This document was too large to scan as a whole document, therefore it required breaking into smaller sections.

DOCUMENT NUMBER: SD-WM-DP-179

SECTION 6 OF 10

TITLE: Final Report for Tank 241-S-102 Push Mode Cores 125 & 130
[Pages 1510 thru 1818]

DATE: 7/12/96

ORIGINATOR: Fritts L L

CO: WHC

RECIPIENT:

CO:

REFERENCES: ECN-633302

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001150 Date: 04/23/96 Time: 10:54:51

Sample Size = 1 uL .1527g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	3.90	92.31
3	1.50	47.20	91.74
4	2.00	173.90	72.86
5	2.50	296.70	41.39
6	3.00	376.70	21.24
7	3.50	425.20	11.41
8	4.00	452.70	6.07
9	4.50	470.90	3.86
10	5.00	482.90	2.48
11	5.50	492.90	2.03
12	6.00	502.20	1.85
13	6.50	511.10	1.74
14	7.00	518.70	1.47
15	7.50	524.50	1.11
16	8.00	529.20	0.89
17	8.50	532.90	0.69
18	9.00	536.20	0.62
19	9.50	539.10	0.54
20	10.00	541.70	0.48
21	10.50	543.50	0.33
22	11.00	545.60	0.38

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(545.6 - 9.240563)(1)/(1) = +5.364E+02 g/L Carbon
(545.6 - 9.240563)(1)/(1)(12) = +4.470E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{536.4}{.1527g} = 3.513^{E3}$

1510

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001150 Date: 04/23/96 Time: 11:06:58

Sample Size = 1 uL .1527g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	21.90	90.87
3	1.51	108.30	79.78
4	2.00	238.60	54.61
5	2.50	336.10	29.01
6	3.00	374.30	10.21
7	3.50	388.60	3.68
8	4.00	396.00	1.87
9	4.50	401.00	1.25
10	5.00	404.70	0.91
11	5.50	407.70	0.74
12	6.00	410.20	0.61
13	6.50	412.80	0.63
14	7.00	414.50	0.41
15	7.50	416.20	0.41
16	8.00	417.40	0.29
17	8.50	418.80	0.33
18	9.00	419.90	0.26
19	9.50	420.90	0.24
20	10.00	421.80	0.21
21	10.50	422.80	0.24
22	11.00	423.60	0.19

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(423.6 - 21.0079)(1)/(1) = +4.026E+02 g/L Carbon
(423.6 - 21.0079)(1)/(1)(12) = +3.355E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{402.6}{.1527g} = 2.637^{E3}$

1511

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1150 DUP Date: 04/23/96 Time: 11:33:03

Sample Size = 1 uL .1720g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	3.60	86.11
3	1.50	30.50	88.20
4	2.00	119.10	74.39
5	2.50	265.50	55.14
6	3.01	379.10	29.97
7	3.51	449.30	15.62
8	4.00	488.40	8.01
9	4.50	511.20	4.46
10	5.00	526.80	2.96
11	5.50	538.70	2.21
12	6.00	548.00	1.70
13	6.50	555.60	1.37
14	7.00	561.90	1.12
15	7.50	567.20	0.93
16	8.00	571.60	0.77
17	8.50	575.30	0.64
18	9.00	578.50	0.55
19	9.50	581.10	0.45
20	10.00	583.80	0.46
21	10.50	585.90	0.36
22	11.00	587.60	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(587.6 - 9.240563)(1)/(1) = +5.784E+02 g/L Carbon
(587.6 - 9.240563)(1)/(1)(12) = +4.820E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{538.4}{.1720g} = 3.363^{E3}$

1512

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1150 DUP Date: 04/23/96 Time: 11:45:04

Sample Size = 1 uL .1720g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.60	0.00
2	1.00	34.30	92.42
3	1.50	134.20	74.44
4	2.00	275.90	51.36
5	2.50	370.40	25.51
6	3.00	408.20	9.26
7	3.50	423.40	3.59
8	4.00	430.80	1.72
9	4.50	435.70	1.12
10	5.00	439.80	0.93
11	5.50	442.90	0.70
12	6.00	445.50	0.58
13	6.50	447.60	0.47
14	7.00	449.50	0.42
15	7.50	451.30	0.40
16	8.00	452.90	0.35
17	8.50	454.20	0.29
18	9.00	455.50	0.29
19	9.50	456.70	0.26
20	10.00	457.60	0.20
21	10.50	458.70	0.24
22	11.00	459.60	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(459.6 - 21.00569)(1)/(1) = +4.386E+02 g/L Carbon
(459.6 - 21.00569)(1)/(1)(12) = +3.655E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{438.6}{.1720g} = 2.550^{E3}$

1513

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1150 SPIKE Date: 04/23/96 Time: 11:58:39

Sample Size = 1 uL .1672g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	21.80	95.41
3	1.50	204.30	89.33
4	2.00	428.90	52.37
5	2.50	596.50	28.10
6	3.00	703.50	15.21
7	3.50	764.50	7.98
8	4.00	797.90	4.19
9	4.50	817.10	2.35
10	5.00	830.10	1.57
11	5.50	840.40	1.23
12	6.00	848.50	0.95
13	6.50	855.10	0.77
14	7.00	861.00	0.69
15	7.50	865.60	0.53
16	8.00	869.70	0.47
17	8.50	873.20	0.40
18	9.00	876.30	0.35
19	9.50	878.90	0.30
20	10.00	881.10	0.25
21	10.50	883.20	0.24
22	11.00	885.10	0.21

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(885.1 - 9.240563)(1)/(1) = +8.759E+02 g/L Carbon
(885.1 - 9.240563)(1)/(1)(12) = +7.299E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$$\frac{885.10}{\frac{545.60}{1577} \times .1672 + 300} = \frac{885.10}{897.41} = 98.63\%$$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1150 SPIKE Date: 04/23/96 Time: 12:11:59

Sample Size = 1 uL .1672g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.50	0.00
2	1.00	28.70	91.29
3	1.51	154.90	81.47
4	2.00	378.90	59.12
5	2.50	540.50	29.90
6	3.00	597.90	9.60
7	3.50	620.00	3.56
8	4.00	629.20	1.46
9	4.50	634.30	0.80
10	5.00	638.50	0.66
11	5.50	641.50	0.47
12	6.00	644.10	0.40
13	6.50	646.50	0.37
14	7.00	648.40	0.29
15	7.50	650.20	0.28
16	8.00	651.80	0.25
17	8.50	653.30	0.23
18	9.00	654.50	0.18
19	9.50	655.80	0.20
20	10.00	656.90	0.17
21	10.50	657.90	0.15
22	11.00	658.90	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(658.9 - 21.0093)(1)/(1) = +6.379E+02 g/L Carbon
(658.9 - 21.0093)(1)/(1)(12) = +5.316E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$$\frac{658.90}{\frac{423.60}{1.577} \times .1672 + 300} = \frac{658.90}{7.6382} = 86.2620$$

1515

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001151 Date: 04/23/96 Time: 12:25:11

Sample Size = 1 uL . 2029g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	3.90	82.05
3	1.50	39.70	90.18
4	2.00	147.90	73.16
5	2.50	305.00	51.51
6	3.00	428.10	28.75
7	3.50	522.70	18.10
8	4.00	586.20	10.83
9	4.50	628.20	6.69
10	5.00	656.70	4.34
11	5.50	677.10	3.01
12	6.00	693.50	2.36
13	6.50	706.40	1.83
14	7.00	717.20	1.51
15	7.50	726.20	1.24
16	8.00	733.50	1.00
17	8.50	739.70	0.84
18	9.00	744.60	0.66
19	9.50	748.90	0.57
20	10.00	752.70	0.50
21	10.50	756.00	0.44
22	11.00	758.90	0.38

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(758.9 - 9.239743)(1)/(1) = +7.497E+02 g/L Carbon
(758.9 - 9.239743)(1)/(1)(12) = +6.247E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{749.7}{.2029g} = 3.695^{E3}$

1516

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001151 Date: 04/23/96 Time: 12:38:09

Sample Size = 1 uL .2029g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.10	0.00
2	1.01	31.70	87.07
3	1.50	137.00	76.86
4	2.00	311.10	55.96
5	2.50	448.80	30.68
6	3.00	507.00	11.48
7	3.50	531.70	4.65
8	4.00	544.00	2.26
9	4.50	551.30	1.32
10	5.00	556.10	0.86
11	5.50	560.00	0.70
12	6.00	563.30	0.59
13	6.50	566.10	0.49
14	7.00	568.50	0.42
15	7.50	570.90	0.42
16	8.00	572.60	0.30
17	8.50	574.40	0.31
18	9.00	576.00	0.28
19	9.50	577.50	0.26
20	10.00	579.00	0.26
21	10.50	580.20	0.21
22	11.00	581.40	0.21

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(581.4 - 21.01291)(1)/(1) = +5.604E+02 g/L Carbon
(581.4 - 21.01291)(1)/(1)(12) = +4.670E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{560.4}{.2029g} = 2.762^{E3}$

1517

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1151 DUP Date: 04/23/96 Time: 12:50:14

Sample Size = 1 uL .2271g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	19.60	93.88
3	1.51	97.60	79.92
4	2.00	243.00	59.84
5	2.50	448.30	45.80
6	3.00	597.60	24.98
7	3.50	692.60	13.72
8	4.00	755.30	8.30
9	4.50	796.30	5.15
10	5.00	826.10	3.61
11	5.50	849.60	2.77
12	6.00	868.90	2.22
13	6.50	884.90	1.81
14	7.00	898.50	1.51
15	7.50	909.60	1.22
16	8.00	919.10	1.03
17	8.50	926.80	0.83
18	9.00	933.30	0.70
19	9.50	938.80	0.59
20	10.00	943.70	0.52
21	10.50	948.80	0.54
22	11.00	955.80	0.73

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(955.8 - 9.239846)(1)/(1) = +9.466E+02 g/L Carbon
(955.8 - 9.239846)(1)/(1)(12) = +7.888E+01 Molar Carbon

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{946.6}{.2271g} = 4.168^{E3}$

1518

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1151 DUP Date: 04/23/96 Time: 13:02:39

Sample Size = 1 uL .2271g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	6.30	0.00
2	1.01	43.20	85.42
3	1.50	163.50	73.58
4	2.00	363.70	55.05
5	2.51	546.70	33.47
6	3.01	626.70	12.77
7	3.50	661.70	5.29
8	4.00	678.10	2.42
9	4.50	686.90	1.28
10	5.00	693.10	0.89
11	5.50	698.20	0.73
12	6.00	702.00	0.54
13	6.50	705.60	0.51
14	7.00	708.50	0.41
15	7.50	711.40	0.41
16	8.00	714.00	0.36
17	8.50	716.20	0.31
18	9.00	718.10	0.26
19	9.50	720.00	0.26
20	10.00	721.80	0.25
21	10.50	723.50	0.23
22	11.00	725.10	0.22

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(725.1 - 21.01128)(1)/(1) = +7.041E+02 g/L Carbon
(725.1 - 21.01128)(1)/(1)(12) = +5.867E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{704.1}{.2271g} = 3.100^{E3}$

1519

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001401 Date: 04/23/96 Time: 13:14:36

Sample Size = 1 uL .1936g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	10.00	83.00
3	1.50	94.00	89.36
4	2.00	226.80	58.55
5	2.50	333.10	31.91
6	3.00	397.10	16.12
7	3.50	435.30	8.78
8	4.00	458.30	5.02
9	4.50	473.80	3.27
10	5.00	485.10	2.33
11	5.50	494.40	1.88
12	6.00	502.30	1.57
13	6.50	510.00	1.51
14	7.00	517.70	1.49
15	7.50	524.20	1.24
16	8.00	529.70	1.04
17	8.50	534.70	0.94
18	9.00	538.80	0.76
19	9.50	542.20	0.63
20	10.00	545.20	0.55
21	10.50	547.80	0.47
22	11.00	550.20	0.44

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(550.2 - 9.239897)(1)/(1) = +5.410E+02 g/L Carbon
(550.2 - 9.239897)(1)/(1)(12) = +4.508E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{541.0}{.1936g} = 2.794E3$

1520

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001401 Date: 04/23/96 Time: 13:26:53

Sample Size = 1 uL .1936g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.00	0.00
2	1.01	21.20	85.85
3	1.50	88.10	75.94
4	2.00	166.90	47.21
5	2.50	215.40	22.52
6	3.00	235.40	8.50
7	3.50	243.20	3.21
8	4.00	248.60	2.17
9	4.50	252.20	1.43
10	5.00	256.50	1.68
11	5.50	260.70	1.61
12	6.00	263.60	1.10
13	6.50	265.90	0.86
14	7.00	267.70	0.67
15	7.50	269.30	0.59
16	8.00	270.70	0.52
17	8.50	272.10	0.51
18	9.00	273.60	0.55
19	9.50	274.60	0.36
20	10.00	275.60	0.36
21	10.50	276.60	0.36
22	11.00	277.70	0.40

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(277.7 - 21.0114)(1)/(1) = +2.567E+02 g/L Carbon
(277.7 - 21.0114)(1)/(1)(12) = +2.139E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{256.7}{.1936g} = 1.326^{E3}$

1521

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1401 DUP Date: 04/23/96 Time: 13:40:23

Sample Size = 1 uL .2695g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	35.00	96.57
3	1.51	160.30	78.17
4	2.01	398.90	59.81
5	2.51	572.50	30.32
6	3.01	673.80	15.03
7	3.51	733.00	8.08
8	4.01	766.30	4.35
9	4.50	787.20	2.65
10	5.00	801.10	1.74
11	5.50	811.40	1.27
12	6.00	819.50	0.99
13	6.50	826.50	0.85
14	7.00	832.00	0.66
15	7.50	837.00	0.60
16	8.00	841.20	0.50
17	8.50	844.70	0.41
18	9.00	847.80	0.37
19	9.50	850.70	0.34
20	10.00	853.20	0.29
21	10.50	855.50	0.27
22	11.00	857.60	0.24

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(857.6 - 9.241435)(1)/(1) = +8.484E+02 g/L Carbon
(857.6 - 9.241435)(1)/(1)(12) = +7.070E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{848.4}{.2695g} = 3.148^{E3}$

1522

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1401 DUP Date: 04/23/96 Time: 13:53:09

Sample Size = 1 uL .2695g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.30	0.00
2	1.01	24.10	86.31
3	1.51	115.60	79.15
4	2.00	232.30	50.24
5	2.50	310.40	25.16
6	3.00	344.20	9.82
7	3.50	357.20	3.64
8	4.00	363.50	1.73
9	4.50	367.10	0.98
10	5.00	370.00	0.78
11	5.50	372.30	0.62
12	6.00	374.60	0.61
13	6.50	376.70	0.56
14	7.00	378.30	0.42
15	7.50	380.00	0.45
16	8.00	381.40	0.37
17	8.50	382.80	0.37
18	9.00	384.20	0.36
19	9.50	385.30	0.29
20	10.00	386.40	0.28
21	10.50	387.50	0.28
22	11.00	388.50	0.26

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(388.5 - 21.01117)(1)/(1) = +3.675E+02 g/L Carbon
(388.5 - 21.01117)(1)/(1)(12) = +3.062E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{367.5}{.2695g} = 1.364E3$

1523

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001399 Date: 04/23/96 Time: 14:05:01

Sample Size = 1 uL .2334g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	9.10	85.71
3	1.51	83.40	89.09
4	2.00	252.00	66.90
5	2.50	405.20	37.81
6	3.00	496.00	18.31
7	3.50	544.90	8.97
8	4.00	570.90	4.55
9	4.50	586.50	2.66
10	5.00	597.00	1.76
11	5.50	605.30	1.37
12	6.00	612.30	1.14
13	6.50	618.20	0.95
14	7.00	623.10	0.79
15	7.50	627.50	0.70
16	8.00	631.40	0.62
17	8.50	634.80	0.54
18	9.00	637.80	0.47
19	9.50	640.50	0.42
20	10.00	642.80	0.36
21	10.50	645.00	0.34
22	11.00	647.00	0.31

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(647 - 9.240513)(1)/(1) = +6.378E+02 g/L Carbon
(647 - 9.240513)(1)/(1)(12) = +5.315E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{637.8}{.2334g} = 2.733^{E3}$

1524

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001399 Date: 04/23/96 Time: 14:17:06

Sample Size = 1 uL .2334g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.90	0.00
2	1.01	20.80	86.06
3	1.51	96.00	78.33
4	2.00	195.30	50.84
5	2.50	260.00	24.88
6	3.00	287.40	9.53
7	3.50	295.20	2.64
8	4.00	302.30	2.35
9	4.50	307.40	1.66
10	5.00	313.30	1.88
11	5.50	321.50	2.55
12	6.00	327.10	1.71
13	6.50	330.90	1.15
14	7.00	333.70	0.84
15	7.50	336.00	0.68
16	8.00	337.90	0.56
17	8.50	339.50	0.47
18	9.00	341.00	0.44
19	9.50	342.30	0.38
20	10.00	343.60	0.38
21	10.50	344.70	0.32
22	11.00	345.70	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(345.7 - 21.00953)(1)/(1) = +3.247E+02 g/L Carbon
(345.7 - 21.00953)(1)/(1)(12) = +2.706E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{324.7}{.2334g} = 1.391E3$

1525

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1399 DUP Date: 04/23/96 Time: 14:29:16

Sample Size = 1 uL .2560g
Dil Factor = 1
Blank ID # =
Blank Value = .84 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	11.20	91.07
3	1.51	99.70	88.77
4	2.00	288.70	65.47
5	2.50	444.30	35.02
6	3.00	541.30	17.92
7	3.50	600.70	9.89
8	4.00	634.20	5.28
9	4.50	654.80	3.15
10	5.00	668.90	2.11
11	5.50	679.90	1.62
12	6.00	688.60	1.26
13	6.50	696.30	1.11
14	7.00	702.40	0.87
15	7.50	707.70	0.75
16	8.00	712.00	0.60
17	8.50	715.90	0.54
18	9.00	719.70	0.53
19	9.50	722.90	0.44
20	10.00	725.70	0.39
21	10.50	728.30	0.36
22	11.00	730.70	0.33

USER INPUT BLANK VALUE
BLANK VALUE = 9.238205 micrograms carbon
BLANK FACTOR = 9.238205 / 10.99786 = +8.4E-01 ug/min Carbon

SAMPLE RESULTS:
(730.7 - 9.24123)(1)/(1) = +7.215E+02 g/L Carbon
(730.7 - 9.24123)(1)/(1)(12) = +6.012E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{721.5}{.2560g} = 2.818^{E3}$

1526

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1399 DUP Date: 04/23/96 Time: 14:42:42

Sample Size = 1 uL .2560g
Dil Factor = 1
Blank ID # =
Blank Value = 1.91 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.40	0.00
2	1.01	15.00	77.33
3	1.51	82.00	81.71
4	2.00	177.90	53.91
5	2.50	261.40	31.94
6	3.00	303.70	13.93
7	3.50	322.60	5.86
8	4.00	331.30	2.63
9	4.50	336.10	1.43
10	5.00	339.90	1.12
11	5.50	342.90	0.87
12	6.00	345.50	0.75
13	6.50	347.80	0.66
14	7.00	349.90	0.60
15	7.50	351.90	0.57
16	8.00	353.70	0.51
17	8.50	355.20	0.42
18	9.00	356.60	0.39
19	9.50	357.90	0.36
20	10.00	359.20	0.36
21	10.50	360.20	0.28
22	11.00	361.30	0.30

USER INPUT BLANK VALUE
BLANK VALUE = 21.00592 micrograms carbon
BLANK FACTOR = 21.00592 / 10.99786 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(361.3 - 21.00977)(1)/(1) = +3.403E+02 g/L Carbon
(361.3 - 21.00977)(1)/(1)(12) = +2.836E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{340.3}{.2560g} = 1.329E3$

1527

LABCORE Data Entry Template for Worklist# 6776

Analyst: JLS2 **Instrument:** CARB2 _____ **Book #** 22N12A TIC 16N12E TOC

Method: LA-342-100 Rev/Mod D-0

Worklist Comment: S-102 TICTOC. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	LIQUID	1	2.4	N/A	ug/mL
		1	BLNK				@TICTOC1 TOC-02	LIQUID	1	.9	N/A	ug/mL
		2	STD				@TICTOC1 TIC-02	LIQUID	6.02E2	6.00E2	N/A	ug/mL
		2	STD				@TICTOC1 TOC-02	LIQUID	3.00E3	2.78E3	N/A	ug/mL
96000094	S102	3	SAMPLE	S96T001383	0		@TICTOC1 TIC-02	LIQUID	N/A	2.40E3	5.00	ug/mL
96000094	S102	3	SAMPLE	S96T001383	0		@TICTOC1 TOC-02	LIQUID	N/A	4.75E3	40.0	ug/mL
96000094	S102	4	DUP	S96T001383	0		@TICTOC1 TIC-02	LIQUID	2.40E3	2.66E3	N/A	ug/mL
96000094	S102	4	DUP	S96T001383	0		@TICTOC1 TOC-02	LIQUID	4.75E3	5.15E3	N/A	ug/mL
96000094	S102	5	SPK	S96T001383	0		@TICTOC1 TIC-02	LIQUID	100	102	N/A	ug/mL
96000094	S102	5	SPK	S96T001383	0		@TICTOC1 TOC-02	LIQUID	100	98	N/A	ug/mL
96000094	S102	6	SAMPLE	S96T001382	0		@TICTOC1 TIC-02	LIQUID	N/A	2.89E3	5.00	ug/mL
96000094	S102	6	SAMPLE	S96T001382	0		@TICTOC1 TOC-02	LIQUID	N/A	5.60E3	40.0	ug/mL
96000094	S102	7	DUP	S96T001382	0		@TICTOC1 TIC-02	LIQUID	2.89E3	2.91E3	N/A	ug/mL
96000094	S102	7	DUP	S96T001382	0		@TICTOC1 TOC-02	LIQUID	5.60E3	5.39E3	N/A	ug/mL
96000094	S102	8	SAMPLE	S96T001386	0		@TICTOC1 TIC-02	SOLID	N/A	4.61E3	5.00	ug/g
96000094	S102	8	SAMPLE	S96T001386	0		@TICTOC1 TOC-02	SOLID	N/A	2.42E3	40.0	ug/g
96000094	S102	9	DUP	S96T001386	0		@TICTOC1 TIC-02	SOLID	4.61E3	4.37E3	N/A	ug/g
96000094	S102	9	DUP	S96T001386	0		@TICTOC1 TOC-02	SOLID	2.42E3	2.27E3	N/A	ug/g

Data Entry Comments: S96T001390 RPD is slightly out of range. Due to low analyte level reaching detector. This sample was run at maximum sample size, therefore better detection cannot be reached. Insufficient sample remains for triplicate analysis. Robert W Schroeder 6/18/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 6776

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
96000094	S102	10	SAMPLE	S96T001390	0		@TICTOC1 TIC-02	SOLID	N/A	7.46 E3	500	ug/g
96000094	S102	10	SAMPLE	S96T001390	0		@TICTOC1 TOC-02	SOLID	N/A	2.23 E3	400	ug/g
96000094	S102	11	DUP	S96T001390	0		@TICTOC1 TIC-02	SOLID	7.46 E3	7.45 E3	N/A	ug/g
96000094	S102	11	DUP	S96T001390	0		@TICTOC1 TOC-02	SOLID	2.23 E3	2.81 E3	N/A	ug/g

Final page for worklist # 6776

Jackie Steele 5/14/96
Analyst Signature Date

Gary Hammond 5-14-96
Analyst Signature Date

Approved RW Schwerdt 5/14/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 05/14/96 Time: 09:01:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	0.60	16.67
3	1.50	0.90	33.33
4	2.00	1.10	18.18
5	2.50	1.30	15.38
6	3.00	1.50	13.33
7	3.51	1.70	11.76
8	4.00	1.90	10.53
9	4.50	2.10	9.52
10	5.00	2.20	4.55
11	5.50	2.30	4.35
12	6.00	2.50	8.00
13	6.50	2.70	7.41
14	7.00	2.80	3.57
15	7.50	3.00	6.67
16	8.00	3.10	3.23
17	8.50	3.20	3.13
18	9.00	3.40	5.88
19	9.50	3.50	2.86
20	10.00	3.60	2.78
21	10.50	3.80	5.26
22	11.00	3.90	2.56

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1530 TO 1553

BLANK VALUE = 3.9 micrograms carbon
BLANK FACTOR = 3.9 / 10.99884 = +3.5E-01 ug/min Carbon

Sample Run By: Jackie Steele 5/14/96
JL STEELE 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 05/14/96 Time: 09:13:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.40	100.00
3	1.51	4.10	90.24
4	2.00	10.00	59.00
5	2.50	14.90	32.89
6	3.00	16.70	10.78
7	3.50	17.60	5.11
8	4.00	18.30	3.83
9	4.50	19.00	3.68
10	5.00	19.60	3.06
11	5.50	20.10	2.49
12	6.00	20.40	1.47
13	6.50	20.70	1.45
14	7.00	21.00	1.43
15	7.50	21.20	0.94
16	8.00	21.50	1.40
17	8.50	21.70	0.92
18	9.00	21.90	0.91
19	9.50	22.10	0.90
20	10.00	22.30	0.90
21	10.50	22.40	0.45
22	11.00	22.60	0.88

BLANK VALUE = 22.6 micrograms carbon
BLANK FACTOR = 22.6 / 10.99786 = +2.05E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 22N12A Date: 05/14/96 Time: 09:26:25

Sample Size = 1 uL 1.0ml
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	20.50	100.00
3	1.50	153.50	86.64
4	2.00	322.10	52.34
5	2.50	448.10	28.12
6	3.00	525.60	14.75
7	3.50	567.20	7.33
8	4.00	586.90	3.36
9	4.50	595.50	1.44
10	5.00	598.80	0.55
11	5.50	600.20	0.23
12	6.00	601.00	0.13
13	6.50	601.50	0.08
14	7.00	601.80	0.05
15	7.50	602.10	0.05
16	8.00	602.40	0.05
17	8.50	602.60	0.03
18	9.00	602.90	0.05
19	9.50	603.10	0.03
20	10.00	603.30	0.03
21	10.50	603.50	0.03
22	11.00	603.70	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(603.7 - 3.849936)(1)/(1) = +5.999E+02 g/L Carbon
(603.7 - 3.849936)(1)/(1)(12) = +4.999E+01 Molar Carbon

Sample Run By: Gene Steele
JL STEELE 00000

$\frac{599.9}{602} = 99.65\%$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 16N12E Date: 05/14/96 Time: 09:38:26

Sample Size = 1 uL .200ml
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	5.70	100.00
3	1.50	58.60	90.27
4	2.00	228.80	74.39
5	2.51	413.80	44.71
6	3.01	515.50	19.73
7	3.51	553.30	6.83
8	4.00	566.00	2.24
9	4.50	570.30	0.75
10	5.00	572.10	0.31
11	5.50	573.20	0.19
12	6.00	574.00	0.14
13	6.50	574.70	0.12
14	7.00	575.20	0.09
15	7.50	575.90	0.12
16	8.00	576.20	0.05
17	8.50	576.60	0.07
18	9.00	576.90	0.05
19	9.50	577.30	0.07
20	10.00	577.50	0.03
21	10.50	577.80	0.05
22	11.00	578.10	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(578.1 - 22.55313)(1)/(1) = +5.555E+02 g/L Carbon
(578.1 - 22.55313)(1)/(1)(12) = +4.630E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{555.5}{.200ml} = \frac{2777.5}{3000} = 92.58\%$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 05/14/96 Time: 09:50:23

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.50	80.00
3	1.50	2.30	34.78
4	2.00	3.00	23.33
5	2.50	3.30	9.09
6	3.00	3.60	8.33
7	3.50	3.80	5.26
8	4.00	4.00	5.00
9	4.50	4.10	2.44
10	5.00	4.30	4.65
11	5.50	4.50	4.44
12	6.00	4.70	4.26
13	6.50	4.90	4.08
14	7.00	5.00	2.00
15	7.50	5.20	3.85
16	8.00	5.40	3.70
17	8.50	5.50	1.82
18	9.00	5.80	5.17
19	9.50	5.80	0.00
20	10.00	6.00	3.33
21	10.50	6.20	3.23
22	11.00	6.30	1.59

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(6.3 - 3.849893)(1)/(1) = +2.5E+00 g/L Carbon
(6.3 - 3.849893)(1)/(1)(12) = +2.0E-01 Molar Carbon

Sample Run By: Jacque Steele
JL STEELE 00000

| 6.30 - 3.90 | = 2.4

1534

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 05/14/96 Time: 10:02:33

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.80	100.00
3	1.51	3.90	79.49
4	2.00	8.80	55.68
5	2.50	13.20	33.33
6	3.00	15.40	14.29
7	3.50	16.50	6.67
8	4.00	17.20	4.07
9	4.50	17.70	2.82
10	5.00	18.10	2.21
11	5.50	18.60	2.69
12	6.00	19.00	2.11
13	6.50	19.50	2.56
14	7.00	19.80	1.52
15	7.50	20.20	1.98
16	8.00	20.40	0.98
17	8.50	20.60	0.97
18	9.00	20.90	1.44
19	9.50	21.10	0.95
20	10.00	21.30	0.94
21	10.50	21.40	0.47
22	11.00	21.70	1.38

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(21.7 - 22.54762)(1)/(1) = < 5.00 E-3 g/L Carbon
(21.7 - 22.54762)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jerre Steele
JL STEELE 00000

|21.70 - 22.60| = .9

1535

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001383 Date: 05/14/96 Time: 10:19:08

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	1.10	100.00
3	1.51	12.90	91.47
4	2.01	45.60	71.71
5	2.50	80.60	43.42
6	3.00	107.90	25.30
7	3.50	128.30	15.90
8	4.00	155.70	17.60
9	4.50	179.20	13.11
10	5.00	195.70	8.43
11	5.50	206.70	5.32
12	6.00	214.40	3.59
13	6.50	220.90	2.94
14	7.00	225.70	2.13
15	7.50	229.80	1.78
16	8.00	233.30	1.50
17	8.50	235.90	1.10
18	9.00	238.30	1.01
19	9.50	240.00	0.71
20	10.00	241.50	0.62
21	10.50	243.00	0.62
22	11.00	244.00	0.41

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(244 - 3.850235)(1)/(1) = +2.401E+02 g/L Carbon
(244 - 3.850235)(1)/(1)(12) = +2.001E+01 Molar Carbon

Sample Run By: Jerre Steele
JL STEELE 00000

$\frac{240.1}{.100ml} = 2.401E3$

1536

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001383 Date: 05/14/96 Time: 10:31:13

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	9.00	87.78
3	1.50	59.10	84.77
4	2.00	184.30	67.93
5	2.50	331.70	44.44
6	3.00	415.10	20.09
7	3.50	452.60	8.29
8	4.00	469.40	3.58
9	4.50	477.30	1.66
10	5.00	481.50	0.87
11	5.50	484.80	0.68
12	6.00	486.90	0.43
13	6.50	488.90	0.41
14	7.00	490.30	0.29
15	7.50	491.50	0.24
16	8.00	492.70	0.24
17	8.50	493.80	0.22
18	9.00	494.60	0.16
19	9.50	495.40	0.16
20	10.00	496.00	0.12
21	10.50	496.60	0.12
22	11.00	497.10	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(497.1 - 22.54562)(1)/(1) = +4.746E+02 g/L Carbon
(497.1 - 22.54562)(1)/(1)(12) = +3.955E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

1537

$\frac{474.6}{.100ml} = 4.746^{E3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1383 DUP Date: 05/14/96 Time: 10:44:09

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	2.80	82.14
3	1.51	15.60	82.05
4	2.00	48.70	67.97
5	2.50	80.20	39.28
6	3.00	103.00	22.14
7	3.50	121.90	15.50
8	4.00	149.50	18.46
9	4.50	179.50	16.71
10	5.00	202.80	11.49
11	5.50	217.30	6.67
12	6.00	228.00	4.69
13	6.50	235.70	3.27
14	7.00	242.80	2.92
15	7.50	247.70	1.98
16	8.00	252.90	2.06
17	8.50	256.30	1.33
18	9.00	259.60	1.27
19	9.50	262.70	1.18
20	10.00	265.10	0.91
21	10.50	267.30	0.82
22	11.00	269.60	0.85

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(269.6 - 3.849573)(1)/(1) = +2.658E+02 g/L Carbon
(269.6 - 3.849573)(1)/(1)(12) = +2.215E+01 Molar Carbon

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{265.8}{.100ml} = 2.658^{E3}$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1383 DUP Date: 05/14/96 Time: 10:56:22

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.20	0.00
2	1.01	9.70	77.32
3	1.51	53.80	81.97
4	2.00	173.70	69.03
5	2.50	328.80	47.17
6	3.00	428.00	23.18
7	3.50	474.70	9.84
8	4.00	496.40	4.37
9	4.50	506.20	1.94
10	5.00	512.20	1.17
11	5.50	516.10	0.76
12	6.00	518.90	0.54
13	6.50	521.00	0.40
14	7.00	524.80	0.72
15	7.50	527.40	0.49
16	8.00	530.00	0.49
17	8.50	532.00	0.38
18	9.00	533.50	0.28
19	9.50	534.80	0.24
20	10.00	535.80	0.19
21	10.50	536.70	0.17
22	11.00	537.70	0.19

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(537.7 - 22.5515)(1)/(1) = +5.151E+02 g/L Carbon
(537.7 - 22.5515)(1)/(1)(12) = +4.293E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{515.1}{.100ml} = 5.151E3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1383 SPIKE Date: 05/14/96 Time: 11:10:02

Sample Size = 1 uL .100ml + .500ml 22N2A
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	9.60	90.63
3	1.50	108.00	91.11
4	2.00	253.80	57.45
5	2.50	366.40	30.73
6	3.00	430.60	14.91
7	3.50	463.80	7.16
8	4.00	482.10	3.80
9	4.50	494.30	2.47
10	5.00	503.70	1.87
11	5.50	512.20	1.66
12	6.00	519.10	1.33
13	6.50	524.60	1.05
14	7.00	529.80	0.98
15	7.50	534.40	0.86
16	8.00	537.80	0.63
17	8.50	541.30	0.65
18	9.00	544.30	0.55
19	9.50	546.80	0.46
20	10.00	549.40	0.47
21	10.50	551.60	0.40
22	11.00	553.90	0.42

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(553.9 - 3.850235)(1)/(1) = +5.500E+02 g/L Carbon
(553.9 - 3.850235)(1)/(1)(12) = +4.584E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{553.90}{244.00 + 300} = \frac{553.90}{544.00} = 101.82\%$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1383 SPIKE Date: 05/14/96 Time: 11:22:15

Sample Size = 1 uL .100ml + .100ml 16N12E
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.70	0.00
2	1.01	11.10	75.68
3	1.51	62.40	82.21
4	2.00	201.50	69.03
5	2.50	451.40	55.36
6	3.00	620.30	27.23
7	3.50	696.40	10.93
8	4.00	732.00	4.86
9	4.50	747.30	2.05
10	5.00	754.60	0.97
11	5.50	759.10	0.59
12	6.00	762.60	0.46
13	6.50	765.40	0.37
14	7.00	767.70	0.30
15	7.50	769.70	0.26
16	8.00	771.10	0.18
17	8.50	772.60	0.19
18	9.00	774.00	0.18
19	9.50	775.20	0.15
20	10.00	776.60	0.18
21	10.50	777.40	0.10
22	11.00	778.50	0.14

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(778.5 - 22.54962)(1)/(1) = +7.560E+02 g/L Carbon
(778.5 - 22.54962)(1)/(1)(12) = +6.300E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$$\frac{778.50}{\frac{497.10}{v.100 + 200}} = \frac{778.50}{797.10} = 97.67\%$$

1541

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001382 Date: 05/14/96 Time: 11:36:08

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	2.90	68.97
3	1.51	15.30	81.05
4	2.00	45.20	66.15
5	2.50	80.30	43.71
6	3.00	112.80	28.81
7	3.50	145.40	22.42
8	4.00	176.20	17.48
9	4.50	200.50	12.12
10	5.00	217.90	7.99
11	5.50	231.10	5.71
12	6.00	241.00	4.11
13	6.50	249.60	3.45
14	7.00	257.20	2.95
15	7.50	263.60	2.43
16	8.00	269.20	2.08
17	8.50	274.50	1.93
18	9.00	279.00	1.61
19	9.50	282.80	1.34
20	10.00	286.70	1.36
21	10.50	289.80	1.07
22	11.00	293.20	1.16

