TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1 Date: 06/17/97 Time: 11:45:58

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.20	0.00
2	1.01	6.30	96.83
3	1.51	72.40	91.30
4	2.01	226.50	68.04
5	2.51	416.20	45.58
6	3.00	534.30	22.10
7	3.50	583.50	8.43
8	4.00	599.80	2.72
9	4.50	605.30	0.91
10	5.00	607.40	0.35
11	5.50	608.70	0.21
12	6.00	609.40	0.11
13	6.50	610.30	0.15
14	7.00	610.60	0.05
15	7.50	611.10	0.08
16	8.00	611.60	0.08
17	8.50	612.10	0.08
18	9.00	612.40	0.05
19	9.50	612.80	0.07
20	10.00	613.20	0.07
21	10.50	613.50	0.05
22	11.00	613.80	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(613.8 - 31.01673)(1)/(200) = +2.914E+00 g/L Carbon
(613.8 - 31.01673)(1)/(200)(12) = +2.428E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

.200ml 26N12-A

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

Sample: BASE 1 Date: 06/17/97 Time: 09:29:44

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

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.30	33.33
3	1.51	0.60	50.00
4	2.01	1.20	50.00
5	2.51	2.30	47.83
6	3.00	3.50	34.29
7	3.50	3.90	10.26
8	4.00	4.30	9.30
9	4.50	4.60	6.52
10	5.00	4.80	4.17
11	5.50	5.00	4.00
12	6.00	5.20	3.85
13	6.50	5.40	3.70
14	7.00	5.60	3.57
15	7.50	5.80	3.45
16	8.00	6.00	3.33
17	8.50	6.20	3.23
18	9.00	6.30	1.59
19	9.50	6.60	4.55
20	10.00	6.80	2.94
21	10.50	7.00	2.86
22	11.00	7.10	1.41

BLANK VALUE = 7.1 micrograms carbon
BLANK FACTOR = 7.1 / 10.99786 = +6.5E-01 ug/min Carbon

Sample Run By: _____
SL HOOD 00001

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ____ TO ____

LAD 8/18/97

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

Sample: BASE 1 Date: 06/17/97 Time: 09:46:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 1
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	0.30	66.67
3	1.51	1.20	75.00
4	2.01	5.10	76.47
5	2.50	12.70	59.84
6	3.00	18.70	32.09
7	3.50	22.30	16.14
8	4.00	24.50	8.98
9	4.50	25.70	4.67
10	5.00	26.50	3.02
11	5.50	27.20	2.57
12	6.00	27.80	2.16
13	6.50	28.10	1.07
14	7.00	28.50	1.40
15	7.50	28.90	1.38
16	8.00	29.20	1.03
17	8.50	29.50	1.02
18	9.00	29.80	1.01
19	9.50	30.10	1.00
20	10.00	30.40	0.99
21	10.50	30.60	0.65
22	11.00	31.00	1.29

BLANK VALUE = 31 micrograms carbon
BLANK FACTOR = 31 / 10.99969 = +2.82E+00 ug/min Carbon

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

Sample Run By: _____
SL HOOD 00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1 Date: 06/17/97 Time: 11:59:44

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	1.90	0.00
2	1.01	2.70	29.63
3	1.51	3.30	18.18
4	2.00	3.80	13.16
5	2.50	4.20	9.52
6	3.00	4.60	8.70
7	3.50	4.90	6.12
8	4.00	5.10	3.92
9	4.50	5.40	5.56
10	5.00	5.70	5.26
11	5.50	5.90	3.39
12	6.00	6.20	4.84
13	6.50	6.40	3.13
14	7.00	6.70	4.48
15	7.50	6.90	2.90
16	8.00	7.20	4.17
17	8.50	7.40	2.70
18	9.00	7.70	3.90
19	9.50	7.90	2.53
20	10.00	8.20	3.66
21	10.50	8.50	3.53
22	11.00	8.70	2.30

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(8.7 - 7.148056)(1)/(1) = +1.6E+00 g/L Carbon
(8.7 - 7.148056)(1)/(1)(12) = +1.3E-01 Molar Carbon

Sample Run By: _____
SL HOOD 00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1 Date: 06/17/97 Time: 13:12:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	6.80	89.71
3	1.51	14.10	51.77
4	2.01	18.30	22.95
5	2.50	20.90	12.44
6	3.00	22.10	5.43
7	3.50	22.90	3.49
8	4.00	23.40	2.14
9	4.50	23.90	2.09
10	5.00	24.30	1.65
11	5.50	24.60	1.22
12	6.00	25.10	1.99
13	6.50	25.50	1.57
14	7.00	25.80	1.16
15	7.50	26.20	1.53
16	8.00	26.50	1.13
17	8.50	26.80	1.12
18	9.00	27.10	1.11
19	9.50	27.50	1.45
20	10.00	27.70	0.72
21	10.50	28.00	1.07
22	11.00	28.30	1.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(28.3 - 31.01656)(1)/(1) = < 5.00 E-3 g/L Carbon
(28.3 - 31.01656)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 Date: 06/17/97 Time: 13:30:39

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.51	0.30	0.00
2	1.01	1.10	72.73
3	1.51	9.20	88.04
4	2.01	31.00	70.32
5	2.51	63.70	51.33
6	3.00	93.40	31.80
7	3.50	112.70	17.13
8	4.00	123.40	8.67
9	4.50	129.40	4.64
10	5.00	132.50	2.34
11	5.50	134.30	1.34
12	6.00	135.50	0.89
13	6.50	136.50	0.73
14	7.00	137.20	0.51
15	7.50	138.00	0.58
16	8.00	138.40	0.29
17	8.50	139.10	0.50
18	9.00	139.60	0.36
19	9.50	140.10	0.36
20	10.00	140.70	0.43
21	10.50	141.10	0.28
22	11.00	141.50	0.28

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(141.5 - 7.148611)(1)/(1) = +1.344E+02 g/L Carbon
(141.5 - 7.148611)(1)/(1)(12) = +1.120E+01 Molar Car

Sample Run By: _____
SL HOOD 00001

SS = .10839

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 Date: 06/17/97 Time: 13:44:46

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	26.50	97.36
3	1.51	121.80	78.24
4	2.00	197.70	38.39
5	2.50	235.40	16.02
6	3.00	251.30	6.33
7	3.50	257.70	2.48
8	4.00	260.70	1.15
9	4.50	262.60	0.72
10	5.00	263.90	0.49
11	5.50	265.10	0.45
12	6.00	266.00	0.34
13	6.50	266.90	0.34
14	7.00	267.60	0.26
15	7.50	268.30	0.26
16	8.00	268.90	0.22
17	8.50	269.30	0.15
18	9.00	269.90	0.22
19	9.50	270.30	0.15
20	10.00	270.70	0.15
21	10.50	271.20	0.18
22	11.00	271.50	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(271.5 - 31.01432)(1)/(1) = +2.405E+02 g/L Carbon
(271.5 - 31.01432)(1)/(1)(12) = +2.004E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS .10839

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 DUP Date: 06/17/97 Time: 13:58:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.90	73.68
3	1.50	28.20	93.26
4	2.00	79.40	64.48
5	2.50	138.50	42.67
6	3.00	185.60	25.38
7	3.50	214.80	13.59
8	4.00	230.40	6.77
9	4.50	238.30	3.32
10	5.00	242.30	1.65
11	5.50	244.50	0.90
12	6.00	245.90	0.57
13	6.50	247.00	0.45
14	7.00	247.80	0.32
15	7.50	248.50	0.28
16	8.00	249.10	0.24
17	8.50	249.70	0.24
18	9.00	250.20	0.20
19	9.50	250.80	0.24
20	10.00	251.30	0.20
21	10.50	251.80	0.20
22	11.00	252.30	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(252.3 - 7.149246)(1)/(1) = +2.452E+02 g/L Carbon
(252.3 - 7.149246)(1)/(1)(12) = +2.043E+01 Molar Carbon

Sample Run By:
SL HOOD 00001

55 = .12569

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 DUP Date: 06/17/97 Time: 14:12:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	1.01	91.30	95.73
3	1.51	215.90	57.71
4	2.00	273.20	20.97
5	2.50	296.20	7.77
6	3.00	306.10	3.23
7	3.50	310.70	1.48
8	4.00	313.80	0.99
9	4.50	315.80	0.63
10	5.00	317.30	0.47
11	5.50	318.30	0.31
12	6.00	319.50	0.38
13	6.50	320.30	0.25
14	7.00	321.00	0.22
15	7.50	321.80	0.25
16	8.00	322.40	0.19
17	8.50	323.00	0.19
18	9.00	323.60	0.19
19	9.50	324.00	0.12
20	10.00	324.50	0.15
21	10.50	325.00	0.15
22	11.00	325.40	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(325.4 - 31.01673)(1)/(1) = +2.944E+02 g/L Carbon
(325.4 - 31.01673)(1)/(1)(12) = +2.453E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS .12569

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 TRP Date: 06/17/97 Time: 16:30:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 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	4.40	86.36
3	1.51	31.10	85.85
4	2.01	79.20	60.73
5	2.50	130.50	39.31
6	3.00	169.70	23.10
7	3.50	194.50	12.75
8	4.00	208.40	6.67
9	4.50	215.60	3.34
10	5.00	219.50	1.78
11	5.50	221.70	0.99
12	6.00	223.50	0.81
13	6.50	225.60	0.93
14	7.00	227.10	0.66
15	7.50	228.00	0.39
16	8.00	228.80	0.35
17	8.50	229.50	0.31
18	9.00	230.20	0.30
19	9.50	230.80	0.26
20	10.00	231.40	0.26
21	10.50	231.80	0.17
22	11.00	232.20	0.17

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(232.2 - 7.149881)(1)/(1) = +2.251E+02 g/L Carbon
(232.2 - 7.149881)(1)/(1)(12) = +1.875E+01 Molar Carb

Sample Run By:
SL HOOD 00001

SS = .12735

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 Date: 06/17/97 Time: 14:28:23

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
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	1.51	15.80	90.51
4	2.00	40.20	60.70
5	2.50	68.20	41.06
6	3.00	93.00	26.67
7	3.50	111.70	16.74
8	4.00	124.00	9.92
9	4.50	130.90	5.27
10	5.00	134.70	2.82
11	5.50	137.10	1.75
12	6.00	138.40	0.94
13	6.50	139.60	0.86
14	7.00	140.40	0.57
15	7.50	141.10	0.50
16	8.00	142.00	0.63
17	8.50	142.60	0.42
18	9.00	143.10	0.35
19	9.50	143.90	0.56
20	10.00	144.20	0.21
21	10.50	144.90	0.48
22	11.00	145.50	0.41

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(145.5 - 7.149246)(1)/(1) = +1.384E+02 g/L Carbon
(145.5 - 7.149246)(1)/(1)(12) = +1.153E+01 Molar Car

Sample Run By: _____
SL HOOD 00001

SS .10203

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 Date: 06/17/97 Time: 14:45:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	40.20	98.51
3	1.51	305.50	86.84
4	2.01	564.40	45.87
5	2.50	751.50	24.90
6	3.00	898.70	16.38
7	3.50	985.60	8.82
8	4.00	1025.80	3.92
9	4.50	1042.70	1.62
10	5.00	1049.70	0.67
11	5.50	1053.80	0.39
12	6.00	1056.90	0.29
13	6.50	1058.30	0.13
14	7.00	1059.90	0.15
15	7.50	1061.10	0.11
16	8.00	1062.50	0.13
17	8.50	1063.60	0.10
18	9.00	1064.40	0.08
19	9.50	1065.30	0.08
20	10.00	1066.00	0.07
21	10.50	1066.70	0.07
22	11.00	1067.30	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(1067.3 - 31.01656)(1)/(1) = +1.0363E+03 g/L Carbon
(1067.3 - 31.01656)(1)/(1)(12) = +8.6357E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

55.7 .1026

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 DUP Date: 06/17/97 Time: 15:01:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 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	1.40	71.43
3	1.51	10.00	86.00
4	2.01	30.90	67.64
5	2.51	63.10	51.03
6	3.01	96.10	34.34
7	3.50	120.50	20.25
8	4.00	135.20	10.87
9	4.50	143.30	5.65
10	5.00	147.10	2.58
11	5.50	149.60	1.67
12	6.00	151.10	0.99
13	6.50	152.20	0.72
14	7.00	153.10	0.59
15	7.50	153.90	0.52
16	8.00	154.70	0.52
17	8.50	155.40	0.45
18	9.00	155.90	0.32
19	9.50	156.70	0.51
20	10.00	157.20	0.32
21	10.50	157.80	0.38
22	11.00	158.30	0.32

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(158.3 - 7.149167)(1)/(1) = +1.512E+02 g/L Carbon
(158.3 - 7.149167)(1)/(1)(12) = +1.260E+01 Molar Carbon

Sample Run By: SL HOOD 00001

55.1128g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 DUP Date: 06/17/97 Time: 15:45:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	47.50	99.16
3	1.51	373.80	87.29
4	2.00	663.70	43.68
5	2.50	864.80	23.25
6	3.00	1012.80	14.61
7	3.50	1091.70	7.23
8	4.00	1126.30	3.07
9	4.50	1140.00	1.20
10	5.00	1146.20	0.54
11	5.50	1150.00	0.33
12	6.00	1152.70	0.23
13	6.50	1154.60	0.16
14	7.00	1156.10	0.13
15	7.50	1157.40	0.11
16	8.00	1158.60	0.10
17	8.50	1159.40	0.07
18	9.00	1160.30	0.08
19	9.50	1161.10	0.07
20	10.00	1161.80	0.06
21	10.50	1162.30	0.04
22	11.00	1162.90	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(1162.9 - 31.01157)(1)/(1) = +1.1319E+03 g/L Carbon
(1162.9 - 31.01157)(1)/(1)(12) = +9.4324E+01 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS .11289

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 SPK Date: 06/17/97 Time: 16:01:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	3.30	90.91
3	1.51	56.00	94.11
4	2.01	159.60	64.91
5	2.50	264.70	39.71
6	3.00	347.10	23.74
7	3.50	400.80	13.40
8	4.00	430.50	6.90
9	4.50	444.60	3.17
10	5.00	450.80	1.38
11	5.50	454.20	0.75
12	6.00	456.10	0.42
13	6.50	457.40	0.28
14	7.00	458.40	0.22
15	7.50	459.20	0.17
16	8.00	459.80	0.13
17	8.50	460.60	0.17
18	9.00	461.30	0.15
19	9.50	462.10	0.17
20	10.00	462.40	0.06
21	10.50	463.00	0.13
22	11.00	463.70	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(463.7 - 7.148571)(1)/(1) = +4.566E+02 g/L Carbon
(463.7 - 7.148571)(1)/(1)(12) = +3.805E+01 Molar Carb

Sample Run By:
SL HOOD 00001

SS = .0954g
+ .500 ml spike 25N12-A

823

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 SPK Date: 06/17/97 Time: 16:15:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	82.50	99.27
3	1.51	412.00	79.98
4	2.00	684.70	39.83
5	2.50	966.20	29.13
6	3.00	1136.10	14.95
7	3.50	1206.40	5.83
8	4.00	1236.30	2.42
9	4.50	1247.50	0.90
10	5.00	1252.00	0.36
11	5.50	1255.00	0.24
12	6.00	1257.10	0.17
13	6.50	1258.90	0.14
14	7.00	1260.20	0.10
15	7.50	1261.40	0.10
16	8.00	1262.40	0.08
17	8.50	1263.20	0.06
18	9.00	1264.00	0.06
19	9.50	1264.80	0.06
20	10.00	1265.40	0.05
21	10.50	1266.00	0.05
22	11.00	1266.60	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(1266.6 - 31.01363)(1)/(1) = +1.2356E+03 g/L Carbon
(1266.6 - 31.01363)(1)/(1)(12) = +1.0297E+02 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS = .0954g
+ .100 spike 25NI2-A

LABCORE Completed Worklist Report for Worklist# 18562

Analyst: slh **Instrument:** CARB2 **Book#** 25NB2A TIC 26NB2A TOC

Method: LA-342-106 Rev/Mod E-0

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK		0		@TICTOC1 TIC-02	SOLID	1	3.70E+0	3.700	ug/g
1	BLNK		0		@TICTOC1 TOC-02	SOLID	1	6.40E+0	6.400	ug/g
2	STD		0		@TICTOC1 TIC-02	SOLID	6.02E+02	5.80E+2	96.346	% Recovery
2	STD		0		@TICTOC1 TOC-02	SOLID	3.00E+03	2.78E+3	92.667	% Recovery
3	SAMPLE	S97T001041	0		@TICTOC1 TIC-02	SOLID	N/A	1.53E+03	5.000	ug/g
3	SAMPLE	S97T001041	0		@TICTOC1 TOC-02	SOLID	N/A	8.30E+03	40.000	ug/g
4	DUP	S97T001041	0		@TICTOC1 TIC-02	SOLID	1.53E+3	1.52E+3	0.656	RPD
4	DUP	S97T001041	0		@TICTOC1 TOC-02	SOLID	8.30E+3	8.85E+3	6.414	RPD
5	SPK	S97T001041	0		@TICTOC1 TIC-02	SOLID	1.00E+02	1.01E+02	101.000	% Recovery
5	SPK	S97T001041	0		@TICTOC1 TOC-02	SOLID	1.00E+02	1.20E+02	120.000	% Recovery

Final page for worklist# 18562

Analyst Signature Date

Susan Bu 6/17/97
Analyst Signature Date

RW Schwedy 6/18/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 13:43
A-0004-1

LABCORE Data Entry Template for Worklist# 18562

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

Method: LA-342-100 Rev/Mod _____

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S97T001041	0		@TICTOC1	SOLID	97000333	AW-103
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S97T001041	0		@TICTOC1	SOLID		
5	SPK	S97T001041	0		@TICTOC1	SOLID		

Final page for worklist # 18562

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

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

Type	Work List	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
BLNK	18562	@TICTOC1	SOLID	97002622	0	N/A	BLANK	CARB2	SKB	RWS	SLH	06/17/97	06/16/97	05:30 PM	AW-103

			TIC	TOC
Sample Size in g	(SS)		0.1373	0.1373
Dilution Factor	(DF)		1	1
µg of Carbon in Sample	(C1)		9.4	31
µg of Carbon from Baseline	(C2)		5.7	37.4

µg of Carbon = |C1-C2|

		TIC	TOC
Method Detection Limit in ug/g		5	40
µg of Carbon		3.70E+00	6.40E+00

Data Entered By: SKB Date: 06/17/97

Signature of Chemist: RWS Schmaltz Date: 6/18/97

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

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

Type	Sample Size in mL	(SS)	TIC 1.0000	TOC 0.2000
STD	Dilution Factor	(DF)	1	1
Work List	Final Coulometer Reading in µg	(C1)	586.1	593.2
18562	µg of Carbon from Baseline	(C2)	5.7	37.4
Test Code	Standard Book Number		25N12A	26N12A
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix
LIQUID
Batch Number
97002622
Rerun
0
Sample Prep
N/A
Sample #
STD
Instrument Code
CARB2
Prepared By
SKB
Chemist
RWS
Analyst
SLH
Date Complete
06/17/97
Analysis Date
06/16/97
Analysis Time
05:30 PM
Sample Point
AW-103

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
Method Detection Limit in µg/mL	5	40
QC Actual in µg/mL	6.02E+02	3.00E+03
QC Found in µg/mL	5.80E+02	2.78E+03
Percent Standard Recovery	96.4	92.6

Data Entered By: SKB Date: 06/17/97

Signature of Chemist: RWS Date: 6/18/97

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

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

Type			TIC	TOC
SAMPLE	Sample Size in g	(SS)	0.1373	0.1373
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	216.3	1176.4
18562	µg of Carbon from Baseline	(C2)	5.7	37.4
Test Code				
@TICTOC1				

Matrix
SOLID
Batch Number
97002622
Rerun
0
Sample Prep
N/A
Sample #
S97T001041
Instrument Code
CARB2
Prepared By
SKB
Chemist
RWS
Analyst
SLH
Date Complete
06/17/97
Analysis Date
06/16/97
Analysis Time
05:30 PM
Sample Point
AW-103

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	1.53E+03	8.30E+03

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	R W Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\18562.WB1 06/17/97 19:49:13

WORKBOOK PAGE: DUP4

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

Type			TIC	TOC
DUP	Sample Size in g	(SS)	0.1370	0.1370
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	214.2	1250.1
18562	µg of Carbon from Baseline	(C2)	5.7	37.4
Test Code	Known µg of C from Original Sample		1.53E+3	8.30E+3
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97002622				
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 #				
S97T001041				
Instrument Code				
CARB2				
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/16/97			TIC	TOC
Analysis Time	Method Detection Limit in ug/g		5	40
05:30 PM				
Sample Point	µg of Carbon/g		1.52E+03	8.85E+03
AW-103				

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\18562.WB1 06/17/97 19:49:11

WORKBOOK PAGE: SPIKE5

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

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1373	0.1373
Work List	Final Coulometer Reading in µg	(C1)	216.3	1176.4
18562	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.1040	0.1040
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	468	1250.6
SOLID	Spike Book Number		25N12A	26N12A
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
97002622				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S97T001041				
Instrument Code	**QC Actual in µg/mL = Spike Value (µg/mL)**			
CARB2	**QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100**			
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/16/97				
Analysis Time			TIC	TOC
05:30 PM	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		6.08E+02	3.60E+03
AW-103	Percent Spike Recovery		101.0	119.8

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SPIKE.WB1 REV 1.1 342100ML

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 06/16/97 Time: 14:11:24

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	6.00	95.00
3	1.51	90.30	93.36
4	2.01	241.80	62.66
5	2.51	370.50	34.74
6	3.00	458.60	19.21
7	3.50	514.70	10.90
8	4.00	547.00	5.90
9	4.50	564.50	3.10
10	5.00	573.40	1.55
11	5.50	577.70	0.74
12	6.00	580.30	0.45
13	6.50	581.70	0.24
14	7.00	582.60	0.15
15	7.50	583.40	0.14
16	8.00	583.90	0.09
17	8.50	584.20	0.05
18	9.00	585.20	0.17
19	9.50	585.20	0.00
20	10.00	585.50	0.05
21	10.50	585.80	0.05
22	11.00	586.10	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(586.1 - 5.719397)(1)/(1000) = +5.804E-01 g/L Carbon
(586.1 - 5.719397)(1)/(1000)(12) = +4.837E-02 Molar Carbon

Sample Run By: SL Hood Boatright
SL HOOD 00002

Inl = 05NI2-A

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 839 TO 843.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 06/16/97 Time: 14:25:33

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.30	0.00
2	1.01	2.10	85.71
3	1.51	61.10	96.56
4	2.01	217.20	71.87
5	2.50	365.40	40.56
6	3.00	463.70	21.20
7	3.50	522.60	11.27
8	4.00	555.40	5.91
9	4.50	571.90	2.89
10	5.00	579.90	1.38
11	5.50	584.20	0.74
12	6.00	586.50	0.39
13	6.50	588.00	0.26
14	7.00	588.80	0.14
15	7.50	589.60	0.14
16	8.00	590.40	0.14
17	8.50	590.90	0.08
18	9.00	591.30	0.07
19	9.50	591.80	0.08
20	10.00	592.10	0.05
21	10.50	592.50	0.07
22	11.00	593.20	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(593.2 - 37.39606)(1)/(200) = +2.779E+00 g/L Carbon
(593.2 - 37.39606)(1)/(200)(12) = +2.316E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL Hood Beatright
SL HOOD 00002

.200 ml = 26012-A

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

Sample: BASE 2 Date: 06/16/97 Time: 13:41:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 2
Blank Value = N/A

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.20	0.00
2	1.01	0.40	50.00
3	1.51	0.90	55.56
4	2.00	1.60	43.75
5	2.50	1.90	15.79
6	3.00	2.20	13.64
7	3.50	2.60	15.38
8	4.00	3.00	13.33
9	4.50	3.30	9.09
10	5.00	3.40	2.94
11	5.50	3.60	5.56
12	6.00	3.90	7.69
13	6.50	4.00	2.50
14	7.00	4.20	4.76
15	7.50	4.50	6.67
16	8.00	4.70	4.26
17	8.50	4.90	4.08
18	9.00	5.00	2.00
19	9.50	5.10	1.96
20	10.00	5.20	1.92
21	10.50	5.60	7.14
22	11.00	5.70	1.75

BLANK VALUE = 5.7 micrograms carbon
BLANK FACTOR = 5.7 / 10.99701 = +5.2E-01 ug/min Carbon

Sample Run By: _____
SL HOOD 00002

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ____ TO ____

LAD 8/18/97

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

Sample: BASE 2 Date: 06/16/97 Time: 13:56:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 2
Blank Value = N/A

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.51	0.00	0.00
2	1.01	0.00	0.00
3	1.50	3.30	100.00
4	2.00	10.00	67.00
5	2.50	16.90	40.83
6	3.00	22.60	25.22
7	3.50	26.60	15.04
8	4.00	29.40	9.52
9	4.50	30.80	4.55
10	5.00	32.50	5.23
11	5.50	33.00	1.52
12	6.00	33.60	1.79
13	6.50	34.00	1.18
14	7.00	34.60	1.73
15	7.50	34.90	0.86
16	8.00	35.40	1.41
17	8.50	35.70	0.84
18	9.00	36.10	1.11
19	9.50	36.30	0.55
20	10.00	36.60	0.82
21	10.50	37.00	1.08
22	11.00	37.40	1.07

BLANK VALUE = 37.4 micrograms carbon
BLANK FACTOR = 37.4 / 10.99799 = +3.40E+00 ug/min Carbon

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

Sample Run By: _____
SL HOOD 00002

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 06/16/97 Time: 14:40:31

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 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	0.70	42.86
3	1.51	1.40	50.00
4	2.00	2.70	48.15
5	2.50	3.50	22.86
6	3.00	4.20	16.67
7	3.50	5.00	16.00
8	4.00	5.10	1.96
9	4.50	5.40	5.56
10	5.00	5.80	6.90
11	5.50	6.00	3.33
12	6.00	6.40	6.25
13	6.50	6.80	5.88
14	7.00	7.10	4.23
15	7.50	7.30	2.74
16	8.00	7.60	3.95
17	8.50	8.00	5.00
18	9.00	8.20	2.44
19	9.50	8.40	2.38
20	10.00	8.90	5.62
21	10.50	9.30	4.30
22	11.00	9.40	1.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(9.4 - 5.719397)(1)/(1) = +3.7E+00 g/L Carbon
(9.4 - 5.719397)(1)/(1)(12) = +3.1E-01 Molar Carbon

Sample Run By: _____
SL HOOD 00002

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 06/16/97 Time: 15:26:20

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	0.80	62.50
3	1.50	4.40	81.82
4	2.00	10.80	59.26
5	2.50	16.00	32.50
6	3.00	19.70	18.78
7	3.50	22.20	11.26
8	4.00	24.30	8.64
9	4.50	25.10	3.19
10	5.00	26.00	3.46
11	5.50	26.60	2.26
12	6.00	27.20	2.21
13	6.50	27.80	2.16
14	7.00	28.40	2.11
15	7.50	28.60	0.70
16	8.00	28.90	1.04
17	8.50	29.20	1.03
18	9.00	30.00	2.67
19	9.50	30.00	0.00
20	10.00	30.20	0.66
21	10.50	30.70	1.63
22	11.00	31.00	0.97

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(31 - 37.38983)(1)/(1) = < 5.00 E-3 g/L Carbon
(31 - 37.38983)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001041 Date: 06/16/97 Time: 15:44:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 ug/minute C

Analyst : SL HOOD
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	3.00	73.33
4	2.00	22.00	86.36
5	2.50	59.20	62.84
6	3.00	100.80	41.27
7	3.50	134.40	25.00
8	4.00	158.00	14.94
9	4.50	175.50	9.97
10	5.00	188.00	6.65
11	5.50	195.30	3.74
12	6.00	200.60	2.64
13	6.50	203.60	1.47
14	7.00	206.40	1.36
15	7.50	208.80	1.15
16	8.00	210.10	0.62
17	8.50	211.40	0.61
18	9.00	212.50	0.52
19	9.50	213.70	0.56
20	10.00	214.60	0.42
21	10.50	215.30	0.33
22	11.00	216.30	0.46

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(216.3 - 5.718984)(1)/(1) = +2.106E+02 g/L Carbon
(216.3 - 5.718984)(1)/(1)(12) = +1.755E+01 Molar Carbon

Sample Run By: SL HOOD 00002

SS .13739

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001041 Date: 06/16/97 Time: 15:58:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 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	1.00	1.40	57.14
3	1.50	40.30	96.53
4	2.00	188.60	78.63
5	2.50	388.80	51.49
6	3.00	604.30	35.66
7	3.50	812.30	25.61
8	4.00	956.90	15.11
9	4.50	1043.50	8.30
10	5.00	1096.90	4.87
11	5.50	1128.30	2.78
12	6.00	1145.30	1.48
13	6.50	1154.60	0.81
14	7.00	1160.40	0.50
15	7.50	1163.90	0.30
16	8.00	1167.10	0.27
17	8.50	1169.10	0.17
18	9.00	1171.00	0.16
19	9.50	1172.60	0.14
20	10.00	1173.90	0.11
21	10.50	1175.10	0.10
22	11.00	1176.40	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1176.4 - 37.39253)(1)/(1) = +1.1390E+03 g/L Carbon
(1176.4 - 37.39253)(1)/(1)(12) = +9.4917E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

86 .13735

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 DUP Date: 06/16/97 Time: 16:11:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .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	1.90	42.11
3	1.51	4.20	54.76
4	2.00	22.20	81.08
5	2.50	59.60	62.75
6	3.00	99.40	40.04
7	3.50	132.30	24.87
8	4.00	154.60	14.42
9	4.50	169.40	8.74
10	5.00	179.60	5.68
11	5.50	188.70	4.82
12	6.00	195.80	3.63
13	6.50	200.70	2.44
14	7.00	203.90	1.57
15	7.50	206.00	1.02
16	8.00	207.70	0.82
17	8.50	209.00	0.62
18	9.00	210.30	0.62
19	9.50	211.50	0.57
20	10.00	212.20	0.33
21	10.50	213.20	0.47
22	11.00	214.20	0.47

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(214.2 - 5.718445)(1)/(1) = +2.085E+02 g/L Carbon
(214.2 - 5.718445)(1)/(1)(12) = +1.737E+01 Molar Carb

Sample Run By: SL HOOD 00002

SS .1370g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 DUP Date: 06/16/97 Time: 16:24:37

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 3.4 ug/minute C % Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.51	0.80	0.00
2	1.01	2.50	68.00
3	1.51	67.80	96.31
4	2.01	259.00	73.82
5	2.50	472.40	45.17
6	3.00	656.20	28.01
7	3.50	839.80	21.86
8	4.00	994.70	15.57
9	4.50	1090.80	8.81
10	5.00	1151.00	5.23
11	5.50	1188.30	3.14
12	6.00	1209.80	1.78
13	6.50	1222.40	1.03
14	7.00	1229.80	0.60
15	7.50	1234.70	0.40
16	8.00	1238.50	0.31
17	8.50	1241.40	0.23
18	9.00	1243.50	0.17
19	9.50	1245.60	0.17
20	10.00	1247.30	0.14
21	10.50	1248.80	0.12
22	11.00	1250.10	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1250.1 - 37.39606)(1)/(1) = +1.2127E+03 g/L Carbon
(1250.1 - 37.39606)(1)/(1)(12) = +1.0106E+02 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS .13709

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 SPK Date: 06/16/97 Time: 17:07:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .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	2.20	45.45
3	1.50	8.50	74.12
4	2.00	61.00	86.07
5	2.50	155.30	60.72
6	3.00	252.20	38.42
7	3.50	329.60	23.48
8	4.00	383.20	13.99
9	4.50	418.40	8.41
10	5.00	438.80	4.65
11	5.50	449.60	2.40
12	6.00	455.20	1.23
13	6.50	458.70	0.76
14	7.00	461.20	0.54
15	7.50	462.10	0.19
16	8.00	463.40	0.28
17	8.50	464.60	0.26
18	9.00	465.10	0.11
19	9.50	465.90	0.17
20	10.00	466.80	0.19
21	10.50	467.70	0.19
22	11.00	468.00	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(468 - 5.717968)(1)/(1) = +4.623E+02 g/L Carbon
(468 - 5.717968)(1)/(1)(12) = +3.852E+01 Molar Carb

Sample Run By: SL HOOD : 00002

SS .1040g
+ .500 ml 25N12-A

L AD 7/28/97

HNF-SD-WM-DP-249, REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 SPK Date: 06/16/97 Time: 17:20:57

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.80	0.00
2	1.01	4.70	82.98
3	1.51	101.50	95.37
4	2.01	307.50	66.99
5	2.50	516.10	40.42
6	3.00	724.50	28.76
7	3.50	916.90	20.98
8	4.00	1046.90	12.42
9	4.50	1123.40	6.81
10	5.00	1172.90	4.22
11	5.50	1203.20	2.52
12	6.00	1219.80	1.36
13	6.50	1228.70	0.72
14	7.00	1234.00	0.43
15	7.50	1237.80	0.31
16	8.00	1240.90	0.25
17	8.50	1243.20	0.19
18	9.00	1245.20	0.16
19	9.50	1246.90	0.14
20	10.00	1248.50	0.13
21	10.50	1249.40	0.07
22	11.00	1250.60	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1250.6 - 37.38963)(1)/(1) = +1.2132E+03 g/L Carbon
(1250.6 - 37.38963)(1)/(1)(12) = +1.0110E+02 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS .1040g
+ .200 ml 26N12-A
Spike

LABCORE Completed Worklist Report for Worklist# 19259

Analyst: krm **Instrument:** CARB2 **Book#** 25N12B 26N12B

Method: LA342-100 Rev/Mod E-0

Worklist Comment: AW103 @TICTOC1 *RERUN*

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK		0		@TICTOC1 TIC-02	SOLID	1	4.10E+0	4.100	ug/g
1	BLNK		0		@TICTOC1 TOC-02	SOLID	1	1.70E+0	1.700	ug/g
2	STD		0		@TICTOC1 TIC-02	SOLID	6.02E+02	6.04E+2	100.332	% Recovery
2	STD		0		@TICTOC1 TOC-02	SOLID	3.00E+03	2.94E+3	98.000	% Recovery
3	SAMPLE	S97T000878	0		@TICTOC1 TIC-02	SOLID	N/A	8.92E+02	5.000	ug/g
3	SAMPLE	S97T000878	0		@TICTOC1 TOC-02	SOLID	N/A	2.47E+02	40.000	ug/g
4	DUP	S97T000878	0		@TICTOC1 TIC-02	SOLID	8.92E+2	9.03E+2	1.226	RPD
4	DUP	S97T000878	0		@TICTOC1 TOC-02	SOLID	2.47E+2	1.95E+2	23.529	RPD
5	SPK	S97T000878	0		@TICTOC1 TIC-02	SOLID	1.00E+02	9.78E+01	97.800	% Recovery
5	SPK	S97T000878	0		@TICTOC1 TOC-02	SOLID	1.00E+02	8.25E+01	82.500	% Recovery

Final page for worklist# 19259

Analyst Signature Date

7-21-97
Analyst Signature Date

RW Schroeder 7/22/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

07/10/97 15:23
A-0004-1

LABCORE Data Entry Template for Worklist# 19259

Analyst: KRM **Instrument:** CARB2 _____ **Book#** 25412B 26418B

Method: LA-342-100 Rev/Mod _____

Worklist Comment: AW103 @TICTOC1 *RERUN*

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S97T000878	0		@TICTOC1	SOLID	97000332	AW-103
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S97T000878	0		@TICTOC1	SOLID		
5	SPK	S97T000878	0		@TICTOC1	SOLID		

Final page for worklist # 19259

7-20-97

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

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

Sample: BASE2 Date: 07/19/97 Time: 21:32:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE2
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.40	100.00
3	1.00	0.70	42.86
4	1.50	1.20	41.67
5	2.00	1.40	14.29
6	2.50	1.90	26.32
7	3.00	2.40	20.83
8	3.50	2.70	11.11
9	4.00	3.10	12.90
10	4.50	3.60	13.89
11	5.00	3.90	7.69
12	5.50	4.30	9.30
13	6.00	4.80	10.42
14	6.50	5.10	5.88
15	7.00	5.50	7.27
16	7.50	5.80	5.17
17	8.00	6.20	6.45
18	8.50	6.50	4.62
19	9.00	6.80	4.41
20	9.50	7.10	4.23
21	10.00	7.40	4.05
22	10.50	7.80	5.13

BLANK VALUE = 7.8 micrograms carbon
BLANK FACTOR = 7.8 / 10.49719 = +7.4E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 846 TO 862.

Sample Run By: 7-20-97
KR MONTEITH 00000

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

Sample: BASE2 Date: 07/19/97 Time: 21:55:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE2
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.50	100.00
3	1.01	1.10	54.55
4	1.50	1.40	21.43
5	2.00	2.10	33.33
6	2.50	4.10	48.78
7	3.00	7.40	44.59
8	3.50	11.50	35.65
9	4.00	15.80	27.22
10	4.50	19.80	20.20
11	5.00	23.10	14.29
12	5.50	25.00	7.60
13	6.00	26.60	6.02
14	6.50	27.90	4.66
15	7.00	28.60	2.45
16	7.50	29.40	2.72
17	8.00	29.90	1.67
18	8.50	30.50	1.97
19	9.00	30.90	1.29
20	9.50	31.40	1.59
21	10.00	31.70	0.95
22	10.50	32.20	1.55

BLANK VALUE = 32.2 micrograms carbon
BLANK FACTOR = 32.2 / 10.4989 = +3.07E+00 ug/min Carbon

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

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 07/19/97 Time: 22:07:11

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.20	100.00
3	1.00	0.60	66.67
4	1.50	1.00	40.00
5	2.00	7.50	86.67
6	2.50	51.60	85.47
7	3.00	145.50	64.54
8	3.50	261.70	44.40
9	4.00	367.40	28.77
10	4.50	450.30	18.41
11	5.00	509.80	11.67
12	5.50	550.20	7.34
13	6.00	574.60	4.25
14	6.50	588.80	2.41
15	7.00	597.10	1.39
16	7.50	602.10	0.83
17	8.00	605.30	0.53
18	8.50	607.50	0.36
19	9.00	608.80	0.21
20	9.50	609.90	0.18
21	10.00	610.70	0.13
22	10.50	611.40	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(611.4 - 7.768555)(1)/(1000) = +6.036E-01 g/L Carbon
(611.4 - 7.768555)(1)/(1000)(12) = +5.030E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 07/19/97 Time: 22:18:29

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.08	0.00	0.00
2	0.51	0.60	100.00
3	1.01	1.20	50.00
4	1.51	1.60	25.00
5	2.00	14.40	88.89
6	2.50	102.90	86.01
7	3.00	254.80	59.62
8	3.50	392.50	35.08
9	4.00	484.70	19.02
10	4.50	540.70	10.36
11	5.00	574.60	5.90
12	5.50	593.20	3.14
13	6.00	603.10	1.64
14	6.50	606.20	0.51
15	7.00	608.50	0.38
16	7.50	610.40	0.31
17	8.00	612.30	0.31
18	8.50	613.70	0.23
19	9.00	614.90	0.20
20	9.50	616.00	0.18
21	10.00	618.20	0.36
22	10.50	619.40	0.19

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(619.4 - 32.22863)(1)/(200) = +2.936E+00 g/L Carbon
(619.4 - 32.22863)(1)/(200)(12) = +2.447E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 07/19/97 Time: 22:31:35

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.08	0.00	0.00
2	0.51	0.90	100.00
3	1.01	1.40	35.71
4	1.50	2.40	41.67
5	2.00	3.90	38.46
6	2.50	5.00	22.00
7	3.00	5.70	12.28
8	3.50	6.50	12.31
9	4.00	7.00	7.14
10	4.50	7.40	5.41
11	5.00	7.90	6.33
12	5.50	8.30	4.82
13	6.00	8.70	4.60
14	6.50	9.10	4.40
15	7.00	9.40	3.19
16	7.50	9.80	4.08
17	8.00	10.20	3.92
18	8.50	10.50	2.86
19	9.00	10.80	2.78
20	9.50	11.20	3.57
21	10.00	11.50	2.61
22	10.50	11.90	3.36

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(11.9 - 7.768465)(1)/(1) = +4.13E+00 g/L Carbon
(11.9 - 7.768465)(1)/(1)(12) = +3.44E-01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 07/19/97 Time: 22:43:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.00	0.50	100.00
4	1.51	1.00	50.00
5	2.00	4.60	78.26
6	2.50	11.00	58.18
7	3.00	16.10	31.68
8	3.50	19.90	19.10
9	4.00	22.40	11.16
10	4.50	24.10	7.05
11	5.00	25.40	5.12
12	5.50	26.20	3.05
13	6.00	26.80	2.24
14	6.50	27.30	1.83
15	7.00	27.80	1.80
16	7.50	28.30	1.77
17	8.00	28.60	1.05
18	8.50	29.20	2.05
19	9.00	29.40	0.68
20	9.50	29.80	1.34
21	10.03	30.10	1.00
22	10.53	30.50	1.31

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(30.5 - 32.33356)(1)/(1) = < 5.00 E-3 g/L Carbon
(30.5 - 32.33356)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878-2 Date: 07/19/97 Time: 22:54:50

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.01	0.40	100.00
4	1.51	0.90	55.56
5	2.00	4.40	79.55
6	2.50	16.30	73.01
7	3.00	36.30	55.10
8	3.50	60.30	39.80
9	4.00	82.50	26.91
10	4.50	99.50	17.09
11	5.00	111.30	10.60
12	5.50	118.80	6.31
13	6.00	124.00	4.19
14	6.50	126.70	2.13
15	7.00	128.70	1.55
16	7.50	129.70	0.77
17	8.00	130.50	0.61
18	8.50	131.10	0.46
19	9.00	131.70	0.46
20	9.50	132.10	0.30
21	10.00	132.50	0.30
22	10.50	132.90	0.30

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(132.9 - 7.769278)(1)/(1) = +1.251E+02 g/L Carbon
(132.9 - 7.769278)(1)/(1)(12) = +1.043E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878-2 Date: 07/19/97 Time: 23:06:02

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.01	0.50	100.00
4	1.51	1.30	61.54
5	2.01	10.50	87.62
6	2.50	26.80	60.82
7	3.00	40.20	33.33
8	3.50	49.00	17.96
9	4.00	54.30	9.76
10	4.50	57.50	5.57
11	5.00	59.80	3.85
12	5.50	61.00	1.97
13	6.00	62.10	1.77
14	6.50	62.90	1.27
15	7.00	63.50	0.94
16	7.50	64.20	1.09
17	8.00	64.70	0.77
18	8.50	65.10	0.61
19	9.00	65.60	0.76
20	9.50	66.00	0.61
21	10.00	66.50	0.75
22	10.50	66.80	0.45

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(66.8 - 32.232)(1)/(1) = +3.46E+01 g/L Carbon
(66.8 - 32.232)(1)/(1)(12) = +2.88E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878DUP-2nd Date: 07/19/97 Time: 23:08:53

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .57 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	5.60	89.29
3	1.51	22.10	74.66
4	2.01	45.10	51.00
5	2.50	65.30	30.93
6	3.00	81.00	19.38
7	3.50	92.40	12.34
8	4.00	100.20	7.78
9	4.50	105.70	5.20
10	5.00	109.00	3.03
11	5.50	111.40	2.15
12	6.00	113.20	1.59
13	6.50	114.60	1.22
14	7.00	115.60	0.87
15	7.50	116.10	0.43
16	8.00	116.50	0.34
17	8.50	117.00	0.43
18	9.00	117.30	0.26
19	9.50	117.50	0.17
20	10.00	117.80	0.25
21	10.50	118.20	0.34
22	11.00	118.50	0.25

USER INPUT BLANK VALUE
BLANK VALUE = 6.269374 micrograms carbon
BLANK FACTOR = 6.269374 / 10.9989 = +5.7E-01 ug/min Carbon

SAMPLE RESULTS:
(118.5 - 6.269444)(1)/(1) = +1.122E+02 g/L Carbon
(118.5 - 6.269444)(1)/(1)(12) = +9.353E+00 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878DUP-2 Date: 07/19/97 Time: 23:20:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
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	1.50	5.60	83.93
4	2.00	16.20	65.43
5	2.50	26.90	39.78
6	3.00	34.70	22.48
7	3.50	40.10	13.47
8	4.00	43.80	8.45
9	4.50	46.20	5.19
10	5.00	48.00	3.75
11	5.50	49.40	2.83
12	6.00	50.50	2.18
13	6.50	51.50	1.94
14	7.00	52.10	1.15
15	7.50	52.70	1.14
16	8.00	53.30	1.13
17	8.50	53.90	1.11
18	9.00	54.50	1.10
19	9.50	54.80	0.55
20	10.00	55.20	0.72
21	10.50	55.70	0.90
22	11.00	56.10	0.71

USER INPUT BLANK VALUE
BLANK VALUE = 33.76663 micrograms carbon
BLANK FACTOR = 33.76663 / 10.9989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(56.1 - 33.76625)(1)/(1) = +2.23E+01 g/L Carbon
(56.1 - 33.76625)(1)/(1)(12) = +1.86E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878SPK-2 Date: 07/19/97 Time: 23:41:11

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.70	100.00
3	1.01	1.30	46.15
4	1.51	2.20	40.91
5	2.00	16.80	86.90
6	2.50	74.00	77.30
7	3.00	159.30	53.55
8	3.50	247.80	35.71
9	4.00	318.70	22.25
10	4.50	371.30	14.17
11	5.00	407.60	8.91
12	5.50	431.40	5.52
13	6.00	446.20	3.32
14	6.50	455.70	2.08
15	7.00	461.70	1.30
16	7.50	465.20	0.75
17	8.00	467.70	0.53
18	8.50	469.20	0.32
19	9.00	470.20	0.21
20	9.50	471.10	0.19
21	10.00	471.80	0.15
22	10.50	472.40	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(472.4 - 7.769187)(1)/(1) = +4.646E+02 g/L Carbon
(472.4 - 7.769187)(1)/(1)(12) = +3.872E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878SPK-2 Date: 07/20/97 Time: 01:36:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.01	0.60	100.00
4	1.50	1.80	66.67
5	2.00	34.00	94.71
6	2.50	126.60	73.14
7	3.00	213.30	40.65
8	3.50	267.80	20.35
9	4.00	298.90	10.40
10	4.50	314.50	4.96
11	5.00	322.60	2.51
12	5.50	326.60	1.22
13	6.00	329.20	0.79
14	6.50	330.80	0.48
15	7.00	331.90	0.33
16	7.50	333.20	0.39
17	8.00	333.90	0.21
18	8.50	334.60	0.21
19	9.00	335.30	0.21
20	9.50	335.70	0.12
21	10.00	336.30	0.18
22	10.50	336.90	0.18

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(336.9 - 32.23162)(1)/(1) = +3.047E+02 g/L Carbon
(336.9 - 32.23162)(1)/(1)(12) = +2.539E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

WORKBOOK PAGE: BLANK1

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

Type	Work List	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
BLNK	19259	@TICTOC1	SOLID	97003368	0	N/A	BLANK	CARB2	RCJ	RWS	KRM	07/21/97	07/20/97	01:00 AM	AW-103

µg of Carbon = |C1-C2|

		TIC	TOC
Sample Size in g	(SS)	0.0000	0.0000
Dilution Factor	(DF)	1	1
µg of Carbon in Sample	(C1)	11.9	30.5
µg of Carbon from Baseline	(C2)	7.8	32.2

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	4.10E+00	1.70E+00

Data Entered By: RCJ Date: 07/21/97

Signature of Chemist: Date: 7/22/97

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

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

Type			TIC	TOC
STD	Sample Size in mL	(SS)	1.0000	0.2000
	Dilution Factor	(DF)	1	1
Work List	Final Coulometer Reading in µg	(C1)	611.4	619.4
19259	µg of Carbon from Baseline	(C2)	7.8	32.2
Test Code	Standard Book Number		25N12B	26N12B
@TICTOC1	Standard Value (µg/ml)		602	3000
Matrix				
LIQUID				
Batch Number				
97003368				
Rerun				
0				
Sample Prep				
N/A				
Sample #				
STANDARD				
Instrument Code				
CARB2				
Prepared By				
RCJ				
Chemist				
RWS				
Analyst				
KRM				
Date Complete				
07/21/97				
Analysis Date				
07/20/97				
Analysis Time				
01:00 AM				
Sample Point				
AW-103				

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
Method Detection Limit in µg/mL	5	40
QC Actual in µg/mL	6.02E+02	3.00E+03
QC Found in µg/mL	6.04E+02	2.94E+03
Percent Standard Recovery	100.3	97.9

Data Entered By: RCJ Date: 07/21/97

Signature of Chemist: RW Schroeder Date: 7/22/97

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

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

Type	Sample Size in g	(SS)	TIC	TOC
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	132.9	66.8
19259	µg of Carbon from Baseline	(C2)	7.6	32.2
Test Code				
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97003368				
Rerun				
0				
Sample Prep				
N/A				
Sample #				
S97T000878				
Instrument Code				
CARB2				
Prepared By				
RCJ				
Chemist				
RWS				
Analyst				
KRM				
Date Complete				
07/21/97				
Analysis Date				
07/20/97				
Analysis Time				
01:00 AM				
Sample Point				
AW-103				

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	8.92E+02	2.47E+02

Data Entered By:	RCJ	Date:	07/21/97
Signature of Chemist:	RWS Schroeder	Date:	7/22/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: DUP4

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

Type	Work List	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
DUP	19259	@TICTOC1	SOLID	97003368	0	N/A	S97T000878	CARB2	RCJ	RWS	KRM	07/21/97	07/20/97	01:00 AM	AW-103

		TIC	TOC
Sample Size in g	(SS)	0.1226	0.1226
Dilution Factor	(DF)	1	1
µg of Carbon in Sample	(C1)	118.5	56.1
µg of Carbon from Baseline	(C2)	7.8	32.2
Known µg of C from Original Sample		8.92E+2	2.47E+2

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	9.03E+02	1.95E+02

Data Entered By:	RCJ	Date:	07/21/97
Signature of Chemist:	RW Edmonds	Date:	7/22/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SPIKE5

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

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1402	0.1402
Work List	Final Coulometer Reading in µg	(C1)	132.9	66.8
19259	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.1877	0.1877
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	472.4	336.9
SOLID	Spike Book Number		25N12B	26N12B
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
97003368				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 10**			
S97T000878				
Instrument Code	**QC Actual in µg/mL = Spike Value (µg/mL)**			
CARB2	**QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100**			
Prepared By				
RCJ				
Chemist				
RWS				
Analyst				
KRM				
Date Complete				
07/21/97				
Analysis Date				
07/20/97				
Analysis Time			TIC	TOC
01:00 AM	**QC Actual in µg/mL**		6.02E+02	3.00E+03
Sample Point	**QC Found in µg/mL**		5.89E+02	2.47E+03
AW-103	**Percent Spike Recovery**		97.8	82.5

Data Entered By:	RCJ	Date:	07/21/97
Signature of Chemist:	RWSchroeder	Date:	7/22/97

SPIKE.WB1 REV 1.1 342100ML

RADIOCHEMICAL ANALYSIS

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LABCORE Completed Worklist Report for Worklist# 18397

Analyst: slh **Instrument:** AB15 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcl

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.60E-4	80.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.72E+00	3.720	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	<4.15E-3		uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.03E+02	303.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	5.56E+00	5.560	BLNK/BKG
4	SAMPLE	S97T001001	0	F	@ALPHA01 ALPHA01	SOLID	N/A	5.69E-01	4.17e-003	uCi/g
4	SAMPLE	S97T001001	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	6.42E+00		% Ct. Error
5	DUP	S97T001001	0	F	@ALPHA01 ALPHA01	SOLID	5.69E-1	5.43E-1	4.676	RPD
5	DUP	S97T001001	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	6.43E+00	6.430	% Ct. Erro
6	SAMPLE	S97T001002	0	F	@ALPHA01 ALPHA01	SOLID	N/A	9.11E-02	8.28e-003	uCi/g
6	SAMPLE	S97T001002	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	2.30E+01		% Ct. Error
7	DUP	S97T001002	0	F	@ALPHA01 ALPHA01	SOLID	9.11E-2	8.90E-2	2.332	RPD
7	DUP	S97T001002	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	2.35E+01	23.500	% Ct. Erro
8	SPK	S97T001002	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.45E-02	93.156	% Recovery

Final page for worklist# 18397

Analyst Signature **Date**

Analyst Signature **Date**

6/3/97
Reviewer Signature **Date**

The BLNK value is insignificant compared to the sample results.

