 00030 A/S Pos.: 10 Date: 01/02/93

Replicate 1 ~~BRHTF~~ Time: 18:32  
Peak Area (A-s): 0.000 Peak Height (A): 0.003  
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.009  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.49

Replicate 2 Time: 18:34  
Peak Area (A-s): 0.000 Peak Height (A): 0.002  
Background Pk Area (A-s): 0.013 Background Pk Height (A): 0.009  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.53

Mean Conc (ug/L ): 0.51 SD: 0.028 RSD(%): 5.46

LANCASTER LABORATORIES  
GFAA SE 00103  
DATE: JAN 02 1993  
REVIEWER RDG 114 303

Se ID: 1911827 Seq. No.: 00031 A/S Pos.: 10 Date: 01/02/93

423-195-16

Se ID: 1911827 Seq. No.: 00031 A/S Pos.: 10 Date: 01/02/93

Replicate 1 *BRHTFA*  
Peak Area (A-s): 0.015  
Background Pk Area (A-s): 0.015  
Blank Corrected Pk Area (A-s): 0.016  
Concentration (ug/L ): 7.61

Time: 18:36  
Peak Height (A): 0.011  
Background Pk Height (A): 0.011

Replicate 2  
Peak Area (A-s): 0.015  
Background Pk Area (A-s): 0.015  
Blank Corrected Pk Area (A-s): 0.016  
Concentration (ug/L ): 7.44

Time: 18:39  
Peak Height (A): 0.011  
Background Pk Height (A): 0.011

Mean Conc (ug/L ): 7.53 SD: 0.121 RSD(%): 1.60

Recovery is 70.2% (outside of specified limits)

Se ID: 1911828 Seq. No.: 00032 A/S Pos.: 11 Date: 01/02/93

Replicate 1 *BRIFB*  
Peak Area (A-s): -0.000  
Background Pk Area (A-s): 0.012  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.16

Time: 18:41  
Peak Height (A): 0.002  
Background Pk Height (A): 0.010

Replicate 2  
Peak Area (A-s): -0.000  
Background Pk Area (A-s): 0.011  
Blank Corrected Pk Area (A-s): 0.001  
Concentration (ug/L ): 0.12

Time: 18:44  
Peak Height (A): 0.003  
Background Pk Height (A): 0.009

Mean Conc (ug/L ): 0.14 SD: 0.030 RSD(%): 21.36

Se ID: 1911828 Seq. No.: 00033 A/S Pos.: 11 Date: 01/02/93

Replicate 1 *BRIFBA*  
Peak Area (A-s): 0.017  
Background Pk Area (A-s): 0.013  
Blank Corrected Pk Area (A-s): 0.018  
Concentration (ug/L ): 8.46

Time: 18:46  
Peak Height (A): 0.020  
Background Pk Height (A): 0.009

Replicate 2  
Peak Area (A-s): 0.019  
Background Pk Area (A-s): 0.012  
Blank Corrected Pk Area (A-s): 0.020  
Concentration (ug/L ): 9.53

Time: 18:49  
Peak Height (A): 0.023  
Background Pk Height (A): 0.008

Mean Conc (ug/L ): 9.00 SD: 0.756 RSD(%): 8.40

Recovery is 88.5%

Se ID: CCV Seq. No.: 00034 A/S Pos.: 36 Date: 01/02/93

Replicate 1

Time: 18:51

LANCASTER LABORATORIES

GFAA SE 00203

DATE: JAN 02 1993

REVIEWER *ADG-114*

*304*

AR319517

Peak Area (A-s): 0.044  
Background Pk Area (A-s): 0.017  
Blank Corrected Pk Area (A-s): 0.045  
Concentration (ug/L ): 22.09

Peak Height (A): 0.047  
Background Pk Height (A): 0.012

Replicate 2  
Peak Area (A-s): 0.044  
Background Pk Area (A-s): 0.016  
Blank Corrected Pk Area (A-s): 0.045  
Concentration (ug/L ): 21.66