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(293.2 - 3.850256)(1)/(1) = +2.893E+02 g/L Carbon
(293.2 - 3.850256)(1)/(1)(12) = +2.411E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{289.3}{.100ml} = 2.893^{E3}$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001382 Date: 05/14/96 Time: 11:48:23

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.50	0.00
2	1.01	15.50	77.42
3	1.51	63.60	75.63
4	2.01	189.40	66.42
5	2.50	360.30	47.43
6	3.00	463.90	22.33
7	3.50	510.40	9.11
8	4.00	531.40	3.95
9	4.50	541.70	1.90
10	5.00	544.80	0.57
11	5.50	546.50	0.31
12	6.00	548.50	0.36
13	6.50	556.40	1.42
14	7.00	563.20	1.21
15	7.50	568.20	0.88
16	8.00	571.70	0.61
17	8.50	574.50	0.49
18	9.00	576.40	0.33
19	9.50	578.10	0.29
20	10.00	579.60	0.26
21	10.50	581.20	0.28
22	11.00	582.60	0.24

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(582.6 - 22.54937)(1)/(1) = +5.601E+02 g/L Carbon
(582.6 - 22.54937)(1)/(1)(12) = +4.667E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

1543

$\frac{560.1}{.100} = 5.601^{E3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1382 DUP Date: 05/14/96 Time: 12:02:24

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	3.40	61.76
3	1.51	11.80	71.19
4	2.00	35.80	67.04
5	2.50	66.90	46.49
6	3.01	92.30	27.52
7	3.50	113.70	18.82
8	4.00	145.40	21.80
9	4.50	178.30	18.45
10	5.00	200.30	10.98
11	5.50	216.90	7.65
12	6.00	229.70	5.57
13	6.50	240.60	4.53
14	7.00	249.70	3.64
15	7.50	258.00	3.22
16	8.00	265.50	2.82
17	8.50	271.40	2.17
18	9.00	277.60	2.23
19	9.50	282.50	1.73
20	10.00	287.00	1.57
21	10.50	291.10	1.41
22	11.00	295.10	1.36

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(295.1 - 3.850214)(1)/(1) = +2.912E+02 g/L Carbon
(295.1 - 3.850214)(1)/(1)(12) = +2.427E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{291.2}{.100ml} = 2.912^{E3}$

1544

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1382 DUP Date: 05/14/96 Time: 12:15:42

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.50	0.00
2	1.01	18.50	75.68
3	1.50	73.00	74.66
4	2.00	214.60	65.98
5	2.50	373.30	42.51
6	3.00	455.40	18.03
7	3.50	493.30	7.68
8	4.00	512.50	3.75
9	4.50	522.30	1.88
10	5.00	527.80	1.04
11	5.50	531.30	0.66
12	6.00	532.70	0.26
13	6.50	538.00	0.99
14	7.00	542.00	0.74
15	7.50	546.30	0.79
16	8.00	549.60	0.60
17	8.50	552.30	0.49
18	9.00	554.60	0.41
19	9.50	556.20	0.29
20	10.00	557.90	0.30
21	10.50	559.70	0.32
22	11.00	561.20	0.27

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(561.2 - 22.54762)(1)/(1) = +5.387E+02 g/L Carbon
(561.2 - 22.54762)(1)/(1)(12) = +4.489E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jenice Steele
JL STEELE 00000

$\frac{538.7}{.100ml} = 5.387E3$

1545

WHC-SD-WM-DP-179, REV. 1

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001386 Date: 05/14/96 Time: 12:27:42

Sample Size = 1 uL .1290g
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	8.00	86.25
3	1.50	66.20	87.92
4	2.00	186.70	64.54
5	2.50	297.50	37.24
6	3.00	377.90	21.28
7	3.50	432.80	12.68
8	4.00	468.60	7.64
9	4.50	494.10	5.16
10	5.00	510.70	3.25
11	5.50	521.40	2.05
12	6.00	530.00	1.62
13	6.50	537.90	1.47
14	7.00	545.60	1.41
15	7.50	552.10	1.18
16	8.00	557.40	0.95
17	8.50	562.40	0.89
18	9.00	571.30	1.56
19	9.50	578.10	1.18
20	10.00	583.00	0.84
21	10.50	592.00	1.52
22	11.00	598.10	1.02

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(598.1 - 3.849872)(1)/(1) = +5.943E+02 g/L Carbon
(598.1 - 3.849872)(1)/(1)(12) = +4.952E+01 Molar Carbon

Sample Run By: Jerene Steele
JL STEELE 00000

$\frac{594.3}{.1290g} = 4.607^{e3}$ 1546

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001386 Date: 05/14/96 Time: 12:41:48

Sample Size = 1 uL .1290g
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.30	0.00
2	1.01	16.40	79.88
3	1.50	69.50	76.40
4	2.01	151.50	54.13
5	2.51	226.40	33.08
6	3.01	270.10	16.18
7	3.51	288.90	6.51
8	4.00	300.40	3.83
9	4.50	306.40	1.96
10	5.00	311.70	1.70
11	5.50	315.20	1.11
12	6.00	318.10	0.91
13	6.50	320.70	0.81
14	7.00	322.70	0.62
15	7.50	324.50	0.55
16	8.00	326.10	0.49
17	8.50	327.50	0.43
18	9.00	329.20	0.52
19	9.50	330.50	0.39
20	10.00	331.90	0.42
21	10.50	333.00	0.33
22	11.00	334.20	0.36

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(334.2 - 22.55701)(1)/(1) = +3.116E+02 g/L Carbon
(334.2 - 22.55701)(1)/(1)(12) = +2.597E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

1547

$\frac{311.6}{.1290g} = 2.416^{E3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1386 DUP Date: 05/14/96 Time: 12:53:38

Sample Size = 1 uL .12999 S
Dil Factor = 1 .11998
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	1.00	0.00
2	1.01	5.70	82.46
3	1.50	44.60	87.22
4	2.00	141.10	68.39
5	2.50	268.90	47.53
6	3.00	359.60	25.22
7	3.50	414.70	13.29
8	4.00	449.00	7.64
9	4.50	468.90	4.24
10	5.00	480.70	2.45
11	5.50	488.60	1.62
12	6.00	494.90	1.27
13	6.50	499.90	1.00
14	7.00	505.00	1.01
15	7.50	508.70	0.73
16	8.00	512.60	0.76
17	8.50	515.60	0.58
18	9.00	518.40	0.54
19	9.50	521.00	0.50
20	10.00	523.70	0.52
21	10.50	525.50	0.34
22	11.00	527.60	0.40

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(527.6 - 3.850235)(1)/(1) = +5.237E+02 g/L Carbon
(527.6 - 3.850235)(1)/(1)(12) = +4.365E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{523.7}{.12999 S} = 4.032^{E3}$ 4.368^{E3} 1548

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1386 DUP Date: 05/14/96 Time: 13:06:28

Sample Size = 1 uL .1199g
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.40	0.00
2	1.01	8.00	70.00
3	1.50	48.30	83.44
4	2.00	116.60	58.58
5	2.50	189.10	38.34
6	3.00	232.00	18.49
7	3.50	253.00	8.30
8	4.00	263.50	3.98
9	4.50	270.00	2.41
10	5.00	274.40	1.60
11	5.50	277.50	1.12
12	6.00	280.10	0.93
13	6.50	282.40	0.81
14	7.00	284.50	0.74
15	7.50	286.20	0.59
16	8.00	287.70	0.52
17	8.50	289.20	0.52
18	9.00	290.40	0.41
19	9.50	291.60	0.41
20	10.00	292.80	0.41
21	10.50	293.70	0.31
22	11.00	294.70	0.34

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(294.7 - 22.54962)(1)/(1) = +2.722E+02 g/L Carbon
(294.7 - 22.54962)(1)/(1)(12) = +2.268E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jacque Steele
JLSTEELE 00000

$\frac{272.2}{.1199g} = 2.270^{E3}$ 1549

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001390 Date: 05/14/96 Time: 13:19:35

Sample Size = 1 uL .1536g
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	14.90	96.64
3	1.51	149.30	90.02
4	2.00	443.30	66.32
5	2.50	704.40	37.07
6	3.00	862.20	18.30
7	3.50	955.60	9.77
8	4.00	1009.10	5.30
9	4.50	1040.60	3.03
10	5.00	1060.30	1.86
11	5.50	1072.90	1.17
12	6.00	1082.30	0.87
13	6.50	1090.00	0.71
14	7.00	1096.80	0.62
15	7.50	1103.00	0.56
16	8.00	1112.70	0.87
17	8.50	1125.60	1.15
18	9.00	1134.60	0.79
19	9.50	1139.80	0.46
20	10.00	1144.00	0.37
21	10.50	1147.30	0.29
22	11.00	1149.90	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(1149.9 - 3.849573)(1)/(1) = +1.1461E+03 g/L Carbon
(1149.9 - 3.849573)(1)/(1)(12) = +9.5504E+01 Molar Carbon

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{1146.1}{.1536g} = 7.462^{E3}$ 1550

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001390 Date: 05/14/96 Time: 13:31:42

Sample Size = 1 uL .153kg
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.60	0.00
2	1.01	5.20	50.00
3	1.51	27.60	81.16
4	2.00	95.50	71.10
5	2.50	189.10	49.50
6	3.01	258.40	26.82
7	3.50	300.60	14.04
8	4.00	324.20	7.28
9	4.50	335.50	3.37
10	5.00	341.00	1.61
11	5.50	344.60	1.04
12	6.00	347.80	0.92
13	6.50	350.60	0.80
14	7.00	352.70	0.60
15	7.50	354.70	0.56
16	8.00	356.70	0.56
17	8.50	358.30	0.45
18	9.00	359.80	0.42
19	9.50	361.30	0.42
20	10.00	362.60	0.36
21	10.50	363.80	0.33
22	11.00	365.10	0.36

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(365.1 - 22.553)(1)/(1) = +3.425E+02 g/L Carbon
(365.1 - 22.553)(1)/(1)(12) = +2.855E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{342.5}{.153kg} = 2.230^{E3}$

1551

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1390 DUP Date: 05/14/96 Time: 13:45:27

Sample Size = 1 uL .1329g
Dil Factor = 1
Blank ID # =
Blank Value = .35 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	10.10	88.12
3	1.51	158.90	93.64
4	2.00	424.10	62.53
5	2.50	609.00	30.36
6	3.00	720.90	15.52
7	3.50	795.90	9.42
8	4.00	844.50	5.75
9	4.50	875.80	3.57
10	5.00	898.50	2.53
11	5.50	915.60	1.87
12	6.00	930.80	1.63
13	6.50	941.80	1.17
14	7.00	949.40	0.80
15	7.50	956.30	0.72
16	8.00	964.20	0.82
17	8.50	971.70	0.77
18	9.00	978.40	0.68
19	9.50	983.30	0.50
20	10.00	987.30	0.41
21	10.50	990.80	0.35
22	11.00	994.20	0.34

USER INPUT BLANK VALUE
BLANK VALUE = 3.849252 micrograms carbon
BLANK FACTOR = 3.849252 / 10.99786 = +3.5E-01 ug/min Carbon

SAMPLE RESULTS:
(994.2 - 3.848953)(1)/(1) = +9.904E+02 g/L Carbon
(994.2 - 3.848953)(1)/(1)(12) = +8.253E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{990.4}{.1329g}$ = ~~8.058E3~~ 7.452E3

1552

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1390 DUP Date: 05/14/96 Time: 13:59:31

Sample Size = 1 uL .1329g
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.50	0.00
2	1.01	14.40	75.69
3	1.50	69.00	79.13
4	2.00	161.90	57.38
5	2.50	255.90	36.73
6	3.00	316.40	19.12
7	3.50	347.50	8.95
8	4.00	361.40	3.85
9	4.50	367.80	1.74
10	5.00	371.50	1.00
11	5.50	374.00	0.67
12	6.00	375.10	0.29
13	6.50	376.70	0.42
14	7.00	379.90	0.84
15	7.50	382.80	0.76
16	8.00	385.70	0.75
17	8.50	388.40	0.70
18	9.00	390.60	0.56
19	9.50	392.20	0.41
20	10.00	393.60	0.36
21	10.50	395.10	0.38
22	11.00	396.30	0.30

USER INPUT BLANK VALUE
BLANK VALUE = 22.54562 micrograms carbon
BLANK FACTOR = 22.54562 / 10.99786 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(396.3 - 22.54962)(1)/(1) = +3.738E+02 g/L Carbon
(396.3 - 22.54962)(1)/(1)(12) = +3.115E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{373.8}{.1329g} = 2.813^{e3}$ 1553

LABCORE Data Entry Template for Worklist# 6780

Analyst: JLS2 **Instrument:** CARB2 **Book #** 22N12-A TIC
16N12-E TOC

Method: LA-342-100 Rev/Mod D-D

Worklist Comment: S-102 TICTOC. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	.9	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	3.2	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.02E2	6.08E2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	3.00E3	2.81E3	N/A	ug/g
96000094	S102	3	SAMPLE	S96T001409	0		@TICTOC1 TIC-02	SOLID	N/A	7.83E3		ug/g
96000094	S102	3	SAMPLE	S96T001409	0		@TICTOC1 TOC-02	SOLID	N/A	3.14E3		ug/g
96000094	S102	4	DUP	S96T001409	0		@TICTOC1 TIC-02	SOLID	7.83E3	7.93E3	N/A	ug/g
96000094	S102	4	DUP	S96T001409	0		@TICTOC1 TOC-02	SOLID	3.14E3	2.86E3	N/A	ug/g
96000094	S102	5	SPK	S96T001409	0		@TICTOC1 TIC-02	SOLID	100	102	N/A	ug/g
96000094	S102	5	SPK	S96T001409	0		@TICTOC1 TOC-02	SOLID	100	96	N/A	ug/g

Final page for worklist # 6780

Jackie Steele 4/17/96
Analyst Signature Date

Gary Hamm 4/21/96
Analyst Signature Date

Reviewed RW Schweda
4/22/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 04/17/96 Time: 08:02:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	1.40	42.86
3	1.51	2.00	30.00
4	2.00	2.40	16.67
5	2.50	2.90	17.24
6	3.00	3.30	12.12
7	3.50	3.60	8.33
8	4.00	3.90	7.69
9	4.50	4.30	9.30
10	5.00	4.60	6.52
11	5.50	4.90	6.12
12	6.00	5.20	5.77
13	6.50	5.50	5.45
14	7.00	5.80	5.17
15	7.50	6.10	4.92
16	8.00	6.40	4.69
17	8.50	6.70	4.48
18	9.00	7.00	4.29
19	9.50	7.30	4.11
20	10.00	7.60	3.95
21	10.50	7.90	3.80
22	11.00	8.20	3.66

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1555 TO 1566

BLANK VALUE = 8.2 micrograms carbon
BLANK FACTOR = 8.2 / 10.99982 = +7.5E-01 ug/min Carbon

Sample Run By: Jackie Steele 4/17/96
JL STEELE 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 04/17/96 Time: 08:16:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.00	60.00
3	1.51	1.90	47.37
4	2.00	4.80	60.42
5	2.50	8.20	41.46
6	3.00	11.10	26.13
7	3.50	13.30	16.54
8	4.00	14.90	10.74
9	4.50	16.00	6.88
10	5.00	16.70	4.19
11	5.50	17.20	2.91
12	6.00	17.70	2.82
13	6.50	18.10	2.21
14	7.00	18.80	3.72
15	7.50	19.30	2.59
16	8.00	19.90	3.02
17	8.50	20.50	2.93
18	9.00	21.10	2.84
19	9.50	21.60	2.31
20	10.00	22.10	2.26
21	10.50	22.60	2.21
22	11.00	23.00	1.74

BLANK VALUE = 23 micrograms carbon
BLANK FACTOR = 23 / 11.00067 = +2.09E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 22N12A Date: 04/17/96 Time: 08:54:40

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .75 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	8.60	93.02
3	1.51	122.10	92.96
4	2.00	285.90	57.29
5	2.50	416.40	31.34
6	3.00	505.20	17.58
7	3.50	557.50	9.38
8	4.00	584.80	4.67
9	4.50	598.90	2.35
10	5.00	605.90	1.16
11	5.50	608.80	0.48
12	6.00	610.80	0.33
13	6.50	611.70	0.15
14	7.00	612.40	0.11
15	7.50	613.00	0.10
16	8.00	613.40	0.07
17	8.50	613.80	0.07
18	9.00	614.30	0.08
19	9.50	614.70	0.07
20	10.00	615.00	0.05
21	10.50	615.30	0.05
22	11.00	615.70	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 8.250504 micrograms carbon
BLANK FACTOR = 8.250504 / 11.00067 = +7.5E-01 ug/min Carbon

SAMPLE RESULTS:
(615.7 - 8.249084)(1)/(1) = +6.075E+02 g/L Carbon
(615.7 - 8.249084)(1)/(1)(12) = +5.062E+01 Molar Carbon

Sample Run By: Jaene Steele
JL STEELE 00000

$\frac{607.5}{602} = 100.9\%$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 16N12E Date: 04/17/96 Time: 09:07:14

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.09 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.70	76.47
3	1.51	10.60	83.96
4	2.00	59.20	82.09
5	2.50	176.00	66.36
6	3.00	323.00	45.51
7	3.50	445.20	27.45
8	4.00	518.70	14.17
9	4.50	554.90	6.52
10	5.00	570.40	2.72
11	5.50	576.90	1.13
12	6.00	579.40	0.43
13	6.50	580.90	0.26
14	7.00	581.90	0.17
15	7.50	582.50	0.10
16	8.00	583.10	0.10
17	8.50	583.60	0.09
18	9.00	584.10	0.09
19	9.50	584.50	0.07
20	10.00	585.00	0.09
21	10.50	585.40	0.07
22	11.00	585.80	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 22.9914 micrograms carbon
BLANK FACTOR = 22.9914 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(585.8 - 22.9914)(1)/(1) = +5.628E+02 g/L Carbon
(585.8 - 22.9914)(1)/(1)(12) = +4.690E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{562.8}{.200ml} - \frac{2814}{3000} = 93.82$

1553

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 04/17/96 Time: 09:19:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .75 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	2.30	65.22
3	1.51	3.10	25.81
4	2.00	3.60	13.89
5	2.50	4.10	12.20
6	3.00	4.50	8.89
7	3.50	4.80	6.25
8	4.00	5.10	5.88
9	4.50	5.40	5.56
10	5.00	5.70	5.26
11	5.50	6.00	5.00
12	6.00	6.30	4.76
13	6.50	6.60	4.55
14	7.00	6.80	2.94
15	7.50	7.10	4.23
16	8.00	7.40	4.05
17	8.50	7.70	3.90
18	9.00	8.00	3.75
19	9.50	8.30	3.61
20	10.00	8.50	2.35
21	10.50	8.90	4.49
22	11.00	9.10	2.20

USER INPUT BLANK VALUE
BLANK VALUE = 8.250504 micrograms carbon
BLANK FACTOR = 8.250504 / 11.00067 = +7.5E-01 ug/min Carbon

SAMPLE RESULTS:
(9.1 - 8.250504)(1)/(1) = +8.5E-01 g/L Carbon
(9.1 - 8.250504)(1)/(1)(12) = +7.1E-02 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

|9.10 - 8.20| = .9

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 04/17/96 Time: 09:33:05

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.09 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.50	0.00
2	1.01	0.90	44.44
3	1.51	2.20	59.09
4	2.00	4.50	51.11
5	2.50	7.60	40.79
6	3.01	10.10	24.75
7	3.50	11.80	14.41
8	4.00	13.30	11.28
9	4.50	14.00	5.00
10	5.00	14.60	4.11
11	5.50	15.30	4.58
12	6.00	15.60	1.92
13	6.50	16.00	2.50
14	7.00	16.50	3.03
15	7.50	16.80	1.79
16	8.00	17.10	1.75
17	8.50	17.40	1.72
18	9.00	17.80	2.25
19	9.50	18.30	2.73
20	10.00	18.90	3.17
21	10.50	19.30	2.07
22	11.00	19.70	2.03

USER INPUT BLANK VALUE
BLANK VALUE = 22.9914 micrograms carbon
BLANK FACTOR = 22.9914 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(19.7 - 22.98962)(1)/(1) = < 5.00 E-3 g/L Carbon
(19.7 - 22.98962)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jerry Steele
JL STEELE 00000

1560

|19.70 - 23.00| = 3.3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001409 Date: 04/17/96 Time: 13:20:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .75 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.90	0.00
2	1.01	33.10	97.28
3	1.51	148.30	77.68
4	2.01	247.00	39.96
5	2.51	340.80	27.52
6	3.01	471.10	27.66
7	3.51	689.40	31.67
8	4.00	826.60	16.60
9	4.50	894.00	7.54
10	5.00	922.40	3.08
11	5.50	933.50	1.19
12	6.00	938.30	0.51
13	6.50	940.60	0.24
14	7.00	942.60	0.21
15	7.50	943.90	0.14
16	8.00	945.30	0.15
17	8.50	946.50	0.13
18	9.00	947.40	0.09
19	9.50	948.60	0.13
20	10.00	949.50	0.09
21	10.50	950.40	0.09
22	11.00	951.20	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +7.5E-01 ug/min Carbon

SAMPLE RESULTS:
(951.2 - 8.249771)(1)/(1) = +9.430E+02 g/L Carbon
(951.2 - 8.249771)(1)/(1)(12) = +7.858E+01 Molar Carbon

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{943.0}{.1205g} = 7.826^{E3}$

1561

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001409 Date: 04/17/96 Time: 13:32:34

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.09 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.40	0.00
2	1.01	39.50	96.46
3	1.50	154.10	74.37
4	2.00	268.00	42.50
5	2.50	333.60	19.66
6	3.00	360.40	7.44
7	3.50	370.00	2.59
8	4.00	375.20	1.39
9	4.50	378.70	0.92
10	5.00	381.60	0.76
11	5.50	384.10	0.65
12	6.00	386.40	0.60
13	6.50	388.50	0.54
14	7.00	390.30	0.46
15	7.50	392.10	0.46
16	8.00	393.80	0.43
17	8.50	395.40	0.40
18	9.00	396.80	0.35
19	9.50	398.40	0.40
20	10.00	399.40	0.25
21	10.50	400.60	0.30
22	11.00	401.80	0.30

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(401.8 - 22.99127)(1)/(1) = +3.788E+02 g/L Carbon
(401.8 - 22.99127)(1)/(1)(12) = +3.157E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{378.8}{.1205\,g} = 3.144E3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001409 dup Date: 04/17/96 Time: 13:54:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .75 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	35.40	96.61
3	1.50	268.20	86.80
4	2.00	551.00	51.32
5	2.50	728.70	24.39
6	3.00	834.40	12.67
7	3.50	890.90	6.34
8	4.00	918.80	3.04
9	4.50	931.60	1.37
10	5.00	937.60	0.64
11	5.50	941.60	0.42
12	6.00	944.60	0.32
13	6.50	946.90	0.24
14	7.00	949.00	0.22
15	7.50	950.80	0.19
16	8.00	952.40	0.17
17	8.50	954.10	0.18
18	9.00	955.40	0.14
19	9.50	956.60	0.13
20	10.00	957.80	0.13
21	10.50	958.90	0.11
22	11.00	960.10	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +7.5E-01 ug/min Carbon

SAMPLE RESULTS:
(960.1 - 8.249725)(1)/(1) = +9.519E+02 g/L Carbon
(960.1 - 8.249725)(1)/(1)(12) = +7.932E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

1563

$\frac{957.9}{.1201g} = 7.926^{E3}$

WHC-CB-WM-DP-173, REV. 1

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1409 DUP Date: 04/17/96 Time: 14:06:18

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.09 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	61.50	96.75
3	1.51	160.10	61.59
4	2.00	258.20	37.99
5	2.50	309.80	16.66
6	3.00	330.60	6.29
7	3.50	338.90	2.45
8	4.00	343.40	1.31
9	4.50	346.40	0.87
10	5.00	348.90	0.72
11	5.50	351.00	0.60
12	6.00	353.10	0.59
13	6.50	355.00	0.54
14	7.00	356.80	0.50
15	7.50	358.40	0.45
16	8.00	359.80	0.39
17	8.50	361.20	0.39
18	9.00	362.40	0.33
19	9.50	363.50	0.30
20	10.00	364.60	0.30
21	10.50	365.70	0.30
22	11.00	366.60	0.25

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(366.6 - 22.98758)(1)/(1) = +3.436E+02 g/L Carbon
(366.6 - 22.98758)(1)/(1)(12) = +2.863E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jacque Steele
JLSTEELE 00000

$\frac{343.6}{.1201g} = 2.861^{E3}$

1564

WHC-CD-WM-DP-179, REV. 1

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1409 SPIKE Date: 04/17/96 Time: 14:20:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .75 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	7.50	0.00
2	1.01	153.40	95.11
3	1.51	499.30	69.28
4	2.00	883.10	43.46
5	2.50	1107.40	20.25
6	3.00	1239.50	10.66
7	3.50	1311.90	5.52
8	4.00	1350.20	2.84
9	4.50	1369.00	1.37
10	5.00	1378.10	0.66
11	5.50	1384.30	0.45
12	6.00	1388.20	0.28
13	6.50	1391.90	0.27
14	7.00	1395.00	0.22
15	7.50	1397.50	0.18
16	8.00	1399.60	0.15
17	8.50	1401.70	0.15
18	9.00	1403.40	0.12
19	9.50	1405.00	0.11
20	10.00	1406.50	0.11
21	10.50	1407.80	0.09
22	11.00	1409.30	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +7.5E-01 ug/min Carbon

SAMPLE RESULTS:
(1409.3 - 8.247757)(1)/(1) = +1.4011E+03 g/L Carbon
(1409.3 - 8.247757)(1)/(1)(12) = +1.1675E+02 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{1401.1}{\cancel{1365g}} = 1.0242^{24}$ 1565 JS 4/17/96

$\frac{1409.30}{\frac{951.20}{.1205} \times .1362 + 300} = \frac{1409.30}{1379.87} = 102.13\%$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1409 SPIKE Date: 04/17/96 Time: 14:32:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.09 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.20	0.00
2	1.01	59.30	96.29
3	1.50	233.10	74.56
4	2.00	463.40	49.70
5	2.51	597.60	22.46
6	3.00	643.90	7.19
7	3.50	662.00	2.73
8	4.00	669.00	1.05
9	4.50	672.40	0.51
10	5.00	675.50	0.46
11	5.50	678.60	0.46
12	6.00	680.10	0.22
13	6.50	683.20	0.45
14	7.00	685.60	0.35
15	7.50	688.30	0.39
16	8.00	695.00	0.96
17	8.50	704.20	1.31
18	9.00	711.50	1.03
19	9.50	716.50	0.70
20	10.00	719.60	0.43
21	10.50	722.10	0.35
22	11.00	723.80	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(723.8 - 22.99153)(1)/(1) = +7.008E+02 g/L Carbon
(723.8 - 22.99153)(1)/(1)(12) = +5.840E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$$\frac{723.80}{\frac{40180}{.1205} \times .1368 + 300} = \frac{723.80}{756.15} = 95.7\%$$

worklistrpt Version 2.1 05/15/95
04/18/96 14:04

LABCORE Data Entry Template for Worklist# 7230

Analyst: JLS2 **Instrument:** CARB2 _____ **Book #** 22N12A TIC 16N12E TOC

Method: LA-342-100 Rev/Mod D-0

Worklist Comment: S-102 TICTOC. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	LIQUID	1	.2	N/A	ug/mL
		1	BLNK				@TICTOC1 TOC-02	LIQUID	1	.10	N/A	ug/mL
		2	STD				@TICTOC1 TIC-02	LIQUID	6.02^{E2}	6.04^{E2}	N/A	ug/mL
		2	STD				@TICTOC1 TOC-02	LIQUID	3.00^{E3}	2.74^{E3}	N/A	ug/mL
96000094	S102	3	SAMPLE	S96T001437	0		@TICTOC1 TIC-02	LIQUID	N/A	4.54^{E3}	5.00	ug/mL
96000094	S102	3	SAMPLE	S96T001437	0		@TICTOC1 TOC-02	LIQUID	N/A	3.60^{E3}	40.0	ug/mL
96000094	S102	4	DUP	S96T001437	0		@TICTOC1 TIC-02	LIQUID	4.54^{E3}	4.68^{E3}	N/A	ug/mL
96000094	S102	4	DUP	S96T001437	0		@TICTOC1 TOC-02	LIQUID	3.60^{E3}	3.40^{E3}	N/A	ug/mL
96000094	S102	5	SPK	S96T001437	0		@TICTOC1 TIC-02	LIQUID	100	102	N/A	ug/mL
96000094	S102	5	SPK	S96T001437	0		@TICTOC1 TOC-02	LIQUID	100	92	N/A	ug/mL
96000094	S102	6	SAMPLE	S96T001125	0		@TICTOC1 TIC-02	LIQUID	N/A	3.08^{E3}	5.00	ug/mL
96000094	S102	6	SAMPLE	S96T001125	0		@TICTOC1 TOC-02	LIQUID	N/A	5.46^{E3}	40.0	ug/mL
96000094	S102	7	DUP	S96T001125	0		@TICTOC1 TIC-02	LIQUID	3.08^{E3}	2.94^{E3}	N/A	ug/mL
96000094	S102	7	DUP	S96T001125	0		@TICTOC1 TOC-02	LIQUID	5.46^{E3}	4.89^{E3}	N/A	ug/mL

Final page for worklist # 7230

Jackie Steele 4/29/96
Analyst Signature **Date**

D Hornaker 4-29-96
Analyst Signature **Date**

Approved RW Schneider 5/2/96

Data Entry Comments: Sample #S96T001125 did not pipet very well. There were bubbles in the tip so I recorded volume + weight. Results are calculated using volume.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 04/29/96 Time: 09:55:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.20	66.67
3	1.51	1.90	36.84
4	2.00	2.40	20.83
5	2.50	2.80	14.29
6	3.00	3.40	17.65
7	3.50	3.60	5.56
8	4.00	4.10	12.20
9	4.50	4.40	6.82
10	5.00	4.80	8.33
11	5.50	5.30	9.43
12	6.00	5.50	3.64
13	6.50	5.90	6.78
14	7.00	6.20	4.84
15	7.50	6.60	6.06
16	8.00	6.80	2.94
17	8.50	7.10	4.23
18	9.00	7.40	4.05
19	9.50	7.70	3.90
20	10.00	8.00	3.75
21	10.50	8.30	3.61
22	11.00	8.60	3.49

BLANK VALUE = 8.6 micrograms carbon
BLANK FACTOR = 8.6 / 10.99969 = +7.8E-01 ug/min Carbon

Sample Run By: Jacque Steele 4/26/96
JL STEELE 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 04/29/96 Time: 10:07:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.80	72.22
3	1.51	5.90	69.49
4	2.00	10.60	44.34
5	2.50	13.20	19.70
6	3.00	14.40	8.33
7	3.50	15.40	6.49
8	4.00	15.80	2.53
9	4.50	16.40	3.66
10	5.00	16.80	2.38
11	5.50	17.30	2.89
12	6.00	17.70	2.26
13	6.50	18.00	1.67
14	7.00	18.60	3.23
15	7.50	19.10	2.62
16	8.00	19.40	1.55
17	8.50	19.80	2.02
18	9.00	20.10	1.49
19	9.50	20.60	2.43
20	10.00	20.70	0.48
21	10.50	21.20	2.36
22	11.00	21.60	1.85

BLANK VALUE = 21.6 micrograms carbon
BLANK FACTOR = 21.6 / 11.00073 = +1.96E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 22N12A Date: 04/29/96 Time: 10:21:49

Sample Size = 1 uL 1ml
Dil Factor = 1
Blank ID # =
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.40	0.00
2	1.01	34.70	98.85
3	1.51	199.80	82.63
4	2.00	370.40	46.06
5	2.50	487.80	24.07
6	3.00	555.50	12.19
7	3.50	586.20	5.24
8	4.00	600.10	2.32
9	4.50	605.30	0.86
10	5.00	607.40	0.35
11	5.50	608.50	0.18
12	6.00	608.80	0.05
13	6.50	609.30	0.08
14	7.00	609.80	0.08
15	7.50	610.20	0.07
16	8.00	610.50	0.05
17	8.50	611.10	0.10
18	9.00	611.30	0.03
19	9.50	611.60	0.05
20	10.00	612.00	0.07
21	10.50	612.30	0.05
22	11.00	612.70	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(612.7 - 8.580523)(1)/(1) = +6.041E+02 g/L Carbon
(612.7 - 8.580523)(1)/(1)(12) = +5.034E+01 Molar Carbon

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{604.1}{602} = 100.35\%$

WHC-CD-WM-DP-179, REV. 1

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 16N12E Date: 04/29/96 Time: 10:35:17

Sample Size = 1 uL .200ml
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	42.20	98.34
3	1.50	208.70	79.78
4	2.00	421.00	50.43
5	2.50	523.00	19.50
6	3.01	549.30	4.79
7	3.51	557.60	1.49
8	4.00	561.20	0.64
9	4.50	562.40	0.21
10	5.00	563.50	0.20
11	5.50	564.40	0.16
12	6.00	565.30	0.16
13	6.50	566.10	0.14
14	7.00	566.50	0.07
15	7.50	567.30	0.14
16	8.00	567.60	0.05
17	8.50	568.10	0.09
18	9.00	568.70	0.11
19	9.50	569.00	0.05
20	10.00	569.30	0.05
21	10.50	569.90	0.11
22	11.00	570.10	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(570.1 - 21.56084)(1)/(1) = +5.485E+02 g/L Carbon
(570.1 - 21.56084)(1)/(1)(12) = +4.571E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

548.5 / .200ml = 2742.5/3000 = 91.42%

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 04/29/96 Time: 10:47:17

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.00	2.00	80.00
3	1.50	3.00	33.33
4	2.00	3.50	14.29
5	2.50	4.00	12.50
6	3.00	4.30	6.98
7	3.50	4.60	6.52
8	4.00	4.90	6.12
9	4.50	5.20	5.77
10	5.00	5.60	7.14
11	5.50	5.80	3.45
12	6.00	6.00	3.33
13	6.50	6.40	6.25
14	7.00	6.70	4.48
15	7.50	6.90	2.90
16	8.00	7.20	4.17
17	8.50	7.50	4.00
18	9.00	7.70	2.60
19	9.50	8.00	3.75
20	10.00	8.20	2.44
21	10.50	8.50	3.53
22	11.00	8.80	3.41

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(8.8 - 8.579095)(1)/(1) = +2.2E-01 g/L Carbon
(8.8 - 8.579095)(1)/(1)(12) = +1.8E-02 Molar Carbon

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

|8.80 - 8.60| = .20

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 04/29/96 Time: 10:59:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	2.40	87.50
3	1.50	6.60	63.64
4	2.00	11.80	44.07
5	2.50	14.30	17.48
6	3.00	15.30	6.54
7	3.50	16.20	5.56
8	4.00	16.70	2.99
9	4.50	17.10	2.34
10	5.00	17.60	2.84
11	5.50	17.90	1.68
12	6.00	18.50	3.24
13	6.50	18.70	1.07
14	7.00	19.20	2.60
15	7.50	19.40	1.03
16	8.00	19.80	2.02
17	8.50	20.10	1.49
18	9.00	20.40	1.47
19	9.50	20.70	1.45
20	10.00	21.00	1.43
21	10.50	21.30	1.41
22	11.00	21.70	1.84

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(21.7 - 21.55414)(1)/(1) = +1.46E-01 g/L Carbon
(21.7 - 21.55414)(1)/(1)(12) = +1.22E-02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

|21.70-21.60| = .10

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001437 Date: 04/29/96 Time: 12:07:54

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	11.90	93.28
3	1.51	77.50	84.65
4	2.00	177.40	56.31
5	2.50	283.00	37.31
6	3.00	348.00	18.68
7	3.50	385.40	9.70
8	4.00	406.70	5.24
9	4.50	420.00	3.17
10	5.00	428.40	1.96
11	5.50	435.60	1.65
12	6.00	441.40	1.31
13	6.50	445.20	0.85
14	7.00	448.70	0.78
15	7.50	452.00	0.73
16	8.00	454.30	0.51
17	8.50	456.00	0.37
18	9.00	457.60	0.35
19	9.50	459.00	0.31
20	10.00	460.30	0.28
21	10.50	461.50	0.26
22	11.00	462.30	0.17

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(462.3 - 8.579095)(1)/(1) = +4.537E+02 g/L Carbon
(462.3 - 8.579095)(1)/(1)(12) = +3.781E+01 Molar Carbon

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{453.7}{.100ml} = 4.537E3$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001437 Date: 04/29/96 Time: 12:20:35