6/3/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18397

Analyst: SLH **Instrument:** AB00 15 **Book#** 79 B56

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcl

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	S97T001001	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S97T001001	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001002	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S97T001002	0	F	@ALPHA01	SOLID		
8	SPK	S97T001002	0	F	@ALPHA01	SOLID		

Final page for worklist # 18397

Sandra Ethred Boatright
Analyst Signature Date 6-1-97

Susie E. Hogan 6-2-97
Analyst Signature Date 6/2/97
C.J. Opinion 6/2/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2779	2971
18397	COUNT TIME in MINUTES	(CT)	30	30
A Total B?	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		92.603	99.003
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002444	Concentration in µCi/L	=	1.54E-01	
Rerun #	Replicate Concentration in µCi/L	=	1.65E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5977E-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)
WL18397	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
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SEH	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/01/97	
Analysis Time	
10:45 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.60E-04	
			3.97E-07 µCi/mL
RELATIVE COUNTING ERROR	=	3.7%	

Analyst:	SEH	Date: 02-Jun-97
Signature of Chemist:	SLF	Date: 6/3/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	2
18397	COUNT TIME in MINUTES	(CT)	30	30
AT or TBY	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0948	2.0948
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.237	0.130

Batch Number			
97002444	Blank Concentration in µCi/g		4.15E-03
Rerun	Replicate Concentration in µCi/g	<	2.28E-03
0	Maximum Concentration in µCi/g	<	4.1451E-03

Sample Prep: N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: WL18397

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code: WB26872

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: SEH

Chemist: SLF

ALPHA TOTAL in µCi/g (Maximum)	=	< 4.15E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rs.			4.17E-03 µCi/g
RELATIVE COUNTING ERROR		303.4%	

Analyst: SLH

Date Complete: 06/02/97

Analysis Date: 06/01/97

Analysis Time: 10:45 PM

Sample Point: AW-103

Analyst:	SLH		Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type:	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	1017	934
18397	COUNT TIME in MINUTES	(CT)	30	30
AT or LB ?:	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0948	2.0948
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		33.870	31.103

Batch Number:		
97002444	Blank Concentration in µCi/g	5.93E-01
Rerun:	Replicate Concentration in µCi/g	5.45E-01
0	Average Concentration in µCi/g	5.6899E-01

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001001

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB26872

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:
SEH

Chemist:
SLF

ALPHA TOTAL in µCi/g (Average)	=	5.69E-01	DETECTION LEVEL
			4.17E-03 µCi/g
RELATIVE COUNTING ERROR		6.4%	

Analyst:
SLH

Date Complete:
06/02/97

Analysis Date:
06/01/97

Analysis Time:
10:45 PM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst:	SLH	Date: 02-Jun-97
Signature of Chemist:	SLF	Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

SLF 6/3/97

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type:	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	15	15
Work List:	GROSS COUNTS	(GC)	2	2
18397	COUNT TIME in MINUTES	(CT)	931	941
AT or AT Bz:	BACKGROUND in cpm	(BKG)	30	30
AT	SAMPLE SIZE in mL	(SS)	0.03	0.03
Test Code:	DILUTION FACTOR	(DF)	0.500	0.500
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	11	11
Matrix:	EFFICIENCY FACTOR	(EFF)	2.1076	2.1076
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.2701	0.2701
Batch Number:			31.003	31.337

97002444	Blank Concentration in µCi/g	5.40E-01
Rerun:	Replicate Concentration in µCi/g	5.46E-01
0	Average Concentration in µCi/g	5.4262E-01

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001001

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB26872

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:
SEH

Chemist:
SLF

ALPHA TOTAL in µCi/g (Average) =	5.43E-01	DETECTION LEVEL
		4.15E-03 µCi/g
RELATIVE COUNTING ERROR	6.4%	

Analyst:
SLH

Date Completed:
06/02/97

Analysis Date:
06/01/97

Analysis Time:
10:45 PM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst:	SLH		Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	84	75
18397	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1108	2.1108
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.770	2.470

Batch Number		
97002444	Blank Concentration in µCi/g	9.63E-02
Rerun	Replicate Concentration in µCi/g	8.59E-02
0	Average Concentration in µCi/g	9.1081E-02

Sample Prep
FUSION01
Sample #
S97T001002
Instrument Code
WB26872
Prepared By
SEH
Chemist
SLF
Analyst
SLH
Date Complete
06/02/97
Analysis Date
06/01/97
Analysis Time
10:45 PM
Sample Point
AW-103

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) =	9.11E-02	
		8.28E-03
RELATIVE COUNTING ERROR	23.0%	µCi/g

{/ system;exit}yes~

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	15	15
Work List	GROSS COUNTS	(GC)	2	2
18397	COUNT TIME in MINUTES	(CT)	72	80
AT or TB?	BACKGROUND in cpm	(BKG)	30	30
AT	SAMPLE SIZE in mL	(SS)	0.03	0.03
Test Code	DILUTION FACTOR	(DF)	0.250	0.250
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	11	11
Matrix	EFFICIENCY FACTOR	(EFF)	2.0648	2.0648
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.2701	0.2701
Batch Number			2.370	2.637
97002444	Blank Concentration in µCi/g		8.42E-02	
Rerun	Replicate Concentration in µCi/g		9.37E-02	
0	Average Concentration in µCi/g		8.8964E-02	

Sample Prep: FUSION01

Sample #: S97T001002

Instrument Code: WB26872

Prepared By: SEH

Chemist: SLF

Analyst: SLH

Date Complete: 06/02/97

Analysis Date: 06/01/97

Analysis Time: 10:45 PM

Sample Point: AW-103

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)	=	8.90E-02	
RELATIVE COUNTING ERROR		23.5%	8.47E-03 µCi/g

{/ system;exit}yes~

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

			SPIKE	REPLICATE
Type:	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List:	TOTAL COUNTS	(TC)	40588	47601
18397	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)	0.250	0.250
Test Code:	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1108	2.1108
Matrix:	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number:	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002444	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
Rerun:	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
0	SAMPLE + SPIKE µCi/g	(S+S)	4.70E+01	5.52E+01
Sample Prep:	AVERAGE or MAXIMUM µCi/g in SAMPLE		9.1081E-02	
FUSION01				
Sample #:				
S97T001002	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code:	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB26872	QC ACTUAL = SVal			
Prepared By:	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist:				
SLF				
Analyst:				
SLH				
Date Complete:				
06/02/97				
Analysis Date:				
06/01/97	QC ACTUAL	=	2.63E-02	
Analysis Time:	QC FOUND	=	2.45E-02	
10:45 PM	AVG. PERCENT SPIKE RECOVERY	=	93.1%	
Sample Point:				
AW-103				

Analyst:	SEH	Date: 02-Jun-97
Signature of Chemist:	SLF	Date: 6/3/97

SPIKE.WB1 Rev. 1.0 508101ML

The RPD for the SPK + SPK/Dup is slightly elevated. This is due to the solids on the mount causing an inconsistent geometry. No rerun requested.

6/3/97

LABCORE Completed RadChem Report for Worklist#: 18399

Analyst: slh **Instrument:** AB20 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01 SOLID	2.00E-04	1.61E-4	80.500	% Recovery
1	STD		0		@ALPHA01	ALPHA01E SOLID	1.00	3.39E+00	3.390	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01	ALPHA01 SOLID	1	<1.12E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG		0		@ALPHA01	ALPHA01 SOLID	1.00E+00	8.97E-01	0.897	BLNK/BKG
4	SAMPLE	S97T001061	0	F	@ALPHA01	ALPHA01 SOLID	N/A	4.87E-01	282.0e-005	uCi/g
4	SAMPLE	S97T001061	0	F	@ALPHA01	ALPHA01E SOLID	N/A	4.37E+00	0.0e+000	% Ct. Error
5	DUP	S97T001061	0	F	@ALPHA01	ALPHA01 SOLID	4.87E-1	5.28E-1	8.079 RPD	
5	DUP	S97T001061	0	F	@ALPHA01	ALPHA01E SOLID	1.00	4.36E+00	4.360	% Ct. Erro
6	SPK	S97T001061	0	F	@ALPHA01	ALPHA01 SOLID	2.63E-02	2.07E-02	78.707	% Recovery

Final page for worklist# 18399

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/3/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/01/97 11:05
A-0004-1

LABCORE Data Entry Template for Worklist# 18399

Analyst: SLH **Instrument:** AB00 20 **Book#** 79856

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcm

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	S97T001061	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001061	0	F	@ALPHA01	SOLID		
6	SPK	S97T001061	0	F	@ALPHA01	SOLID		

Final page for worklist # 18399

Sandra L Hood Boatright
Analyst Signature Date
6-2-97

C.L. Quinn 6/2/97
Analyst Signature Date
Sylvia L Chiang 6/2/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		20	20
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18399	GROSS COUNTS	(GC)	3464	3352
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		115.337	111.603
97002446	Standard Value in µCi/mL		2.00E-04	
Rerun	Concentration in µCi/L	=	1.64E-01	
0	Replicate Concentration in µCi/L	=	1.58E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.6109E-01	

N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)
WL18399	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
WC16101	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/02/97	
Analysis Time	
04:50 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.61E-04	
			5.65E-07 µCi/mL
RELATIVE COUNTING ERROR	=	3.4%	

Analyst:		CJO	Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		20	20
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3	4
18399	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)	2.0028	2.0028
Matrix	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.154	0.158

Batch Number			
97002446	Blank Concentration in µCi/g	<	1.09E-03
Rerun	Replicate Concentration in µCi/g	<	1.12E-03
0	Maximum Concentration in µCi/g	<	1.1194E-03

Sample Prep
N/A

Sample #
WL18399

Instrument Code
WC16101

Prepared By
CJO

Chemist
SLF

Analyst
SLH

Date Complete
06/02/97

Analysis Date
06/02/97

Analysis Time
04:50 AM

Sample Point
AW-103

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)	=	< 1.12E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				2.82E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2108	2021
18399	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)	2.0028	2.0028
Matrix	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		70.137	67.237

Batch Number		
97002446	Blank Concentration in µCi/g	4.97E-01
Rerun	Replicate Concentration in µCi/g	4.77E-01
0	Average Concentration in µCi/g	4.8687E-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)
S97T001061	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WC16101	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/02/97	
Analysis Time	
04:50 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	4.87E-01	
RELATIVE COUNTING ERROR		4.4%	2.82E-03 µCi/g

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		20	20
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2429	2028
18399	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)	1.9924	1.9924
Matrix	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		80.837	67.470

Batch Number		
97002446	Blank Concentration in µCi/g	5.76E-01
Rerun	Replicate Concentration in µCi/g	4.81E-01
0	Average Concentration in µCi/g	5.2836E-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)
S97T001061	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WC16101	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/02/97	
Analysis Time	
04:50 AM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g (Average)	=	5.28E-01	DETECTION LEVEL
			2.83E-03 µCi/g
RELATIVE COUNTING ERROR		4.4%	

Analyst:		SLH	Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

The RPD for the dup + Dup/REP is slightly elevated. This is likely due to inconsistent geometry which can occur during drying. No rerun requested.

6/3/97

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type			SPIKE	REPLICATE
SPK	DETECTOR NUMBER		20	20
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
18399	TOTAL COUNTS	(TC)	45598	45896
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.13	0.13
Test Code	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
@ALPHA01	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0028	2.0028
SOLID	SPIKE VOLUME in mL	(SVol)	0.100	0.100
Batch Number	SPIKE DILUTION FACTOR	(SDF)	1	1
97002446	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
Rerun	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
0	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
Sample Prep	SAMPLE + SPIKE µCi/g	(S+S)	1.08E+01	1.08E+01
FUSION01	AVERAGE or MAXIMUM µCi/g in SAMPLE		4.8687E-01	
Sample #				
S97T001061	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WC16101	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				
SLH				
Date Complete				
06/02/97				
Analysis Date				
06/02/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	2.07E-02	
04:50 AM	AVG. PERCENT SPIKE RECOVERY	=	78.6%	
Sample Point				
AW-103				

Analyst:		CJO	Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18425

Analyst: smf **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std= 1.0mL, Spk= 0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	LIQUID	2.00E-04	1.52E-4	76.000	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	LIQUID	1.00	3.78E+00	3.780	% Ct. Erro
2	BLNK		0		@ALPHA01 ALPHA01	LIQUID	1	<9.04E-4		uCi/mL
2	BLNK		0		@ALPHA01 ALPHA01E	LIQUID	1.00	1.80E+02	180.000	uCi/mL
3	BLNK/BKG		0		@ALPHA01 ALPHA01	LIQUID	1.00E+00	3.33E+00	3.330	BLNK/BKG
4	SAMPLE	S97T001079	0		@ALPHA01 ALPHA01	LIQUID	N/A <	7.41E-04	118.0e-005	uCi/mL
4	SAMPLE	S97T001079	0		@ALPHA01 ALPHA01E	LIQUID	N/A	2.55E+02	0.0e+000	% Ct. Error
5	DUP	S97T001079	0		@ALPHA01 ALPHA01	LIQUID	<7.41E-4	<9.04E-4		RPD
5	DUP	S97T001079	0		@ALPHA01 ALPHA01E	LIQUID	1.00	1.80E+02	180.000	% Ct. Erro
6	SPK	S97T001079	0		@ALPHA01 ALPHA01	LIQUID	2.63E-02	2.18E-02	82.890	% Recovery

Final page for worklist# 18425

Analyst Signature **Date** **Analyst Signature** **Date**

6/5/97

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18425

Analyst: SMF **Instrument:** AB00 14 **Book#** 79B56

Method: LA-508-101 Rev/Mod C-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std= 1.0mL, Spk= 0.1mL 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	S97T001079	0		@ALPHA01	LIQUID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001079	0		@ALPHA01	LIQUID		
6	SPK	S97T001079	0		@ALPHA01	LIQUID		

Final page for worklist # 18425

Susie M. Sulton 6-4-97
Analyst Signature **Date**

Lee E. Hogan 6-5-97
Analyst Signature **Date**

MB 6/5/97

Data Entry Comments: A Spk # 131B43, .100 ml

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		14	14
	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2759	2698
18425	COUNT TIME in MINUTES	(CT)	30	30
A Ton TBY	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		91.897	89.863
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002473	Concentration in µCi/L	=	1.54E-01	
Rerun	Replicate Concentration in µCi/L	=	1.50E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5207E-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)
WL18425	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	
SEH	
Chemist	
SLF	
Analyst	
SMF	
Date Complete	
06/05/97	
Analysis Date	
06/04/97	
Analysis Time	
03:00 AM	
Sample Point	
AW-103	

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.52E-04	DETECTION LEVEL	
RELATIVE COUNTING ERROR	=	3.8%	5.29E-07	µCi/mL

Analyst:		SEH	Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/5/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

Type			BLNK	REPLICATE
BLNK	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18425	GROSS COUNTS	(GC)	9	5
A Tor TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.230	0.243
97002473				

97002473	Blank Concentration in µCi/L		8.55E-01
Rerun	Replicate Concentration in µCi/L	<	9.04E-01
0	Maximum Concentration in µCi/L	<	9.0430E-01

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)
WL18425	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	
SEH	
Chemist	
SLF	
Analyst	
SMF	
Date Complete	
06/05/97	
Analysis Date	
06/04/97	
Analysis Time	
03:00 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum)	=	< 9.04E-04	
LESS THAN Value was Determined from Rs.			1.18E-03 µCi/mL
RELATIVE COUNTING ERROR		180.1%	

Analyst:	SMF	Date: 05-Jun-97	
Signature of Chemist:	SLF	Date: 6/5/97	

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18425	GROSS COUNTS	(GC)	7	4
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.163	0.199
97002473	Blank Concentration in µCi/L		6.07E-01	
Rerun	Replicate Concentration in µCi/L	<	7.41E-01	
0	Maximum Concentration in µCi/L	<	7.4054E-01	

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)
S97T001079	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	
SEH	
Chemist	
SLF	
Analyst	
SMF	
Date Complete	
06/05/97	
Analysis Date	
06/04/97	
Analysis Time	
03:00 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum)	=	< 7.41E-04	
LESS THAN Value was Determined from Rs.			1.18E-03 µCi/mL
RELATIVE COUNTING ERROR		254.8%	

{/ system;exit}yes~

Analyst:		SMF	Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/5/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) LIQUIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18425	GROSS COUNTS	(GC)	6	5
AT or LB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.130	0.243

97002473	Blank Concentration in µCi/L		4.83E-01
Rerun	Replicate Concentration in µCi/L	<	9.04E-01
0	Maximum Concentration in µCi/L	<	9.0430E-01

Sample Prep: N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: S97T001079

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Instrument Code: WB27807

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: SEH

Chemist: SLF

ALPHA TOTAL in µCi/mL	(Maximum)	=	< 9.04E-04	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				1.18E-03 µCi/mL
RELATIVE COUNTING ERROR			180.1%	

Analyst: SMF

Date Completed: 06/05/97

Analysis Date: 06/04/97

Analysis Time: 03:00 AM

Sample Point: AW-103

{/ system;exit}yes~

Analyst:	SMF	Date:	05-Jun-97
Signature of Chemist:	SLF	Date:	6/5/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type				SPIKE	REPLICATE
SPK	DISH SIZE 1 , 2 , or 5		(MS)	2	2
Work List	TOTAL COUNTS		(TC)	39617	38476
18425	COUNT TIME in MINUTES		(CT)	30	30
A or TB?	BACKGROUND in cpm		(BKG)	0.07	0.07
AT	SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1111	1111
@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)	131B43	131B43
97002473	SPIKE VALUE in µCi/mL		(SVal)	2.6292E-02	2.6292E-02
Rerun #	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2692	0.2692
0	SAMPLE + SPIKE µCi/mL		(S+S)	4.91E+00	4.77E+00
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE		<	7.4054E-04	
N/A					
Sample #					
S97T001079	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))))				
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100				
Chemist					
SLF					
Analyst					
SMF					
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.				
06/05/97					
Analysis Date					
06/04/97	QC ACTUAL		=	2.63E-02	
Analysis Time	QC FOUND		=	2.18E-02	
03:00 AM	AVG. PERCENT SPIKE RECOVERY		=	82.8%	
Sample Point					
AW-103					

Analyst:		SEH	Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/5/97

SPIKE.WB1 Rev. 1.0 508101ML

worklistdata Version 1.0 05/15/96
06/06/97 08:54

LABCORE Completed Worklist Report for Worklist# 18446

Analyst: smf **Instrument:** AB15 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: For 1059 use .1 mL for 1060 use 1-10-.5 mL. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.64E-4	82.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.73E+00	3.730	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	1.59E-3	0.002	uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	1.21E+02	121.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	3.81E+00	3.810	BLNK/BKG
4	SAMPLE	S97T001059	0	F	@ALPHA01 ALPHA01	SOLID	N/A	4.56E-02	2.55e-003	uCi/g
4	SAMPLE	S97T001059	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	1.60E+01		% Ct. Error
5	DUP	S97T001059	0	F	@ALPHA01 ALPHA01	SOLID	4.56E-2	5.80E-2	23.938	RPD
5	DUP	S97T001059	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.43E+01	14.300	% Ct. Erro
6	SAMPLE	S97T001060	0	F	@ALPHA01 ALPHA01	SOLID	N/A	7.21E-01	5.61e-003	uCi/g
6	SAMPLE	S97T001060	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	5.65E+00		% Ct. Error
7	DUP	S97T001060	0	F	@ALPHA01 ALPHA01	SOLID	7.21E-1	7.92E-1	9.385	RPD
7	DUP	S97T001060	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	5.72E+00	5.720	% Ct. Erro
8	SPK	S97T001060	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	1.71E-02	65.019	% Recovery

Final page for worklist# 18446

Analyst Signature **Date**

Analyst Signature **Date**

6/10/97

Reviewer Signature **Date**

The RPD is acceptable due to low alpha activity. The SPK recovery is consistent with the 1st run. No further reruns requested (SPK recovery low due to matrix interference).

6/10/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/03/97 11:49
A-0004-1

LABCORE Data Entry Template for Worklist# 18446

Analyst: SMF **Instrument:** AB00 15 **Book#** 79/356

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: For 1059 use .1 mL for 1060 use 1-10-.5 mL. 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	S97T001059	0	F	@ALPHA01	SOLID	97000333	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S97T001059	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001060	0	F	@ALPHA01	SOLID	97000333	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S97T001060	0	F	@ALPHA01	SOLID		
8	SPK	S97T001060	0	F	@ALPHA01	SOLID		

Final page for worklist # 18446

Susie M. Dalton 6-5-97
Analyst Signature **Date**

Susie E. Hogan 6-6-97
Analyst Signature **Date**

C.J. Quinn 6/6/97

Data Entry Comments: A Spike # 131B43, .100ml

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18446	GROSS COUNTS	(GC)	2769	3146
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		92.230	104.797
97002493	Standard Value in µCi/mL		2.00E-04	
Rerun	Concentration in µCi/L	=	1.54E-01	
0	Replicate Concentration in µCi/L	=	1.75E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.6429E-01	

N/A

Sample #

WL18446

Instrument Code

WB26872

Prepared By

SEH

Chemist

SLF

Analyst

SMF

Date Complete

06/05/97

Analysis Date

06/05/97

Analysis Time

10:00 PM

Sample Point

AW-103

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	=	1.64E-04	
RELATIVE COUNTING ERROR	=	3.7%	5.27E-07 µCi/mL

Analyst: SEH Date: 05-Jun-97

Signature of Chemist: SLF Date:

STANDARD.WB1 Rev. 1.0 508101ML

The RPD for the STD + STD/REP is slightly elevated however sample data for this run are consistent with the 1st run (considering the decreased sample size). No rerun requested.

6/10/97

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

			BLNK-PREP	REPLICATE
Prep Type	DETECTOR NUMBER		15	15
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	7
18446	COUNT TIME in MINUTES	(CT)	30	30
AT or TBP	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)	2.0692	2.0692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.230	0.163

Batch Number		
97002493	Blank Concentration in µCi/g	1.85E-03
Rerun	Replicate Concentration in µCi/g	1.32E-03
0	Average Concentration in µCi/g	1.5851E-03

Sample Prep
N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
WL18446

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB26872

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
SEH

Chemist
SLF

Analyst	ALPHA TOTAL in µCi/g (Average)	=	1.59E-03	DETECTION LEVEL
SMF				2.55E-03 µCi/g
Date Complete	RELATIVE COUNTING ERROR		120.7%	
06/05/97				

Analysis Date
06/05/97

Analysis Time
10:00 PM

Sample Point
AW-103

Analyst:	SMF		Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type:	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	156	188
18446	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?:	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)	2.0692	2.0692
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.130	6.197

Batch Number:		
97002493	Blank Concentration in µCi/g	4.13E-02
Rerun:	Replicate Concentration in µCi/g	4.99E-02
1	Average Concentration in µCi/g	4.5645E-02

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001059

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB26872

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:
SEH

Chemist:
SLF

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	4.56E-02	
Analyst:			
SMF			2.55E-03
Date Complete:			
06/05/97	RELATIVE COUNTING ERROR	16.0%	µCi/g

Analysis Date:
06/05/97

Analysis Time:
10:00 PM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst:	SMF		Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type		DUP	REPLICATE
DUP	DETECTOR NUMBER	15	15
WorkList	DISH SIZE (1 , 2 , or 5) (MS)	2	2
18446	GROSS COUNTS (GC)	195	239
AT or LB?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL (SS)	0.100	0.100
@ALPHA01	DILUTION FACTOR (DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0612	2.0612
SOLID	EFFICIENCY FACTOR (EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	6.430	7.897
97002493			
Rerun	Blank Concentration in µCi/g	5.20E-02	
1	Replicate Concentration in µCi/g	6.39E-02	
Sample Prep	Average Concentration in µCi/g	5.7959E-02	
FUSION01			
Sample #			
S97T001059			
Instrument Code			
WB26872			
Prepared By			
SEH			
Chemist			
SLF			
Analyst			
SMF			
Date Complete			
06/05/97			
Analysis Date			
06/05/97			
Analysis Time			
10:00 PM			
Sample Point			
AW-103			

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) =	5.80E-02	
RELATIVE COUNTING ERROR	14.3%	2.56E-03 µCi/g

{/ system;exit}yes~

Analyst: SMF Date: 05-Jun-97

Signature of Chemist: SLF Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18446	GROSS COUNTS	(GC)	1210	1232
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.068	2.068
SOLID	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		40.263	40.997

Batch Number		
97002493	Blank Concentration in µCi/g	7.14E-01
Rerun	Replicate Concentration in µCi/g	7.27E-01
1	Average Concentration in µCi/g	7.2084E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001060

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB26872

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average) =	7.21E-01	DETECTION LEVEL
		5.61E-03
RELATIVE COUNTING ERROR	5.6%	µCi/g

Analyst
SMF

Date Complete
06/05/97

Analysis Date
06/05/97

Analysis Time
10:00 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst:	SMF	Date:	05-Jun-97
Signature of Chemist:	SLF	Date:	6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18446	GROSS COUNTS	(GC)	1180	1403
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.992	1.992
SOLID	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		39.263	46.697

97002493	Blank Concentration in µCi/g	7.23E-01
Rerun	Replicate Concentration in µCi/g	8.60E-01
1	Average Concentration in µCi/g	7.9163E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001060

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB26872

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
SEH

Chemist
SLF

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	7.92E-01	
RELATIVE COUNTING ERROR		5.7%	5.82E-03 µCi/g

Analyst
SMF

Date Complete
06/05/97

Analysis Date
06/05/97

Analysis Time
10:00 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst: SMF Date: 05-Jun-97

Signature of Chemist: SLF Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type	DETECTOR NUMBER		SPIKE	REPLICATE
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34973	28930
18446	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)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.068	2.068
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002493	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
1	SAMPLE + SPIKE µCi/g	(S+S)	2.07E+01	1.71E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		7.2084E-01	
FUSION01				

Sample #
S97T001060
Instrument Code
WB26872
Prepared By
SEH
Chemist
SLF
Analyst
SMF
Date Complete
06/05/97
Analysis Date
06/05/97
Analysis Time
10:00 PM
Sample Point
AW-103

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	=	2.63E-02
QC FOUND	=	1.71E-02
AVG. PERCENT SPIKE RECOVERY	=	65.0%

Analyst:	SEH		Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed Worklist Report for Worklist# 18447

Analyst: knt **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: For 999 use .1 mL, for 1000 use 1-10-.5 mL. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.80E-4	90.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.46E+00	3.460	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	2.47E-3	0.002	uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	1.21E+02	121.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	5.24E+00	5.240	BLNK/BKG
4	SAMPLE	S97T000999	0	F	@ALPHA01 ALPHA01	SOLID	N/A	2.03E-01	2.63e-003	uCi/g
4	SAMPLE	S97T000999	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	7.37E+00		% Ct. Error
5	DUP	S97T000999	0	F	@ALPHA01 ALPHA01	SOLID	2.03E-1	1.84E-1	9.819	RPD
5	DUP	S97T000999	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.70E+00	7.700	% Ct. Erro
6	SAMPLE	S97T001000	0	F	@ALPHA01 ALPHA01	SOLID	N/A	4.00E-01	5.75e-003	uCi/g
6	SAMPLE	S97T001000	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	7.78E+00		% Ct. Error
7	DUP	S97T001000	0	F	@ALPHA01 ALPHA01	SOLID	4.00E-1	4.10E-1	2.469	RPD
7	DUP	S97T001000	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.66E+00	7.660	% Ct. Erro
8	SPK	S97T001000	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	1.93E-02	73.384	% Recovery

Final page for worklist# 18447

Analyst Signature **Date**

Analyst Signature **Date**

6/10/97
Reviewer Signature **Date**

The BLNK value is acceptable.
SPK recovery is low due to sample matrix interference (decreasing sample size from 1st run increased SPK recovery ~ 20%). No further reruns requested - decreasing sample size further would have a negative impact on sample results.

6/10/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18447

Analyst: KNT **Instrument:** AB00 14 **Book#** 79856

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: For 999 use .1 mL, for 1000 use 1-10-.5 mL. 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	S97T000999	0	F	@ALPHA01	SOLID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T000999	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001000	0	F	@ALPHA01	SOLID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S97T001000	0	F	@ALPHA01	SOLID		
8	SPK	S97T001000	0	F	@ALPHA01	SOLID		

Final page for worklist # 18447

Kim Thomas 6-5-97
Analyst Signature **Date**

Sue E. Hogan 6-6-97
Analyst Signature **Date**

C.J. Quinn 6/6/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		14	14
Work List #	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18447	GROSS COUNTS	(GC)	3258	3210
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.530	106.930
97002494	Standard Value in µCi/mL		2.00E-04	
Rerun #	Concentration in µCi/L	=	1.82E-01	
0	Replicate Concentration in µCi/L	=	1.79E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.8026E-01	
N/A				
Sample #				
WL18447				
Instrument Code				
WB27807				
Prepared By				
SEH				
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
06/06/97				
Analysis Date				
06/05/97				
Analysis Time				
05:30 PM				
Sample Point				
AW-103				

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	=	1.80E-04	
RELATIVE COUNTING ERROR	=	3.5%	5.29E-07 µCi/mL

Analyst:	SEH	Date: 06-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) 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)	15	7
18447	COUNT TIME in MINUTES	(CT)	30	30
AT or LB7	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)	2.0088	2.0088
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.430	0.163
Batch Number				
97002494	Blank Concentration in µCi/g		3.58E-03	
Rerun	Replicate Concentration in µCi/g		1.36E-03	
0	Average Concentration in µCi/g		2.4712E-03	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
WL18447	
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	
SEH	
Chemist	
SLF	
Analyst	
KNT	
Date Complete	
06/06/97	
Analysis Date	
06/05/97	
Analysis Time	
05:30 PM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g (Average)	=	2.47E-03	DETECTION LEVEL	
RELATIVE COUNTING ERROR		120.7%	2.63E-03	µCi/g

Analyst:	KNT	Date:	06-Jun-97
Signature of Chemist:	SLF	Date:	6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	713	757
18447	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)	2.0088	2.0088
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		23.697	25.163

Batch Number		
97002494	Blank Concentration in µCi/g	1.97E-01
Rerun	Replicate Concentration in µCi/g	2.10E-01
1	Average Concentration in µCi/g	2.0350E-01

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Sample #: S97T000999

Instrument Code: WB27807

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: SEH

Chemist: SLF

ALPHA TOTAL in µCi/g (Average) =	2.03E-01	DETECTION LEVEL
		2.63E-03
RELATIVE COUNTING ERROR	7.4%	µCi/g

Analyst: KNT

Date Complete: 06/06/97

Analysis Date: 06/05/97

Analysis Time: 05:30 PM

Sample Point: AW-103

{/ system;exit}yes~

Analyst:	KNT		Date: 06-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18447	GROSS COUNTS	(GC)	696	655
AT or LB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.100	0.100
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0376	2.0376
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		23.130	21.763
97002494				
Rerun	Blank Concentration in µCi/g		1.90E-01	
1	Replicate Concentration in µCi/g		1.79E-01	
Sample Prep	Average Concentration in µCi/g		1.8433E-01	
FUSION01				
Sample #				
S97T000999				
Instrument Code				
WB27807				
Prepared By				
SEH				
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
06/06/97				
Analysis Date				
06/05/97				
Analysis Time				
05:30 PM				
Sample Point				
AW-103				

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)	=	1.84E-01	
			2.60E-03 µCi/g
RELATIVE COUNTING ERROR		7.7%	

{/ system;exit}yes~

Analyst:	KNT	Date: 06-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

Type #	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List #	GROSS COUNTS	(GC)	681	641
18447	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0236	2.0236
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		22.630	21.297

Batch Number		
97002494	Blank Concentration in µCi/g	4.12E-01
Rerun #	Replicate Concentration in µCi/g	3.87E-01
1	Average Concentration in µCi/g	3.9955E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001000

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	4.00E-01	DETECTION LEVEL
			5.75E-03
RELATIVE COUNTING ERROR		7.8%	µCi/g

Analyst
KNT

Date Complete
06/06/97

Analysis Date
06/05/97

Analysis Time
05:30 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst: KNT Date: 06-Jun-97

Signature of Chemist: SLF Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18447	GROSS COUNTS	(GC)	695	661
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0244	2.0244
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE		23.097	21.963

97002494	Blank Concentration in µCi/g	4.20E-01
Rerun	Replicate Concentration in µCi/g	3.99E-01
1	Average Concentration in µCi/g	4.0969E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001000

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	4.10E-01	DETECTION LEVEL
			5.75E-03
RELATIVE COUNTING ERROR		7.7%	µCi/g

Analyst
KNT

Date Complete
06/06/97

Analysis Date
06/05/97

Analysis Time
05:30 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst:	KNT	Date: 06-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	38557	31864
18447	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)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0236	2.0236
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002494	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
1	SAMPLE + SPIKE µCi/g	(S+S)	2.34E+01	1.93E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		3.9955E-01	
FUSION01				
Sample #				
S97T001000	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27807	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
06/06/97				
Analysis Date				
06/05/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	1.93E-02	
05:30 PM	AVG. PERCENT SPIKE RECOVERY	=	73.3%	
Sample Point				
AW-103				

Analyst:		SEH	Date: 06-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18547

Analyst: rag **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	2.00E-04		1.42E-4	71.000	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00		3.85E+00	3.850	% Ct. Erro
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1		<1.42E-4		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00		5.00E+02	500.000	uCi/mL
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00		1.00E+00	1.000	BLNK/BKG
4	SAMPLE	S97T000881	0	@ALPHA01	ALPHA01	LIQUID	N/A	<	8.58E-05	229.0e-006	uCi/mL
4	SAMPLE	S97T000881	0	@ALPHA01	ALPHA01E	LIQUID	N/A		5.00E+02	0.0e+000	% Ct. Error
5	DUP	S97T000881	0	@ALPHA01	ALPHA01	LIQUID	<8.58E-5		<1.96E-4		RPD
5	DUP	S97T000881	0	@ALPHA01	ALPHA01E	LIQUID	1.00		5.00E+02	500.000	% Ct. Erro
6	SPK	S97T000881	0	@ALPHA01	ALPHA01	LIQUID	2.63E-02		2.36E-02	89.734	% Recovery
7	SAMPLE	S97T000882	0	@ALPHA01	ALPHA01	LIQUID	N/A	<	1.14E-04	229.0e-006	uCi/mL
7	SAMPLE	S97T000882	0	@ALPHA01	ALPHA01E	LIQUID	N/A		5.00E+02	0.0e+000	% Ct. Error
8	DUP	S97T000882	0	@ALPHA01	ALPHA01	LIQUID	<1.14E-4		<1.14E-4		RPD
8	DUP	S97T000882	0	@ALPHA01	ALPHA01E	LIQUID	1.00		5.00E+02	500.000	% Ct. Erro

Final page for worklist# 18547

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature 6/10/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18547

Analyst: RJG **Instrument:** AB00 18 **Book#** 79B56

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL 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	S97T000881	0		@ALPHA01	LIQUID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T000881	0		@ALPHA01	LIQUID		
6	SPK	S97T000881	0		@ALPHA01	LIQUID		
7	SAMPLE	S97T000882	0		@ALPHA01	LIQUID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
8	DUP	S97T000882	0		@ALPHA01	LIQUID		

Final page for worklist # 18547

Raelynn Green 06-09-97
Analyst Signature **Date**

Sharon L Walker 6.10.97
Analyst Signature **Date**
Stephen E Cohrane 6-10-97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		13	13
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2598	2799
18547	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		86.500	93.200
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002602	Concentration in µCi/L	=	1.36E-01	
Rerun	Replicate Concentration in µCi/L	=	1.47E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4166E-01	
Sample Prep				
N/A				
Sample #				
WL18547				
Instrument Code				
WB27810				
Prepared By				
SLH2				
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/10/97				
Analysis Date				
06/09/97				
Analysis Time				
03:00 PM				
Sample Point				
AW-103				

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	
RELATIVE COUNTING ERROR	=	3.9%	5.68E-07 µCi/mL

Analyst:	SLH2		Date: 10-Jun-97
Signature of Chemist:	SLF		Date: 6/10/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

Type	BLNK
Work List	18547
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	97002602
Rerun	0
Sample Prep	N/A
Sample #	WL18547
Instrument Code	WB27810
Prepared By	SLH2
Chemist	SLF
Analyst	RAG
Date Complete	06/10/97
Analysis Date	06/09/97
Analysis Time	03:00 PM
Sample Point	AW-103

		BLNK	REPLICATE
DETECTOR NUMBER		13	13
DISH SIZE (1 , 2 , or 5)	(MS)	2	2
GROSS COUNTS	(GC)	1	5
COUNT TIME in MINUTES	(CT)	30	30
BACKGROUND in cpm	(BKG)	0.1	0.1
SAMPLE SIZE in mL	(SS)	0.250	0.250
DILUTION FACTOR	(DF)	101	101
DIGEST DILUTION FACTOR	(DDF)	1	1
EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.222

Blank Concentration in µCi/L	<	8.58E-02
Replicate Concentration in µCi/L	<	1.42E-01
Maximum Concentration in µCi/L	<	1.4155E-01

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)	=	< 1.42E-04	
LESS Than Value was Determined from Lc.			2.29E-04 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		13	13
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18547	GROSS COUNTS	(GC)	3	2
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.135

97002602	Blank Concentration in µCi/L	< 8.58E-02
Rerun	Replicate Concentration in µCi/L	< 8.58E-02
0	Maximum Concentration in µCi/L	< 8.5814E-02

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)
S97T000881	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
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
03:00 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum)	=	< 8.58E-05	
LESS Than Value was Determined from Lc.			2.29E-04 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) LIQUIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		13	13
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18547	GROSS COUNTS	(GC)	7	4
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.307	0.179
97002602	Blank Concentration in µCi/L	<	1.96E-01	
Rerun	Replicate Concentration in µCi/L	<	1.14E-01	
0	Maximum Concentration in µCi/L	<	1.9571E-01	
Sample Prep				
N/A				
Sample #				
S97T000881				
Instrument Code				
WB27810				
Prepared By				
SLH2				
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/10/97				
Analysis Date				
06/09/97				
Analysis Time				
03:00 PM				
Sample Point				
AW-103				

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) =	< 1.96E-04	
LESS THAN Value was Determined from Rmax.		2.29E-04 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type			SPIKE	REPLICATE
SPK	DETECTOR NUMBER		13	13
	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51471	38430
18547	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)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@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)	131B43	131B43
97002602	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
0	SAMPLE + SPIKE µCi/mL	(S+S)	1.09E+00	8.16E-01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	8.5814E-05	
N/A				

Sample #
S97T000881
Instrument Code
WB27810
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/10/97
Analysis Date
06/09/97
Analysis Time
03:00 PM
Sample Point
AW-103

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	=	2.63E-02
QC FOUND	=	2.36E-02
AVG. PERCENT SPIKE RECOVERY	=	89.8%

Analyst:		SLH2	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SPIKE.WB1 Rev. 1.0 508101ML

The RPD for the SPK + SPK/Dup is out of limits, however the low alpha levels in the sample make a rerun unwarranted.

6/10/97

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1) LIQUIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		13	13
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18547	GROSS COUNTS	(GC)	3	4
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.179

97002602	Blank Concentration in µCi/L	<	8.58E-02
Rerun	Replicate Concentration in µCi/L	<	1.14E-01
0	Maximum Concentration in µCi/L	<	1.1392E-01

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)
S97T000882	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
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
03:00 PM	
Sample Point	
AW-103	

		DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum) =	< 1.14E-04	
LESS Than Value was Determined from Lc.		
RELATIVE COUNTING ERROR	500.0%	2.29E-04 µCi/mL

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1) LIQUIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	4
18547	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.167	0.179

Batch Number			
97002602	Blank Concentration in µCi/L		1.06E-01
Rerun	Replicate Concentration in µCi/L	<	1.14E-01
0	Maximum Concentration in µCi/L	<	1.1392E-01

Sample Prep
N/A
Sample #
S97T000882
Instrument Code
WB27810
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/10/97
Analysis Date
06/09/97
Analysis Time
03:00 PM
Sample Point
AW-103

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) =	< 1.14E-04	DETECTION LEVEL
LESS THAN Value was Determined from Rs.		2.29E-04 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:	RAG	Date: 10-Jun-97
Signature of Chemist:	SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed Worklist Report for Worklist# 18548

Analyst: rag **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01 SOLID	2.00E-04	1.86E-4	93.000	% Recovery
1	STD		0		@ALPHA01	ALPHA01E SOLID	1.00	3.44E+00	3.440	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01	ALPHA01 SOLID	1	<1.87E-2		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG		0		@ALPHA01	ALPHA01 SOLID	1.00E+00	1.50E+00	1.500	BLNK/BKG
4	SAMPLE	S97T000888	0	F	@ALPHA01	ALPHA01 SOLID	N/A	1.40E-01	3.03e-002	uCi/g
4	SAMPLE	S97T000888	0	F	@ALPHA01	ALPHA01E SOLID	N/A	3.15E+01		% Ct. Error
5	DUP	S97T000888	0	F	@ALPHA01	ALPHA01 SOLID	1.40E-1	1.49E-1	6.228	RPD
5	DUP	S97T000888	0	F	@ALPHA01	ALPHA01E SOLID	1.00	2.97E+01	29.700	% Ct. Erro
6	SPK	S97T000888	0	F	@ALPHA01	ALPHA01 SOLID	2.63E-02	2.90E-02	110.266	% Recovery
7	SAMPLE	S97T000890	0	F	@ALPHA01	ALPHA01 SOLID	N/A	1.03E+00	3.03e-002	uCi/g
7	SAMPLE	S97T000890	0	F	@ALPHA01	ALPHA01E SOLID	N/A	1.04E+01		% Ct. Error
8	DUP	S97T000890	0	F	@ALPHA01	ALPHA01 SOLID	1.03E+0	1.17E+0	12.727	RPD
8	DUP	S97T000890	0	F	@ALPHA01	ALPHA01E SOLID	1.00	9.80E+00	9.800	% Ct. Erro

Final page for worklist# 18548

Analyst Signature **Date**

Analyst Signature **Date**

6/11/97

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18548

Analyst: RS **Instrument:** AB00 #16 **Book#** 19856

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

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	S97T000888	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested:	ALPHA01 , ALPHA01E						
5	DUP	S97T000888	0	F	@ALPHA01	SOLID		
6	SPK	S97T000888	0	F	@ALPHA01	SOLID		
7	SAMPLE	S97T000890	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested:	ALPHA01 , ALPHA01E						
8	DUP	S97T000890	0	F	@ALPHA01	SOLID		

Final page for worklist # 18548

Rae Ann Green 06-09-97
Analyst Signature **Date**

Analyst Signature **Date** 6/10/97

C. J. Green 6/10/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type	DETECTOR NUMBER		STANDARD	REPLICATE
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3258	3379
18548	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.500	112.533
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002603	Concentration in µCi/L	=	1.82E-01	
Rerun	Replicate Concentration in µCi/L	=	1.89E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.8555E-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)
WL18548	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
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist ID	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
12:00 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.86E-04	
RELATIVE COUNTING ERROR	=	3.4%	6.05E-07 µCi/mL

Analyst: MCB Date: 10-Jun-97

Signature of Chemist: SLF Date: 6/11/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type			BLNK-PREP	REPLICATE
BLNK-PREP	DETECTOR NUMBER		16	16
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18548	GROSS COUNTS	(GC)	4	5
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.018	2.018
SOLID	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.179	0.222
97002603	Blank Concentration in µCi/g	<	1.50E-02	
Rerun	Replicate Concentration in µCi/g	<	1.87E-02	
0	Maximum Concentration in µCi/g	<	1.8674E-02	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
WL18548	
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	
MCB	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
12:00 PM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g	(Maximum)	=	< 1.87E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				3.03E-02 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	47	59
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.018	2.018
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.467	1.867

Batch Number		
97002603	Blank Concentration in µCi/g	1.23E-01
Rerun	Replicate Concentration in µCi/g	1.57E-01
0	Average Concentration in µCi/g	1.4005E-01

Sample Prep: FUSION01

Sample #: S97T000888

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

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)	=	1.40E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		31.5%	3.03E-02 µCi/g

Analyst: RAG Date: 10-Jun-97

Signature of Chemist: SLF Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	60	52
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.015	2.015
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.900	1.633

Batch Number		
97002603	Blank Concentration in µCi/g	1.60E-01
Rerun	Replicate Concentration in µCi/g	1.37E-01
0	Average Concentration in µCi/g	1.4867E-01

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: S97T000888

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: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	1.49E-01	
RELATIVE COUNTING ERROR	29.7%	3.03E-02 µCi/g

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51646	52025
18548	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)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.018	2.018
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002603	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
0	SAMPLE + SPIKE µCi/g	(S+S)	1.45E+02	1.46E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.4005E-01	
FUSION01				
Sample #				
S97T000888	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))))			
MCB	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/10/97				
Analysis Date				
06/09/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	2.90E-02	
12:00 PM	AVG. PERCENT SPIKE RECOVERY	=	110.2%	
Sample Point				
AW-103				

Analyst:		MCB	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	367	376
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.016	2.016
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		12.133	12.433

Batch Number		
97002603	Blank Concentration in µCi/g	1.02E+00
Rerun	Replicate Concentration in µCi/g	1.05E+00
0	Average Concentration in µCi/g	1.0332E+00

Sample Prep: FUSION01

Sample #: S97T000890

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

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)	=	1.03E+00	
RELATIVE COUNTING ERROR		10.4%	3.03E-02 µCi/g

Analyst:	RAG		Date: 10-Jun-97
Signature of Chemist:	SLF		Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	434	409
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.023	2.023
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		14.367	13.533

Batch Number		
97002603	Blank Concentration in µCi/g	1.20E+00
Rerun	Replicate Concentration in µCi/g	1.13E+00
0	Average Concentration in µCi/g	1.1693E+00

Sample Prep: FUSION01

Sample #: S97T000890

Instrument Code: WB27805

Prepared By: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

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)	=	1.17E+00	DETECTION LEVEL
RELATIVE COUNTING ERROR		9.8%	3.02E-02 µCi/g

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18549

Analyst: rag **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL sk

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.77E-4	88.500	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.53E+00	3.530	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	<4.11E-2		uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	2.50E+00	2.500	BLNK/BKG
4	SAMPLE	S97T000998	0	F	@ALPHA01 ALPHA01	SOLID	N/A	6.49E-01	635.0e-004	uCi/g
4	SAMPLE	S97T000998	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	2.09E+01	0.0e+000	% Ct. Error
5	DUP	S97T000998	0	F	@ALPHA01 ALPHA01	SOLID	6.49E-1	7.31E-1	11.884 RPD	
5	DUP	S97T000998	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.84E+01	18.400	% Ct. Erro
6	SPK	S97T000998	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.71E-02	103.042	% Recovery

Final page for worklist# 18549

Analyst Signature **Date**

Analyst Signature **Date**

6/11/97

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 08:40
A-0004-1

LABCORE Data Entry Template for Worklist# 18549

Analyst: RV2 **Instrument:** AB00 14 **Book#** 19856

Method: LA-508-101 Rev/Mod F-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL sk

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	S97T000998	0	F	@ALPHA01	SOLID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T000998	0	F	@ALPHA01	SOLID		
6	SPK	S97T000998	0	F	@ALPHA01	SOLID		

Final page for worklist # 18549

Rae Ann Green 06-10-97
Analyst Signature Date

Sharon L Holbert 6-11-97
Analyst Signature Date

Sue E. Hogan 6-11-97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

Type	DETECTOR NUMBER		STANDARD	REPLICATE
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3264	3089
18549	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.700	102.867
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002604	Concentration in µCi/L	=	1.82E-01	
Rerun	Replicate Concentration in µCi/L	=	1.72E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.7701E-01	
Sample Prep				
N/A				
Sample #				
WL18549				
Instrument Code				
WB27807				
Prepared By				
SLH2				
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/11/97				
Analysis Date				
06/10/97				
Analysis Time				
02:00 PM				
Sample Point				
AW-103				

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	=	1.77E-04	
RELATIVE COUNTING ERROR	=	3.5%	6.03E-07 µCi/mL

Analyst:	SLH2	Date:	11-Jun-97
Signature of Chemist:	SLF	Date:	6/11/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type			BLNK-PREP	REPLICATE
BLNK-PREP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18549	GROSS COUNTS	(GC)	5	10
A1 or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.918	1.918
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.222	0.233
97002604	Blank Concentration in µCi/g	<	3.92E-02	
Rerun	Replicate Concentration in µCi/g		4.11E-02	
0	Maximum Concentration in µCi/g	<	4.1120E-02	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
WL18549	
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	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/11/97	
Analysis Date	
06/10/97	
Analysis Time	
02:00 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Maximum)	=	< 4.11E-02	
LESS THAN Value was Determined from Rmax.			6.35E-02 µCi/g
RELATIVE COUNTING ERROR		500.0%	

Analyst:	RAG		Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	130	97
18549	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.918	1.918
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.233	3.133

Batch Number		
97002604	Blank Concentration in µCi/g	7.46E-01
Rerun	Replicate Concentration in µCi/g	5.52E-01
0	Average Concentration in µCi/g	6.4911E-01

Sample Prep
FUSION01
Sample #
S97T000998
Instrument Code
WB27807
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/11/97
Analysis Date
06/10/97
Analysis Time
02:00 PM
Sample Point
AW-103

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)	=	6.49E-01	
RELATIVE COUNTING ERROR		20.9%	6.35E-02 µCi/g

Analyst:		RAG	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	129	122
18549	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.889	1.889
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.200	3.967
Batch Number				
97002604	Blank Concentration in µCi/g		7.52E-01	
Rerun	Replicate Concentration in µCi/g		7.10E-01	
0	Average Concentration in µCi/g		7.3064E-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)			
S97T000998				
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				
SLH2				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average)	=	7.31E-01	DETECTION LEVEL
Analyst				
RAG				
Date Complete				6.44E-02 µCi/g
06/11/97	RELATIVE COUNTING ERROR		18.4%	
Analysis Date				
06/10/97				
Analysis Time				
02:00 PM				
Sample Point				
AW-103				

Analyst:		RAG	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type	DETECTOR NUMBER		SPIKE	REPLICATE
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	48999	48456
18549	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.918	1.918
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002604	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
0	SAMPLE + SPIKE µCi/g	(S+S)	2.88E+02	2.85E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		6.4911E-01	
FUSION01				

Sample #
S97T000998
Instrument Code
WB27807
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/11/97
Analysis Date
06/10/97
Analysis Time
02:00 PM
Sample Point
AW-103

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	=	2.63E-02
QC FOUND	=	2.71E-02
AVG. PERCENT SPIKE RECOVERY	=	103.1%

Analyst:		SLH2	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18550

Analyst: scl **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.72E-4	86.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.57E+00	3.570	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	<2.40E-3		uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	1.50E+00	1.500	BLNK/BKG
4	SAMPLE	S97T001062	0	F	@ALPHA01 ALPHA01	SOLID	N/A	2.55E-01	327.0e-005	uCi/g
4	SAMPLE	S97T001062	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	6.87E+00	0.0e+000	% Ct. Error
5	DUP	S97T001062	0	F	@ALPHA01 ALPHA01	SOLID	2.55E-1	1.89E-1	29.730 RPD	
5	DUP	S97T001062	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	8.25E+00	8.250	% Ct. Erro
6	SAMPLE	S97T001063	0	F	@ALPHA01 ALPHA01	SOLID	N/A	4.96E-01	639.0e-005	uCi/g
6	SAMPLE	S97T001063	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	7.07E+00	0.0e+000	% Ct. Error
7	DUP	S97T001063	0	F	@ALPHA01 ALPHA01	SOLID	4.96E-1	4.45E-1	10.840 RPD	
7	DUP	S97T001063	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.45E+00	7.450	% Ct. Erro

Final page for worklist# 18550

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/10/97 Date

The RPD for 1062 is out of limits. Sample will be reran.

6/10/97

Sample# S97T001062 rerun on worklist #18592 fs 7/10/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 08:42
A-0004-1

LABCORE Data Entry Template for Worklist# 18550

Analyst: SL **Instrument:** AB00 #14 **Book#** 19056

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL skm

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	S97T001062	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001062	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001063	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S97T001063	0	F	@ALPHA01	SOLID		

Final page for worklist # 18550

Sue Lai 6-9-97
Analyst Signature Date

Sharon L Hall 6-10-97
Analyst Signature Date

Sue E. Hogan 6-10-97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18550	GROSS COUNTS	(GC)	3139	3025
A1or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		104.533	100.733
97002605	Standard Value in µCi/mL		2.00E-04	
Rerun	Concentration in µCi/L	=	1.75E-01	
0	Replicate Concentration in µCi/L	=	1.69E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.7174E-01	
N/A				
Sample #				
WL18550				
Instrument Code				
WB27807				
Prepared By				
SLH2				
Chemist				
SLF	ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.72E-04	DETECTION LEVEL
Analyst				
SCL				6.03E-07 µCi/mL
Date Complete	RELATIVE COUNTING ERROR	=	3.6%	
06/10/97				
Analysis Date				
06/09/97				
Analysis Time				
03:20 PM				
Sample Point				
AW-103				

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.

Analyst:	SLH2	Date: 10-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	3
18550	COUNT TIME in MINUTES	(CT)	30	30
Aliquot By	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.06	4.06
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.265	0.135

Batch Number			
97002605	Blank Concentration in µCi/g	<	2.40E-03
Rerun	Replicate Concentration in µCi/g	<	1.22E-03
0	Maximum Concentration in µCi/g	<	2.4028E-03

Sample Prep: N/A

Sample #: WL18550

Instrument Code: WB27807

Prepared By: SLH2

Chemist: SLF

Analyst: SCL

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 03:20 PM

Sample Point: AW-103

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) =	< 2.40E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		3.27E-03 µCi/g
RELATIVE COUNTING ERROR	500.0%	

Analyst:	SCL		Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	904	778
18550	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.148	4.148
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		30.033	25.833

Batch Number		
97002605	Blank Concentration in µCi/g	5.33E-01
Rerun	Replicate Concentration in µCi/g	4.59E-01
0	Average Concentration in µCi/g	4.9580E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001063

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SLH2

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	4.96E-01	DETECTION LEVEL
			6.39E-03
RELATIVE COUNTING ERROR		7.1%	µCi/g

Analyst
SCL

Date Complete
06/10/97

Analysis Date
06/09/97

Analysis Time
03:20 PM

Sample Point
AW-103

Analyst:		SCL	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

			DUP	REPLICATE
Type:	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	789	701
18550	COUNT TIME in MINUTES	(CT)	30	30
A Tor TB :	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.09	4.09
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		26.200	23.267

Batch Number:	
97002605	Blank Concentration in µCi/g 4.72E-01
Rerun:	Replicate Concentration in µCi/g 4.19E-01
0	Average Concentration in µCi/g 4.4523E-01

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Sample #:
S97T001063

Instrument Code:
WB27807

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:
SLH2

Chemist:
SLF

			DETECTION LEVEL
ALPHA TOTAL µCi/g (Average)	=	4.45E-01	
			6.48E-03 µCi/g
RELATIVE COUNTING ERROR		7.5%	

Analyst:
SCL

Date Complete:
06/10/97

Analysis Date:
06/09/97

Analysis Time:
03:20 PM

Sample Point:
AW-103

Analyst:		SCL	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed Worklist Report for Worklist# 18551

Analyst: adp **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	SOLID	2.00E-04	1.71E-4	85.500	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	SOLID	1.00	3.58E+00	3.580	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01 ALPHA01	SOLID	1	<3.49E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG		0		@ALPHA01 ALPHA01	SOLID	1.00E+00	8.33E-01	0.833	BLNK/BKG
4	SAMPLE	S97T001064	0	F	@ALPHA01 ALPHA01	SOLID	N/A	7.13E-02	8.63e-003	uCi/g
4	SAMPLE	S97T001064	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	1.97E+01		% Ct. Error
5	DUP	S97T001064	0	F	@ALPHA01 ALPHA01	SOLID	7.13E-2	7.13E-2	0.000	RPD
5	DUP	S97T001064	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.92E+01	19.200	% Ct. Erro
6	SAMPLE	S97T001065	0	F	@ALPHA01 ALPHA01	SOLID	N/A	8.32E-02	1.96e-002	uCi/g
6	SAMPLE	S97T001065	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	3.09E+01		% Ct. Error
7	DUP	S97T001065	0	F	@ALPHA01 ALPHA01	SOLID	8.32E-2	1.19E-1	35.410	RPD
7	DUP	S97T001065	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	2.29E+01	22.900	% Ct. Erro
8	SPK	S97T001065	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.24E-02	85.171	% Recovery

Final page for worklist# 18551

Analyst Signature **Date**

Analyst Signature **Date**

6/16/97
Reviewer Signature **Date**

For 1065
The RPD^ is acceptable due to the low sample activity level.