Time: 18:53  
Peak Height (A): 0.045  
Background Pk Height (A): 0.011

Mean Conc (ug/L ): 21.88 SD: 0.306 RSD(%): 1.40

QC sample is within range 18.00 - 22.00

~~~~~  
Se ID: CCB Seq. No.: 00035 A/S Pos.: 0 Date: 01/02/93

Replicate 1
Peak Area (A-s): 0.002
Background Pk Area (A-s): 0.009
Blank Corrected Pk Area (A-s): 0.003
Concentration (ug/L): 1.24

Time: 18:56
Peak Height (A): 0.003
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): 0.003
Concentration (ug/L): 1.38

Time: 18:58
Peak Height (A): 0.003
Background Pk Height (A): 0.010

Mean Conc (ug/L): 1.31 SD: 0.094 RSD(%): 7.16

QC sample is within range -3.00 - 3.00

LANCASTER LABORATORIES
GFAA SE 00203
DATE: JAN 02 1993
REVIEWER RDG 114

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AR319518

**Varian SpectraAA 300/400
QC Protocol Report**

OPERATOR NSM 823 2803 BD
DATE TUE 29 DEC 1992
BATCH TL 9236403

QC PROTOCOL PARAMETERS

IF THERE IS AN ERROR	STOP
QC SPIKE POSITION	52
RECOVERY LIMITS (%)	85 TO 115
RECOVERY MINIMUM LIMIT (%)	40
CORRELATION COEFFICIENT (r)	0.995
OVERRANGE VOLUME REDUCTION	1
REPLICATE RSD LIMIT (%)	100.0

**LANCASTER LABORATORIES
INSTRUMENT ID #2803
BKG CORR: BD**

PROGRAM 2 T1 CLP

INSTRUMENT MODE	ABSORBANCE
CALIBRATION MODE	CONCENTRATION
MEASUREMENT MODE	PEAK AREA
LAMP POSITION	4
LAMP CURRENT (mA)	3
SLIT WIDTH (nm)	0.5
SLIT HEIGHT	NORMAL
WAVELENGTH (nm)	276.8
SAMPLE INTRODUCTION	SAMPLER AUTOMIXING
TIME CONSTANT	0.05
MEASUREMENT TIME (sec)	1.0
REPLICATES	2
BACKGROUND CORRECTION	ON

FURNACE PARAMETERS

STEP NO.	TEMPERATURE (C)	TIME (sec)	GAS FLOW (L/min)	GAS TYPE	READ COMMAND
1	220	25.0	3.0	NORMAL	NO
2	220	15.0	3.0	NORMAL	NO
3	400	10.0	3.0	NORMAL	NO
4	700	15.0	3.0	NORMAL	NO
5	700	20.0	3.0	NORMAL	NO
6	100	3.0	3.0	NORMAL	NO
7	100	2.0	3.0	NORMAL	NO
8	100	2.0	0.0	NORMAL	NO
9	2600	1.3	0.0	NORMAL	YES
10	2600	2.0	0.0	NORMAL	YES
11	2600	0.5	3.0	NORMAL	NO
12	2600	4.0	3.0	NORMAL	NO
13	100	12.5	3.0	NORMAL	NO
14	100	5.0	3.0	NORMAL	NO

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AR319519

SAMPLER PARAMETERS
VOLUMES. (fL)

	SOLUTION	BLANK	MODIFIER
BLANK	--	20	5
STANDARD 1	2	18	5
STANDARD 2	5	15	5
STANDARD 3	10	10	5
STANDARD 4	15	5	5
STANDARD 5	20	0	5
SAMPLE	20	0	5

RECALIBRATION RATE 0
RESLOPE RATE 0

MULTIPLE INJECT NO HOT INJECT YES PRE INJECT NO
 TEMPERATURE 95
 INJECT RATE 10

QC PROTOCOL PARAMETERS

QC STANDARD RATE 20
 QC INITIAL STANDARD POSITION 50
 QC INITIAL BLANK POSITION 51
 QC CONTINUING STANDARD POSITION 50
 QC CONTINUING BLANK POSITION 51
 QC STANDARD VOLUME (fL) 20
 QC STANDARD CONCENTRATION 40.0 ppb
 QC STANDARD LIMITS (%) 90 TO 110
 QC SPIKE RATE 1
 QC SPIKE VOLUME (fL) 4
 QC SPIKE CONCENTRATION 100.0 ppb
 MATRIX SPIKE CONCENTRATION 0.0 ppb
 INSTRUMENT DETECTION LIMIT 1.2 ppb
 REQUIRED DETECTION LIMIT 10.0 ppb

DATA VERIFIED
WITH AN X BY:
DT 383
12/30/92

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
<i>SQ</i> BLANK QC	0.0		-0.007	-0.008	-0.005
				29Dec92 22:24	
				CONCENTRATION LESS THAN IDI	
<i>S10</i> STANDARD 1 QC	10.0	2.4	0.053	0.052	0.054
				29Dec92 22:31	
<i>S25</i> STANDARD 2 QC	25.0	1.6	0.117	0.118	0.115
				29Dec92 22:37	
<i>S50</i> STANDARD 3 QC	50.0	1.3	0.206	0.208	0.204
				29Dec92 22:44	
<i>S75</i> STANDARD 4 QC	75.0	1.7	0.277	0.280	0.273
				29Dec92 22:51	
<i>S100</i> STANDARD 5 QC	100.0	1.0	0.355	0.353	0.358
				29Dec92 22:57	

LANCASTER LABORATORIES
GFAA TL 56403
DATE: DEC 30 1992
REVIEWER: *K. [Signature]*

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AR319520

SAMPLE	CONC pph	%RSD	MEAN ABS	READINGS	
ICV QC	41.5	1.5	0.177	0.175 29Dec92	0.179 23:03
				%R = <u>103.7</u>	
ICB QC	2.5	0.0	0.013	0.013 29Dec92	0.013 23:10
				ABS = 0.011	
CRA QC	11.0	1.0	0.057	0.057 29Dec92	0.058 23:16
CKAA					
QC SPIKE A QC	33.2	0.7	0.147	0.146 29Dec92	0.148 23:23
				%R = <u>110.8</u>	
CCV 1 QC	42.0	1.1	0.179	0.180 29Dec92	0.177 23:29
				%R = <u>105.0</u>	
CCB 1 QC	1.9	23.8	0.010	0.012 29Dec92	0.009 23:35
PBW				ABS = 0.008	
PBW 363 020 QC	2.8	2.8	0.015	0.015 29Dec92	0.015 23:42
PBWA					
QC SPIKE A QC	20.6	3.4	0.099	0.102 29Dec92	0.097 23:48
LCSW				%R = <u>89.0</u>	
LCSW 363 020 QC	52.7	2.1	0.215	0.218 29Dec92	0.211 23:54
LCSWA					
QC SPIKE A QC	75.8	2.1	0.279	0.283 30Dec92	0.275 00:01
				%R = 115.7	
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
FLDBL 1908355 QC	2.2	7.6	0.012	0.012 30Dec92	0.011 00:07
FLDBLA					
QC SPIKE A QC	22.5	3.4	0.107	0.104 30Dec92	0.109 00:14
				%R = <u>101.3</u>	
JAMES 1910242 QC	2.6	11.8	0.014	0.013 30Dec92	0.015 00:20
JAMESA					
QC SPIKE A QC	21.3	0.0	0.102	0.102 30Dec92	0.102 00:27
				%R = <u>93.5</u>	
JAMEF 1910243 QC	2.0	16.5	0.010	0.012 30Dec92	0.009 00:33
JAMEFA					
QC SPIKE A QC	21.3	5.4	0.102	0.106 30Dec92	0.098 00:40
				%R = <u>96.7</u>	

LANCASTER LABORATORIES

GFAA TL36403

DATE: DEC 30 1992

REVIEWER *PS Redfern*

X

X

X

X

X

9/11/92 12/30/92

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AR319521

SAMPLE CONC %RSD MEAN READINGS

pph ABS

CCV 2 42.6 1.5 0.181 0.179 0.183
 QC 30Dec92 00:46
 %R = 106.5

CCV 2 1.7 17.2 0.009 0.010 0.008
 QC 30Dec92 00:52
 ABS = 0.007

CHURC
 1910244 1.5 6.6 0.008 0.007 0.008
 QC CHURCA 30Dec92 00:59

QC SPIKE A 21.6 0.7 0.103 0.103 0.104
 QC 30Dec92 01:05
 %R = 100.8

CHURF
 1910245 2.7 14.7 0.014 0.013 0.016
 QC CHURFA 30Dec92 01:11

QC SPIKE A 11.6 99.7 0.060 0.106 0.014