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	10.80	88.89
3	1.50	61.00	82.30
4	2.00	158.30	61.47
5	2.50	230.10	31.20
6	3.00	266.80	13.76
7	3.50	288.30	7.46
8	4.00	304.10	5.20
9	4.50	317.10	4.10
10	5.00	328.00	3.32
11	5.50	337.80	2.90
12	6.00	346.00	2.37
13	6.50	352.60	1.87
14	7.00	358.70	1.70
15	7.50	363.20	1.24
16	8.00	367.20	1.09
17	8.50	370.70	0.94
18	9.00	373.20	0.67
19	9.50	375.90	0.72
20	10.00	377.90	0.53
21	10.50	379.90	0.53
22	11.00	381.20	0.34

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(381.2 - 21.56299)(1)/(1) = +3.596E+02 g/L Carbon
(381.2 - 21.56299)(1)/(1)(12) = +2.997E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{359.6}{.100ml} = 3.596^{E3}$ 1575

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1437 DUP Date: 04/29/96 Time: 12:32:28

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	22.40	94.20
3	1.51	119.00	81.18
4	2.00	235.40	49.45
5	2.50	323.00	27.12
6	3.00	375.10	13.89
7	3.50	404.20	7.20
8	4.00	421.70	4.15
9	4.50	432.70	2.54
10	5.00	441.10	1.90
11	5.50	448.70	1.69
12	6.00	453.90	1.15
13	6.50	458.00	0.90
14	7.00	461.60	0.78
15	7.50	464.50	0.62
16	8.00	467.40	0.62
17	8.50	469.10	0.36
18	9.00	471.20	0.45
19	9.50	472.50	0.28
20	10.00	473.70	0.25
21	10.50	475.00	0.27
22	11.00	476.10	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(476.1 - 8.580523)(1)/(1) = +4.675E+02 g/L Carbon
(476.1 - 8.580523)(1)/(1)(12) = +3.896E+01 Molar Carbon

Sample Run By: Jacque Steele 4/26/96
JL STEELE 00000

$\frac{467.5}{.100ml} = 4.675^{E3}$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1437 DUP Date: 04/29/96 Time: 12:44:57

Sample Size = 1 uL .100ml
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.80	0.00
2	1.01	13.50	86.67
3	1.51	65.70	79.45
4	2.01	158.30	58.50
5	2.51	224.50	29.49
6	3.00	257.60	12.85
7	3.50	276.50	6.84
8	4.00	290.10	4.69
9	4.50	301.40	3.75
10	5.00	310.40	2.90
11	5.50	319.40	2.82
12	6.00	326.60	2.20
13	6.50	332.80	1.86
14	7.00	338.20	1.60
15	7.50	343.20	1.46
16	8.00	347.20	1.15
17	8.50	350.10	0.83
18	9.00	352.90	0.79
19	9.50	355.70	0.79
20	10.00	357.90	0.61
21	10.50	359.60	0.47
22	11.00	361.40	0.50

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(361.4 - 21.56144)(1)/(1) = +3.398E+02 g/L Carbon
(361.4 - 21.56144)(1)/(1)(12) = +2.832E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{339.8}{.100ml} = 3.398E3$

1577

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1437 SPIKE Date: 04/29/96 Time: 12:57:26

Sample Size = 1 uL .100ml
Dil Factor = 1 + .500ml
Blank ID # = 22N12A
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	50.40	98.61
3	1.50	271.10	81.41
4	2.00	475.10	42.94
5	2.50	597.00	20.42
6	3.00	660.50	9.61
7	3.50	694.90	4.95
8	4.00	715.20	2.84
9	4.50	728.60	1.84
10	5.00	738.80	1.38
11	5.50	747.60	1.18
12	6.00	754.20	0.88
13	6.50	759.50	0.70
14	7.00	763.30	0.50
15	7.50	767.10	0.50
16	8.00	769.80	0.35
17	8.50	772.80	0.39
18	9.00	774.70	0.25
19	9.50	776.60	0.24
20	10.00	778.10	0.19
21	10.50	779.50	0.18
22	11.00	780.80	0.17

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(780.8 - 8.579857)(1)/(1) = +7.722E+02 g/L Carbon
(780.8 - 8.579857)(1)/(1)(12) = +6.435E+01 Molar Carbon

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$$\frac{780.80}{462.30 + 300} = \frac{780.80}{762.30} = 102.43\%$$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1437 SPIKE Date: 04/29/96 Time: 13:09:53

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	15.70	87.26
3	1.51	99.00	84.14
4	2.00	304.40	67.48
5	2.50	455.70	33.20
6	3.00	513.40	11.24
7	3.50	540.90	5.08
8	4.00	557.00	2.89
9	4.50	568.50	2.02
10	5.00	577.90	1.63
11	5.50	585.90	1.37
12	6.00	592.90	1.18
13	6.50	598.90	1.00
14	7.00	603.60	0.78
15	7.50	608.00	0.72
16	8.00	611.60	0.59
17	8.50	614.50	0.47
18	9.00	617.50	0.49
19	9.50	620.30	0.45
20	10.00	622.50	0.35
21	10.50	624.70	0.35
22	11.00	626.20	0.24

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(626.2 - 21.55952)(1)/(1) = +6.046E+02 g/L Carbon
(626.2 - 21.55952)(1)/(1)(12) = +5.039E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{626.20}{381.20 + 300} = \frac{626.20}{681.20} = 91.93\%$

1579

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001125 Date: 04/29/96 Time: 13:23:33

Sample Size = 1 uL .113kg / .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	3.10	70.97
3	1.50	14.90	79.19
4	2.00	42.40	64.86
5	2.50	70.40	39.77
6	3.00	99.70	29.39
7	3.50	151.40	34.15
8	4.00	194.60	22.20
9	4.50	225.20	13.59
10	5.00	246.70	8.72
11	5.50	262.20	5.91
12	6.00	273.60	4.17
13	6.50	282.10	3.01
14	7.00	290.80	2.99
15	7.50	296.30	1.86
16	8.00	301.20	1.63
17	8.50	305.10	1.28
18	9.00	307.70	0.84
19	9.50	310.70	0.97
20	10.00	313.10	0.77
21	10.50	314.90	0.57
22	11.00	316.80	0.60

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(316.8 - 8.580523)(1)/(1) = +3.082E+02 g/L Carbon
(316.8 - 8.580523)(1)/(1)(12) = +2.568E+01 Molar Carbon

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{308.2}{.100mL} = 3.082^{E3}$ OR $\frac{308.2}{.113kg} = 2.713^{E3}$ 1580

[illegible] recorded volume + weight.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001125 Date: 04/29/96 Time: 13:35:57

Sample Size = 1 uL .113bg/.100mL
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.60	0.00
2	1.01	19.60	86.73
3	1.51	105.80	81.47
4	2.00	294.60	64.09
5	2.50	420.10	29.87
6	3.00	474.00	11.37
7	3.50	500.60	5.31
8	4.00	515.20	2.83
9	4.50	524.20	1.72
10	5.00	530.80	1.24
11	5.50	536.20	1.01
12	6.00	541.80	1.03
13	6.50	545.70	0.71
14	7.00	549.00	0.60
15	7.50	552.30	0.60
16	8.00	555.20	0.52
17	8.50	557.40	0.39
18	9.00	559.60	0.39
19	9.50	561.80	0.39
20	10.00	564.20	0.43
21	10.50	565.50	0.23
22	11.00	567.50	0.35

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(567.5 - 21.5594)(1)/(1) = +5.459E+02 g/L Carbon
(567.5 - 21.5594)(1)/(1)(12) = +4.550E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

$\frac{545.9}{.100mL} = 5.459^{E3}$ $\frac{545.9}{.113bg} = 4805^{E3}$

1581

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1125 DUP Date: 04/29/96 Time: 13:47:46

Sample Size = 1 uL .0993 / .100ml
Dil Factor = 1
Blank ID # =
Blank Value = .78 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.00	4.80	75.00
3	1.51	18.90	74.60
4	2.00	46.50	59.35
5	2.50	73.60	36.82
6	3.00	95.30	22.77
7	3.50	125.40	24.00
8	4.00	167.20	25.00
9	4.50	199.20	16.06
10	5.00	221.90	10.23
11	5.50	238.20	6.84
12	6.00	252.00	5.48
13	6.50	262.50	4.00
14	7.00	270.50	2.96
15	7.50	277.70	2.59
16	8.00	283.00	1.87
17	8.50	287.30	1.50
18	9.00	291.90	1.58
19	9.50	294.90	1.02
20	10.00	297.50	0.87
21	10.50	300.60	1.03
22	11.00	302.60	0.66

USER INPUT BLANK VALUE
BLANK VALUE = 8.580571 micrograms carbon
BLANK FACTOR = 8.580571 / 11.00073 = +7.8E-01 ug/min Carbon

SAMPLE RESULTS:
(302.6 - 8.578334)(1)/(1) = +2.940E+02 g/L Carbon
(302.6 - 8.578334)(1)/(1)(12) = +2.450E+01 Molar Carbon

Sample Run By: Jackie Steele 4/29/96
JL STEELE 00000

$\frac{294.0}{.100ml} = 2.940^{E3}$ $\frac{294.0}{.0993} = 2.961^{E3}$

1582

WHC-CD-WM-DP-173, REV. 1

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1125 DUP Date: 04/29/96 Time: 13:59:45

Sample Size = 1 uL .100ml/.0993g
Dil Factor = 1
Blank ID # =
Blank Value = 1.96 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	8.40	0.00
2	1.01	57.80	85.47
3	1.50	191.10	69.75
4	2.00	349.20	45.27
5	2.50	420.00	16.86
6	3.00	447.90	6.23
7	3.50	461.70	2.99
8	4.00	468.40	1.43
9	4.50	473.80	1.14
10	5.00	478.70	1.02
11	5.50	483.20	0.93
12	6.00	487.30	0.84
13	6.50	490.60	0.67
14	7.00	492.90	0.47
15	7.50	495.60	0.54
16	8.00	498.50	0.58
17	8.50	500.60	0.42
18	9.00	503.30	0.54
19	9.50	505.10	0.36
20	10.00	506.90	0.36
21	10.50	508.70	0.35
22	11.00	510.50	0.35

USER INPUT BLANK VALUE
BLANK VALUE = 21.56144 micrograms carbon
BLANK FACTOR = 21.56144 / 11.00073 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(510.5 - 21.56287)(1)/(1) = +4.889E+02 g/L Carbon
(510.5 - 21.56287)(1)/(1)(12) = +4.074E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 4/29/96
JL STEELE 00000

$\frac{488.9}{.100ml} = 4.889E3$ $\frac{488.9}{.0993g} = 4.923E3$

1583

[illegible] recorded volume + weight

LABCORE Data Entry Template for Worklist# 7236

Analyst: JLS2 **Instrument:** CARB2 _____ **Book #** 22N12-A 16N12-E

Method: LA-342-100 Rev/Mod D-0

Worklist Comment: S-102 TICTOC. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	1.6	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	2.3	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.02E2	5.93E2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	3.00E3	2.80E3	N/A	ug/g
96000094	S102	3	SAMPLE	S96T001429	0		@TICTOC1 TIC-02	SOLID	N/A	1.30E4		ug/g
96000094	S102	3	SAMPLE	S96T001429	0		@TICTOC1 TOC-02	SOLID	N/A	9.17E3		ug/g
96000094	S102	4	DUP	S96T001429	0		@TICTOC1 TIC-02	SOLID	1.30E4	1.33E4	N/A	ug/g
96000094	S102	4	DUP	S96T001429	0		@TICTOC1 TOC-02	SOLID	9.17E3	8.83E3	N/A	ug/g
96000094	S102	5	SPK	S96T001429	0		@TICTOC1 TIC-02	SOLID	100	106	N/A	ug/g
96000094	S102	5	SPK	S96T001429	0		@TICTOC1 TOC-02	SOLID	100	98	N/A	ug/g
96000094	S102	6	SAMPLE	S96T001430	0		@TICTOC1 TIC-02	SOLID	N/A	4.55E3		ug/g
96000094	S102	6	SAMPLE	S96T001430	0		@TICTOC1 TOC-02	SOLID	N/A	1.27E4		ug/g
96000094	S102	7	DUP	S96T001430	0		@TICTOC1 TIC-02	SOLID	4.55E3	3.93E3	N/A	ug/g
96000094	S102	7	DUP	S96T001430	0		@TICTOC1 TOC-02	SOLID	1.27E4	1.33E4	N/A	ug/g

Final page for worklist # 7236

Jacque Steele 4/26/96
Analyst Signature **Date**

RW Schroeder 4/29/96
Analyst Signature **Date**

approved RW Schroeder 4/29/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 04/26/96 Time: 10:58:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.00	60.00
3	1.51	1.60	37.50
4	2.00	2.20	27.27
5	2.51	2.60	15.38
6	3.01	2.90	10.34
7	3.51	3.30	12.12
8	4.01	3.60	8.33
9	4.50	3.90	7.69
10	5.00	4.20	7.14
11	5.50	4.70	10.64
12	6.00	4.90	4.08
13	6.50	5.30	7.55
14	7.00	5.50	3.64
15	7.50	5.80	5.17
16	8.00	6.10	4.92
17	8.50	6.40	4.69
18	9.00	6.70	4.48
19	9.50	7.10	5.63
20	10.00	7.40	4.05
21	10.50	7.80	5.13
22	11.00	8.10	3.70

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1585 TO 1600.

BLANK VALUE = 8.1 micrograms carbon
BLANK FACTOR = 8.1 / 11.00165 = +7.4E-01 ug/min Carbon

Sample Run By: Jackie Steele 4/26/96
JL STEELE 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 04/26/96 Time: 11:10:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.50	86.67
3	1.51	6.30	76.19
4	2.00	11.80	46.61
5	2.50	14.50	18.62
6	3.00	15.70	7.64
7	3.50	16.50	4.85
8	4.00	17.00	2.94
9	4.50	17.80	4.49
10	5.00	18.20	2.20
11	5.50	18.80	3.19
12	6.00	19.30	2.59
13	6.50	19.80	2.53
14	7.00	20.30	2.46
15	7.50	20.90	2.87
16	8.00	21.10	0.95
17	8.50	21.50	1.86
18	9.00	21.80	1.38
19	9.50	22.40	2.68
20	10.00	22.60	0.88
21	10.50	23.00	1.74
22	11.00	23.50	2.13

BLANK VALUE = 23.5 micrograms carbon
BLANK FACTOR = 23.5 / 11.00067 = +2.14E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

WHC-SD-WM-DP-173, REV. 1

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 22N12A Date: 04/26/96 Time: 11:23:51

Sample Size = 1 uL 1ml
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.60	0.00
2	1.01	90.00	98.22
3	1.51	259.80	65.36
4	2.00	410.10	36.65
5	2.50	504.70	18.74
6	3.00	556.90	9.37
7	3.50	581.00	4.15
8	4.00	590.00	1.53
9	4.50	593.60	0.61
10	5.00	595.10	0.25
11	5.50	596.00	0.15
12	6.00	596.80	0.13
13	6.50	597.60	0.13
14	7.00	597.90	0.05
15	7.50	598.10	0.03
16	8.00	598.50	0.07
17	8.50	598.90	0.07
18	9.00	599.30	0.07
19	9.50	599.70	0.07
20	10.00	600.00	0.05
21	10.50	600.40	0.07
22	11.00	600.70	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(600.7 - 8.141084)(1)/(1) = +5.926E+02 g/L Carbon
(600.7 - 8.141084)(1)/(1)(12) = +4.938E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{592.6}{602} = 98.442$

1587

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 16N12E Date: 04/26/96 Time: 11:36:52

Sample Size = 1 uL .200ml
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	49.00	98.78
3	1.51	215.50	77.26
4	2.00	423.80	49.15
5	2.50	526.80	19.55
6	3.00	561.40	6.16
7	3.50	570.90	1.66
8	4.00	574.30	0.59
9	4.50	576.00	0.30
10	5.00	576.90	0.16
11	5.50	578.00	0.19
12	6.00	578.60	0.10
13	6.50	579.30	0.12
14	7.00	579.80	0.09
15	7.50	580.40	0.10
16	8.00	581.00	0.10
17	8.50	581.40	0.07
18	9.00	581.90	0.09
19	9.50	582.40	0.09
20	10.00	582.80	0.07
21	10.50	583.20	0.07
22	11.00	583.70	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(583.7 - 23.53961)(1)/(1) = +5.602E+02 g/L Carbon
(583.7 - 23.53961)(1)/(1)(12) = +4.668E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jacque Steele
JL STEELE 00000

$\frac{560.2}{.200ml} = \frac{2801}{3000} = 93.37\%$

1588

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 04/26/96 Time: 11:53:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	2.00	75.00
3	1.50	3.10	35.48
4	2.00	3.60	13.89
5	2.50	4.30	16.28
6	3.00	4.60	6.52
7	3.50	4.90	6.12
8	4.00	5.50	10.91
9	4.50	5.50	0.00
10	5.00	5.90	6.78
11	5.50	6.20	4.84
12	6.00	6.50	4.62
13	6.50	6.90	5.80
14	7.00	7.20	4.17
15	7.50	7.50	4.00
16	8.00	7.80	3.85
17	8.50	8.20	4.88
18	9.00	8.40	2.38
19	9.50	8.70	3.45
20	10.00	9.10	4.40
21	10.50	9.40	3.19
22	11.00	9.70	3.09

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(9.7 - 8.139097)(1)/(1) = +1.6E+00 g/L Carbon
(9.7 - 8.139097)(1)/(1)(12) = +1.3E-01 Molar Carbon

Sample Run By: Jacque Steele
JL STEELE 00000

| 9.70-8.10 | = 1.6

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 04/26/96 Time: 12:05:48

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	2.20	90.91
3	1.51	7.00	68.57
4	2.00	11.50	39.13
5	2.50	13.90	17.27
6	3.00	14.90	6.71
7	3.50	15.60	4.49
8	4.00	16.30	4.29
9	4.50	16.70	2.40
10	5.00	17.00	1.76
11	5.50	17.50	2.86
12	6.00	17.80	1.69
13	6.50	18.20	2.20
14	7.00	18.80	3.19
15	7.50	19.00	1.05
16	8.00	19.30	1.55
17	8.50	19.70	2.03
18	9.00	20.00	1.50
19	9.50	20.30	1.48
20	10.00	20.60	1.46
21	10.50	20.90	1.44
22	11.00	21.20	1.42

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(21.2 - 23.5336)(1)/(1) = < 5.00 E-3 g/L Carbon
(21.2 - 23.5336)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

|21.20 - 23.50| = 2.3

1590

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001429 Date: 04/26/96 Time: 12:26:03

Sample Size = 1 uL .0801g
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	33.60	99.11
3	1.51	335.90	90.00
4	2.00	614.20	45.31
5	2.50	787.60	22.02
6	3.00	879.50	10.45
7	3.50	936.40	6.08
8	4.00	979.10	4.36
9	4.50	1005.10	2.59
10	5.00	1017.20	1.19
11	5.50	1024.40	0.70
12	6.00	1029.00	0.45
13	6.50	1033.20	0.41
14	7.00	1036.10	0.28
15	7.50	1038.70	0.25
16	8.00	1040.80	0.20
17	8.50	1043.00	0.21
18	9.00	1044.40	0.13
19	9.50	1045.90	0.14
20	10.00	1047.30	0.13
21	10.50	1048.10	0.08
22	11.00	1049.30	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(1049.3 - 8.139097)(1)/(1) = +1.0412E+03 g/L Carbon
(1049.3 - 8.139097)(1)/(1)(12) = +8.6763E+01 Molar Carbon

Sample Run By: Jackie Steele
JLOSTEELE 00000

$\frac{1041.2}{.0801g} = 1.2999e4$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001429 Date: 04/26/96 Time: 12:38:09

Sample Size = 1 uL .0801g
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.40	0.00
2	1.01	94.50	98.52
3	1.50	448.80	78.94
4	2.00	638.90	29.75
5	2.50	707.80	9.73
6	3.00	730.60	3.12
7	3.50	738.40	1.06
8	4.00	742.30	0.53
9	4.50	745.10	0.38
10	5.00	747.00	0.25
11	5.50	748.50	0.20
12	6.00	749.90	0.19
13	6.50	751.20	0.17
14	7.00	752.10	0.12
15	7.50	753.10	0.13
16	8.00	753.90	0.11
17	8.50	754.60	0.09
18	9.00	755.40	0.11
19	9.50	756.10	0.09
20	10.00	757.00	0.12
21	10.50	757.50	0.07
22	11.00	758.10	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(758.1 - 23.53935)(1)/(1) = +7.346E+02 g/L Carbon
(758.1 - 23.53935)(1)/(1)(12) = +6.121E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jerre Steele
JL STEELE 00000

$\frac{734.4}{.0801g} = 9.171^{e3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1429 DUP Date: 04/26/96 Time: 12:50:26

Sample Size = 1 uL .1300g
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.00	153.00	99.02
3	1.50	836.00	81.70
4	2.00	1248.70	33.05
5	2.50	1463.50	14.68
6	3.00	1574.40	7.04
7	3.50	1630.90	3.46
8	4.00	1660.80	1.80
9	4.50	1679.30	1.10
10	5.00	1691.30	0.71
11	5.50	1699.60	0.49
12	6.00	1706.40	0.40
13	6.50	1711.70	0.31
14	7.00	1716.40	0.27
15	7.50	1720.10	0.22
16	8.00	1722.90	0.16
17	8.50	1725.90	0.17
18	9.00	1728.20	0.13
19	9.50	1730.20	0.12
20	10.00	1731.90	0.10
21	10.50	1733.70	0.10
22	11.00	1735.30	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(1735.3 - 8.139142)(1)/(1) = +1.7272E+03 g/L Carbon
(1735.3 - 8.139142)(1)/(1)(12) = +1.4393E+02 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

~~1722~~ 1727.2 / .1300g = 1.3286 E4
4/26/96

1593

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1429 DUP Date: 04/26/96 Time: 13:02:17

Sample Size = 1 uL .1300g
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.20	0.00
2	1.01	126.30	98.26
3	1.50	644.90	80.42
4	2.00	948.30	31.99
5	2.50	1076.40	11.90
6	3.00	1121.90	4.06
7	3.50	1138.60	1.47
8	4.00	1145.90	0.64
9	4.50	1150.50	0.40
10	5.00	1154.30	0.33
11	5.50	1157.10	0.24
12	6.00	1159.30	0.19
13	6.50	1160.90	0.14
14	7.00	1162.80	0.16
15	7.50	1164.30	0.13
16	8.00	1165.80	0.13
17	8.50	1166.90	0.09
18	9.00	1168.00	0.09
19	9.50	1168.90	0.08
20	10.00	1169.90	0.09
21	10.50	1170.80	0.08
22	11.00	1171.70	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(1171.7 - 23.53974)(1)/(1) = +1.1482E+03 g/L Carbon
(1171.7 - 23.53974)(1)/(1)(12) = +9.5680E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{1148.2}{.1300g} = 8.832^{E3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1429 SPIKE Date: 04/26/96 Time: 13:14:20

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	75.70	98.94
3	1.51	530.80	85.74
4	2.01	938.70	43.45
5	2.51	1210.50	22.45
6	3.01	1381.30	12.37
7	3.50	1469.40	6.00
8	4.00	1514.40	2.97
9	4.50	1536.70	1.45
10	5.00	1548.80	0.78
11	5.50	1556.70	0.51
12	6.00	1562.70	0.38
13	6.50	1568.00	0.34
14	7.00	1572.50	0.29
15	7.50	1576.40	0.25
16	8.00	1579.30	0.18
17	8.50	1582.20	0.18
18	9.00	1584.60	0.15
19	9.50	1586.80	0.14
20	10.00	1588.80	0.13
21	10.50	1590.60	0.11
22	11.00	1592.00	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(1592 - 8.139774)(1)/(1) = +1.5839E+03 g/L Carbon
(1592 - 8.139774)(1)/(1)(12) = +1.3199E+02 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$$\frac{1592.00}{\frac{1049.30}{.0801g} \times .0919g + 300} = \frac{1592.00}{1503.88} = 105.86\%$$

1595

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1429 SPIKE Date: 04/26/96 Time: 13:27:03

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.00	0.00
2	1.01	102.50	98.05
3	1.51	528.60	80.61
4	2.00	878.70	39.84
5	2.50	1037.40	15.30
6	3.00	1093.10	5.10
7	3.50	1112.80	1.77
8	4.00	1120.30	0.67
9	4.50	1126.50	0.55
10	5.00	1131.20	0.42
11	5.50	1134.10	0.26
12	6.00	1136.50	0.21
13	6.50	1138.10	0.14
14	7.00	1139.70	0.14
15	7.50	1140.90	0.11
16	8.00	1142.30	0.12
17	8.50	1143.30	0.09
18	9.00	1144.50	0.10
19	9.50	1145.40	0.08
20	10.00	1146.30	0.08
21	10.50	1147.40	0.10
22	11.00	1148.10	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(1148.1 - 23.53569)(1)/(1) = +1.1246E+03 g/L Carbon
(1148.1 - 23.53569)(1)/(1)(12) = +9.3714E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$$\frac{1148.10}{\frac{758.10}{.0001} \times .0919 + 300} = \frac{1148.10}{1169.78} = 98.15\%$$

1596

WHC-SD-WM-DP-179, REV. 1

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001430 Date: 04/26/96 Time: 13:38:57

Sample Size = 1 uL .0528g
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	7.00	85.71
3	1.51	46.60	84.98
4	2.00	105.40	55.79
5	2.50	155.30	32.13
6	3.00	187.00	16.95
7	3.50	204.30	8.47
8	4.00	213.60	4.35
9	4.50	219.00	2.47
10	5.00	223.10	1.84
11	5.50	227.00	1.72
12	6.00	230.30	1.43
13	6.50	232.80	1.07
14	7.00	235.50	1.15
15	7.50	237.60	0.88
16	8.00	239.70	0.88
17	8.50	241.50	0.75
18	9.00	243.00	0.62
19	9.50	244.30	0.53
20	10.00	245.80	0.61
21	10.50	247.30	0.61
22	11.00	248.40	0.44

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(248.4 - 8.139142)(1)/(1) = +2.403E+02 g/L Carbon
(248.4 - 8.139142)(1)/(1)(12) = +2.002E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{240.3}{.0528g} = 4.551^{E3}$

1597

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001430 Date: 04/26/96 Time: 13:51:28

Sample Size = 1 uL .0528g
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	120.00	98.58
3	1.51	399.40	69.95
4	2.00	556.30	28.20
5	2.50	634.30	12.30
6	3.00	668.30	5.09
7	3.50	680.00	1.72
8	4.00	685.20	0.76
9	4.50	688.00	0.41
10	5.00	690.40	0.35
11	5.50	692.20	0.26
12	6.00	693.60	0.20
13	6.50	695.00	0.20
14	7.00	696.30	0.19
15	7.50	697.30	0.14
16	8.00	698.10	0.11
17	8.50	699.20	0.16
18	9.00	700.00	0.11
19	9.50	700.90	0.13
20	10.00	701.40	0.07
21	10.50	702.10	0.10
22	11.00	703.00	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(703 - 23.53151)(1)/(1) = +6.795E+02 g/L Carbon
(703 - 23.53151)(1)/(1)(12) = +5.662E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{679.5}{.0528g} = 1.2689E4$

1598

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1430 DUP Date: 04/26/96 Time: 14:03:14

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	5.00	84.00
3	1.51	35.80	86.03
4	2.01	99.90	64.16
5	2.51	167.00	40.18
6	3.01	214.00	21.96
7	3.51	240.60	11.06
8	4.01	254.20	5.35
9	4.51	261.60	2.83
10	5.01	266.80	1.95
11	5.51	270.90	1.51
12	6.01	274.40	1.28
13	6.51	277.20	1.01
14	7.01	279.80	0.93
15	7.51	282.00	0.78
16	8.00	284.20	0.77
17	8.50	286.20	0.70
18	9.00	287.70	0.52
19	9.50	289.30	0.55
20	10.00	290.60	0.45
21	10.50	292.00	0.48
22	11.00	293.10	0.38

USER INPUT BLANK VALUE
BLANK VALUE = 8.140497 micrograms carbon
BLANK FACTOR = 8.140497 / 11.00067 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(293.1 - 8.142439)(1)/(1) = +2.850E+02 g/L Carbon
(293.1 - 8.142439)(1)/(1)(12) = +2.375E+01 Molar Carbon

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{285.0}{.072 kg} = 3.926^{E3}$

WHC-SD-WM-DP-170, REV. 1

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1430 DUP .0726g Date: 04/26/96 Time: 14:15:56

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.14 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.10	0.00
2	1.01	227.60	99.08
3	1.51	611.30	62.77
4	2.00	813.20	24.83
5	2.50	907.00	10.34
6	3.00	946.10	4.13
7	3.50	960.80	1.53
8	4.00	966.70	0.61
9	4.50	970.30	0.37
10	5.00	973.80	0.36
11	5.50	976.10	0.24
12	6.00	977.90	0.18
13	6.50	979.30	0.14
14	7.00	980.40	0.11
15	7.50	981.60	0.12
16	8.00	982.50	0.09
17	8.50	983.40	0.09
18	9.00	984.20	0.08
19	9.50	984.90	0.07
20	10.00	985.70	0.08
21	10.50	986.60	0.09
22	11.00	987.40	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 23.54144 micrograms carbon
BLANK FACTOR = 23.54144 / 11.00067 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(987.4 - 23.53739)(1)/(1) = +9.639E+02 g/L Carbon
(987.4 - 23.53739)(1)/(1)(12) = +8.032E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele
JL STEELE 00000

$\frac{963.9}{.0726g} = 1.3277E^4$

1600

worklistrpt Version 2.1 05/15/95
05/02/96 13:56

LABCORE Data Entry Template for Worklist# 7237

Analyst: RJ McCann **Instrument:** CARB2 _____ **Book #** TIC 22N12A TOC 16N12E

Method: LA-342-100 Rev/Mod D-0

Worklist Comment: S-102 TICTOC. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	1.40	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	9.90	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.02 E2	6.00 E2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	299 E3	2.75 E3	N/A	ug/g
96000094	S102	3	SAMPLE	S96T001431	0		@TICTOC1 TIC-02	SOLID	N/A	2.80 E3	5.00	ug/g
96000094	S102	3	SAMPLE	S96T001431	0		@TICTOC1 TOC-02	SOLID	N/A	6.37 E3	40.0	ug/g
96000094	S102	4	DUP	S96T001431	0		@TICTOC1 TIC-02	SOLID	2.80 E3	2.59 E3	N/A	ug/g
96000094	S102	4	DUP	S96T001431	0		@TICTOC1 TOC-02	SOLID	6.37 E3	6.56 E3	N/A	ug/g
96000094	S102	5	SPK	S96T001431	0		@TICTOC1 TIC-02	RWS 5/14/96 SOLID	~~600~~ 100	94.9	N/A	ug/g
96000094	S102	5	SPK	S96T001431	0		@TICTOC1 TOC-02	SOLID	100	101.5	N/A	ug/g
96000094	S102	6	SAMPLE	S96T001432	0		@TICTOC1 TIC-02	SOLID	N/A	6.67 E3	5.00	ug/g
96000094	S102	6	SAMPLE	S96T001432	0		@TICTOC1 TOC-02	SOLID	N/A	4.53 E3	40.0	ug/g
96000094	S102	7	DUP	S96T001432	0		@TICTOC1 TIC-02	SOLID	6.67 E3	6.06 E3	N/A	ug/g
96000094	S102	7	DUP	S96T001432	0		@TICTOC1 TOC-02	SOLID	4.53 E3	4.64 E3	N/A	ug/g
96000094	S102	8	SAMPLE	S96T001433	0		@TICTOC1 TIC-02	SOLID	N/A	5.13 E3	5.00	ug/g
96000094	S102	8	SAMPLE	S96T001433	0		@TICTOC1 TOC-02	SOLID	N/A	4.68 E3	40.0	ug/g
96000094	S102	9	DUP	S96T001433	0		@TICTOC1 TIC-02	SOLID	5.13 E3	5.22 E3	N/A	ug/g
96000094	S102	9	DUP	S96T001433	0		@TICTOC1 TOC-02	SOLID	4.68 E3	4.46 E3	N/A	ug/g

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 7237

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
96000094	S102	10	SAMPLE	S96T001434	0		@TICTOC1 TIC-02	SOLID	N/A	4.31^{E3}	5.00	ug/g
96000094	S102	10	SAMPLE	S96T001434	0		@TICTOC1 TOC-02	SOLID	N/A	1.10^{E4}	40.0	ug/g
96000094	S102	11	DUP	S96T001434	0		@TICTOC1 TIC-02	SOLID	4.31^{E3}	4.21^{E3}	N/A	ug/g
96000094	S102	11	DUP	S96T001434	0		@TICTOC1 TOC-02	SOLID	1.10^{E4}	1.12^{E4}	N/A	ug/g

Final page for worklist # 7237

RJ Mcwll 5-12-96
Analyst Signature **Date**

RHA 5-14-96
Analyst Signature **Date**

Approved RW Schroeder 5/16/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 7237

Analyst: _____ **Instrument:** CARB2 _____ **Book#** _____

Method: LA-342-100 Rev/Mod D0

Worklist Comment: S-102 TICTOC. RCJ MANUAL DATA ENTRY PER RWS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S96T001431	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested:	TIC-02 , TOC-02						
4	DUP	S96T001431	0		@TICTOC1	SOLID		
5	SPK	S96T001431	0		@TICTOC1	SOLID		
6	SAMPLE	S96T001432	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested:	TIC-02 , TOC-02						
7	DUP	S96T001432	0		@TICTOC1	SOLID		
8	SAMPLE	S96T001433	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested:	TIC-02 , TOC-02						
9	DUP	S96T001433	0		@TICTOC1	SOLID		
10	SAMPLE	S96T001434	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested:	TIC-02 , TOC-02						
11	DUP	S96T001434	0		@TICTOC1	SOLID		

Final page for worklist # 7237

Analyst Signature **Date**

Analyst Signature **Date**
(T, 7237)

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work	µg of Carbon in Sample	(C1)	5.4	25.8
7237	µg of Carbon from Baseline	(C2)	6.8	35.7

Test Code
@TICTOC1

Matrix
SOLID

Batch Number
96002904

Batch
0

Sample Prep
N/A

Sample ID
BLANK

Instrument Code
CARB2

Prepared By
RTS

Chemist
RWS

Analyst
pjm

Date Completed
05/14/96

Analysis Date
05/12/96

µg of Carbon = |C1-C2|

		TIC	TOC
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon	1.40E+00	9.90E+00

S-102

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	RWS	Date:	5/14/96

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (C-0) LIQUIDS

			TIC	TOC
Sample Type	Sample Size in mL	(SS)	1.0000	0.2000
STD	Dilution Factor	(DF)	1	1
Work List	Final Coulometer Reading in µg	(C1)	607	586.1
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code	Standard Book Number		22N12A	16N12E
@TICTOC1	Standard Value (µg/ml)		602	2990

Matrix
LIQUID

Batch Number
96002904

Rerun
0

Sample Order
N/A

Sample
STANSARD

Instrument Code
CARB2

Prepared By
RTS

Chemist
RWS

Analyst
pjm

Date Completed
05/14/96

Analysis Date
05/12/96

QC Actual in µg/mL = Standard Value (µg/mL)

QC Found in µg/mL = (C1 - C2) * DF / SS

QC Found in µg/mL for TIC = 5 if C1 < C2

QC Found in µg/mL for TOC = 40 if C1 < C2

% Recovery = QC Found / QC Actual * 100

		TIC	TOC
Analysis Time	Method Detection Limit in µg/mL	5	40
	QC Actual in µg/mL	6.02E+02	2.99E+03
Sample Point	QC Found in µg/mL	6.00E+02	2.75E+03
S-102	Percent Standard Recovery	99.7	92.0

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	RW Schroeder	Date:	5/14/96

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1691	0.1691
SAMPLE	Dilution Factor	(DF)	1	1
Work Unit	µg of Carbon in Sample	(C1)	480	1113.3
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code				
@TICTOC1				

Matrix: SOLID

Batch Number: 96002904

Return: 0

Sample Prep: N/A

Sample #: S96T001431

Instrument Code: CARB2

Prepared By: RTS

Chemist: RWS

Analyst: pjm

Date Completed: 05/14/96

Analysis Date: 05/12/96

Analysis Time:

Sample Point: S-102

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.80E+03	6.37E+03

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	Rui Schroeder	Date:	5/14/96

SAMPLE.WB1 REV 1.0 342100ML

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1566	0.1566
DUP	Dilution Factor	(DF)	1	1
Worksheet	µg of Carbon in Sample	(C1)	411.7	1062.9
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code	Known µg of C from Original Sample		2.80E+3	6.37E+3
@TICTOC1				