6/16/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 08:44
A-0004-1

LABCORE Data Entry Template for Worklist# 18551

Analyst: ADP **Instrument:** AB00 14 **Book#** 79B56

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

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	S97T001064	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001064	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001065	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S97T001065	0	F	@ALPHA01	SOLID		
8	SPK	S97T001065	0	F	@ALPHA01	SOLID		

Final page for worklist # 18551

Analyst Signature 6-12-97 Date

Analyst Signature 6-13-97 Date

C.J. Spaeth 6/13/97

Data Entry Comments: SPIKE 131B43

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

			STANDARD	REPLICATE
Type: STD	DETECTOR NUMBER		14	14
	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List: 18551	GROSS COUNTS	(GC)	3126	3008
	COUNT TIME in MINUTES	(CT)	30	30
A Typ: B Typ: AT	BACKGROUND in cpm	(BKG)	0.2	0.2
	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code: @ALPHA01	DILUTION FACTOR	(DF)	1	1
	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
Matrix: LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		104.000	100.067
Batch Number: 97002606	Standard Value in µCi/mL		2.00E-04	
	Concentration in µCi/L	=	1.74E-01	
Rerun: 0	Replicate Concentration in µCi/L	=	1.67E-01	
	AVERAGE CONCENTRATION in µCi/L	=	1.7073E-01	

Sample Prep: N/A

Sample #: WL18551

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: ADP

Date Complete: 06/13/97

Analysis Date: 06/12/97

Analysis Time: 05:15 AM

Sample Point: AW-103

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	=	1.71E-04	
RELATIVE COUNTING ERROR	=	3.6%	7.89E-07 µCi/mL

Analyst:	SEH	Date: 13-Jun-97
Signature of Chemist:	SLF	Date: 6/16/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) 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)	5	5
18551	COUNT TIME in MINUTES	(CT)	30	30
AT or LB:	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.025	4.025
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.191	0.191

Batch Number:			
97002606	Blank Concentration in µCi/g	<	3.49E-03
Rerun:	Replicate Concentration in µCi/g	<	3.49E-03
0	Maximum Concentration in µCi/g	<	3.4851E-03

Sample Prep:
N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
WL18551

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB27807

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:
SEH

Chemist:
SLF

	ALPHA TOTAL in µCi/g (Maximum)	=	< 3.49E-03	DETECTION LEVEL
Analyst:				
ADP	LESS Than Value was Determined from Lc.			8.63E-03 µCi/g
Date Complete:	RELATIVE COUNTING ERROR		500.0%	
06/13/97				

Analysis Date:
06/12/97

Analysis Time:
05:15 AM

Sample Point:
AW-103

Analyst:	ADP	Date:	13-Jun-97
Signature of Chemist:	SLF	Date:	6/16/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type:	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	130	116
18551	COUNT TIME in MINUTES	(CT)	30	30
AT or I Br:	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.025	4.025
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.133	3.667

Batch Number:		
97002606	Blank Concentration in µCi/g	7.56E-02
Rerun:	Replicate Concentration in µCi/g	6.71E-02
0	Average Concentration in µCi/g	7.1338E-02

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001064

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB27807

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:
SEH

Chemist:
SLF

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	7.13E-02	
			8.63E-03 µCi/g
RELATIVE COUNTING ERROR		19.7%	

Analyst:
ADP

Date Complete:
06/13/97

Analysis Date:
06/12/97

Analysis Time:
05:15 AM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst: ADP Date: 13-Jun-97

Signature of Chemist: SLF Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type:			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List:	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18551	GROSS COUNTS	(GC)	121	125
A for, By:	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.2	0.2
Test Code:	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix:	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.026	4.026
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number:	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.833	3.967
97002606				

Rerun:		
0	Blank Concentration in µCi/g	7.01E-02
	Replicate Concentration in µCi/g	7.25E-02
	Average Concentration in µCi/g	7.1321E-02

Sample Prep:
FUSION01

Sample #:
S97T001064

Instrument Code:
WB27807

Prepared By:
SEH

Chemist:
SLF

Analyst:
ADP

Date Complete:
06/13/97

Analysis Date:
06/12/97

Analysis Time:
05:15 AM

Sample Point:
AW-103

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)	=	7.13E-02	
			8.63E-03 µCi/g
RELATIVE COUNTING ERROR		19.2%	

{/ system;exit}yes~

Analyst: ADP Date: 13-Jun-97

Signature of Chemist: SLF Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	56	76
18551	COUNT TIME in MINUTES	(CT)	30	30
A Tor TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
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)	4.065	4.065
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.667	2.333

Batch Number		
97002606	Blank Concentration in µCi/g	6.93E-02
Rerun ?	Replicate Concentration in µCi/g	9.70E-02
0	Average Concentration in µCi/g	8.3150E-02

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001065

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	8.32E-02	DETECTION LEVEL
			1.96E-02 µCi/g
RELATIVE COUNTING ERROR		30.9%	

Analyst
ADP

Date Complete
06/13/97

Analysis Date
06/12/97

Analysis Time
05:15 AM

Sample Point
AW-103

{/ system;exit}yes~

Analyst:	ADP		Date: 13-Jun-97
Signature of Chemist:		SLF	Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18551	GROSS COUNTS	(GC)	92	90
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.2	0.2
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.034	4.034
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.867	2.800
97002606	Blank Concentration in µCi/g		1.20E-01	
Rerun	Replicate Concentration in µCi/g		1.17E-01	
0	Average Concentration in µCi/g		1.1870E-01	

Sample Prep: FUSION01

Sample #: S97T001065

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: ADP

Date Complete: 06/13/97

Analysis Date: 06/12/97

Analysis Time: 05:15 AM

Sample Point: AW-103

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) =	1.19E-01	
		1.98E-02 µCi/g
RELATIVE COUNTING ERROR	22.9%	

{/ system;exit}yes~

Analyst:		ADP	Date: 13-Jun-97
Signature of Chemist:		SLF	Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type			SPIKE	REPLICATE
SPK	DETECTOR NUMBER		14	14
Work List	DISH SIZE 1, 2, or 5	(MS)	2	2
18551	TOTAL COUNTS	(TC)	41211	39413
Anor/Tr	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.2	0.2
Test Code	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
@ALPHA01	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.065	4.065
SOLID	SPIKE VOLUME in mL	(SVol)	0.100	0.100
Batch Number	SPIKE DILUTION FACTOR	(SDF)	1	1
97002606	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
Rerun	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
0	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Sample Prep	SAMPLE + SPIKE µCi/g	(S+S)	5.71E+01	5.46E+01
FUSION01	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.3150E-02	
Sample #				
S97T001065	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27807	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
ADP				
Date Complete				
06/13/97				
Analysis Date				
06/12/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	2.24E-02	
05:15 AM	AVG. PERCENT SPIKE RECOVERY	=	85.4%	
Sample Point				
AW-103				

Analyst: SEH Date: 13-Jun-97

Signature of Chemist: SLF Date: 6/16/97

SPIKE.WB1 Rev. 1.0 508101ML

worklistrad Version 1.0 05/09/96
06/11/97 08:54

LABCORE Completed RadChem Report for Worklist#: 18592

Analyst: slh **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use 1-10-.5 sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01 SOLID	2.00E-04	1.67E-4	83.500	% Recovery
1	STD		0		@ALPHA01	ALPHA01E SOLID	1.00	3.59E+00	3.590	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01	ALPHA01 SOLID	1	3.20E-3	32.000e-004	uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E SOLID	1.00	8.24E+01	82.400	uCi/g
3	BLNK/BKG		0		@ALPHA01	ALPHA01 SOLID	1.00E+00	1.28E+01	12.800	BLNK/BKG
4	SAMPLE	S97T001062	0	F	@ALPHA01	ALPHA01 SOLID	N/A	2.58E-01	216.0e-005	uCi/g
4	SAMPLE	S97T001062	0	F	@ALPHA01	ALPHA01E SOLID	N/A	6.84E+00	0.0e+000	% Ct. Error
5	DUP	S97T001062	0	F	@ALPHA01	ALPHA01 SOLID	2.58E-1	1.94E-1	28.319	RPD
5	DUP	S97T001062	0	F	@ALPHA01	ALPHA01E SOLID	1.00	8.21E+00	8.210	% Ct. Erro

Final page for worklist# 18592

Analyst Signature **Date** **Analyst Signature** **Date**

Reviewer Signature 6/11/97 **Date**

The BLNK value is insignificant compared to the sample results. The RPD is consistent with the 1st run indicating inhomogeneity between the sample and the Dup. No rerun requested.

6/11/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/10/97 15:09
A-0004-1

LABCORE Data Entry Template for Worklist# 18592

Analyst: SLH **Instrument:** AB00 14 **Book#** 79856

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: Use 1-10-.5 sample size. 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	S97T001062	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001062	0	F	@ALPHA01	SOLID		

Final page for worklist # 18592

Sandra Lloyd Boatright
Analyst Signature **Date**
6-10-97

Analyst Signature **Date**
6/11/97
Sylvia L Cochran 6/11/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3013	2977
18592	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		100.403	99.203
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002655	Concentration in µCi/L	=	1.68E-01	
Rerun	Replicate Concentration in µCi/L	=	1.66E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.6700E-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)
WL18592	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	
MCB	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/11/97	
Analysis Date	
06/11/97	
Analysis Time	
12:15 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.67E-04	
RELATIVE COUNTING ERROR	=	3.6%	3.99E-07 µCi/mL

Analyst:		MCB	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	15
18592	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.06	4.06
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.237	0.470

Batch Number		
97002655	Blank Concentration in µCi/g	2.15E-03
Rerun	Replicate Concentration in µCi/g	4.26E-03
0	Average Concentration in µCi/g	3.2037E-03

Sample Prep
N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
WL18592

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Prepared By
MCB

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	3.20E-03	DETECTION LEVEL
			2.16E-03 µCi/g
RELATIVE COUNTING ERROR		82.4%	

Analyst
SLH

Date Complete
06/11/97

Analysis Date
06/11/97

Analysis Time
12:15 AM

Sample Point
AW-103

Analyst:	SLH		Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	823	885
18592	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.06	4.06
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		27.403	29.470
Batch Number				
97002655	Blank Concentration in µCi/g		2.48E-01	
Rerun	Replicate Concentration in µCi/g		2.67E-01	
1	Average Concentration in µCi/g		2.5784E-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)			
S97T001062				
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				
MCB				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average)	=	2.58E-01	DETECTION LEVEL
Analyst				
SLH				2.16E-03 µCi/g
Date Complete	RELATIVE COUNTING ERROR		6.8%	
06/11/97				
Analysis Date				
06/11/97				
Analysis Time				
12:15 AM				
Sample Point				
AW-103				

Analyst:	SLH		Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	745	573
18592	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.153	4.153
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		24.803	19.070
Batch Number				
97002655	Blank Concentration in µCi/g		2.20E-01	
Rerun	Replicate Concentration in µCi/g		1.69E-01	
1	Average Concentration in µCi/g		1.9445E-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)			
S97T001062				
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				
MCB				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average)	=	1.94E-01	DETECTION LEVEL
Analyst				
SLH				2.11E-03 µCi/g
Date Complete				
06/11/97	RELATIVE COUNTING ERROR		8.2%	
Analysis Date				
06/11/97				
Analysis Time				
12:15 AM				
Sample Point				
AW-103				

Analyst:		SLH	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	Production Planning & Control	Date: 08/19/97
Project Title/Work Order **HNF-SD-WM-DP-249**, Rev. 0 "Tank 241-AW-103, Cores 193 and 194 Analytical Results for the Final Report"		EDT NO.: EDT-620418 ECN NO.: N/A

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U.S. Department of Energy, RL			
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F. H. Steen	T6-06	X	
LTIC	T6-03		X
SGN Eurisys Services Corp.			
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Defense Nuclear Federal Safety Board			
Rich Tontodonato 625 Indiana Ave. N. W. Washington D.C. 20004		X	

*** Needs only releasing paperwork, not a copy of the released document.**

worklistrpt Version 2.1 05/15/95
05/31/97 06:02

HNF-SD-WM-DP-249, REV. 0

LABCORE Data Entry Template for Worklist# 18228

Analyst: DcD **Instrument:** FUS01 **Book #** N/A

Method: LA-549-141 Rev/Mod F-O

Worklist Comment: AW-103 FUSION DIGEST C194S6UH,LH, 7UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP				FUSION01	SOLID	1	.250	N/A	g/L
97000333	AW-103	2 SAMPLE	S97T001055	0	F	FUSION01	SOLID	N/A	2.0236 .250 BAD	5-31-97	g/L
		.5059g → .250 l									
97000333	AW-103	3 SAMPLE	S97T001055	0		DOSE-02	SOLID	N/A	15		mrad/hour
97000333	AW-103	4 DUP	S97T001055	0	F	FUSION01	SOLID	2.0236	2.0839	N/A	g/L
		.5058g → .250 l									
97000333	AW-103	5 DUP	S97T001055	0		DOSE-02	SOLID	15	15	N/A	mrad/hour
97000333	AW-103	6 SAMPLE	S97T001056	0	F	FUSION01	SOLID	N/A	2.0312		g/L
		.5078g → .250 l									
97000333	AW-103	7 SAMPLE	S97T001056	0		DOSE-02	SOLID	N/A	15		mrad/hour
97000333	AW-103	8 DUP	S97T001056	0	F	FUSION01	SOLID	2.0312	2.0372	N/A	g/L
		.5093g → .250 l									
97000333	AW-103	9 DUP	S97T001056	0		DOSE-02	SOLID	15	15	N/A	mrad/hour
97000333	AW-103	10 SAMPLE	S97T001061	0	F	FUSION01	SOLID	N/A	2.0028		g/L
		.5007g → .250 l									
97000333	AW-103	11 SAMPLE	S97T001061	0		DOSE-02	SOLID	N/A	15		mrad/hour
97000333	AW-103	12 DUP	S97T001061	0	F	FUSION01	SOLID	2.0028	1.9824	N/A	g/L
		.4981g → .250 l									
97000333	AW-103	13 DUP	S97T001061	0		DOSE-02	SOLID	15	17.5	N/A	mrad/hour

Final page for worklist # 18228

David C Duncan 5-31-97
Analyst Signature **Date**

Daniel P. Bromley 5/31/97

Frank Mark 6-1-97
Analyst Signature **Date**

Reviewed G Kelley 6/1/97

Data Entry Comments: 20 ml Con HNO3 & 20ml Con HCl used

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# 18229

Analyst: RK **Instrument:** FUS01 **Book #** _____

Method: LA-549-141 Rev/Mod _____

Worklist Comment: AW-103 FUSION DIGEST C194~~S9UH,LH, 10LH~~ 8UH, 7LH, 8LH lad 6-9-97

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	1	.2501	N/A	g/L
97000333	AW-103	2 SAMPLE	S97T001057	0 F	FUSION01	SOLID	N/A	4.023		g/L
97000333	AW-103	3 SAMPLE	S97T001057	0	DOSE-02	SOLID	N/A	20		mrad/hour
97000333	AW-103	4 DUP	S97T001057	0 F	FUSION01	SOLID	4.023	4.002	N/A	g/L
97000333	AW-103	5 DUP	S97T001057	0	DOSE-02	SOLID	20	20	N/A	mrad/hour
97000333	AW-103	6 SAMPLE	S97T001062	0 F	FUSION01	SOLID	N/A	4.060		g/L
97000333	AW-103	7 SAMPLE	S97T001062	0	DOSE-02	SOLID	N/A	15		mrad/hour
97000333	AW-103	8 DUP	S97T001062	0 F	FUSION01	SOLID	4.060	4.153	N/A	g/L
97000333	AW-103	9 DUP	S97T001062	0	DOSE-02	SOLID	15	15	N/A	mrad/hour
97000333	AW-103	10 SAMPLE	S97T001063	0 F	FUSION01	SOLID	N/A	4.148		g/L
97000333	AW-103	11 SAMPLE	S97T001063	0	DOSE-02	SOLID	N/A	35		mrad/hour
97000333	AW-103	12 DUP	S97T001063	0 F	FUSION01	SOLID	4.148	4.090	N/A	g/L
97000333	AW-103	13 DUP	S97T001063	0	DOSE-02	SOLID	35	35	N/A	mrad/hour

1.0058 1.0006 1.0151 1.0382 1.0370 1.0224

Final page for worklist # 18229

R.K. Kim 6/8/97
Analyst Signature **Date**

S. Fulton 6-8-97
Analyst Signature **Date**

~~S97T001057~~ S97T001033 → S97T001057
S97T001038 → S97T001062
S97T001039 → S97T001063

Validated by M Tapia 6-9-97

Data Entry Comments: Submitted by R. Kim Faxed 6/8/97

M A [illegible] 6/8/97
REVIEWER SIGNATURE DATE

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

LABCORE Data Entry Template for Worklist# 18230

Analyst: ADP **Instrument:** FUS01 **Book #**

Method: LA-549-141 Rev/Mod

Worklist Comment: AW-103 FUSION DIGEST C194S9UH,LH, 10LH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				FUSION01	SOLID	1	.2502	N/A	g/L
97000333	AW-103	2	SAMPLE	S97T001058	0	F	FUSION01	SOLID	N/A	4.019		g/L
			1.0047									
97000333	AW-103	3	SAMPLE	S97T001058	0		DOSE-02	SOLID	N/A	30		mrad/hour
97000333	AW-103	4	DUP	S97T001058	0	F	FUSION01	SOLID	4.019	4.066	N/A	g/L
			1.0165									
97000333	AW-103	5	DUP	S97T001058	0		DOSE-02	SOLID	30	30	N/A	mrad/hour
97000333	AW-103	6	SAMPLE	S97T001064	0	F	FUSION01	SOLID	N/A	4.025		g/L
			1.0063									
97000333	AW-103	7	SAMPLE	S97T001064	0		DOSE-02	SOLID	N/A	50		mrad/hour
97000333	AW-103	8	DUP	S97T001064	0	F	FUSION01	SOLID	4.025	4.026	N/A	g/L
			1.0065									
97000333	AW-103	9	DUP	S97T001064	0		DOSE-02	SOLID	50	50	N/A	mrad/hour
97000333	AW-103	10	SAMPLE	S97T001065	0	F	FUSION01	SOLID	N/A	4.065		g/L
			1.0162									
97000333	AW-103	11	SAMPLE	S97T001065	0		DOSE-02	SOLID	N/A	100		mrad/hour
97000333	AW-103	12	DUP	S97T001065	0	F	FUSION01	SOLID	4.065	4.034	N/A	g/L
			1.0092									
97000333	AW-103	13	DUP	S97T001065	0		DOSE-02	SOLID	100	100	N/A	mrad/hour

Final page for worklist # 18230

N. Kirn 6/8/97
Analyst Signature **Date**

6-8-97
Analyst Signature **Date**

Validated by: N Lapins 6-9-97

S97T001034 → S97T001058
S97T001040 → S97T001064
S97T001041 → S97T001065

Data Entry Comments: Submitted by R. Kirn Faxed 6/8/97

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.

6/5/97
REVIEWER SIGNATURE DATE

worklistrpt Version 2.1 05/15/95
05/31/97 07:28

LABCORE Data Entry Template for Worklist# 18231

Analyst: EAL **Instrument:** H2O01 **Book #**

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C193S7LII, 8UII,LII lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2ODIG01	SOLID	1	.1	N/A	g/L
97000332	AW-103	2	SAMPLE	S97T001005	0	W	H2ODIG01	SOLID	N/A	5.667		g/L
			.5667g → .100 L									
97000332	AW-103	3	SAMPLE	S97T001005	0		DOSE-02	SOLID	N/A	10		mrad/hour
97000332	AW-103	4	DUP	S97T001005	0	W	H2ODIG01	SOLID	5.667	5.484	N/A	g/L
			.5484g → .100L									
97000332	AW-103	5	DUP	S97T001005	0		DOSE-02	SOLID	10	10	N/A	mrad/hour
97000332	AW-103	6	SAMPLE	S97T001008	0	W	H2ODIG01	SOLID	N/A	5.581		g/L
			.5581g → .100L									
97000332	AW-103	7	SAMPLE	S97T001008	0		DOSE-02	SOLID	N/A	12		mrad/hour
97000332	AW-103	8	DUP	S97T001008	0	W	H2ODIG01	SOLID	5.581	5.456	N/A	g/L
			.5456g → .100L									
97000332	AW-103	9	DUP	S97T001008	0		DOSE-02	SOLID	12	15	N/A	mrad/hour
97000332	AW-103	10	SAMPLE	S97T001009	0	W	H2ODIG01	SOLID	N/A	5.385		g/L
			.5385g → .100L									
97000332	AW-103	11	SAMPLE	S97T001009	0		DOSE-02	SOLID	N/A	12		mrad/hour
97000332	AW-103	12	DUP	S97T001009	0	W	H2ODIG01	SOLID	5.385	5.267	N/A	g/L
			.5267g → .100L									
97000332	AW-103	13	DUP	S97T001009	0		DOSE-02	SOLID	12	15	N/A	mrad/hour

Final page for worklist # 18231

Linda Mock 5-31-97

Analyst Signature **Date** 5-31-97

Analyst Signature **Date**

5/31/97

Data Entry Comments: HPT - Bob Clements

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
05/31/97 07:29

LABCORE Data Entry Template for Worklist# 18232

Analyst: KRm **Instrument:** H2O01 **Book #**

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C193S9UH,LH 10LH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2ODIG01	SOLID	1	.1	N/A	g/L
97000332	AW-103	2	SAMPLE	S97T001006	0	W	H2ODIG01	SOLID	N/A	5.133		g/L
.5133g → .100 L												
97000332	AW-103	3	SAMPLE	S97T001006	0		DOSE-02	SOLID	N/A	15		mrad/hour
97000332	AW-103	4	DUP	S97T001006	0	W	H2ODIG01	SOLID	5.133	5.115	N/A	g/L
.5115g → .100 L												
97000332	AW-103	5	DUP	S97T001006	0		DOSE-02	SOLID	15	15	N/A	mrad/hour
97000332	AW-103	6	SAMPLE	S97T001010	0	W	H2ODIG01	SOLID	N/A	5.164		g/L
.5164g → .100 L												
97000332	AW-103	7	SAMPLE	S97T001010	0		DOSE-02	SOLID	N/A	15		mrad/hour
97000332	AW-103	8	DUP	S97T001010	0	W	H2ODIG01	SOLID	5.164	5.167	N/A	g/L
.5167g → .100 L												
97000332	AW-103	9	DUP	S97T001010	0		DOSE-02	SOLID	15	15	N/A	mrad/hour
97000332	AW-103	10	SAMPLE	S97T001011	0	W	H2ODIG01	SOLID	N/A	5.169		g/L
.5169g → .100 L												
97000332	AW-103	11	SAMPLE	S97T001011	0		DOSE-02	SOLID	N/A	20		mrad/hour
97000332	AW-103	12	DUP	S97T001011	0	W	H2ODIG01	SOLID	5.169	5.161	N/A	g/L
.5161g → .100 L												
97000332	AW-103	13	DUP	S97T001011	0		DOSE-02	SOLID	20	20	N/A	mrad/hour

Final page for worklist # 18232

Analyst Signature Date 5-31-97

Linda Mark 5-31-97
Analyst Signature Date

Reviewed G. Shelley 6/1/97

Data Entry Comments: HPT – Bill Bishop and Bob (Idaho) Clements

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# 18233

Analyst: NR **Instrument:** H2O01 **Book #**

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C193S4LH,5LH,UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	.100U	N/A	g/L
97000332	AW-103	2 SAMPLE	S97T000891	0 W	H2ODIG01	SOLID	N/A	4.748		g/L
		.4748 → .100U								
97000332	AW-103	3 SAMPLE	S97T000891	0	DOSE-02	SOLID	N/A	4		mrad/hour
97000332	AW-103	4 DUP	S97T000891	0 W	H2ODIG01	SOLID	4.748	4.699	N/A	g/L
		.4699 → .100U								
97000332	AW-103	5 DUP	S97T000891	0	DOSE-02	SOLID	4	5	N/A	mrad/hour
97000332	AW-103	6 SAMPLE	S97T000892	0 W	H2ODIG01	SOLID	N/A	4.901		g/L
		.4901 → .100U								
97000332	AW-103	7 SAMPLE	S97T000892	0	DOSE-02	SOLID	N/A	4		mrad/hour
97000332	AW-103	8 DUP	S97T000892	0 W	H2ODIG01	SOLID	4.901	4.400	N/A	g/L
		.4400 → .100U								
97000332	AW-103	9 DUP	S97T000892	0	DOSE-02	SOLID	4	5	N/A	mrad/hour
97000332	AW-103	10 SAMPLE	S97T000893	0 W	H2ODIG01	SOLID	N/A	5.345		g/L
		.5345 → .100U								
97000332	AW-103	11 SAMPLE	S97T000893	0	DOSE-02	SOLID	N/A	5		mrad/hour
97000332	AW-103	12 DUP	S97T000893	0 W	H2ODIG01	SOLID	5.345	5.300	N/A	g/L
		.5300 → .100U								
97000332	AW-103	13 DUP	S97T000893	0	DOSE-02	SOLID	5	5	N/A	mrad/hour

Final page for worklist # 18233

Analyst Signature 6/8/97 Date

S97T000878 → S97T000891
S97T000879 → S97T000892
S97T000880 → S97T000893

Analyst Signature 6-8-97 Date

Validated by N Lagrius 6-9-97

Data Entry Comments:

REVIEWER SIGNATURE 6/9/97 DATE

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# 18234

Analyst: NK **Instrument:** H2O01 **Book #**

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C193S6UH,LH, 7UH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2ODIG01	SOLID	1	.100U	N/A	g/L
97000332	AW-103	2	SAMPLE	S97T001003	0	W	H2ODIG01	SOLID	N/A	5.152		g/L
			.5152 → .100U									
97000332	AW-103	3	SAMPLE	S97T001003	0		DOSE-02	SOLID	N/A	5		mrad/hour
97000332	AW-103	4	DUP	S97T001003	0	W	H2ODIG01	SOLID	5.152	5.116	N/A	g/L
			.5116 → .100U									
97000332	AW-103	5	DUP	S97T001003	0		DOSE-02	SOLID	5	5	N/A	mrad/hour
97000332	AW-103	6	SAMPLE	S97T001004	0	W	H2ODIG01	SOLID	N/A	4.868		g/L
			.4868 → .100U									
97000332	AW-103	7	SAMPLE	S97T001004	0		DOSE-02	SOLID	N/A	6		mrad/hour
97000332	AW-103	8	DUP	S97T001004	0	W	H2ODIG01	SOLID	4.868	4.845	N/A	g/L
			.4845 → .100U									
97000332	AW-103	9	DUP	S97T001004	0		DOSE-02	SOLID	6	5	N/A	mrad/hour
97000332	AW-103	10	SAMPLE	S97T001007	0	W	H2ODIG01	SOLID	N/A	5.015		g/L
			.5015 → .100U									
97000332	AW-103	11	SAMPLE	S97T001007	0		DOSE-02	SOLID	N/A	5		mrad/hour
97000332	AW-103	12	DUP	S97T001007	0	W	H2ODIG01	SOLID	5.015	5.034	N/A	g/L
			.5034 → .100U									
97000332	AW-103	13	DUP	S97T001007	0		DOSE-02	SOLID	5	5	N/A	mrad/hour

Final page for worklist # 18234

Nadia Kemp 6/7/97
Analyst Signature **Date**

S97T000976 → 1003
S97T000980 → 1007
S97T000977 → 1004

S Thompson 6-6-97
Analyst Signature **Date**

Validated by N Lapins 6-9-97

Data Entry Comments:

REVIEWER SIGNATURE 6/8/97 DATE

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# 18235

Analyst: DCD **Instrument:** H2O01 **Book #** N/A

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C194S4LH, 5UH,LH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2ODIG01	SOLID	1	.100	N/A	g/L
97000333	AW-103	2	SAMPLE	S97T001066	0	W	H2ODIG01	SOLID	N/A	4.991		g/L
		.4991₂ → .1L										
97000333	AW-103	3	SAMPLE	S97T001066	0		DOSE-02	SOLID	N/A	2.5		mrad/hour
97000333	AW-103	4	DUP	S97T001066	0	W	H2ODIG01	SOLID	4.991	5.079	N/A	g/L
		.5074₂ → .1L										
97000333	AW-103	5	DUP	S97T001066	0		DOSE-02	SOLID	2.5	2.5	N/A	mrad/hour
97000333	AW-103	6	SAMPLE	S97T001071	0	W	H2ODIG01	SOLID	N/A	5.010		g/L
		.5010₂ → .1L										
97000333	AW-103	7	SAMPLE	S97T001071	0		DOSE-02	SOLID	N/A	2.5		mrad/hour
97000333	AW-103	8	DUP	S97T001071	0	W	H2ODIG01	SOLID	5.010	5.098	N/A	g/L
		.5098₂ → .1L										
97000333	AW-103	9	DUP	S97T001071	0		DOSE-02	SOLID	2.5	2.5	N/A	mrad/hour
97000333	AW-103	10	SAMPLE	S97T001072	0	W	H2ODIG01	SOLID	N/A	5.119		g/L
		.5119₂ → .1L										
97000333	AW-103	11	SAMPLE	S97T001072	0		DOSE-02	SOLID	N/A	2.5		mrad/hour
97000333	AW-103	12	DUP	S97T001072	0	W	H2ODIG01	SOLID	5.119	5.091	N/A	g/L
		.5091 → .1L										
97000333	AW-103	13	DUP	S97T001072	0		DOSE-02	SOLID	2.5	2.5	N/A	mrad/hour

Final page for worklist # 18235

David C Dunbar 5-31-97
Analyst Signature **Date**

Linda Mack 6-1-97
Analyst Signature **Date**

5-31-97

Reviewed B Nelley 6/1/97

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
05/31/97 06:04

LABCORE Data Entry Template for Worklist# 18236

Analyst: DCD **Instrument:** H2O01 **Book #** N/A

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C194S6UH,LH, 7UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	.100	N/A	g/L
97000333	AW-103	2 SAMPLE	S97T001067	0 W	H2ODIG01	SOLID	N/A	4.879		g/L
		.4879g → .1L								
97000333	AW-103	3 SAMPLE	S97T001067	0	DOSE-02	SOLID	N/A	5.		mrad/hour
97000333	AW-103	4 DUP	S97T001067	0 W	H2ODIG01	SOLID	4.879	4.936	N/A	g/L
		.4936g → .1L								
97000333	AW-103	5 DUP	S97T001067	0	DOSE-02	SOLID	5	5	N/A	mrad/hour
97000333	AW-103	6 SAMPLE	S97T001068	0 W	H2ODIG01	SOLID	N/A	5.145		g/L
		.5145g → .1L								
97000333	AW-103	7 SAMPLE	S97T001068	0	DOSE-02	SOLID	N/A	5		mrad/hour
97000333	AW-103	8 DUP	S97T001068	0 W	H2ODIG01	SOLID	5.145	5.101	N/A	g/L
		.5101g → .1L								
97000333	AW-103	9 DUP	S97T001068	0	DOSE-02	SOLID	5	5	N/A	mrad/hour
97000333	AW-103	10 SAMPLE	S97T001073	0 W	H2ODIG01	SOLID	N/A	5.056		g/L
		.5056 → .1L								
97000333	AW-103	11 SAMPLE	S97T001073	0	DOSE-02	SOLID	N/A	5		mrad/hour
97000333	AW-103	12 DUP	S97T001073	0 W	H2ODIG01	SOLID	5.056	4.919	N/A	g/L
		.4919 → .1L								
97000333	AW-103	13 DUP	S97T001073	0	DOSE-02	SOLID	5	5	N/A	mrad/hour

Final page for worklist# 18236

David C Duke 5-31-97
Analyst Signature **Date**

Kenneth Matteson 5-31-97
Analyst Signature **Date**

Reviewed Gmcalley 6/6/97

Sheila J Mock 6-1-97
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.

worklistrpt Version 2.1 05/15/95
06/07/97 13:59

LABCORE Data Entry Template for Worklist# 18237

Analyst: RK **Instrument:** H2O01 **Book #**

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C194S7LH, 8UH,LH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2ODIG01	SOLID	1	.100L	N/A	g/L
97000333	AW-103	2	SAMPLE	S97T001069	0	W	H2ODIG01	SOLID	N/A	5.417		g/L
			.5417 →									
97000333	AW-103	3	SAMPLE	S97T001069	0		DOSE-02	SOLID	N/A	7.5		mrad/hour
97000333	AW-103	4	DUP	S97T001069	0	W	H2ODIG01	SOLID	5.417	5.460	N/A	g/L
			.5460 →									
97000333	AW-103	5	DUP	S97T001069	0		DOSE-02	SOLID	7.5	7.5	N/A	mrad/hour
97000333	AW-103	6	SAMPLE	S97T001074	0	W	H2ODIG01	SOLID	N/A	5.246		g/L
			.5246									
97000333	AW-103	7	SAMPLE	S97T001074	0		DOSE-02	SOLID	N/A	5		mrad/hour
97000333	AW-103	8	DUP	S97T001074	0	W	H2ODIG01	SOLID	5.246	5.223	N/A	g/L
			.5223									
97000333	AW-103	9	DUP	S97T001074	0		DOSE-02	SOLID	5	5	N/A	mrad/hour
97000333	AW-103	10	SAMPLE	S97T001075	0	W	H2ODIG01	SOLID	N/A	5.123		g/L
			.5123									
97000333	AW-103	11	SAMPLE	S97T001075	0		DOSE-02	SOLID	N/A	7.5		mrad/hour
97000333	AW-103	12	DUP	S97T001075	0	W	H2ODIG01	SOLID	5.123	5.190	N/A	g/L
			.5190									
97000333	AW-103	13	DUP	S97T001075	0		DOSE-02	SOLID	7.5	7.5	N/A	mrad/hour

Final page for worklist # 18237

Anthony Puruto 6/8/97
Analyst Signature **Date**

Steve Ritter 6-8-97
Analyst Signature **Date**

RK Kirn

S97T001033 → S97T001069
S97T001038 S97T001074
S97T001063 (Hmm) S97T001075
1039

Validated by N Loyens 6-9-97

Data Entry Comments:

Submitted by R. Kirn Faxed by RK 6/8/97

Mi DeL 6/8/97
REVIEWER SIGNATURE DATE

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
06/07/97 14:00

LABCORE Data Entry Template for Worklist# 18238

Analyst: AOD **Instrument:** H2O01 **Book #**

Method: LA-504-101 Rev/Mod

Worklist Comment: AW-103 H2O DIGEST C194S9UH,LH, 10LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	.1001	N/A	g/L
97000333	AW-103	2 SAMPLE	S97T001070	0 W	H2ODIG01	SOLID	N/A	5.245		g/L
		.5245								
97000333	AW-103	3 SAMPLE	S97T001070	0	DOSE-02	SOLID	N/A	10		mrad/hour
97000333	AW-103	4 DUP	S97T001070	0 W	H2ODIG01	SOLID	5.245	5.375	N/A	g/L
		.5375								
97000333	AW-103	5 DUP	S97T001070	0	DOSE-02	SOLID	10	10	N/A	mrad/hour
97000333	AW-103	6 SAMPLE	S97T001076	0 W	H2ODIG01	SOLID	N/A	5.860		g/L
		.5860								
97000333	AW-103	7 SAMPLE	S97T001076	0	DOSE-02	SOLID	N/A	15		mrad/hour
97000333	AW-103	8 DUP	S97T001076	0 W	H2ODIG01	SOLID	5.860	5.899	N/A	g/L
		.5899								
97000333	AW-103	9 DUP	S97T001076	0	DOSE-02	SOLID	15	15	N/A	mrad/hour
97000333	AW-103	10 SAMPLE	S97T001077	0 W	H2ODIG01	SOLID	N/A	5.237		g/L
		.5237								
97000333	AW-103	11 SAMPLE	S97T001077	0	DOSE-02	SOLID	N/A	25		mrad/hour
97000333	AW-103	12 DUP	S97T001077	0 W	H2ODIG01	SOLID	5.237	5.213	N/A	g/L
		.5213								
97000333	AW-103	13 DUP	S97T001077	0	DOSE-02	SOLID	25	25	N/A	mrad/hour
		.5213								

Final page for worklist # 18238

Analyst Signature Date 6/8/97

Analyst Signature Date 6-8-97

1034

Not Rcvd

S97T001058 → S97T001070 Validated by N Fagnes 6-9-97

S97T001040 → S97T001076

S97T001041 → S97T001077

Data Entry Comments: Submitted by R. Rima Faxed 6/8/97

REVIEWER SIGNATURE 6/5/97 DATE

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

AW-103 BULK DENSITY WORKSHEETS

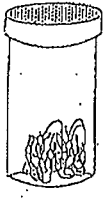
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Bulk Density Worksheet

Requestor: Steen

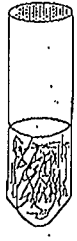
Date: ~~6-5-97~~ 6-5-97 6-5-97

Tank: NW103
Core: 193
Seg: 4 LH
Auger: —
Sample ID: S97T000873



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

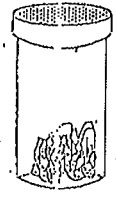
Jar#: 12357
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ~~0.82~~ 6-5-97 g
Net Weight: 6 g



Cone#: ____
Final Vol: 120 mL
Initial Weight: 7.45 g
Final Weight: 24.17 g
Net Weight: 16.72 g
Sample ID: ____

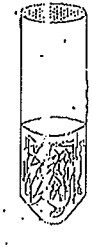
Appearance/Narrative: 12/12 = 1.39 gm/ml
BulkDen = 16.72/12 = 1.39 gm/ml

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: ____
Jar/Vial Size: ~~0.82~~ mL
Initial Weight: ~~7.97~~ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative:

149

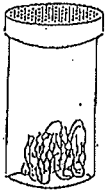
HNF-SD-WM-DP-254, REV. 0

DOE/RL 6-5-97

Bulk Density Worksheet

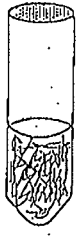
Requestor: STOON Date: 6-5-97

Tank: AW-103
Core: 193
Seg: SLH
Auger: —
Sample ID: S97T000876



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

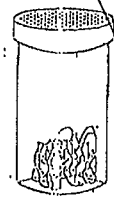
Jar#: 12616
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____
Net Weight: 6-5-97



Cone#: 16
Final Vol: 13.1 mL
Initial Weight: 7.49 g
Final Weight: 25.27 g
Net Weight: 17.78 g
Sample ID: ____

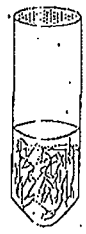
Appearance/Narrative:
BULK DENSITY = 17.78/13.1 = 1.36 g/mL

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: ____
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: 6-5-97
Net Weight: ____ g



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative:

HNF-SD-WM-DP-254, REV. 0 W350 8/20/97

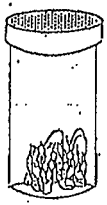
HNF-SD-WM-DP-249, REV. 0

COPY

Bulk Density Worksheet

Requestor: FRAN STEEN Date: 5/28/97

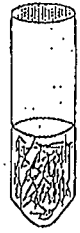
Tank: AW-103
Core: 193
Seg: 6th Full
Auger: Normal
Sample ID: 3977000971



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: 12611
Jar/Vial Size: 250 mL
Initial Weight: 409.0 g
Final Weight: ____ g
Net Weight: ____ g

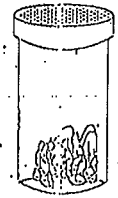
151



Cone#: 12611
Final Vol: 6.5 mL
Initial Weight: 7.48 g
Final Weight: 16.62 g
Net Weight: 9.14 g
Sample ID: ____

Appearance/Narrative: 9.14/6.5 = 1.40 g/mL

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: ____
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative: ____

8/10/97

post shake test

HNF-SD-WM-DP-249, REV. 0

HNF-SD-WM-DP-254, REV-0 8/20/97

05/29/97 13:09 ☎509 373 5047 222S HAZMAT UNIT →→→ LAB DATA MGMT ☑006

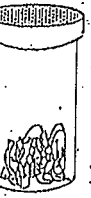
COPY

Bulk Density Worksheet

Requestor: F. STEEN

Date: 5/28/97

Tank: AW-103
Core: 193
Seg: 7&11
Auger: NA
Sample ID: _____



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

Jar#: 12282
Jar/Vial Size: 250 mL
Initial Weight: 42.64 g
Final Weight: _____ g
Net Weight: _____ g

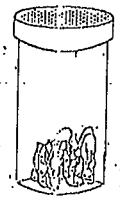


Cone#: 12882
Final Vol: 12.0 mL
Initial Weight: 7.474 g
Final Weight: 25.747 g
Net Weight: 18.27 g
Sample ID: _____

Appearance/Narrative: 18.27/12.0 = 1.52 g/mL

LBH 5/28/97

Tank: _____
Core: _____
Seg: _____
Auger: _____
Sample ID: _____



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g



Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Sample ID: _____

Appearance/Narrative: _____

8607EA

LBH 5/28/97

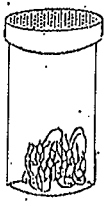
COPY

Bulk Density Worksheet

Requestor: F.STEEN

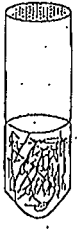
Date: 5/28/97

Tank: AW-103
Core: 193
Seg: 8&4
Auger: NA
Sample ID: S97T000973



Start Time:
End Time:
Homogenization Time (Min.):

Jar#: 12602
Jar/Vial Size: 250 mL
Initial Weight: 409.7 g
Final Weight: g
Net Weight: g



Cone#: 12602
Final Vol: 8.5 mL
Initial Weight: 7.47 g
Final Weight: 20.41 g
Net Weight: 12.94 g
Sample ID:

Appearance/Narrative:

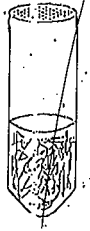
12.94/8.5 = 1.52 g/mL

Tank:
Core:
Seg:
Auger:
Sample ID:



Start Time:
End Time:
Homogenization Time (Min.):

Jar#:
Jar/Vial Size: mL
Initial Weight: g
Final Weight: g
Net Weight: g



Cone#:
Final Vol: mL
Initial Weight: g
Final Weight: g
Net Weight: g
Sample ID:

Appearance/Narrative:

Lost sample

153

HNF-SD-WM-DP-254, REV. 0

HNF-SD-WM-DP-249, REV. 0

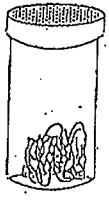
8/20/97

Bulk Density Worksheet

Requestor: F. STEEP

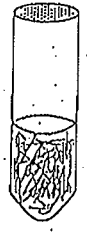
Date: 5/28/97

Tank: AW-103
Core: 97-H-193
Seg: #1 9LH
Auger: NA
Sample ID: 97T000974



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

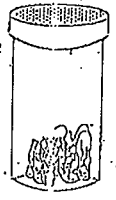
Jar#: 12292
Jar/Vial Size: 250 mL
Initial Weight: 413.6 g
Final Weight: _____ g
Net Weight: _____ g



Cone#: 12292
Final Vol: 9.4 mL
Initial Weight: 7.45 g
Final Weight: 23.05 g
Net Weight: 15.6 g
Sample ID: _____

Appearance/Narrative: 15.6/9.4 = 1.65 g/mL

Tank: _____
Core: _____
Seg: _____
Auger: _____
Sample ID: _____



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g



Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Sample ID: _____

Appearance/Narrative: _____

Per Jane Dougherty 08/07/97

5/29/97

HNF-SD-WM-DP-254, REV.0

HNF-SD-WM-DP-249, REV. 0

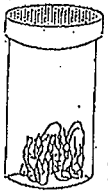
8-20-97

Bulk Density Worksheet

Requestor: F. Sutton

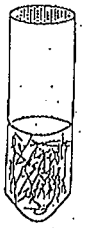
Date: 5/29/97

Tank: AW-103
Core: 193
Seg: 10
Auger: ____
Sample ID: S97T000975



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: 11891
Jar/Vial Size: 125 mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: 11891
Final Vol: 8.1 mL
Initial Weight: 7.45 g
Final Weight: 21.52 g
Net Weight: 14.07 g

Sample ID: ____

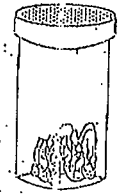
Appearance/Narrative: ____

14.07 / 8.1 = 1.74 g/mL

1.73

5/29/97

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: ____
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g

Sample ID: ____

Appearance/Narrative: ____

COPY

HNF-SD-WM-DP-254, REV. 0
HNF-SD-WM-DP-249, REV. 0

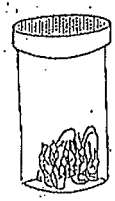
155

Bulk Density Worksheet

Date: 5/29/97

Requestor: Stern

Tank: AW103
Core: 104
Seg: 5 LH
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: 12283
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: 83
Final Vol: 12.50 mL
Initial Weight: 7.50 g
Final Weight: 23.40 g
Net Weight: 15.90 g
Sample ID: ____

Appearance/Narrative:
1.27 g/ml

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: ____
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative:

HNF-SD-WM-DP-249, REV. 0

HNF-SD-WM-DP-254, REV. 0

156

Bulk Density Worksheet

Requestor: Steen Date: 5/29/97

Tank: AW103
Core: 194
Seg: Btm Lft
Auger: ____
Sample ID: S97T001037



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: 12286
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g

Cone#: 96
Final Vol: 13.5 mL
Initial Weight: 7.15 g 7.67
Final Weight: 25.20 g
Net Weight: 17.53 g
Sample ID: S97T001037

Appearance/Narrative:
1.30 g/ml

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: AKH 5/29/97
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g

Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative:

157

HNF-SD-WM-DP-249, REV. 0

HNF-SD-WM-DP-254, REV. 0 Use B 10-9-97

Bulk Density Worksheet

Requestor: Stern

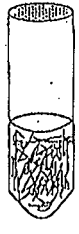
Date: 5/29/97

Tank: AW103
Core: 194
Seg: 7 LH
Auger: —
Sample ID: S97T001026



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

Jar#: 122889
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

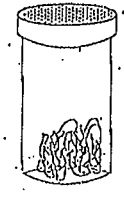


Cone#: 89
Final Vol: 12.5 mL
Initial Weight: 7.46 g
Final Weight: 25.89 g
Net Weight: 14.43 g
Sample ID: S97T001026

Appearance/Narrative:
1.47 g/ml

Tank: _____
Core: _____
Seg: _____
Auger: _____
Sample ID: _____

8/6/97



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g



Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Sample ID: _____

Appearance/Narrative:

HNF-SD-WM-DP-249, REV. 0

HNF-SD-WM-DP-254, REV. 0

8-30-97

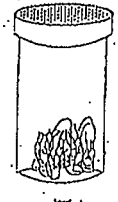
158

Bulk Density Worksheet

Requestor: Steen

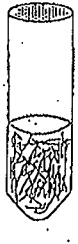
Date: 5/30/97

Tank: AW-103
Core: 194
Seg: 9 LH
Auger: ——
Sample ID: S97T001027



Start Time: ——
End Time: ——
Homogenization Time (Min.): ——

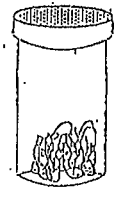
Jar#: 12294
Jar/Vial Size: —— mL
Initial Weight: —— g
Final Weight: —— g
Net Weight: —— g



Cone#: 12294
Final Vol: 12 mL
Initial Weight: 7.48 g
Final Weight: 25.45 g
Net Weight: 17.97 g
Sample ID: S97T001027

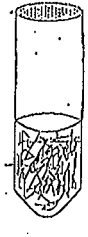
Appearance/Narrative:
1.50 g/ml

Tank: ——
Core: ——
Seg: ——
Auger: ——
Sample ID: ——



Start Time: ——
End Time: ——
Homogenization Time (Min.): ——

Jar#: ——
Jar/Vial Size: —— mL
Initial Weight: —— g
Final Weight: —— g
Net Weight: —— g



Cone#: ——
Final Vol: —— mL
Initial Weight: —— g
Final Weight: —— g
Net Weight: —— g
Sample ID: ——

Appearance/Narrative:

159

HNF-SD-WM-DP-249, REV. 0

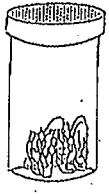
HNF-SD-WM-DP-254, REV. 0

Bulk Density Worksheet

Requestor: Stevens

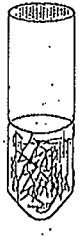
Date: 5/30/97

Tank: A-103
Core: 194
Seg: 9 LH
Auger: ____
Sample ID: S97T001028



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

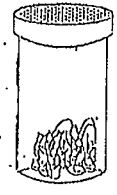
Jar#: 12296
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: 96
Final Vol: 12.5 mL
Initial Weight: 7.55 g
Final Weight: 28.95 g
Net Weight: 21.4 g
Sample ID: ____

Appearance/Narrative:
1.71 g/mL

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: PKH 08/07/97
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative:

HNF-SD-WM-DP-254, REV. 0
HNF-SD-WM-DP-249, REV. 0

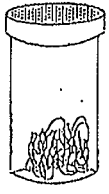
8/20/97

Bulk Density Worksheet

Requestor: steen

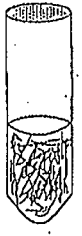
Date: 5-30-97

Tank: AW-103
Core: 194
Seg: 10 LH
Auger: —
Sample ID: S97T000029



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

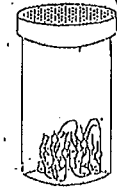
Jar#: 122946
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: DNR 5-30-97 g
Net Weight: ____ g



Cone#: 98
Final Vol: 10.0 mL
Initial Weight: 7.54 g
Final Weight: 22.89 g
Net Weight: 15.35 g
Sample ID: ____

Appearance/Narrative:
BLK DENSITY = 15.35 g / 10.0 mL = 1.54 g/mL

Tank: ____
Core: ____
Seg: ____
Auger: ____
Sample ID: ____



Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: ____
Jar/Vial Size: ____ mL
Initial Weight: ____ g
Final Weight: DNR g
Net Weight: ____ g

5-30-97



Cone#: ____
Final Vol: ____ mL
Initial Weight: ____ g
Final Weight: ____ g
Net Weight: ____ g
Sample ID: ____

Appearance/Narrative:

161

HNF-SD-WM-DP-254, REV. 0
HNF-SD-WM-DP-249, REV. 0

6-20-97

INORGANIC ANALYSIS

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LABCORE Data Entry Template for Worklist# 18368

Analyst: SMF **Instrument:** DSC0 3 **Book #** 62N14B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	26.19*	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000976	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000976	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000977	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	5 DUP	S97T000977	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18368

See Attached for Signature
Analyst Signature **Date**

6-5-97
Analyst Signature **Date**

Validated 6/6/97 Bmacfarlane

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# 18368

Analyst: KMSMF **Instrument:** DSC0 3 **Book #** 12214B

Method: LA-514-113 Rev/Mod D.0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2	SAMPLE	S97T000976	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3	DUP	S97T000976	0		DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	4	SAMPLE	S97T000977	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	5	DUP	S97T000977	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18368

6-1-97

Analyst Signature **Date** Susie M. Fulton

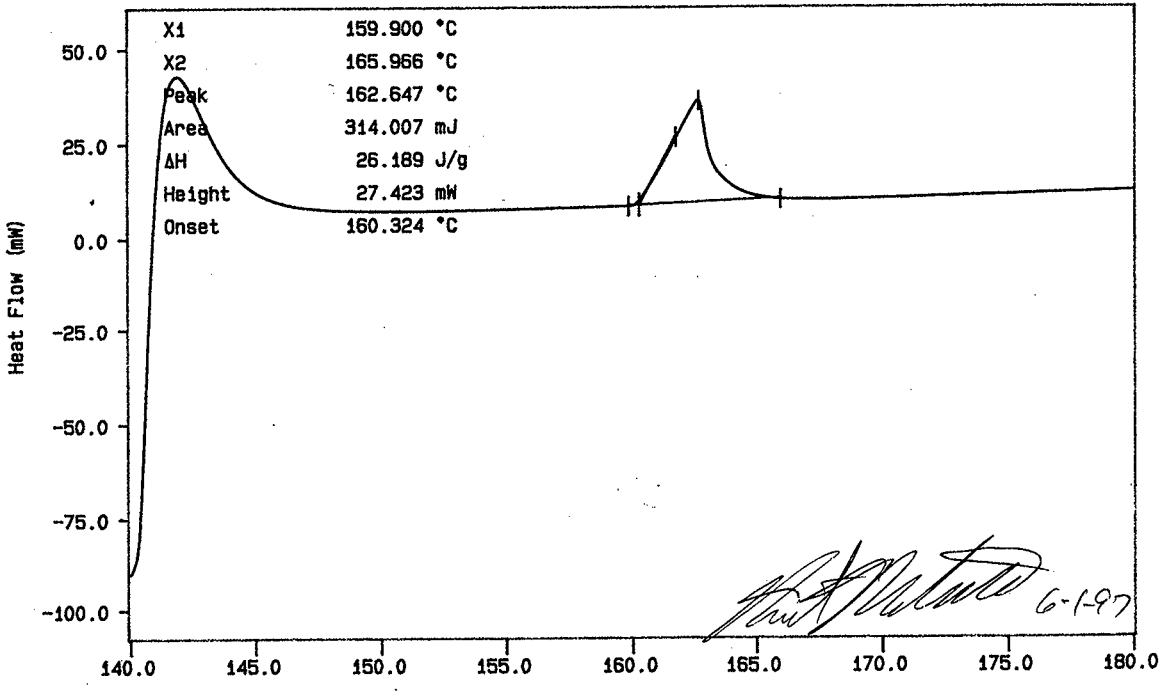
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DSC-03. SMF 6/4/97

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.

Curve 1: DSC
File info: IND060101 Sun Jun 1 03:07:15 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 166 TO 170.