 QC 30Dec92 01:18
 %R = 44.5

SAMPLE CONC <50% OF SPIKE CONCENTRATIO

FBLAN
 1910246 3.4 9.3 0.018 0.019 0.017
 QC FBLANA 30Dec92 01:24

QC SPIKE A 22.7 3.6 0.108 0.105 0.110
 QC 30Dec92 01:31
 %R = 96.3

MIDTI
 1910247 2.2 4.0 0.011 0.011 0.012
 QC MIDTIA 30Dec92 01:37

QC SPIKE A 21.6 4.8 0.103 0.100 0.107
 QC 30Dec92 01:44
 %R = 97.3

MIDFI
~~1910248~~ 1910248 ^{mg ③ 11/9/93} 1.9 26.8 0.010 0.012 0.008
 QC MIDFIA 30Dec92 01:50

QC SPIKE A 21.2 1.4 0.102 0.101 0.103
 QC 30Dec92 01:56
 %R = 96.8

CCV 3 43.0 0.9 0.182 0.183 0.181
 QC 30Dec92 02:03
 %R = 107.5

CCV 3 2.2 29.2 0.011 0.014 0.009
 QC 30Dec92 02:09
 ABS = 0.009

1910328 2.1 2.9 0.011 0.011 0.011
 QC 30Dec92 02:15

QC SPIKE A 22.1 3.6 0.105 0.102 0.108
 QC 30Dec92 02:22
 %R = 99.7

X

R

X

X

X

LANCASTER LABORATORIES
 QFAA TL 36403
 DATE: DEC 30 1992
 REVIEWER B. Lee (171)

SF

309
 AR319522

Varian SpectraAA 300/400
QC Protocol Report

OPERATOR RSR 171 2803 BD
DATE WED 30 DEC 1992
PATCH TL 9236501

QC PROTOCOL PARAMETERS

IF THERE IS AN ERROR STOP
QC SPIKE POSITION 52
RECOVERY LIMITS (%) 85 TO 115
RECOVERY MINIMUM LIMIT (%) 40
CORRELATION COEFFICIENT (r) 0.995
OVERRANGE VOLUME REDUCTION 1
REPLICATE RSD LIMIT (%) 100.0

LANCASTER LABORATORIES
INSTRUMENT ID #2803
BKG CORR: BD

PROGRAM 2 T1 CLP

INSTRUMENT MODE ABSORBANCE
CALIBRATION MODE CONCENTRATION
MEASUREMENT MODE PEAK AREA
LAMP POSITION 4
LAMP CURRENT (mA) 3
SLIT WIDTH (nm) 0.5
SLIT HEIGHT NORMAL
WAVELENGTH (nm) 276.8
SAMPLE INTRODUCTION SAMPLER AUTOMIXING
TIME CONSTANT 0.05
MEASUREMENT TIME (sec) 1.0
REPLICATES 2
BACKGROUND CORRECTION ON

FURNACE PARAMETERS

STEP NO.	TEMPERATURE (C)	TIME (sec)	GAS FLOW (L/min)	GAS TYPE	READ COMMAND
1	120	25.0	3.0	NORMAL	NO
2	220	15.0	3.0	NORMAL	NO
3	400	10.0	3.0	NORMAL	NO
4	700	15.0	3.0	NORMAL	NO
5	700	20.0	3.0	NORMAL	NO
6	100	3.0	3.0	NORMAL	NO
7	100	2.0	3.0	NORMAL	NO
8	100	2.0	0.0	NORMAL	NO
9	2400	1.3	0.0	NORMAL	YES
10	2400	2.0	0.0	NORMAL	YES
11	2400	0.5	3.0	NORMAL	NO
12	2400	4.0	3.0	NORMAL	NO
13	100	12.5	3.0	NORMAL	NO
14	100	5.0	3.0	NORMAL	NO

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AR319523

SAMPLER PARAMETERS
VOLUMES (fL)

	SOLUTION	BLANK	MODIFIER
BLANK	--	20	5
STANDARD 1	2	18	5
STANDARD 2	5	15	5
STANDARD 3	10	10	5
STANDARD 4	15	5	5
STANDARD 5	20	0	5
SAMPLE	20	0	5

RECALIBRATION RATE 0
RESLOPE RATE 0

MULTIPLE INJECT NO HOT INJECT YES PRE INJECT NO
 TEMPERATURE 95
 INJECT RATE 10

QC PROTOCOL PARAMETERS

QC STANDARD RATE 20
 QC INITIAL STANDARD POSITION 50
 QC INITIAL BLANK POSITION 51
 QC CONTINUING STANDARD POSITION 50
 QC CONTINUING BLANK POSITION 51
 QC STANDARD VOLUME (fL) 20
 QC STANDARD CONCENTRATION 40.0 ppb
 QC STANDARD LIMITS (%) 90 TO 110
 QC SPIKE RATE 1
 QC SPIKE VOLUME (fL) 4
 QC SPIKE CONCENTRATION 100.0 ppb
 MATRIX SPIKE CONCENTRATION 0.0 ppb
 INSTRUMENT DETECTION LIMIT 1.2 ppb
 REQUIRED DETECTION LIMIT 10.0 ppb

LANCASTER LABORATORIES
 GFAA TL 36501
 DATE: DEC 30 1992
 REVIEWER JAS 859

SAMPLE	CONC Ppb	%RSD	MEAN ABS	READINGS	
50 BLANK QC	0.0		-0.015	-0.014	-0.015
510				30Dec92	04:20
				CONCENTRATION LESS THAN IDL	
525 STANDARD 1 QC	10.0	0.7	0.041	0.041	0.040
				30Dec92	04:26
526 STANDARD 2 QC	25.0	4.2	0.104	0.101	0.107
				30Dec92	04:33
527 STANDARD 3 QC	50.0	0.0	0.189	0.189	0.189
				30Dec92	04:40
5100 STANDARD 4 QC	75.0	0.9	0.263	0.265	0.262
				30Dec92	04:46
STANDARD 5 QC	100.0	0.5	0.332	0.333	0.331
				30Dec92	04:53

DATA VERIFIED
 WITH AN X BY:

SAF809

AR319524

SAMPLE	CONC PPb	%RSD	MEAN ABS	READINGS	
ICV QC	39.3	0.3	0.157	0.157 30Dec92 %R =	0.157 04:59 98.3
ICB QC	-0.5	63.1	-0.002	-0.003 30Dec92 ABS =	-0.001 05:05 -0.006
CRA QC	10.6	7.9	0.043	0.046 30Dec92	0.041 05:12
CRAA QCSPITE A QC	29.8	1.7	0.123	0.122 30Dec92 %R =	0.125 05:18 96.0
CCV 1 QC	38.8	3.1	0.155	0.159 30Dec92 %R =	0.152 05:24 97.0
CCB 1 QC	0.1	99.9	0.000	0.002 30Dec92 ABS =	-0.001 05:31 -0.004
CHURF 1910245 QC	-0.4	99.9	-0.002	-0.006 30Dec92	0.002 05:37
CHURFA QCSPITE A QC	20.1	2.1	0.083	0.084 30Dec92 %R =	0.082 05:44 100.6
22CHM 1910328 QC	-0.3	5.3	-0.001	-0.001 30Dec92	-0.001 05:50
22CHMA QCSPITE A QC	19.9	5.5	0.082	0.086 30Dec92 %R =	0.079 05:57 99.7
22CHF 1910325 QC	-1.1	56.6	-0.004	-0.003 30Dec92	-0.006 06:03
22CFFA QCSPITE A QC	20.6	4.1	0.085	0.083 30Dec92 %R =	0.088 06:10 102.9
22SAL 1910330 QC	-0.2	0.0	-0.001	-0.001 30Dec92	-0.001 06:16
22SALA QCSPITE A QC	21.0	0.9	0.087	0.087 30Dec92 %R =	0.088 06:22 105.2

LANCASTER LABORATORIE
GFAA TL 30501
DATE: DEC 30 1992
REVIEWER JAS859

AR319525

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
22JLF 1910331 QC	-1.0	33.7	-0.004	-0.005	-0.003
				30Dec92 06:29	
				CONCENTRATION LESS THAN IDL	
22JLFA QCSPITE A QC	19.2	2.5	0.079	0.081	0.078
				30Dec92 06:35	
				%R =	96.0
				LANCASTER LABORATORIES	
				GFAA TL 3650T	
CCV 2 QC	38.8	0.9	0.155	0.154	0.156
				30Dec92 06:41	
				%R =	97.1
				DATE: DEC 30 1992	
				REVIEWER JAS859	
CCR 2 QC	-0.5	99.9	-0.002	-0.005	0.002
				30Dec92 06:48	
				ABS =	-0.006
				CONCENTRATION LESS THAN IDL	
22CHL 1910332 QC	-1.0	74.4	-0.004	-0.006	-0.002
				30Dec92 06:54	
				CONCENTRATION LESS THAN IDL	
22CHLA QCSPITE A QC	20.3	7.7	0.084	0.089	0.079
				30Dec92 07:01	
				%R =	101.6
1910333 QC	-1.7	10.7	-0.007	-0.007	-0.006
				30Dec92 07:07	
				CONCENTRATION LESS THAN IDL	
22CLFA QCSPITE A QC	19.5	0.2	0.081	0.081	0.081
				30Dec92 07:13	
				%R =	97.7