Matrix: SOLID

Batch Number: 96002904

Run: 0

Sample Prep: N/A

Sample: S96T001431

Instrument Code: CARB2

Prepared By: RTS

Chemist: RWS

Analyst: pjm

Date Completed: 05/14/96

Analysis Date: 05/12/96

Analysis Time:

Sample Point: S-102

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

RPD (of Sample and Dup Results) = | Difference | / Average

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.59E+03	6.56E+03
RPD (of Sam and Dup Results)	8.0%	2.9%

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	RW Schwarz	Date:	5/14/96

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Vial Data			
SPK	Sample Size in g	(SS)	0.1691	0.1691
Work Unit	Final Coulometer Reading in µg	(C1)	480	1113.3
7237	Spiked Vial Data			
Analytical Method	Sample Size in g	(SPK SS)	0.1174	0.1174
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C3)	601.9	1087.6
SOLID	Spike Book Number		22N12A	16N12E
Batch Number	Spike Standard Value in µg/ml		602	2990
96002904	Spike Concentration in µg	(SPK CONC)	301	299

Rerun
0

Sample Prep
N/A

Sample
S96T001431

Instrument Code
CARB2

Prepared By
RTS

Chemist
RWS

Analyst
pjm

Date Complete
05/14/96

Analysis Date
05/12/96

Analysis Time

Sample Point
S-102

Spike Concentration in µg = (Spike Std. Value in µg/mL)*(SPK VOL)

Percent Spike Recovery = (C3) / [(C1/SS * SPK SS) + (SPK CONC)] * 100

QC Actual in µg/mL = Spike Value (µg/mL)
QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100

	TIC	TOC
QC Actual in µg/mL	6.02E+02	2.99E+03
QC Found in µg/mL	5.71E+02	3.03E+03
Percent Spike Recovery	94.9	101.5

RWS
RW Schwecke 5/16/96

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1431	0.1431
SAMPLE	Dilution Factor	(DF)	1	1
Work Lot	µg of Carbon in Sample	(C1)	961.3	684.1
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code				
@TICTOC1				

Matrix
SOLID

Batch Number
96002904

Rerun
0

Sample Prep
N/A

Sample
S96T001432

Instrument Code
CARB2

Prepared By
RTS

Chemist
RWS

Analyst
pjm

Date Completed
05/14/96

Analysis Date
05/12/96

Analysis Time

Sample Point
S-102

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	6.67E+03	4.53E+03

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	RWSchwendn	Date:	5/14/96

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1267	0.1267
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	774.3	623
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code	Known µg of C from Original Sample		6.67E3	4.53E3
@TICTOC1				

Matrix: SOLID

Batch Number: 96002904

Run: 0

Sample Prep: N/A

Sample #: S96T001432

Instrument Code: CARB2

Prepared By: RTS

Chemist: RWS

Analyst: pjm

Date Complete: 05/14/96

Analysis Date: 05/12/96

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

RPD (of Sample and Dup Results) = | Difference | / Average

		TIC	TOC
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon/g	6.06E+03	4.64E+03
S-102	RPD (of Sam and Dup Results)	9.6%	2.3%

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	Rui Schwedy	Date:	5/14/96

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM8

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1776	0.1776
SAMPLE	Dilution Factor	(DF)	1	1
Workbook	µg of Carbon in Sample	(C1)	917.2	867
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code				
@TICTOC1				

Matrix	
SOLID	
Batch Number	
96002905	
Rerun	µg of Carbon/g = (C1-C2) * DF / SS
0	µg of Carbon/g for TIC = 5 if C1 < C2
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2
N/A	
Sample	
S96T001433	
Instrument Code	
CARB2	
Prepared By	
RTS	
Chemist	
RWS	
Analyst	
pjm	
Date Complete	
05/14/69	
Analysis Date	
05/12/96	

		TIC	TOC
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon/g	5.13E+03	4.68E+03
S-102			

Data Entered By:	RTS	Date:	05/14/69
Signature of Chemist:	Ray Schneider	Date:	5/14/96

SAMPLE.WB1 REV 1.0 342100ML

TIC/TOC : LA-342-100 (D-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1355	0.1355
Duplicate	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	713.8	640.6
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Test Code				
@TICTOC1				

Matrix
Solid
Batch Number
96002905
Rerun
0
Sample Prep
N/A
Sample #
S96T001433
Instrument Code
CARB2
Prepared By
RWS
Chemist
RWS
Analyst
PJM
Date Complete
06/20/96
Analysis Date
05/12/96
Analysis Time
Sample Point
S-102

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	5.22E+03	4.46E+03

Data Entered By:	RWS	Date:	06/20/96
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML Robert W Schroeder 6/20/96

WORKBOOK PAGE: SAM10

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1388	0.1388
SAMPLE	Dilution Factor	(DF)	1	1
Worksheet	µg of Carbon in Sample	(C1)	604.6	1561
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Instrument				
@TICTOC1				

Matrix: SOLID

Batch Number: 96002905

Rerun: 0

Sample Prep: N/A

Sample #: S96T001434

Instrument Set-Up: CARB2

Prepared By: RTS

Chemist: RWS

Analyst: pjm

Date Completed: 05/14/96

Analysis Date: 05/12/96

Analysis Time:

Sample Point: S-102

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.31E+03	1.10E+04

Data Entered By: RTS Date: 05/14/96

Signature of Chemist: RW Schroeder Date: 5/14/96

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: DUP11

TIC/TOC : LA-342-100 (C-0) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1311	0.1311
DUP	Dilution Factor	(DF)	1	1
Work	µg of Carbon in Sample	(C1)	558.1	1505.1
7237	µg of Carbon from Baseline	(C2)	6.8	35.7
Formula	Known µg of C from Original Sample		4.31E3	1.10E4
@TICTOC1				

Matrix: SOLID

Batch Number: 96002905

Batch: 0

Sample Prep: N/A

Sample: S96T001434

Instrument Code: CARB2

Prepared By: RTS

Chemist: RWS

Analyzed: pjm

Date Complete: 05/14/96

Analysis Date: 05/12/96

Analysis Time:

Sample Point: S-102

µg of Carbon/g = (C1-C2) * DF / SS
µg of Carbon/g for TIC = 5 if C1 < C2
µg of Carbon/g for TOC = 40 if C1 < C2

RPD (of Sample and Dup Results) = | Difference | / Average

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.21E+03	1.12E+04
RPD (of Sam and Dup Results)	2.5%	1.9%

Data Entered By:	RTS	Date:	05/14/96
Signature of Chemist:	RW Schmeck	Date:	5/14/96

SAMPLE.WB1 REV 1.0 342100ML

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 05/11/96 Time: 21:48:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	1.50	40.00
3	1.50	2.00	25.00
4	2.01	2.30	13.04
5	2.51	2.50	8.00
6	3.01	2.70	7.41
7	3.51	2.90	6.90
8	4.01	3.10	6.45
9	4.50	3.30	6.06
10	5.00	3.70	10.81
11	5.50	3.70	0.00
12	6.00	3.80	2.63
13	6.50	3.90	2.56
14	7.00	4.10	4.88
15	7.50	4.30	4.65
16	8.00	4.40	2.27
17	8.50	4.60	4.35
18	9.00	4.90	6.12
19	9.50	5.00	2.00
20	10.00	5.10	1.96
21	10.50	5.30	3.77
22	11.00	5.40	1.85

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(5.4 - 6.821514)(1)/(1) = < 5.00 E-3 g/L Carbon
(5.4 - 6.821514)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: PJ McCown 5/13/96
PJ MCCOWN 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASE Date: 05/11/96 Time: 19:34:33

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE
Blank Value = N/A

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	0.80	37.50
3	1.51	1.00	20.00
4	2.01	1.30	23.08
5	2.51	1.60	18.75
6	3.01	1.90	15.79
7	3.51	2.30	17.39
8	4.01	2.60	11.54
9	4.51	2.90	10.34
10	5.01	3.20	9.37
11	5.50	3.40	5.88
12	6.00	3.70	8.11
13	6.50	4.10	9.76
14	7.00	4.30	4.65
15	7.50	4.60	6.52
16	8.00	4.90	6.12
17	8.50	5.10	3.92
18	9.00	5.60	8.93
19	9.50	5.80	3.45
20	10.00	6.10	4.92
21	10.50	6.40	4.69
22	11.00	6.80	5.88

BLANK VALUE = 6.8 micrograms carbon
BLANK FACTOR = 6.8 / 11.00146 = +6.2E-01 ug/min Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 05/11/96 Time: 22:01:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	1.10	90.91
3	1.51	4.80	77.08
4	2.00	11.50	58.26
5	2.50	15.70	26.75
6	3.00	18.50	15.14
7	3.50	19.80	6.57
8	4.00	21.20	6.60
9	4.50	22.30	4.93
10	5.00	22.60	1.33
11	5.50	23.00	1.74
12	6.00	23.30	1.29
13	6.50	23.70	1.69
14	7.00	24.00	1.25
15	7.50	24.30	1.23
16	8.00	24.50	0.82
17	8.50	24.70	0.81
18	9.00	24.90	0.80
19	9.50	25.10	0.80
20	10.00	25.40	1.18
21	10.50	25.60	0.78
22	11.00	25.80	0.78

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(25.8 - 35.7496)(1)/(1) = < 5.00 E-3 g/L Carbon
(25.8 - 35.7496)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASE Date: 05/11/96 Time: 19:48:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE
Blank Value = N/A

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.30	84.62
3	1.50	4.80	72.92
4	2.00	12.70	62.20
5	2.50	19.40	34.54
6	3.01	23.50	17.45
7	3.51	25.80	8.91
8	4.00	27.60	6.52
9	4.50	28.50	3.16
10	5.00	29.60	3.72
11	5.50	30.50	2.95
12	6.00	31.20	2.24
13	6.50	31.70	1.58
14	7.00	32.30	1.86
15	7.50	32.80	1.52
16	8.00	33.20	1.20
17	8.50	33.60	1.19
18	9.00	34.10	1.47
19	9.50	34.50	1.16
20	10.00	34.90	1.15
21	10.50	35.40	1.41
22	11.00	35.70	0.84

BLANK VALUE = 35.7 micrograms carbon
BLANK FACTOR = 35.7 / 11.00061 = +3.25E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 22N12A STD Date: 05/11/96 Time: 20:04:07

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.00	0.00
2	1.01	28.50	89.47
3	1.51	204.20	86.04
4	2.00	379.80	46.23
5	2.50	495.10	23.29
6	3.00	555.80	10.92
7	3.50	585.10	5.01
8	4.00	596.30	1.88
9	4.50	600.90	0.77
10	5.00	602.70	0.30
11	5.50	603.00	0.05
12	6.00	603.70	0.12
13	6.50	604.30	0.10
14	7.00	604.50	0.03
15	7.50	604.90	0.07
16	8.00	605.20	0.05
17	8.50	605.60	0.07
18	9.00	605.90	0.05
19	9.50	606.20	0.05
20	10.00	606.50	0.05
21	10.50	606.80	0.05
22	11.00	607.00	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(607 - 6.819243)(1)/(1000) = +6.002E-01 g/L Carbon
(607 - 6.819243)(1)/(1000)(12) = +5.002E-02 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 16N12E STD Date: 05/11/96 Time: 21:25:22

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	5.80	94.83
3	1.50	66.80	91.32
4	2.00	268.90	75.16
5	2.50	468.90	42.65
6	3.00	545.20	13.99
7	3.50	569.00	4.18
8	4.00	575.40	1.11
9	4.50	577.90	0.43
10	5.00	579.50	0.28
11	5.50	580.70	0.21
12	6.00	581.60	0.15
13	6.50	582.40	0.14
14	7.00	582.90	0.09
15	7.50	583.40	0.09
16	8.00	584.20	0.14
17	8.50	584.40	0.03
18	9.00	584.80	0.07
19	9.50	585.20	0.07
20	10.00	585.70	0.09
21	10.50	585.90	0.03
22	11.00	586.10	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(586.1 - 35.74921)(1)/(200) = +2.752E+00 g/L Carbon
(586.1 - 35.74921)(1)/(200)(12) = +2.293E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T00~~1341~~ 1431 RJM 5/11/96 Date: 05/11/96 Time: 22:20:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	1.10	0.00
2	1.01	5.70	80.70
3	1.51	75.40	92.44
4	2.00	207.40	63.65
5	2.50	316.50	34.47
6	3.00	385.50	17.90
7	3.50	419.30	8.06
8	4.00	438.70	4.42
9	4.50	448.90	2.27
10	5.00	455.20	1.38
11	5.50	459.80	1.00
12	6.00	463.60	0.82
13	6.50	466.60	0.64
14	7.00	469.00	0.51
15	7.50	471.60	0.55
16	8.00	473.40	0.38
17	8.50	474.70	0.27
18	9.00	475.80	0.23
19	9.50	477.00	0.25
20	10.00	478.10	0.23
21	10.50	478.90	0.17
22	11.00	480.00	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(480 - 6.820454)(1)/(1) = +4.732E+02 g/L Carbon
(480 - 6.820454)(1)/(1)(12) = +3.943E+01 Molar Carbon

Sample Run By: RJ McCown 5/12/96
PJ MCCOWN 00000

.1691g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001431 Date: 05/11/96 Time: 22:41:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	47.40	98.52
3	1.51	388.20	87.79
4	2.00	756.50	48.68
5	2.50	975.80	22.47
6	3.00	1053.40	7.37
7	3.50	1079.50	2.42
8	4.00	1090.80	1.04
9	4.50	1096.70	0.54
10	5.00	1100.30	0.33
11	5.50	1103.20	0.26
12	6.00	1105.40	0.20
13	6.50	1106.70	0.12
14	7.00	1107.70	0.09
15	7.50	1108.80	0.10
16	8.00	1109.60	0.07
17	8.50	1110.50	0.08
18	9.00	1111.20	0.06
19	9.50	1111.70	0.04
20	10.00	1112.20	0.04
21	10.50	1112.70	0.04
22	11.00	1113.30	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(1113.3 - 35.74643)(1)/(1) = +1.0776E+03 g/L Carbon
(1113.3 - 35.74643)(1)/(1)(12) = +8.9796E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1691g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1431 DUP Date: 05/11/96 Time: 22:57:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	3.60	83.33
3	1.50	51.80	93.05
4	2.00	154.70	66.52
5	2.50	247.70	37.55
6	3.00	310.20	20.15
7	3.50	345.90	10.32
8	4.00	367.60	5.90
9	4.50	377.80	2.70
10	5.00	385.20	1.92
11	5.50	389.90	1.21
12	6.00	393.70	0.97
13	6.50	397.30	0.91
14	7.00	399.80	0.63
15	7.50	401.90	0.52
16	8.00	404.20	0.57
17	8.50	405.60	0.35
18	9.00	407.10	0.37
19	9.50	408.50	0.34
20	10.00	410.00	0.37
21	10.50	410.80	0.19
22	11.00	411.70	0.22

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(411.7 - 6.819773)(1)/(1) = +4.049E+02 g/L Carbon
(411.7 - 6.819773)(1)/(1)(12) = +3.374E+01 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1566g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1431 DUP Date: 05/11/96 Time: 23:17:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	22.70	95.59
3	1.50	284.60	92.02
4	2.00	599.60	52.54
5	2.50	849.60	29.43
6	3.00	966.60	12.10
7	3.50	1012.40	4.52
8	4.00	1030.90	1.79
9	4.50	1040.10	0.88
10	5.00	1044.90	0.46
11	5.50	1048.70	0.36
12	6.00	1051.30	0.25
13	6.50	1053.50	0.21
14	7.00	1055.10	0.15
15	7.50	1056.10	0.09
16	8.00	1057.40	0.12
17	8.50	1058.30	0.09
18	9.00	1059.10	0.08
19	9.50	1060.20	0.10
20	10.00	1061.30	0.10
21	10.50	1062.30	0.09
22	11.00	1062.90	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(1062.9 - 35.74326)(1)/(1) = +1.0272E+03 g/L Carbon
(1062.9 - 35.74326)(1)/(1)(12) = +8.5596E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1566 g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1431 SPK Date: 05/11/96 Time: 23:35:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	8.90	94.38
3	1.51	100.10	91.11
4	2.00	250.90	60.10
5	2.50	390.50	35.75
6	3.00	481.00	18.81
7	3.50	533.80	9.89
8	4.00	559.30	4.56
9	4.50	572.50	2.31
10	5.00	579.50	1.21
11	5.50	583.40	0.67
12	6.00	587.10	0.63
13	6.50	589.40	0.39
14	7.00	591.80	0.41
15	7.50	593.50	0.29
16	8.00	595.20	0.29
17	8.50	596.70	0.25
18	9.00	597.90	0.20
19	9.50	599.20	0.22
20	10.00	600.10	0.15
21	10.50	601.10	0.17
22	11.00	601.90	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(601.9 - 6.820378)(1)/(1) = +5.951E+02 g/L Carbon
(601.9 - 6.820378)(1)/(1)(12) = +4.959E+01 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1174 g
+ .500 mL STD # 22N12A

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1431 SPK Date: 05/11/96 Time: 23:49:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	35.60	97.47
3	1.51	310.30	88.53
4	2.00	709.60	56.27
5	2.50	952.20	25.48
6	3.00	1032.60	7.79
7	3.50	1059.10	2.50
8	4.00	1068.50	0.88
9	4.50	1072.40	0.36
10	5.00	1074.90	0.23
11	5.50	1076.80	0.18
12	6.00	1078.60	0.17
13	6.50	1080.30	0.16
14	7.00	1081.80	0.14
15	7.50	1082.50	0.06
16	8.00	1083.70	0.11
17	8.50	1084.40	0.06
18	9.00	1085.20	0.07
19	9.50	1085.60	0.04
20	10.00	1086.20	0.06
21	10.50	1087.00	0.07
22	11.00	1087.60	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(1087.6 - 35.7496)(1)/(1) = +1.0519E+03 g/L Carbon
(1087.6 - 35.7496)(1)/(1)(12) = +8.7654E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1174 g
RJM 5/11/96
+ ~~200~~ mL
.100 mL STD # 16N12E

1626

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001432 Date: 05/12/96 Time: 00:05:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	9.60	86.46
3	1.51	103.80	90.75
4	2.00	284.30	63.49
5	2.50	503.70	43.56
6	3.00	664.40	24.19
7	3.50	751.70	11.61
8	4.00	795.00	5.45
9	4.50	816.30	2.61
10	5.00	828.10	1.42
11	%-1434.50	834.60	0.78
12	%-1434.00	840.40	0.69
13	%-1433.50	843.90	0.41
14	%-1433.00	847.50	0.42
15	%-1432.50	850.00	0.29
16	%-1432.00	852.30	0.27
17	%-1431.50	854.60	0.27
18	%-1431.00	856.10	0.18
19	%-1430.50	857.60	0.17
20	%-1430.00	859.00	0.16
21	%-1429.50	860.00	0.12
22	%-1429.00	861.30	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(861.3 --885.9801)(1)/(1) = +1.747E+03 g/L Carbon
(861.3 --885.9801)(1)/(1)(12) = +1.456E+02 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1431g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001432 Date: 05/12/96 Time: 01:24:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	43.70	97.48
3	1.51	288.70	84.86
4	2.00	491.70	41.29
5	2.50	598.60	17.86
6	3.00	642.80	6.88
7	3.50	659.30	2.50
8	4.00	665.20	0.89
9	4.50	669.10	0.58
10	5.00	672.00	0.43
11	5.50	673.80	0.27
12	6.00	675.40	0.24
13	6.50	676.60	0.18
14	7.00	677.70	0.16
15	7.50	678.70	0.15
16	8.00	679.60	0.13
17	8.50	680.20	0.09
18	9.00	681.10	0.13
19	9.50	682.00	0.13
20	10.00	682.60	0.09
21	10.50	683.40	0.12
22	11.00	684.10	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(684.1 - 35.74946)(1)/(1) = +6.484E+02 g/L Carbon
(684.1 - 35.74946)(1)/(1)(12) = +5.403E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1431g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1432 DUP Date: 05/12/96 Time: 01:41:06

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	7.10	76.06
3	1.51	99.40	92.86
4	2.00	308.70	67.80
5	2.50	513.00	39.82
6	3.00	632.80	18.93
7	3.50	693.20	8.71
8	4.00	725.20	4.41
9	4.50	739.80	1.97
10	5.00	748.10	1.11
11	5.50	754.00	0.78
12	6.00	757.80	0.50
13	6.50	760.70	0.38
14	7.00	763.10	0.31
15	7.50	765.20	0.27
16	8.00	767.20	0.26
17	8.50	768.60	0.18
18	9.00	770.20	0.21
19	9.50	771.30	0.14
20	10.00	772.40	0.14
21	10.50	773.30	0.12
22	11.00	774.30	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(774.3 - 6.819281)(1)/(1) = +7.675E+02 g/L Carbon
(774.3 - 6.819281)(1)/(1)(12) = +6.396E+01 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1267g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1432 DUP Date: 05/12/96 Time: 01:53:40

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	23.80	96.64
3	1.50	212.20	88.78
4	2.00	423.90	49.94
5	2.50	542.00	21.79
6	3.00	583.60	7.13
7	3.50	601.30	2.94
8	4.00	607.30	0.99
9	4.50	610.70	0.56
10	5.00	613.10	0.39
11	5.50	614.70	0.26
12	6.00	616.20	0.24
13	6.50	617.30	0.18
14	7.00	618.20	0.15
15	7.50	619.10	0.15
16	8.00	619.90	0.13
17	8.50	620.50	0.10
18	9.00	620.90	0.06
19	9.50	621.50	0.10
20	10.00	622.10	0.10
21	10.50	622.60	0.08
22	11.00	623.00	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(623 - 35.75216)(1)/(1) = +5.872E+02 g/L Carbon
(623 - 35.75216)(1)/(1)(12) = +4.894E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1267g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001433 Date: 05/12/96 Time: 02:10:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	9.50	90.53
3	1.50	196.20	95.16
4	2.00	483.10	59.39
5	2.50	670.40	27.94
6	3.00	769.00	12.82
7	3.50	821.00	6.33
8	4.00	848.20	3.21
9	4.50	864.80	1.92
10	5.00	875.70	1.24
11	5.50	883.40	0.87
12	6.00	889.70	0.71
13	6.50	894.70	0.56
14	7.00	899.00	0.48
15	7.50	902.50	0.39
16	8.00	905.50	0.33
17	8.50	908.40	0.32
18	9.00	910.40	0.22
19	9.50	912.40	0.22
20	10.00	914.40	0.22
21	10.50	915.70	0.14
22	11.00	917.20	0.16

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(917.2 - 6.819281)(1)/(1) = +9.104E+02 g/L Carbon
(917.2 - 6.819281)(1)/(1)(12) = +7.587E+01 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1776g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001433 Date: 05/12/96 Time: 02:23:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	67.10	97.76
3	1.50	361.30	81.43
4	2.00	623.10	42.02
5	2.50	759.20	17.93
6	3.00	811.60	6.46
7	3.50	833.30	2.60
8	4.00	843.10	1.16
9	4.50	848.30	0.61
10	5.00	852.30	0.47
11	5.50	854.80	0.29
12	6.00	857.00	0.26
13	6.50	858.60	0.19
14	7.00	860.10	0.17
15	7.50	861.30	0.14
16	8.00	862.20	0.10
17	8.50	863.40	0.14
18	9.00	864.20	0.09
19	9.50	864.80	0.07
20	10.00	865.60	0.09
21	10.50	866.30	0.08
22	11.00	867.00	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(867 - 35.74296)(1)/(1) = +8.313E+02 g/L Carbon
(867 - 35.74296)(1)/(1)(12) = +6.927E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1776 g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1433 DUP Date: 05/12/96 Time: 02:42:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	6.80	88.24
3	1.51	104.60	93.50
4	2.01	295.10	64.55
5	2.51	467.20	36.84
6	3.00	569.40	17.95
7	3.50	623.40	8.66
8	4.00	652.20	4.42
9	4.50	668.20	2.39
10	5.00	677.90	1.43
11	5.50	685.10	1.05
12	6.00	689.50	0.64
13	6.50	694.70	0.75
14	7.00	697.90	0.46
15	7.50	700.70	0.40
16	8.00	703.80	0.44
17	8.50	705.70	0.27
18	9.00	707.80	0.30
19	9.50	709.60	0.25
20	10.00	711.00	0.20
21	10.50	712.40	0.20
22	11.00	713.80	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(713.8 - 6.819896)(1)/(1) = +7.070E+02 g/L Carbon
(713.8 - 6.819896)(1)/(1)(12) = +5.892E+01 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1355g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1433 DUP Date: 05/12/96 Time: 02:59:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.80	0.00
2	1.00	29.40	93.88
3	1.50	203.80	85.57
4	2.00	413.20	50.68
5	2.50	537.20	23.08
6	3.00	588.90	8.78
7	3.51	610.20	3.49
8	4.00	619.80	1.55
9	4.50	624.40	0.74
10	5.00	627.00	0.41
11	5.50	629.40	0.38
12	6.00	631.40	0.32
13	6.50	632.80	0.22
14	7.00	634.10	0.21
15	7.50	635.20	0.17
16	8.00	636.40	0.19
17	8.50	637.00	0.09
18	9.00	637.90	0.14
19	9.50	638.60	0.11
20	10.00	639.30	0.11
21	10.50	640.10	0.12
22	11.00	640.60	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(640.6 - 35.74618)(1)/(1) = +6.049E+02 g/L Carbon
(640.6 - 35.74618)(1)/(1)(12) = +5.040E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1355g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001434 Date: 05/12/96 Time: 03:16:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	3.30	84.85
3	1.51	51.50	93.59
4	2.00	212.50	75.76
5	2.50	372.10	42.89
6	3.00	468.60	20.59
7	3.50	518.10	9.55
8	4.00	545.00	4.94
9	4.50	559.00	2.50
10	5.00	567.50	1.50
11	5.50	574.00	1.13
12	6.00	578.80	0.83
13	6.50	583.30	0.77
14	7.00	587.40	0.70
15	7.50	590.10	0.46
16	8.00	593.40	0.56
17	8.50	595.80	0.40
18	9.00	597.80	0.33
19	9.50	599.80	0.33
20	10.00	601.40	0.27
21	10.50	603.00	0.27
22	11.00	604.60	0.26

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(604.6 - 6.819896)(1)/(1) = +5.978E+02 g/L Carbon
(604.6 - 6.819896)(1)/(1)(12) = +4.982E+01 Molar Carbon

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1388g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001434 Date: 05/12/96 Time: 03:38:06

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.80	0.00
2	1.01	73.30	97.54
3	1.50	654.60	88.80
4	2.00	1165.90	43.85
5	2.50	1419.50	17.87
6	3.00	1495.20	5.06
7	3.50	1525.10	1.96
8	4.00	1536.70	0.75
9	4.50	1541.70	0.32
10	5.00	1544.90	0.21
11	5.50	1547.20	0.15
12	6.00	1549.20	0.13
13	6.50	1550.90	0.11
14	7.00	1552.40	0.10
15	7.50	1553.70	0.08
16	8.00	1555.00	0.08
17	8.50	1555.90	0.06
18	9.00	1556.80	0.06
19	9.50	1557.90	0.07
20	10.00	1558.70	0.05
21	10.50	1559.20	0.03
22	11.00	1560.10	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(1560.1 - 35.74623)(1)/(1) = +1.5244E+03 g/L Carbon
(1560.1 - 35.74623)(1)/(1)(12) = +1.2703E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1388g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1434 DUP Date: 05/12/96 Time: 03:54:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .62 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	3.40	79.41
3	1.51	31.30	89.14
4	2.01	157.10	80.08
5	2.51	311.80	49.62
6	3.01	412.30	24.38
7	3.51	466.50	11.62
8	4.01	495.20	5.80
9	4.50	511.50	3.19
10	5.00	520.50	1.73
11	5.50	527.20	1.27
12	6.00	532.10	0.92
13	6.50	536.70	0.86
14	7.00	540.30	0.67
15	7.50	543.80	0.64
16	8.00	546.40	0.48
17	8.50	548.90	0.46
18	9.00	551.10	0.40
19	9.50	553.50	0.43
20	10.00	555.10	0.29
21	10.50	556.50	0.25
22	11.00	558.10	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 6.820378 micrograms carbon
BLANK FACTOR = 6.820378 / 11.00061 = +6.2E-01 ug/min Carbon

SAMPLE RESULTS:
(558.1 - 6.821041)(1)/(1) = +5.513E+02 g/L Carbon
(558.1 - 6.821041)(1)/(1)(12) = +4.594E+01 Molar Carbon

Sample Run By: PJ McCown 6/12/96
PJ MCCOWN 00000

.1311 g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1434 DUP Date: 05/12/96 Time: 04:07:09

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.25 ug/minute C

Analyst : PJ MCCOWN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	122.30	98.61
3	1.50	754.00	83.78
4	2.00	1198.80	37.10
5	2.50	1387.80	13.62
6	3.00	1450.90	4.35
7	3.50	1474.80	1.62
8	4.00	1484.10	0.63
9	4.50	1488.00	0.26
10	5.00	1491.30	0.22
11	5.50	1493.50	0.15
12	6.00	1495.10	0.11
13	6.50	1496.60	0.10
14	7.00	1498.10	0.10
15	7.50	1499.40	0.09
16	8.00	1500.30	0.06
17	8.50	1501.30	0.07
18	9.00	1502.30	0.07
19	9.50	1503.00	0.05
20	10.00	1503.80	0.05
21	10.50	1504.50	0.05
22	11.00	1505.20	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 35.75198 micrograms carbon
BLANK FACTOR = 35.75198 / 11.00061 = +3.3E+00 ug/min Carbon

SAMPLE RESULTS:
(1505.2 - 35.74886)(1)/(1) = +1.4695E+03 g/L Carbon
(1505.2 - 35.74886)(1)/(1)(12) = +1.2245E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: PJ McCown 5/12/96
PJ MCCOWN 00000

.1311g

LABCORE Data Entry Template for Worklist# 7239

Analyst: SLh **Instrument:** CARB2 **Book #** TIC 22N12A
TOC 16N12E

Method: LA-342-100 Rev/Mod D-0

Worklist Comment: S-102 TICTOC

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	1.3	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	7.4	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.02e2	6.02e2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	3.00e3	2.88e3	N/A	ug/g
96000094	S102	3	SAMPLE	S96T001435	0		@TICTOC1 TIC-02	SOLID	N/A	8.96e2	5.00	ug/g
96000094	S102	3	SAMPLE	S96T001435	0		@TICTOC1 TOC-02	SOLID	N/A	8.13e3	40.0	ug/g
96000094	S102	4	DUP	S96T001435	0		@TICTOC1 TIC-02	SOLID	8.96e2	1.25e3	N/A	ug/g
96000094	S102	4	DUP	S96T001435	0		@TICTOC1 TOC-02	SOLID	8.13e3	7.77e3	N/A	ug/g
96000094	S102	5	TRIPL	S96T001435	0		@TICTOC1 TIC-02	SOLID	8.96e2	9.69e2	N/A	ug/g
96000094	S102	5	TRIPL	S96T001435	0		@TICTOC1 TOC-02	SOLID	N/A	N/A	N/A	ug/g
96000094	S102	6	SPK	S96T001435	0		@TICTOC1 TIC-02	SOLID	100	104	N/A	ug/g
96000094	S102	6	SPK	S96T001435	0		@TICTOC1 TOC-02	SOLID	100	93.9	N/A	ug/g
96000094	S102	7	SAMPLE	S96T001441	0		@TICTOC1 TIC-02	SOLID	N/A	5.11e3	5.00	ug/g
96000094	S102	7	SAMPLE	S96T001441	0		@TICTOC1 TOC-02	SOLID	N/A	5.65e3	40.0	ug/g
96000094	S102	8	DUP	S96T001441	0		@TICTOC1 TIC-02	SOLID	5.11e3	5.00e3	N/A	ug/g
96000094	S102	8	DUP	S96T001441	0		@TICTOC1 TOC-02	SOLID	5.65e3	5.82e3	N/A	ug/g
96000030	S102	9	SAMPLE	S96T000777	0		@TICTOC1 TIC-02	SOLID	N/A	5.15e3	5.00	ug/g
96000030	S102	9	SAMPLE	S96T000777	0		@TICTOC1 TOC-02	SOLID	N/A	~~5.41e3~~ 1.95e3 RWS 5/9/96	40.0	ug/g

Data Entry Comments: Triplicate analysis for S96T001441 TIC & TOC included in raw data but not reported, Not Necessary. RWS 5/9/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 7239

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
96000030	S102	10 DUP	S96T000777	0		@TICTOC1 TIC-02	SOLID	5.15e3	5.66e3	N/A	ug/g
96000030	S102	10 DUP	S96T000777	0		@TICTOC1 TOC-02	SOLID	~~5.41e3~~ 1.95e3	2.04e3 RWS 5/9/96	N/A	ug/g

Final page for worklist # 7239

Analyst Signature Date

Analyst Signature Date 5-9-96

Approved RW Schroeder 5/9/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

worklistrpt Version 2.1 05/15/95
05/02/96 13:57

LABCORE Data Entry Template for Worklist# 7239

GROUP	PROJECT	S TYPE	SAMPLE#	R A -------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 7239

Sandra L Hood Boatright
Analyst Signature **Date** 5-7-96

Analyst Signature **Date**

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 05/06/96 Time: 22:25:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	2.10	95.24
3	1.50	3.30	36.36
4	2.00	3.70	10.81
5	2.50	4.00	7.50
6	3.00	4.20	4.76
7	3.50	4.30	2.33
8	4.00	4.40	2.27
9	4.50	4.50	2.22
10	5.00	4.60	2.17
11	5.50	4.70	2.13
12	6.00	4.80	2.08
13	6.50	5.00	4.00
14	7.00	5.00	0.00
15	7.50	5.20	3.85
16	8.00	5.20	0.00
17	8.50	5.40	3.70
18	9.00	5.40	0.00
19	9.50	5.60	3.57
20	10.00	5.60	0.00
21	10.50	5.70	1.75
22	11.00	5.90	3.39

BLANK VALUE = 5.9 micrograms carbon
BLANK FACTOR = 5.9 / 10.99963 = +5.4E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1642 TO 1664

Sample Run By: Robert W. Schroeder for SL Hood Boatright 6/18/96
SL HOOD 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 05/06/96 Time: 22:55:59

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	127.10	99.29
3	1.51	323.90	60.76
4	2.01	459.10	29.45
5	2.50	538.10	14.68
6	3.00	578.80	7.03
7	3.50	595.90	2.87
8	4.00	602.10	1.03
9	4.50	604.20	0.35
10	5.00	605.20	0.17
11	5.50	605.70	0.08
12	6.00	606.10	0.07
13	6.50	606.40	0.05
14	7.00	606.70	0.05
15	7.50	607.00	0.05
16	8.00	607.30	0.05
17	8.50	607.50	0.03
18	9.00	607.70	0.03
19	9.50	607.90	0.03
20	10.00	608.10	0.03
21	10.50	608.30	0.03
22	11.00	608.50	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(608.5 - 5.939934)(1)/(1000) = +6.026E-01 g/L Carbon
(608.5 - 5.939934)(1)/(1000)(12) = +5.021E-02 Molar Carbon

Sample Run By: _____
SL HOOD 00000

602/602 = 100%

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: B-2 Date: 05/06/96 Time: 23:20:33

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	2.60	73.08
3	1.50	3.50	25.71
4	2.00	3.90	10.26
5	2.50	4.30	9.30
6	3.00	4.50	4.44
7	3.50	4.70	4.26
8	4.00	4.80	2.08
9	4.50	5.00	4.00
10	5.00	5.20	3.85
11	5.50	5.40	3.70
12	6.00	5.50	1.82
13	6.50	5.70	3.51
14	7.00	5.80	1.72
15	7.50	6.00	3.33
16	8.00	6.20	3.23
17	8.50	6.40	3.13
18	9.00	6.50	1.54
19	9.50	6.70	2.99
20	10.00	6.90	2.90
21	10.50	7.00	1.43
22	11.00	7.20	2.78

~~22.1~~ RWS 5/9/96

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon .

SAMPLE RESULTS:
(7.2 - 5.939341)(1)/(1) = +1.3E+00 g/L Carbon
(7.2 - 5.939341)(1)/(1)(12) = +1.1E-01 Molar Carbon

Sample Run By: SL HOOD 00000

|7.2 - 5.9| = 1.3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001435 Date: 05/07/96 Time: 01:10:05

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	6.50	80.00
3	1.50	18.70	65.24
4	2.00	46.10	59.44
5	2.50	86.60	46.77
6	3.00	120.80	28.31
7	3.50	139.80	13.59
8	4.00	148.90	6.11
9	4.50	153.20	2.81
10	5.00	156.20	1.92
11	5.50	158.00	1.14
12	6.00	159.70	1.06
13	6.50	161.00	0.81
14	7.00	162.30	0.80
15	7.50	163.40	0.67
16	8.00	164.20	0.49
17	8.50	165.20	0.61
18	9.00	165.90	0.42
19	9.50	166.70	0.48
20	10.00	167.20	0.30
21	10.50	167.90	0.42
22	11.00	168.50	0.36

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(168.5 - 5.940361)(1)/(1) = +1.626E+02 g/L Carbon
(168.5 - 5.940361)(1)/(1)(12) = +1.355E+01 Molar Carbon

Sample Run By: SL HOOD 00000

SS .1816g

163/.1816 = 8.96e2

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01435 DUP Date: 05/07/96 Time: 01:36:36

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.00	3.40	88.24
3	1.50	15.10	77.48
4	2.00	36.30	58.40
5	2.50	66.40	45.33
6	3.00	95.40	30.40
7	3.50	118.10	19.22
8	4.00	134.30	12.06
9	4.50	144.30	6.93
10	5.00	151.80	4.94
11	5.50	158.50	4.23
12	6.00	165.80	4.40
13	6.50	172.90	4.11
14	7.00	180.00	3.94
15	7.50	187.10	3.79
16	8.00	194.80	3.95
17	8.50	202.10	3.61
18	9.00	208.80	3.21
19	9.50	215.40	3.06
20	10.00	221.20	2.62
21	10.50	226.90	2.51
22	11.00	232.70	2.49

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(232.7 - 5.940363)(1)/(1) = +2.268E+02 g/L Carbon
(232.7 - 5.940363)(1)/(1)(12) = +1.890E+01 Molar Carbon

Sample Run By: SL HOOD 00000

SS .1817g

227/.1817 = 1.25e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01435 TRP Date: 05/07/96 Time: 02:02:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	4.80	75.00
3	1.50	20.20	76.24
4	2.00	45.00	55.11
5	2.50	78.70	42.82
6	3.00	111.40	29.35
7	3.50	138.90	19.80
8	4.00	156.90	11.47
9	4.50	167.10	6.10
10	5.00	173.30	3.58
11	5.50	177.40	2.31
12	6.00	180.30	1.61
13	6.50	183.00	1.48
14	7.00	185.30	1.24
15	7.50	187.40	1.12
16	8.00	189.10	0.90
17	8.50	190.60	0.79
18	9.00	192.20	0.83
19	9.50	193.30	0.57
20	10.00	194.50	0.62
21	10.50	195.80	0.66
22	11.00	196.70	0.46

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(196.7 - 5.939819)(1)/(1) = +1.908E+02 g/L Carbon
(196.7 - 5.939819)(1)/(1)(12) = +1.590E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

SS .1972g 191/.1972 = 9.68 9e2 RWS 5/9/96

1647

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01435 SPK Date: 05/07/96 Time: 02:14:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	34.90	97.99
3	1.50	148.90	76.56
4	2.00	255.70	41.77
5	2.51	331.70	22.91
6	3.01	383.60	13.53
7	3.51	421.80	9.06
8	4.00	448.80	6.02
9	4.50	466.40	3.77
10	5.00	476.20	2.06
11	5.50	481.60	1.12
12	6.00	485.60	0.82
13	6.50	488.50	0.59
14	7.00	491.00	0.51
15	7.50	493.20	0.45
16	8.00	494.90	0.34
17	8.50	496.50	0.32
18	9.00	497.80	0.26
19	9.50	499.20	0.28
20	10.00	500.40	0.24
21	10.50	501.50	0.22
22	11.00	502.50	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(502.5 - 5.940359)(1)/(1) = +4.966E+02 g/L Carbon
(502.5 - 5.940359)(1)/(1)(12) = +4.138E+01 Molar Carbon

Sample Run By: SL HOOD 00000

SS .1980g

$$\frac{502.5 \times 100}{\left(\frac{168.5}{.1816}\right) \cdot 1980 + 300} = 103.9\%$$

1648

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01441 Date: 05/07/96 Time: 02:39:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	25.70	96.50
3	1.51	148.30	82.67
4	2.00	308.40	51.91
5	2.50	427.00	27.78
6	3.00	494.10	13.58
7	3.50	526.60	6.17
8	4.00	539.50	2.39
9	4.50	544.90	0.99
10	5.00	547.80	0.53
11	5.50	549.90	0.38
12	6.00	551.80	0.34
13	6.50	553.20	0.25
14	7.00	554.60	0.25
15	7.50	555.80	0.22
16	8.00	557.00	0.22
17	8.50	558.10	0.20
18	9.00	559.10	0.18
19	9.50	560.10	0.18
20	10.00	560.90	0.14
21	10.50	562.00	0.20
22	11.00	562.50	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(562.5 - 5.939918)(1)/(1) = +5.566E+02 g/L Carbon
(562.5 - 5.939918)(1)/(1)(12) = +4.638E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

SS .1090g

557/.1090 = 5.11e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01441 DUP Date: 05/07/96 Time: 03:05:21

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.60	0.00
2	1.01	46.00	90.00
3	1.50	176.60	73.95
4	2.00	361.70	51.18
5	2.50	495.30	26.97
6	3.00	568.70	12.91
7	3.51	602.90	5.67
8	4.01	616.60	2.22
9	4.50	622.70	0.98
10	5.00	626.60	0.62
11	5.50	629.90	0.52
12	6.00	633.80	0.62
13	6.50	637.00	0.50
14	7.00	639.90	0.45
15	7.50	642.40	0.39
16	8.00	644.70	0.36
17	8.50	645.80	0.17
18	9.00	645.80	0.00
19	9.50	645.80	0.00
20	10.00	646.50	0.11
21	10.50	649.80	0.51
22	11.00	651.70	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(651.7 - 5.940363)(1)/(1) = +6.458E+02 g/L Carbon
(651.7 - 5.940363)(1)/(1)(12) = +5.381E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

SS .1291g

646/.1291 = 5.0e3

1650

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01441 TRP Date: 05/07/96 Time: 05:26:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	12.00	0.00
2	1.01	62.10	80.68
3	1.51	190.60	67.42
4	2.00	357.30	46.66
5	2.50	483.30	26.07
6	3.00	551.30	12.33
7	3.50	583.10	5.45
8	4.00	596.00	2.16
9	4.50	601.20	0.86
10	5.00	604.10	0.48
11	5.50	606.60	0.41
12	6.00	608.50	0.31
13	6.50	610.20	0.28
14	7.00	611.80	0.26
15	7.50	613.20	0.23
16	8.00	614.40	0.20
17	8.50	615.80	0.23
18	9.00	616.90	0.18
19	9.50	617.90	0.16
20	10.00	618.70	0.13
21	10.50	619.70	0.16
22	11.00	620.50	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(620.5 - 5.939391)(1)/(1) = +6.146E+02 g/L Carbon
(620.5 - 5.939391)(1)/(1)(12) = +5.121E+01 Molar Carbon

Sample Run By: SL HOOD 00000

SS .1200g

615/.1200 = 5.12e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T00777 Date: 05/07/96 Time: 04:29:46

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	132.60	99.70
3	1.51	442.00	70.00
4	2.00	614.60	28.08
5	2.50	697.40	11.87
6	3.00	737.20	5.40
7	3.50	752.30	2.01
8	4.00	758.10	0.77
9	4.50	761.50	0.45
10	5.00	763.40	0.25
11	5.50	765.30	0.25
12	6.00	766.90	0.21
13	6.50	768.30	0.18
14	7.00	769.60	0.17
15	7.50	770.80	0.16
16	8.00	771.90	0.14
17	8.50	772.90	0.13
18	9.00	773.90	0.13
19	9.50	774.70	0.10
20	10.00	775.50	0.10
21	10.50	776.30	0.10
22	11.00	777.00	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(777 - 5.940346)(1)/(1) = +7.711E+02 g/L Carbon
(777 - 5.940346)(1)/(1)(12) = +6.425E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

SS .1497

771/.1497 = 5.15e3

^^

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T00777 DUP Date: 05/07/96 Time: 04:54:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	197.70	99.39
3	1.50	559.40	64.66
4	2.00	708.50	21.04
5	2.50	779.90	9.16
6	3.00	813.40	4.12
7	3.50	826.50	1.58
8	4.00	832.40	0.71
9	4.50	835.80	0.41
10	5.00	838.20	0.29
11	5.50	840.20	0.24
12	6.00	842.00	0.21
13	6.50	843.40	0.17
14	7.00	844.80	0.17
15	7.50	846.00	0.14
16	8.00	847.20	0.14
17	8.50	848.40	0.14
18	9.00	849.50	0.13
19	9.50	850.30	0.09
20	10.00	851.40	0.13
21	10.50	852.00	0.07
22	11.00	852.80	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 5.941319 micrograms carbon
BLANK FACTOR = 5.941319 / 11.00244 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(852.8 - 5.939358)(1)/(1) = +8.469E+02 g/L Carbon
(852.8 - 5.939358)(1)/(1)(12) = +7.057E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

SS .1497g

847/.1497 = 5.66E3

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 05/06/96 Time: 22:42:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	3.90	97.44
3	1.51	15.90	75.47
4	2.01	26.10	39.08
5	2.51	30.90	15.53
6	3.01	32.60	5.21
7	3.51	33.70	3.26
8	4.01	34.40	2.03
9	4.50	34.80	1.15
10	5.00	35.30	1.42
11	5.50	35.50	0.56
12	6.00	36.00	1.39
13	6.50	36.40	1.10
14	7.00	36.70	0.82
15	7.50	37.00	0.81
16	8.00	37.30	0.80
17	8.50	37.50	0.53
18	9.00	37.80	0.79
19	9.50	38.00	0.53
20	10.00	38.30	0.78
21	10.50	38.50	0.52
22	11.00	38.70	0.52

BLANK VALUE = 38.7 micrograms carbon
BLANK FACTOR = 38.7 / 11.00244 = +3.52E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 05/06/96 Time: 23:08:00

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	80.10	99.25
3	1.51	348.10	76.99
4	2.00	515.00	32.41
5	2.50	567.70	9.28
6	3.00	582.70	2.57
7	3.50	587.70	0.85
8	4.00	590.30	0.44
9	4.50	591.70	0.24
10	5.00	592.60	0.15
11	5.50	593.30	0.12
12	6.00	594.00	0.12
13	6.50	594.50	0.08
14	7.00	595.10	0.10
15	7.50	595.60	0.08
16	8.00	596.10	0.08
17	8.50	596.40	0.05
18	9.00	596.70	0.05
19	9.50	597.10	0.07
20	10.00	597.50	0.07
21	10.50	597.70	0.03
22	11.00	598.00	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(598 - 38.7157)(1)/(200) = +2.796E+00 g/L Carbon
(598 - 38.7157)(1)/(200)(12) = +2.330E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

280e3/3000 x100 = 93.3%

1655

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: B-2 Date: 05/07/96 Time: 00:39:23

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	5.90	98.31
3	1.51	20.80	71.63
4	2.00	32.60	36.20
5	2.50	37.60	13.30
6	3.00	39.60	5.05
7	3.50	40.70	2.70
8	4.00	41.40	1.69
9	4.50	42.00	1.43
10	5.00	42.50	1.18
11	5.50	43.00	1.16
12	6.00	43.30	0.69
13	6.50	43.60	0.69
14	7.00	44.00	0.91
15	7.50	44.30	0.68
16	8.00	44.60	0.67
17	8.50	44.80	0.45
18	9.00	45.20	0.88
19	9.50	45.40	0.44
20	10.00	45.70	0.66
21	10.50	45.90	0.44
22	11.00	46.10	0.43

46 - 38.7 = 7.4

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(46.1 - 38.72258)(1)/(1) = +7.38E+00 g/L Carbon
(46.1 - 38.72258)(1)/(1)(12) = +6.15E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001435 Date: 05/07/96 Time: 01:22:22

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	276.60	99.57
3	1.51	846.00	67.30
4	2.00	1234.20	31.45
5	2.50	1375.70	10.29
6	3.00	1443.50	4.70
7	3.50	1470.90	1.86
8	4.00	1485.40	0.98
9	4.50	1492.50	0.48
10	5.00	1497.70	0.35
11	5.50	1501.40	0.25
12	6.00	1504.00	0.17
13	6.50	1505.90	0.13
14	7.00	1507.70	0.12
15	7.50	1509.10	0.09
16	8.00	1510.50	0.09
17	8.50	1511.60	0.07
18	9.00	1512.60	0.07
19	9.50	1513.60	0.07
20	10.00	1514.50	0.06
21	10.50	1515.20	0.05
22	11.00	1516.00	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(1516 - 38.72236)(1)/(1) = +1.4773E+03 g/L Carbon
(1516 - 38.72236)(1)/(1)(12) = +1.2311E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

SS .1816g

PWS 5/9/96
~~148~~ 1477/.1816 = 8.13e3

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01435 DUP Date: 05/07/96 Time: 01:49:03

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	6.20	0.00
2	1.01	412.30	98.50
3	1.50	1004.80	58.97
4	2.00	1276.50	21.28
5	2.50	1366.50	6.59
6	3.00	1398.40	2.28
7	3.50	1410.50	0.86
8	4.00	1416.90	0.45
9	4.50	1421.80	0.34
10	5.00	1426.50	0.33
11	5.50	1429.90	0.24
12	6.00	1433.10	0.22
13	6.50	1436.10	0.21
14	7.00	1438.20	0.15
15	7.50	1440.20	0.14
16	8.00	1441.80	0.11
17	8.50	1443.70	0.13
18	9.00	1445.50	0.12
19	9.50	1447.10	0.11
20	10.00	1448.50	0.10
21	10.50	1450.00	0.10
22	11.00	1451.30	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(1451.3 - 38.71941)(1)/(1) = +1.4126E+03 g/L Carbon
(1451.3 - 38.71941)(1)/(1)(12) = +1.1772E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

SS .1817g

1413/.1817 = 7.77e3

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01435 SPK Date: 05/07/96 Time: 02:27:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.70	0.00
2	1.01	454.00	99.41
3	1.50	1200.40	62.18
4	2.00	1626.70	26.21
5	2.50	1746.50	6.86
6	3.00	1788.00	2.32
7	3.50	1803.10	0.84
8	4.00	1810.10	0.39
9	4.50	1814.60	0.25
10	5.00	1817.80	0.18
11	5.50	1820.40	0.14
12	6.00	1822.60	0.12
13	6.50	1824.30	0.09
14	7.00	1825.80	0.08
15	7.50	1827.40	0.09
16	8.00	1828.70	0.07
17	8.50	1829.90	0.07
18	9.00	1831.00	0.06
19	9.50	1832.10	0.06
20	10.00	1833.10	0.05
21	10.50	1833.90	0.04
22	11.00	1834.80	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(1834.8 - 38.71941)(1)/(1) = +1.7961E+03 g/L Carbon
(1834.8 - 38.71941)(1)/(1)(12) = +1.4967E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00000

SS .1980g

$$\frac{1834.8 \quad \times 100}{\left(\frac{1516}{.1816}\right).1980 + 300} = 93.9\% \text{ rec}$$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01441 Date: 05/07/96 Time: 02:51:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	143.40	99.37
3	1.51	480.90	70.18
4	2.01	594.70	19.14
5	2.50	628.40	5.36
6	3.00	637.70	1.46
7	3.50	641.00	0.51
8	4.00	643.20	0.34
9	4.50	644.90	0.26
10	5.00	646.40	0.23
11	5.50	647.40	0.15
12	6.00	648.50	0.17
13	6.50	649.20	0.11
14	7.00	650.00	0.12
15	7.50	650.90	0.14
16	8.00	651.60	0.11
17	8.50	652.30	0.11
18	9.00	652.60	0.05
19	9.50	653.20	0.09
20	10.00	653.70	0.08
21	10.50	654.20	0.08
22	11.00	654.60	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(654.6 - 38.72236)(1)/(1) = +6.159E+02 g/L Carbon
(654.6 - 38.72236)(1)/(1)(12) = +5.132E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SS .1090g RWS 5/9/96 SL HOOD 00000

~~616~~ 616/.1090 = 5.65e3 **1660**

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01441 DUP Date: 05/07/96 Time: 04:15:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.80	0.00
2	1.01	225.50	99.20
3	1.50	520.20	56.65
4	2.00	670.60	22.43
5	2.50	731.90	8.38
6	3.00	756.70	3.28
7	3.50	766.10	1.23
8	4.00	770.70	0.60
9	4.50	774.10	0.44
10	5.00	776.40	0.30
11	5.50	778.60	0.28
12	6.00	780.70	0.27
13	6.50	782.40	0.22
14	7.00	783.70	0.17
15	7.50	784.60	0.11
16	8.00	785.50	0.11
17	8.50	786.10	0.08
18	9.00	786.80	0.09
19	9.50	787.50	0.09
20	10.00	788.10	0.08
21	10.50	788.70	0.08
22	11.00	789.30	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(789.3 - 38.71586)(1)/(1) = +7.506E+02 g/L Carbon
(789.3 - 38.71586)(1)/(1)(12) = +6.255E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

SS .1291g

751/.1291 = 5.82e3

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T01441 TRP Date: 05/07/96 Time: 06:55:09

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	119.70	0.00
2	1.01	470.00	74.53
3	1.50	598.20	21.43
4	2.00	644.20	7.14
5	2.50	662.10	2.70
6	3.00	668.20	0.91
7	3.50	671.50	0.49
8	4.00	673.80	0.34
9	4.50	675.50	0.25
10	5.00	677.00	0.22
11	5.50	678.50	0.22
12	6.00	679.90	0.21
13	6.50	680.80	0.13
14	7.00	682.00	0.18
15	7.50	683.10	0.16
16	8.00	684.00	0.13
17	8.50	684.80	0.12
18	9.00	685.50	0.10
19	9.50	686.30	0.12
20	10.00	687.10	0.12
21	10.50	687.60	0.07
22	11.00	688.20	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(688.2 - 38.71581)(1)/(1) = +6.495E+02 g/L Carbon
(688.2 - 38.71581)(1)/(1)(12) = +5.412E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

649.5/.1200 = 5.41e3

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T00777 Date: 05/07/96 Time: 04:42:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	37.70	97.08
3	1.51	172.20	78.11
4	2.01	247.20	30.34
5	2.51	281.00	12.03
6	3.01	293.30	4.19
7	3.51	298.90	1.87
8	4.00	302.60	1.22
9	4.50	304.90	0.75
10	5.00	306.70	0.59
11	5.50	308.20	0.49
12	6.00	309.30	0.36
13	6.50	310.50	0.39
14	7.00	311.30	0.26
15	7.50	312.20	0.29
16	8.00	313.00	0.26
17	8.50	313.50	0.16
18	9.00	314.20	0.22
19	9.50	314.80	0.19
20	10.00	315.40	0.19
21	10.50	315.80	0.13
22	11.00	316.30	0.16

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(316.3 - 38.72881)(1)/(1) = +2.776E+02 g/L Carbon
(316.3 - 38.72881)(1)/(1)(12) = +2.313E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

278/.1427 = 1.95e3

1663

^P

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T00777 DUP Date: 05/07/96 Time: 05:09:02

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.90	0.00
2	1.00	115.50	96.62
3	1.50	229.80	49.74
4	2.00	290.20	20.81
5	2.50	314.30	7.67
6	3.00	322.70	2.60
7	3.50	327.40	1.44
8	4.00	330.40	0.91
9	4.50	332.80	0.72
10	5.00	334.50	0.51
11	5.50	335.90	0.42
12	6.00	336.90	0.30
13	6.50	338.00	0.33
14	7.00	338.80	0.24
15	7.50	339.50	0.21
16	8.00	340.10	0.18
17	8.50	340.70	0.18
18	9.00	341.20	0.15
19	9.50	341.80	0.18
20	10.00	342.30	0.15
21	10.50	342.80	0.15
22	11.00	343.40	0.17

USER INPUT BLANK VALUE
BLANK VALUE = 38.72859 micrograms carbon
BLANK FACTOR = 38.72859 / 11.00244 = +3.5E+00 ug/min Carbon

SAMPLE RESULTS:
(343.4 - 38.71936)(1)/(1) = +3.047E+02 g/L Carbon
(343.4 - 38.71936)(1)/(1)(12) = +2.539E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

SS .1497g

305/.1497 = 2.04e3

LABCORE Data Entry Template for Worklist# 7970

Analyst: JLS2 **Instrument:** CARB2 _____ **Book#** 22N12A TIC 16N12E TOC

Method: LA-342-100 Rev/Mod D-0

Worklist Comment: S-102 TICTOC. RCJ

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S96T001577	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested: TIC-02 , TOC-02							
4	DUP	S96T001577	0		@TICTOC1	SOLID		
5	SPK	S96T001577	0		@TICTOC1	SOLID		
6	SAMPLE	S96T001578	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested: TIC-02 , TOC-02							
7	DUP	S96T001578	0		@TICTOC1	SOLID		
8	SAMPLE	S96T001579	0		@TICTOC1	SOLID	96000094	S102
	Analytes Requested: TIC-02 , TOC-02							
9	DUP	S96T001579	0		@TICTOC1	SOLID		

Final page for worklist # 7970

Jacque Steele 5/1/96
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 7970

Analyst: J152 **Instrument:** CARB2 **Book #** 22N12A 16N12E

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: S-102 TICTOC. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	2.2	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	15.2	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.07 E2	605.3	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	2.49 E3	2655.5	N/A	ug/g
96000094	S102	3	SAMPLE	S96T001577	0		@TICTOC1 TIC-02	SOLID	N/A	5.695 E3	5.00	ug/g
96000094	S102	3	SAMPLE	S96T001577	0		@TICTOC1 TOC-02	SOLID	N/A	1.92 E3	40.0	ug/g
96000094	S102	4	DUP	S96T001577	0		@TICTOC1 TIC-02	SOLID	5.70 E3	5.24 E3	N/A	ug/g
96000094	S102	4	DUP	S96T001577	0		@TICTOC1 TOC-02	SOLID	1.92 E3	1.95 E3	N/A	ug/g
96000094	S102	5	SPK	S96T001577	0		@TICTOC1 TIC-02	SOLID	100	96.7	N/A	ug/g
96000094	S102	5	SPK	S96T001577	0		@TICTOC1 TOC-02	SOLID	100	92.3	N/A	ug/g
96000094	S102	6	SAMPLE	S96T001578	0		@TICTOC1 TIC-02	SOLID	N/A	5.24 E3	5.00	ug/g
96000094	S102	6	SAMPLE	S96T001578	0		@TICTOC1 TOC-02	SOLID	N/A	4.78 E3	40.0	ug/g
96000094	S102	7	DUP	S96T001578	0		@TICTOC1 TIC-02	SOLID	5.24 E3	5.16 E3	N/A	ug/g
96000094	S102	7	DUP	S96T001578	0		@TICTOC1 TOC-02	SOLID	4.78 E3	5.00 E3	N/A	ug/g
96000094	S102	8	SAMPLE	S96T001579	0		@TICTOC1 TIC-02	SOLID	N/A	3.13 E3	5.00	ug/g
96000094	S102	8	SAMPLE	S96T001579	0		@TICTOC1 TOC-02	SOLID	N/A	5.39 E3	80.0	ug/g
96000094	S102	9	DUP	S96T001579	0		@TICTOC1 TIC-02	SOLID	3.13 E3	3.77 E3	N/A	ug/g
96000094	S102	9	DUP	S96T001579	0		@TICTOC1 TOC-02	SOLID	5.39 E3	5.32 E3	N/A	ug/g

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 7970

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 7970

See Attached Sheet
Analyst Signature **Date**

RJ Stead 5-2-96
Analyst Signature **Date**

Approved RW Schroeder 5/2/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 05/01/96 Time: 10:32:26

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.70	57.14
3	1.51	0.90	22.22
4	2.00	1.20	25.00
5	2.50	1.40	14.29
6	3.00	1.70	17.65
7	3.50	1.90	10.53
8	4.00	2.20	13.64
9	4.50	2.40	8.33
10	5.00	2.60	7.69
11	5.50	2.80	7.14
12	6.00	3.10	9.68
13	6.50	3.40	8.82
14	7.00	3.60	5.56
15	7.50	3.80	5.26
16	8.00	4.00	5.00
17	8.50	4.30	6.98
18	9.00	4.50	4.44
19	9.50	4.70	4.26
20	10.00	4.90	4.08
21	10.50	5.30	7.55
22	11.00	5.30	0.00

BLANK VALUE = 5.3 micrograms carbon
BLANK FACTOR = 5.3 / 10.99988 = +4.8E-01 ug/min Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BASELINE Date: 05/01/96 Time: 10:44:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = N/A

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.51	2.00	70.00
4	2.01	8.40	76.19
5	2.51	16.00	47.50
6	3.01	21.40	25.23
7	3.51	24.00	10.83
8	4.00	25.50	5.88
9	4.50	26.40	3.41
10	5.00	27.50	4.00
11	5.50	28.20	2.48
12	6.00	28.80	2.08
13	6.50	29.40	2.04
14	7.00	30.00	2.00
15	7.50	30.60	1.96
16	8.00	31.00	1.29
17	8.50	31.40	1.27
18	9.00	31.90	1.57
19	9.50	32.20	0.93
20	10.00	32.50	0.92
21	10.50	32.80	0.91
22	11.00	33.10	0.91

BLANK VALUE = 33.1 micrograms carbon
BLANK FACTOR = 33.1 / 11.00067 = +3.01E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 6/1/96
JL STEELE 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD22N12A Date: 05/01/96 Time: 10:58:08

Sample Size = 1 uL 1ml
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.50	86.67
3	1.51	55.40	97.29
4	2.00	208.10	73.38
5	2.50	365.80	43.11
6	3.00	479.10	23.65
7	3.50	545.70	12.20
8	4.00	581.00	6.08
9	4.50	596.30	2.57
10	5.00	603.00	1.11
11	5.50	605.30	0.38
12	6.00	606.70	0.23
13	6.50	607.30	0.10
14	7.00	608.00	0.12
15	7.50	608.30	0.05
16	8.00	608.70	0.07
17	8.50	609.00	0.05
18	9.00	609.50	0.08
19	9.50	609.70	0.03
20	10.00	610.00	0.05
21	10.50	610.20	0.03
22	11.00	610.60	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(610.6 - 5.279912)(1)/(1) = +6.053E+02 g/L Carbon
(610.6 - 5.279912)(1)/(1)(12) = +5.044E+01 Molar Carbon

Sample Run By: Jackie Steele 6/1/96
JL STEELE 00000

605.3 / 602 = 100.55%

E

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 16N12E Date: 05/01/96 Time: 11:10:33

Sample Size = 1 uL .200ml
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.40	0.00
2	1.00	6.50	93.85
3	1.50	79.90	91.86
4	2.00	285.80	72.04
5	2.50	460.10	37.88
6	3.00	525.80	12.50
7	3.50	547.40	3.95
8	4.00	553.80	1.16
9	4.50	556.30	0.45
10	5.00	557.40	0.20
11	5.50	558.50	0.20
12	6.00	559.70	0.21
13	6.50	560.20	0.09
14	7.00	560.90	0.12
15	7.50	561.30	0.07
16	8.00	561.90	0.11
17	8.50	562.40	0.09
18	9.00	562.70	0.05
19	9.50	563.30	0.11
20	10.00	563.50	0.04
21	10.50	563.90	0.07
22	11.00	564.20	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(564.2 - 33.1089)(1)/(1) = +5.311E+02 g/L Carbon
(564.2 - 33.1089)(1)/(1)(12) = +4.426E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jacque Steele 5/1/96
JL STEELE 00000

$\frac{531.1}{.200ml} = 2655.5/3000 = 88.52\%$

1671

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 05/01/96 Time: 11:22:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.20	0.00
2	1.01	1.10	81.82
3	1.51	2.70	59.26
4	2.00	3.40	20.59
5	2.50	3.90	12.82
6	3.00	4.30	9.30
7	3.50	4.50	4.44
8	4.00	4.70	4.26
9	4.50	4.90	4.08
10	5.00	5.10	3.92
11	5.50	5.30	3.77
12	6.00	5.60	5.36
13	6.50	5.80	3.45
14	7.00	5.90	1.69
15	7.50	6.10	3.28
16	8.00	6.40	4.69
17	8.50	6.50	1.54
18	9.00	6.80	4.41
19	9.50	7.00	2.86
20	10.00	7.20	2.78
21	10.50	7.30	1.37
22	11.00	7.50	2.67

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(7.5 - 5.280322)(1)/(1) = +2.2E+00 g/L Carbon
(7.5 - 5.280322)(1)/(1)(12) = +1.8E-01 Molar Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

| 7.50 — 5.30 | = 2.2

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLANK Date: 05/01/96 Time: 11:35:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.00	70.00
3	1.50	3.90	74.36
4	2.00	8.30	53.01
5	2.50	11.60	28.45
6	3.01	12.70	8.66
7	3.50	13.30	4.51
8	4.00	13.90	4.32
9	4.50	14.40	3.47
10	5.00	14.70	2.04
11	5.50	15.00	2.00
12	6.00	15.20	1.32
13	6.50	15.60	2.56
14	7.00	16.00	2.50
15	7.50	16.20	1.23
16	8.00	16.50	1.82
17	8.50	16.90	2.37
18	9.00	17.00	0.59
19	9.50	17.30	1.73
20	10.00	17.50	1.14
21	10.50	17.70	1.13
22	11.00	17.90	1.12

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(17.9 - 33.11129)(1)/(1) = < 5.00 E-3 g/L Carbon
(17.9 - 33.11129)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

|17.90 - 33.10| = 15.2

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001577 Date: 05/01/96 Time: 11:51:32

Sample Size = 1 uL .1784g
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	5.10	96.08
3	1.51	105.40	95.16
4	2.00	374.10	71.83
5	2.50	607.80	38.45
6	3.00	771.70	21.24
7	3.50	881.00	12.41
8	4.00	944.40	6.71
9	4.50	980.30	3.66
10	5.00	998.50	1.82
11	5.50	1006.00	0.75
12	6.00	1010.10	0.41
13	6.50	1012.00	0.19
14	7.00	1013.90	0.19
15	7.50	1015.00	0.11
16	8.00	1016.40	0.14
17	8.50	1017.50	0.11
18	9.00	1018.10	0.06
19	9.50	1019.10	0.10
20	10.00	1020.00	0.09
21	10.50	1020.50	0.05
22	11.00	1021.20	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(1021.2 - 5.279824)(1)/(1) = +1.0159E+03 g/L Carbon
(1021.2 - 5.279824)(1)/(1)(12) = +8.4660E+01 Molar Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{1015.9}{.1784g} = 5.695^{E3}$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001577 Date: 05/01/96 Time: 12:06:24

Sample Size = 1 uL .1784g
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	9.30	86.02
3	1.50	80.50	88.45
4	2.00	198.30	59.40
5	2.50	291.40	31.95
6	3.00	333.20	12.55
7	3.50	349.20	4.58
8	4.00	356.10	1.94
9	4.50	360.30	1.17
10	5.00	362.80	0.69
11	5.50	365.20	0.66
12	6.00	366.80	0.44
13	6.50	368.30	0.41
14	7.00	369.50	0.32
15	7.50	370.80	0.35
16	8.00	372.00	0.32
17	8.50	372.70	0.19
18	9.00	373.40	0.19
19	9.50	374.10	0.19
20	10.00	374.60	0.13
21	10.50	375.20	0.16
22	11.00	375.70	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(375.7 - 33.10872)(1)/(1) = +3.426E+02 g/L Carbon
(375.7 - 33.10872)(1)/(1)(12) = +2.855E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{342.6}{.1784g} = 1.920^{E3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1577 DUP Date: 05/01/96 Time: 12:18:42

Sample Size = 1 uL .1080g
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	2.00	80.00
3	1.51	52.80	96.21
4	2.01	197.40	73.25
5	2.51	345.30	42.83
6	3.00	442.60	21.98
7	3.50	502.20	11.87
8	4.00	534.10	5.97
9	4.50	549.60	2.82
10	5.00	556.80	1.29
11	5.50	560.40	0.64
12	6.00	562.40	0.36
13	6.50	564.10	0.30
14	7.00	565.20	0.19
15	7.50	566.40	0.21
16	8.00	567.40	0.18
17	8.50	568.10	0.12
18	9.00	568.80	0.12
19	9.50	569.50	0.12
20	10.00	570.30	0.14
21	10.50	570.80	0.09
22	11.00	571.40	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(571.4 - 5.279443)(1)/(1) = +5.661E+02 g/L Carbon
(571.4 - 5.279443)(1)/(1)(12) = +4.718E+01 Molar Carbon

Sample Run By: Jacque Steele 5/1/96
JL STEELE 00000

$\frac{566.1}{.1080g} = 5.243^{E3}$

1676

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1577 DUP Date: 05/01/96 Time: 12:31:10

Sample Size = 1 uL .1080g
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	7.60	85.53
3	1.50	54.40	86.03
4	2.00	131.90	58.76
5	2.50	190.80	30.87
6	3.00	217.00	12.07
7	3.50	226.70	4.28
8	4.00	230.60	1.69
9	4.50	233.00	1.03
10	5.00	234.90	0.81
11	5.50	236.10	0.51
12	6.00	237.20	0.46
13	6.50	238.50	0.55
14	7.00	239.30	0.33
15	7.50	240.00	0.29
16	8.00	240.80	0.33
17	8.50	241.30	0.21
18	9.00	241.80	0.21
19	9.50	242.40	0.25
20	10.00	242.80	0.16
21	10.50	243.10	0.12
22	11.00	243.50	0.16

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(243.5 - 33.11184)(1)/(1) = +2.104E+02 g/L Carbon
(243.5 - 33.11184)(1)/(1)(12) = +1.753E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{210.4}{.1080g} = 1.948^{E3}$

1677

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1577 SPIKE Date: 05/01/96 Time: 12:47:04

Sample Size = 1 uL .1128g + .500ml 22N12A
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	2.40	83.33
3	1.51	102.60	97.66
4	2.00	338.70	69.71
5	2.50	567.70	40.34
6	3.00	723.50	21.53
7	3.50	815.00	11.23
8	4.00	864.50	5.73
9	4.50	887.40	2.58
10	5.00	897.30	1.10
11	5.50	901.40	0.45
12	6.00	903.90	0.28
13	6.50	905.90	0.22
14	7.00	907.10	0.13
15	7.50	908.40	0.14
16	8.00	909.50	0.12
17	8.50	910.60	0.12
18	9.00	911.50	0.10
19	9.50	912.40	0.10
20	10.00	913.20	0.09
21	10.50	913.90	0.08
22	11.00	914.60	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(914.6 - 5.279443)(1)/(1) = +9.093E+02 g/L Carbon
(914.6 - 5.279443)(1)/(1)(12) = +7.578E+01 Molar Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$$\frac{914.60}{\frac{1021.20}{.1784} \times .1128 + 300} = \frac{914.60}{945.169} = 96.71\%$$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1577 ~~DUP~~ LS 5/1/96 SPIKE Date: 05/01/96 Time: 12:59:18

Sample Size = 1 uL .1128g + .100ml IGNIZE
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	33.10	96.68
3	1.51	156.70	78.88
4	2.00	319.90	51.02
5	2.50	422.10	24.21
6	3.00	461.70	8.58
7	3.50	475.90	2.98
8	4.00	481.00	1.06
9	4.50	484.00	0.62
10	5.00	485.80	0.37
11	5.50	487.50	0.35
12	6.00	489.00	0.31
13	6.50	490.00	0.20
14	7.00	491.00	0.20
15	7.50	491.90	0.18
16	8.00	492.60	0.14
17	8.50	493.40	0.16
18	9.00	493.80	0.08
19	9.50	494.50	0.14
20	10.00	495.10	0.12
21	10.50	495.40	0.06
22	11.00	495.80	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(495.8 - 33.11441)(1)/(1) = +4.627E+02 g/L Carbon
(495.8 - 33.11441)(1)/(1)(12) = +3.856E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$$\frac{495.80}{\frac{375.70}{.1784} \times .1128 + 300} = \frac{495.80}{537.55} = 92.23\%$$

1679

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001578 Date: 05/01/96 Time: 14:59:45