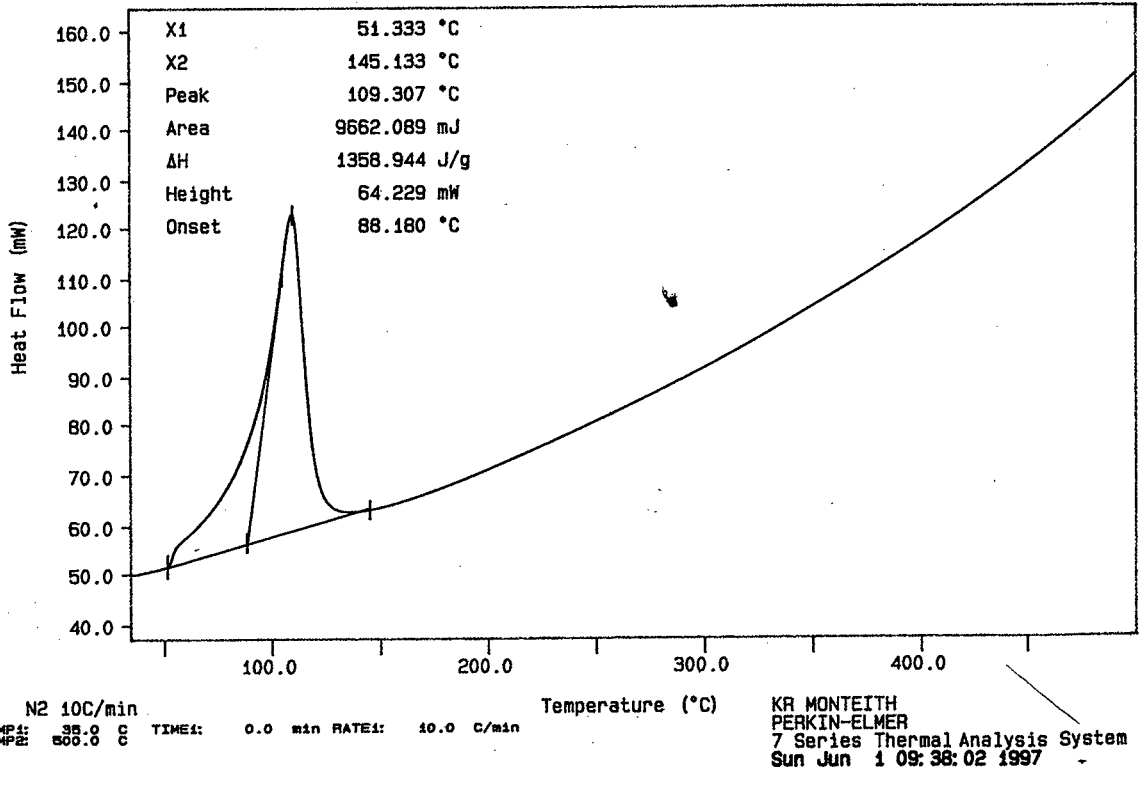


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

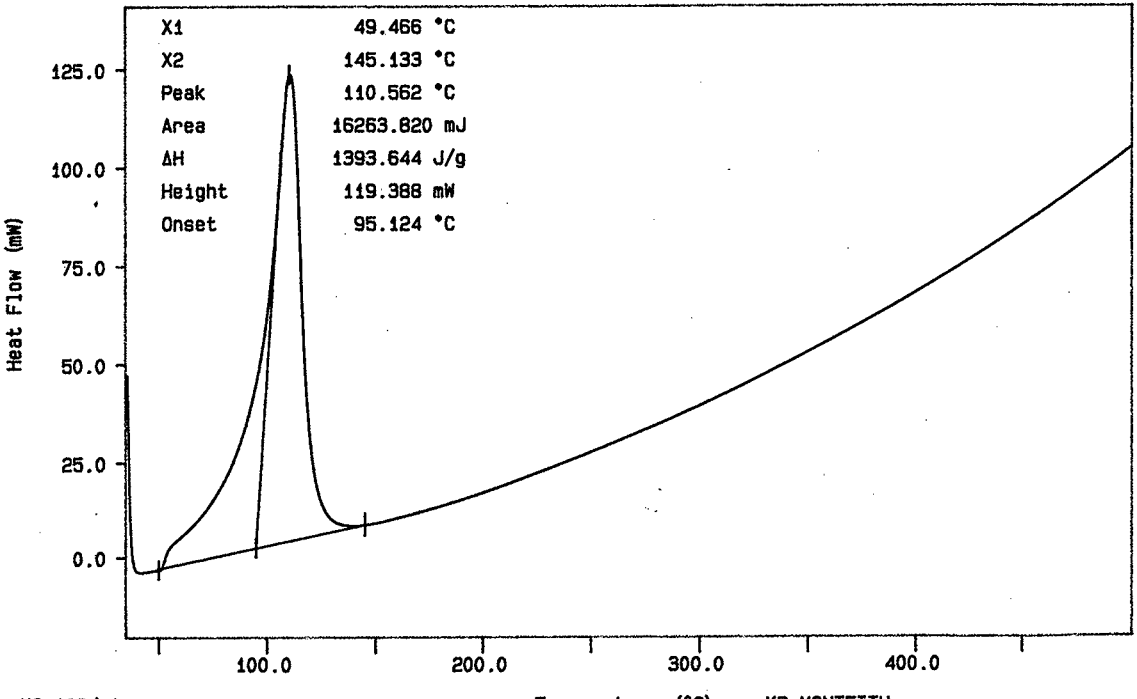
Temperature (°C)

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 10:07:18 1997

Curve 1: DSC
File info: SAM060107 Sun Jun 1 08:59:45 1997
Sample Weight. . . .10 mg
S97T000976



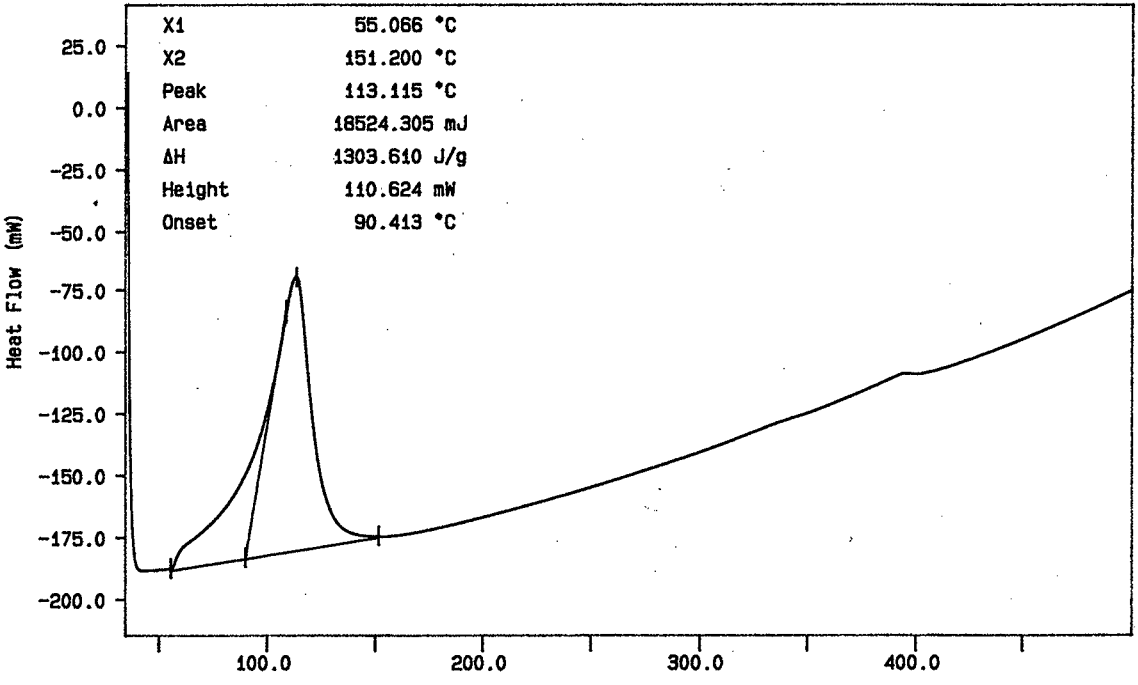
Curve 1: DSC
File info: SAM060108 Sun Jun 1 10:21:16 1997
Sample Weight: 11.670 mg
S97T000976 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 10:29:44 1997

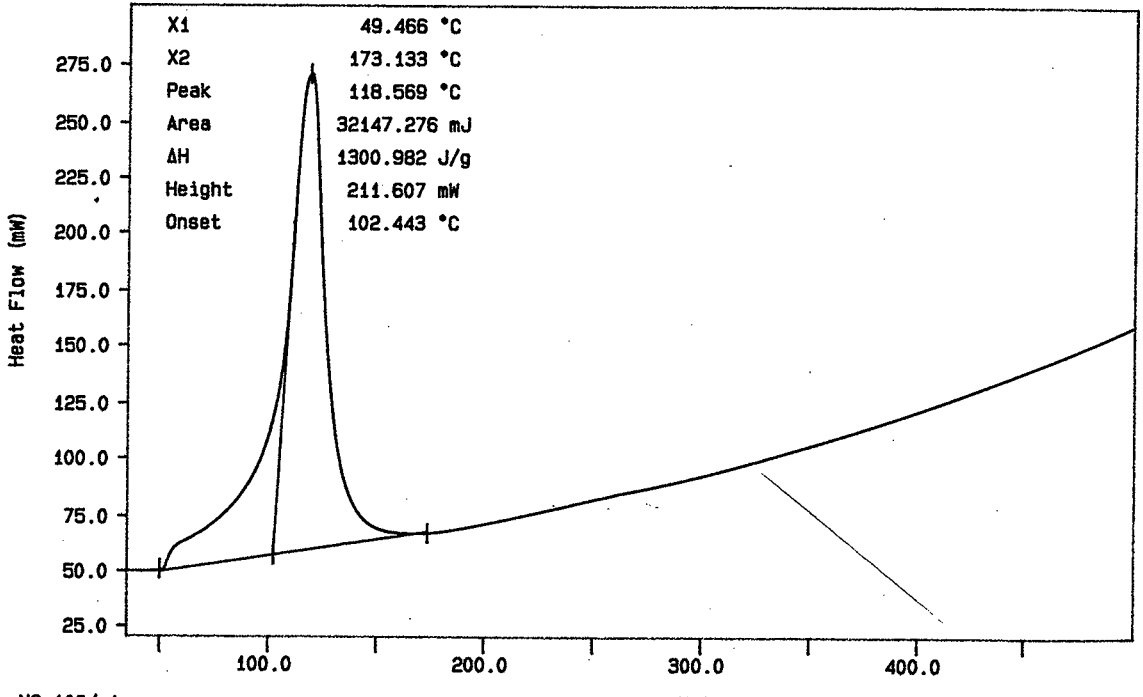
Curve 1: DSC
File info: SAM060109 Sun Jun 1 11:32:15 1997
Sample Weight: 14.210 mg
S97T000977



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 12:27:58 1997

Curve 1: DSC
File info: SAM060110 Sun Jun 1 13:18:50 1997
Sample Weight: 24.710 mg
S97T000977 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 16:07:19 1997

170

LABCORE Data Entry Template for Worklist# 18369

Analyst: ADP **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	26.28	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000978	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000978	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000979	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	5 DUP	S97T000979	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18369

See Attached for Signature
Analyst Signature Date

Validated 6/6/97 Bachelor

Analyst Signature 6-5-97
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.

worklistrpt Version 2.1 05/15/95
05/30/97 10:05

LABCORE Data Entry Template for Worklist# 18369

Analyst: ADP **Instrument:** DSC0 3 **Book #** 12N143

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000978	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3 DUP	S97T000978	0		DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000979	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	5 DUP	S97T000979	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18369

Anthony Pururo 6-2-97

Analyst Signature **Date**

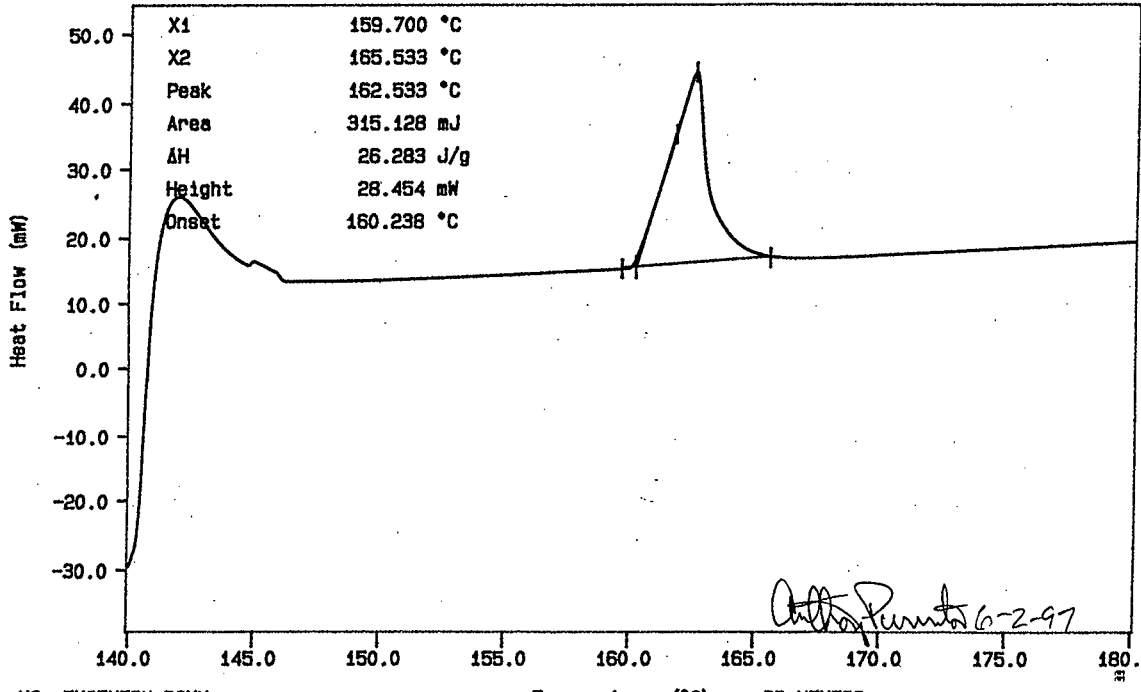
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DSC-03. 6/4/97

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.

Curve 1: DSC
File info: IND060202 Mon Jun 2 17:26:24 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 173 TO 177 8-19-97



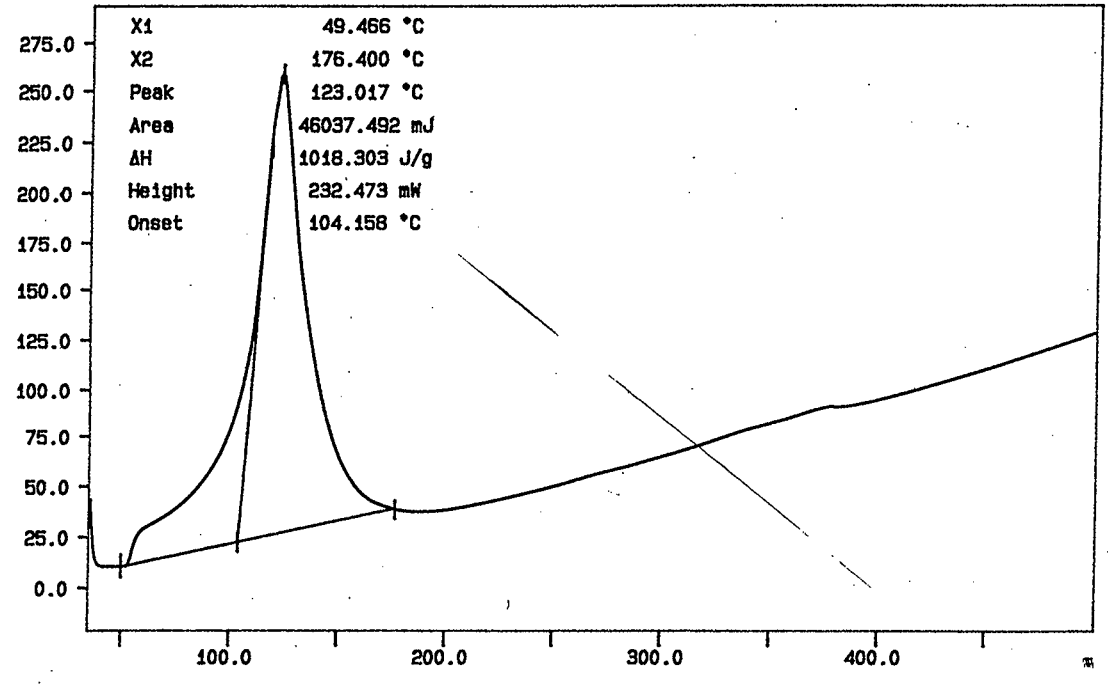
N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 17:33:00 1997

173

Curve 1: DSC
File info: SAM060206 Mon Jun 2 18:39:32 1997
Sample Weight: 27.430 mg
S97T000978 SAM
X1 49.466 °C
X2 181.533 °C
Peak 121.583 °C
Area 27418.496 mJ
ΔH 999.581 J/g
Height 111.068 mW
Onset 96.380 °C
Heat Flow (mW)
150.0
125.0
100.0
75.0
50.0
25.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 18:41:50 1997

Curve 1: DSC
File info: SAM060207 Mon Jun 2 19:37:43 1997
Sample Weight: 45.210 mg
S97T000978 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

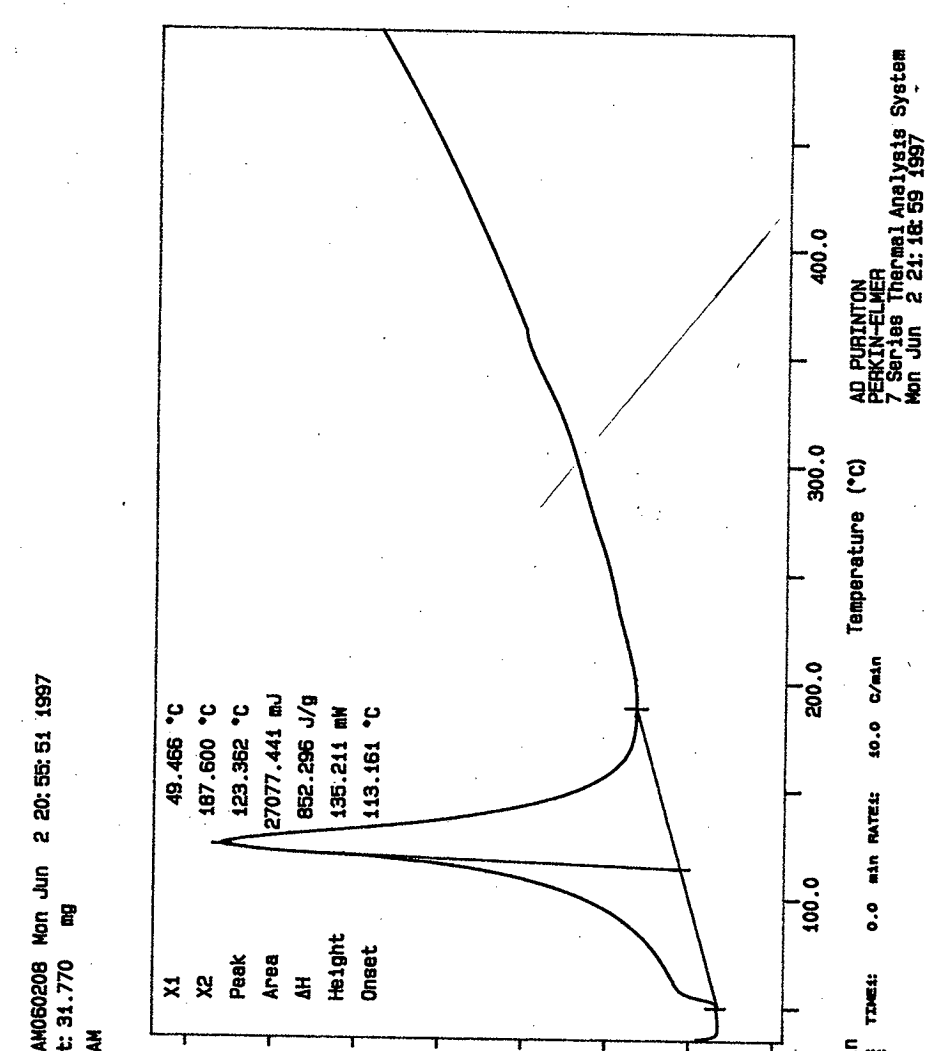
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 20:03:54 1997

HNF-SD-WM-DP-249, REV. 0

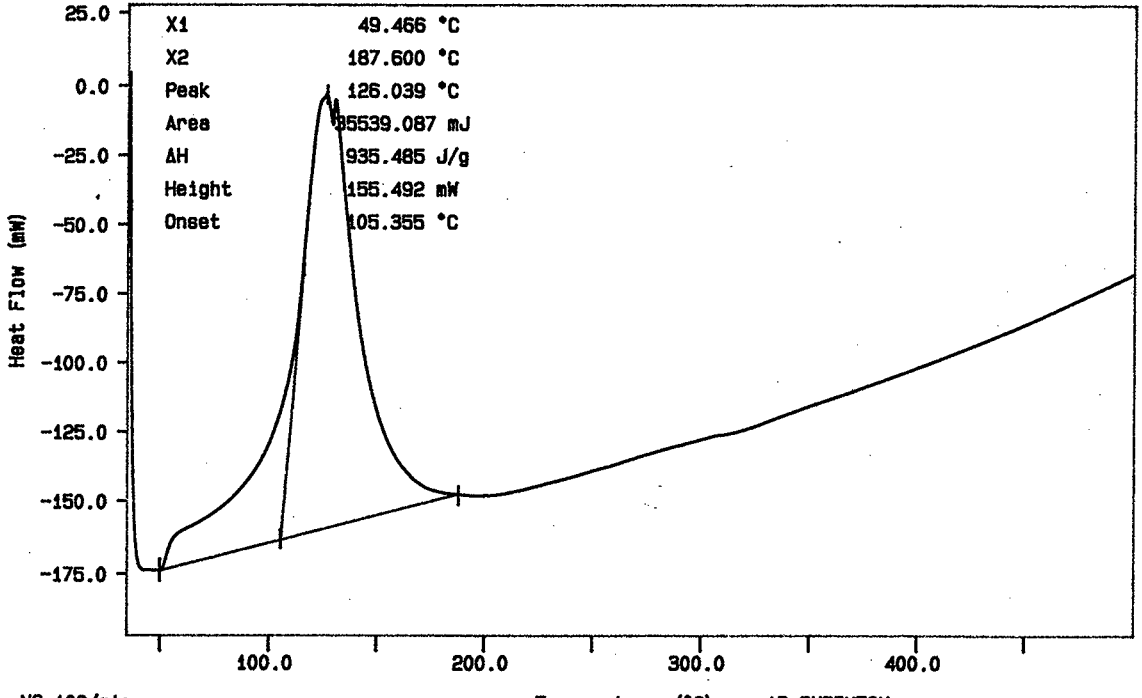
~~HNF-SD-WM-DP-249, REV. 0~~

8-14-97

175


Curve 1: DSC
File Info: SAM060208 Mon Jun 2 20:55:51 1997
Sample Weight: 31.770 mg
S97T000979.SAM
X1 49.466 °C
X2 187.600 °C
Peak 123.362 °C
Area 27077.441 mJ
ΔH 852.296 J/g
Height 135.211 mW
Onset 113.161 °C
Heat Flow (mW)
200.0
175.0
150.0
125.0
100.0
75.0
50.0
25.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 21:18:59 1997

Curve 1: DSC
File info: SAM060205 Mon Jun 2 22:14:46 1997
Sample Weight: 37.990 mg
S97T000979 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 22:15:59 1997

177

LABCORE Data Entry Template for Worklist# 18370

Analyst: ADP **Instrument:** DSC0 3 **Book #** DN14B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	26.28 *	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000980	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000980	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000981	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	5 DUP	S97T000981	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18370

See Attached for Signature
Analyst Signature **Date**

Validated 6/6/97 DBmchelor

Analyst Signature 6-5-97 **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.

LABCORE Data Entry Template for Worklist# 18370

Analyst: ADP **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000980	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3 DUP	S97T000980	0		DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000981	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	5 DUP	S97T000981	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18370

Anthony Turner 6-3-97

Analyst Signature **Date**

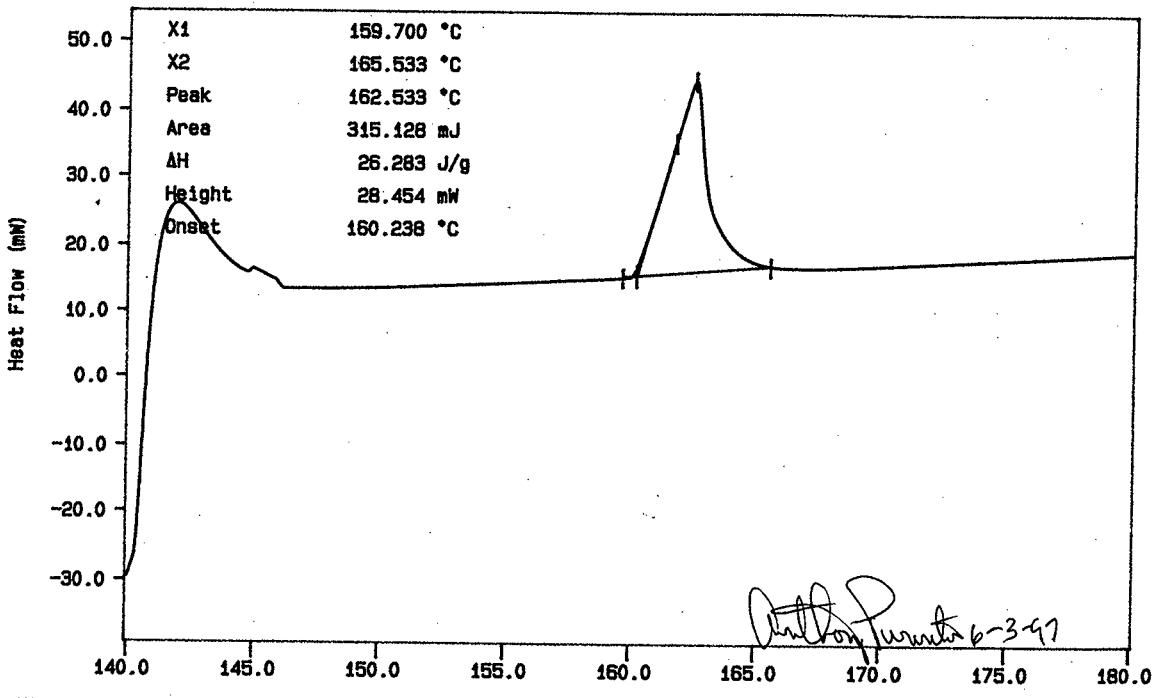
Analyst Signature **Date**

Data Entry Comments:
Ran Samples on DSC-03. 6/4/97

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.

Curve 1: DSC
File info: IND060202 Mon Jun 2 17:26:24 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 180 TO 184.

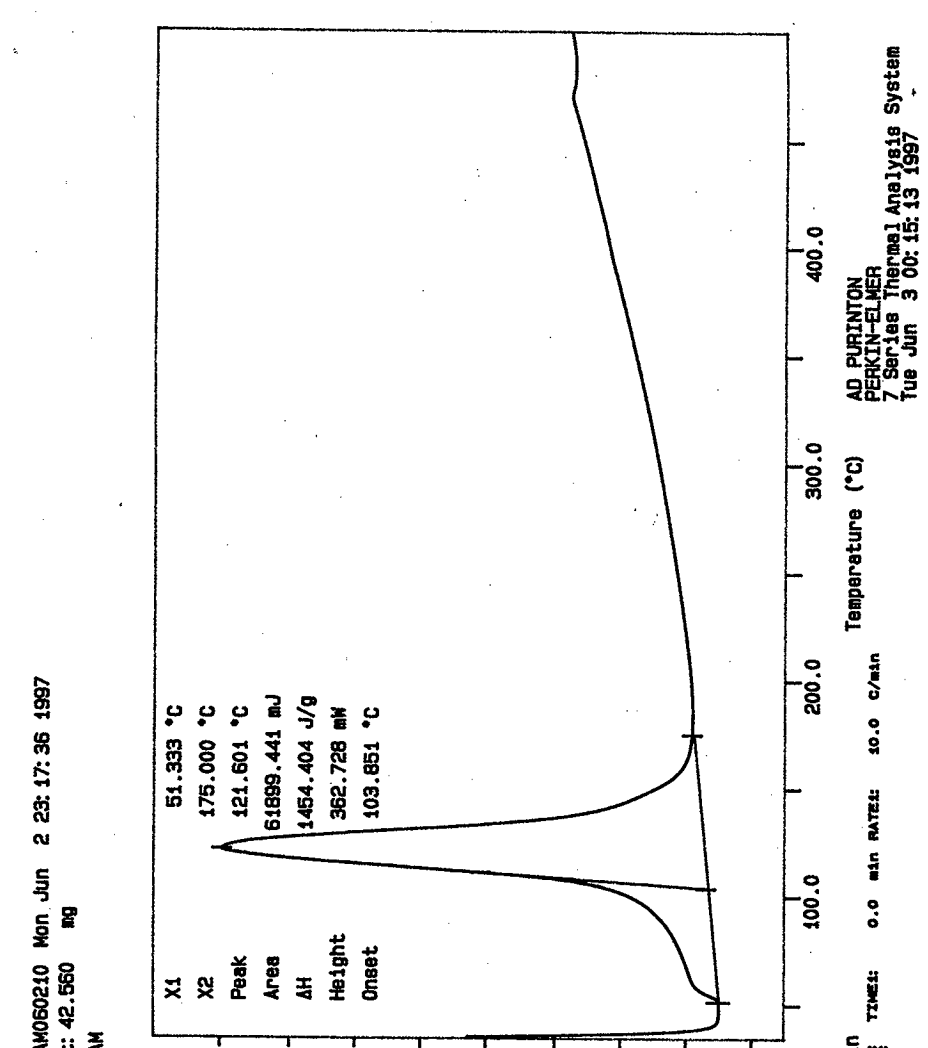


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

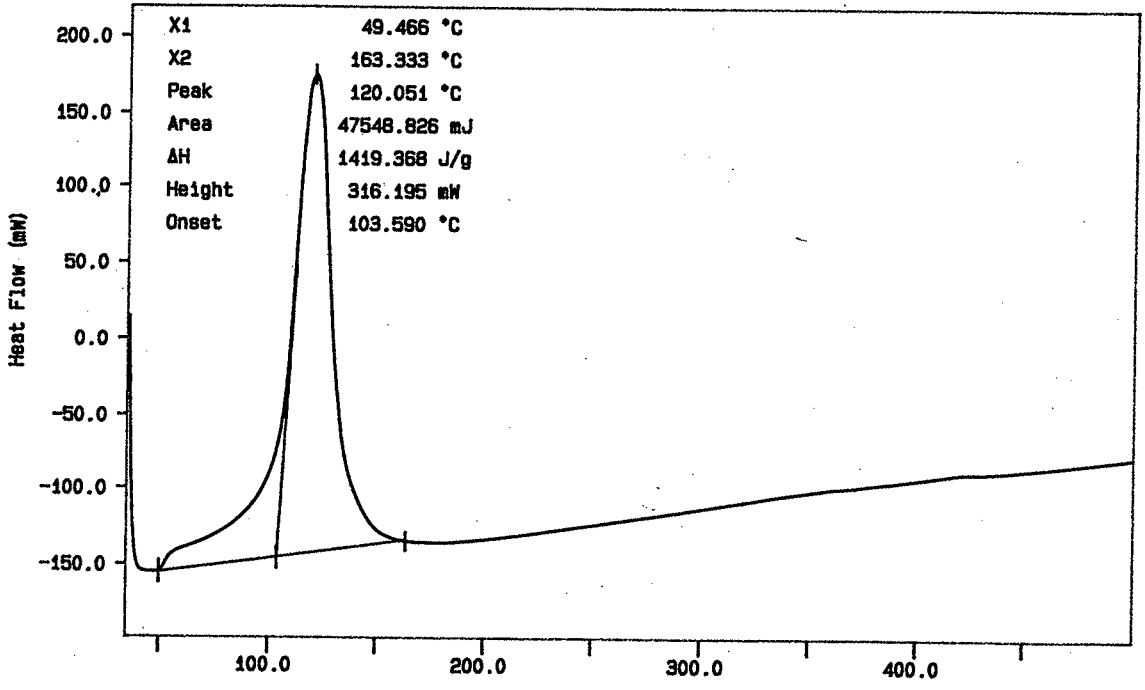
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 17:38:44 1997

180

HNF-SD-WM-DP-249, REV. 0


Curve 1: DSC
File info: SAM060210 Mon Jun 2 23:17:36 1997
Sample Weight: 42.560 mg
S97T000980 SAM
X1 51.333 °C
X2 175.000 °C
Peak 121.601 °C
Area 61899.441 mJ
ΔH 1454.404 J/g
Height 362.728 mW
Onset 103.851 °C
Heat Flow (mW)
200.0
150.0
100.0
50.0
0.0
-50.0
-100.0
-150.0
-200.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP: 30.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 600.0 C
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 00:15:13 1997

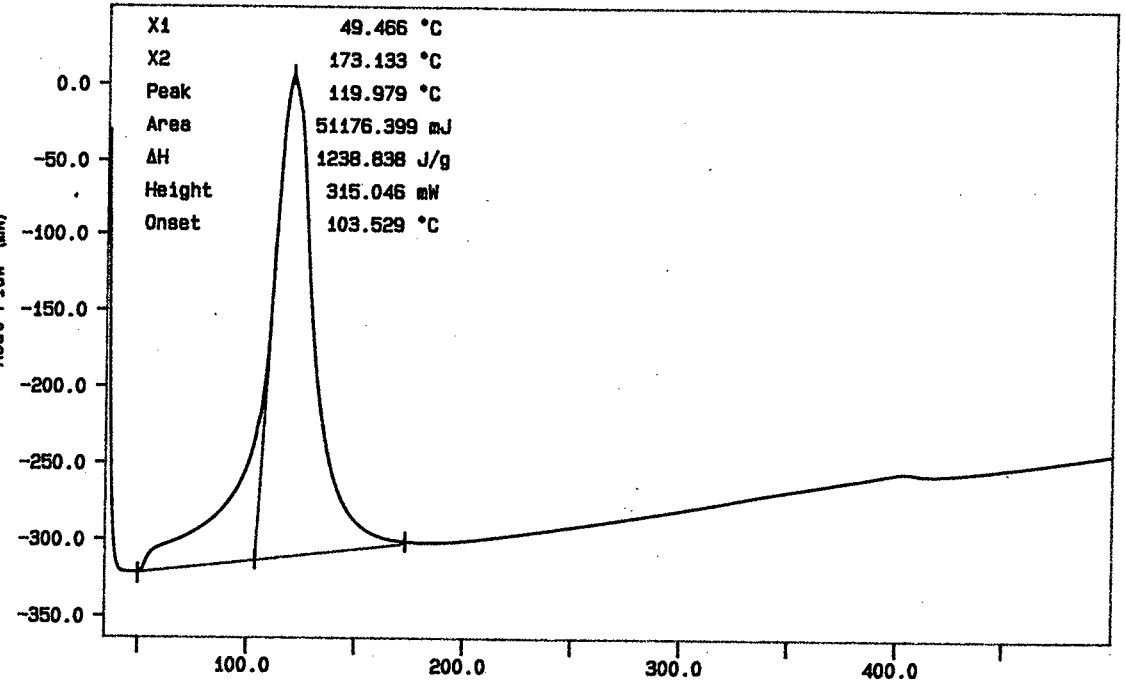
Curve 1: DSC
File info: SAM060211 Tue Jun 3 01:03:48 1997
Sample Weight: 33.500 mg
S97T000980 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

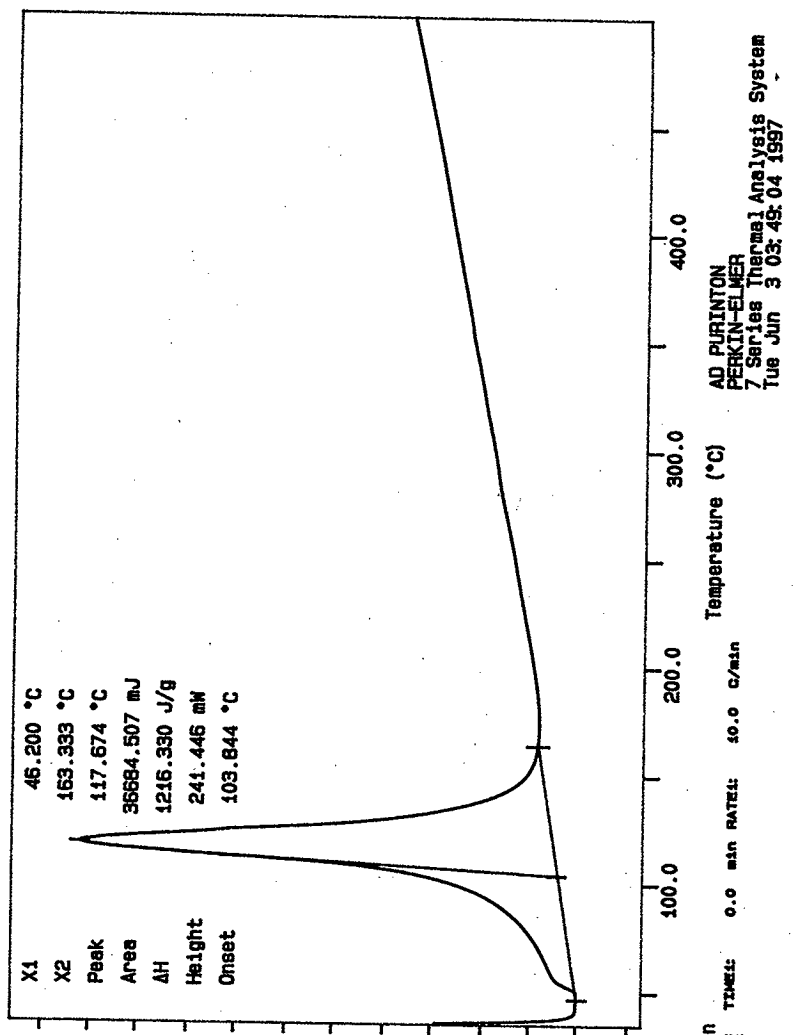
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 01:07:47 1997

Curve 1: DSC
File info: SAM060212 Tue Jun 3 02:04:07 1997
Sample Weight: 41.310 mg
S97T000981 SAM



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 02:49:20 1997


Curve 1: DSC
File info: SAM060213 Tue Jun 3 03:40:12 1997
Sample Weight: 30.160 mg
S977000981 DUP
X1 46.200 °C
X2 163.333 °C
Peak 117.674 °C
Area 36684.507 mJ
ΔH 1216.330 J/g
Height 241.446 mW
Onset 103.844 °C
Heat Flow (mW)
250.0
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
25.0
0.0
-25.0
-50.0
N2 10C/min
100.0
200.0
300.0
400.0
Temperature (°C)
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 03:49:04 1997

worklistrpt Version 2.1 05/15/95
06/05/97 13:16

LABCORE Data Entry Template for Worklist# 18371

Analyst: JDS **Instrument:** DSC0 3 **Book #** 12N 14B

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	27.36	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000982	0		DSC-01	SOLID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000982	0		DSC-01	SOLID	0	0	N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000983	0		DSC-01	SOLID	N/A	27.86		Joules/g
97000332	AW-103	5 DUP	S97T000983	0		DSC-01	SOLID	27.86	11.05	N/A	Joules/g

Final page for worklist # 18371

See Attached for Signature
Analyst Signature **Date**

Validated 6/9/97 Rpmachelor

Susan Bu 6/06/97
Analyst Signature **Date**

Data Entry Comments:
High RPD S97T000983 due to sample inhomogeneities. Rerun only at customer request. RPM 6/6/97

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
05/30/97 10:08

LABCORE Data Entry Template for Worklist# 18371

Analyst: JdS **Instrument:** DSC0 3 **Book #** 12N143

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000982	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3 DUP	S97T000982	0		DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000983	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	5 DUP	S97T000983	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18371

JdS 6/3/97

Analyst Signature **Date**

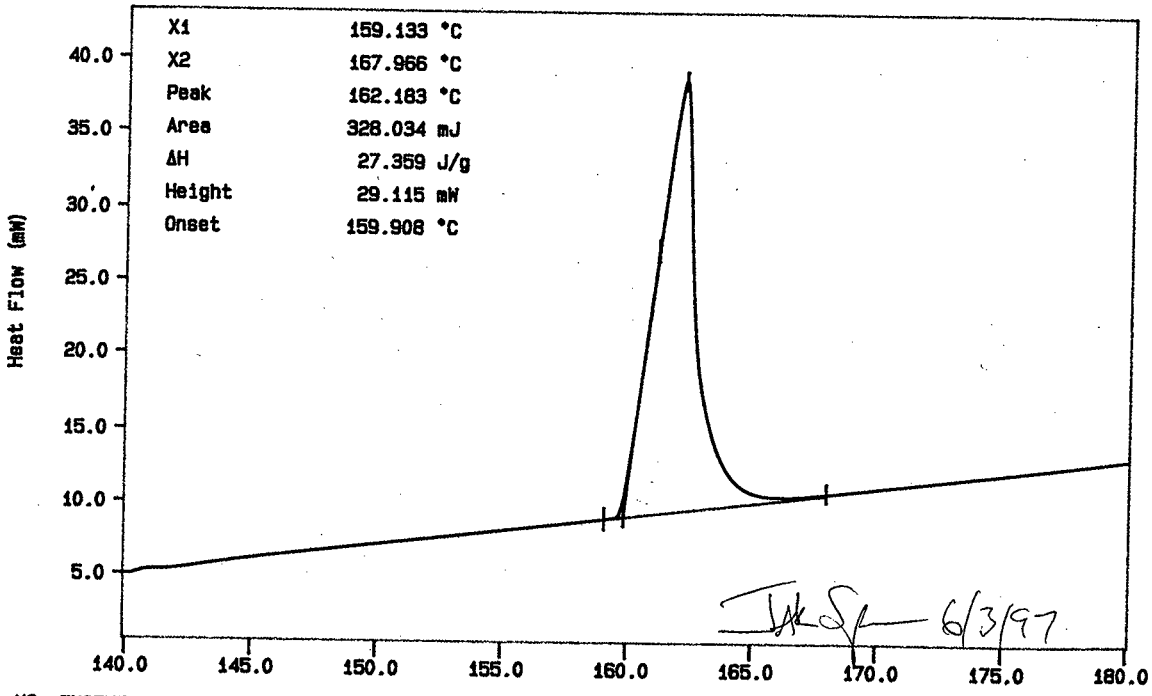
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DSC-03. 6/5/97

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.

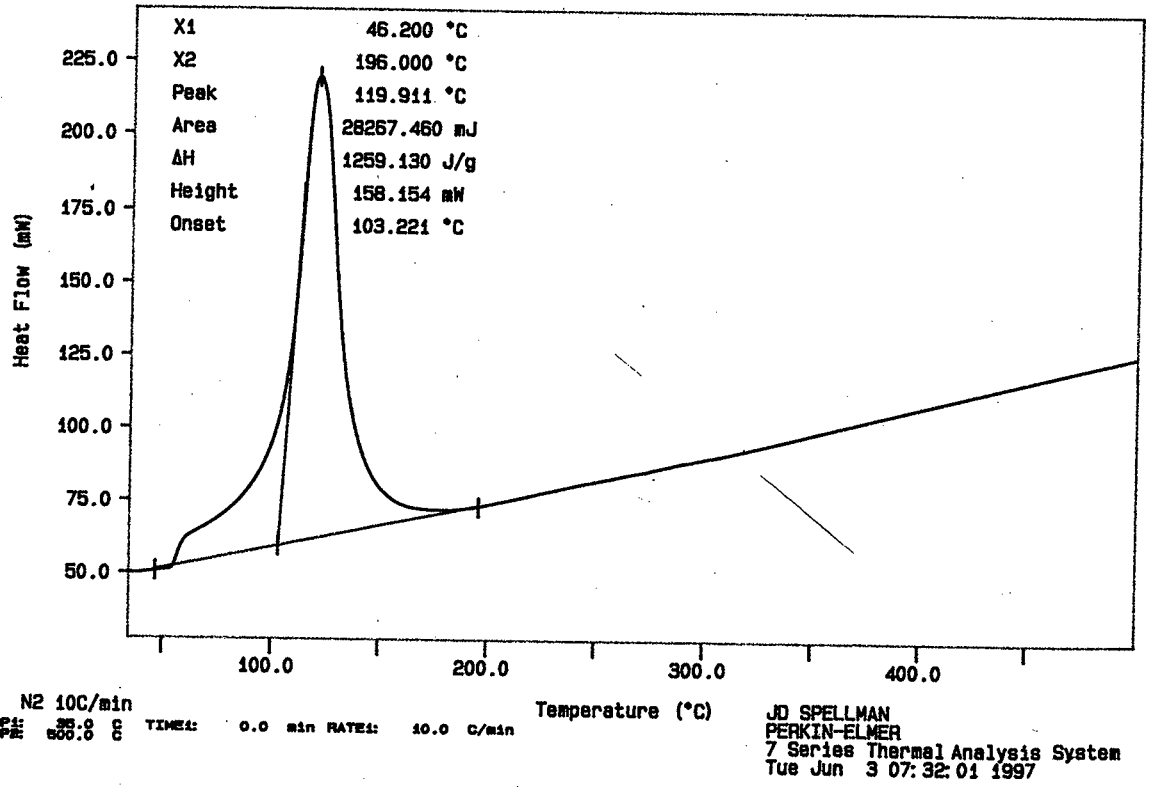
Curve 1: DSC
File info: IND060301 Tue Jun 3 05:33:37 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 187 TO 191.



6/3/97

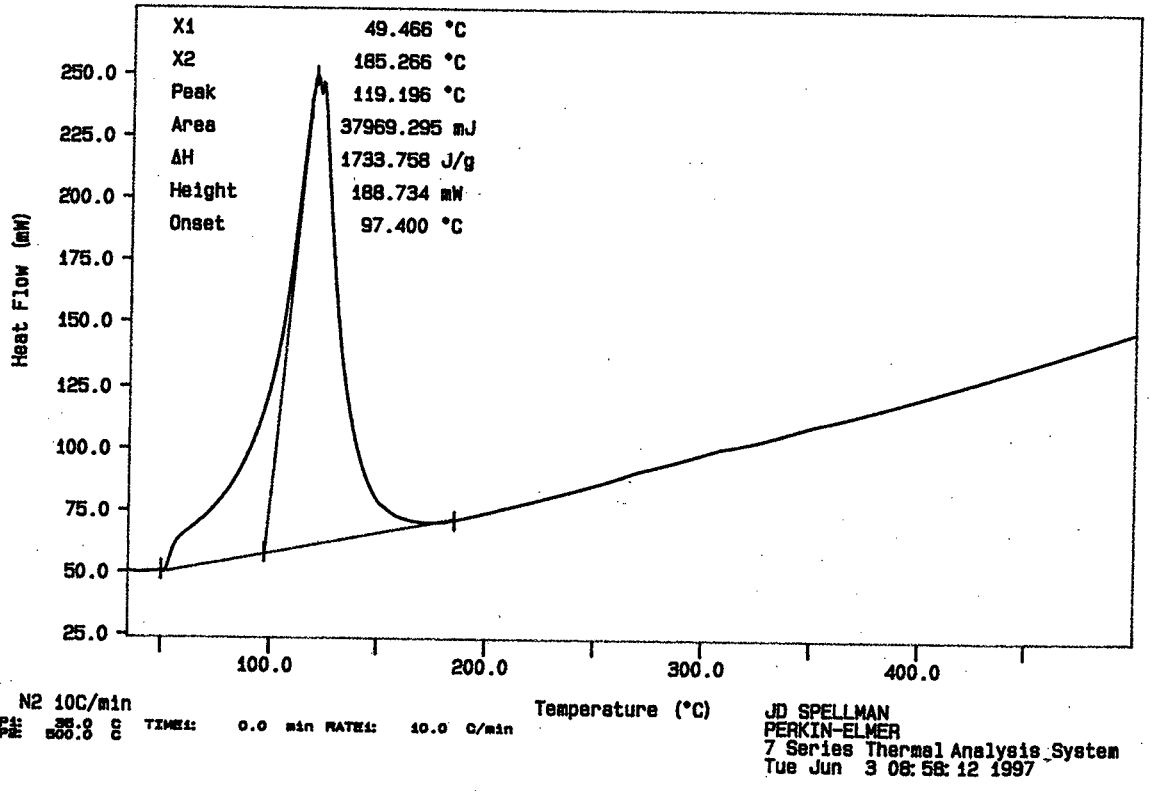
Curve 1: DSC
File info: SAM060301 Tue Jun 3 06:51:48 1997
Sample Weight: 22.450 mg
S97T000982



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

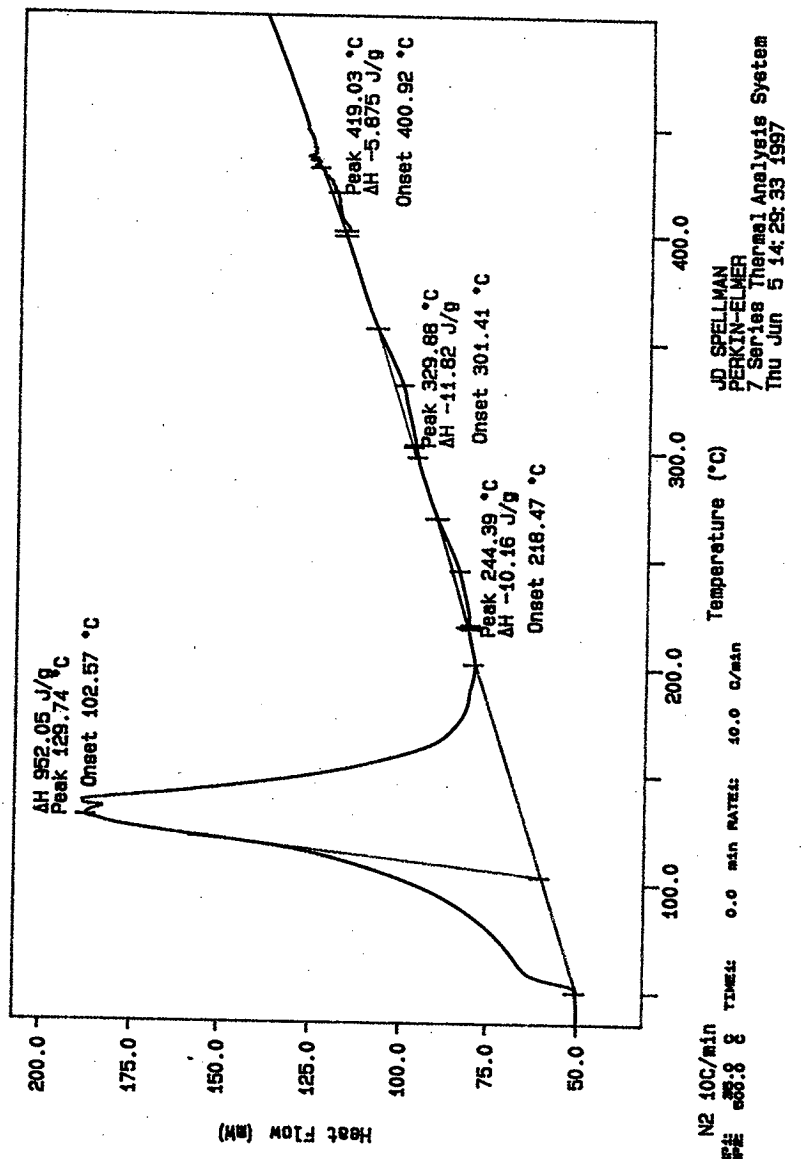
JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 07:32:01 1997

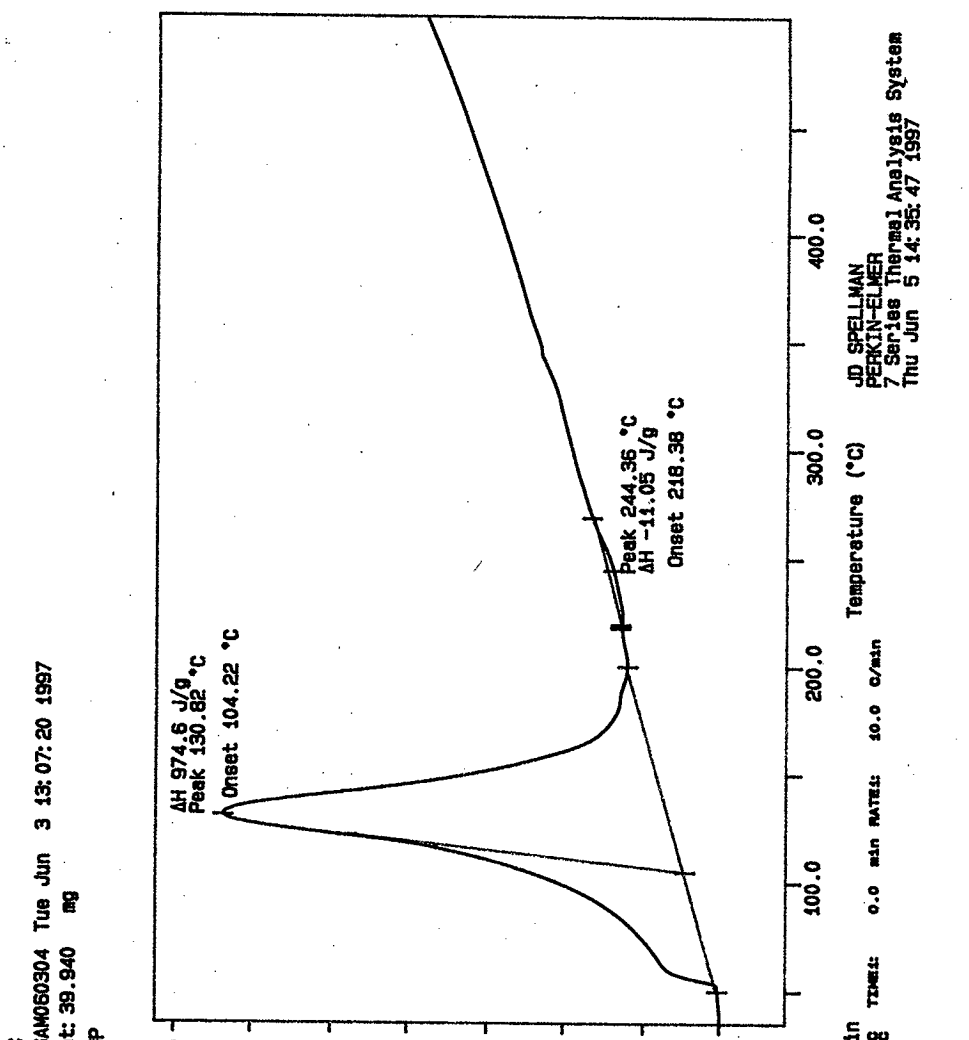
Curve 1: DSC
File info: SAM060302 Tue Jun 3 08:21:43 1997
Sample Weight: 21.900 mg
S97T000982DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 08:58:12 1997


Curve 1: DSC
File info: SAM060303 Tue Jun 3 10:13:32 1997
Sample Weight: 36.410 mg
S97T000983
ΔH 952.05 J/g
Peak 129.74 °C
Onset 102.57 °C
Peak 419.03 °C
ΔH -5.875 J/g
Onset 400.92 °C
Peak 329.88 °C
ΔH -11.82 J/g
Onset 301.41 °C
Peak 244.39 °C
ΔH -10.16 J/g
Onset 218.47 °C
Heat Flow (mW)
200.0
175.0
150.0
125.0
100.0
75.0
50.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
0.0 min RATE: 10.0 C/min
JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 14:29:33 1997


Curve 1: DSC
File info: SAM060304 Tue Jun 3 13:07:20 1997
Sample Weight: 39.940 mg
S97T000983DUP
ΔH 974.6 J/g
Peak 130.82 °C
Onset 104.22 °C
Peak 244.35 °C
ΔH -11.05 J/g
Onset 218.38 °C
Heat Flow (mW)
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
0.0 min RATE: 10.0 C/min
JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 14:35:47 1997

LABCORE Data Entry Template for Worklist# 18386

Analyst: SMF **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	27.00*	N/A	Joules/g
97000333	AW-103	2	SAMPLE	S97T001035	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	3	DUP	S97T001035	0.		DSC-03	SOLID	0	0	N/A	Joules/g
97000333	AW-103	4	SAMPLE	S97T001036	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	5	DUP	S97T001036	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18386

See Attached for Signature
Analyst Signature **Date**

Validated 6/6/97 [signature]

[signature] 6-5-97
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.

worklistrpt Version 2.1 05/15/95
05/30/97 14:35

LABCORE Data Entry Template for Worklist# 18386

Analyst: SMF **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000333	AW-103	2 SAMPLE	S97T001035	0		DSC-01	SOLID	N/A			Joules/g
97000333	AW-103	3 DUP	S97T001035	0		DSC-01	SOLID			N/A	Joules/g
97000333	AW-103	4 SAMPLE	S97T001036	0		DSC-01	SOLID	N/A			Joules/g
97000333	AW-103	5 DUP	S97T001036	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18386

Susie M. Dalton 5-31-97

Analyst Signature **Date**

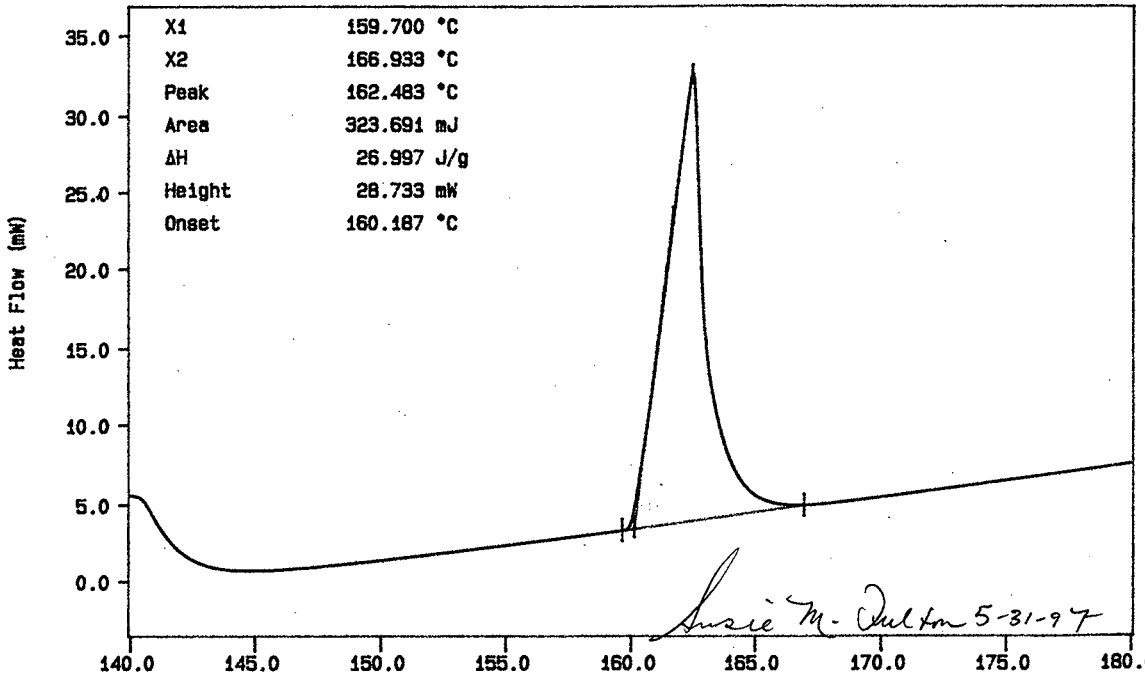
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DSC-03. 6/4/97

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.