222222 FRW 364 022 QC	-0.6	55.5	-0.003	-0.002	-0.004
				30Dec92 07:20	
				CONCENTRATION LESS THAN IDL	
222222 QCSPITE A QC	19.4	3.9	0.080	0.082	0.078
				30Dec92 07:26	
				%R =	97.2
105W 344 022 QC	49.5	2.8	0.187	0.184	0.191
				30Dec92 07:32	
222222 QCSPITE A QC	70.4	1.9	0.250	0.247	0.253
				30Dec92 07:39	
				%R =	104.6
1910334 QC	-1.2	36.5	-0.005	-0.006	-0.004
				30Dec92 07:45	
				CONCENTRATION LESS THAN IDL	
222222 QCSPITE A QC	19.9	4.5	0.082	0.080	0.085
				30Dec92 07:52	
				%R =	99.7
CCV 3 QC	40.0	0.3	0.159	0.159	0.159
				30Dec92 07:58	
				%R =	99.9

AR319526

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
CCB 3 QC	-0.6	93.4	-0.002	-0.004	-0.001
				30Dec92 08:04	
				ABS = -0.007	
				CONCENTRATION LESS THAN IDL	
1910334D QC	-1.1	8.3	-0.005	-0.004	-0.005
				30Dec92 08:10	
				CONCENTRATION LESS THAN IDL	
QCSEITE A QC	19.1	0.4	0.079	0.078	0.079
				30Dec92 08:17	
				%R =	95.3
1910334E QC	53.0	0.6	0.198	0.199	0.197
				30Dec92 08:23	
QCSEITE A QC	72.9	1.9	0.257	0.261	0.254
				30Dec92 08:30	
				%R =	99.2
CCV 4 QC	40.1	0.2	0.160	0.160	0.159
				30Dec92 08:36	
				%R =	100.3
CCB 4 QC	-1.3	99.9	-0.005	-0.001	-0.010
				30Dec92 08:43	
				ABS = -0.010	
				CONCENTRATION LESS THAN IDL	

LANCASTER LABORATORY
GFAA TL36501
DATE: DEC 30 1992
REVIEWER JAS859

Varian SpectraAA 300/400
QC Protocol Report

OPERATOR JAS 859 2803 BD
DATE WED 30 DEC 1992
BATCH TL 9236603

QC PROTOCOL PARAMETERS

IF THERE IS AN ERROR STOP
QC SPIKE POSITION 52
RECOVERY LIMITS (%) 85 TO 115
RECOVERY MINIMUM LIMIT (%) 40
CORRELATION COEFFICIENT (r) 0.995
OVERRANGE VOLUME REDUCTION 1
REPLICATE RSD LIMIT (%) 100.0

PROGRAM 15 T1 SW 846

LANCASTER LABORATORIES
INSTRUMENT ID #2803
BKG CORR: BD

INSTRUMENT MODE ABSORBANCE
CALIBRATION MODE CONCENTRATION
MEASUREMENT MODE PEAK AREA
LAMP POSITION 4
LAMP CURRENT (mA) 3
SLIT WIDTH (nm) 0.5
SLIT HEIGHT NORMAL
WAVELENGTH (nm) 276.8
SAMPLE INTRODUCTION SAMPLER AUTOMIXING
TIME CONSTANT 0.05
MEASUREMENT TIME (sec) 1.0
REPLICATES 2
BACKGROUND CORRECTION ON

FURNACE PARAMETERS

STEP NO.	TEMPERATURE (C)	TIME (sec)	GAS FLOW (L/min)	GAS TYPE	READ COMMAND
1	220	25.0	3.0	NORMAL	NO
2	220	15.0	3.0	NORMAL	NO
3	400	10.0	3.0	NORMAL	NO
4	700	15.0	3.0	NORMAL	NO
5	700	20.0	3.0	NORMAL	NO
6	100	3.0	3.0	NORMAL	NO
7	100	2.0	3.0	NORMAL	NO
8	100	2.0	0.0	NORMAL	NO
9	2600	1.3	0.0	NORMAL	YES
10	2600	2.0	0.0	NORMAL	YES
11	2600	0.5	3.0	NORMAL	NO
12	2600	4.0	3.0	NORMAL	NO
13	100	12.5	3.0	NORMAL	NO
14	100	5.0	3.0	NORMAL	NO

315

AR319528

SAMPLER PARAMETERS
VOLUMES (fL)

	SOLUTION	BLANK	MODIFIER
BLANK	--	20	5
STANDARD 1	2	18	5
STANDARD 2	5	15	5
STANDARD 3	10	10	5
STANDARD 4	15	5	5
STANDARD 5	20	0	5
SAMPLE	20	0	5

RECALIBRATION RATE 0
RESIDUE RATE 0

MULTIPLE INJECT NO HOT INJECT YES PRE INJECT NO
 TEMPERATURE 95
 INJECT RATE 10

QC PROTOCOL PARAMETERS

QC STANDARD RATE 20
 QC INITIAL STANDARD POSITION 50
 QC INITIAL BLANK POSITION 51
 QC CONTINUING STANDARD POSITION 50
 QC CONTINUING BLANK POSITION 51
 QC STANDARD VOLUME (fL) 20
 QC STANDARD CONCENTRATION 40.0 ppb
 QC STANDARD LIMITS (%) 80 TO 120
 QC SPIKE RATE 1
 QC SPIKE VOLUME (fL) 4
 QC SPIKE CONCENTRATION 100.0 ppb
 MATRIX SPIKE CONCENTRATION 0.0 ppb
 INSTRUMENT DETECTION LIMIT 1.2 ppb
 REQUIRED DETECTION LIMIT 10.0 ppb

DATA VERIFIED
WITH AN X BY:

SOF
809

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
<i>SC</i> BLANK QC	0.0		-0.011	-0.013	-0.010
				31Dec92	10:46
				CONCENTRATION LESS THAN IDL	
<i>S10</i> STANDARD 1 QC	10.0	8.6	0.046	0.049	0.044
				31Dec92	10:53
<i>S25</i> STANDARD 2 QC	25.0	0.7	0.105	0.105	0.106
				31Dec92	11:00
<i>S75</i> STANDARD 3 QC	50.0	2.1	0.182	0.179	0.185
				31Dec92	11:07
<i>S100</i> STANDARD 4 QC	75.0	1.2	0.252	0.254	0.249
				31Dec92	11:13
STANDARD 5 QC	100.0	1.7	0.314	0.311	0.318
				31Dec92	11:20

LANCASTER LABORATO
GFAA TL 366
DATE: DEC 31 1992
REVIEWER *RDG 114*

316

AR319529

SAMPLE CONC %RSD MEAN READINGS

PPH ABS

TCV 40.6 1.0 0.156 0.157 0.155
QC 31Dec92 11:26
%R = 101.5

TCB 0.4 99.9 0.002 -0.001 0.005
QC 31Dec92 11:32
ABS = -0.001
CONCENTRATION LESS THAN IDL

CRA 9.7 7.1 0.045 0.047 0.043
QC 31Dec92 11:38

CLAA
QCSP11F A 30.6 1.9 0.125 0.126 0.123
QC 31Dec92 11:45
%R = 104.7

CCV 1 40.3 3.6 0.155 0.151 0.159
QC 31Dec92 11:51
%R = 100.8

LANCASTER LABORATORY
GFAA TL 36603

CCB 1 0.8 23.5 0.004 0.003 0.004
QC 31Dec92 11:58
ABS = 0.000
CONCENTRATION LESS THAN IDL

DATE: DEC 31 1992
REVIEWER RDG 114

PBW

PBW 365 021 -0.3 99.9 -0.002 -0.003 -0.000
QC 31Dec92 12:04
CONCENTRATION LESS THAN IDL

PBWA

QCSP11F A 20.4 3.0 0.088 0.090 0.086
QC 31Dec92 12:11
%R = 101.8

LSW

LCSW 365 021 47.0 1.3 0.174 0.175 0.172
QC 31Dec92 12:17

LCSWA

QCSP11F A 71.5 3.2 0.242 0.236 0.247
QC 31Dec92 12:24
%R = 122.8

ok RDG 114 12/21/92
~~%R FAILED, REPEAT BY STANDARD ADDITI~~

BRLT

1911801 -0.0 99.9 -0.000 -0.002 0.002
QC 31Dec92 12:30
CONCENTRATION LESS THAN IDL

BRLTA

QCSP11F A 20.1 3.0 0.087 0.089 0.085
QC 31Dec92 12:36
%R = 100.4

BRLTF

1911801 -0.3 99.9 -0.001 0.002 -0.004
QC 31Dec92 12:43
CONCENTRATION LESS THAN IDL

BRLTFA

QCSP11F A 18.9 7.8 0.083 0.078 0.087
QC 31Dec92 12:49
%R = 94.7

317

SAMPLE CONC %RSD MEAN READINGS

BRLTU
1911807
QC 1.0 8.2 0.005 0.005 0.004
31Dec92 12:56
CONCENTRATION LESS THAN IDL

BRLTUA
QCSEITE A
QC 19.7 1.2 0.086 0.085 0.086
31Dec92 13:02
%R = 98.5

CCV 2