Sample Size = 1 uL .1139
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	1.40	57.14
3	1.50	21.60	93.52
4	2.00	86.30	74.97
5	2.50	164.90	47.67
6	3.00	229.30	28.09
7	3.50	283.10	19.00
8	4.00	336.10	15.77
9	4.50	388.60	13.51
10	5.00	435.10	10.69
11	5.50	472.60	7.93
12	6.00	499.00	5.29
13	6.50	528.40	5.56
14	7.00	558.70	5.42
15	7.50	578.70	3.46
16	8.00	588.30	1.63
17	8.50	592.70	0.74
18	9.00	595.50	0.47
19	9.50	597.40	0.32
20	10.00	599.10	0.28
21	10.50	600.70	0.27
22	11.00	601.80	0.18

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(601.8 - 5.279853)(1)/(1) = +5.965E+02 g/L Carbon
(601.8 - 5.279853)(1)/(1)(12) = +4.971E+01 Molar Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{596.5}{.1139} = 5.237^{E3}$ 1680

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001578 Date: 05/01/96 Time: 15:12:10

Sample Size = 1 uL .1139g
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.10	0.00
2	1.01	15.40	86.36
3	1.51	183.70	91.62
4	2.00	388.40	52.70
5	2.50	497.80	21.98
6	3.00	540.60	7.92
7	3.50	557.00	2.94
8	4.00	562.30	0.94
9	4.50	565.30	0.53
10	5.00	567.10	0.32
11	5.50	568.70	0.28
12	6.00	570.10	0.25
13	6.50	571.60	0.26
14	7.00	572.60	0.17
15	7.50	573.40	0.14
16	8.00	574.20	0.14
17	8.50	575.10	0.16
18	9.00	575.80	0.12
19	9.50	576.40	0.10
20	10.00	577.00	0.10
21	10.50	577.40	0.07
22	11.00	577.90	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(577.9 - 33.10633)(1)/(1) = +5.448E+02 g/L Carbon
(577.9 - 33.10633)(1)/(1)(12) = +4.540E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{544.8}{.1139g} = 4.783^{E3}$

1681

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1578 DUP Date: 05/01/96 Time: 13:40:08

Sample Size = 1 uL .1066g
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.40	0.00
2	1.01	1.50	73.33
3	1.50	41.20	96.36
4	2.00	177.60	76.80
5	2.50	309.80	42.67
6	3.00	406.00	23.69
7	3.50	466.70	13.01
8	4.00	501.10	6.86
9	4.50	521.20	3.86
10	5.00	532.50	2.12
11	5.50	538.30	1.08
12	6.00	541.30	0.55
13	6.50	543.80	0.46
14	7.00	545.50	0.31
15	7.50	547.30	0.33
16	8.00	548.80	0.27
17	8.50	549.90	0.20
18	9.00	551.10	0.22
19	9.50	552.20	0.20
20	10.00	553.20	0.18
21	10.50	554.10	0.16
22	11.00	554.90	0.14

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(554.9 - 5.280322)(1)/(1) = +5.496E+02 g/L Carbon
(554.9 - 5.280322)(1)/(1)(12) = +4.580E+01 Molar Carbon

Sample Run By: Jacque Steele 6/1/96
JLSTEELE 00000

$\frac{549.6}{.1066} = 5.156^{E3}$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1578 DUP . Date: 05/01/96 Time: 13:53:29

Sample Size = 1 uL .1066eq
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	18.50	93.51
3	1.51	197.90	90.65
4	2.00	393.90	49.76
5	2.50	493.90	20.25
6	3.00	532.90	7.32
7	3.50	546.70	2.52
8	4.00	551.50	0.87
9	4.50	554.00	0.45
10	5.00	555.50	0.27
11	5.50	557.00	0.27
12	6.00	558.40	0.25
13	6.50	559.50	0.20
14	7.00	560.50	0.18
15	7.50	561.30	0.14
16	8.00	561.90	0.11
17	8.50	562.80	0.16
18	9.00	563.30	0.09
19	9.50	563.80	0.09
20	10.00	564.50	0.12
21	10.50	564.90	0.07
22	11.00	565.50	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(565.5 - 33.10963)(1)/(1) = +5.324E+02 g/L Carbon
(565.5 - 33.10963)(1)/(1)(12) = +4.437E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jerene Steele 5/1/96
JL STEELE 00000

$\frac{532.4}{.1066} = 4.994^{E3}$

1683

E

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001579 Date: 05/01/96 Time: 14:09:32

Sample Size = 1 uL .1176g
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.90	66.67
3	1.51	14.20	93.66
4	2.00	79.00	82.03
5	2.50	164.70	52.03
6	3.00	230.90	28.67
7	3.51	272.10	15.14
8	4.01	295.60	7.95
9	4.50	311.60	5.13
10	5.00	327.20	4.77
11	5.50	340.20	3.82
12	6.00	348.90	2.49
13	6.50	356.00	1.99
14	7.00	360.30	1.19
15	7.50	362.90	0.72
16	8.00	365.10	0.60
17	8.50	366.80	0.46
18	9.00	368.30	0.41
19	9.50	369.80	0.41
20	10.00	371.00	0.32
21	10.50	372.40	0.38
22	11.00	373.50	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(373.5 - 5.281201)(1)/(1) = +3.682E+02 g/L Carbon
(373.5 - 5.281201)(1)/(1)(12) = +3.068E+01 Molar Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{368.2}{.1176g} = 3.131^{83}$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T001579 Date: 05/01/96 Time: 14:21:51

Sample Size = 1 uL .1176g
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	14.40	88.19
3	1.51	202.90	92.90
4	2.00	453.60	55.27
5	2.50	582.30	22.10
6	3.00	626.90	7.11
7	3.50	644.00	2.66
8	4.00	649.80	0.89
9	4.50	653.30	0.54
10	5.00	655.10	0.27
11	5.50	656.70	0.24
12	6.00	658.50	0.27
13	6.50	659.90	0.21
14	7.00	661.00	0.17
15	7.50	662.00	0.15
16	8.00	662.90	0.14
17	8.50	663.60	0.11
18	9.00	664.40	0.12
19	9.50	665.00	0.09
20	10.00	665.60	0.09
21	10.50	666.20	0.09
22	11.00	666.70	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(666.7 - 33.10394)(1)/(1) = +6.336E+02 g/L Carbon
(666.7 - 33.10394)(1)/(1)(12) = +5.280E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jaime Steele 5/1/96
JL STEELE 00000

$\frac{633.6}{.1176} = 5.388^{E3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1579 DUP Date: 05/01/96 Time: 14:35:04

Sample Size = 1 uL .0827g
Dil Factor = 1
Blank ID # =
Blank Value = .48 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	5.10	90.20
3	1.50	27.30	81.32
4	2.00	76.90	64.50
5	2.50	144.10	46.63
6	3.00	203.30	29.12
7	3.50	246.50	17.53
8	4.00	273.50	9.87
9	4.50	288.40	5.17
10	5.00	296.30	2.67
11	5.50	300.70	1.46
12	6.00	303.60	0.96
13	6.50	305.40	0.59
14	7.00	307.30	0.62
15	7.50	308.80	0.49
16	8.00	310.30	0.48
17	8.50	311.60	0.42
18	9.00	312.90	0.42
19	9.50	314.00	0.35
20	10.00	315.00	0.32
21	10.50	316.10	0.35
22	11.00	317.00	0.28

USER INPUT BLANK VALUE
BLANK VALUE = 5.280322 micrograms carbon
BLANK FACTOR = 5.280322 / 11.00067 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(317 - 5.279472)(1)/(1) = +3.117E+02 g/L Carbon
(317 - 5.279472)(1)/(1)(12) = +2.598E+01 Molar Carbon

Sample Run By: Jackie Steele 5/1/96
JL STEELE 00000

$\frac{311.7}{.0827g} = 3.767^{E3}$

1686

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1579 DUP Date: 05/01/96 Time: 14:47:43

Sample Size = 1 uL .0827g
Dil Factor = 1
Blank ID # =
Blank Value = 3.01 ug/minute C

Analyst : JL STEELE
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	43.00	96.51
3	1.51	201.50	78.66
4	2.01	335.10	39.87
5	2.51	407.40	17.75
6	3.01	439.30	7.26
7	3.51	451.30	2.66
8	4.01	456.60	1.16
9	4.51	459.50	0.63
10	5.01	461.80	0.50
11	5.51	463.50	0.37
12	6.01	465.00	0.32
13	6.51	466.20	0.26
14	7.00	467.30	0.24
15	7.50	468.10	0.17
16	8.00	469.20	0.23
17	8.50	470.00	0.17
18	9.00	470.80	0.17
19	9.50	471.50	0.15
20	10.00	472.00	0.11
21	10.50	472.70	0.15
22	11.00	473.20	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 33.11202 micrograms carbon
BLANK FACTOR = 33.11202 / 11.00067 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:
(473.2 - 33.11772)(1)/(1) = +4.401E+02 g/L Carbon
(473.2 - 33.11772)(1)/(1)(12) = +3.667E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Jackie Steele 5/1/96
JLSTEELE 00000

$\frac{440.1}{.0827} = 5.322^{E3}$

WHC-SD-WM-DP-179, REV. 1

RADIOCHEMICAL ANALYSES

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LABCORE Data Entry Template for Worklist# 6040

Analyst: AKL **Instrument:** AB00 14 **Book#** 38B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: S-102, Determine sample size using Ludlum, use 0.1mL spk.skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S96T000773	0		@ALPHA01	LIQUID	96000030	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T000773	0		@ALPHA01	LIQUID		
6	SPK	S96T000773	0		@ALPHA01	LIQUID		
7	SAMPLE	S96T000838	0		@ALPHA01	LIQUID	96000030	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
8	DUP	S96T000838	0		@ALPHA01	LIQUID		

Final page for worklist # 6040

G Luis 3/4/96
Analyst Signature **Date**

Raymond 3.5.96
Analyst Signature **Date**

M Sicinski 3/5/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 6040

Analyst: akl **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: S-102, Determine sample size using Ludlum, use 0.1mL spk.skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.53E-05	1.45E-5	94.770	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.22E+00	4.220	% Ct. Error
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<8.41E-3		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00	1.13E+00	1.130	uCi/mL
4	SAMPLE	S96T000773	0	@ALPHA01	ALPHA01	LIQUID	N/A <	8.41E-03	1.400e-002	uCi/mL
4	SAMPLE	S96T000773	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
5	DUP	S96T000773	0	@ALPHA01	ALPHA01	LIQUID	<8.41E-3	<1.15E-2		RPD
5	DUP	S96T000773	0	@ALPHA01	ALPHA01E	LIQUID	1.00	3.75E+02	375.000	% Ct. Error
6	SPK	S96T000773	0	@ALPHA01	ALPHA01	LIQUID	3.92E-02	4.52E-02	115.310	% Recovery
7	SAMPLE	S96T000838	0	@ALPHA01	ALPHA01	LIQUID	N/A <	1.19E-06	2.750e-006	uCi/mL
7	SAMPLE	S96T000838	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
8	DUP	S96T000838	0	@ALPHA01	ALPHA01	LIQUID	<1.19E-6	<1.19E-6		RPD
8	DUP	S96T000838	0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 6040

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 3/8/96 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2197	2228
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	38B56	38B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		72.733	73.767
Batch Number	Standard Value in µCi/mL		1.53E-05	
96001683	Concentration in µCi/L	=	1.44E-02	
Rerun	Replicate Concentration in µCi/L	=	1.46E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4510E-02	
Sample Prep				
N/A				
Sample #				
WL6040-STD				
Instrument Code				
WB27807				
Prepared By				
VAR				
Chemist				
SLF				
Analyst				
AKL				
Date Complete				
03/05/96				
Analysis Date				
03/04/96				
Analysis Time				
03:00 PM				
Sample Point				
S102				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL CONCENTRATION in µCi/mL		1.45E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	4.2%	1.37E-07 µCi/mL

Analyst:	VAR		Date: 05-Mar-96
Signature of Chemist:		SLF	Date: 3/7/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	18	16
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.416	0.340

Batch Number			
96001683	Blank Concentration in µCi/L	<	8.41E+00
Rerun	Replicate Concentration in µCi/L	<	6.86E+00
0	Maximum Concentration in µCi/L	<	8.4051E+00

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
WL6040-BLK	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
VAR	
Chemist	
SLF	
Analyst	
AKL	
Date Complete	
03/05/96	
Analysis Date	
03/04/96	
Analysis Time	
03:00 PM	
Sample Point	
S102	

ALPHA TOTAL in µCi/mL (Maximum)	=	< 8.41E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			
RELATIVE COUNTING ERROR		500.0%	1.40E-02 µCi/mL

Analyst:		AKL	Date: 05-Mar-96
Signature of Chemist:		SLF	Date: 3/7/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	18
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.416

Batch Number			
96001683	Blank Concentration in µCi/L	<	6.09E+00
Rerun	Replicate Concentration in µCi/L	<	8.41E+00
0	Maximum Concentration in µCi/L	<	8.4051E+00

Sample Prep: N/A

Sample #: S96T000773

Instrument Code: WB27807

Prepared By: VAR

Chemist: SLF

Analyst: AKL

Date Complete: 03/05/96

Analysis Date: 03/04/96

Analysis Time: 03:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) =	< 8.41E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.		
RELATIVE COUNTING ERROR	500.0%	1.40E-02 µCi/mL

Analyst:	AKL		Date: 05-Mar-96
Signature of Chemist:		SLF	Date: 3/7/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	22	18
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.568	0.416

Batch Number			
96001683	Blank Concentration in µCi/L	<	1.15E+01
Rerun	Replicate Concentration in µCi/L	<	8.41E+00
0	Maximum Concentration in µCi/L	<	1.1475E+01

Sample Prep: N/A

Sample #: S96T000773

Instrument Code: WB27807

Prepared By: VAR

Chemist: SLF

Analyst: AKL

Date Complete: 03/05/96

Analysis Date: 03/04/96

Analysis Time: 03:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.15E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			1.40E-02 µCi/mL
RELATIVE COUNTING ERROR		375.3%	

Analyst:		AKL	Date: 05-Mar-96
Signature of Chemist:		SLF	Date: 3/7/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	69680	67303
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96001683	SPIKE VALUE in µCi/mL	(SVal)	3.9202E-02	3.9202E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/mL	(S+S)	4.69E+01	4.53E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	8.4051E-03	
N/A				
Sample #				
S96T000773				
Instrument Code				
WB27807				
Prepared By				
VAR				
Chemist				
SLF				
Analyst				
AKL				
Date Complete				
03/05/96				
Analysis Date				
03/04/96				
Analysis Time				
03:00 PM				
Sample Point				
S102				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.92E-02
QC FOUND	=	4.52E-02
AVG. PERCENT SPIKE RECOVERY	=	115.3%

Analyst:		VAR	Date: 05-Mar-96
Signature of Chemist:		SLF	Date: 3/7/96

SPIKE.WB1 Rev. 1.0 508101M

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	13	7
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.301

Batch Number			
96001683	Blank Concentration in µCi/L	<	1.19E-03
Rerun	Replicate Concentration in µCi/L	<	1.19E-03
0	Maximum Concentration in µCi/L	<	1.1935E-03

Sample Prep: N/A

Sample #: S96T000838

Instrument Code: WB27807

Prepared By: VAR

Chemist: SLF

Analyst: AKL

Date Complete: 03/05/96

Analysis Date: 03/04/96

Analysis Time: 03:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) =	< 1.19E-06	DETECTION LEVEL
LESS Than Value was Determined from Lc.		2.75E-06 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:		AKL	Date: 05-Mar-96
Signature of Chemist:	[signature]	SLF	Date: 3/7/96

SAMPLE WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	12	4
6040	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.5	0.5
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.301	0.301

Batch Number			
96001683	Blank Concentration in µCi/L	<	1.19E-03
Rerun	Replicate Concentration in µCi/L	<	1.19E-03
0	Maximum Concentration in µCi/L	<	1.1935E-03

Sample Prep: N/A

Sample #: S96T000838

Instrument Code: WB27807

Prepared By: VAR

Chemist: SLF

Analyst: AKL

Date Complete: 03/05/96

Analysis Date: 03/04/96

Analysis Time: 03:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) =	< 1.19E-06	DETECTION LEVEL
LESS Than Value was Determined from Lc.		2.75E-06 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:		AKL	Date: 05-Mar-96
Signature of Chemist:		SLF	Date: 3/7/96

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 6202

Analyst: S.C.L **Instrument:** AB00 15 **Book#** 38B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine Sample Size using Ludlum.For Spike use: 0.1ml.new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK-PREP				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S96T000634	0		@ALPHA01	LIQUID	96000030	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T000634	0		@ALPHA01	LIQUID		
6	SPK	S96T000634	0		@ALPHA01	LIQUID		

Final page for worklist # 6202

Sue C Lai 3-6-96
Analyst Signature **Date**

Sue Hogan 3/7/96
Analyst Signature **Date**

C.J. Quinn 3/7/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code

worklistdata Version 0.0 05/16/95
03/12/96 09:30

LABCORE Completed Worklist Report for Worklist# 6202

Analyst: scl **Instrument:** AB15 **Book#** 38B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine Sample Size using Ludlum.For Spike use: 0.1ml.new

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.53E-05	1.41E-5	92.160	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.24E+00	4.240	% Ct. Error
2	BLNK-PREP		0	@ALPHA01	ALPHA01	LIQUID	1	<1.30E-2		uCi/mL
2	BLNK-PREP		0	@ALPHA01	ALPHA01E	LIQUID	1.00	1.89E+02	189.000	% Ct. Error
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00	2.06E+00	2.060	uCi/mL
4	SAMPLE	S96T000634	0	@ALPHA01	ALPHA01	LIQUID	N/A <	1.46E-02	1.710e-002	uCi/mL
4	SAMPLE	S96T000634	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
5	DUP	S96T000634	0	@ALPHA01	ALPHA01	LIQUID	<1.46E-2	1.21E-2		RPD
5	DUP	S96T000634	0	@ALPHA01	ALPHA01E	LIQUID	1.00	1.06E+02	106.000	% Ct. Error
6	SPK	S96T000634	0	@ALPHA01	ALPHA01	LIQUID	3.92E-02	3.69E-02	94.130	% Recovery

Final page for worklist# 6202

Analyst Signature **Date** **Analyst Signature** **Date**

John Relyea 12 Mar 96
Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2318	2152
6202	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.17	0.17
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	38B56	38B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		77.097	71.563
Batch Number	Standard Value in µCi/mL		1.53E-05	
96001849	Concentration in µCi/L	=	1.46E-02	
Retest	Replicate Concentration in µCi/L	=	1.35E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4068E-02	

Sample Prep: N/A

Sample #: WL#6202

Instrument Code: WB26872

Prepared By: SEH

Chemist: SLF

Analyst: SCL

Date Complete: 03/07/96

Analysis Date: 03/06/96

Analysis Time: 03:00 PM

Sample Point: S-012

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL CONCENTRATION in µCi/mL		1.41E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	4.2%	8.37E-08 µCi/mL

Analyst:	SEH		Date: 07-Mar-96
Signature of Chemist:		SLF	Date: 3/12/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) LIQUIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		15	15
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	12
6202	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.17	0.17
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.337	0.230
Batch Number				
96001849	Blank Concentration in µCi/L	<	1.30E+01	
Rerun	Replicate Concentration in µCi/L		8.88E+00	
0	Maximum Concentration in µCi/L	<	1.2995E+01	

Sample Prep: N/A

Sample # WL#6202

Instrument Code WB26872

Prepared By SEH

Chemist SLF

Analyst SCL

Date Complete 03/07/96

Analysis Date 03/06/96

Analysis Time 03:00 PM

Sample Point S-012

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) = < 1.30E-02		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		
RELATIVE COUNTING ERROR	188.7%	1.71E-02 µCi/mL

Analyst:		SCL	Date: 07-Mar-96
Signature of Chemist:		SLF	Date: 3/12/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	10	6
6202	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.17	0.17
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.377	0.213

Batch Number			
96001849	Blank Concentration in µCi/L	<	1.46E+01
Rerun	Replicate Concentration in µCi/L	<	8.23E+00
0	Maximum Concentration in µCi/L	<	1.4560E+01

Sample Prep: N/A

Sample # : S96T000634

Instrument Code: WB26872

Prepared By: SEH

Chemist: SLF

Analyst: SCL

Date Complete: 03/07/96

Analysis Date: 03/06/96

Analysis Time: 03:00 PM

Sample Point: S-012

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.46E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			1.71E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:	SCL		Date: 07-Mar-96
Signature of Chemist:		SLF	Date: 3/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	16	13
6202	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.17	0.17
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.363	0.263

Batch Number		
96001849	Blank Concentration in µCi/L	1.40E+01
Rerun	Replicate Concentration in µCi/L	1.02E+01
0	Average Concentration in µCi/L	1.2099E+01

Sample Prep: N/A

Sample # : S96T000634

Instrument Code: WB26872

Prepared By: SEH

Chemist: SLF

Analyst: SCL

Date Complete: 03/07/96

Analysis Date: 03/06/96

Analysis Time: 03:00 PM

Sample Point: S-012

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Average) =	1.21E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR	105.6%	1.71E-02 µCi/mL

Analyst:	SCL		Date: 07-Mar-96
Signature of Chemist:		SLF	Date: 3/12/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
DETECTOR NUMBER			15	15
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	58038	58813
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.17	0.17
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.500	0.500
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	10201	10201
DIGEST DILUTION FACTOR		(DDF)	1	1
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	119B43	119B43
SPIKE VALUE in µCi/mL		(SVal)	3.9202E-02	3.9202E-02
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.238	0.238
SAMPLE + SPIKE µCi/mL		(S+S)	7.47E+01	7.57E+01
AVERAGE or MAXIMUM µCi/mL in SAMPLE		<	1.4560E-02	

Type	SPK
Work List	6202
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	96001849
Rerun	0
Sample Prep	N/A
Sample #	S96T000634
Instrument Code	WB26872
Prepared By	SEH
Chemist	SLF
Analyst	SCL
Date Complete	03/07/96
Analysis Date	03/06/96
Analysis Time	03:00 PM
Sample Point	S-012

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.92E-02
QC FOUND	=	3.69E-02
AVG. PERCENT SPIKE RECOVERY	=	94.0%

Analyst:		SEH	Date: 07-Mar-96
Signature of Chemist:		SLF	Date: 3/12/96

SPIKE.WB1 Rev. 1.0 508101ML

03/14/96 10:43
A-0004-1

LABCORE Data Entry Template for Worklist# 6481

Analyst: S.C.L. **Instrument:** AB00 14 **Book#** 43856

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine Sample Size using Ludlum.For Spike use:0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S96T001125	0		@ALPHA01	LIQUID	96000094	S102
		Analytes Requested:			ALPHA01 , ALPHA01E			
5	DUP	S96T001125	0		@ALPHA01	LIQUID		
6	SPK	S96T001125	0		@ALPHA01	LIQUID		

Final page for worklist # 6481

Sue C Lai 3-19-96
Analyst Signature **Date**

Ann Hogan 3/20/96
Analyst Signature **Date**

C.J. Quinn 3/21/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 6481

Analyst: scl **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine Sample Size using Ludlum.For Spike use:0.1ml. new

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.53E-05	1.49E-5	97.390	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.15E+00	4.150	% Ct. Error
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<1.26E-2		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00	1.11E+00	1.110	uCi/mL
4	SAMPLE	S96T001125	0	@ALPHA01	ALPHA01	LIQUID	N/A <	1.42E-02	2.250e-002	uCi/mL
4	SAMPLE	S96T001125	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
5	DUP	S96T001125	0	@ALPHA01	ALPHA01	LIQUID	<1.42E-2	<9.43E-3		RPD
5	DUP	S96T001125	0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6	SPK	S96T001125	0	@ALPHA01	ALPHA01	LIQUID	3.92E-02	4.00E-02	102.040	% Recovery

Final page for worklist# 6481

Analyst Signature **Date** **Analyst Signature** **Date**

3/25/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2268	2255
6481	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	43B56	43B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		75.300	74.867
Batch Number	Standard Value in µCi/mL		1.53E-05	
96002141	Concentration in µCi/L	=	1.49E-02	
Rerun	Replicate Concentration in µCi/L	=	1.48E-02	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4873E-02	

Sample Prep: N/A

Sample #: WL#6481

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: SCL

Date Complete: 03/20/96

Analysis Date: 03/19/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL		1.49E-05	1.10E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.2%	

Analyst:		SEH	Date: 20-Mar-96
Signature of Chemist:		SLF	Date: 3/21/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	11
6481	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.313
Batch Number				
96002141	Blank Concentration in µCi/L	<	9.43E+00	
#Rerun	Replicate Concentration in µCi/L	<	1.26E+01	
0	Maximum Concentration in µCi/L	<	1.2635E+01	

Sample Prep
N/A

Sample #
WL#6481

Instrument Code
WB27807

Prepared By
SEH

Chemist
SLF

Analyst
SCL

Date Complete
03/20/96

Analysis Date
03/19/96

Analysis Time
10:00 AM

Sample Point
S102

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.26E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			2.25E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		SCL	Date: 20-Mar-96
Signature of Chemist:		SLF	Date: 3/21/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	12	9
6481	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.352	0.233

Batch Number			
96002141	Blank Concentration in µCi/L	<	1.42E+01
Replicate	Replicate Concentration in µCi/L	<	9.43E+00
0	Maximum Concentration in µCi/L	<	1.4227E+01

Sample Prep: N/A

Sample #: S96T001125

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: SCL

Date Complete: 03/20/96

Analysis Date: 03/19/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.42E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			2.25E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		SCL	Date: 20-Mar-96
Signature of Chemist:		SLF	Date: 3/21/96

SAMPLE.WB1 Rev. 1.0 508101ML

1710

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work Last	GROSS COUNTS	(GC)	8	8
6481	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.233	0.233

Batch Number			
96002141	Blank Concentration in µCi/L	<	9.43E+00
Rerun	Replicate Concentration in µCi/L	<	9.43E+00
0	Maximum Concentration in µCi/L	<	9.4304E+00

Sample Prep: N/A

Sample#: S96T001125

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: SCL

Date Complete: 03/20/96

Analysis Date: 03/19/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

		DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum) =	< 9.43E-03	
LESS Than Value was Determined from Lc.		
RELATIVE COUNTING ERROR	500.0%	2.25E-02 µCi/mL

Analyst:	SCL		Date: 20-Mar-96
Signature of Chemist:		SLF	Date: 3/21/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	62541	58545
6481	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	119B43	119B43
96002141	SPIKE VALUE in µCi/mL	(SVal)	3.9200E-02	3.9200E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/mL	(S+S)	8.42E+01	7.89E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	1.4227E-02	
N/A				
Sample #				
S96T001125				
Instrument Code				
WB27807				
Prepared By				
SEH				
Chemist				
SLF				
Analyst				
SCL				
Date complete				
03/20/96				
Analysis Date				
03/19/96				
Analysis Time				
10:00 AM				
Sample Point				
S102				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.92E-02
QC FOUND	=	4.00E-02
AVG. PERCENT SPIKE RECOVERY	=	102.0%

Analyst:		SEH	Date: 20-Mar-96
Signature of Chemist:		SLF	Date: 3/21/96

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 6733

Analyst: AKL **Instrument:** AB00 ~~#14~~ 13 **Book#** 47656

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S96T001382	0		@ALPHA01	LIQUID	96000094	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T001382	0		@ALPHA01	LIQUID		
6	SPK	S96T001382	0		@ALPHA01	LIQUID		
7	SAMPLE	S96T001383	0		@ALPHA01	LIQUID	96000094	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
8	DUP	S96T001383	0		@ALPHA01	LIQUID		
9	SPK	S96T001383	0		@ALPHA01	LIQUID		

Final page for worklist # 6733

C Lewis 4/4/96
Analyst Signature **Date**

Carol J. Quinn 4/8/96
Analyst Signature **Date**

Leo Hogan 4/8/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 6733

Analyst: akl **Instrument:** AB13 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.28E-04	1.42E-4	110.940	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.12E+00	4.120	% Ct. Error
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<9.55E-3		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00	9.26E-01	0.930	uCi/mL
4	SAMPLE	S96T001382	0	@ALPHA01	ALPHA01	LIQUID	N/A <	1.69E-02	1.980e-002	uCi/mL
4	SAMPLE	S96T001382	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
5	DUP	S96T001382	0	@ALPHA01	ALPHA01	LIQUID	<1.69E-2	<1.54E-2		RPD
5	DUP	S96T001382	0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6	SPK	S96T001382	0	@ALPHA01	ALPHA01	LIQUID	3.59E-02	3.67E-02	102.230	% Recovery
7	SAMPLE	S96T001383	0	@ALPHA01	ALPHA01	LIQUID	N/A <	1.40E-02	1.980e-002	uCi/mL
7	SAMPLE	S96T001383	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
8	DUP	S96T001383	0	@ALPHA01	ALPHA01	LIQUID	<1.40E-2	<1.54E-2		RPD
8	DUP	S96T001383	0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
9	SPK	S96T001383	0	@ALPHA01	ALPHA01	LIQUID	3.59E-02	3.67E-02	102.200	% Recovery

Final page for worklist# 6733

Analyst Signature **Date** **Analyst Signature** **Date**

4/7/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		13	13
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2291	2417
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		76.097	80.297
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002420	Concentration in µCi/L	=	1.38E-01	
Rerun	Replicate Concentration in µCi/L	=	1.46E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4220E-01	

Sample Prep: N/A

Sample # : WL6733

Instrument Code: WB27810

Prepared By: CJO

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.42E-04	9.70E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.1%	

Analyst:		CJO	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		13	13
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	9
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.221	0.257
Batch Number				
96002420	Blank Concentration in µCi/L	<	8.21E+00	
Rerun	Replicate Concentration in µCi/L	<	9.55E+00	
0	Maximum Concentration in µCi/L	<	9.5513E+00	

Sample Prep: N/A

Sample #: WL6733

Instrument Code: WB27810

Prepared By: CJO

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 9.55E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.			1.98E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date:

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		13	13
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	4	14
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.221	0.455
Batch Number				
96002420	Blank Concentration in µCi/L	<	8.21E+00	
Rerun	Replicate Concentration in µCi/L	<	1.69E+01	
0	Maximum Concentration in µCi/L	<	1.6890E+01	

Sample Prep: N/A

Sample # : S96T001382

Instrument Code: WB27810

Prepared By: CJO

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) = < 1.69E-02		DETECTION LEVEL
LESS Than Value was Determined from Lc.		1.98E-02 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		13	13
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	11	13
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.337	0.416

Batch Number			
96002420	Blank Concentration in µCi/L	<	1.25E+01
Rerun	Replicate Concentration in µCi/L	<	1.54E+01
0	Maximum Concentration in µCi/L	<	1.5433E+01

Sample Prep: N/A

Sample #: S96T001382

Instrument Code: WB27810

Prepared By: CJO

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) =	< 1.54E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		1.98E-02 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		13	13
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	59707	61356
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002420	SPIKE VALUE in µCi/mL	(SVal)	3.5897E-02	3.5897E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
0	SAMPLE + SPIKE µCi/mL	(S+S)	7.38E+01	7.59E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	1.6890E-02	
N/A				
Sample #				
S96T001382				
Instrument Code				
WB27810				
Prepared By				
CJO				
Chemist				
SLF				
Analyst				
AKL				
Date Complete				
04/08/96				
Analysis Date				
04/04/96				
Analysis Time				
02:00 PM				
Sample Point				
S102				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.59E-02
QC FOUND	=	3.67E-02
AVG. PERCENT SPIKE RECOVERY	=	102.2%

Analyst:		CJO	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		13	13
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	11	12
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.337	0.377

Batch Number			
96002420	Blank Concentration in µCi/L	<	1.25E+01
Rerun	Replicate Concentration in µCi/L	<	1.40E+01
0	Maximum Concentration in µCi/L	<	1.3972E+01

Sample Prep: N/A

Sample #: S96T001383

Instrument Code: WB27810

Prepared By: CJO

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) = < 1.40E-02		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		1.98E-02 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		13	13
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	13	9
6733	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477	0.2477
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.416	0.257

Batch Number			
96002420	Blank Concentration in µCi/L	<	1.54E+01
Rerun	Replicate Concentration in µCi/L	<	9.55E+00
0	Maximum Concentration in µCi/L	<	1.5433E+01

Sample Prep: N/A

Sample #: S96T001383

Instrument Code: WB27810

Prepared By: CJO

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) = < 1.54E-02		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		1.98E-02 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE9

AT : LA-508-101 (D-2) SPIKED SAMPLE

				SPIKE	REPLICATE
	DETECTOR NUMBER			13	13
SPK	DISH SIZE 1, 2, or 5		(MS)	2	2
	TOTAL COUNTS		(TC)	60974	60083
6733	COUNT TIME in MINUTES		(CT)	30	30
	BACKGROUND in cpm		(BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.500	0.500
	SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR		(DDF)	1	1
	SPIKE VOLUME in mL		(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR		(SDF)	1	1
	SPIKE BOOK NUMBER		(Spk BN)	123B43	123B43
96002420	SPIKE VALUE in µCi/mL		(SVal)	3.5897E-02	3.5897E-02
	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2477	0.2477
0	SAMPLE + SPIKE µCi/mL		(S+S)	7.54E+01	7.43E+01
	AVERAGE or MAXIMUM µCi/mL in SAMPLE		<	1.3972E-02	

N/A

S96T001383

WB27810

CJO

SLF

AKL

04/08/96

04/04/96

02:00 PM

S102

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

NOTE: **Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.**

QC ACTUAL	=	3.59E-02
QC FOUND	=	3.67E-02
AVG. PERCENT SPIKE RECOVERY	=	102.2%

Analyst:		CJO	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SPIKE.WB1 Rev. 1.0 508101ML

Ky 7

LABCORE Data Entry Template for Worklist# 6865

Analyst: WGB **Instrument:** AB00 16 **Book#** 47856

Method: LA-508-101 Rev/Mod ~~D-2~~ D-2 WB 4-1-96

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000861	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S96T000861	0	F	@ALPHA01	SOLID		
6	SAMPLE	S96T000862	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S96T000862	0	F	@ALPHA01	SOLID		
8	SPK	S96T000862	0	F	@ALPHA01	SOLID		
9	SAMPLE	S96T000863	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
10	DUP	S96T000863	0	F	@ALPHA01	SOLID		
11	SPK	S96T000863	0	F	@ALPHA01	SOLID		
12	SAMPLE	S96T000864	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
13	DUP	S96T000864	0	F	@ALPHA01	SOLID			

Final page for worklist # 6865

Wm J. Burchardt 4-1-96
Analyst Signature **Date**

Sharon L Uhlik 4-4-96
Analyst Signature **Date**

Lee Hogan 4/4/96

Data Entry Comments:
Elevated RPD's for 863 + 864 are due to low sample alpha activity. No rerun requested. [illegible] 4/5/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 6865

Analyst: wgb **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.28E-04	1.51E-4	117.970	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.30E+00	4.300	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<1.53E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	3.03E+02	303.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	3.33E+00	3.330	uCi/g
4	SAMPLE	S96T000861	0	F	@ALPHA01	ALPHA01	SOLID	N/A	3.12E-02	2.800e-003	uCi/g
4	SAMPLE	S96T000861	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.44E+01	0.000	% Ct. Error
5	DUP	S96T000861	0	F	@ALPHA01	ALPHA01	SOLID	3.12E-2	3.43E-2	9.470	RPD
5	DUP	S96T000861	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.09E+01	20.900	% Ct. Error
6	SAMPLE	S96T000862	0	F	@ALPHA01	ALPHA01	SOLID	N/A	8.30E-03	2.230e-003	uCi/g
6	SAMPLE	S96T000862	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	4.34E+01	0.000	% Ct. Error
7	DUP	S96T000862	0	F	@ALPHA01	ALPHA01	SOLID	8.30E-3	9.27E-3	11.040	RPD
7	DUP	S96T000862	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	4.05E+01	40.500	% Ct. Error
8	SPK	S96T000862	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	3.33E-02	92.760	% Recovery
9	SAMPLE	S96T000863	0	F	@ALPHA01	ALPHA01	SOLID	N/A	8.05E-03	2.790e-003	uCi/g
9	SAMPLE	S96T000863	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	4.56E+01	0.000	% Ct. Error
10	DUP	S96T000863	0	F	@ALPHA01	ALPHA01	SOLID	8.05E-3	6.62E-3	19.500	RPD
10	DUP	S96T000863	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	5.78E+01	57.800	% Ct. Error
11	SPK	S96T000863	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	3.31E-02	92.200	% Recovery
12	SAMPLE	S96T000864	0	F	@ALPHA01	ALPHA01	SOLID	N/A	2.61E-02	2.520e-003	uCi/g
12	SAMPLE	S96T000864	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.41E+01	0.000	% Ct. Error
13	DUP	S96T000864	0	F	@ALPHA01	ALPHA01	SOLID	2.61E-2	2.29E-2	13.060	RPD
13	DUP	S96T000864	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.66E+01	26.600	% Ct. Error