Curve 1: DSC
File info: IND053101 Sat May 31 05:19:38 1997
Sample Weight: 11.990 mg
12N14-B

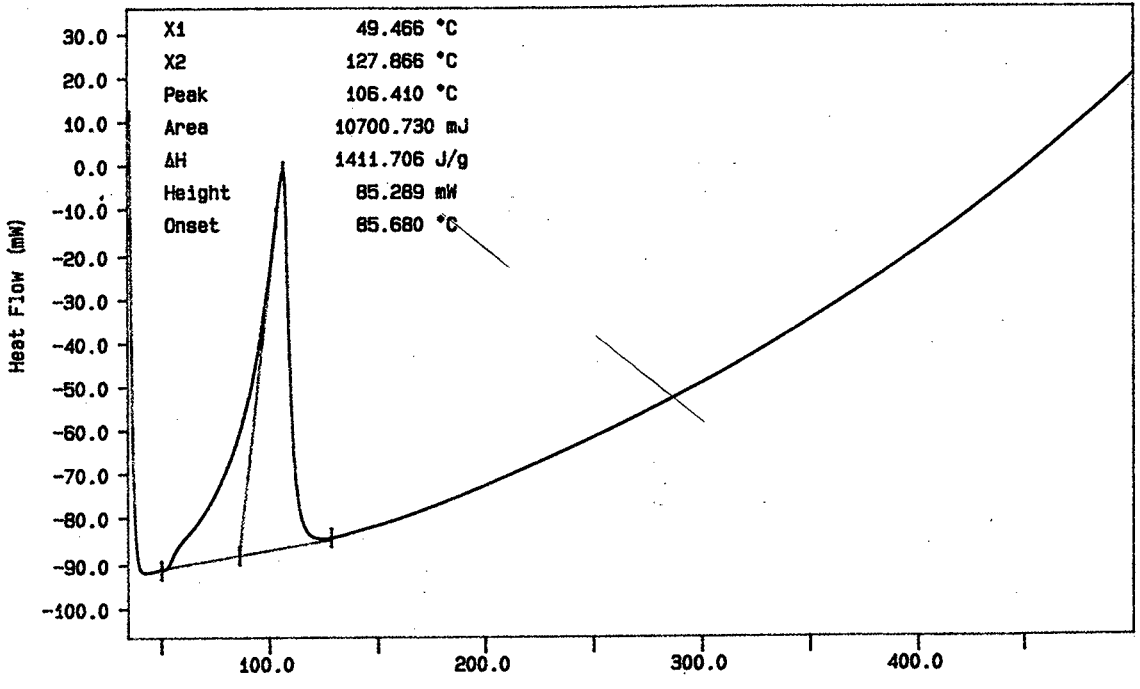
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 194 TO 198.



N2, EXOTHERM DOWN
Temperature (°C)
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

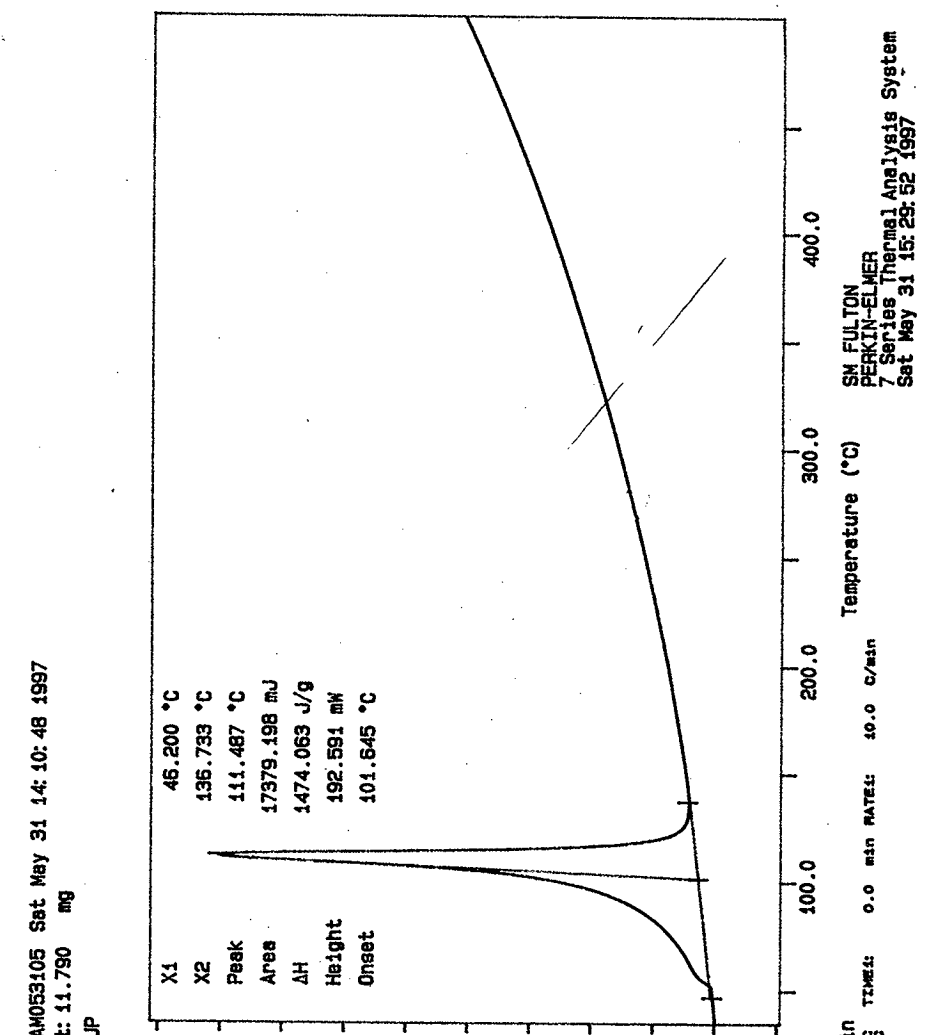
SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 05:33:13 1997

Curve 1: DSC
File info: SAM053102 Sat May 31 09:10:56 1997
Sample Weight: 7.580 mg
S97T001035

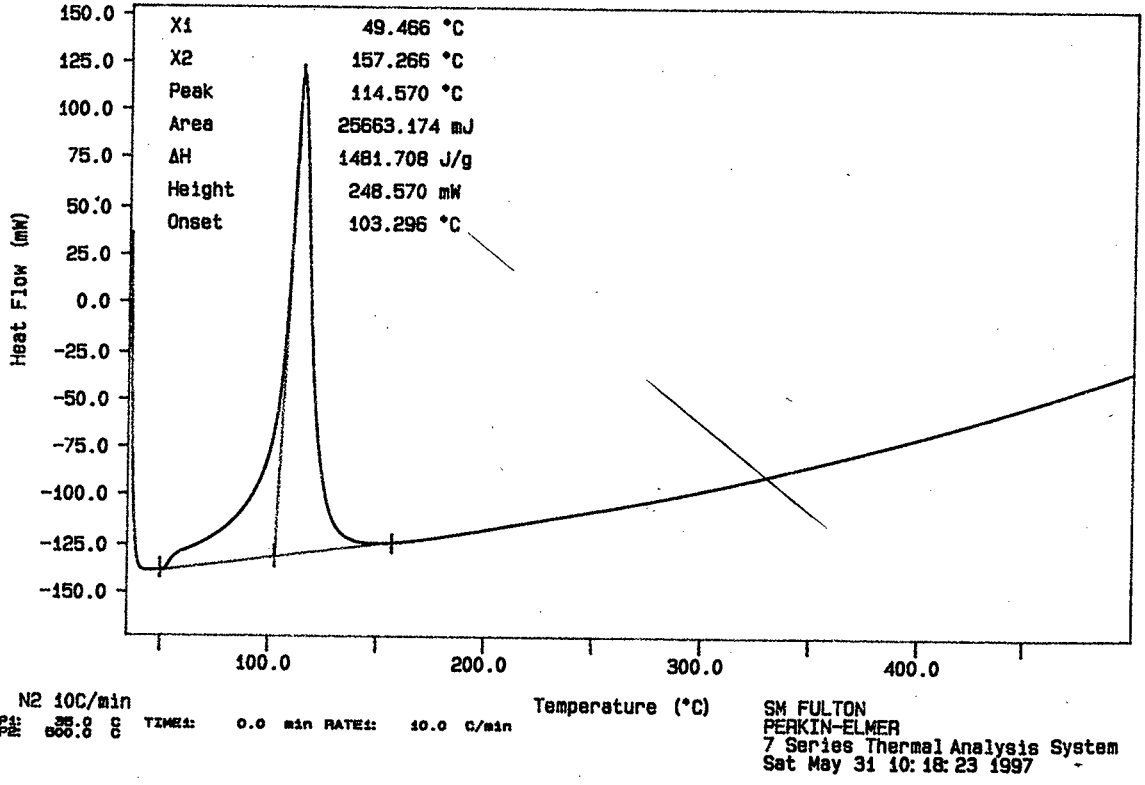


N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

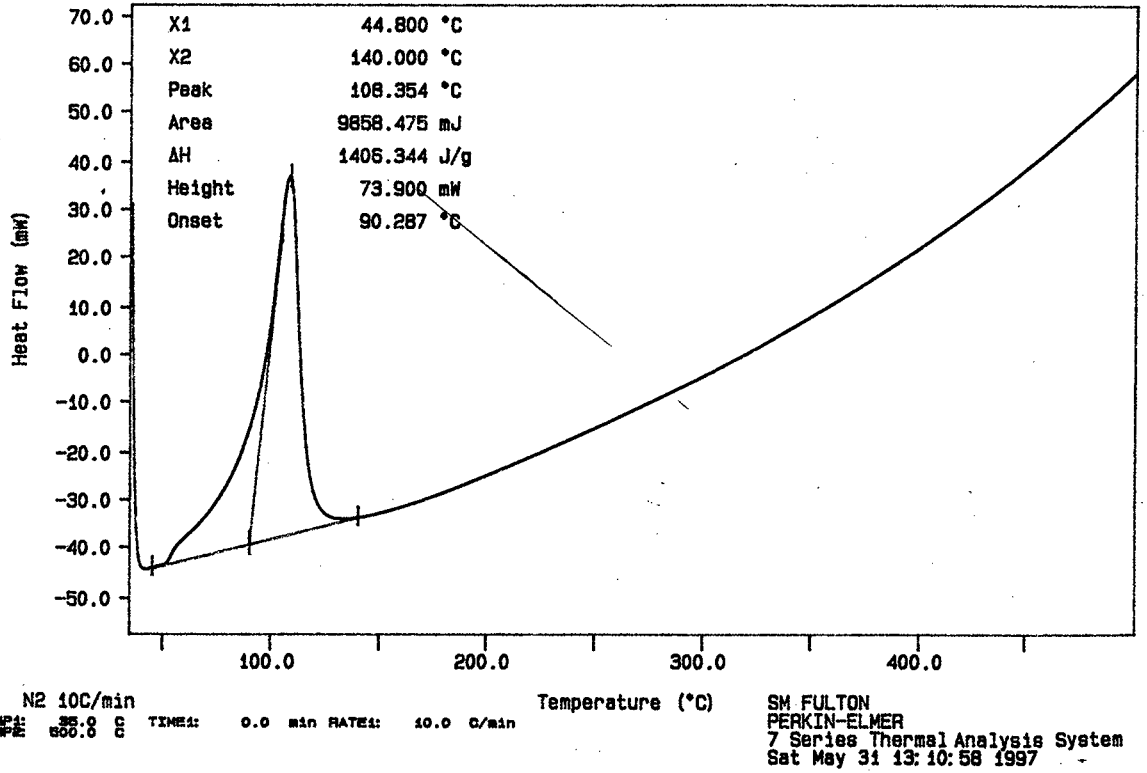
SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 09:23:04 1997


Curve 1: DSC
File info: SAM053105 Sat May 31 14:10:48 1997
Sample Weight: 11.790 mg
S97T001035 DUP
X1 46.200 °C
X2 136.733 °C
Peak 111.487 °C
Area 17379.198 mJ
ΔH 1474.063 J/g
Height 192.591 mW
Onset 101.645 °C
Heat Flow (mW)
275.0
250.0
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
25.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 35.8 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.8 C
SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 15:29:52 1997

Curve 1: DSC
File info: SAM053103 Sat May 31 10:18:07 1997
Sample Weight: 17.320 mg
S97T001036



Curve 1: DSC
File info: SAM053104 Sat May 31 12:58:59 1997
Sample Weight: 7.010 mg
S97T001036 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 13:10:58 1997

worklistrpt Version 2.1 05/15/95
06/04/97 09:37

LABCORE Data Entry Template for Worklist# 18387

Analyst: SMF **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	26.77*	N/A	Joules/g
97000333	AW-103	2 SAMPLE	S97T001037	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	3 DUP	S97T001037	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000333	AW-103	4 SAMPLE	S97T001038	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	5 DUP	S97T001038	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18387

See Attached for Signature
Analyst Signature **Date**

6-5-97
Analyst Signature **Date**

Validated 6/6/97 Bachelor

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# 18387

Analyst: SMF/JRM **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000333	AW-103	2 SAMPLE	S97T001037	0		DSC-01	SOLID	N/A			Joules/g
97000333	AW-103	3 DUP	S97T001037	0		DSC-01	SOLID			N/A	Joules/g
97000333	AW-103	4 SAMPLE	S97T001038	0		DSC-01	SOLID	N/A			Joules/g
97000333	AW-103	5 DUP	S97T001038	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18387

Susie M. Dalton 5-31-97
Analyst Signature **Date**

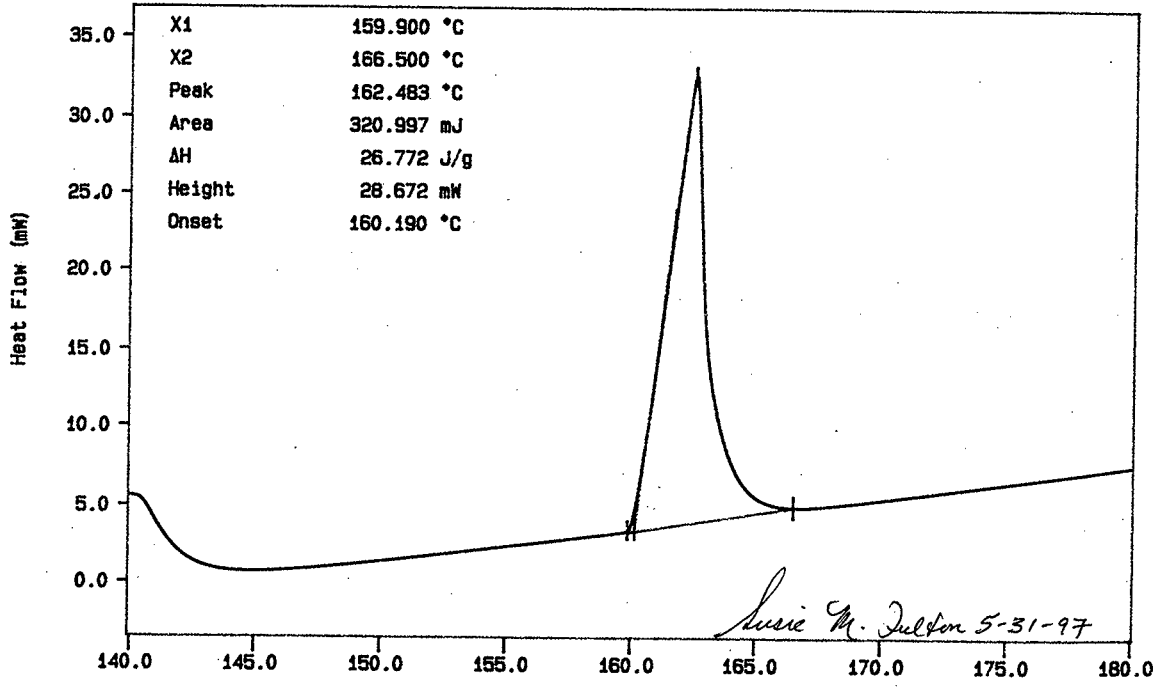
Adambd 5.31.97
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DSC-03. 6/4/97

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.

Curve 1: DSC
File info: IND053101 Sat May 31 05:19:38 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 201 TO 205

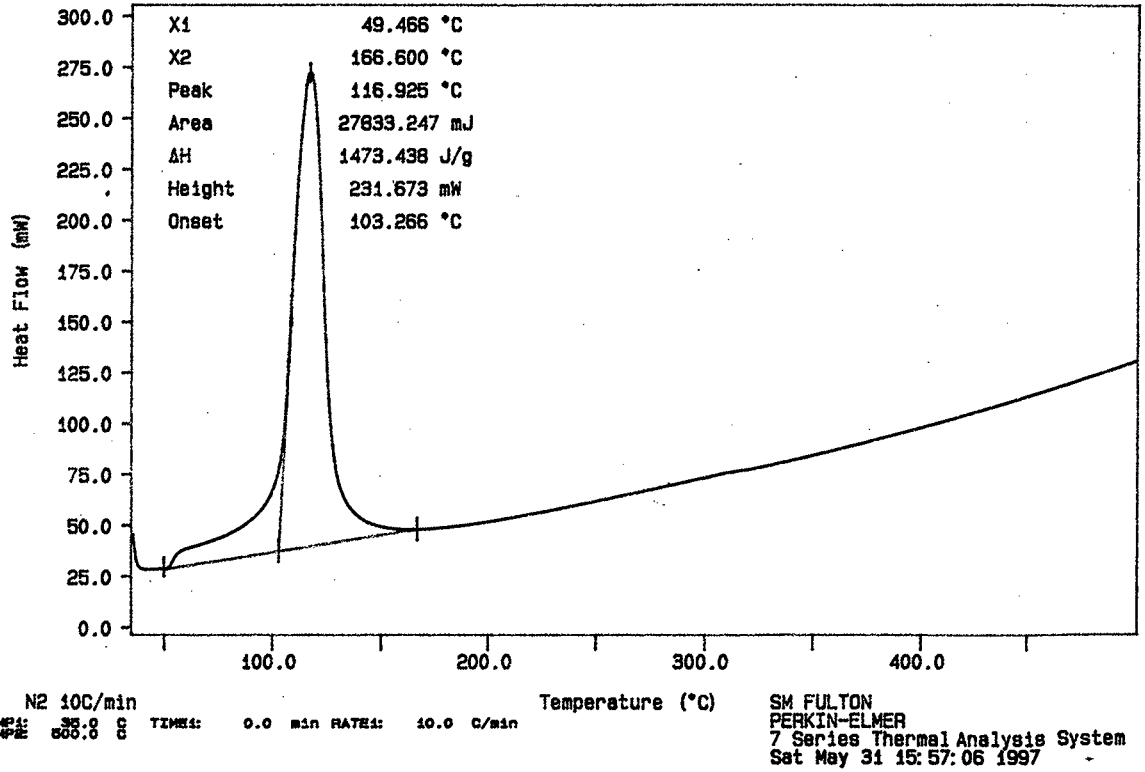


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

Temperature (°C)

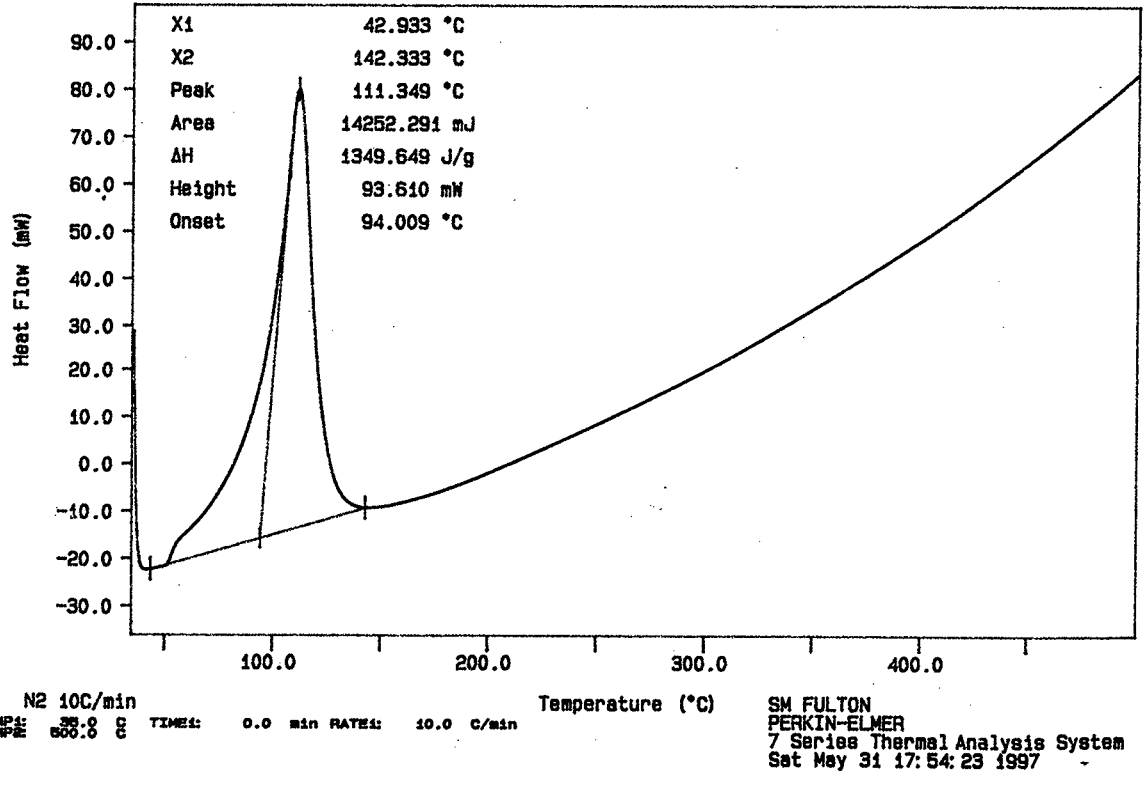
SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 05:26:50 1997

Curve 1: DSC
File info: SAM053106 Sat May 31 15:56:51 1997
Sample Weight: 18.890 mg
S97T001037

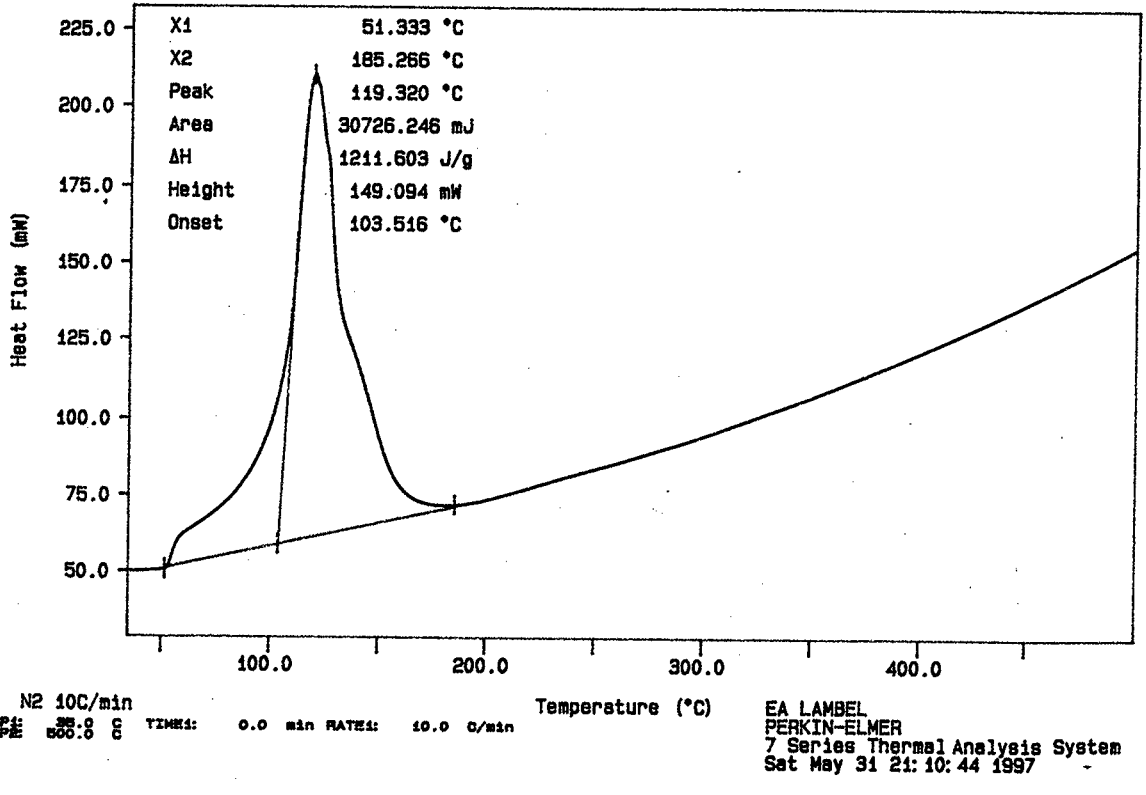


N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C
SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 15:57:06 1997

Curve 1: DSC
File info: SAM053107 Sat May 31 17:02:44 1997
Sample Weight: 10.560 mg
S97T001037 DUP



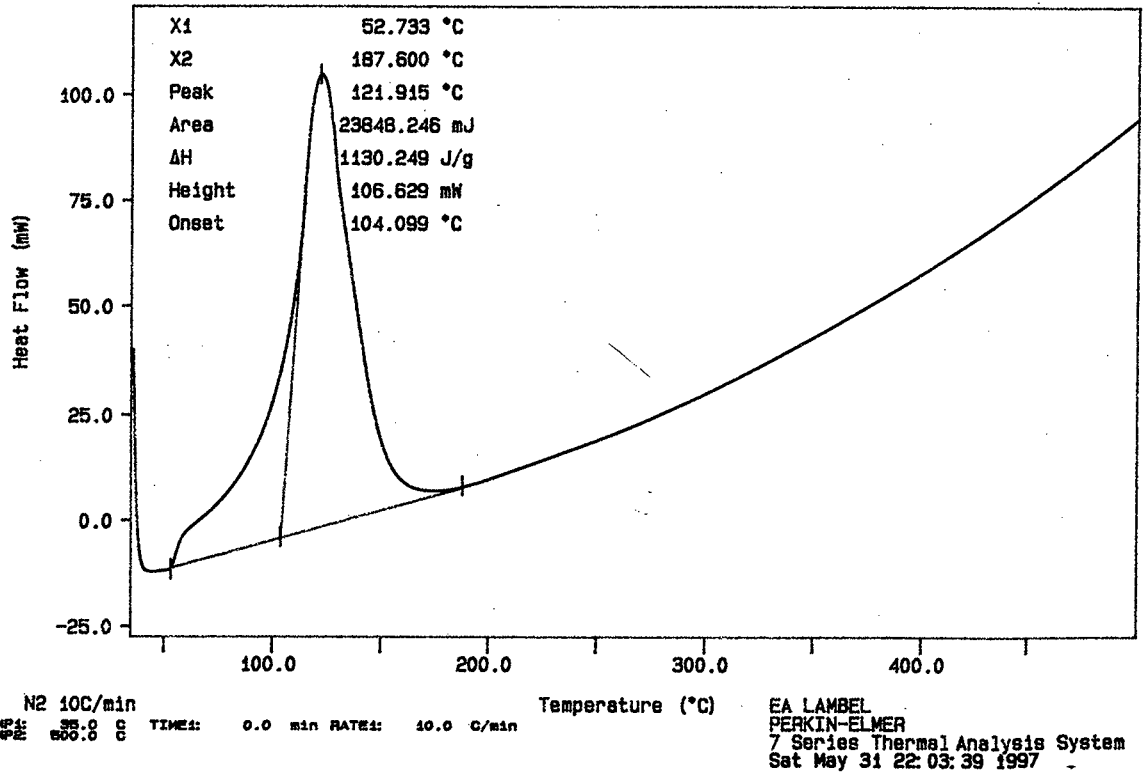
Curve 1: DSC
File info: SAM053110 Sat May 31 21:02:42 1997
Sample Weight: 25.360 mg
S97T001038



N2 10C/min
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 21:10:44 1997

Curve 1: DSC
File info: SAM053111 Sat May 31 22:00:45 1997
Sample Weight: 21.100 mg
S97T001038 DUP



LABCORE Data Entry Template for Worklist# 18388

Analyst: EAL **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	25.93	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000984	0		DSC-03	SOLID	N/A	258.38		Joules/g
97000332	AW-103	3 DUP	S97T000984	0		DSC-03	SOLID	258.38	211.85	N/A	Joules/g
97000333	AW-103	4 SAMPLE	S97T001039	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	5 DUP	S97T001039	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18388

See Attached for Signature
Analyst Signature **Date**

Validated 6/6/97 Bachelor

6-5-97
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.

LABCORE Data Entry Template for Worklist# 18388

Analyst: SLL **Instrument:** DSC0 3 **Book #** 12N14B

Method: LA-514-113 Rev/Mod DO

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2	SAMPLE	S97T000984	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3	DUP	S97T000984	0		DSC-01	SOLID			N/A	Joules/g
97000333	AW-103	4	SAMPLE	S97T001039	0		DSC-01	SOLID	N/A			Joules/g
97000333	AW-103	5	DUP	S97T001039	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18388

A Lambert 06·07·97
Analyst Signature **Date**

Analyst Signature **Date**

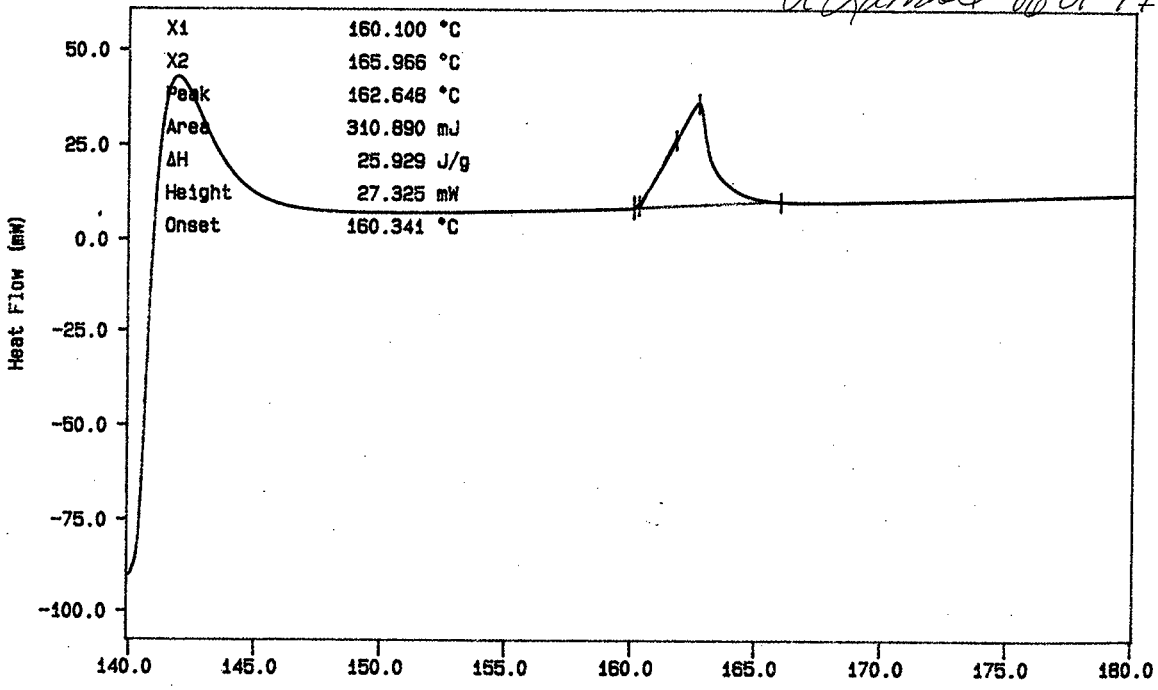
Data Entry Comments:
Ran samples on DSC-03. SLL 6/4/97

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.

Curve 1: DSC
File info: IND060101 Sun Jun 1 03:07:15 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 208 TO 212.

A Lambel 06.01.97

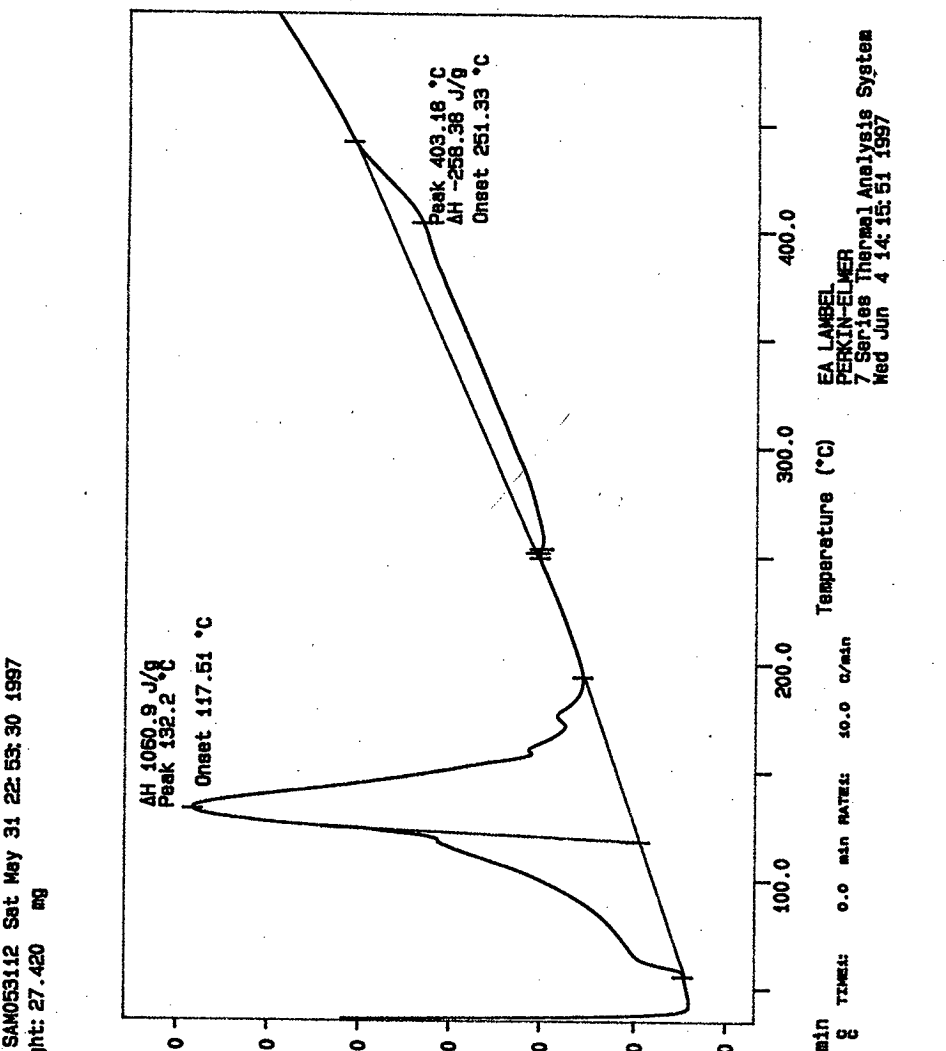


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

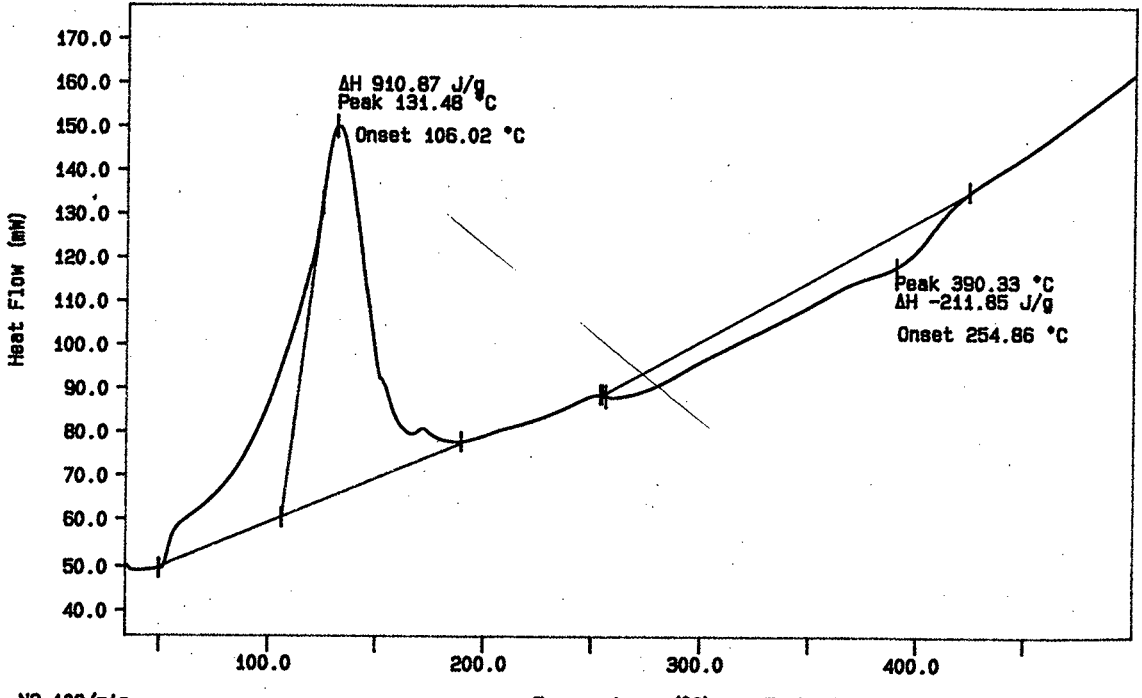
EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 03:14:50 1997

208

HNF-SD-WM-DP-249, REV. 0

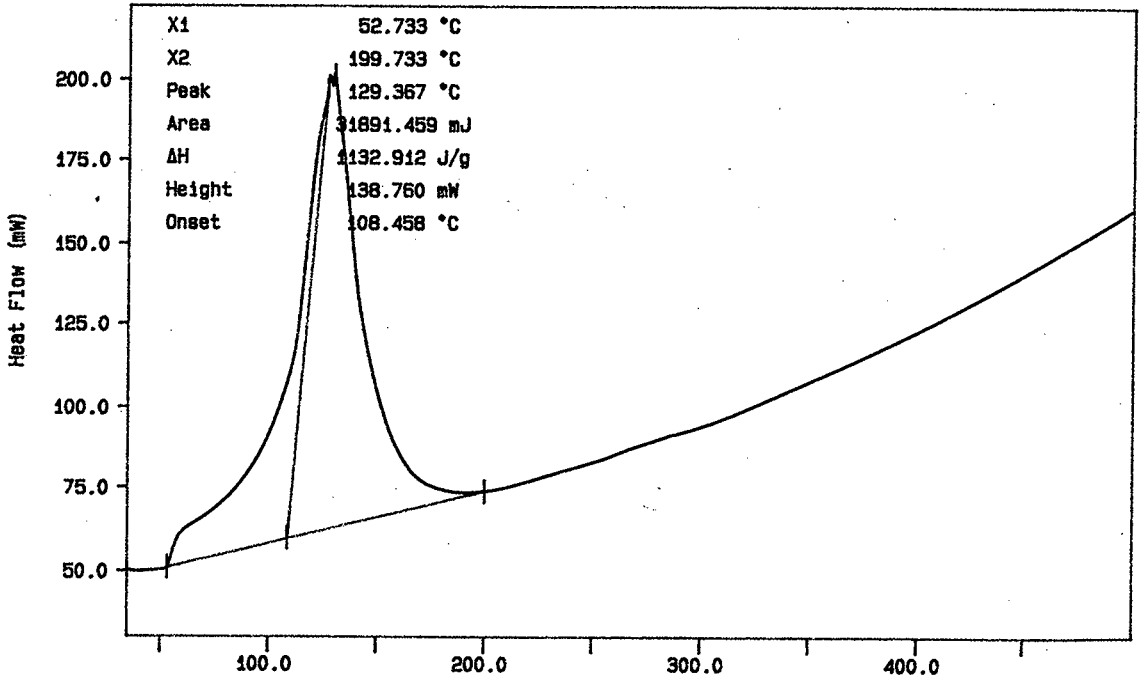

Curve 1: DSC
File info: SAM053112 Sat May 31 22:53:30 1997
Sample Weight: 27.420 mg
S97T000984
ΔH 1060.9 J/g
Peak 132.2 °C
Onset 117.51 °C
Peak 403.18 °C
ΔH -258.38 J/g
Onset 251.33 °C
Heat Flow (mW)
75.0
50.0
25.0
0.0
-25.0
-50.0
-75.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
0.0 min RATE: 10.0 C/min
EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 14:15:51 1997

Curve 1: DSC
File info: SAM060101 Sun Jun 1 00:50:59 1997
Sample Weight: 24.200 mg
S97T000984 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C
EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 14:21:31 1997

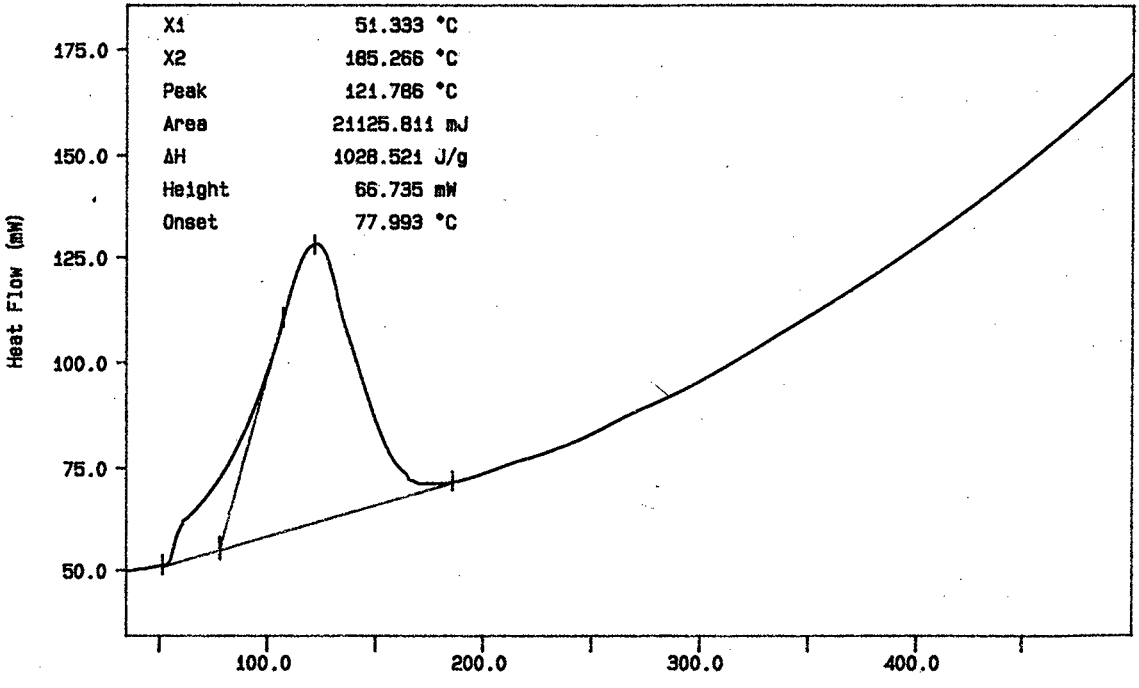
Curve 1: DSC
File info: SAM060102 Sun Jun 1 01:50:01 1997
Sample Weight: 28.150 mg
S97T001039



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 01:56:53 1997

Curve 1: DSC
File info: SAM060103 Sun Jun 1 02:46:26 1997
Sample Weight: 20.540 mg
S97T001039 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 03:00:38 1997

LABCORE Completed Worklist Report for Worklist# 18426

Analyst: dpb **Instrument:** DSC03 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	DSC-03	LIQUID	28.45	26.68	93.779	% Recovery
2	SAMPLE	S97T001079	0		DSC-03	LIQUID	N/A	0		Joules/g
3	DUP	S97T001079	0		DSC-03	LIQUID	0	0	0.000	RPD

Final page for worklist# 18426

Analyst Signature **Date** **Analyst Signature** **Date**

Reviewer Signature 6/12/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

worklistrpt Version 2.1 05/15/95
06/05/97 13:18

LABCORE Data Entry Template for Worklist# 18426

Analyst: DPB **Instrument:** DSC0 3 **Book #** 12N148

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	LIQUID	28.45	~~28576.68~~ 28.64 6/6/97	N/A	Joules/g
97000333	AW-103	2 SAMPLE	S97T001079	0		DSC-01	LIQUID	N/A	0		Joules/g
97000333	AW-103	3 DUP	S97T001079	0		DSC-01	LIQUID	0	0	N/A	Joules/g

Final page for worklist # 18426

See Attached for Signature
Analyst Signature **Date**

Analyst Signature **Date** 6-5-97

Data Entry Comments:
Ran samples on DSC-03 ~~683~~ 6/6/97

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# 18426

Analyst: DPB **Instrument:** DSC0 3 **Book #** 12N14-B

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID			N/A	Joules/g
97000333	AW-103	2	SAMPLE	S97T001079	0		DSC-01	LIQUID	N/A			Joules/g
97000333	AW-103	3	DUP	S97T001079	0		DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 18426

Daniel P. Bromley 6/4/97 0500

Analyst Signature **Date**

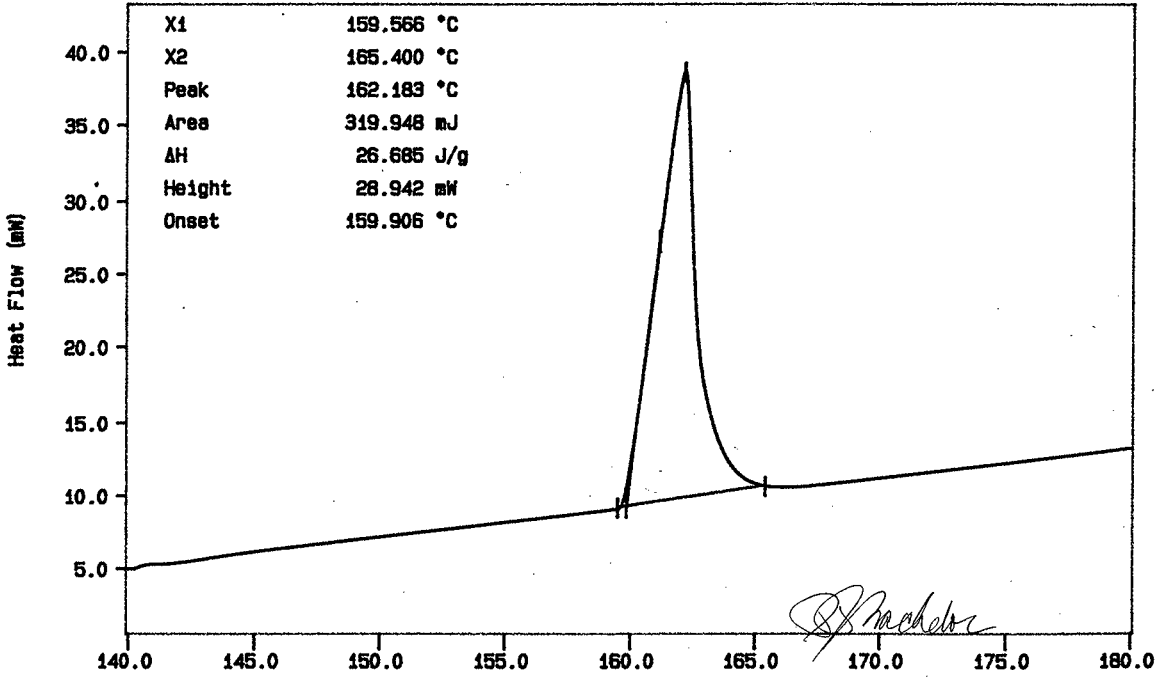
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DSC-03 ~~6/3/97~~ 6/5/97

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.

Curve 1: DSC
File info: IND060301 Tue Jun 3 05:33:37 1997
Sample Weight: 11.990 mg
12N14-B

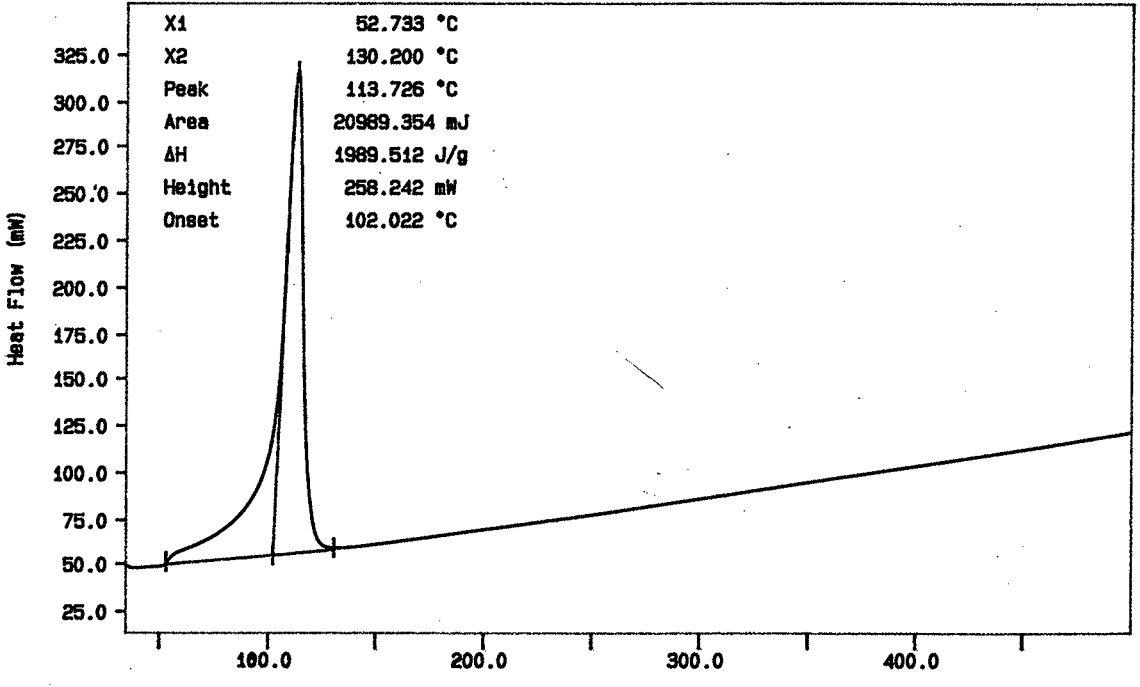
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 216 TO 218.