QC 40.4 3.3 0.155 0.159 0.151
31Dec92 13:08
%R = 100.9

CCV 2
QC 0.3 37.0 0.001 0.001 0.002
31Dec92 13:15
ABS = -0.002
CONCENTRATION LESS THAN IDL

BRLUF
1911804
QC -0.1 99.9 -0.000 -0.001 -0.000
31Dec92 13:21
CONCENTRATION LESS THAN IDL

BRLUFA
QCSEITE A
QC 20.7 3.8 0.089 0.092 0.087
31Dec92 13:28
%R = 103.4

inc 213 11/24/93
~~BRLTUS~~ BRLTUS
1911805
QC 49.7 2.4 0.181 0.178 0.184
31Dec92 13:34

ZZZZZZ
QCSEITE A
QC 71.5 1.2 0.242 0.240 0.244
31Dec92 13:40
%R = 108.6

inc 213 11/24/93
~~BRLTUD~~ BRLTUD
1911806
QC 0.3 99.9 0.001 -0.001 0.003
31Dec92 13:47
CONCENTRATION LESS THAN IDL

inc 213 11/24/93
~~BRLTUDA~~ BRLTUDA
QCSEITE A
QC 20.4 1.0 0.088 0.089 0.088
31Dec92 13:53
%R = 101.9

BRLTF
1911807
QC 0.6 99.9 0.003 0.001 0.005
31Dec92 13:59
CONCENTRATION LESS THAN IDL

BRLTFA
QCSEITE A
QC 21.2 0.4 0.091 0.091 0.092
31Dec92 14:06
%R = 106.1

BRLTFB
1911808
QC -0.3 99.9 -0.001 -0.005 0.002
31Dec92 14:12
CONCENTRATION LESS THAN IDL

BRLTFBA
QCSEITE A
QC 19.6 9.2 0.085 0.080 0.091
31Dec92 14:19
%R = 98.2

CCV 2
QC 40.4 3.5 0.155 0.159 0.151
31Dec92 14:25
%R = 101.0

LANCASTER LABORATORIES
GFAA TL 36603

DATE: DEC 31 1992
REVIEWER: RDG 114

318
AR319531

SHIPLE	CONC pph	%RSD	MEAN ARS	READINGS		
CCB 3 QC	0.2	99.9	0.001	-0.000 31Dec92 14:31 ABS = -0.002	0.002 14:31	CONCENTRATION LESS THAN IDL
PBS 365 001 QC	-0.7	99.9	-0.003	-0.001 31Dec92 14:37 ABS = -0.002	-0.006 14:37	CONCENTRATION LESS THAN IDL
QCSP11F A QC	20.5	11.3	0.089	0.096 31Dec92 14:44 %R = 102.6	0.082 14:44	
LOSS 375 QC 1.03	8.5	3.4	0.039	0.038 31Dec92 14:50 %R = 124.0	0.040 14:50	
QCSP11F A QC	33.3	0.4 W	0.133	0.134 31Dec92 14:57 %R = 124.0	0.133 14:57	<i>ok RDC 114 12/31/92</i> SAMPLE CONC <50% OF SPIKE CONCENTRATI
1910405 QC 1.05	-0.8	56.7	-0.004	-0.005 31Dec92 15:03 CONCENTRATION LESS THAN IDL	-0.002 15:03	
QCSP11F A QC	20.2	4.7	0.087	0.090 31Dec92 15:10 %R = 100.9	0.085 15:10	
1910407D QC 1.06	-0.9	0.0	-0.004	-0.004 31Dec92 15:16 CONCENTRATION LESS THAN IDL	-0.004 15:16	
QCSP11F A QC	18.8	2.6	0.082	0.084 31Dec92 15:23 %R = 93.9	0.081 15:23	
1910409F QC 1.05	40.6	2.2	0.156	0.153 31Dec92 15:29 %R = 112.4	0.158 15:29	
QCSP11F A QC	63.1	1.3	0.219	0.217 31Dec92 15:36 %R = 101.9	0.220 15:36	
CCV 4 QC	40.7	1.2	0.156	0.155 31Dec92 15:42 %R = 101.9	0.158 15:42	
CCB 4 QC	-0.3	99.9	-0.001	0.001 31Dec92 15:48 ABS = -0.005	-0.003 15:48	CONCENTRATION LESS THAN IDL
1910708 QC 1.02	-1.3	68.5	-0.006	-0.009 31Dec92 15:55 CONCENTRATION LESS THAN IDL	-0.003 15:55	

LANCASTER LABORATORIES
GFAA TL 36603
DATE: DEC 31 1992
REVIEWER ADG 114

AR319532

MERCURY DATA

320
AR319533

Varian SpectraA 10/20 System Report

LANCASTER LABORATORIES
CV HG3648
DATE: DEC 29 1992
ANALYST: KRALL

OPERATOR 339 3998
DATE 12 29 92
BATCH NO. 0821 0494

LANCASTER LABORATORIES
INSTRUMENT ID # 3918
BKG CORR: BD

PROGRAM 29 Hg

DATA VERIFIED
WITH AN X BY: *Bm 44*
12/29/92

INSTRUMENT MODE	ABSORBANCE
CALIBRATION MODE	CONCENTRATION
MEASUREMENT MODE	INTEGRATION
LAMP POSITION	1
LAMP CURRENT (mA)	4
SLIT WIDTH (nm)	0.5
WAVELENGTH (nm)	253.7
FLAME	AIR-ACETYLENE
SAMPLE INTRODUCTION	AUTO NORMAL
DELAY TIME	75
TIME CONSTANT	0.05
MEASUREMENT TIME (sec)	3.0
REPLICATES	3
BACKGROUND CORRECTION	ON

== 321

AR319534

RINSE RATE 1
 RINSE TIME (sec) 10.0
 RECALIBRATION RATE 0
 RESLOPE RATE 0

LANCASTER LABORATORIES
 CV HG 348
 DATE: DEC 29 1992
 ANALYST: *[Signature]*

LANCASTER LABORATORIES
 INSTRUMENT ID # 3998
 BKG CORR: BD

SAMPLE	CONC	%RSD	MEAN	READINGS		
	UNITS µG/L		ABS			
50.00 BLANK	0.00		0.002	0.002	0.002	0.003 <i>Starting-time 10:30</i>
50.20 STANDARD 1	0.20	11.2	0.005	0.005	0.005	0.004
50.50 STANDARD 2	0.50	3.3	0.012	0.011	0.011	0.012
51.00 STANDARD 3	1.00	0.9	0.024	0.024	0.024	0.024
52.50 STANDARD 4	2.50	0.3	0.060	0.060	0.060	0.060
55.00 STANDARD 5	5.00	0.3	0.122	0.122	0.122	0.122
2.50 ICB	2.44	0.4	0.059	0.059	0.058	0.059
0.00 ICB	-0.01	99.9	-0.000	0.000	-0.000	-0.001
0.20 CBA	0.17	3.6	0.004	0.004	0.004	0.004
1.00 CCV	0.99	1.3	0.024	0.024	0.024	0.024
0.00 CCB	-0.01	82.9	-0.000	-0.000	-0.000	-0.000
<i>ZZZZZZ</i> 0.00 CCB	-0.02	52.3	-0.001	-0.000	-0.001	-0.001
<i>ZZZZZZ</i> 1 IDL #1	0.05	32.9	0.001	0.001	0.001	0.002
<i>ZZZZZZ</i> 2 IDL #2	0.06	8.2	0.001	0.001	0.002	0.002
<i>ZZZZZZ</i> 3 IDL #3	0.05	8.2	0.001	0.001	0.001	0.001
<i>ZZZZZZ</i> 4 IDL #4	0.07	19.4	0.002	0.001	0.001	0.002
<i>ZZZZZZ</i> 5 IDL #5	0.07	3.7	0.002	0.002	0.002	0.002
<i>ZZZZZZ</i> 6 IDL #6	0.05	16.3	0.001	0.001	0.001	0.001
<i>ZZZZZZ</i> 7 IDL #7	0.05	24.9	0.001	0.001	0.001	0.002
1.00 CCV	1.00	0.6	0.024	0.024	0.024	0.024
0.00 CCB	-0.01	99.9	-0.000	-0.001	-0.000	-0.000
X3630821001 PBW	-0.03	42.6	-0.001	-0.000	-0.001	-0.001
X3630821001.1CSV	0.96	1.9	0.023	0.022	0.023	0.023

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AR319535

LANCASTER LABORATORIES
CV HG364B

DATE: DEC 29 1992

ANALYST: *TRJ*

LANCASTER LABORATORIES
INSTRUMENT ID #

BKG CORR: BD 3998

SAMPLE	CONC	%RSD	MEAN	READINGS		
	UNITS		ABS			
	UG/L					
X FLDBL 1908355	0.03	82.7	0.001	0.001	0.001	0.000
X JAMES 1910242	-0.01	99.9	-0.000	-0.000	-0.001	0.000
X JAMEF 1910243	-0.02	19.8	-0.001	-0.000	-0.001	-0.001
X CHURC 1910244	-0.02	12.5	-0.000	-0.000	-0.001	-0.000
X CHURE 1910245	-0.02	42.1	-0.001	-0.000	-0.000	-0.001
X FBLAN 1910246	-0.01	0.0	-0.000	-0.000	-0.000	-0.000
X MIDTI 1910247	-0.03	42.2	-0.001	-0.001	-0.001	-0.001
X MIDFI 1910248	-0.03	87.5	-0.001	-0.000	-0.000	-0.001