Final page for worklist# 6865

Analyst Signature **Date** **Analyst Signature** **Date**

4/8/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2163	2083
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		72.070	69.403
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002568	Concentration in µCi/L	=	1.54E-01	
Rerun	Replicate Concentration in µCi/L	=	1.49E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5144E-01	
Sample Prep				
N/A				
Sample #				
WL6865				
Instrument Code				
WB27806				
Prepared By				
SLH				
Chemist				
SLF				
Analyst				
WGB				
Date Complete				
04/04/96				
Analysis Date				
04/01/96				
Analysis Time				
10:00 AM				
Sample Point				
S102				

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.51E-04	DETECTION LEVEL	
RELATIVE COUNTING ERROR	=	4.3%	5.10E-07 µCi/mL	

Analyst:	SLH		Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/15/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	4	2
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.82	1.82
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.103	0.130

Batch Number			
96002568	Blank Concentration in µCi/g		1.22E-03
Rerun	Replicate Concentration in µCi/g	<	1.53E-03
0	Maximum Concentration in µCi/g	<	1.5331E-03

Sample Prep: N/A

Sample #: WL6865

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: WGB

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Maximum)	=	< 1.53E-03	
LESS THAN Value was Determined from Rs.				2.80E-03 µCi/g
RELATIVE COUNTING ERROR			303.4%	

Analyst:		WGB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	67	94
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.82	1.82
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.203	3.103

Batch Number	
96002568	Blank Concentration in µCi/g 2.59E-02
Rerun	Replicate Concentration in µCi/g 3.65E-02
0	Average Concentration in µCi/g 3.1212E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000861	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 3.12E-02
Analyst	
WGB	
Date Complete	
04/04/96	RELATIVE COUNTING ERROR 24.4%
Analysis Date	
04/01/96	
Analysis Time	
10:00 AM	
Sample Point	
S102	

DETECTION LEVEL
2.80E-03 µCi/g

Analyst:		WGB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	91	91
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8748	1.8748
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.003	3.003

Batch Number	
96002568	Blank Concentration in µCi/g 3.43E-02
Rerun	Replicate Concentration in µCi/g 3.43E-02
0	Average Concentration in µCi/g 3.4297E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000861	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 3.43E-02
Analyst	
WGB	
Date Complete	
04/04/96	RELATIVE COUNTING ERROR 20.9%
Analysis Date	
04/01/96	
Analysis Time	
10:00 AM	
Sample Point	
S102	

DETECTION LEVEL
2.72E-03 µCi/g

Analyst:	WGB		Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101WL

WORKBOOK PAGE: SAM6

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	32	23
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.288	2.288
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.037	0.737

Batch Number		
96002568	Blank Concentration in µCi/g	9.70E-03
Rerun	Replicate Concentration in µCi/g	6.89E-03
0	Average Concentration in µCi/g	8.2967E-03

Sample Prep: FUSION01

Sample #: S96T000862

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: WGB

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	8.30E-03	DETECTION LEVEL	
RELATIVE COUNTING ERROR		43.4%	2.23E-03 µCi/g	

Analyst:		WGB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101MU

WORKBOOK PAGE: DUP7

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	32	26
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.164	2.164
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.037	0.837

Batch Number	
96002568	
Rerun	
0	
Sample Prep	
FUSION01	
Sample #	
S96T000862	
Instrument Code	
WB27806	
Prepared By	
SLH	
Chemist	
SLF	
Analyst	
WGB	
Date Complete	
04/04/96	
Analysis Date	
04/01/96	
Analysis Time	
10:00 AM	
Sample Point	
S102	

Blank Concentration in µCi/g	1.03E-02
Replicate Concentration in µCi/g	8.28E-03
Average Concentration in µCi/g	9.2668E-03

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	9.27E-03	
RELATIVE COUNTING ERROR		40.5%	2.36E-03 µCi/g

Analyst:	WGB		Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

1730

WORKBOOK PAGE: SPIKE8

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
DETECTOR NUMBER			16	16
DISH SIZE 1 , 2 , or 5		(MS)	2	2
TOTAL COUNTS		(TC)	47310	46081
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.03	0.03
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	2.288	2.288
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	123B43	123B43
SPIKE VALUE in µCi/mL		(SVal)	3.5898E-02	3.5898E-02
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
SAMPLE + SPIKE µCi/g		(S+S)	1.48E+01	1.44E+01
AVERAGE or MAXIMUM µCi/g in SAMPLE			8.2967E-03	

Type	SPK
Work List	6865
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96002568
Rerun	0
Sample Prep	FUSION01
Sample #	S96T000862
Instrument Code	WB27806
Prepared By	SLH
Chemist	SLF
Analyst	WGB
Date Complete	04/04/96
Analysis Date	04/01/96
Analysis Time	10:00 AM
Sample Point	S102

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.59E-02
QC FOUND	=	3.33E-02
AVG. PERCENT SPIKE RECOVERY	=	92.8%

Analyst:	SLH	Date: 04-Apr-96
Signature of Chemist:	SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	22	21
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8268	1.8268
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.703	0.670

Batch Number 96002568	
Blank Concentration in µCi/g	8.24E-03
Rerun 0	Replicate Concentration in µCi/g 7.85E-03
Average Concentration in µCi/g	8.0474E-03

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample # S96T000863

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code WB27806

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By SLH

Chemist SLF

Analyst WGB

Date Complete 04/04/96

Analysis Date 04/01/96

Analysis Time 10:00 AM

Sample Point S102

ALPHA TOTAL in µCi/g (Average) =	8.05E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	45.6%	2.79E-03 µCi/g

Analyst:		WGB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
DETECTOR NUMBER			16	16
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	21	14
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.03	0.03
SAMPLE SIZE in mL		(SS)	0.100	0.100
DILUTION FACTOR		(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	1.7892	1.7892
EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.670	0.437

Blank Concentration in µCi/g	8.02E-03
Replicate Concentration in µCi/g	5.23E-03
Average Concentration in µCi/g	6.6211E-03

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	6.62E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		57.8%	2.85E-03 µCi/g

Type	DUP
Work List	6865
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96002568
Rerun	0
Sample Prep	FUSION01
Sample #	S96T000863
Instrument Code	WB27806
Prepared By	SLH
Chemist	SLF
Analyst	WGB
Date Complete	04/04/96
Analysis Date	04/01/96
Analysis Time	10:00 AM
Sample Point	S102

Analyst:	WGB	Date: 04-Apr-96	
Signature of Chemist:	SLF	Date: 4/5/96	

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE11

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	46051	46836
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8268	1.8268
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002568	SPIKE VALUE in µCi/mL	(SVal)	3.5898E-02	3.5898E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
0	SAMPLE + SPIKE µCi/g	(S+S)	1.80E+01	1.83E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.0474E-03	
FUSION01				
Sample #				
S96T000863	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27806	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SLH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
WGB				
Date Complete				
04/04/96				
Analysis Date				
04/01/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	3.31E-02	
10:00 AM	AVG. PERCENT SPIKE RECOVERY	=	92.3%	
Sample Point				
S102				

Analyst:		SLH	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	81	69
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0272	2.0272
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.670	2.270

Batch Number	
96002568	Blank Concentration in µCi/g 2.82E-02
Rerun	Replicate Concentration in µCi/g 2.40E-02
0	Average Concentration in µCi/g 2.6086E-02

Sample Prep: FUSION01

Sample # S96T000864

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: WGB

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	2.61E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR	24.1%	2.52E-03 µCi/g

Analyst:		WGB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	57	61
6865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8096	1.8096
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.870	2.003

Batch Number	
96002568	Blank Concentration in µCi/g 2.21E-02
Rerun	Replicate Concentration in µCi/g 2.37E-02
0	Average Concentration in µCi/g 2.2913E-02

Sample Prep: FUSION01

Sample # S96T000864

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: WGB

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 10:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	2.29E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		26.6%	2.82E-03 µCi/g

Analyst:		WGB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 6866

Analyst: S.C.L **Instrument:** AB00 16 **Book#** 47056

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000865	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S96T000865	0	F	@ALPHA01	SOLID		
6	SAMPLE	S96T000866	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S96T000866	0	F	@ALPHA01	SOLID		
8	SAMPLE	S96T000867	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
9	DUP	S96T000867	0	F	@ALPHA01	SOLID		
10	SAMPLE	S96T000868	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
11	DUP	S96T000868	0	F	@ALPHA01	SOLID		
12	SPK	S96T000868	0	F	@ALPHA01	SOLID		

Final page for worklist # 6866

Sue C Lai 4-3-96
Analyst Signature **Date**

J. Quinn 4/5/96
Analyst Signature **Date**
Sue Hogan 4/5/96

Data Entry Comments:
Elevated RPD's are due to low sample alpha activity. Prior results indicate that the ~~SPK recover~~ SLF 4/5/96 low spk recovery for 868 is the result of sample matrix interference (solids on the mount). No rerun requested.

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

4/5/96

LABCORE Completed Worklist Report for Worklist# 6866

Analyst: scl **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.28E-04	1.33E-4	103.910	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.78E+00	4.780	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<2.83E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	1.15E+00	1.150	uCi/g
4	SAMPLE	S96T000865	0	F	@ALPHA01	ALPHA01	SOLID	N/A	1.07E-02	4.630e-003	uCi/g
4	SAMPLE	S96T000865	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	4.59E+01	0.000	% Ct. Error
5	DUP	S96T000865	0	F	@ALPHA01	ALPHA01	SOLID	1.07E-2	6.42E-3	50.000	RPD
5	DUP	S96T000865	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	7.68E+01	76.800	% Ct. Error
6	SAMPLE	S96T000866	0	F	@ALPHA01	ALPHA01	SOLID	N/A	1.22E-02	1.980e-003	uCi/g
6	SAMPLE	S96T000866	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.47E+01	0.000	% Ct. Error
7	DUP	S96T000866	0	F	@ALPHA01	ALPHA01	SOLID	1.22E-2	8.45E-3	36.320	RPD
7	DUP	S96T000866	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.94E+01	29.400	% Ct. Error
8	SAMPLE	S96T000867	0	F	@ALPHA01	ALPHA01	SOLID	N/A	7.31E-03	2.000e-003	uCi/g
8	SAMPLE	S96T000867	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	3.29E+01	0.000	% Ct. Error
9	DUP	S96T000867	0	F	@ALPHA01	ALPHA01	SOLID	7.31E-3	7.20E-3	1.520	RPD
9	DUP	S96T000867	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	3.05E+01	30.500	% Ct. Error
10	SAMPLE	S96T000868	0	F	@ALPHA01	ALPHA01	SOLID	N/A	4.49E-02	4.320e-003	uCi/g
10	SAMPLE	S96T000868	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	1.91E+01	0.000	% Ct. Error
11	DUP	S96T000868	0	F	@ALPHA01	ALPHA01	SOLID	4.49E-2	3.73E-2	18.490	RPD
11	DUP	S96T000868	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.13E+01	21.300	% Ct. Error
12	SPK	S96T000868	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	2.51E-02	69.920	% Recovery

Final page for worklist# 6866

Analyst Signature **Date** **Analyst Signature** **Date**

4/8/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1694	2032
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		56.337	67.603
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002572	Concentration in µCi/L	=	1.21E-01	
Rerun	Replicate Concentration in µCi/L	=	1.45E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.3267E-01	

Sample Prep: N/A

Sample #: WL6866

Instrument Code: WB27806

Prepared By: CJO

Chemist: SLF

Analyst: SCL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 03:30 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.33E-04	
RELATIVE COUNTING ERROR	=	4.8%	8.52E-07 µCi/mL

Analyst:		CJO	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	3
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.84	1.84
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.243	0.154

Batch Number			
96002572	Blank Concentration in µCi/g	<	2.83E-03
Rerun	Replicate Concentration in µCi/g	<	1.79E-03
0	Maximum Concentration in µCi/g	<	2.8280E-03

Sample Prep: N/A

Sample #: WL6866

Instrument Code: WB27806

Prepared By: CJO

Chemist: SLF

Analyst: SCL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 03:30 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Maximum)	=	< 2.83E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			4.63E-03 µCi/g
RELATIVE COUNTING ERROR		500.0%	

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	35	28
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.84	1.84
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.037	0.803

Batch Number	
96002572	Blank Concentration in µCi/g 1.21E-02
Rerun	Replicate Concentration in µCi/g 9.35E-03
0	Average Concentration in µCi/g 1.0705E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000865	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.07E-02
Analyst	
SCL	
Date Complete	
04/05/96	RELATIVE COUNTING ERROR 45.9%
Analysis Date	
04/03/96	
Analysis Time	
03:30 PM	
Sample Point	
S102	

DETECTION LEVEL
4.63E-03 µCi/g

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	24	15
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7328	1.7328
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.670	0.370

Batch Number	
96002572	Blank Concentration in µCi/g 8.28E-03
Rerun	Replicate Concentration in µCi/g 4.57E-03
0	Average Concentration in µCi/g 6.4247E-03
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000865	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 6.42E-03
Analyst	
SCL	
Date Complete	
04/05/96	RELATIVE COUNTING ERROR 76.8%
Analysis Date	
04/03/96	
Analysis Time	
03:30 PM	
Sample Point	
S102	

DETECTION LEVEL
4.92E-03 µCi/g

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

1742

WORKBOOK PAGE: SAM6

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	74	81
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.72	1.72
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.337	2.570

Batch Number	
96002572	Blank Concentration in µCi/g 1.16E-02
Rerun	Replicate Concentration in µCi/g 1.28E-02
0	Average Concentration in µCi/g 1.2215E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000866	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.22E-02
Analyst	
SCL	
Date Complete	
04/05/96	RELATIVE COUNTING ERROR 24.7%
Analysis Date	
04/03/96	
Analysis Time	
03:30 PM	
Sample Point	
S102	

DETECTION LEVEL
1.98E-03 µCi/g

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	55	63
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.862	1.862
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.703	1.970

Batch Number	
96002572	Blank Concentration in µCi/g 7.83E-03
Rerun	Replicate Concentration in µCi/g 9.06E-03
0	Average Concentration in µCi/g 8.4472E-03

Sample Prep: FUSION01

Sample # S96T000866

Instrument Code: WB27806

Prepared By: CJO

Chemist: SLF

Analyst: SCL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 03:30 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	8.45E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		29.4%	1.83E-03 µCi/g

Analyst:	SCL		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM8

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	49	46
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7024	1.7024
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.503	1.403

Batch Number	
96002572	Blank Concentration in µCi/g 7.56E-03
Rerun	Replicate Concentration in µCi/g 7.06E-03
0	Average Concentration in µCi/g 7.3108E-03
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000867	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 7.31E-03
Analyst	
SCL	
Date Complete	
04/05/96	RELATIVE COUNTING ERROR 32.9%
Analysis Date	
04/03/96	
Analysis Time	
03:30 PM	
Sample Point	
S102	

DETECTION LEVEL
2.00E-03 µCi/g

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

1745

WORKBOOK PAGE: DUP9

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	52	57
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0048	2.0048
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.603	1.770

Batch Number	
96002572	Blank Concentration in µCi/g 6.85E-03
Rerun	Replicate Concentration in µCi/g 7.56E-03
0	Average Concentration in µCi/g 7.2048E-03

Sample Prep: FUSION01

Sample #: S96T000867

Instrument Code: WB27806

Prepared By: CJO

Chemist: SLF

Analyst: SCL

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 03:30 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	7.20E-03	1.70E-03 µCi/g
RELATIVE COUNTING ERROR		30.5%	

Analyst:	SCL		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	140	116
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9724	1.9724
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.537	3.737

Batch Number	
96002572	Blank Concentration in µCi/g 4.92E-02
Rerun	Replicate Concentration in µCi/g 4.06E-02
0	Average Concentration in µCi/g 4.4901E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000868	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 4.49E-02
Analyst	
SCL	
Date Complete	
04/05/96	RELATIVE COUNTING ERROR 19.1%
Analysis Date	
04/03/96	
Analysis Time	
03:30 PM	
Sample Point	
S102	

DETECTION LEVEL
4.32E-03 µCi/g

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	130	96
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0876	2.0876
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.203	3.070

Batch Number	
96002572	Blank Concentration in µCi/g 4.31E-02
Rerun	Replicate Concentration in µCi/g 3.15E-02
0	Average Concentration in µCi/g 3.7296E-02

Sample Prep: FUSION01

Sample # S96T000868

Instrument Code WB27806

Prepared By CJO

Chemist SLF

Analyst SCL

Date Complete 04/05/96

Analysis Date 04/03/96

Analysis Time 03:30 PM

Sample Point S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	3.73E-02	4.08E-03 µCi/g
RELATIVE COUNTING ERROR		21.3%	

Analyst:		SCL	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE12

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34597	35879
6866	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9724	1.9724
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002572	SPIKE VALUE in µCi/mL	(SVal)	3.5898E-02	3.5898E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
0	SAMPLE + SPIKE µCi/g	(S+S)	1.25E+01	1.30E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		4.4901E-02	
FUSION01				
Sample #				
S96T000868	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27806	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
CJO	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
SCL				
Date Complete				
04/05/96				
Analysis Date				
04/03/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	2.51E-02	
03:30 PM	AVG. PERCENT SPIKE RECOVERY	=	69.8%	
Sample Point				
S102				

Analyst:		CJO	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 6868

Analyst: SMV **Instrument:** AB00 16 **Book#** 47856

Method: LA-508-101 Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000873	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
5	DUP	S96T000873	0	F	@ALPHA01	SOLID		
6	SPK	S96T000873	0	F	@ALPHA01	SOLID		
7	SAMPLE	S96T000874	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
8	DUP	S96T000874	0	F	@ALPHA01	SOLID		
9	SAMPLE	S96T000875	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
10	DUP	S96T000875	0	F	@ALPHA01	SOLID		
11	SAMPLE	S96T000876	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
12	DUP	S96T000876	0	F	@ALPHA01	SOLID		
13	SPK	S96T000876	0	F	@ALPHA01	SOLID		

Final page for worklist # 6868

Jasmin Smith 3-29-96
Analyst Signature **Date**

Sharon Holden 4/1/96
Analyst Signature **Date**
SE Hogan 4/2/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 6868

Analyst: jmv **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.28E-04	1.51E-4	117.970	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.29E+00	4.290	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<3.17E-2		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	1.67E+00	1.670	uCi/g
4	SAMPLE	S96T000873	0	F	@ALPHA01	ALPHA01	SOLID	N/A	2.86E-01	5.720e-002	uCi/g
4	SAMPLE	S96T000873	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.90E+01	0.000	% Ct. Error
5	DUP	S96T000873	0	F	@ALPHA01	ALPHA01	SOLID	2.86E-1	2.55E-1	11.460	RPD
5	DUP	S96T000873	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	3.42E+01	34.200	% Ct. Error
6	SPK	S96T000873	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	3.61E-02	100.560	% Recovery
7	SAMPLE	S96T000874	0	F	@ALPHA01	ALPHA01	SOLID	N/A	7.67E-01	0.115	uCi/g
7	SAMPLE	S96T000874	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.54E+01	0.000	% Ct. Error
8	DUP	S96T000874	0	F	@ALPHA01	ALPHA01	SOLID	7.67E-1	6.33E-1	19.140	RPD
8	DUP	S96T000874	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.81E+01	28.100	% Ct. Error
9	SAMPLE	S96T000875	0	F	@ALPHA01	ALPHA01	SOLID	N/A	2.09E-01	9.210e-002	uCi/g
9	SAMPLE	S96T000875	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	5.00E+01	0.000	% Ct. Error
10	DUP	S96T000875	0	F	@ALPHA01	ALPHA01	SOLID	2.09E-1	1.72E-1	19.420	RPD
10	DUP	S96T000875	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	5.33E+01	53.300	% Ct. Error
11	SAMPLE	S96T000876	0	F	@ALPHA01	ALPHA01	SOLID	N/A	4.47E-01	0.140	uCi/g
11	SAMPLE	S96T000876	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	3.65E+01	0.000	% Ct. Error
12	DUP	S96T000876	0	F	@ALPHA01	ALPHA01	SOLID	4.47E-1	4.83E-1	7.740	RPD
12	DUP	S96T000876	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	3.59E+01	35.900	% Ct. Error
13	SPK	S96T000876	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	3.75E-02	104.460	% Recovery

Final page for worklist# 6868

Analyst Signature **Date** **Analyst Signature** **Date**

4/2/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2131	2098
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		70.933	69.833
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002574	Concentration in µCi/L	=	1.52E-01	
Rerun	Replicate Concentration in µCi/L	=	1.50E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5069E-01	

Sample Prep: N/A

Sample #: WL6868

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: JMV

Date Complete: 04/01/96

Analysis Date: 03/29/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

				DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.51E-04		7.71E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.3%		

Analyst:		SLH	Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	1
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.600	0.600
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2704	2.2704
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.200	0.135

Batch Number			
96002574	Blank Concentration in µCi/g		3.17E-02
Rerun	Replicate Concentration in µCi/g	<	2.14E-02
0	Maximum Concentration in µCi/g	<	3.1747E-02

Sample Prep: N/A

Sample #: WL6868

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: JMV

Date Complete: 04/01/96

Analysis Date: 03/29/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Maximum)	=	< 3.17E-02	
LESS THAN Value was Determined from Rs.				5.72E-02 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		JMV	Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	54	60
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.600	0.600
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2704	2.2704
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.700	1.900

Batch Number	
96002574	Blank Concentration in µCi/g 2.70E-01
Rerun	Replicate Concentration in µCi/g 3.02E-01
0	Average Concentration in µCi/g 2.8572E-01

Sample Prep: FUSION01

Sample #: S96T000873

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: JMV

Date Complete: 04/01/96

Analysis Date: 03/29/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	2.86E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		29.0%	5.72E-02 µCi/g

Analyst:	JMV		Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/1/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	54	41
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.600	0.600
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0956	2.0956
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.700	1.267

Batch Number	
96002574	
Rerun	
0	
Sample Prep	
FUSION01	
Sample #	
S96T000873	
Instrument Code	
WB27806	
Prepared By	
SLH	
Chemist	
SLF	
Analyst	
JMV	
Date Complete	
04/01/96	
Analysis Date	
03/29/96	
Analysis Time	
02:00 PM	
Sample Point	
S102	

Blank Concentration in µCi/g	2.92E-01
Replicate Concentration in µCi/g	2.18E-01
Average Concentration in µCi/g	2.5509E-01

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g	(Average)	=	2.55E-01	
				6.19E-02 µCi/g
RELATIVE COUNTING ERROR			34.2%	

Analyst:		JMV	Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	49826	51424
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.600	0.600
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2704	2.2704
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002574	SPIKE VALUE in µCi/mL	(SVal)	3.5898E-02	3.5898E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
0	SAMPLE + SPIKE µCi/g	(S+S)	2.64E+02	2.72E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		2.8572E-01	
FUSION01				
Sample #				
S96T000873	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27806	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SLH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
JMV				
Date Complete				
04/01/96				
Analysis Date				
03/29/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	3.61E-02	
02:00 PM	AVG. PERCENT SPIKE RECOVERY	=	100.5%	
Sample Point				
S102				

Analyst:	SLH		Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	68	82
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.300	0.300
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2564	2.2564
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.167	2.633

Batch Number		
96002574	Blank Concentration in µCi/g	6.92E-01
Rerun	Replicate Concentration in µCi/g	8.41E-01
0	Average Concentration in µCi/g	7.6665E-01

Sample Prep: FUSION01

Sample #: S96T000874

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: JMV

Date Complete: 04/01/96

Analysis Date: 03/29/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g	(Average)	=	7.67E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR			25.4%	1.15E-01 µCi/g

Analyst:	JMV		Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101MN

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	65	57
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.300	0.300
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2016	2.2016
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.067	1.800

Batch Number	
96002574	Blank Concentration in µCi/g 6.77E-01
Rerun	Replicate Concentration in µCi/g 5.89E-01
0	Average Concentration in µCi/g 6.3295E-01

Sample Prep: FUSION01

Sample # : S96T000874

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: JMV

Date Complete: 04/01/96

Analysis Date: 03/29/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	6.33E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		28.1%	1.18E-01 µCi/g

Analyst:	JMV		Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	32	23
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.400	0.400
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1136	2.1136
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.967	0.667

Batch Number	
96002574	Blank Concentration in µCi/g 2.47E-01
Rerun	Replicate Concentration in µCi/g 1.71E-01
0	Average Concentration in µCi/g 2.0887E-01
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000875	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 2.09E-01
Analyst	
JMV	
Date Complete	
04/01/96	RELATIVE COUNTING ERROR 50.0%
Analysis Date	
03/29/96	
Analysis Time	
02:00 PM	
Sample Point	
S102	

DETECTION LEVEL
9.21E-02 µCi/g

Analyst:		JMV	Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	21	23
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.400	0.400
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9876	1.9876
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.600	0.667

Batch Number	
96002574	
Rerun	Blank Concentration in µCi/g 1.63E-01
0	Replicate Concentration in µCi/g 1.81E-01
Sample Prep	Average Concentration in µCi/g 1.7225E-01
FUSION01	
Sample #	
S96T000875	
Instrument Code	
WB27806	
Prepared By	
SLH	
Chemist	
SLF	
Analyst	
JMV	
Date Complete	
04/01/96	
Analysis Date	
03/29/96	
Analysis Time	
02:00 PM	
Sample Point	
S102	

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	1.72E-01		DETECTION LEVEL
RELATIVE COUNTING ERROR		53.3%		9.79E-02 µCi/g

Analyst:	JMV		Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	37	38
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.300	0.300
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.856	1.856
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.133	1.167

Batch Number		
96002574	Blank Concentration in µCi/g	4.40E-01
Rerun	Replicate Concentration in µCi/g	4.53E-01
0	Average Concentration in µCi/g	4.4660E-01

Sample Prep: FUSION01

Sample #: S96T000876

Instrument Code: WB27806

Prepared By: SLH

Chemist: SLF

Analyst: JMV

Date Complete: 04/01/96

Analysis Date: 03/29/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	4.47E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		36.5%	1.40E-01 µCi/g

Analyst:	JMV		Date: 01-Apr-96
Signature of Chemist:	SLF		Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	49	38
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.300	0.300
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0144	2.0144
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.533	1.167

Batch Number	
96002574	Blank Concentration in µCi/g 5.49E-01
Rerun	Replicate Concentration in µCi/g 4.17E-01
0	Average Concentration in µCi/g 4.8305E-01
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000876	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 4.83E-01
Analyst	
JMV	
Date Complete	
04/01/96	RELATIVE COUNTING ERROR 35.9%
Analysis Date	
03/29/96	
Analysis Time	
02:00 PM	
Sample Point	
S102	

DETECTION LEVEL
1.29E-01 µCi/g

Analyst:	JMV		Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE13

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	55033	50107
6868	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.300	0.300
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.856	1.856
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002574	SPIKE VALUE in µCi/mL	(SVal)	3.5898E-02	3.5898E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
0	SAMPLE + SPIKE µCi/g	(S+S)	7.12E+02	6.49E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		4.4660E-01	
FUSION01				
Sample #				
S96T000876	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27806	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SLH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
JMV				
Date Complete				
04/01/96				
Analysis Date				
03/29/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	3.75E-02	
02:00 PM	AVG. PERCENT SPIKE RECOVERY	=	104.4%	
Sample Point				
S102				

Analyst:		SLH	Date: 01-Apr-96
Signature of Chemist:		SLF	Date: 4/2/96

SPIKE.WB1 Rev. 1.0 508101M

LABCORE Data Entry Template for Worklist# 6876

Analyst: S.C.L **Instrument:** AB00 14 **Book#** 43856

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000877	0	F	@ALPHA01	SOLID	96000030	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T000877	0	F	@ALPHA01	SOLID		
6	SPK	S96T000877	0	F	@ALPHA01	SOLID		
7	SAMPLE	S96T000878	0	F	@ALPHA01	SOLID	96000030	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
8	DUP	S96T000878	0	F	@ALPHA01	SOLID		

Final page for worklist # 6876

Sue C Lai 3-25-96
Analyst Signature **Date**

[illegible] 3/26/96
Analyst Signature **Date**

Sue Hogan 3/27/96

Data Entry Comments: The RPD for sample 877 is acceptable due to low sample alpha activity. [illegible] 3/27/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 6876

Analyst: scl **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.53E-05	1.48E-5	96.730	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.19E+00	4.190	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<5.07E-2		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	1.46E+00	1.460	uCi/g
4	SAMPLE	S96T000877	0	F	@ALPHA01	ALPHA01	SOLID	N/A	4.93E-01	5.640e-002	uCi/g
4	SAMPLE	S96T000877	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	1.71E+01	0.000	% Ct. Error
5	DUP	S96T000877	0	F	@ALPHA01	ALPHA01	SOLID	4.93E-1	5.77E-1	15.700	RPD
5	DUP	S96T000877	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	1.52E+01	15.200	% Ct. Error
6	SPK	S96T000877	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	3.20E-02	89.140	% Recovery
7	SAMPLE	S96T000878	0	F	@ALPHA01	ALPHA01	SOLID	N/A <	4.45E-02	5.800e-002	uCi/g
7	SAMPLE	S96T000878	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.34E+02	0.000	% Ct. Error
8	DUP	S96T000878	0	F	@ALPHA01	ALPHA01	SOLID	<4.45E-2	3.85E-2		RPD
8	DUP	S96T000878	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	9.82E+01	98.200	% Ct. Error

Final page for worklist# 6876

Analyst Signature **Date** **Analyst Signature** **Date**

3/28/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
DETECTOR NUMBER			14	14
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	2218	2298
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.33	0.33
SAMPLE SIZE in mL		(SS)	10.000	10.000
DILUTION FACTOR		(DF)	1	1
STANDARD BOOK NUMBER		(Std BN)	43B56	43B56
EFFICIENCY FACTOR		(EFF)	0.2274	0.2274
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			73.603	76.270
Standard Value in µCi/mL			1.53E-05	
Concentration in µCi/L	=		1.46E-02	
Replicate Concentration in µCi/L	=		1.51E-02	
AVERAGE CONCENTRATION in µCi/L	=		1.4844E-02	

Type	STD
Work List	6876
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	96002592
Rerun	0
Sample Prep	N/A
Sample #	WL6876
Instrument Code	WB27807
Prepared By	MCB
Chemist	SLF
Analyst	SCL
Date Complete	03/26/96
Analysis Date	03/25/96
Analysis Time	03:30 PM
Sample Point	S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.48E-05	1.15E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.2%	

Analyst:	MCB	Date: 26-Mar-96	
Signature of Chemist:	SLF	Date: 3/27/96	

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	12	17
6876	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0576	2.0576
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.327	0.522

Batch Number		
96002592	Blank Concentration in µCi/g	< 3.18E-02
Rerun	Replicate Concentration in µCi/g	< 5.07E-02
0	Maximum Concentration in µCi/g	< 5.0749E-02

Sample Prep: N/A

Sample #: WL6876

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 03/26/96

Analysis Date: 03/25/96

Analysis Time: 03:30 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Maximum)	=	< 5.07E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			5.64E-02 µCi/g
RELATIVE COUNTING ERROR		500.0%	

Analyst:		SCL	Date: 26-Mar-96
Signature of Chemist:		SLF	Date: 3/27/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	165	159
6876	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0576	2.0576
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.170	4.970

Batch Number	
96002592	Blank Concentration in µCi/g 5.03E-01
Rerun	Replicate Concentration in µCi/g 4.83E-01
0	Average Concentration in µCi/g 4.9298E-01

Sample Prep: FUSION01

Sample #: S96T000877

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 03/26/96

Analysis Date: 03/25/96

Analysis Time: 03:30 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	4.93E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		17.1%	5.64E-02 µCi/g

Analyst:	SCL		Date: 26-Mar-96
Signature of Chemist:		SLF	Date: 3/27/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	193	201
6876	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1612	2.1612
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		6.103	6.370
Batch Number				
96002592	Blank Concentration in µCi/g		5.65E-01	
Rerun	Replicate Concentration in µCi/g		5.90E-01	
0	Average Concentration in µCi/g		5.7735E-01	

Sample Prep: FUSION01

Sample #: S96T000877

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 03/26/96

Analysis Date: 03/25/96

Analysis Time: 03:30 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	5.77E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		15.2%	5.37E-02 µCi/g

Analyst:	SCL		Date: 26-Mar-96
Signature of Chemist:		SLF	Date: 3/26/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	46856	50335
6876	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0576	2.0576
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002592	SPIKE VALUE in µCi/mL	(SVal)	3.5899E-02	3.5899E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/g	(S+S)	1.52E+02	1.63E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		4.9298E-01	
FUSION01				
Sample #				
S96T000877				
Instrument Code				
WB27807				
Prepared By				
MCB				
Chemist				
SLF				
Analyst				
SCL				
Date Complete				
03/26/96				
Analysis Date				
03/25/96				
Analysis Time				
03:30 PM				
Sample Point				
S-102				

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.59E-02
QC FOUND	=	3.20E-02
AVG. PERCENT SPIKE RECOVERY	=	89.1%

Analyst:		MCB	Date: 26-Mar-96
Signature of Chemist:		SLF	Date: 3/26/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	15	14
6876	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0004	2.0004
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.444	0.406

Batch Number			
96002592	Blank Concentration in µCi/g	<	4.45E-02
Rerun	Replicate Concentration in µCi/g	<	4.06E-02
0	Maximum Concentration in µCi/g	<	4.4451E-02

Sample Prep: FUSION01

Sample #: S96T000878

Instrument Code: WB27807

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 03/26/96

Analysis Date: 03/25/96

Analysis Time: 03:30 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Maximum)	=	< 4.45E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			5.80E-02 µCi/g
RELATIVE COUNTING ERROR		233.7%	

Analyst:		SCL	Date: 26-Mar-96
Signature of Chemist:		SLF	Date: 3/26/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	21	24
6876	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33	0.33
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1852	2.1852
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.370	0.470

Batch Number	
96002592	
Rerun	
0	
Sample Prep	
FUSION01	
Sample #	
S96T000878	
Instrument Code	
WB27807	
Prepared By	
MCB	
Chemist	
SLF	
Analyst	
SCL	
Date Complete	
03/26/96	
Analysis Date	
03/25/96	
Analysis Time	
03:30 PM	
Sample Point	
S-102	

Blank Concentration in µCi/g	3.39E-02
Replicate Concentration in µCi/g	4.30E-02
Average Concentration in µCi/g	3.8454E-02

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	3.85E-02	5.31E-02 µCi/g
RELATIVE COUNTING ERROR		98.2%	

Analyst:		SCL	Date: 26-Mar-96
Signature of Chemist:		SLF	Date: 3/26/96

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 7057

Analyst: WGB **Instrument:** AB00 14 **Book#** 47856

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T001177	0	F	@ALPHA01	SOLID	96000094	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S96T001177	0	F	@ALPHA01	SOLID		
6	SPK	S96T001177	0	F	@ALPHA01	SOLID		
7	SAMPLE	S96T001178	0	F	@ALPHA01	SOLID	96000094	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
8	DUP	S96T001178	0	F	@ALPHA01	SOLID		
9	SAMPLE	S96T001179	0	F	@ALPHA01	SOLID	96000094	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
10	DUP	S96T001179	0	F	@ALPHA01	SOLID		
11	SAMPLE	S96T001180	0	F	@ALPHA01	SOLID	96000094	S102
	Analytes Requested: ALPHA01 , ALPHA01E							
12	DUP	S96T001180	0	F	@ALPHA01	SOLID		

Final page for worklist # 7057

Warren D Buzhardt 4-5-96
Analyst Signature **Date**

Sharon L Clark 4-5-96
Analyst Signature **Date**

Data Entry Comments:
the Elevated RPD for 1180 is due to low sample alpha activity. No rerun requested.
4/5/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code