N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 03:35:49 1997

Curve 1: DSC
File info: SAM060305 Tue Jun 3 21:06:41 1997
Sample Weight: 10.550 mg
S97T001079SAM

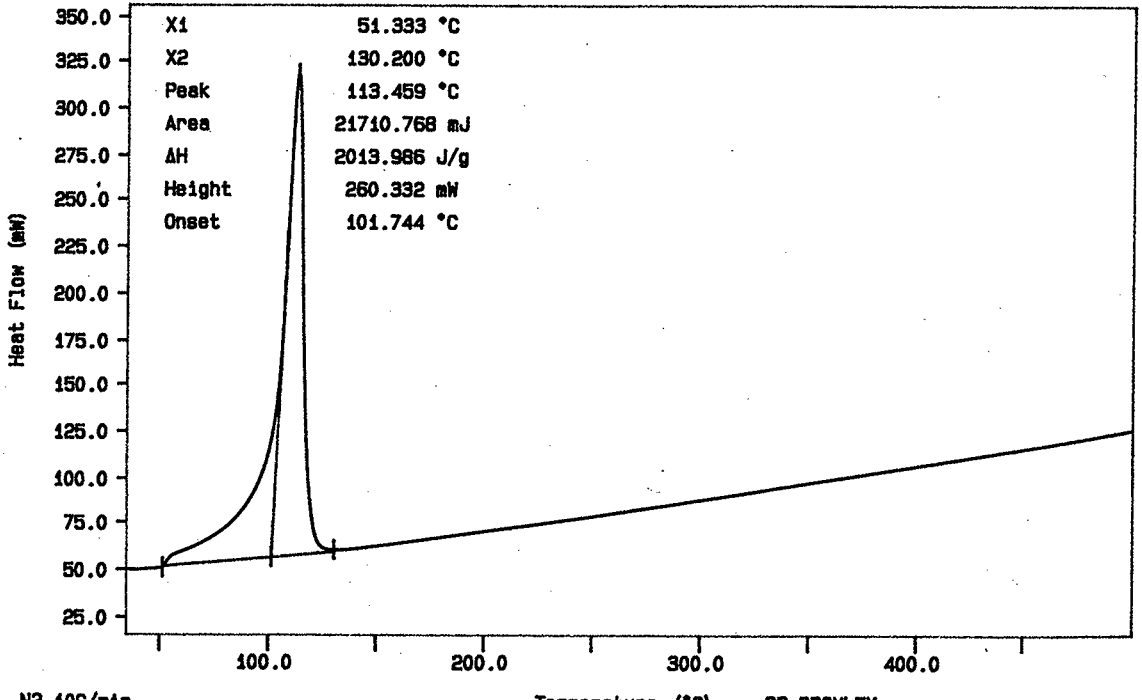


N2 10C/min
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 21:30:35 1997

217

Curve 1: DSC
File info: SAM060306 Tue Jun 3 23:04:16 1997
Sample Weight: 10.760 mg
S97T001079DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 01:45:34 1997

worklistrpt Version 2.1 05/15/95
06/05/97 13:01

LABCORE Data Entry Template for Worklist# 18441

Analyst: JdS **Instrument:** DSC0 3 **Book #** 12N1493

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	27.31X	N/A	Joules/g
97000333	AW-103	2	SAMPLE	S97T001034	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	3	DUP	S97T001034	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000333	AW-103	4	SAMPLE	S97T001040	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	5	DUP	S97T001040	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18441

JdS 6/5/97
Analyst Signature Date

Susan Bee 6/06/97
Analyst Signature Date

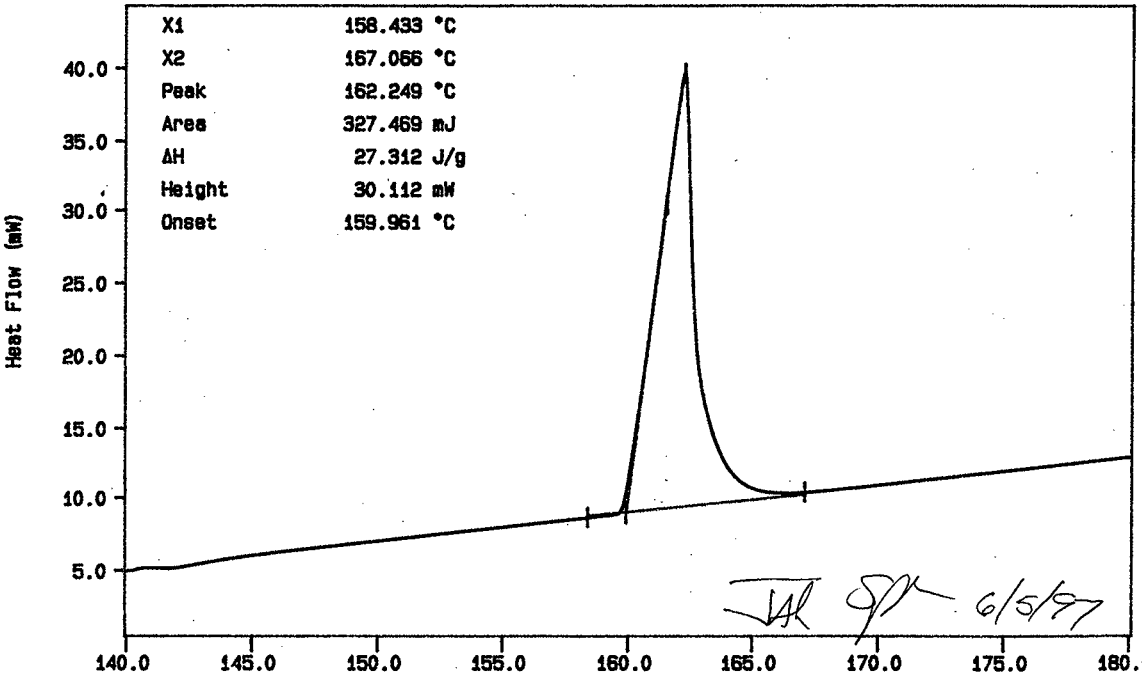
Dan P Bramley 6/5/97
Validated 6/9/97 Bachelor

Data Entry Comments:
Second STD run due to delay in completion of worklist. STD value was 26.34 J/g with a % Recovery of 92.58. 6/6/97

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.

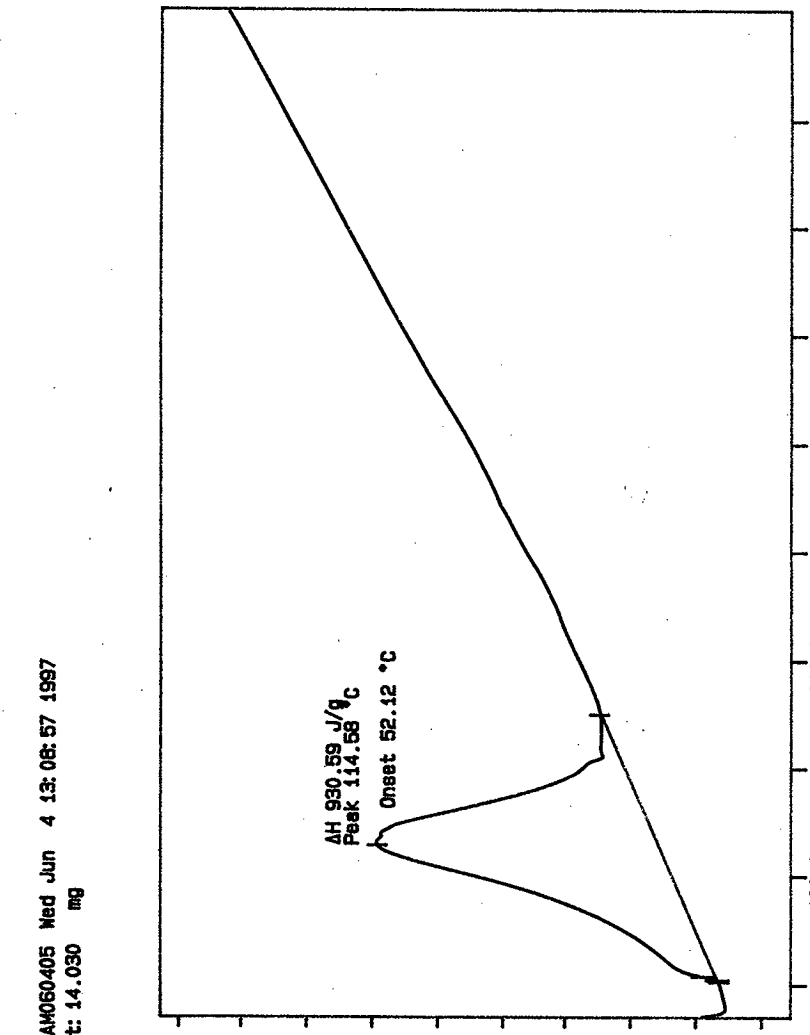
Curve 1: DSC
File info: IND060401 Wed Jun 4 05:23:48 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 220 TO 225.

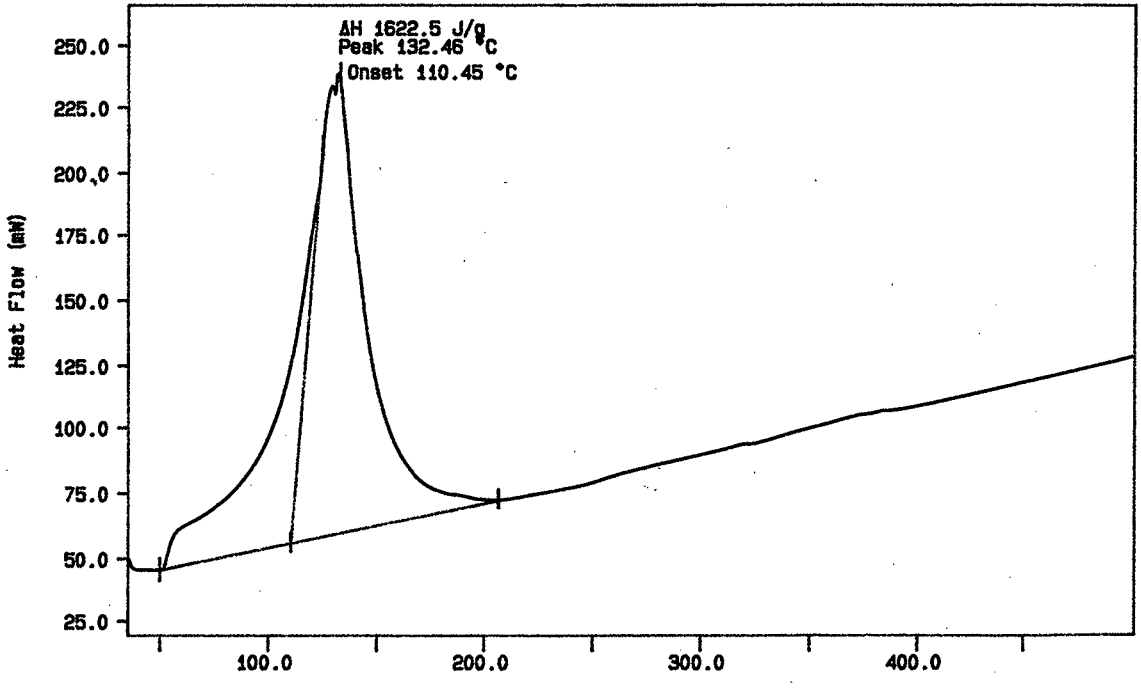


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 13:58:33 1997


Curve 1: DSC
File Info: SAM060405 Wed Jun 4 13:08:57 1997
Sample Weight: 14.030 mg
S97T001034
ΔH 930.59 J/g
Peak 114.58 °C
Onset 52.12 °C
Heat Flow (mW)
130.0
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
0.0 min RATE: 10.0 C/min
JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 14:10:29 1997

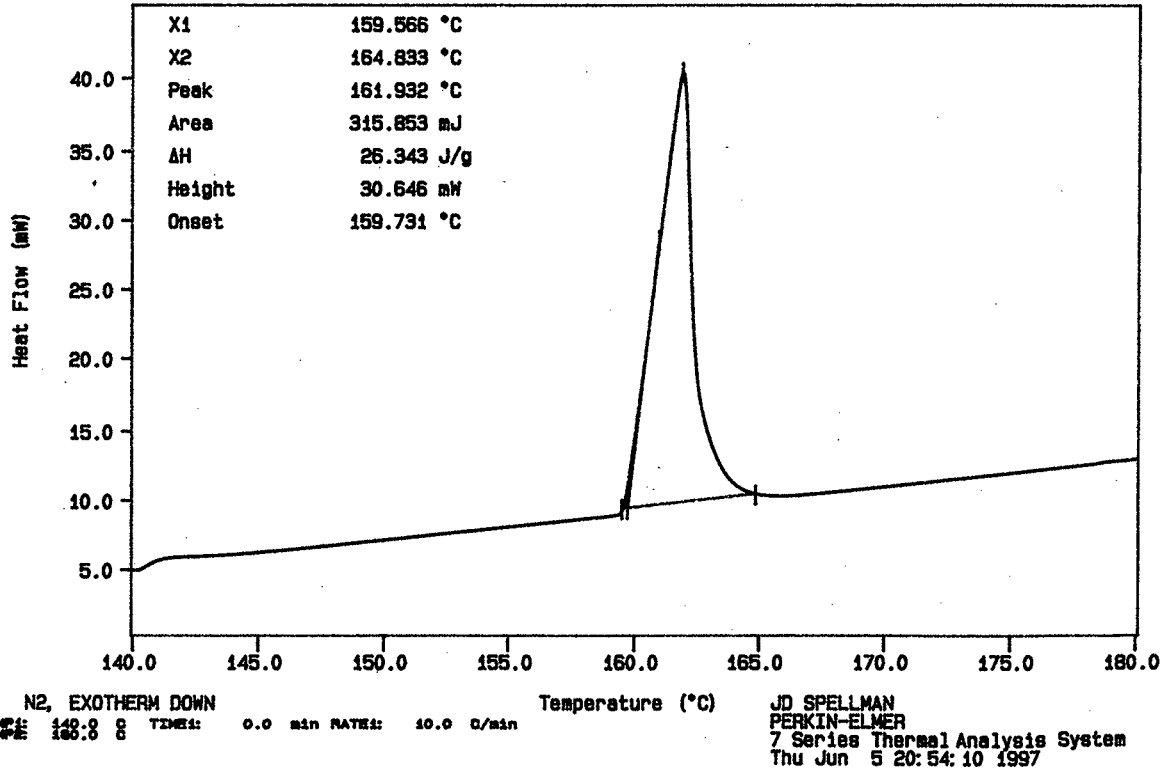
Curve 1: DSC
File info: SAM060406 Wed Jun 4 15:45:57 1997
Sample Weight: 26.440 mg
S97T001034DUP



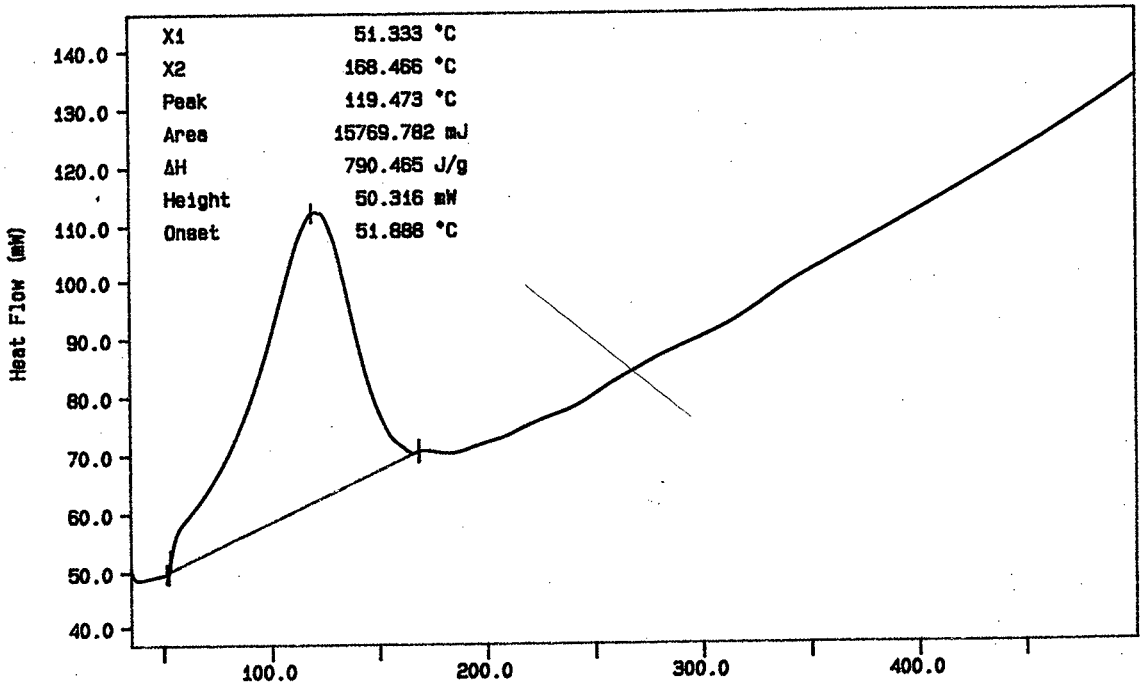
N2 10C/min
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 14:18:09 1997

Curve 1: DSC
File info: IND060501 Thu Jun 5 05:39:22 1997
Sample Weight: 11.990 mg
12N14-B



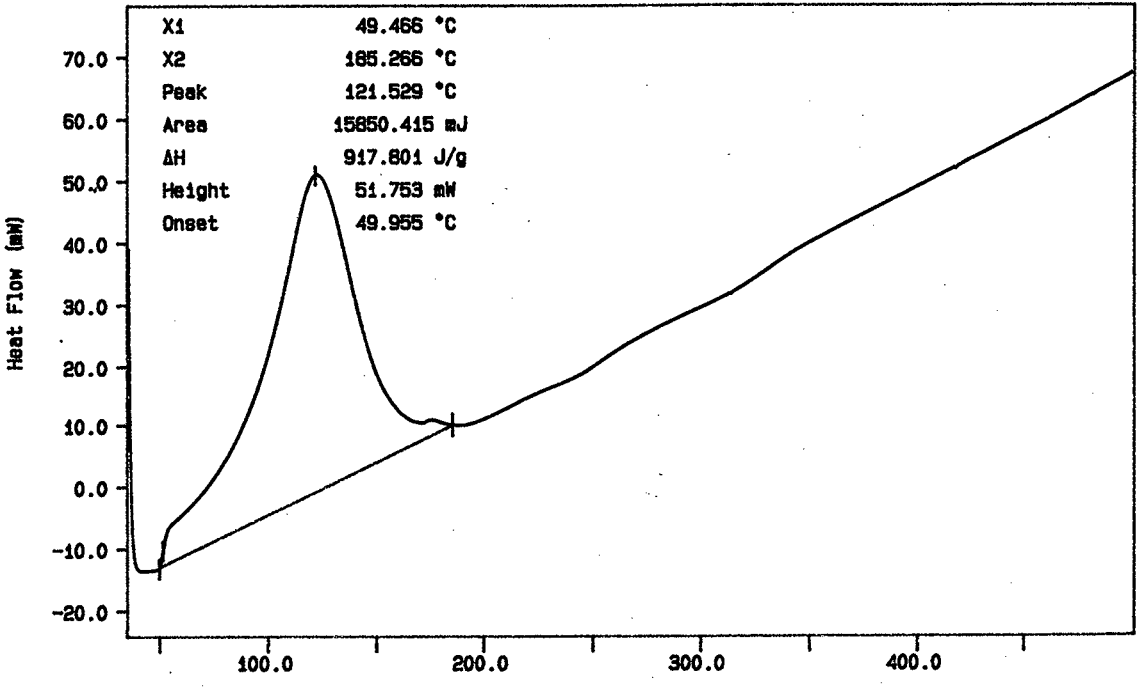
Curve 1: DSC
File info: SAM060507 Thu Jun 5 19:05:55 1997
Sample Weight: 19.950 mg
~~S97T000551~~ DYB 6/5/97 S97T001040 SAM



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 20:36:04 1997

Curve 1: DSC
File info: SAM060508 Thu Jun 5 21:10:52 1997
Sample Weight: 17.270 mg
S97T001040DUP



N2 10C/min
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 550.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 21:24:19 1997

worklistdata Version 1.0 05/15/96
06/12/97 09:20

LABCORE Completed Worklist Report for Worklist# 18470

Analyst: dpb **Instrument:** DSC03 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	DSC-03	SOLID	28.45	26.54 X	93.286	% Recovery
2	SAMPLE	S97T001041		0	DSC-03	SOLID	N/A	261.38		Joules/g
3	DUP	S97T001041		0	DSC-03	SOLID	261.38	333.45	24.232	RPD

Final page for worklist# 18470

Analyst Signature **Date** **Analyst Signature** **Date**

Reviewer Signature 6/12/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

worklistrpt Version 2.1 05/15/95
06/05/97 13:15

LABCORE Data Entry Template for Worklist# 18470

Analyst: DPB **Instrument:** DSC0 3 **Book #** 12 N 143

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	26.54	N/A	Joules/g
97000333	AW-103	2 SAMPLE	S97T001041	0		DSC-01	SOLID	N/A	261.38		Joules/g
97000333	AW-103	3 DUP	S97T001041	0		DSC-01	SOLID	261.38	333.45	N/A	Joules/g *

Final page for worklist # 18470

See Attached for Signature
Analyst Signature **Date**

Frank O'Mack 6-5-97
Analyst Signature **Date**

* QC exceeds UCL

Data Entry Comments:
High RPD due to sample inhomogeneities. Rerun only at customer request
Ran samples on DSC-03. 6/6/97

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# 18470

Analyst: DPB **Instrument:** DSC0 3 **Book #** 12N14-B

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: AW103, DSC-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000333	AW-103	2 SAMPLE	S97T001041	0		DSC-01	SOLID	N/A			Joules/g
97000333	AW-103	3 DUP	S97T001041	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18470

Daniel P. Bromley 6/5/97 0430

Analyst Signature **Date**

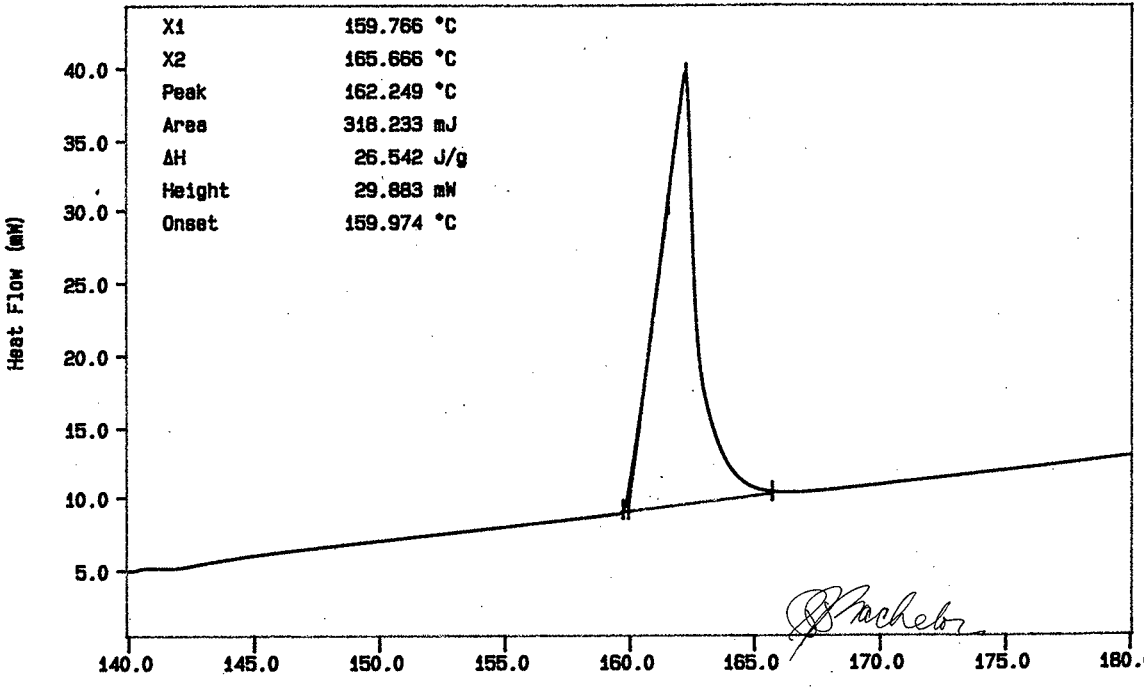
Analyst Signature **Date**

Data Entry Comments:
Ran Samples on DSC-03. 6/5/97

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.

Curve 1: DSC
File info: IND060401 Wed Jun 4 05:23:48 1997
Sample Weight: 11.990 mg
12N14-B

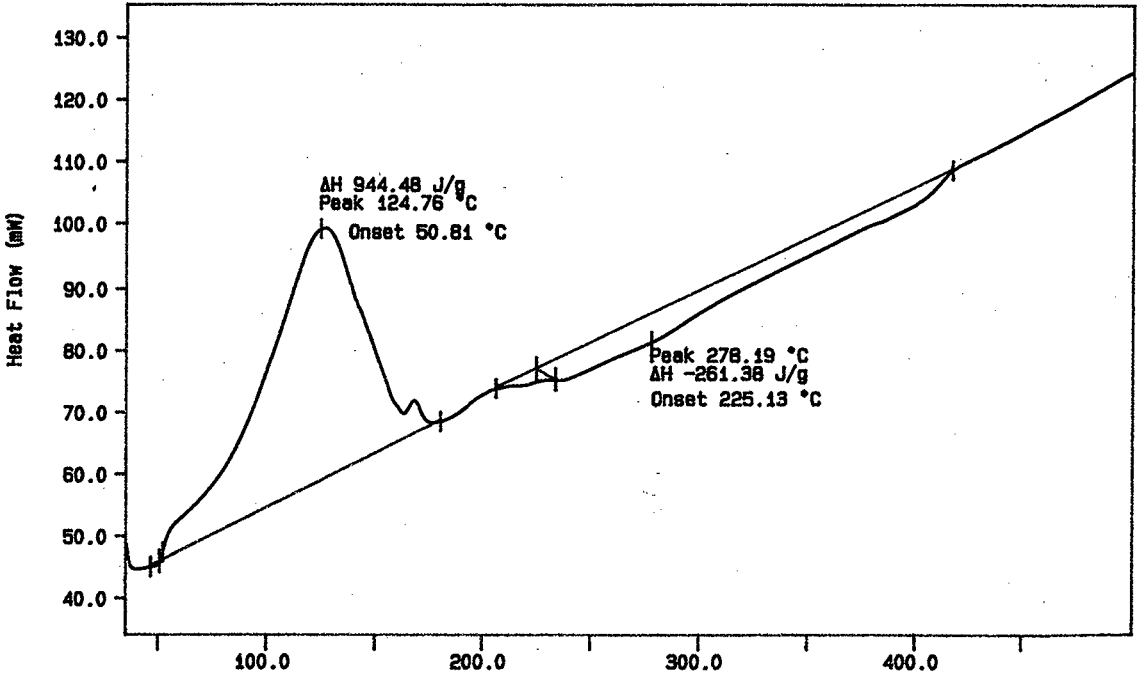
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 229 TO 231.



N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 03:31:16 1997

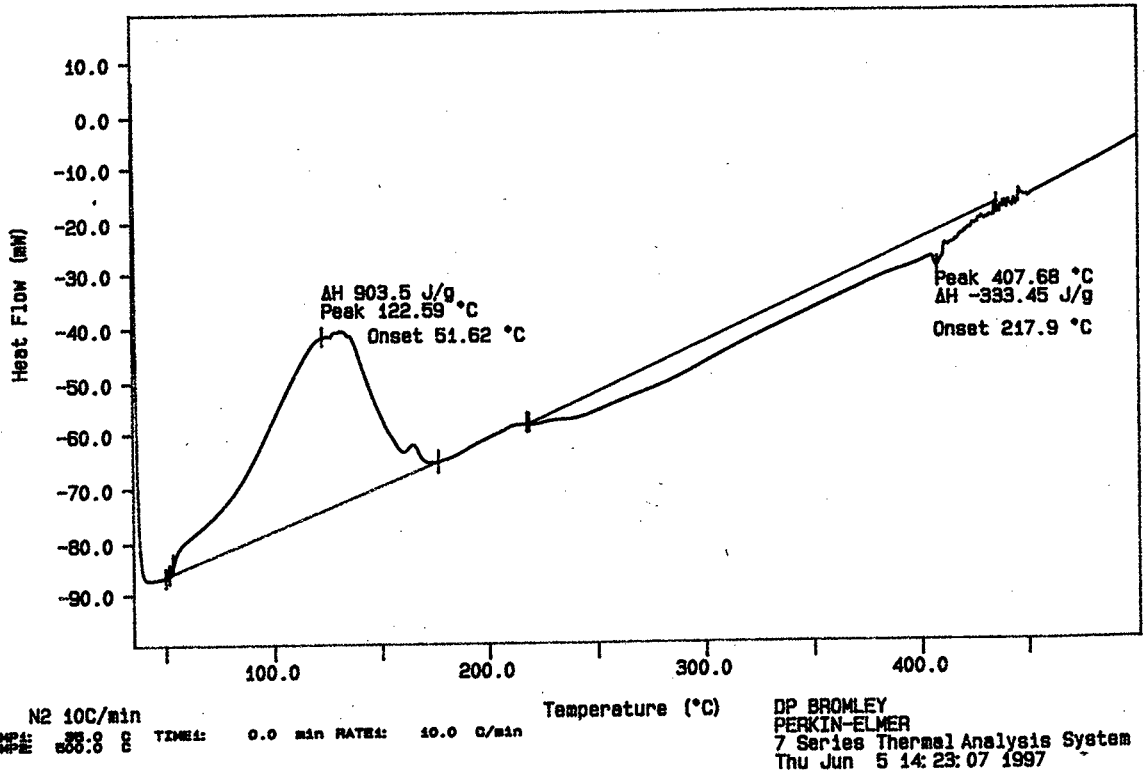
Curve 1: DSC
File info: SAM060407 Wed Jun 4 22:31:46 1997
Sample Weight: 14.130 mg
S97T001041SAM



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 14:04:29 1997

Curve 1: DSC
File info: SAM060408 Thu Jun 5 01:02:53 1997
Sample Weight: 12.990 mg
S97T001041DUP



worklistrpt Version 2.1 05/15/95
06/06/97 13:14

LABCORE Data Entry Template for Worklist# 18514

Analyst: PAM **Instrument:** DSC0 #3 **Book #** 12N143

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: Rerun #1 due to low STD recovery. Run under N2. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	26.5/X	N/A	Joules/g
97000333	AW-103	2	SAMPLE	S97T001030	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	3	DUP	S97T001030	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000333	AW-103	4	SAMPLE	S97T001031	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	5	DUP	S97T001031	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18514

RFMcCown 6/8/97
Analyst Signature Date

Validated 6/12/97 RBBachelor

Analyst Signature Date

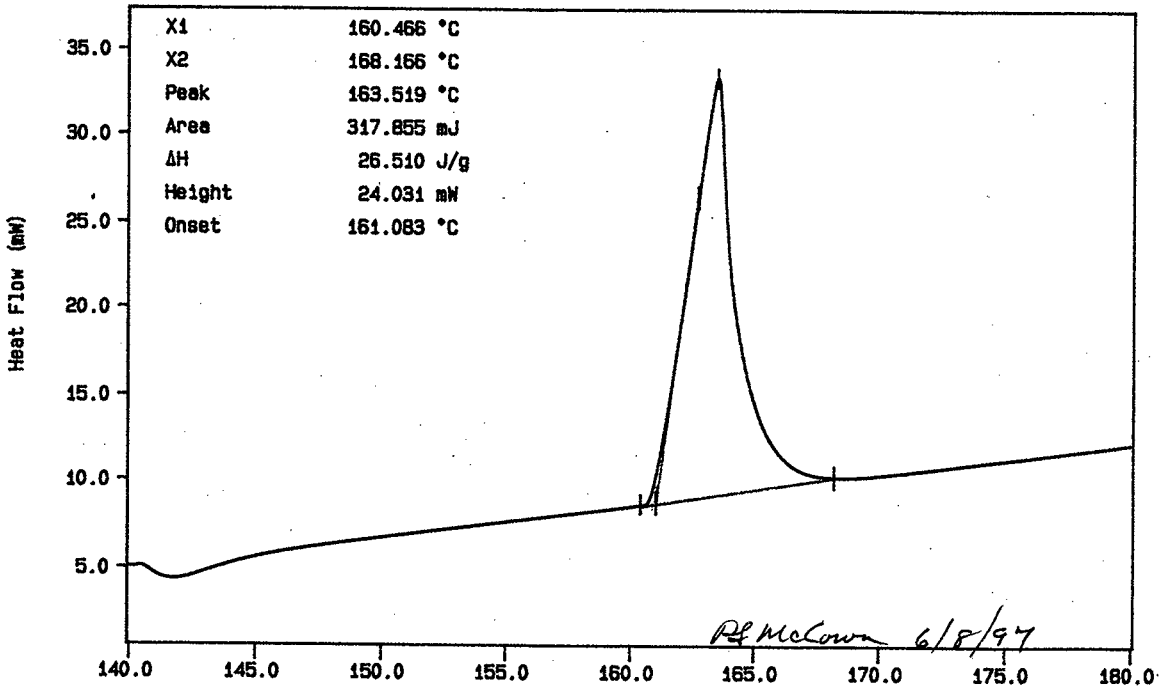
6-9-97

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.

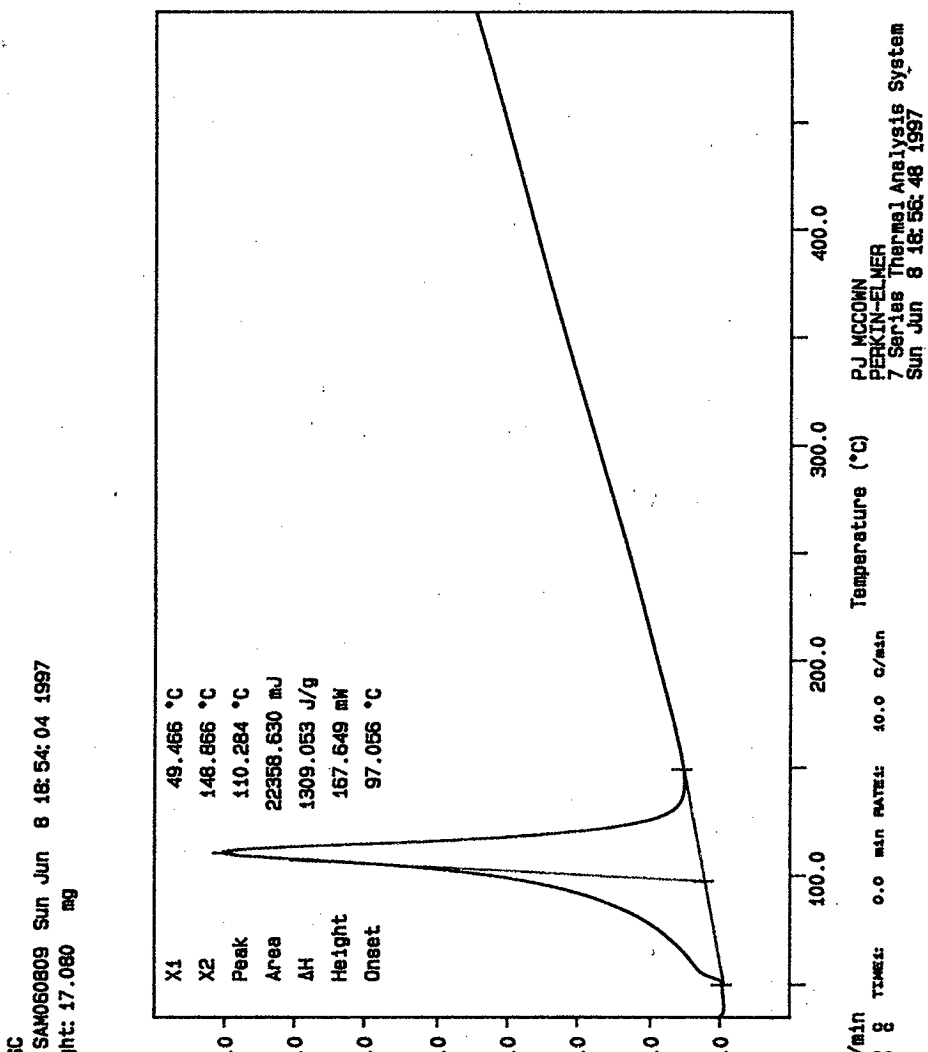
Curve 1: DSC
File info: IND060802 Sun Jun 8 05:51:50 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 233 TO 237

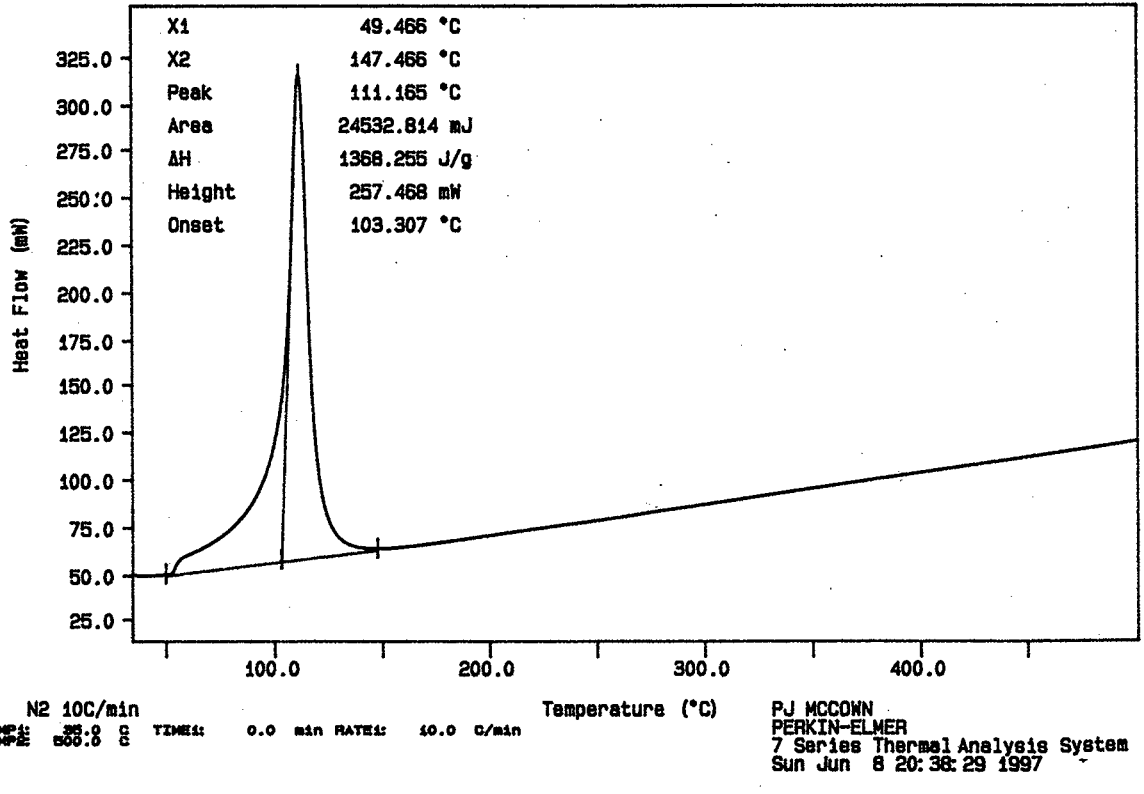


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 17:48:40 1997


Curve 1: DSC
File info: SAM060809 Sun Jun 8 18:54:04 1997
Sample Weight: 17.080 mg
S97T001030
X1 49.466 °C
X2 148.866 °C
Peak 110.284 °C
Area 22358.630 mJ
ΔH 1309.053 J/g
Height 167.649 mW
Onset 97.056 °C
Heat Flow (mW)
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 25.8 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.8 C
PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 18:56:48 1997

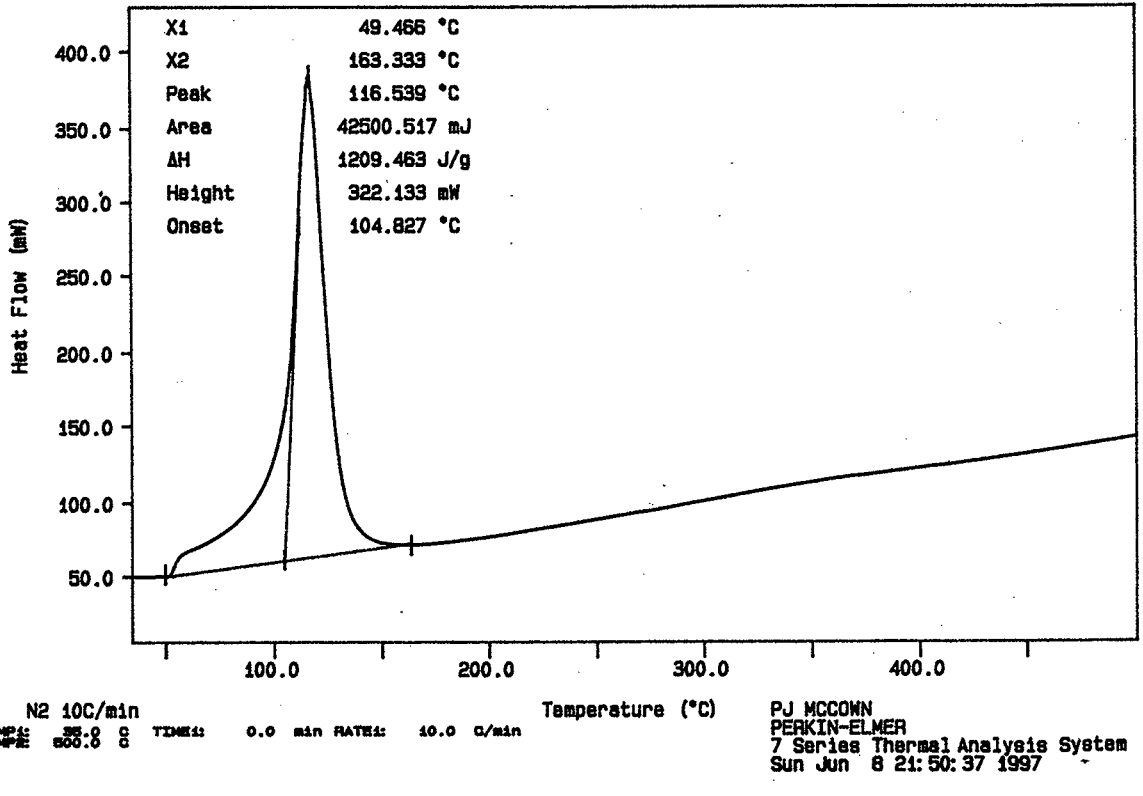
Curve 1: DSC
File info: SAM060810 Sun Jun 8 19:51:29 1997
Sample Weight: 17.930 mg
S97T001030 DUP



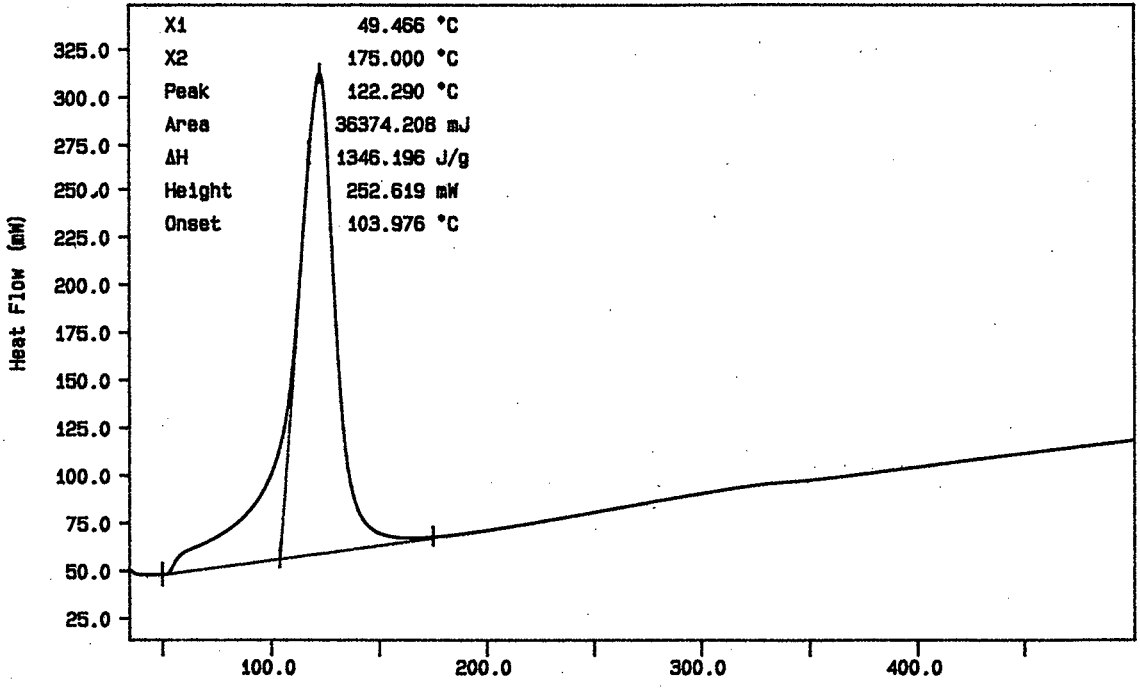
N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 20:36:29 1997

Curve 1: DSC
File info: SAM060811 Sun Jun 8 21:36:57 1997
Sample Weight: 35.140 mg
S97T001031



Curve 1: DSC
File info: SAM060812 Sun Jun 8 22:52:05 1997
Sample Weight: 27.020 mg
S97T001031 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 23:17:13 1997

worklistrpt Version 2.1 05/15/95
06/06/97 13:14

LABCORE Data Entry Template for Worklist# 18515

Analyst: RJM **Instrument:** DSC0 03 **Book #** 12114B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: Rerun #1 due to low STD recovery. Run under N2. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	26.60	N/A	Joules/g
97000333	AW-103	2	SAMPLE	S97T001032	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	3	DUP	S97T001032	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000333	AW-103	4	SAMPLE	S97T001033	0		DSC-03	SOLID	N/A	0		Joules/g
97000333	AW-103	5	DUP	S97T001033	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18515

RJ McCown 6/9/97
Analyst Signature **Date**

Validated 6/16/97 JF Schelor

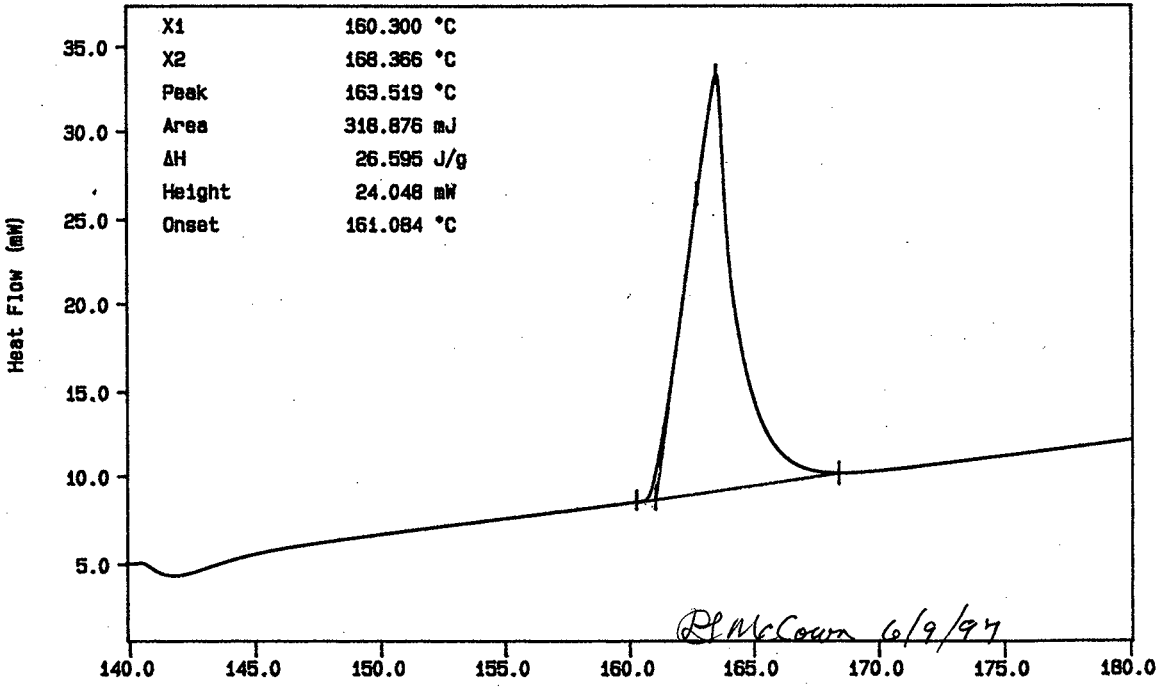
Susan Bell 6/13/97
Analyst Signature **Date**

Data Entry Comments:

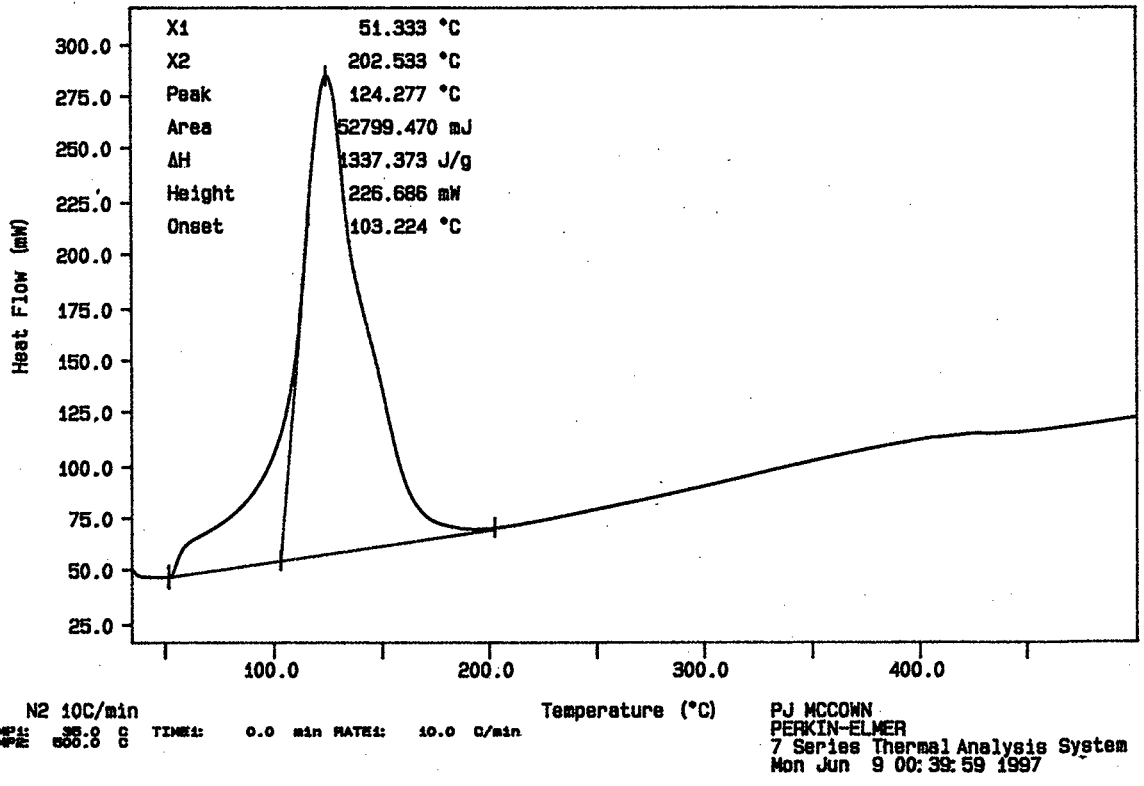
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND060802 Sun Jun 8 05:51:50 1997
Sample Weight: 11.990 mg
12N14-B

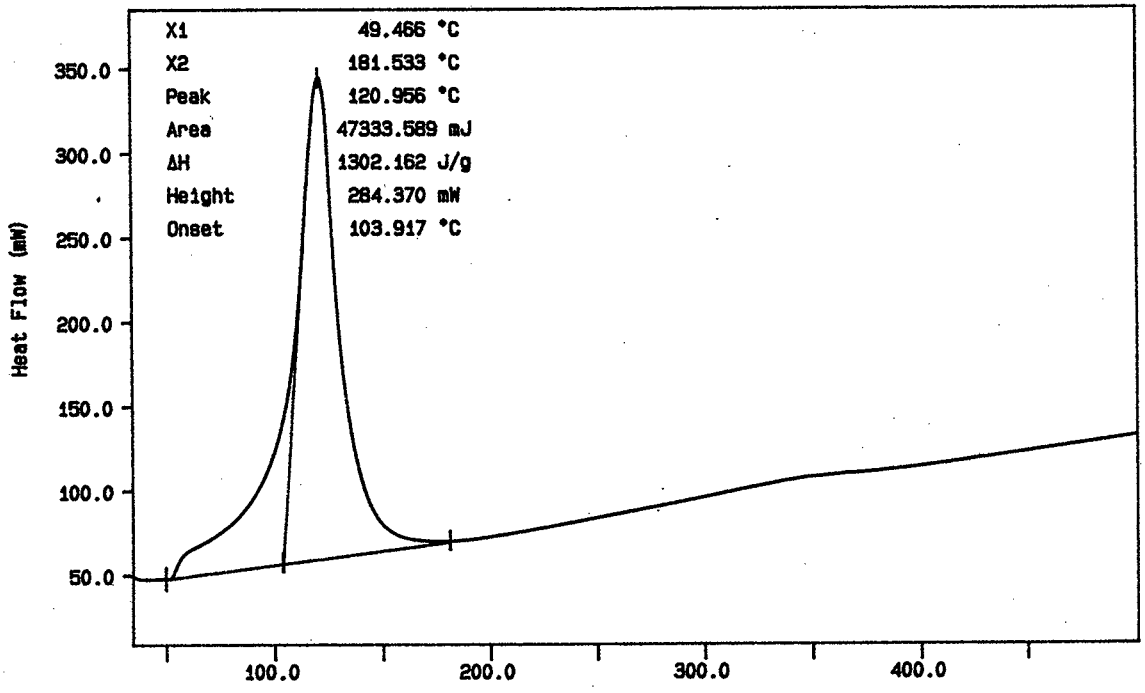
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 239 TO 243.