1.00CCV	1.00	1.5	0.024	0.024	0.024	0.024
0.00CCB	-0.01	99.9	-0.000	-0.001	0.000	-0.001
X 22CHM 1910328	0.01	99.9	0.000	-0.000	0.000	0.000
X 22CMF 1910329	-0.00	99.9	-0.000	0.000	-0.000	-0.000
X 22JAL 1910330	-0.01	99.9	-0.000	-0.001	0.000	-0.000
X 22JLF 1910331	-0.03	51.1	-0.001	-0.001	-0.000	-0.001
X 22LHL 1910332	0.02	93.5	0.001	0.001	0.000	0.000
X 22CLF 22CLF $\frac{1}{2}$ @ 1/12/93 1910333	-0.01	99.9	-0.000	-0.000	0.000	-0.001
CCV.	0.99	1.4	0.024	0.024	0.023	0.024
CCB.	-0.02	99.9	-0.000	-0.000	-0.001	0.000
	-0.05	32.0	-0.001	-0.002	-0.001	-0.001

223
AR319536

Varian SpectrAA 10/20 System Report

LANCASTER LABORATORIES
CV HG 366a
DATE: DEC 31 1992
ANALYST: *Jacqueline Nostelle*

OPERATOR 049 3998
DATE 12 31 92
BATCH NO. 0821 0494

LANCASTER LABORATORIES
INSTRUMENT ID # 3998
BKG CORR: BD

PROGRAM 29 Hg

DATA VERIFIED
WITH AN X BY: *NKG/59*
12/31/92

INSTRUMENT MODE	ABSORBANCE
CALIBRATION MODE	CONCENTRATION
MEASUREMENT MODE	INTEGRATION
LAMP POSITION	1
LAMP CURRENT (mA)	4
SLIT WIDTH (nm)	0.5
WAVELENGTH (nm)	253.7
FLAME	AIR-ACETYLENE
SAMPLE INTRODUCTION	AUTO NORMAL
DELAY TIME	75
TIME CONSTANT	0.05
MEASUREMENT TIME (sec)	3.0
REPLICATES	3

324
AR319537

BACKGROUND CORRECTION ON
 RINSE RATE 1
 RINSE TIME (sec) 10.0
 RECALIBRATION RATE 0
 RESLOPE RATE 0

LANCASTER LABORATORIES
 CV HG 366a
 DATE: DEC 31 1992
 ANALYST: Jacqueline

LANCASTER LABORATORIES
 INSTRUMENT ID # 3998
 BKG CORR: BD

SAMPLE	CONC	%RSD	MEAN	READINGS		
	UNITS UG/L		ABS			
[3.00] BLANK	0.00		0.001	0.001	0.001	0.001
[3.20] STANDARD 1	0.20	4.6	0.005	0.005	0.005	0.005
[3.50] STANDARD 2	0.50	0.5	0.012	0.012	0.012	0.012
[31.00] STANDARD 3	1.00	2.0	0.025	0.024	0.025	0.025
[32.50] STANDARD 4	2.50	0.5	0.061	0.062	0.061	0.062
[35.00] STANDARD 5	5.00	0.5	0.124	0.123	0.124	0.124
2.50 ICV	2.56	0.4	0.063	0.063	0.063	0.063
0.00 ICB	0.04	16.7	0.001	0.001	0.001	0.001
0.20 CRA	0.19	1.7	0.005	0.005	0.005	0.005
1.00 CCV	1.00	0.0	0.025	0.025	0.025	0.025
0.00 CCB	0.01	99.9	0.000	-0.000	0.000	0.001
X 22222 365082100278w	0.02	82.0	0.000	0.001	0.000	0.000
X 222222 3650821002.1w	1.00	1.4	0.025	0.025	0.024	0.025
X 222222 1910773	0.07	19.3	0.002	0.002	0.001	0.002
X 222222 1910774	0.04	38.4	0.001	0.001	0.001	0.001
X 222222 1910774.1 D	0.02	63.2	0.001	0.001	0.001	0.000
X 222222 1910774.2 R	1.00	0.3	0.025	0.025	0.025	0.025
X 222222 1910775	0.06	26.2	0.001	0.002	0.001	0.001
X 222222 1910776	0.03	36.9	0.001	0.001	0.001	0.001
X 222222 1910777	0.04	34.1	0.001	0.001	0.001	0.001
X 222222 1910778	0.04	14.2	0.001	0.001	0.001	0.001
1.00 CCV	1.01	0.9	0.025	0.025	0.025	0.025

Start time:
0915

325

AR 319538

LANCASTER LABORATORIES

CV HG 3lela

DATE: DEC 31 1992

ANALYST: Jacqueline Hatlet

LANCASTER LABORATORIES

INSTRUMENT ID # 3998

BKG CORR: BD

SAMPLE	CONC UNITS UG/L	%RSD	MEAN ABS	READINGS			
X 1910779	0.05	40.9	0.001	0.002	0.001	0.001	
X 1910780	0.04	19.0	0.001	0.001	0.001	0.001	
X 1910781	0.04	25.5	0.001	0.001	0.001	0.001	
X 1910782	0.04	30.8	0.001	0.001	0.001	0.001	
X 1910783	0.04	13.3	0.001	0.001	0.001	0.001	
X 1910784	0.03	18.9	0.001	0.001	0.001	0.001	
X 1910785	0.39	2.3	0.010	0.010	0.010	0.010	Field Blank. Retested in duplicate for confirmation DKG/59 12/31/92
X 1910787	0.04	28.7	0.001	0.001	0.001	0.001	
X 1910788	0.04	9.5	0.001	0.001	0.001	0.001	
X 1910789	0.05	0.0	0.001	0.001	0.001	0.001	
1.00 CCV	0.99	3.3	0.024	0.024	0.024	0.025	
0.00 CC3	0.01	32.4	0.000	0.000	0.000	0.000	
X 1910790	0.02	51.6	0.000	0.000	0.000	0.001	
X 1910791	0.03	43.2	0.001	0.001	0.001	0.001	
X 1910792	0.05	24.9	0.001	0.001	0.001	0.002	
X 1910793	0.03	13.6	0.001	0.001	0.001	0.001	
X 3650821003 PBW	0.03	0.0	0.001	0.001	0.001	0.001	
X 3650821003.1 LCSW	0.97	1.3	0.024	0.024	0.024	0.024	
X 1911821 BRILT	0.03	35.8	0.001	0.001	0.001	0.001	
X 1911822 BRLTF	0.04	6.7	0.001	0.001	0.001	0.001	226
X 1911824 BRLUF	0.03	42.3	0.001	0.001	0.000	0.001	
X 1911827 BRHTF	0.03	7.9	0.001	0.001	0.001	0.001	
1.00 CCV	1.03	0.3	0.025	0.025	0.025	0.026	AR319539

Y 1911823 ^{ONLIU} 0.03 0.0 0.001 0.001 0.001 0.001
~~X~~ ~~BRHMS~~ ~~BRLTUS~~
 1911825 R 0.98 1.4 0.024 0.024 0.025 0.024
~~X~~ ~~BRHFD~~ ~~BELOW~~
 1911826 D 0.04 19.8 0.001 0.001 0.001 0.001
 BRIFB
 1911828 0.03 46.2 0.001 0.000 0.001 0.001
ZZZZZZ
~~X~~ 3650494001 ^{AB} 0.00 99.9 0.000 0.000 -0.000 0.000
ZZZZZZ ^{KSS. 241}
~~X~~ 3650494001 /10 0.87 0.9 0.021 0.022 0.021 0.021
ZZZZZZ ^{.226}
~~X~~ 1911399 0.06 23.6 0.002 0.001 0.002 0.001
ZZZZZZ ^{.260}
~~X~~ 1911399.1 D 0.04 55.7 0.001 0.000 0.001 0.001
ZZZZZZ ^{.208}
~~X~~ 1911399.2 R 0.87 0.5 0.022 0.022 0.022 0.022
ZZZZZZ
~~X~~ 3650494002 ^{PBS} 0.00 99.9 0.000 -0.000 0.000 -0.000
 1.00 CV 0.98 1.0 0.024 0.024 0.024 0.025
 0.00 CVB 0.02 59.2 0.001 0.001 0.000 0.000
 3650494002.1 ¹²⁵ ^{KSS} 1.83 0.6 0.045 0.045 0.045 0.045
~~X~~ 1910197 ^{.262} 0.07 13.1 0.002 0.002 0.002 0.002
~~X~~ 1910197.1 D ^{.231} 0.03 47.7 0.001 0.001 0.001 0.001
~~X~~ 1910197 /25 R ^{.283} 1.82 1.7 0.045 0.044 0.045 0.046
 1.00 CV 1.07 0.9 0.026 0.027 0.026 0.026
 0.00 CVB 0.03 66.4 0.001 0.000 0.001 0.001

UNITS
UG/L

LANCASTER LABORATORIES
 CV HG 366e
 DATE: DEC 31 1992
 ANALYST: *Jacqueline*
H. H. H.

LANCASTER LABORATORIES
 INSTRUMENT ID # 3998
 BKG CORR: BD

327

AR319540

EXTRACTION/DISTILLATION/DIGESTION LOGS

258

AR319541

CLP WATER DIGESTION LOGBOOK

Batch # 92363 848 002