LABCORE Completed Worklist Report for Worklist# 7057

Analyst: wgb **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.28E-04	1.36E-4	106.250	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.39E+00	4.390	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<4.40E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	1.88E+02	188.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	1.83E+00	1.830	uCi/g
4	SAMPLE	S96T001177	0	F	@ALPHA01	ALPHA01	SOLID	N/A	9.37E-03	5.700e-003	uCi/g
4	SAMPLE	S96T001177	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	5.29E+01	0.000	% Ct. Error
5	DUP	S96T001177	0	F	@ALPHA01	ALPHA01	SOLID	9.37E-3	9.15E-3	2.380	RPD
5	DUP	S96T001177	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	5.14E+01	51.400	% Ct. Error
6	SPK	S96T001177	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	3.01E-02	83.840	% Recovery
7	SAMPLE	S96T001178	0	F	@ALPHA01	ALPHA01	SOLID	N/A	1.98E-02	5.750e-003	uCi/g
7	SAMPLE	S96T001178	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	3.08E+01	0.000	% Ct. Error
8	DUP	S96T001178	0	F	@ALPHA01	ALPHA01	SOLID	1.98E-2	2.11E-2	6.360	RPD
8	DUP	S96T001178	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.86E+01	28.600	% Ct. Error
9	SAMPLE	S96T001179	0	F	@ALPHA01	ALPHA01	SOLID	N/A	7.77E-02	6.850e-003	uCi/g
9	SAMPLE	S96T001179	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	1.50E+01	0.000	% Ct. Error
10	DUP	S96T001179	0	F	@ALPHA01	ALPHA01	SOLID	7.77E-2	7.58E-2	2.480	RPD
10	DUP	S96T001179	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	1.50E+01	15.000	% Ct. Error
11	SAMPLE	S96T001180	0	F	@ALPHA01	ALPHA01	SOLID	N/A	8.71E-03	6.620e-003	uCi/g
11	SAMPLE	S96T001180	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	8.39E+01	0.000	% Ct. Error
12	DUP	S96T001180	0	F	@ALPHA01	ALPHA01	SOLID	8.71E-3	1.15E-2	27.610	RPD
12	DUP	S96T001180	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	5.46E+01	54.600	% Ct. Error

Final page for worklist# 7057

Analyst Signature **Date** **Analyst Signature** **Date**

4/8/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2019	2132
7057	COUNT TIME in MINUTES	(CT)	30	30
A / Q / B / A	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Account Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		67.000	70.767
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002768	Concentration in µCi/L	=	1.33E-01	
Rerun	Replicate Concentration in µCi/L	=	1.40E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.3645E-01	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)
WL7057	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH	
Chemist	
SLF	
Analyst	
WGB	
Date Complete	
04/05/96	
Analysis Date	
04/03/96	
Analysis Time	
09:00 AM	
Sample Point	
S102	

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.36E-04	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	4.4%	1.10E-06 µCi/mL

Analyst:		SLH	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	14	19
7057	COUNT TIME in MINUTES	(CT)	30	30
AT or TBP	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9372	1.9372
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.430	0.333

Blank Concentration in µCi/g	<	4.40E-03
Replicate Concentration in µCi/g		3.41E-03
Maximum Concentration in µCi/g	<	4.4014E-03

Batch Number: 96002768
Rerun: 0
Sample Prep: N/A
Sample #: WL7057
Instrument Code: WB27807
Prepared By: SLH
Chemist: SLF
Analyst: WGB
Date Complete: 04/05/96
Analysis Date: 04/03/96
Analysis Time: 09:00 AM
Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Maximum)	=	< 4.40E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			5.70E-03 µCi/g
RELATIVE COUNTING ERROR		188.0%	

Analyst:		WGB	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work Id	GROSS COUNTS	(GC)	40	33
7057	COUNT TIME in MINUTES	(CT)	30	30
Alpha Id	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9372	1.9372
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.033	0.800

Blank Concentration in µCi/g	1.06E-02
Replicate Concentration in µCi/g	8.18E-03
Average Concentration in µCi/g	9.3733E-03

Batch Number: 96002768
Rerun #: 0
Sample Prep: FUSION01
Sample #: S96T001177
Instrument Code: WB27807
Prepared By: SLH
Chemist: SLF
Analyst: WGB
Date Complete: 04/05/96
Analysis Date: 04/03/96
Analysis Time: 09:00 AM
Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	9.37E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	52.9%	5.70E-03 µCi/g

Analyst:		WGB	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Worklist	GROSS COUNTS	(GC)	34	44
7057	COUNT TIME in MINUTES	(CT)	30	30
AT or LB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1652	2.1652
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.833	1.167

Blank Concentration in µCi/g	7.62E-03
Replicate Concentration in µCi/g	1.07E-02
Average Concentration in µCi/g	9.1487E-03

Batch Number: 96002768
Rerun: 0
Sample Prep: FUSION01
Sample #: S96T001177
Instrument Code: WB27807
Prepared By: SLH
Chemist: SLF
Analyst: WGB
Date Complete: 04/05/96
Analysis Date: 04/03/96
Analysis Time: 09:00 AM
Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	9.15E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	51.4%	5.10E-03 µCi/g

Analyst:		WGB	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
DETECTOR NUMBER			14	14
DISH SIZE 1, 2, or 5		(MS)	2	2
TOTAL COUNTS		(TC)	43420	47948
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.3	0.3
SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.100	0.100
SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	1.9372	1.9372
SPIKE VOLUME in mL		(SVol)	0.100	0.100
SPIKE DILUTION FACTOR		(SDF)	1	1
SPIKE BOOK NUMBER		(Spk BN)	123B43	123B43
SPIKE VALUE in µCi/mL		(SVal)	3.5898E-02	3.5898E-02
INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2274	0.2274
SAMPLE + SPIKE µCi/g		(S+S)	1.48E+01	1.63E+01
AVERAGE or MAXIMUM µCi/g in SAMPLE			9.3733E-03	

Type	SPK
Worklist	7057
AT or TB?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96002768
Rerun	0
Sample Prep	FUSION01
Sample #	S96T001177
Instrument Code	WB27807
Prepared By	SLH
Chemist	SLF
Analyst	WGB
Date Complete	04/05/96
Analysis Date	04/03/96
Analysis Time	09:00 AM
Sample Point	S102

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

QC ACTUAL	=	3.59E-02
QC FOUND	=	3.01E-02
AVG. PERCENT SPIKE RECOVERY	=	84.0%

Analyst:		SLH	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	63	70
7057	COUNT TIME in MINUTES	(CT)	30	30
Analyst	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9188	1.9188
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.800	2.033

Blank Concentration in µCi/g	1.86E-02
Replicate Concentration in µCi/g	2.10E-02
Average Concentration in µCi/g	1.9787E-02

Batch Number: 96002768
Rerun: 0
Sample Prep: FUSION01
Sample: S96T001178
Instrument Code: WB27807
Prepared By: SLH
Chemist: SLF
Analyst: WGB
Date Complete: 04/05/96
Analysis Date: 04/03/96
Analysis Time: 09:00 AM
Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	1.98E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		30.8%	5.75E-03 µCi/g

Analyst:	WGB		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	70	81
7057	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0848	2.0848
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.033	2.400

Batch Number	
96002768	Blank Concentration in µCi/g 1.93E-02
Rerun	Replicate Concentration in µCi/g 2.28E-02
0	Average Concentration in µCi/g 2.1062E-02

Sample Prep: FUSION01

Sample #: S96T001178

Instrument Code: WB27807

Prepared By: SLH

Chemist: SLF

Analyst: WGB

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 09:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	2.11E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR	28.6%	5.30E-03 µCi/g

Analyst:		WGB	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
DETECTOR NUMBER			14	14
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	201	196
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.3	0.3
SAMPLE SIZE in mL		(SS)	0.100	0.100
DILUTION FACTOR		(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	1.6112	1.6112
EFFICIENCY FACTOR		(EFF)	0.2274	0.2274
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			6.400	6.233

Blank Concentration in µCi/g	7.87E-02
Replicate Concentration in µCi/g	7.66E-02
Average Concentration in µCi/g	7.7660E-02

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	7.77E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		15.0%	6.85E-03 µCi/g

Type	SAMPLE
Work List	7057
AT or TB?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96002768
Rerun #	0
Sample Prep	FUSION01
Sample #	S96T001179
Instrument Code	WB27807
Prepared By	SLH
Chemist	SLF
Analyst	WGB
Date Complete	04/05/96
Analysis Date	04/03/96
Analysis Time	09:00 AM
Sample Point	S102

Analyst:	WGB	Date: 05-Apr-96	
Signature of Chemist:	SLF	Date: 4/5/96	

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP10

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Sample Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
WorkList	GROSS COUNTS	(GC)	242	197
7057	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Cost Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8344	1.8344
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7.767	6.267

Blank Concentration in µCi/g	8.39E-02
Replicate Concentration in µCi/g	6.77E-02
Average Concentration in µCi/g	7.5769E-02

Batch Number	96002768
Rerun	0
Sample Prep	FUSION01
Sample #	S96T001179
Instrument Code	WB27807
Prepared By	SLH
Chemist	SLF
Analyst	WGB
Date Complete	04/05/96
Analysis Date	04/03/96
Analysis Time	09:00 AM
Sample Point	S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	7.58E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR	15.0%	6.02E-03 µCi/g

Analyst:		WGB	Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: SAM11

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Worklist #	GROSS COUNTS	(GC)	22	40
7057	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.6676	1.6676
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.433	1.033

Blank Concentration in µCi/g	5.15E-03
Replicate Concentration in µCi/g	1.23E-02
Average Concentration in µCi/g	8.7110E-03

Batch Number: 96002768

Rerun: 0

Sample Prep: FUSION01

Sample #: S96T001180

Instrument Code: WB27807

Prepared By: SLH

Chemist: SLF

Analyst: WGB

Date Complete: 04/05/96

Analysis Date: 04/03/96

Analysis Time: 09:00 AM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	8.71E-03	6.62E-03 µCi/g
RELATIVE COUNTING ERROR	83.9%	

Analyst:	WGB		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP12

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	38	32
7057	COUNT TIME in MINUTES	(CT)	30	30
Alpha / Beta	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.4936	1.4936
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.967	0.767

Blank Concentration in µCi/g	1.28E-02
Replicate Concentration in µCi/g	1.02E-02
Average Concentration in µCi/g	1.1494E-02

Batch Number: 96002768
Rerun: 0
Sample Prep: FUSION01
Sample #: S96T001180
Instrument Code: WB27807
Prepared By: SLH
Chemist: SLF
Analyst: WGB
Date Complete: 04/05/96
Analysis Date: 04/03/96
Analysis Time: 09:00 AM
Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	1.15E-02	7.39E-03 µCi/g
RELATIVE COUNTING ERROR	54.6%	

Analyst:	WGB		Date: 05-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1. 508101ML

LABCORE Data Entry Template for Worklist# 7076

Analyst: S.C.L. **Instrument:** AB00 #18 **Book#** 47B56

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Use .1 mL sample size (perform boil down). Rerun #1. SLF

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T000869	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
5	DUP	S96T000869	0	F	@ALPHA01	SOLID		
6	SPK	S96T000869	0	F	@ALPHA01	SOLID		
7	SAMPLE	S96T000870	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
8	DUP	S96T000870	0	F	@ALPHA01	SOLID		
9	SAMPLE	S96T000871	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
10	DUP	S96T000871	0	F	@ALPHA01	SOLID		
11	SAMPLE	S96T000872	0	F	@ALPHA01	SOLID	96000030	S102
	Analytes Requested:				ALPHA01 , ALPHA01E			
12	DUP	S96T000872	0	F	@ALPHA01	SOLID		

Final page for worklist # 7076

Sue C Lai 4-1-96
Analyst Signature **Date**

M C Brennan 4/4/96
Analyst Signature **Date**

Sue Hogan 4/4/96

Data Entry Comments: SLF 4/5/96
SPK ~~STD~~ recovery is consistent with 1st run and indicates a sample matrix interference. Elevated RPD values are due to low sample alpha activity. No rerun requested. 4/5/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 7076

Analyst: scl **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .1 mL sample size (perform boil down). Rerun #1. SLF

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.28E-04	1.19E-4	92.970	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.89E+00	4.890	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	1.79E-3	0.000	uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	1.43E+02	143.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	3.33E+00	3.330	uCi/g
4	SAMPLE	S96T000869	0	F	@ALPHA01	ALPHA01	SOLID	N/A	7.81E-03	3.460e-003	uCi/g
4	SAMPLE	S96T000869	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	5.15E+01	0.000	% Ct. Error
5	DUP	S96T000869	0	F	@ALPHA01	ALPHA01	SOLID	7.81E-3	6.55E-3	17.550	RPD
5	DUP	S96T000869	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	5.33E+01	53.300	% Ct. Error
6	SPK	S96T000869	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	2.23E-02	62.120	% Recovery
7	SAMPLE	S96T000870	0	F	@ALPHA01	ALPHA01	SOLID	N/A	2.99E-02	4.210e-003	uCi/g
7	SAMPLE	S96T000870	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.49E+01	0.000	% Ct. Error
8	DUP	S96T000870	0	F	@ALPHA01	ALPHA01	SOLID	2.99E-2	3.20E-2	6.790	RPD
8	DUP	S96T000870	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.36E+01	23.600	% Ct. Error
9	SAMPLE	S96T000871	0	F	@ALPHA01	ALPHA01	SOLID	N/A	2.29E-02	3.630e-003	uCi/g
9	SAMPLE	S96T000871	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.92E+01	0.000	% Ct. Error
10	DUP	S96T000871	0	F	@ALPHA01	ALPHA01	SOLID	2.29E-2	2.80E-2	20.040	RPD
10	DUP	S96T000871	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.38E+01	23.800	% Ct. Error
11	SAMPLE	S96T000872	0	F	@ALPHA01	ALPHA01	SOLID	N/A	8.50E-02	3.690e-003	uCi/g
11	SAMPLE	S96T000872	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	1.36E+01	0.000	% Ct. Error
12	DUP	S96T000872	0	F	@ALPHA01	ALPHA01	SOLID	8.50E-2	6.52E-2	26.360	RPD
12	DUP	S96T000872	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	1.53E+01	15.300	% Ct. Error

Final page for worklist# 7076

Analyst Signature **Date** **Analyst Signature** **Date**

4/8/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1611	1702
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		53.630	56.663
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002790	Concentration in µCi/L	=	1.15E-01	
Rerun	Replicate Concentration in µCi/L	=	1.22E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.1857E-01	

Sample Prep: N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: WL7076

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Instrument Code: WB27809

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 12:00 PM

Sample Point: S-102

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.19E-04	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	4.9%	6.80E-07 µCi/mL

Analyst:	MCB		Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		18	18
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	8
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9628	1.9628
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.130	0.197

Batch Number	
96002790	Blank Concentration in µCi/g 1.42E-03
Rerun	Replicate Concentration in µCi/g 2.15E-03
0	Average Concentration in µCi/g 1.7892E-03

Sample Prep: N/A

Sample #: WL7076

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 12:00 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	1.79E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		143.0%	3.46E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	27	20
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9628	1.9628
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.830	0.597

Batch Number	
96002790	Blank Concentration in µCi/g 9.09E-03
Rerun	Replicate Concentration in µCi/g 6.54E-03
1	Average Concentration in µCi/g 7.8141E-03

Sample Prep: FUSION01

Sample #: S96T000869

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 12:00 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	7.81E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	51.5%	3.46E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	19	22
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0128	2.0128
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.563	0.663

Batch Number	
96002790	Blank Concentration in µCi/g 6.02E-03
Rerun	Replicate Concentration in µCi/g 7.09E-03
1	Average Concentration in µCi/g 6.5518E-03

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Sample # S96T000869

Instrument Code WB27809

Prepared By MCB

Chemist SLF

Analyst SCL

Date Complete 04/04/96

Analysis Date 04/01/96

Analysis Time 12:00 PM

Sample Point S-102

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	6.55E-03	
RELATIVE COUNTING ERROR		53.3%	3.38E-03 µCi/g

Analyst:	SCL		Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	18
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	33353	28855
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9628	1.9628
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002790	SPIKE VALUE in µCi/mL	(SVal)	3.5898E-02	3.5898E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
1	SAMPLE + SPIKE µCi/g	(S+S)	1.22E+01	1.05E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		7.8141E-03	
FUSION01				
Sample #				
S96T000869	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27809	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
MCB	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
SCL				
Date Complete				
04/04/96				
Analysis Date				
04/01/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	2.23E-02	
12:00 PM	AVG. PERCENT SPIKE RECOVERY	=	62.1%	
Sample Point				
S-102				

Analyst:		MCB	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	68	71
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.6156	1.6156
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.197	2.297

Batch Number	
96002790	Blank Concentration in µCi/g 2.92E-02
Rerun	Replicate Concentration in µCi/g 3.06E-02
1	Average Concentration in µCi/g 2.9900E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000870	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 2.99E-02
Analyst	
SCL	
Date Complete	
04/04/96	RELATIVE COUNTING ERROR 24.9%
Analysis Date	
04/01/96	
Analysis Time	
12:00 PM	
Sample Point	
S-102	

DETECTION LEVEL
4.21E-03 µCi/g

Analyst:	SCL		Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
DETECTOR NUMBER			18	18
DISH SIZE (1 , 2 , or 5)	(MS)		2	2
GROSS COUNTS	(GC)		75	88
COUNT TIME in MINUTES	(CT)		30	30
BACKGROUND in cpm	(BKG)		0.07	0.07
SAMPLE SIZE in mL	(SS)		0.100	0.100
DILUTION FACTOR	(DF)		1	1
DIGEST GRAMS of SOLIDS / L	(Dg/L)		1.7784	1.7784
EFFICIENCY FACTOR	(EFF)		0.2095	0.2095
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			2.430	2.863
Blank Concentration in µCi/g			2.94E-02	
Replicate Concentration in µCi/g			3.46E-02	
Average Concentration in µCi/g			3.1999E-02	

Type	DUP
Work List	7076
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96002790
Rerun	1
Sample Prep	FUSION01
Sample #	S96T000870
Instrument Code	WB27809
Prepared By	MCB
Chemist	SLF
Analyst	SCL
Date Complete	04/04/96
Analysis Date	04/01/96
Analysis Time	12:00 PM
Sample Point	S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	3.20E-02		DETECTION LEVEL
RELATIVE COUNTING ERROR		23.6%		3.82E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	51	73
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8708	1.8708
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.630	2.363

Batch Number		
96002790	Blank Concentration in µCi/g	1.87E-02
Rerun	Replicate Concentration in µCi/g	2.72E-02
1	Average Concentration in µCi/g	2.2948E-02

Sample Prep: FUSION01

Sample #: S96T000871

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 12:00 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	2.29E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		29.2%	3.63E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	80	74
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.916	1.916
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.597	2.397
Batch Number				
96002790	Blank Concentration in µCi/g		2.91E-02	
Rerun	Replicate Concentration in µCi/g		2.69E-02	
1	Average Concentration in µCi/g		2.8017E-02	

Sample Prep: FUSION01

Sample #: S96T000871

Instrument Code: WB27809

Prepared By: MCB

Chemist: SLF

Analyst: SCL

Date Complete: 04/04/96

Analysis Date: 04/01/96

Analysis Time: 12:00 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

				DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	2.80E-02		
RELATIVE COUNTING ERROR		23.8%		3.55E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	228	213
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8416	1.8416
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		7.530	7.030

Batch Number	
96002790	
Rerun	
1	
Sample Prep	
FUSION01	
Sample #	
S96T000872	
Instrument Code	
WB27809	
Prepared By	
MCB	
Chemist	
SLF	
Analyst	
SCL	
Date Complete	
04/04/96	
Analysis Date	
04/01/96	
Analysis Time	
12:00 PM	
Sample Point	
S-102	

Blank Concentration in µCi/g	8.79E-02
Replicate Concentration in µCi/g	8.21E-02
Average Concentration in µCi/g	8.4996E-02

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	8.50E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		13.6%	3.69E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	180	171
7076	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9056	1.9056
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.930	5.630

Batch Number	
96002790	Blank Concentration in µCi/g 6.69E-02
Rerun	Replicate Concentration in µCi/g 6.35E-02
1	Average Concentration in µCi/g 6.5217E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T000872	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 6.52E-02
Analyst	
SCL	
Date Complete	
04/04/96	RELATIVE COUNTING ERROR 15.3%
Analysis Date	
04/01/96	
Analysis Time	
12:00 PM	
Sample Point	
S-102	

DETECTION LEVEL
3.57E-03 µCi/g

Analyst:		SCL	Date: 04-Apr-96
Signature of Chemist:		SLF	Date: 4/5/96

SAMPLE.WB1 Rev. 1.0 508101ML

03/29/96 08:22
A-0004-1

LABCORE Data Entry Template for Worklist# 7102

Analyst: AKL **Instrument:** AB00 14 **Book#** 47856

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S96T001437	0		@ALPHA01	LIQUID	96000094	S102
		Analytes Requested:			ALPHA01 , ALPHA01E			
5	DUP	S96T001437	0		@ALPHA01	LIQUID		
6	SPK	S96T001437	0		@ALPHA01	LIQUID		

Final page for worklist # 7102

A Lewis 4/3/96
Analyst Signature **Date**

Sharon Lulel 4-8-96
Analyst Signature **Date**

M Brown 4/8/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 7102

Analyst: akl **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.For spike use: 0.1ml. new

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.28E-04	1.39E-4	108.590	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.38E+00	4.380	% Ct. Error
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<8.84E-3		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00	9.69E-01	0.970	uCi/mL
4	SAMPLE	S96T001437	0	@ALPHA01	ALPHA01	LIQUID	N/A <	7.28E-03	1.310e-002	uCi/mL
4	SAMPLE	S96T001437	0	@ALPHA01	ALPHA01E	LIQUID	N/A	5.00E+02	0.000	% Ct. Error
5	DUP	S96T001437	0	@ALPHA01	ALPHA01	LIQUID	<7.28E-3	<1.19E-2		RPD
5	DUP	S96T001437	0	@ALPHA01	ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6	SPK	S96T001437	0	@ALPHA01	ALPHA01	LIQUID	3.59E-02	3.79E-02	105.570	% Recovery

Final page for worklist# 7102

Analyst Signature **Date** **Analyst Signature** **Date**

4/9/96

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2178	2044
7102	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.43	0.43
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	47B56	47B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		72.170	67.703
Batch Number	Standard Value in µCi/mL		1.28E-04	
96002826	Concentration in µCi/L	=	1.43E-01	
Rerun	Replicate Concentration in µCi/L	=	1.34E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.3854E-01	

Sample Prep
N/A
Sample #
WL7102
Instrument Code
WB27807
Prepared By
SLH
Chemist
SLF
Analyst
AKL
Date Complete
04/08/96
Analysis Date
04/04/96
Analysis Time
02:00 PM
Sample Point
S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.39E-04	
RELATIVE COUNTING ERROR	=	4.4%	1.29E-06 µCi/mL

Analyst:		SLH	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

STANDARD.WB1 Rev. 1.0 508101M

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	17
7102	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.43	0.43
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.279	0.437
Batch Number				
96002826	Blank Concentration in µCi/L	<	5.65E+00	
Rerun	Replicate Concentration in µCi/L	<	8.84E+00	
0	Maximum Concentration in µCi/L	<	8.8387E+00	

Sample Prep: N/A

Sample # : WL7102

Instrument Code: WB27807

Prepared By: SLH

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 8.84E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.			
RELATIVE COUNTING ERROR		500.0%	1.31E-02 µCi/mL

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	15	9
7102	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.43	0.43
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.361	0.279

Batch Number		
96002826	Blank Concentration in µCi/L	< 7.28E+00
Rerun	Replicate Concentration in µCi/L	< 5.65E+00
0	Maximum Concentration in µCi/L	< 7.2848E+00

Sample Prep: N/A

Sample #: S96T001437

Instrument Code: WB27807

Prepared By: SLH

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 02:00 PM

Sample Point: S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum) = < 7.28E-03		DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		1.31E-02 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) LIQUIDS

			DUP	REPLICATE
DETECTOR NUMBER			14	14
DISH SIZE (1 , 2 , or 5)	(MS)		2	2
GROSS COUNTS	(GC)		21	9
COUNT TIME in MINUTES	(CT)		30	30
BACKGROUND in cpm	(BKG)		0.43	0.43
SAMPLE SIZE in mL	(SS)		1.000	1.000
DILUTION FACTOR	(DF)		10201	10201
DIGEST DILUTION FACTOR	(DDF)		1	1
EFFICIENCY FACTOR	(EFF)		0.2274	0.2274
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			0.590	0.279
Blank Concentration in µCi/L		<	1.19E+01	
Replicate Concentration in µCi/L		<	5.65E+00	
Maximum Concentration in µCi/L		<	1.1927E+01	

Type	DUP
Work List	7102
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	96002826
Rerun	0
Sample Prep	N/A
Sample #	S96T001437
Instrument Code	WB27807
Prepared By	SLH
Chemist	SLF
Analyst	AKL
Date Complete	04/08/96
Analysis Date	04/04/96
Analysis Time	02:00 PM
Sample Point	S102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.19E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			1.31E-02 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	57083	57662
7102	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.43	0.43
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96002826	SPIKE VALUE in µCi/mL	(SVal)	3.5897E-02	3.5897E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/mL	(S+S)	3.84E+01	3.88E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	7.2848E-03	
N/A				
Sample #				
S96T001437	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)			
WB27807	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))			
SLH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
AKL				
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.			
04/08/96				
Analysis Date				
04/04/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	3.79E-02	
02:00 PM	AVG. PERCENT SPIKE RECOVERY	=	105.5%	
Sample Point				
S102				

Analyst:		SLH	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SPIKE.WB1 Rev. 1.0 508101ML

04/04/96 09:02
A-0004-1

LABCORE Data Entry Template for Worklist# 7361

Analyst: AKL **Instrument:** AB00 16 **Book#** 47656

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Use .1 mL sample size (use boil down). Rerun #1. SLF

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T001173	0	F	@ALPHA01	SOLID	96000094	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T001173	0	F	@ALPHA01	SOLID		
6	SAMPLE	S96T001174	0	F	@ALPHA01	SOLID	96000094	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S96T001174	0	F	@ALPHA01	SOLID		
8	SPK	S96T001174	0	F	@ALPHA01	SOLID		
9	SAMPLE	S96T001175	0	F	@ALPHA01	SOLID	96000094	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
10	DUP	S96T001175	0	F	@ALPHA01	SOLID		
11	SAMPLE	S96T001176	0	F	@ALPHA01	SOLID	96000094	S102
		Analytes Requested: ALPHA01 , ALPHA01E						
12	DUP	S96T001176	0	F	@ALPHA01	SOLID		

Final page for worklist # 7361

G Luis 4/4/96
Analyst Signature **Date**

Sylvia L Cohran 4/8/96
Analyst Signature **Date**

Sue Hogan 4/8/96

Data Entry Comments: Boil down Performed

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 7361

Analyst: akl **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .1 mL sample size (use boil down). Rerun #1. SLF

Seq	Type	Sample#	R	A	Test		Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01	SOLID	1.28E-04	1.50E-4	117.190	% Recovery
1	STD		0		@ALPHA01	ALPHA01E	SOLID	1.00	4.39E+00	4.390	% Ct. Error
2	BLNK-PREP		0		@ALPHA01	ALPHA01	SOLID	1	<2.27E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Error
3	BLNK/BKG		0		@ALPHA01	ALPHA01	SOLID	1.00E+00	1.67E+00	1.670	uCi/g
4	SAMPLE	S96T001173	0	F	@ALPHA01	ALPHA01	SOLID	N/A	4.06E-02	4.080e-003	uCi/g
4	SAMPLE	S96T001173	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	1.97E+01	0.000	% Ct. Error
5	DUP	S96T001173	0	F	@ALPHA01	ALPHA01	SOLID	4.06E-2	3.96E-2	2.490	RPD
5	DUP	S96T001173	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	1.93E+01	19.300	% Ct. Error
6	SAMPLE	S96T001174	0	F	@ALPHA01	ALPHA01	SOLID	N/A	1.62E-02	2.120e-003	uCi/g
6	SAMPLE	S96T001174	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	2.24E+01	0.000	% Ct. Error
7	DUP	S96T001174	0	F	@ALPHA01	ALPHA01	SOLID	1.62E-2	1.53E-2	5.710	RPD
7	DUP	S96T001174	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	2.50E+01	25.000	% Ct. Error
8	SPK	S96T001174	0	F	@ALPHA01	ALPHA01	SOLID	3.59E-02	2.70E-02	75.200	% Recovery
9	SAMPLE	S96T001175	0	F	@ALPHA01	ALPHA01	SOLID	N/A	1.45E-02	3.550e-003	uCi/g
9	SAMPLE	S96T001175	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	3.32E+01	0.000	% Ct. Error
10	DUP	S96T001175	0	F	@ALPHA01	ALPHA01	SOLID	1.45E-2	1.23E-2	16.420	RPD
10	DUP	S96T001175	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	3.71E+01	37.100	% Ct. Error
11	SAMPLE	S96T001176	0	F	@ALPHA01	ALPHA01	SOLID	N/A	4.02E-03	3.950e-003	uCi/g
11	SAMPLE	S96T001176	0	F	@ALPHA01	ALPHA01E	SOLID	N/A	7.84E+01	0.000	% Ct. Error
12	DUP	S96T001176	0	F	@ALPHA01	ALPHA01	SOLID	4.02E-3	4.45E-3	10.150	RPD
12	DUP	S96T001176	0	F	@ALPHA01	ALPHA01E	SOLID	1.00	1.13E+02	113.000	% Ct. Error

Final page for worklist# 7361

Analyst Signature Date

Analyst Signature Date

4/9/96

Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2) STANDARD

			STANDARD	REPLICATE
DETECTOR NUMBER			16	16
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	2196	2006
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.1	0.1
SAMPLE SIZE in mL		(SS)	1.000	1.000
DILUTION FACTOR		(DF)	1	1
STANDARD BOOK NUMBER		(Std BN)	47B56	47B56
EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			73.100	66.767
Standard Value in µCi/mL			1.28E-04	
Concentration in µCi/L	=		1.57E-01	
Replicate Concentration in µCi/L	=		1.43E-01	
AVERAGE CONCENTRATION in µCi/L	=		1.4972E-01	

Type	STD
Work List	7361
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	96003106
Rerun	0
Sample Prep	N/A
Sample #	WL7361
Instrument Code	WB27806
Prepared By	SZC
Chemist	SLF
Analyst	AKL
Date Complete	04/08/96
Analysis Date	04/04/96
Analysis Time	04:41 PM
Sample Point	S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.50E-04	7.71E-07 µCi/mL
RELATIVE COUNTING ERROR	=	4.4%	

Analyst:		SZC	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1	9
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8904	1.8904
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.200

Batch Number			
96003106	Blank Concentration in µCi/g	<	1.53E-03
Rerun	Replicate Concentration in µCi/g		2.27E-03
0	Maximum Concentration in µCi/g	<	2.2650E-03

Sample Prep: N/A

Sample #: WL7361

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 04:41 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Maximum)	=	< 2.27E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.			4.08E-03 µCi/g
RELATIVE COUNTING ERROR		500.0%	

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	108	113
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.8904	1.8904
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.500	3.667

Batch Number	
96003106	Blank Concentration in µCi/g 3.96E-02
Rerun	Replicate Concentration in µCi/g 4.15E-02
1	Average Concentration in µCi/g 4.0582E-02

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Sample #: S96T001173

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 04:41 PM

Sample Point: S-102

ALPHA TOTAL in µCi/g (Average) =	4.06E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR	19.7%	4.08E-03 µCi/g

Analyst:	AKL	Date: 08-Apr-96	
Signature of Chemist:	SLF	Date: 4/9/96	

SAMPLE.WB1 Rev. 1.0 508101MU

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
DETECTOR NUMBER			16	16
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	112	118
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.1	0.1
SAMPLE SIZE in mL		(SS)	0.100	0.100
DILUTION FACTOR		(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	2.0192	2.0192
EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			3.633	3.833

Blank Concentration in µCi/g	3.85E-02
Replicate Concentration in µCi/g	4.06E-02
Average Concentration in µCi/g	3.9584E-02

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	3.96E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		19.3%	3.82E-03 µCi/g

Type	DUP
Work List	7361
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96003106
Rerun	1
Sample Prep	FUSION01
Sample #	S96T001173
Instrument Code	WB27806
Prepared By	SZC
Chemist	SLF
Analyst	AKL
Date Complete	04/08/96
Analysis Date	04/04/96
Analysis Time	04:41 PM
Sample Point	S-102

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	86	85
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.200	0.200
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.818	1.818
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.767	2.733

Batch Number	
96003106	Blank Concentration in µCi/g 1.63E-02
Rerun	Replicate Concentration in µCi/g 1.61E-02
1	Average Concentration in µCi/g 1.6192E-02

Sample Prep: FUSION01

Sample #: S96T001174

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 04:41 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) = 1.62E-02		DETECTION LEVEL
RELATIVE COUNTING ERROR	22.4%	2.12E-03 µCi/g

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
DETECTOR NUMBER			16	16
DISH SIZE (1 , 2 , or 5)		(MS)	2	2
GROSS COUNTS		(GC)	70	85
COUNT TIME in MINUTES		(CT)	30	30
BACKGROUND in cpm		(BKG)	0.1	0.1
SAMPLE SIZE in mL		(SS)	0.200	0.200
DILUTION FACTOR		(DF)	1	1
DIGEST GRAMS of SOLIDS / L		(Dg/L)	1.7324	1.7324
EFFICIENCY FACTOR		(EFF)	0.2104	0.2104
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE			2.233	2.733

Blank Concentration in µCi/g	1.38E-02
Replicate Concentration in µCi/g	1.69E-02
Average Concentration in µCi/g	1.5345E-02

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	1.53E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR	25.0%	2.23E-03 µCi/g

Type	DUP
Work List	7361
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	SOLID
Batch Number	96003106
Rerun	1
Sample Prep	FUSION01
Sample #	S96T001174
Instrument Code	WB27806
Prepared By	SZC
Chemist	SLF
Analyst	AKL
Date Complete	04/08/96
Analysis Date	04/04/96
Analysis Time	04:41 PM
Sample Point	S-102

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPIKE8

AT : LA-508-101 (D-2) SPIKED SAMPLE

			SPIKE	REPLICATE
	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
	TOTAL COUNTS	(TC)	37295	38480
7361	COUNT TIME in MINUTES	(CT)	30	30
	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.200	0.200
	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.818	1.818
	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
	SPIKE BOOK NUMBER	(Spk BN)	123B43	123B43
96003106	SPIKE VALUE in µCi/mL	(SVal)	3.5897E-02	3.5897E-02
	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
1	SAMPLE + SPIKE µCi/g	(S+S)	7.32E+00	7.55E+00
	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.6192E-02	

FUSION01

S96T001174

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)

WB27806

QC ACTUAL = SVal

QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))

SZC

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100

SLF

AKL

04/08/96

04/04/96	QC ACTUAL	=	3.59E-02
	QC FOUND	=	2.70E-02
04:41 PM	AVG. PERCENT SPIKE RECOVERY	=	75.2%

S-102

Analyst:		SZC	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	51	43
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1704	2.1704
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.600	1.333

Batch Number	
96003106	Blank Concentration in µCi/g 1.58E-02
Rerun	Replicate Concentration in µCi/g 1.32E-02
1	Average Concentration in µCi/g 1.4467E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T001175	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SZC	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.45E-02
Analyst	
AKL	
Date Complete	
04/08/96	RELATIVE COUNTING ERROR 33.2%
Analysis Date	
04/04/96	
Analysis Time	
04:41 PM	
Sample Point	
S-102	

DETECTION LEVEL
3.55E-03 µCi/g

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

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WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	36	49
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3	2.3
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.100	1.533

Batch Number	
96003106	Blank Concentration in µCi/g 1.02E-02
Rerun	Replicate Concentration in µCi/g 1.43E-02
1	Average Concentration in µCi/g 1.2256E-02

Sample Prep: FUSION01

Sample #: S96T001175

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 04:41 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average)	=	1.23E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		37.1%	3.35E-03 µCi/g

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM1

AT : LA-508-101 (D-2) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	15	13
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9528	1.9528
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.400	0.333

Batch Number	
96003106	Blank Concentration in µCi/g 4.39E-03
Rerun	Replicate Concentration in µCi/g 3.65E-03
1	Average Concentration in µCi/g 4.0199E-03

Sample Prep: FUSION01

Sample #: S96T001176

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 04:41 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) =	4.02E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	78.4%	3.95E-03 µCi/g

Analyst:		AKL	Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP1

AT : LA-508-101 (D-2) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	19	9
7361	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.7632	1.7632
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.533	0.200

Batch Number	
96003106	Blank Concentration in µCi/g 6.48E-03
Rerun	Replicate Concentration in µCi/g 2.43E-03
1	Average Concentration in µCi/g 4.4522E-03

Sample Prep: FUSION01

Sample #: S96T001176

Instrument Code: WB27806

Prepared By: SZC

Chemist: SLF

Analyst: AKL

Date Complete: 04/08/96

Analysis Date: 04/04/96

Analysis Time: 04:41 PM

Sample Point: S-102

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/g (Average) = 4.45E-03		DETECTION LEVEL
RELATIVE COUNTING ERROR	113.2%	4.37E-03 µCi/g

Analyst:	AKL		Date: 08-Apr-96
Signature of Chemist:		SLF	Date: 4/9/96

SAMPLE.WB1 Rev. 1.0 508101ML