Curve 1: DSC
File info: SAM060901 Mon Jun 9 00:13:28 1997
Sample Weight: 39.480 mg
S97T001032

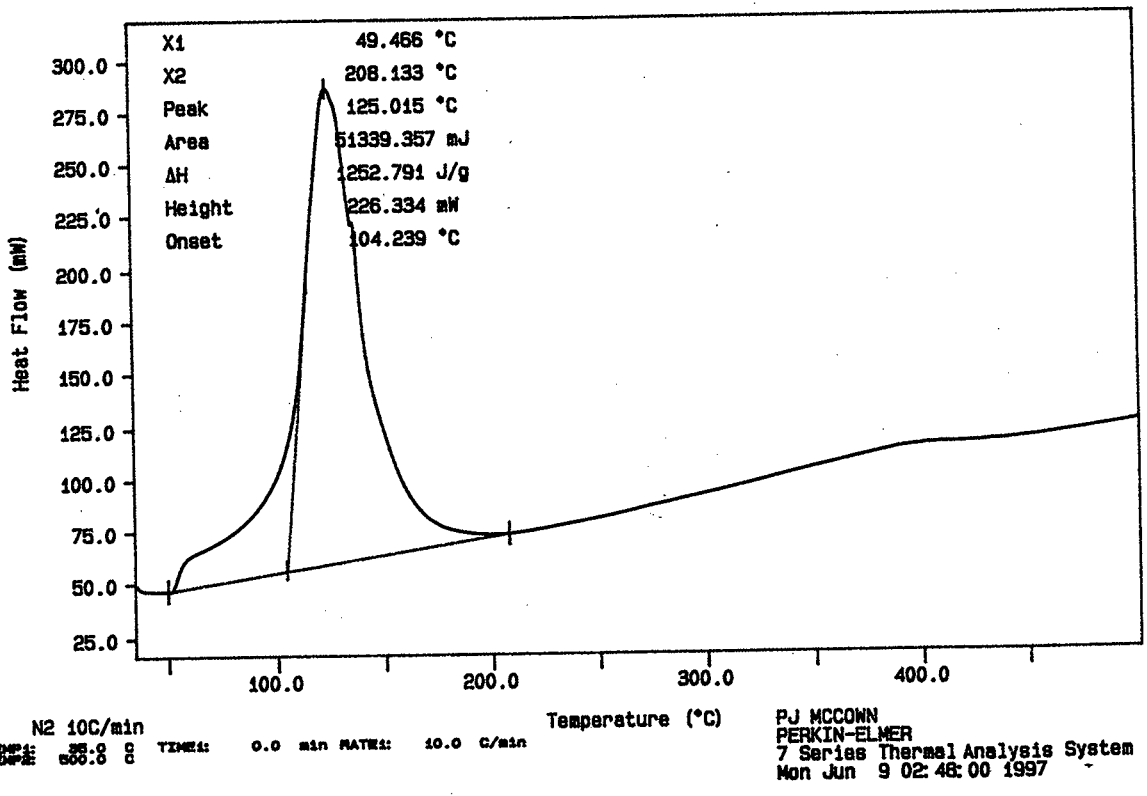


Curve 1: DSC
File info: SAM060902 Mon Jun 9 01:37:29 1997
Sample Weight: 36.350 mg
S97T001032 DUP

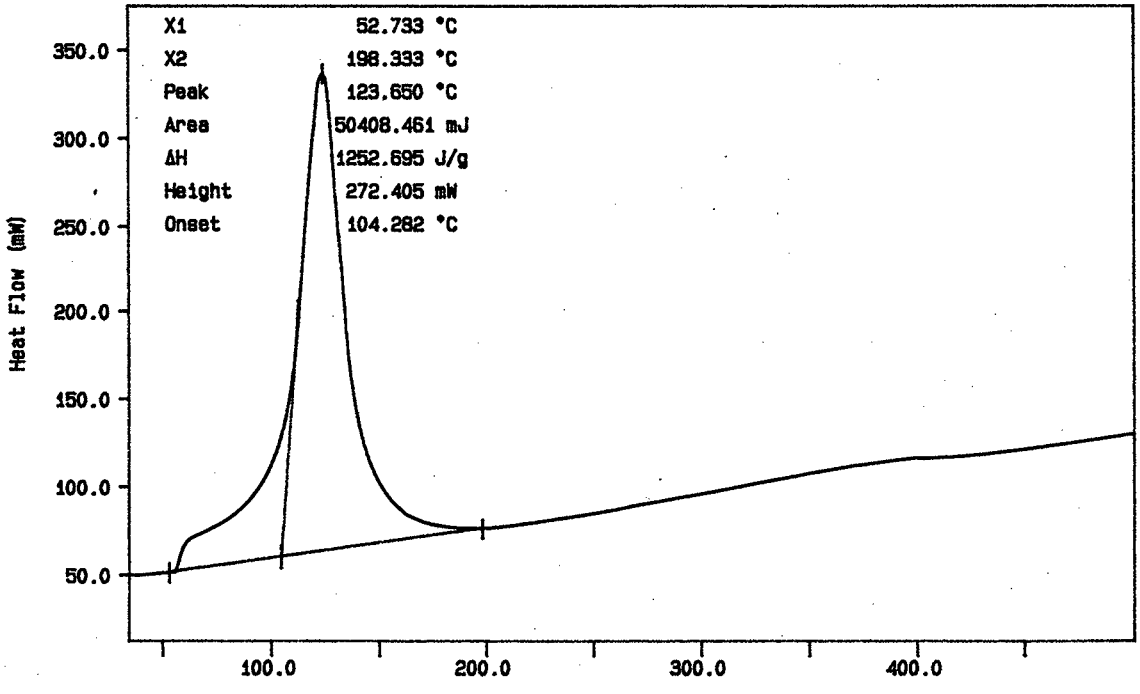


N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 550.0 C
PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 9 01:50:41 1997

Curve 1: DSC
File info: SAM060903 Mon Jun 9 02:45:45 1997
Sample Weight: 40.980 mg
S97T001033



Curve 1: DSC
File info: SAM060904 Mon Jun 9 03:39:27 1997
Sample Weight: 40.240 mg
S97T001033 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 9 03:39:46 1997

worklistrpt Version 2.1 05/15/95
06/09/97 09:59

LABCORE Data Entry Template for Worklist# 18540

Analyst: EAL **Instrument:** DSC0 3 **Book #** 12N148

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW-103 DSC,RUN UNDER N2.TDM

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	26.51	N/A	Joules/g
97000332	AW-103	2	SAMPLE	S97T000878	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3	DUP	S97T000878	0		DSC-03	SOLID	0	0	N/A	Joules/g
97000332	AW-103	4	SAMPLE	S97T000879	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	5	DUP	S97T000879	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18540

See Attached for Signature
Analyst Signature **Date**

Validated/Rejected 6/12/97 DMichelor

6-9-97
Analyst Signature **Date**

Data Entry Comments:
Instrument response problems with S97T000878. Rerun sample. DM 6/9/97
Sample rerun on worklist # 18633 6/10/97.

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
06/06/97 14:54

LABCORE Data Entry Template for Worklist# 18540

Analyst: EAL **Instrument:** DSC0 3 **Book #** 12N14-B

Method: LA-514-113 Rev/Mod D.0

Worklist Comment: AW-103 DSC,RUN UNDER N2.TDM

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2	SAMPLE	S97T000878	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3	DUP	S97T000878	0		DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	4	SAMPLE	S97T000879	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	5	DUP	S97T000879	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18540

A. Landon 06.08.97

Analyst Signature **Date**

Analyst Signature **Date**

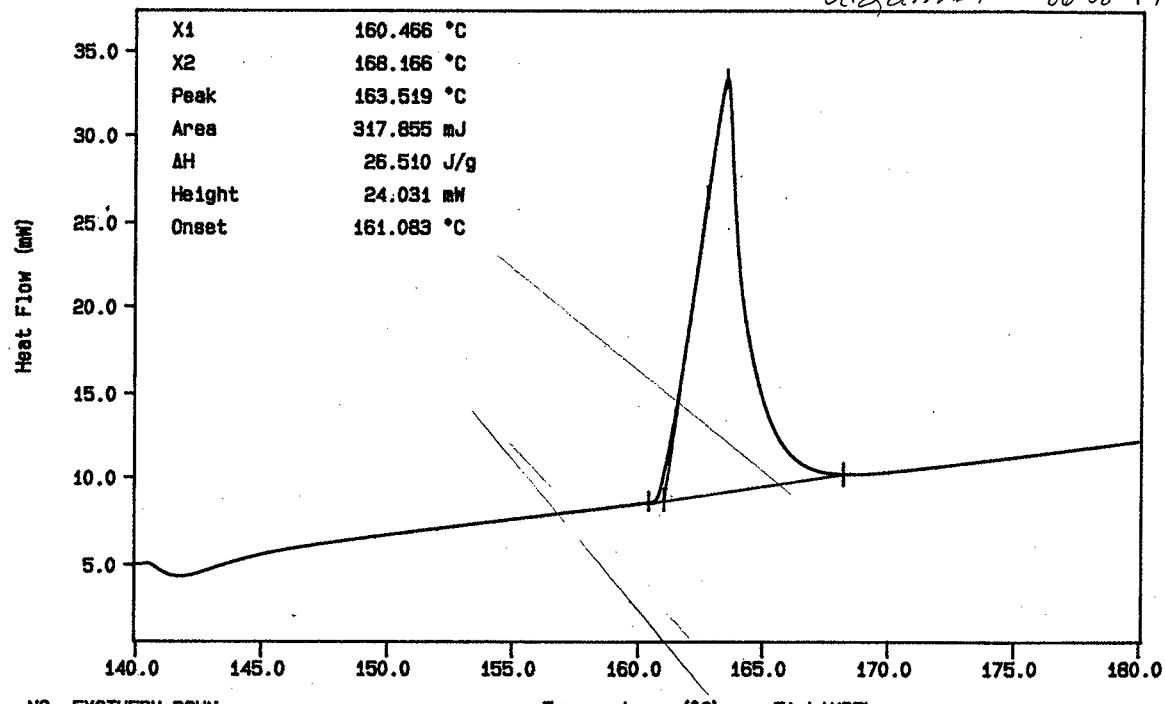
Data Entry Comments:
Ran Samples on DSC-03. 6/9/97

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.

Curve 1: DSC
File info: IND060802 Sun Jun 8 05:51:50 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 247 TO 248.

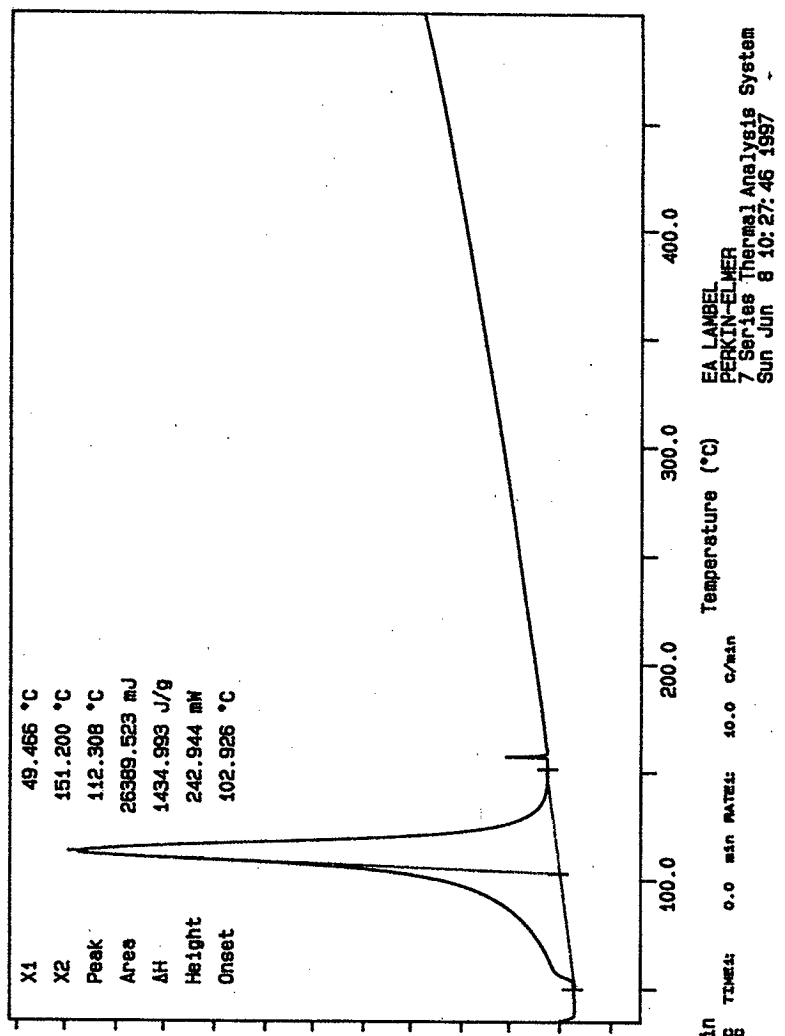
A. Lambel 06.08.97

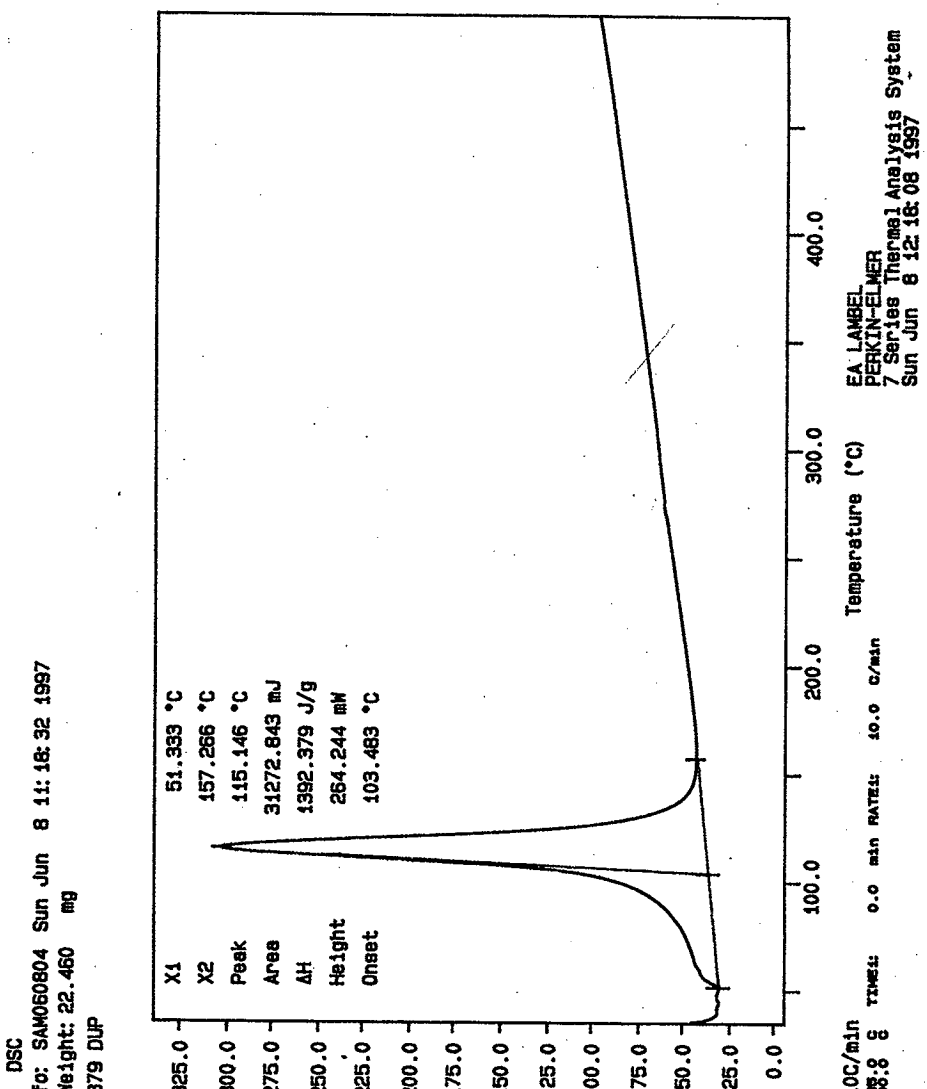


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 08:46:02 1997

246


Curve 1: DSC
File info: SAM060803 Sun Jun 8 10:20:11 1997
Sample Weight: 18.390 mg
S977000879
X1 49.466 °C
X2 151.200 °C
Peak 112.308 °C
Area 26389.523 mJ
ΔH 1434.993 J/g
Height 242.944 mW
Onset 102.926 °C
Heat Flow (mW)
325.0
300.0
275.0
250.0
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
25.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP: 35.0 C
TEMP: 500.0 C
TIME: 0.0 min RATE: 10.0 C/min
EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 10:27:46 1997


Curve 1: DSC
File info: SAM060804 Sun Jun 8 11:18:32 1997
Sample Weight: 22.460 mg
S977000879 DUP
X1 51.333 °C
X2 157.266 °C
Peak 115.146 °C
Area 31272.843 mJ
ΔH 1392.379 J/g
Height 264.244 mW
Onset 103.483 °C
Heat Flow (mW)
325.0
300.0
275.0
250.0
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
25.0
0.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP: 30.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 600.0 C
EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 12:18:08 1997

worklistrpt Version 2.1 05/15/95
06/11/97 08:36

LABCORE Data Entry Template for Worklist# 18541

Analyst: RWK **Instrument:** DSC0 3 **Book #** 12 N 14 B

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW-103 DSC,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	26.64	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000880	0		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000880	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18541

See Attached for Signature
Analyst Signature **Date**

Validated 6/16/97 Bmackelor

Linda J Mack 6-12-97
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.

worklistrpt Version 2.1 05/15/95
06/06/97 14:55

LABCORE Data Entry Template for Worklist# 18541

Analyst: KK **Instrument:** DSC0 3 **Book #** 12-7114-B

Method: LA-514-113 Rev/Mod 11-0

Worklist Comment: AW-103 DSC,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID			N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000880	0		DSC-01	SOLID	N/A			Joules/g
97000332	AW-103	3 DUP	S97T000880	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 18541

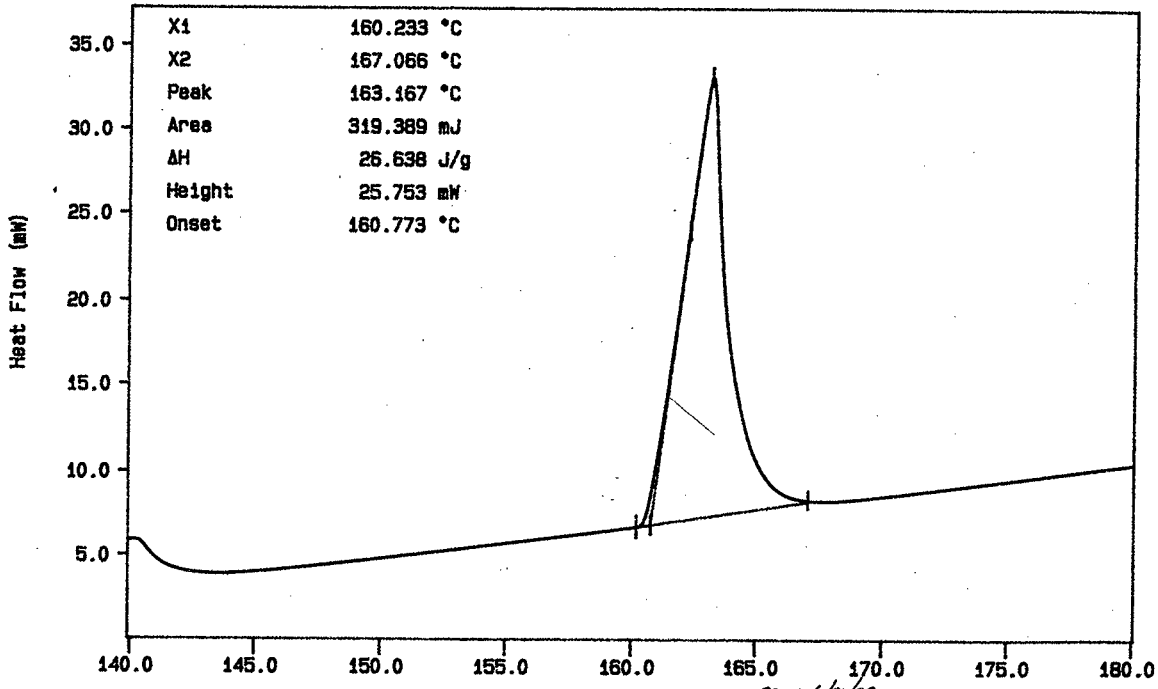
Analyst Signature Date 6/10/97

Analyst Signature Date

Data Entry Comments:
Ran samples on DSC-03. 6/11/97

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.

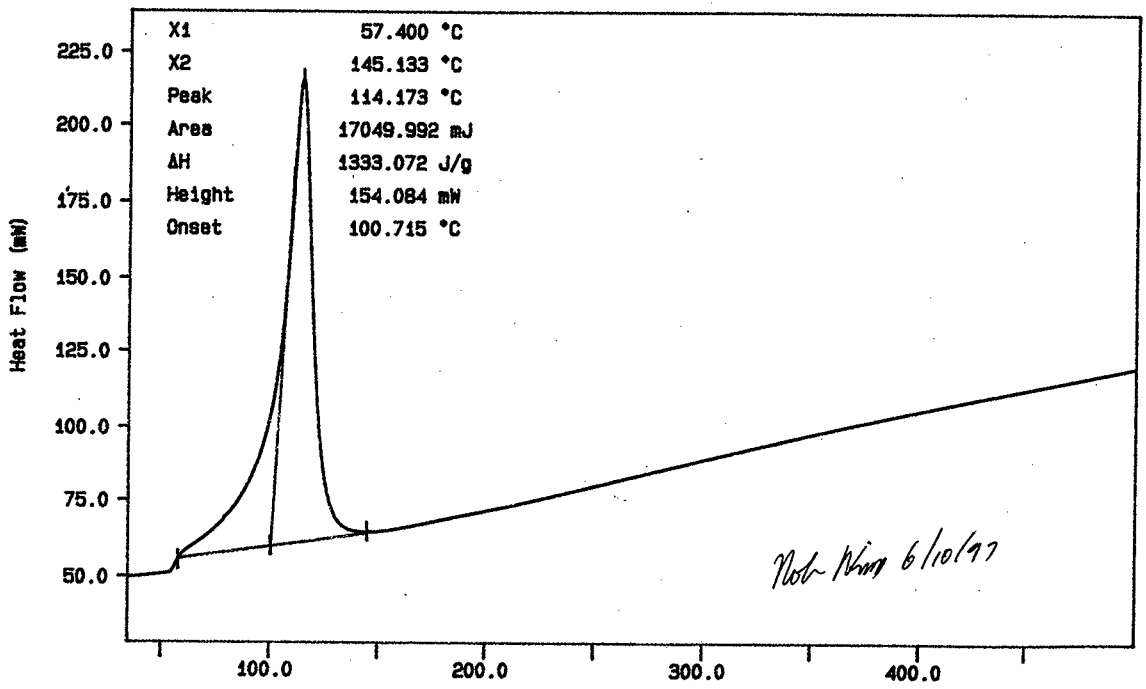
Curve 1: DSC
File info: IND060901 Mon Jun 9 05:41:22 1997
Sample Weight: 11.990 mg
12N14-B



N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 9 22:04:47 1997

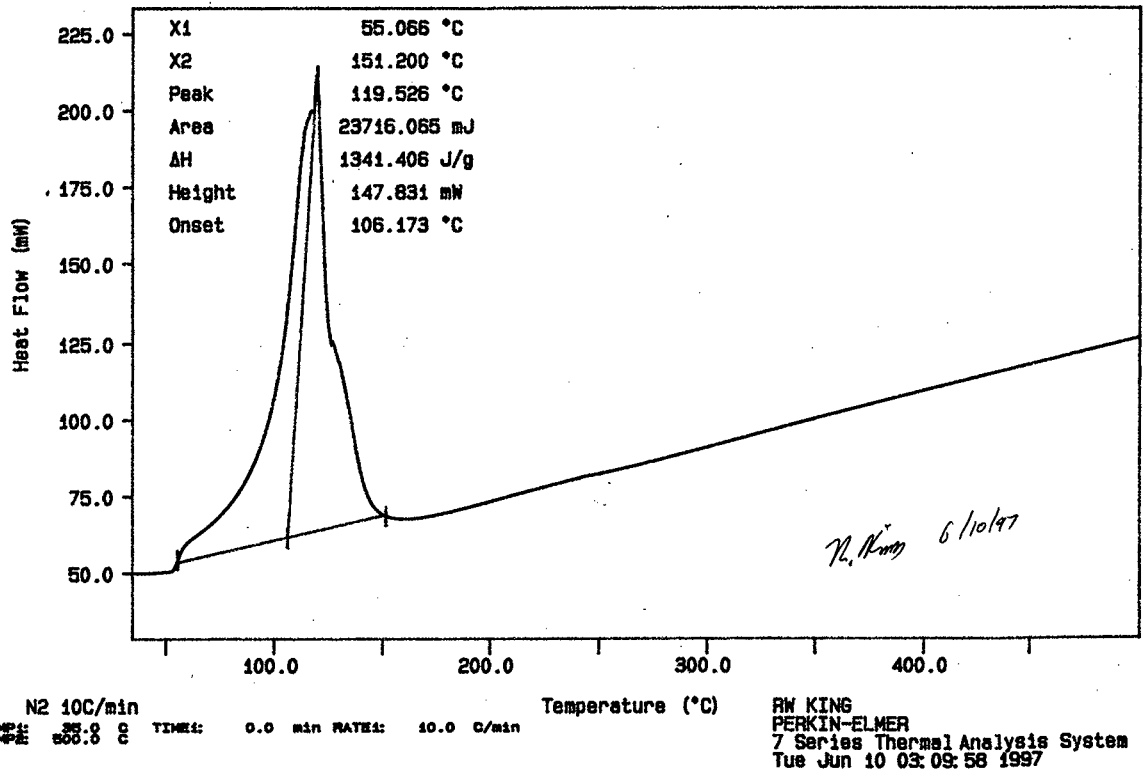
Curve 1: DSC
File info: SAM061002 Tue Jun 10 01:58:53 1997
Sample Weight: 12.790 mg
S97T000880



N2 10C/min
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 10 01:59:24 1997

Curve 1: DSC
File info: SAM061003 Tue Jun 10 03:03:04 1997
Sample Weight: 17.680 mg
S97T000880 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 10 03:09:58 1997

LABCORE Data Entry Template for Worklist# 18704

Analyst: ADP **Instrument:** DSC0 3 **Book #** 12N143

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, DSC-03 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	27.70	N/A	Joules/g
97000332	AW-103	2	SAMPLE	S97T000878	1		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3	DUP	S97T000878	1		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 18704

Anthony Fuentes 6-17-97
Analyst Signature **Date**

Validated 6/17/97 Rachelor

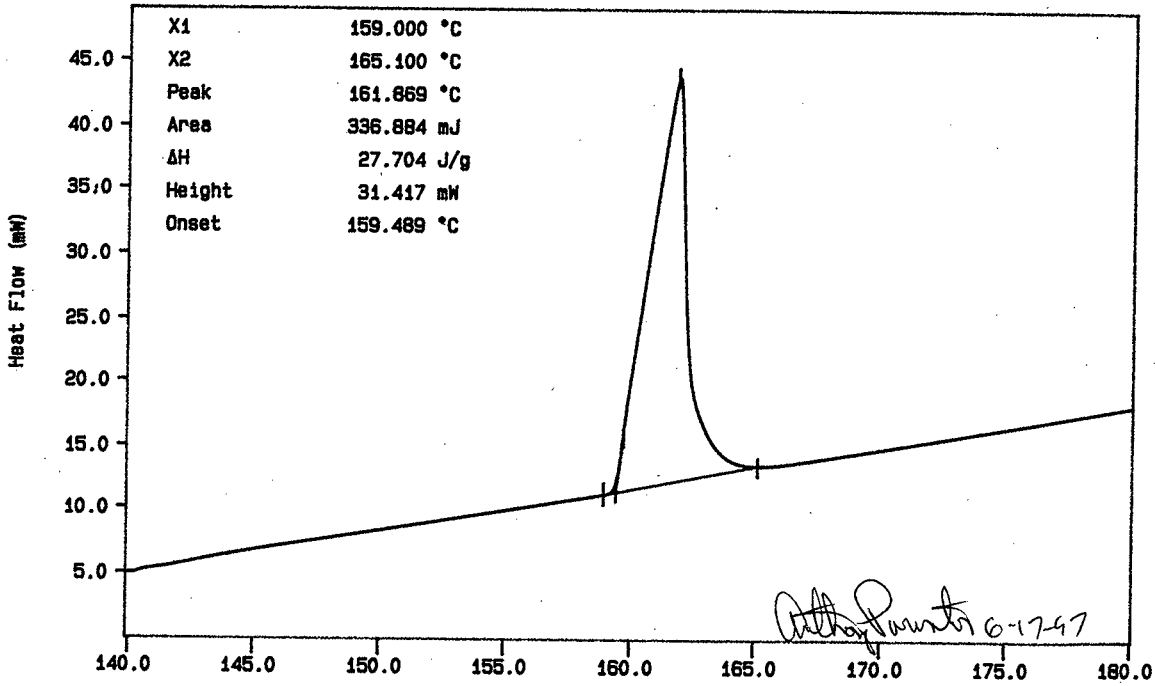
6-17-97
Analyst Signature **Date**

Data Entry Comments:
~~Drop in plot observed near 450°C may be due to an exotherm~~ 6/17/97
Drop in plot base line observed near 450°C may be due to an incomplete exotherm.
6/17/97

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.

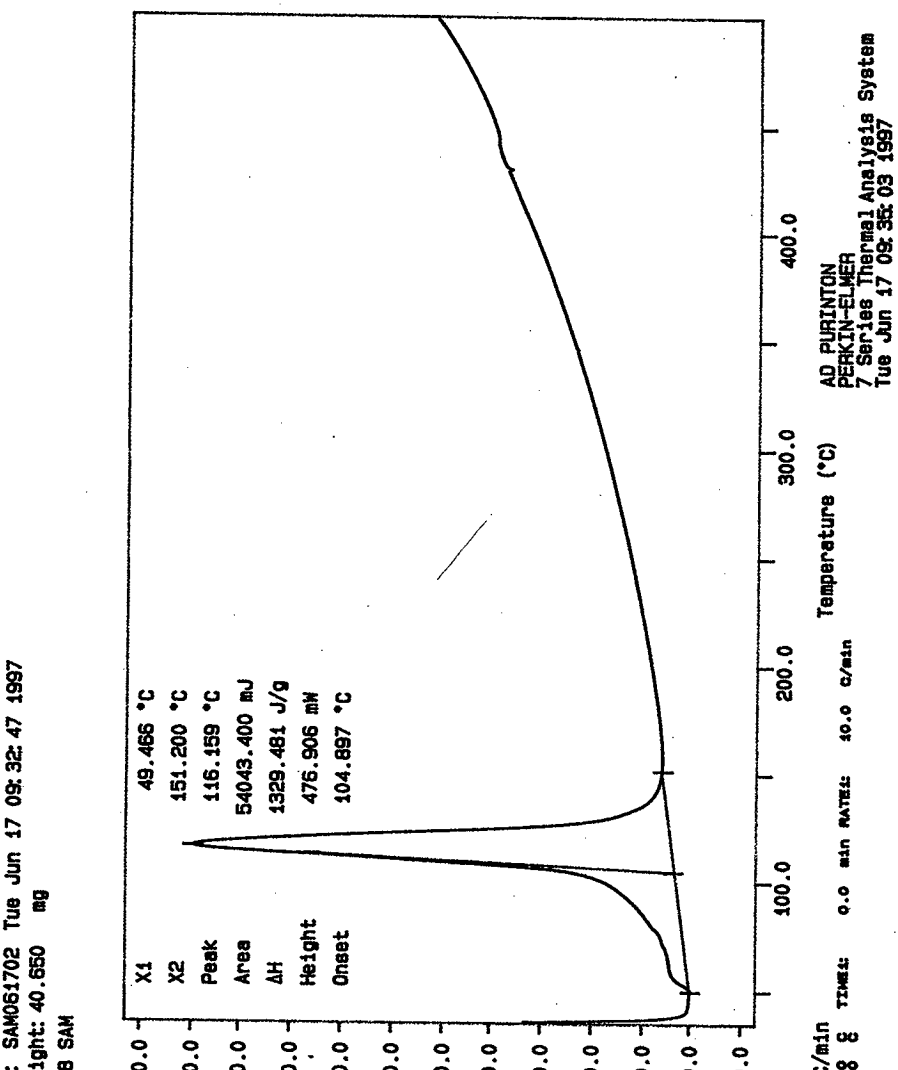
Curve 1: DSC
File info: IND061701 Tue Jun 17 06:00:36 1997
Sample Weight: 12.160 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 255 TO 257

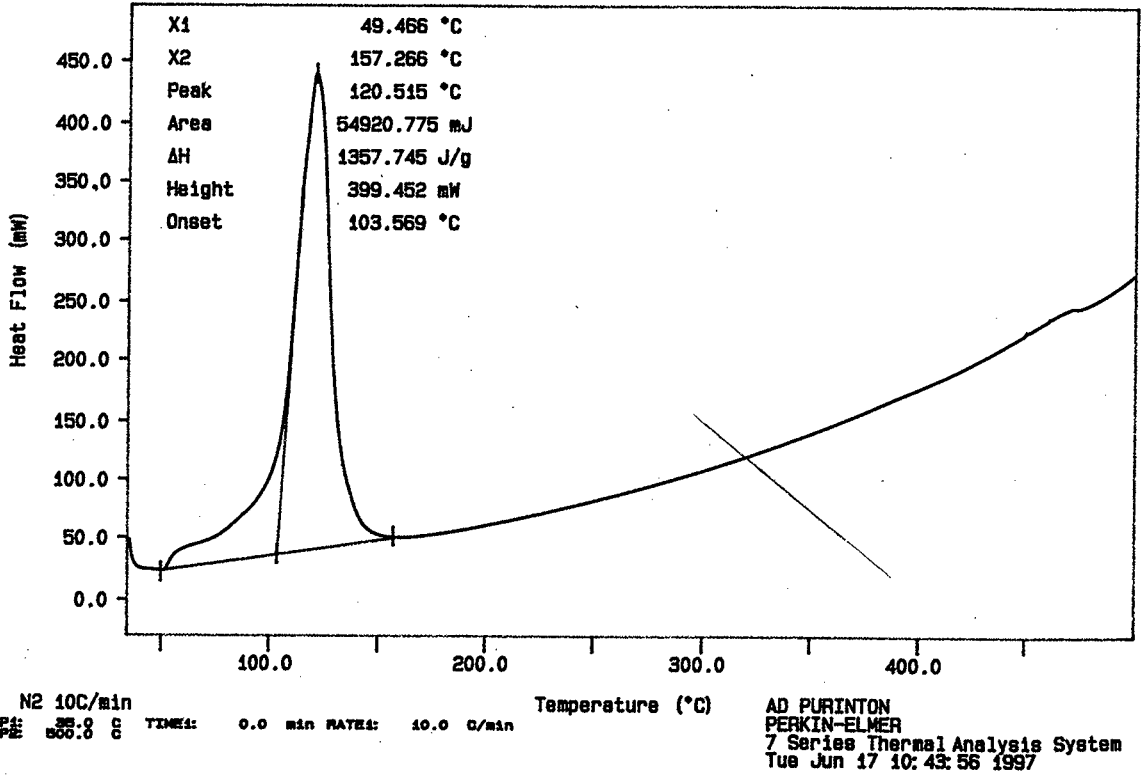


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 17 06:15:53 1997


Curve 1: DSC
File info: SAM061702 Tue Jun 17 09:32:47 1997
Sample Weight: 40.650 mg
S977000878 SAM
X1 49.466 °C
X2 151.200 °C
Peak 116.159 °C
Area 54043.400 mJ
ΔH 1329.481 J/g
Height 476.906 mW
Onset 104.897 °C
Heat Flow (mW)
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
-50.0
-100.0
-150.0
-200.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 88.8 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.8 C
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 17 09:35:03 1997

Curve 1: DSC
File info: SAM061703 Tue Jun 17 10:40:19 1997
Sample Weight: 40.450 mg
S97T000878 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 17 10:43:56 1997

LABCORE Data Entry Template for Worklist# 18542

Analyst: EAL **Instrument:** DSC0 3 **Book #** 12N148

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW-103 DSC,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	LIQUID	28.45	26.51 K	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000881	0		DSC-03	LIQUID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000881	0		DSC-03	LIQUID	0	0	N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000882	0		DSC-03	LIQUID	N/A	0		Joules/g
97000332	AW-103	5 DUP	S97T000882	0		DSC-03	LIQUID	0	0	N/A	Joules/g

Final page for worklist # 18542

See Attached for Signature
Analyst Signature **Date**

6-9-97
Analyst Signature **Date**

Validated 6/12/97 Machelor

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# 18542

Analyst: EAL **Instrument:** DSC0 3 **Book #** 12N14-B

Method: LA-514-113 Rev/Mod D.0

Worklist Comment: AW-103 DSC,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	LIQUID			N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000881	0		DSC-01	LIQUID	N/A			Joules/g
97000332	AW-103	3 DUP	S97T000881	0		DSC-01	LIQUID			N/A	Joules/g
97000332	AW-103	4 SAMPLE	S97T000882	0		DSC-01	LIQUID	N/A			Joules/g
97000332	AW-103	5 DUP	S97T000882	0		DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 18542

A Lambert 06.08.97

Analyst Signature **Date**

Analyst Signature **Date**

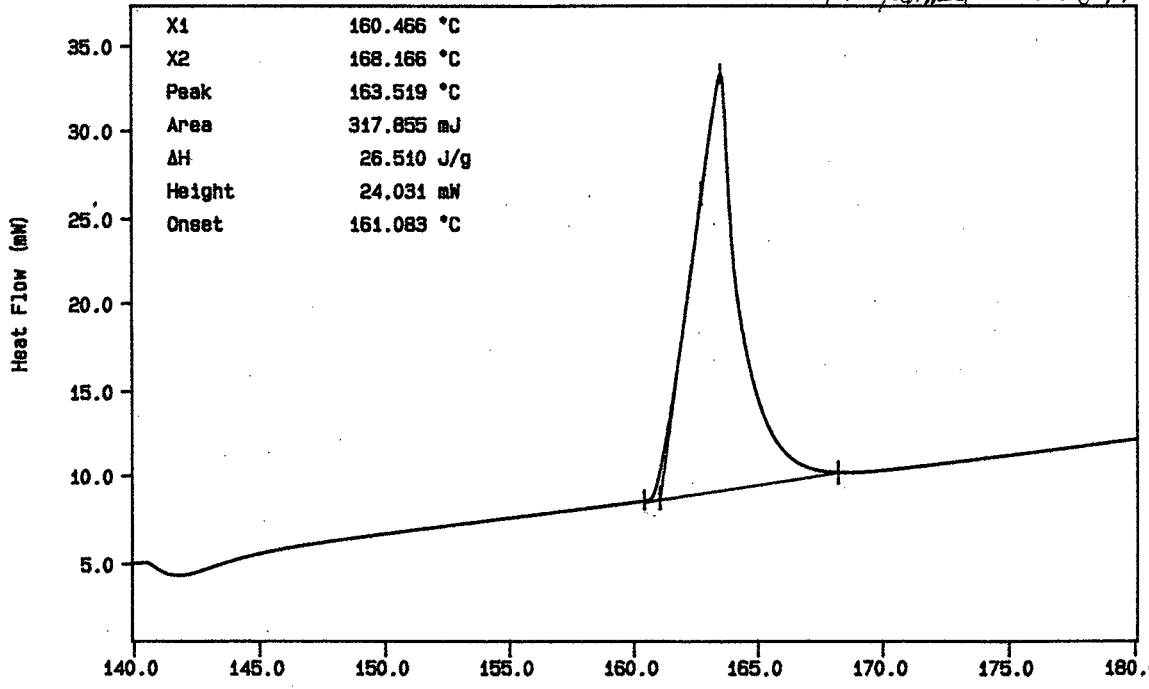
Data Entry Comments:
Kansamples on DSC-03. 6/9/97

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.

Curve 1: DSC
File info: IND060802 Sun Jun 8 05:51:50 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 260 TO 264.

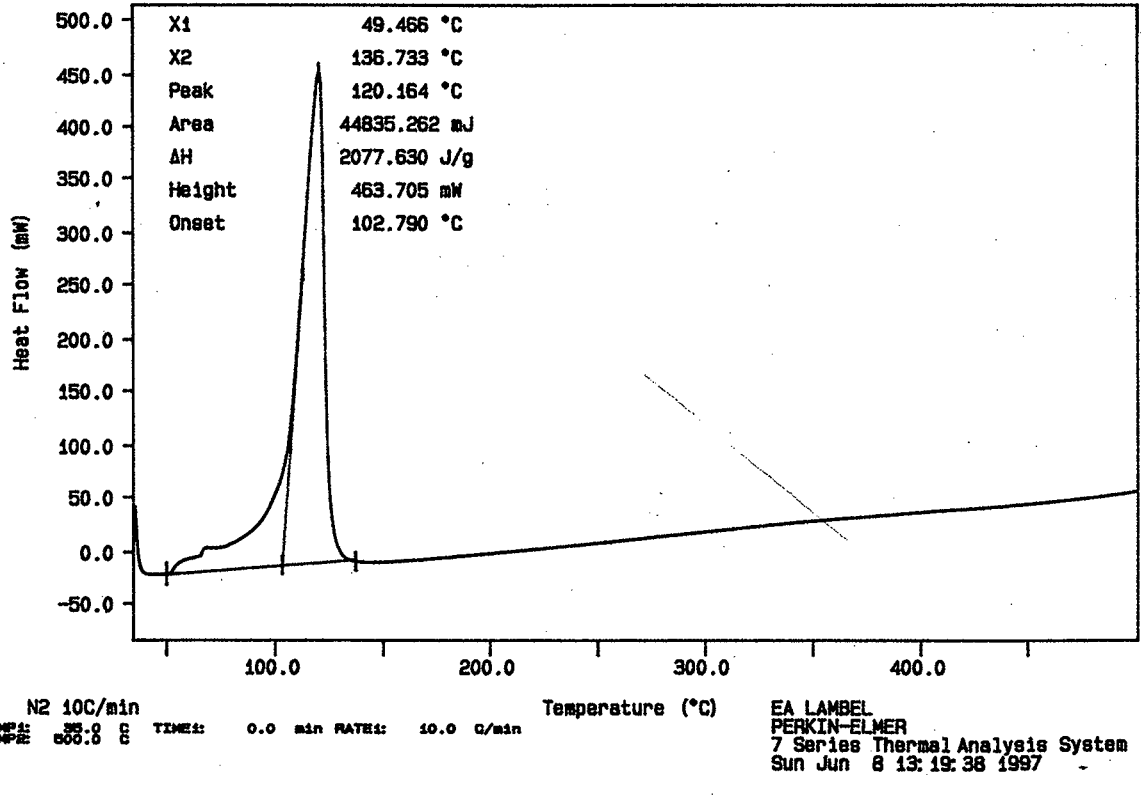
A. Lambel 06.08.97



N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 08:53:19 1997

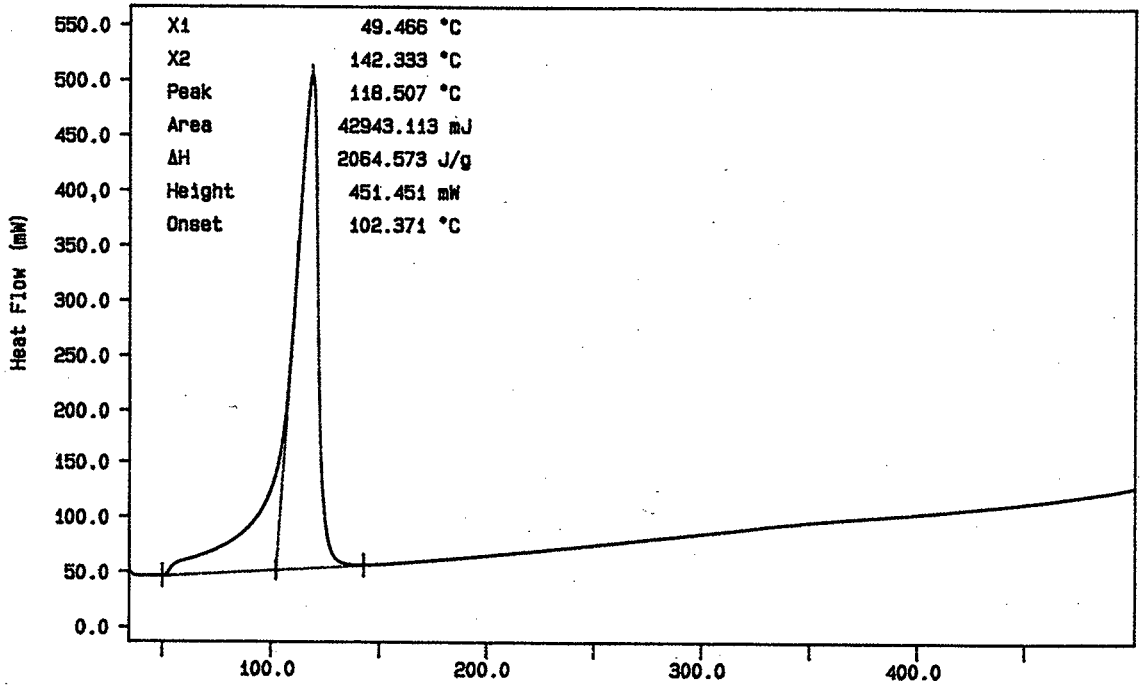
Curve 1: DSC
File info: SAM060805 Sun Jun 8 13:07:47 1997
Sample Weight: 21.580 mg
S97T000881



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 13:19:38 1997

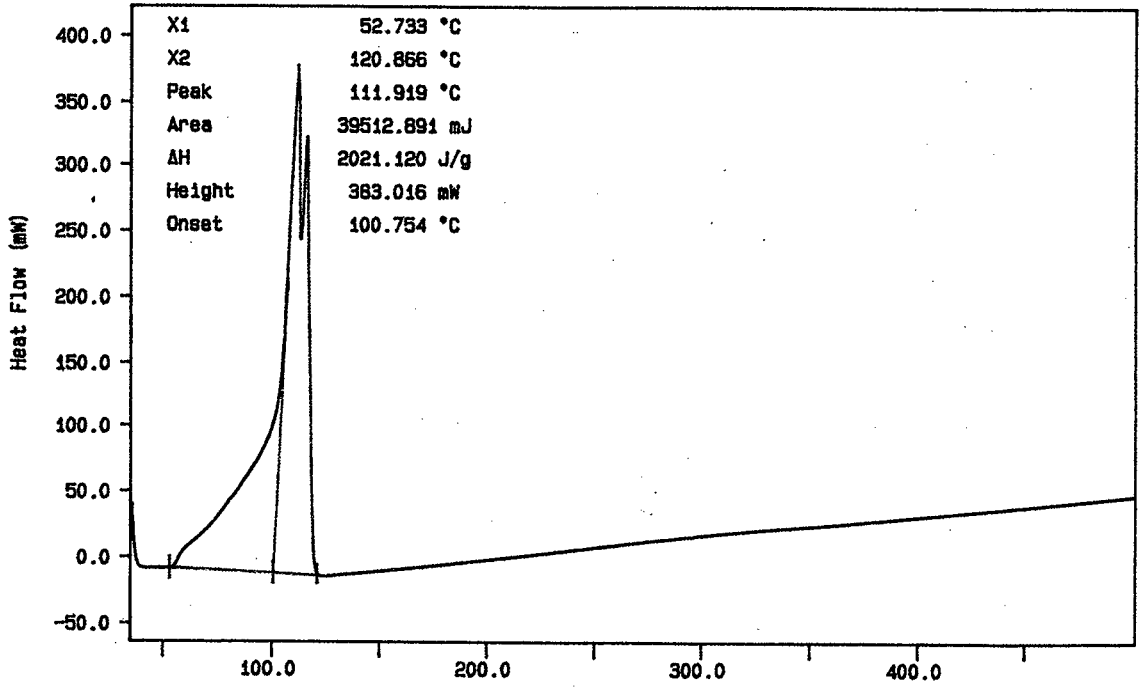
Curve 1: DSC
File info: SAM060806 Sun Jun 8 14:09:15 1997
Sample Weight: 20.800 mg
S97T000881 DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 14:12:58 1997

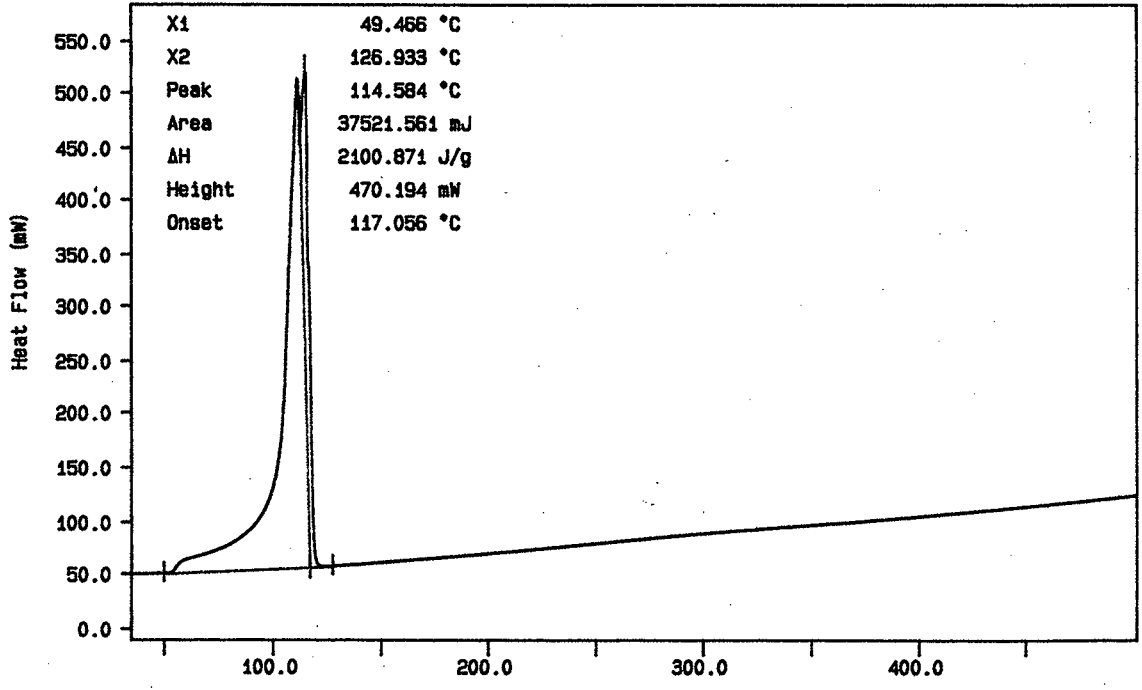
Curve 1: DSC
File info: SAM060807 Sun Jun 8 15:03:02 1997
Sample Weight: 19.550 mg
S97T000882



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 15:15:03 1997

Curve 1: DSC
File info: SAM060808 Sun Jun 8 16:03:11 1997
Sample Weight: 17.860 mg
S97T000882 DUP



N2 10C/min
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 17:26:43 1997

LABCORE Data Entry Template for Worklist# 18633

Analyst: [signature] **Instrument:** DSC0 3 **Book #** 12NH3

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: Rerun #1 due to instrument response. Run under N2. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	26.61	N/A	Joules/g
97000332	AW-103	2	SAMPLE	S97T000878	0		DSC-03	SOLID	N/A	1023.4		Joules/g
97000332	AW-103	3	DUP	S97T000878	0		DSC-03	SOLID	1023.4	922.48	N/A	Joules/g

Final page for worklist # 18633

[signature] 06/14/97
Analyst Signature Date

Susan Bu 6/14/97
Analyst Signature Date

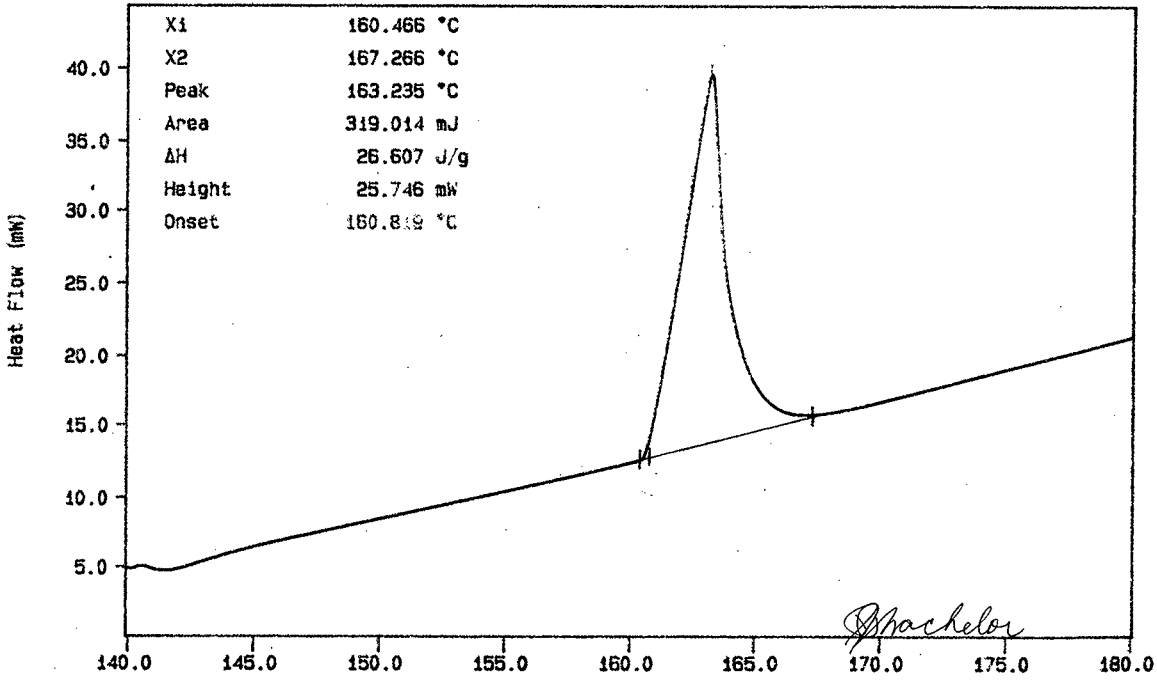
Validated 6/16/97 [signature]

Data Entry Comments:

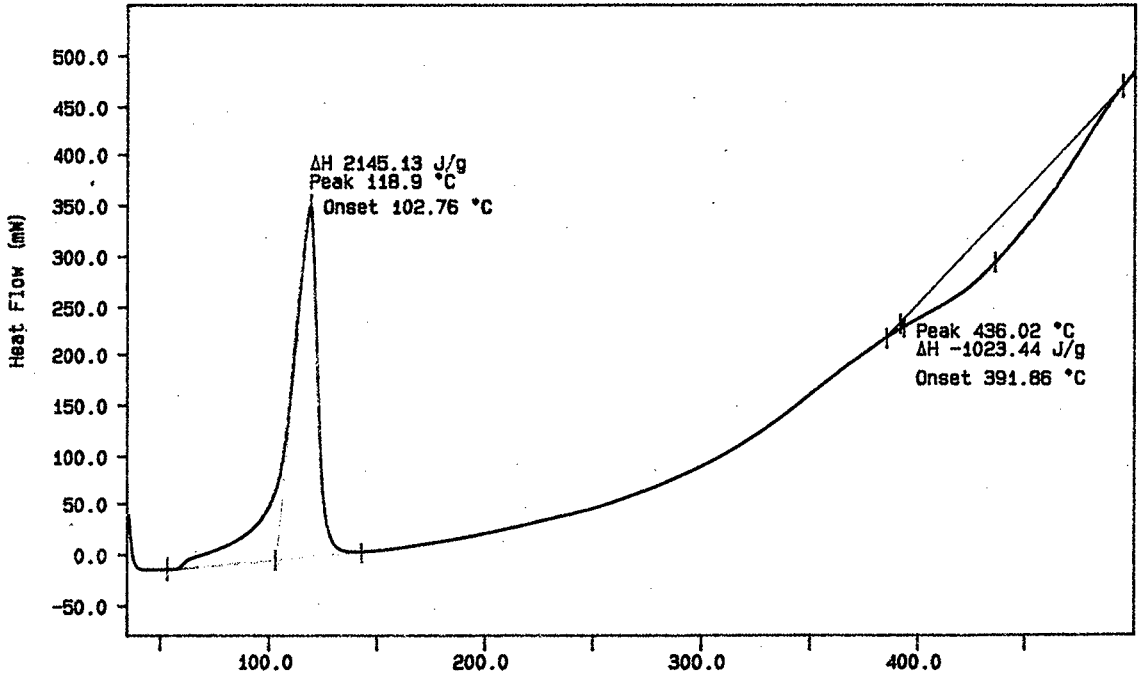
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File Info: IND06130i Fri Jun 13 18:04:48 1997
Sample Weight: 11.990 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 266 TO 268



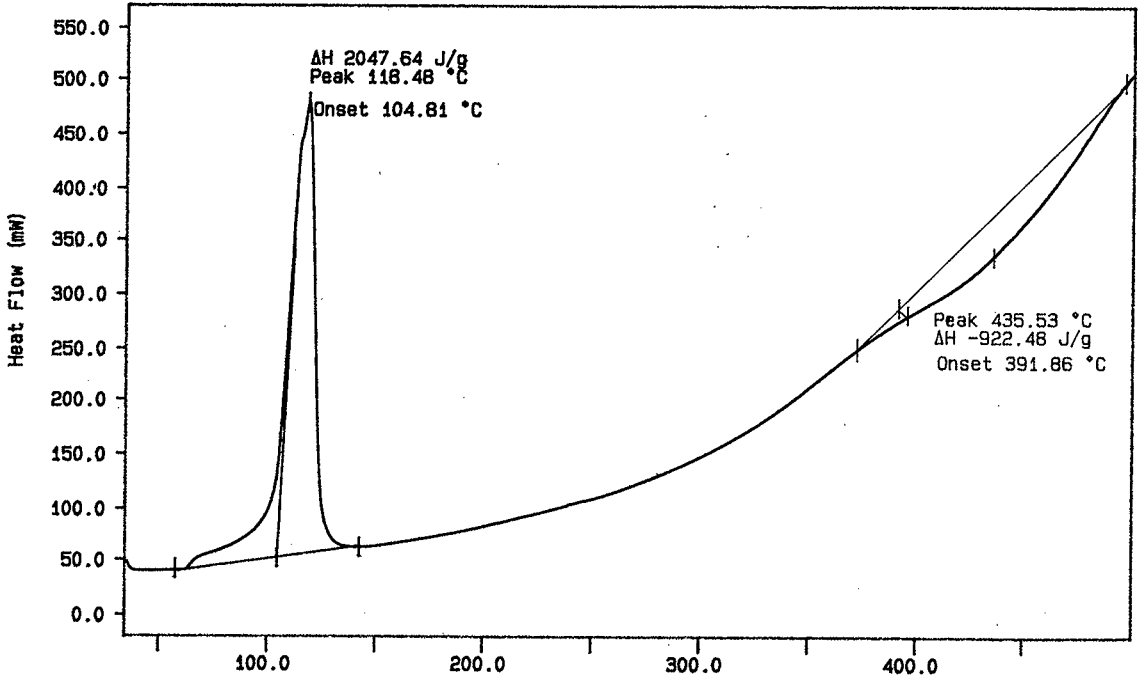
Curve 1: DSC
File info: SAM061303 Fri Jun 13 22:48:30 1997
Sample Weight: 15.630 mg
S97T000878



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jun 14 10:34:39 1997

Curve 1: DSC
File info: SAM061401 Sat Jun 14 01:40:27 1997
Sample Weight: 18.660 mg
S97T000878DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Jun 14 10:49:44 1997

worklistrpt Version 2.1 05/15/95
06/12/97 09:43

LABCORE Data Entry Template for Worklist# 18634

Analyst: ppb **Instrument:** DSC0 2 **Book #** NA

Method: ~~LA-514-113 Rev/Mod~~ ~~B~~ 6/12/97

Worklist Comment: DSC-02 AW-103 liquid. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000332	AW-103	1 SAMPLE	S97T000881	0		DSC-02	LIQUID	N/A	0		Joules/g Dry
97000332	AW-103	2 DUP	S97T000881	0		DSC-02	LIQUID	0	0	N/A	Joules/g Dry
97000332	AW-103	3 SAMPLE	S97T000882	0		DSC-02	LIQUID	N/A	0		Joules/g Dry
97000332	AW-103	4 DUP	S97T000882	0		DSC-02	LIQUID	0	0	N/A	Joules/g Dry
97000333	AW-103	5 SAMPLE	S97T001079	0		DSC-02	LIQUID	N/A	0		Joules/g Dry
97000333	AW-103	6 DUP	S97T001079	0		DSC-02	LIQUID	0	0	N/A	Joules/g Dry

Final page for worklist # 18634

Machelor 6/16/97
Analyst Signature **Date**

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.