Sample No.	T	Initial Vol (ml)	Final Vol (ml)	EPA Number	SDG Number	Date	Init.
1908355	1	100	100	FEDAL	CR1023	10/28/86	S-523
1910242	1			JAMES	CR103		
1910243	1			JAMES			
1910244	1			CHUCK			
1910245	1			CHURF			
1910246	1			FABIAN			
1910247	1			MIDI			
1910248	1			MIDI			
1910328	1			22CHM			
1910329	1			22CMF			
1910330	1			22JAL			
1910331	1			22JLF			
1910332	1			22CAL			
1910333	1			22CLF			
Blank							

Sample Number	Spike Information				
	Sol. ID	1	2	3	4
	LCJ	228C	235E	309A	343B
		2.0ml			

329

"Two Copies"

Digest Type 1818 IC METHS COC (V/N) N

Digest Delivered
Digest Received

	Before			After			Notes
	Color	Clarity	Color	Clarity	Color		
1	CL	CR	CL	CR	CL	CR	CLP 00 RINT FIELD BANK
2	CL	CY	CL	CY	CL	CY	HIGH TIDE
3							
4							
5							
6	CL	CR	CL	CR	CL	CR	FIELD BANK
7	CL	CY	CL	CY	CL	CY	MID TIDE
8							
9							
10							
11							LOW TIDE
12							
13							
14							
15							
16							
17							
18							
19							
20							
Dup.							
Sp.							
Bl.							

Sample Number	Spike Information		Notes	Date	Init
	Sol. ID	Vol. Added			
6				10/28/86	SC
7				10/28/86	SC
8					

CLP WATER DIGESTION LOGBOOK

Batch # 92363 10 020
TRB
TR 12/28/92

"Two copies"

TRB
7/5 12/28/92

Digest Type 1056 H. Juranac COC (Y/N) A Digest Delivered Digest Received

Sample No.	T	Initial Vol (ml)	Final Vol (ml)	EPA Number	SDG Number	Date	Init.
1	1908255	100	100	FLDBC	CRT03	12/28/92	TR 715
2	1910242	100	100	JAMES	CRT03		
3	0243			JAMEF			
4	0244			CHURC			
5	0245			CHURF			
6	0246			FBLAN			
7	0247			MIDIT			
8	0248			MIDFI			
9	1910249	100	100				
10	1910328	100	100	22CHM	CRT03	12/28/92	TR 715
11	0329			22CMF			
12	0330			22JAL			
13	0331			22JLF			
14	0332			22CHL			
15	0333			22CLF			
16							
17							
18							
19							
20							
Dup.							
spike							
Blank		100	100				12/28/92 TR 715

Sample Number	Spike Information					
	Sol. ID	1	2	3	4	5
LCS						
	Lot. No.					
	Vol. Added					
	Lot. No.					
	Vol. Added					

	Before		After		Notes
	Color	Clarity	Color	Clarity	
1					Field Blank Clp (OP) Rush
2					High Tide Rush
3					
4					
5					
6					Field Blank
7					Mid Tide
8					
9					
10					Mid Tide Clp (OP) Rush
11					
12					Low Tide
13					
14					
15					
16					
17					
18					
19					
20					
Dup					
Spi					
Blk					H # 9

	Before		After		Notes	Date	Init
	Color	Clarity	Color	Clarity			
6						12/28/92	TR 715
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
Dup							
Spi							
Blk							

CIP WATER DIGESTION LOGBOOK

Batch # 9 2 3 7 5 1 0 5 6 0 2 1

Digest Type Insipitate Rush COC (Y/N) N Digest Delivered _____
 Digest Received _____

Sample No.	T	Initial Vol (ml)	Final Vol (ml)	EPA Number	SDG Number	Date	Init.
1	1911821	100	100	BRLTL	CR703	12/30/92	RR
2	1911822			BRLTF			
3	1911823			BRLTL			
4	1911824			BRLUF			
5	1911827			BRLTF			
6	1911825			BRLFB			
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
Dup.	1911826	100	100	BRLTF	CR703	12/30/92	RR
Spike	1911825			BRLTF-5			
Blank	Blank			BRLTF-5			

8/13 @ 11/2/93

Sample Number	Spike Information				
	Sol. ID	Lot. No.	Vol. Added	Lot. No.	Vol. Added
1911825					
LC5					

	Before		After		Notes
	Color	Clarity	Color	Clarity	
1					CLP DP Rush
2					
3					BK
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Dup.					M. Dup CLP DP Rush
Spike					M. Spike CLP DP Rush
Blank					

	Before		After		Notes	Date	Init
	Color	Clarity	Color	Clarity			
6						12/30/92	RR
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

CLP WATER DIGESTION LOGBOOK

Batch # 9 2 3 6 3 0 8 2 1 0 0 1

Two copies

Digest Type As21 Mercury COC (Y/N) ✓ Digest Delivered _____ Digest Received _____

Sample No.	T	Initial Vol (ml)	Final Vol (ml)	EPA Number	SDG Number %	Date	Init.
1908355		100	100	FLDBL	CRT023	2/28/92	TR 715
1910242				JAMES	CRT03		
0243				JAMEF			
0244				CHUC			
0245				CHRF			
0246				FBLAN			
0247				MIDTI			
0248				MIPFI			
0328				22CHM			
0329				22CMF			
0330				22JAL			
0331				22JLF			
0332				22CHL			
0333				22CLF			
Blank		100	100				TR 715

Sample Number	Spike Information					
	Sol. ID	1	2	3	4	5
LCS						
Z						

	Before		After		Notes
	Color	Clarity	Color	Clarity	
1					cp 02 Field Blank
2					HIGH TIDE
3					
4					
5					Field Blank
6					MID TIDE
7					
8					
9					
10					Low Tide
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Dup					
Spi					
Bla					

Sample Number	Notes			Date	Init
	6	7	8		
267w				2/28/92	TR 715
1st-Inst-018					

AR319546

CIP WATER DIGESTION LOGBOOK

Batch # 9 2 3 7 5 0 8 2 1 0 0 3

Digest Type Mercury Rush COC (V/N) N Digest Delivered _____
Digest Received _____

Sample No.	T	Initial Vol (ml)	Final Vol (ml)	EPA Number	SDG Number	Date	Init.
1	1911821	100	100	BRILT	CR703	12/30/92	KER
2	1911822			BRLTF			
3	1911823			BRLTU			
4	1911824			BRLLF			
5	1911827			BRHTF			
6	1911828			BRIFB			
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
Dup.	1911826	100	100	BRHTD	CR703	12/30/92	KER
Spike	1911825			BRHTM			
Blank	Blank			BRHTUS			

Sample Number	Spike Information				
	Sol. ID	1	2	3	4
1911825					
LC5					

	Before		After		Notes
	Color	Clarity	Color	Clarity	
1					CLIP (DP) Rush
2					
3					BKs
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Dup.					M. Dup. CLIP (DP) Rush
Spike					M. Spike ↓
Blank					

Sample Number	Notes		Date	Init
	6	7		
2872			12/30/92	KER
1911825				633
LC5				

PR319547 334

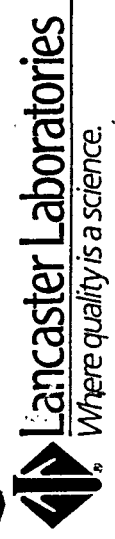
CHAIN-OF-CUSTODY RECORD

335
AR319548

Analysis Request/Environmental Services

Chain of Custody

Check # 1911821-28
1911840-47



Cooler # 4182

Please print. Instructions on reverse side correspond with circled numbers.

Client: <u>Dupont Environmental Remediation Ser.</u> Acct. #: _____ Project Name #: _____ Project Manager: <u>Joel Karmazino</u> P.O. #: _____ Sampler: <u>B. Cords</u> Quote #: _____		For LLI use only FSC: _____ SCR #: <u>DUP9100</u>							
Sample Identification	Date Collected	Time Collected	Grab	Matrix			Total # of Containers	Analyses Requested	Remarks
				Soil	Water	Other			
Churchmans Road (Low Tide)	12-29-92	11:05	✓	✓	✓	2	✓	✓	Total Metals Dissolved Metals
James Street Bridge Field Blank		12:12	✓	✓		1	✓		
James Street Bridge (Mid Tide)		12:51	✓	✓		2	✓		
Churchmans Road (Mid Tide)		13:15	✓	✓		2	✓		The temperature of the cooler samples receipt was 2.2C
Churchmans Road (High Tide)		16:10	✓	✓		2	✓		VAD 12-30-92
Turnaround time requested (please circle): Normal <input type="radio"/> Rush <input type="radio"/> (Rush TAT is subject to LLI approval and surcharge.)				Relinquished by: <u>JNO M. WILK</u> Date: <u>12-29-92</u> Time: <u>1000</u>					
Rush results requested by (please circle): _____ Fax: _____ Fax #: _____ Phone: _____ Phone #: _____				Relinquished by: <u>Brian Galt</u> Date: <u>12-29-92</u> Time: <u>1700</u>					
Data package options (please circle if requested): QC Summary <input type="checkbox"/> Site-specific QC required? Yes <input type="checkbox"/> No <input type="checkbox"/> Tier I (NJ) <input checked="" type="checkbox"/> (If yes, indicate QC sample and submit triplicate volume.) Tier II (NJ) <input checked="" type="checkbox"/> EPA CLP <input checked="" type="checkbox"/> Data Package Chain of Custody required? Yes <input type="checkbox"/> No <input type="checkbox"/>				Relinquished by: _____ Date: _____ Time: _____					
				Relinquished by: <u>T. DiCiccio</u> Date: <u>12-30-92</u> Time: _____					

Analysis Request/Environmental Services



Lancaster Laboratories
Where quality is a science.

Chain of Custody
11 Oct 11 19 11 24 21 -
3656 IF 19 11 840 47
Cooler # N 4242

Please print. Instructions on reverse side correspond with circled numbers.

Client: Dyfont Environmental Remediation Serv Acct. #: _____

Project Name #: _____

Project Manager: Joel Karmazine P.O. #: _____

Sampler: B. Cords Quote #: _____

Sample Identification	Date Collected	Time Collected	Grab	Matrix			Total # of Containers	Analyses Requested	For LLI use only FSC: SCR #: <u>043960</u>	Remarks
				Soil	Water	Other				
<u>James Street Bridge (Low Tide)</u>	<u>12-29-92</u>	<u>1031</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<u>2</u>	<u>Total Metals</u>			
<u>James Street Bridge (High Tide)</u>	<u>1515</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<u>6</u>	<u>Dissolved Metals</u>		<u>No temperature of the samples taken receipt dated 12 C VAD 12-30-92</u>	

Relinquished by: _____ Date: _____ Time: _____

Relinquished by: Julio M. Wild Date: 12-29-92 Time: 10:00

Relinquished by: Brian Galt Date: 12-29-92 Time: 17:00

Relinquished by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____

Relinquished by: J. DiBryano Date: 12-30-92 Time: _____

Turnaround time requested (please circle): Normal Rush

(Rush TAT is subject to LLI approval and surcharge.)

Rush results requested by (please circle):

Fax #: _____
Phone #: _____

Data package options (please circle if requested):

QC Summary Yes No
 Site-specific QC required? Yes No
 (If yes, indicate QC sample and submit triplicate volume.)
 Tier I (NJ)
 Tier II (NJ)
 EPA CLP Yes No
 Data Package Chain of Custody required? Yes No

ANALYSIS REQUEST/ENVIRONMENTAL SERVICES

3656 Chain of Custody
 1908350 + 59
 1908335 - 40



Please print. Instructions on reverse side correspond with circled numbers.

1 Client: DuPont Acct. #: _____
 Project Name/#: CHRISTINA RIVER TIDAL SWAY
 Project Manager: Joel Kaemazyn P.O. #: _____
 Sampler: S. Noethy / D. Bacon Quote #: _____

5 Analyses Requested: _____
 6 For LLI use only
 FSC: _____
 SCR #: 1043920

2 Sample Identification	3 Date Collected	Time Collected	4 Matrix	5	6	7	8	
							Turnaround Time	Remarks
Sr. James St. Bridge - High Tide	12/17/92	610	✓	✓	✓	2	Normal	
Churchman's Roads - High Tide		645	✓	✓	✓	2	Normal	
Sr. James St. Bridge - Mid Tide		930	✓	✓	✓	2	Normal	
Sr. James St. Bridge - Duplicate Mid Tide		930	✓	✓	✓	2	Normal	
Sr. James St. Bridge - Material Spike Mid Tide		930	✓	✓	✓	1	Normal	
Churchman's Roads - Mid Tide		1000	✓	✓	✓	2	Normal	
Field Blank		955	✓	✓	✓	1	Normal	
Sr. James St. Bridge - Low Tide		1300	✓	✓	✓	2	Rush	Temp. of water upon receipt: 5°C
Churchman's Roads - Low Tide		1340	✓	✓	✓	2	Rush	12/18/92 ON

9	Relinquished by	Date	Time	Received by	Date	Time
1	J. M. T. T. T.	12/17/92	1500	J. M. T. T. T.	12/18/92	1200
2	S. Noethy	12/18/92	1500	S. Noethy	12/18/92	0855

Turnaround time requested (please circle): Normal Rush
 (Rush TAT is subject to LLI approval and surcharge.)
 Rush results requested by (please circle):
 Fax # _____ Phone # _____
 Data package options (please circle if requested):
 QC Summary: 340
 Site-specific QC required? Yes No
 (If yes, indicate QC sample and submit triplicate volume.)
 Data Package Chain of Custody required? Yes No