LABCORE Data Entry Template for Worklist# 18635

Analyst: ppb **Instrument:** DSC0 2 **Book #** N/A

Method: ~~LA-514-113 Rev/Mod~~ 6/12/97

Worklist Comment: DSC-02 AW-103 solid. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000332	AW-103	1	SAMPLE	S97T000878	0		DSC-02	SOLID	N/A	2664	6/16/97	Joules/g Dry
97000332	AW-103	2	DUP	S97T000878	0		DSC-02	SOLID	2664	2402	6/16/97 N/A	Joules/g Dry
97000332	AW-103	3	SAMPLE	S97T000879	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	4	DUP	S97T000879	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	5	SAMPLE	S97T000880	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	6	DUP	S97T000880	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	7	SAMPLE	S97T000976	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	8	DUP	S97T000976	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	9	SAMPLE	S97T000977	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	10	DUP	S97T000977	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	11	SAMPLE	S97T000978	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	12	DUP	S97T000978	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	13	SAMPLE	S97T000979	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	14	DUP	S97T000979	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	15	SAMPLE	S97T000980	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	16	DUP	S97T000980	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	17	SAMPLE	S97T000981	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	18	DUP	S97T000981	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry

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# 18635

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000332	AW-103	19 SAMPLE	S97T000982	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	20 DUP	S97T000982	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000332	AW-103	21 SAMPLE	S97T000983	0		DSC-02	SOLID	N/A	43.89		Joules/g Dry
97000332	AW-103	22 DUP	S97T000983	0		DSC-02	SOLID	43.89	17.41	N/A	Joules/g Dry
97000332	AW-103	23 SAMPLE	S97T000984	0		DSC-02	SOLID	N/A	472.4		Joules/g Dry
97000332	AW-103	24 DUP	S97T000984	0		DSC-02	SOLID	472.4	387.3	N/A	Joules/g Dry

Final page for worklist # 18635

BB Machelor 6/16/97
Analyst Signature Date

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.

worklistrpt Version 2.1 05/15/95
06/12/97 09:46

LABCORE Data Entry Template for Worklist# 18638

Analyst: ppb **Instrument:** DSC0 2 **Book #** NA

Method: ~~LA-514-113 Rev/Mod 03~~ 6/12/97

Worklist Comment: DSC-02 AW-103 solid. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000333	AW-103	1	SAMPLE	S97T001030	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	2	DUP	S97T001030	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	3	SAMPLE	S97T001031	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	4	DUP	S97T001031	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	5	SAMPLE	S97T001032	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	6	DUP	S97T001032	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	7	SAMPLE	S97T001033	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	8	DUP	S97T001033	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	9	SAMPLE	S97T001034	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	10	DUP	S97T001034	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	11	SAMPLE	S97T001035	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	12	DUP	S97T001035	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	13	SAMPLE	S97T001036	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	14	DUP	S97T001036	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	15	SAMPLE	S97T001037	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	16	DUP	S97T001037	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	17	SAMPLE	S97T001038	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	18	DUP	S97T001038	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry

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# 18638

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000333	AW-103	19	SAMPLE	S97T001039	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	20	DUP	S97T001039	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	21	SAMPLE	S97T001040	0		DSC-02	SOLID	N/A	0		Joules/g Dry
97000333	AW-103	22	DUP	S97T001040	0		DSC-02	SOLID	0	0	N/A	Joules/g Dry
97000333	AW-103	23	SAMPLE	S97T001041	0		DSC-02	SOLID	N/A	475.6		Joules/g Dry
97000333	AW-103	24	DUP	S97T001041	0		DSC-02	SOLID	475.6	606.7	N/A	Joules/g Dry

Final page for worklist # 18638

Analyst Signature Date 6/16/97

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.

LABCORE Data Entry Template for Worklist# 18722

Analyst: ppb **Instrument:** DSC0 2 **Book #** NA

Method: ~~LA-514-113 Rev/Mod~~ ppb 6/17/97

Worklist Comment: DSC-02 AW-103 RR solid. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000332	AW-103	1 SAMPLE	S97T000878	1		DSC-02	SOLID	N/A	0		Joules/g Dry
97000332	AW-103	2 DUP	S97T000878	1		DSC-02	SOLID	0	0	N/A	Joules/g Dry

Final page for worklist # 18722

Rachelor 6/17/97
Analyst Signature **Date**

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.

worklistrpt Version 2.1 05/15/95
07/22/97 08:59

LABCORE Data Entry Template for Worklist# 19430

Analyst: RJM **Instrument:** DSC0 3 **Book #** 12N143

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: AW-103 RERUN #2, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	SOLID	28.45	28.81 *	N/A	Joules/g
97000332	AW-103	2 SAMPLE	S97T000878	2		DSC-03	SOLID	N/A	0		Joules/g
97000332	AW-103	3 DUP	S97T000878	2		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 19430

RJMeyer 8/12/97
Analyst Signature **Date**

Susan Bee 8/14/97
Analyst Signature **Date**

Validated 8/15/97
HKA

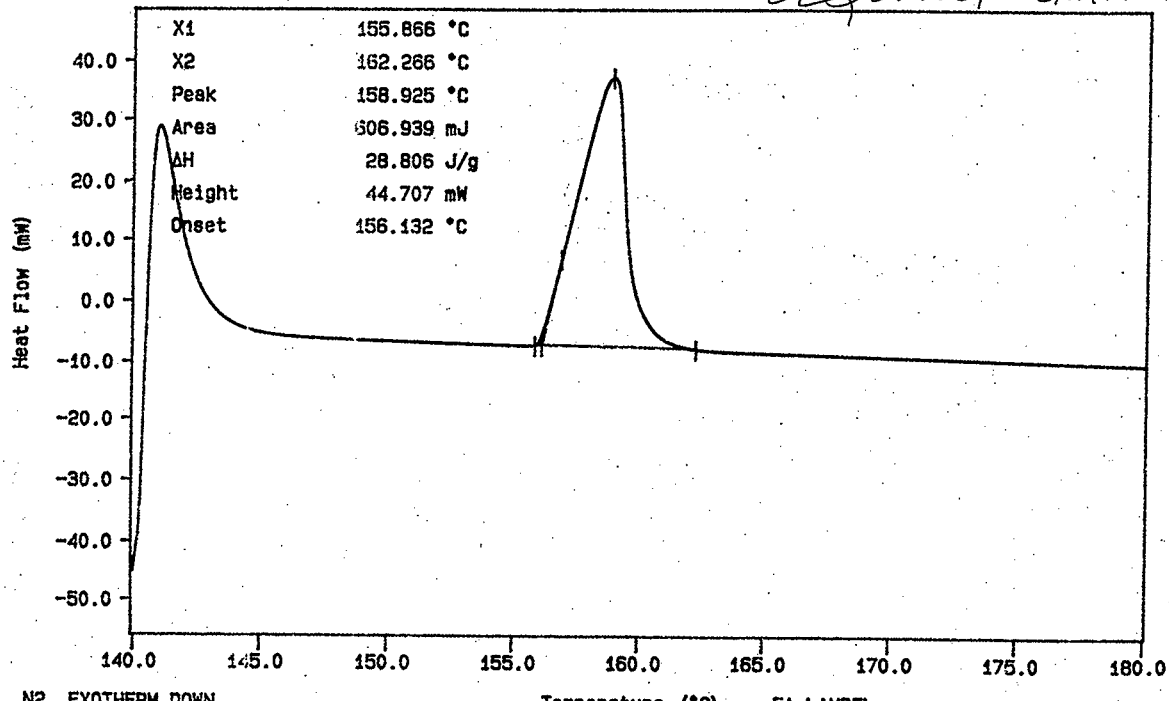
Data Entry Comments:

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.

Curve 1: DSC
File info: IND081101 Mon Aug 11 06:29:59 1997
Sample Weight: 21.070 mg
12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 276 TO 278

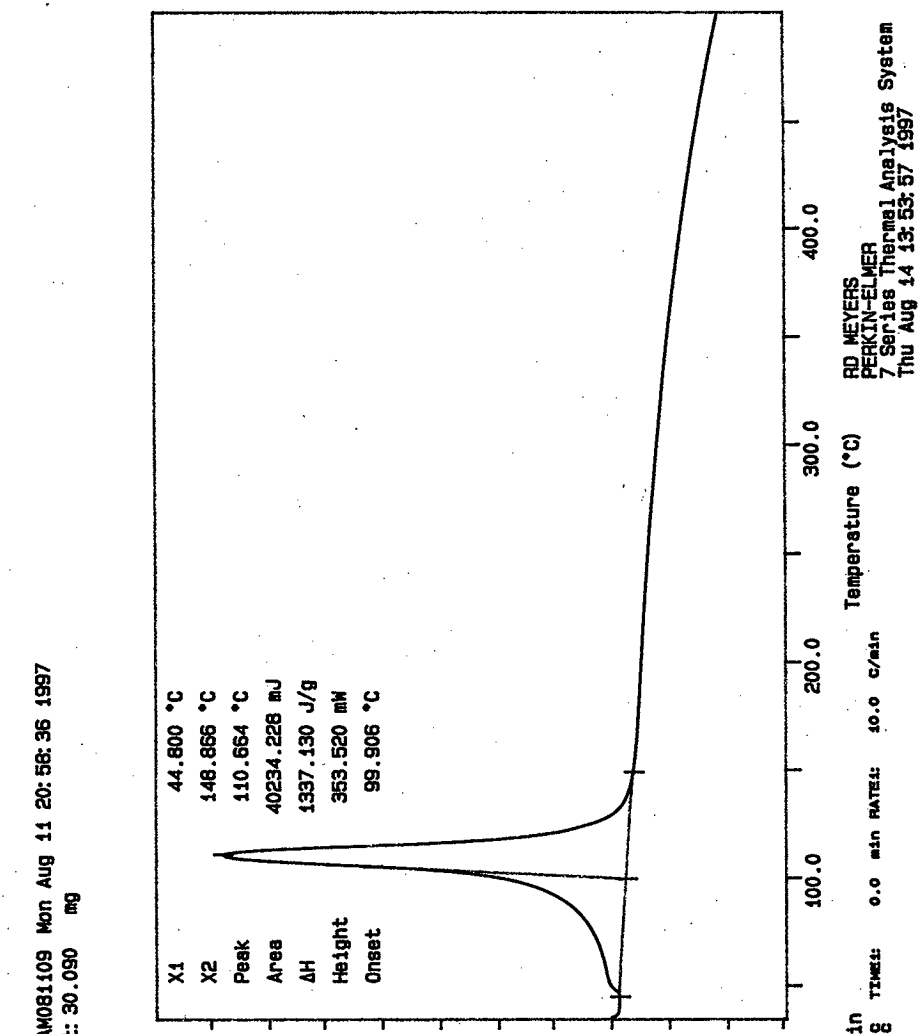
A Lambel 08/11/97



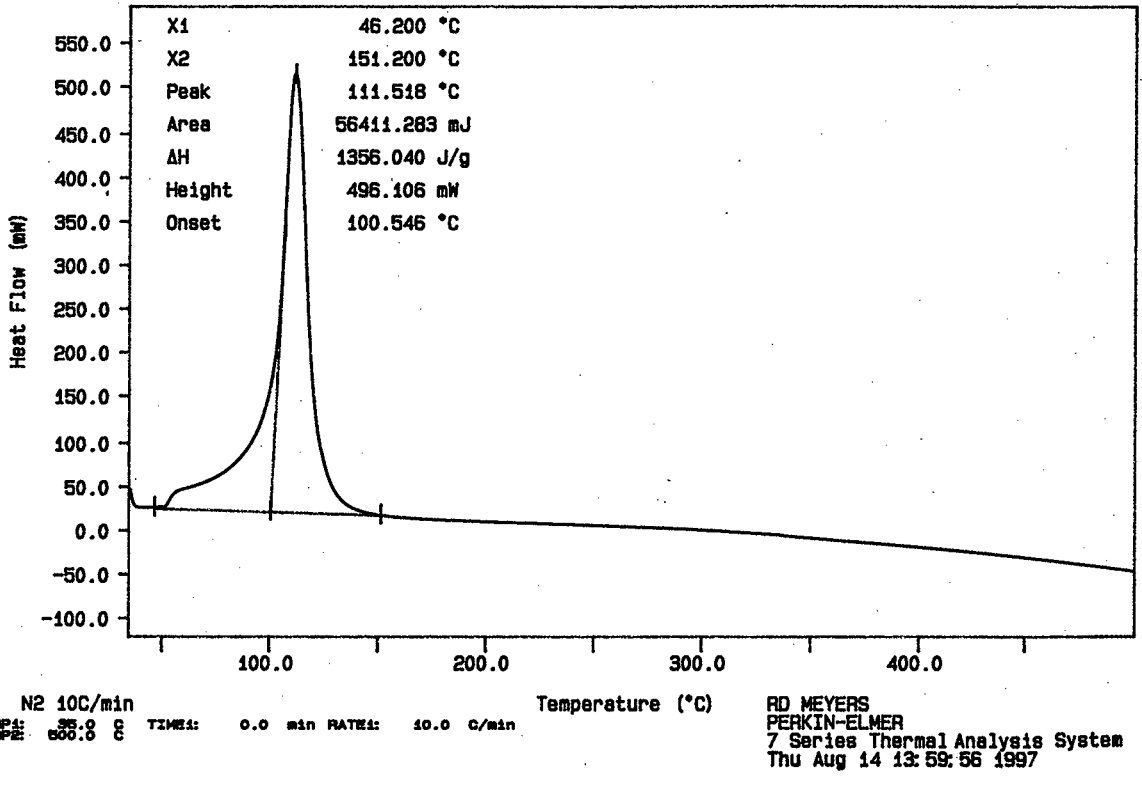
N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Aug 11 11:21:20 1997

276


Curve 1: DSC
File info: SAM081109 Mon Aug 11 20:58:36 1997
Sample Weight: 30.090 mg
S97T000878
X1 44.800 °C
X2 148.866 °C
Peak 110.664 °C
Area 40234.228 mJ
ΔH 1337.130 J/g
Height 353.520 mW
Onset 99.906 °C
Heat Flow (mW)
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
-50.0
-100.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Aug 14 13:53:57 1997

Curve 1: DSC
File info: SAM081110 Mon Aug 11 21:52:10 1997
Sample Weight: 41.600 mg
S97T000878DUP



N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Aug 14 13:59:56 1997

worklistrpt Version 2.1 05/15/95
08/15/97 11:14

LABCORE Data Entry Template for Worklist# 19810

Analyst: Hea **Instrument:** DSC01 **Book #** N/A

Method: LA-514-113 Rev/Mod D-1

Worklist Comment: Dry DSC for AW-103 hla

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
97000332	AW-103	1 SAMPLE	S97T000878	2		DSC-02	SOLID	N/A	Ø		Joules/g Dry
97000332	AW-103	2 DUP	S97T000878	2		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry

Final page for worklist # 19810

Heather Angstrom 8.15.97
Analyst Signature **Date**

Analyst Signature **Date**

Data entry + validation by
Hea 8.15.97

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# 18372

Analyst: KRM **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	58.50	N/A	%
97000332	AW-103	2	SAMPLE	S97T000976	0		TGA-03	SOLID	N/A	64.90		%
97000332	AW-103	3	DUP	S97T000976	0		TGA-03	SOLID	64.90	64.91	N/A	%
97000332	AW-103	4	SAMPLE	S97T000977	0		TGA-03	SOLID	N/A	60.34		%
97000332	AW-103	5	DUP	S97T000977	0		TGA-03	SOLID	60.34	57.96	N/A	%

Final page for worklist # 18372

See Attached for Signature
Analyst Signature **Date**

Validated 6/6/97 Bachelor

6-5-97
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.

worklistrpt Version 2.1 05/15/95
05/30/97 10:09

LABCORE Data Entry Template for Worklist# 18372

Analyst: KRM **Instrument:** TGA0 3 **Book #** 97N8-A

Method: LA-560-112 Rev/Mod D-D

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000332	AW-103	2	SAMPLE	S97T000976	0		TGA-01	SOLID	N/A			%
97000332	AW-103	3	DUP	S97T000976	0		TGA-01	SOLID			N/A	%
97000332	AW-103	4	SAMPLE	S97T000977	0		TGA-01	SOLID	N/A			%
97000332	AW-103	5	DUP	S97T000977	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18372

6-6-97
Analyst Signature **Date**
Susie M. Dalton 6-1-97

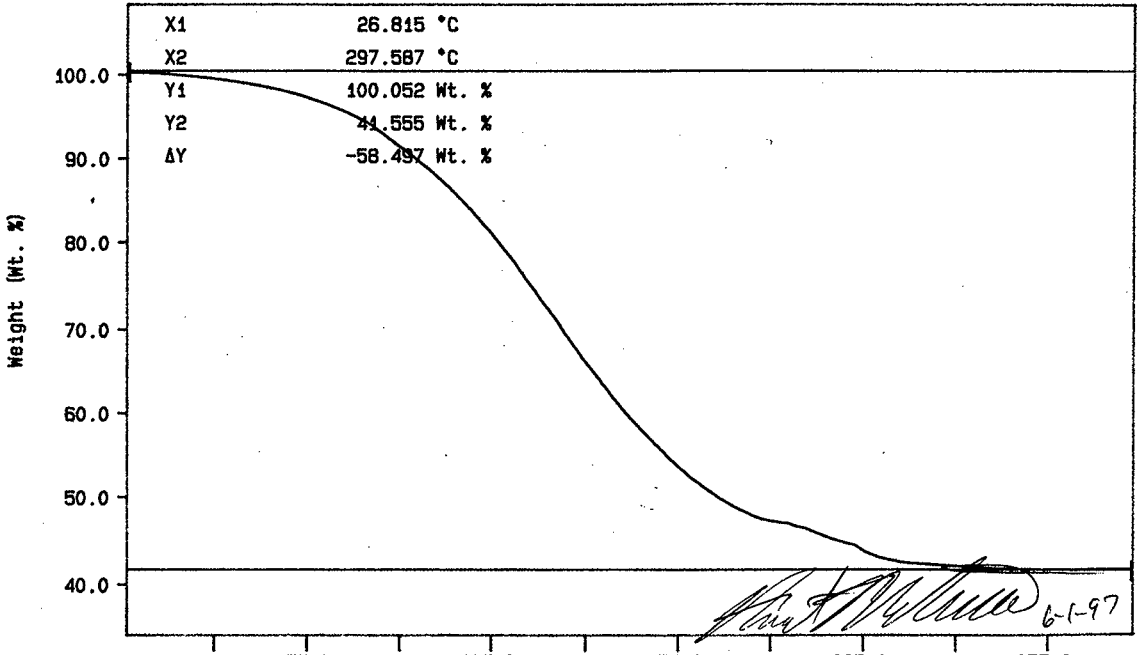
Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03. 6/4/97

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.

Curve 1: TGA
File info: TER060101 Sun Jun 1 03:38:37 1997
Sample Weight: 28.280 mg
97N8-A

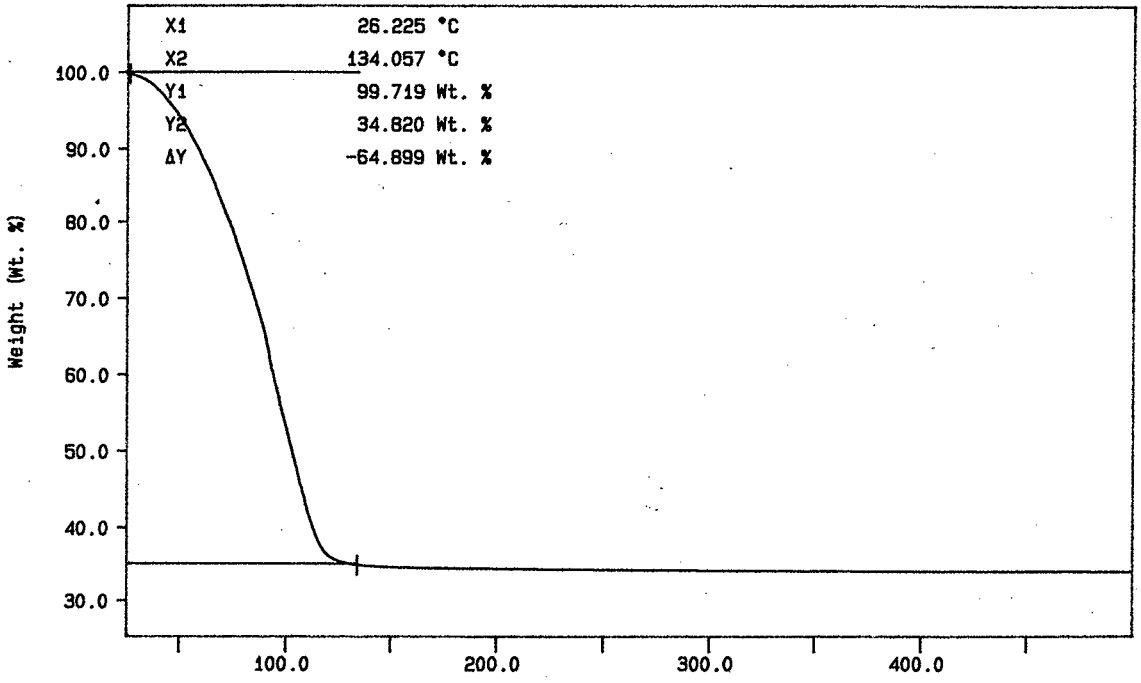
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 282 TO 284



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 09:57:21 1997

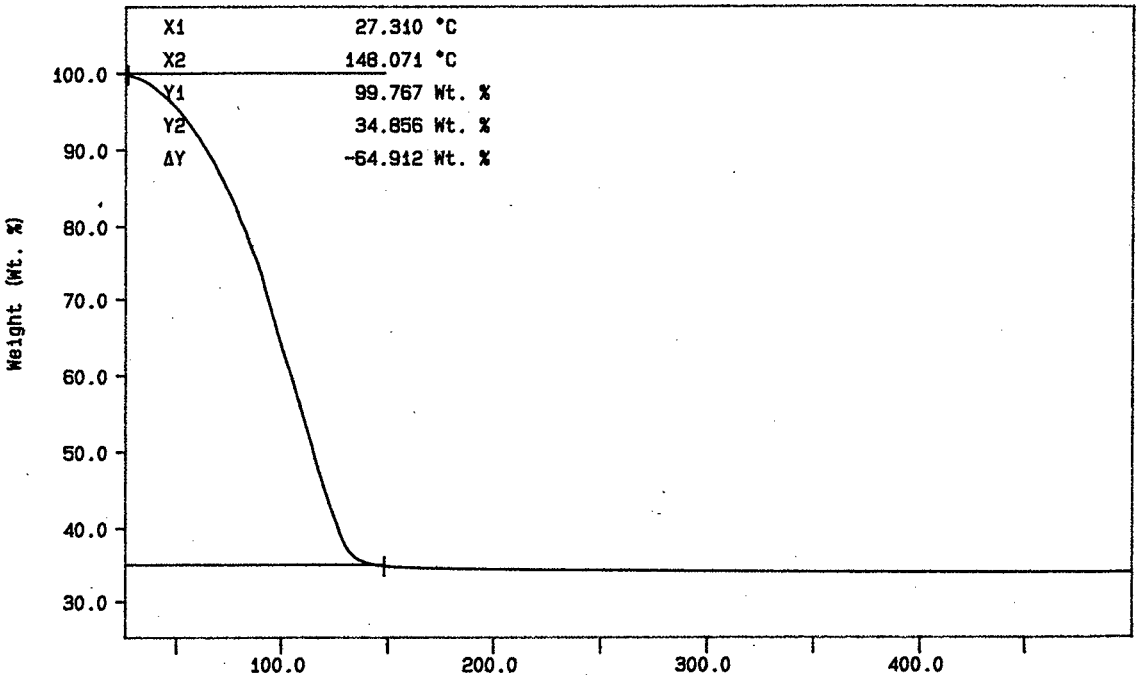
Curve 1: TGA
File info: SAM060107 Sun Jun 1 09:00:03 1997
Sample Weight: 11.995 mg
S97T000976



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 09:45:12 1997

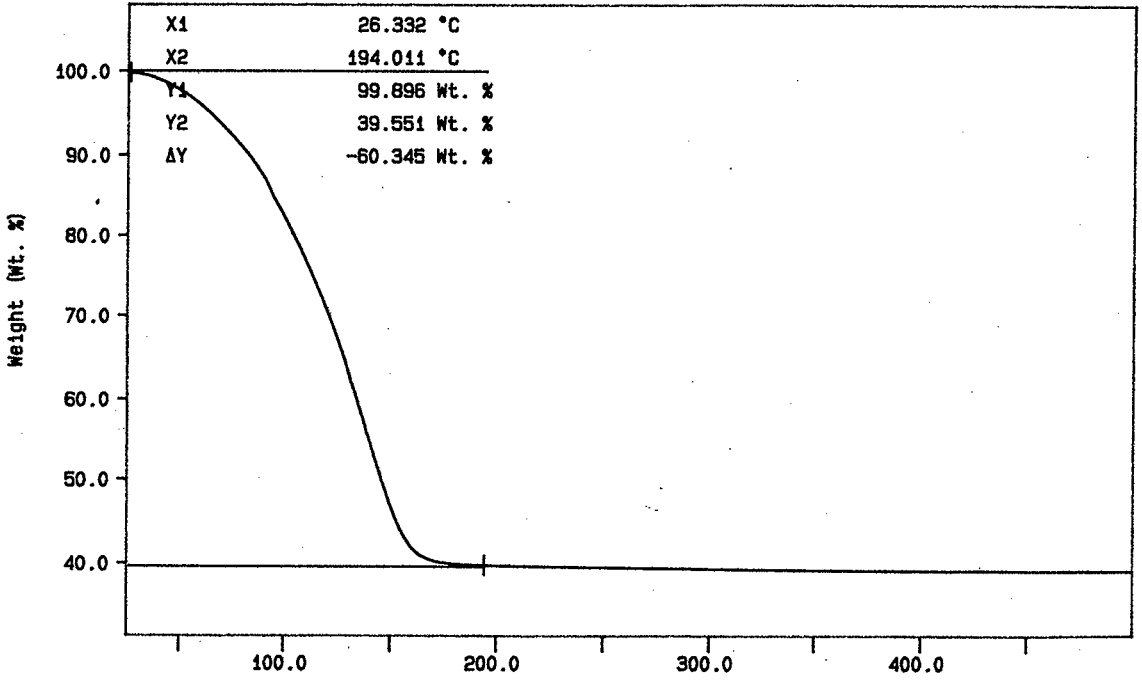
Curve 1: TGA
File info: SAM060108 Sun Jun 1 10:22:50 1997
Sample Weight: 19.453 mg
S97T000976 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 10:35:00 1997

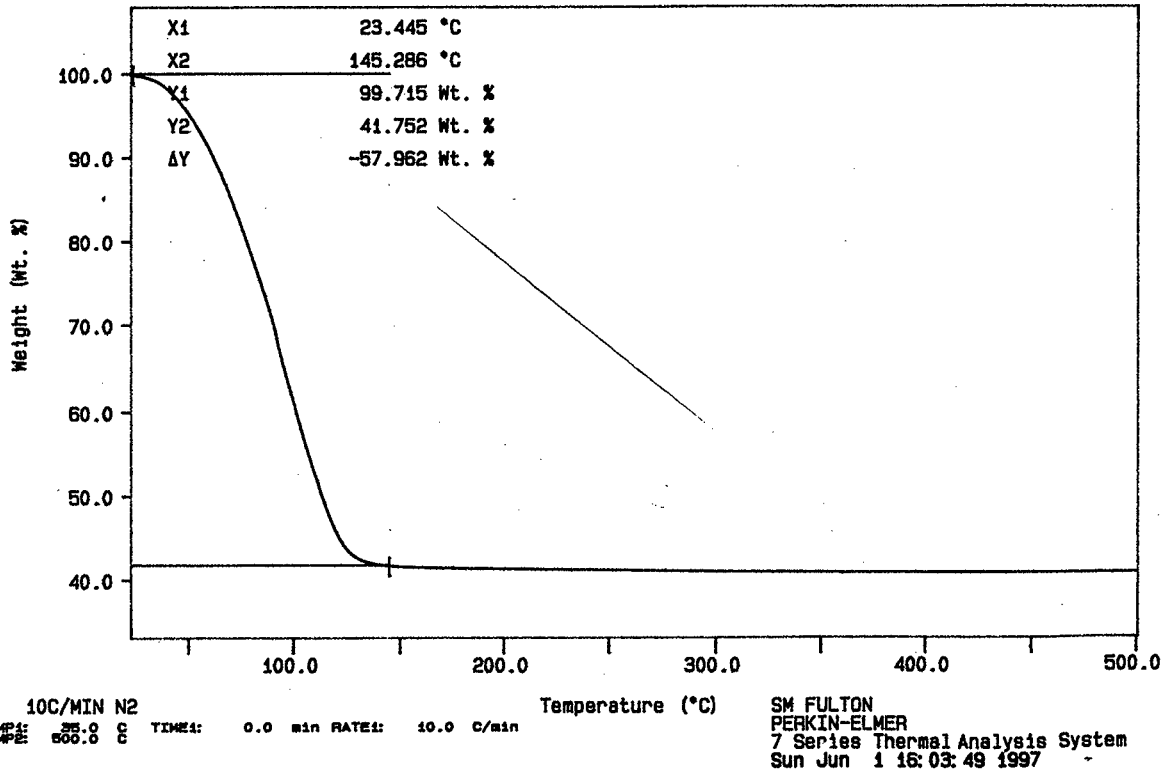
Curve 1: TGA
File info: SAM060109 Sun Jun 1 11:33:49 1997
Sample Weight: 33.056 mg
S97T000977



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 12:22:48 1997

Curve 1: TGA
File info: SAM060110 Sun Jun 1 13:19:24 1997
Sample Weight: 15.835 mg
S97T000977 DUP



10C/MIN N2
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 1 16:03:49 1997

LABCORE Data Entry Template for Worklist# 18373

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97W8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	5912*	N/A	%
97000332	AW-103	2	SAMPLE	S97T000978	0		TGA-03	SOLID	N/A	46.47		%
97000332	AW-103	3	DUP	S97T000978	0		TGA-03	SOLID	46.47	46.84	N/A	%
97000332	AW-103	4	SAMPLE	S97T000979	0		TGA-03	SOLID	N/A	38.05		%
97000332	AW-103	5	DUP	S97T000979	0		TGA-03	SOLID	38.05	39.74	N/A	%

Final page for worklist # 18373

See Attached for Signature
Analyst Signature **Date**

Validated 6/6/97 [signature]

[signature] 6-5-97
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.

LABCORE Data Entry Template for Worklist# 18373

Analyst: ADP **Instrument:** TGA0 3 **Book #** APP 97N8A 6-2-97

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
97000332	AW-103	2 SAMPLE	S97T000978	0		TGA-01	SOLID	N/A			%
97000332	AW-103	3 DUP	S97T000978	0		TGA-01	SOLID			N/A	%
97000332	AW-103	4 SAMPLE	S97T000979	0		TGA-01	SOLID	N/A			%
97000332	AW-103	5 DUP	S97T000979	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18373

Anthony Punwatt 6-2-97
Analyst Signature **Date**

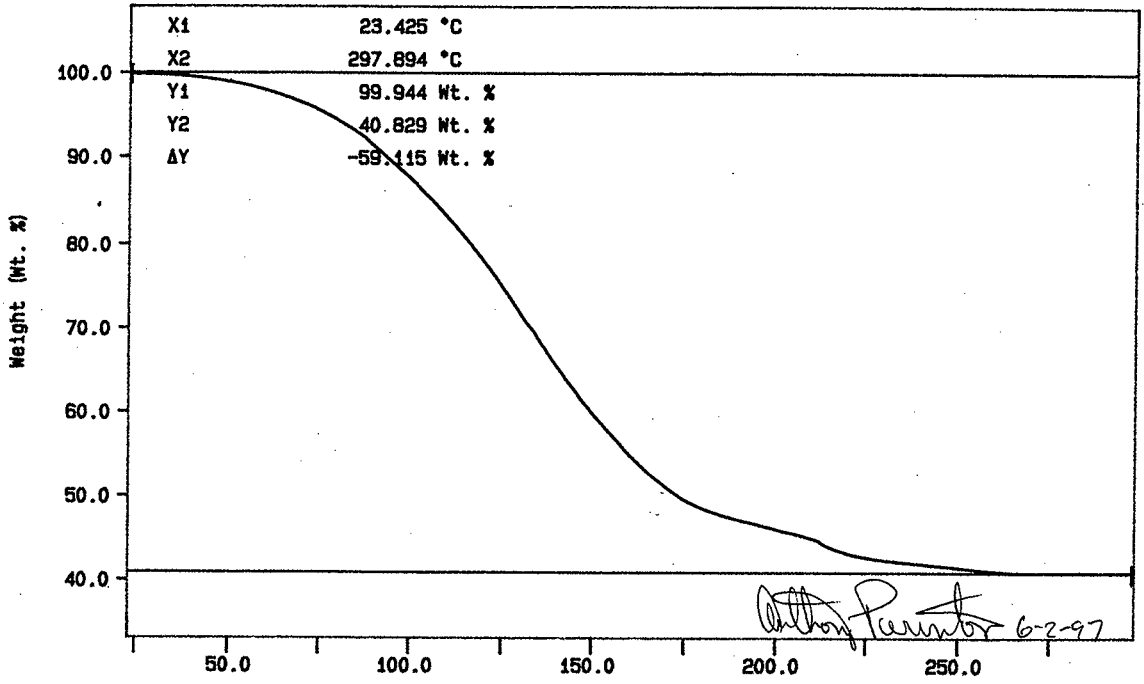
Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03. BB 6/4/97

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.

Curve 1: TGA
File info: TER060201 Mon Jun 2 13:21:54 1997
Sample Weight: 22.666 mg
97N8-A

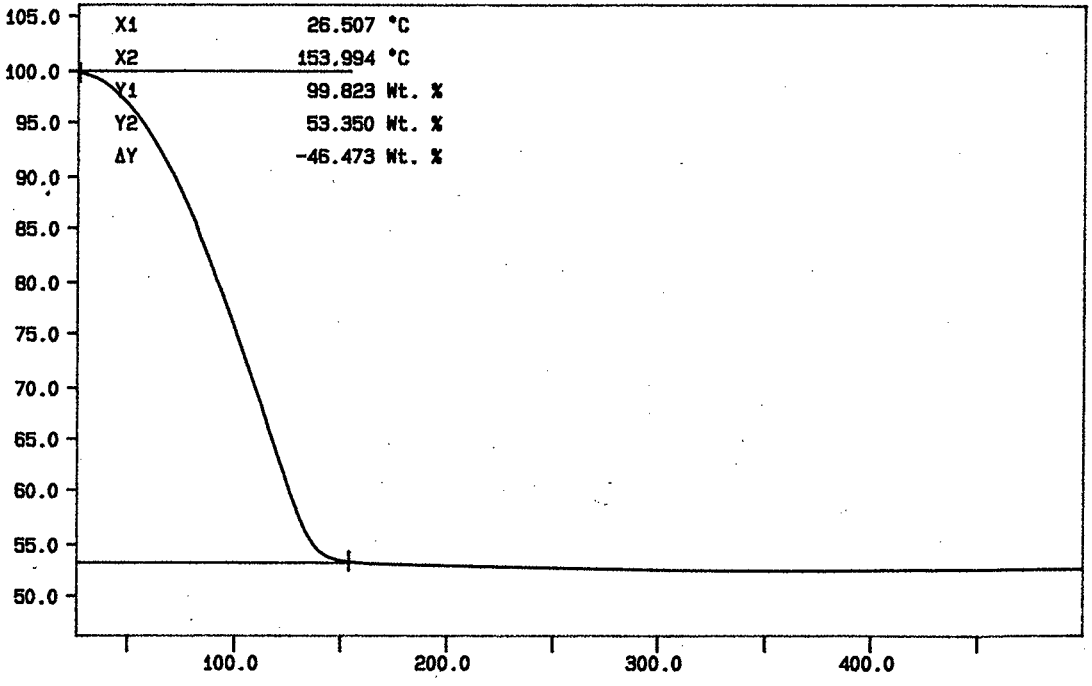
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 289 TO 293



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 13:28:15 1997

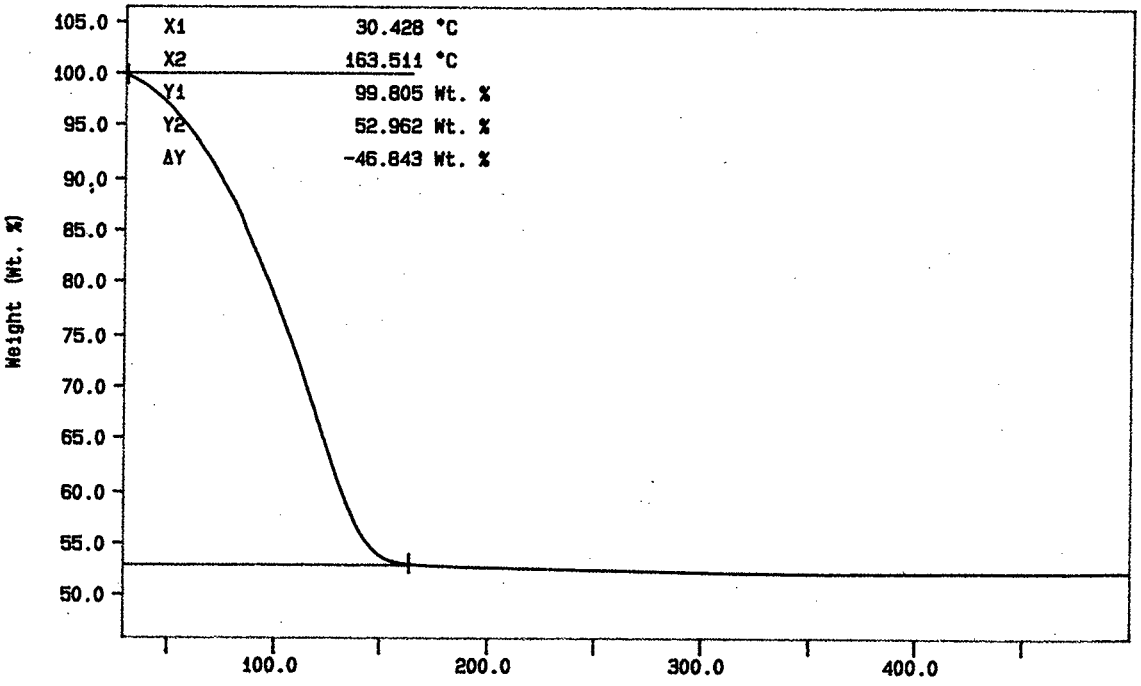
Curve 1: TGA
File info: SAM060201 Mon Jun 2 18:34:09 1997
Sample Weight: 23.978 mg
S97T000978 SAM



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 18:48:10 1997

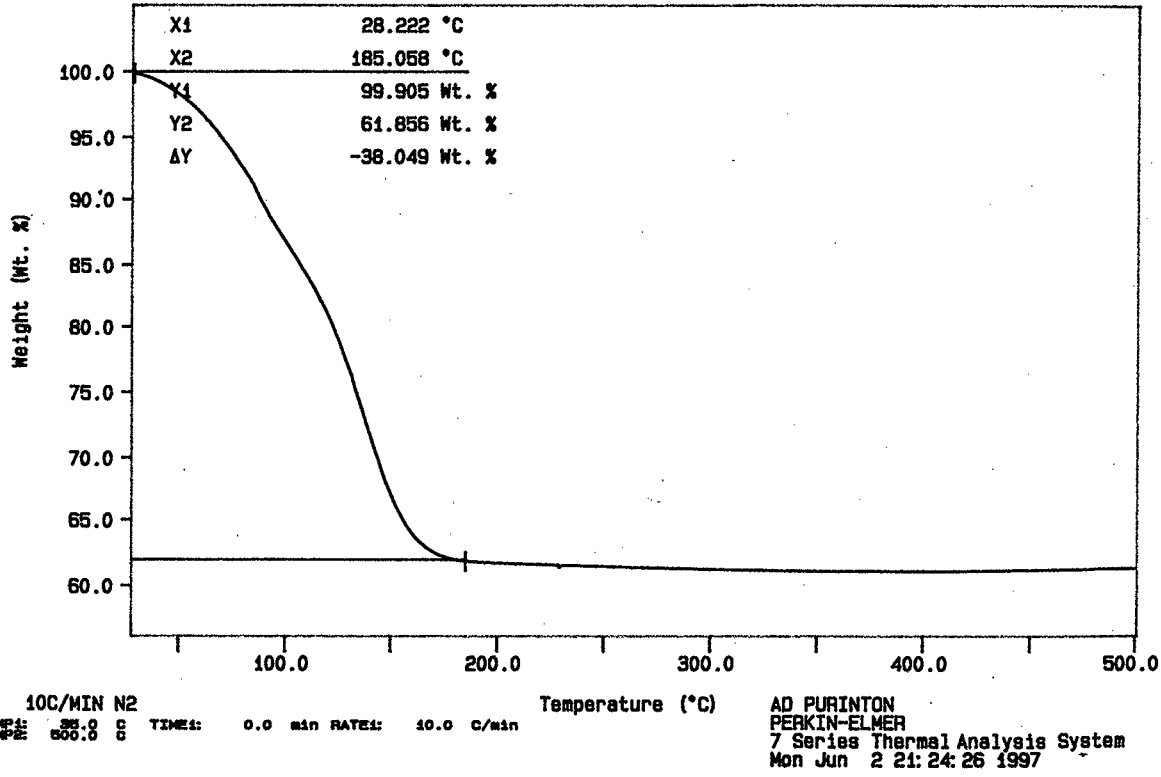
Curve 1: TGA
File info: SAM060202 Mon Jun 2 19:42:26 1997
Sample Weight: 24.268 mg
S97T000978 DUP



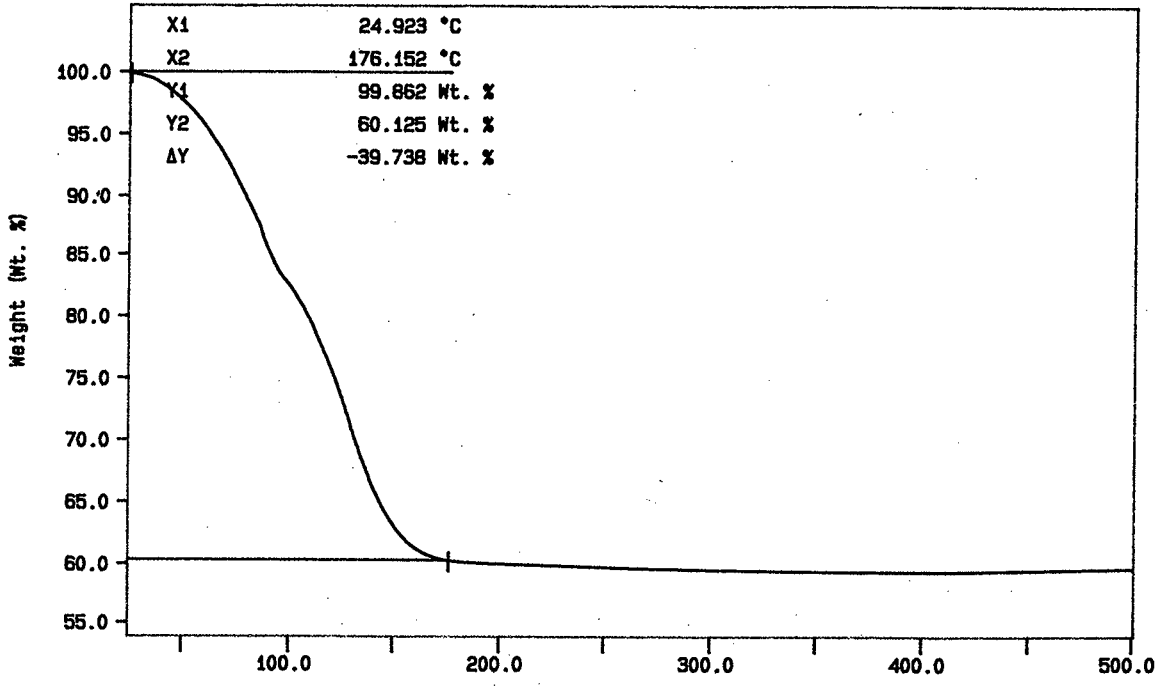
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 19:58:21 1997

Curve 1: TGA
File info: SAM060203 Mon Jun 2 20:52:10 1997
Sample Weight: 35.986 mg
S97T000979 SAM



Curve 1: TGA
File info: SAM060209 Mon Jun 2 22:18:08 1997
Sample Weight: 25.835 mg
S97T000979 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 22:22:02 1997

LABCORE Completed Worklist Report for Worklist# 18375

Analyst: jds **Instrument:** TGA03 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	TGA-03	SOLID	5.94e01	59.09	99.478	% Recovery
2	SAMPLE	S97T000982		0	TGA-03	SOLID	N/A	52.04		%
3	DUP	S97T000982		0	TGA-03	SOLID	52.04	54.46	4.545	RPD
4	SAMPLE	S97T000983		0	TGA-03	SOLID	N/A	40.68		%
5	DUP	S97T000983		0	TGA-03	SOLID	40.68	32.38	22.721	RPD

Final page for worklist# 18375

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/12/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18375

Analyst: JDS **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT	
		1	STD				TGA-01	SOLID	59.4	59.09	N/A	%	
97000332	AW-103	2	SAMPLE	S97T000982	0		TGA-01	SOLID	N/A	52.04		%	
97000332	AW-103	3	DUP	S97T000982	0		TGA-01	SOLID	52.04	54.46	N/A	%	
97000332	AW-103	4	SAMPLE	S97T000983	0		TGA-01	SOLID	N/A	40.68		%	
97000332	AW-103	5	DUP	S97T000983	0		TGA-01	SOLID	46.68	32.38	N/A	%	*

Final page for worklist # 18375

See Attached for Signature
Analyst Signature **Date**

Linda Maeke 6-5-97
Analyst Signature **Date**

* QC exceeds ULM

Data Entry Comments:
High RPD S97T000983 due to sample inhomogeneities. Rerun only at customer request. 6/6/97 Ran samples on TGA-03. 6/6/97

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
05/30/97 10:12

LABCORE Data Entry Template for Worklist# 18375

Analyst: JdS **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
97000332	AW-103	2 SAMPLE	S97T000982	0		TGA-01	SOLID	N/A			%
97000332	AW-103	3 DUP	S97T000982	0		TGA-01	SOLID			N/A	%
97000332	AW-103	4 SAMPLE	S97T000983	0		TGA-01	SOLID	N/A			%
97000332	AW-103	5 DUP	S97T000983	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18375

JdS Sp 6/3/97

Analyst Signature **Date**

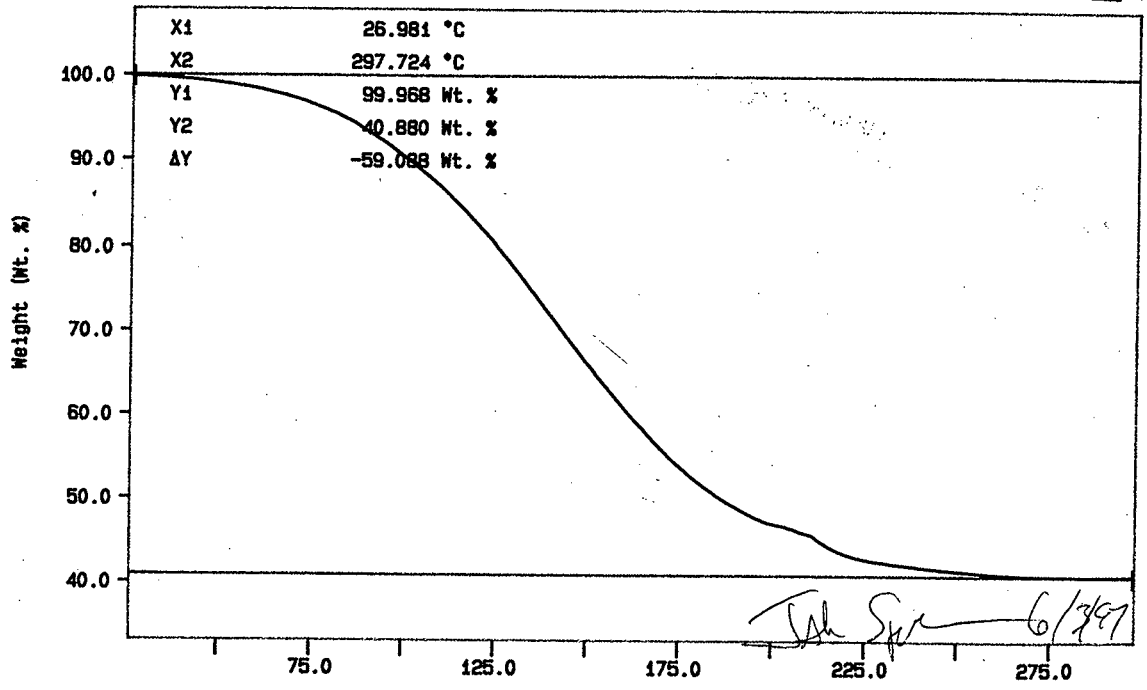
Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03. 6/5/97

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.

Curve 1: TGA
File info: TER060301 Tue Jun 3 05:55:50 1997
Sample Weight: 29.756 mg
97N8-A

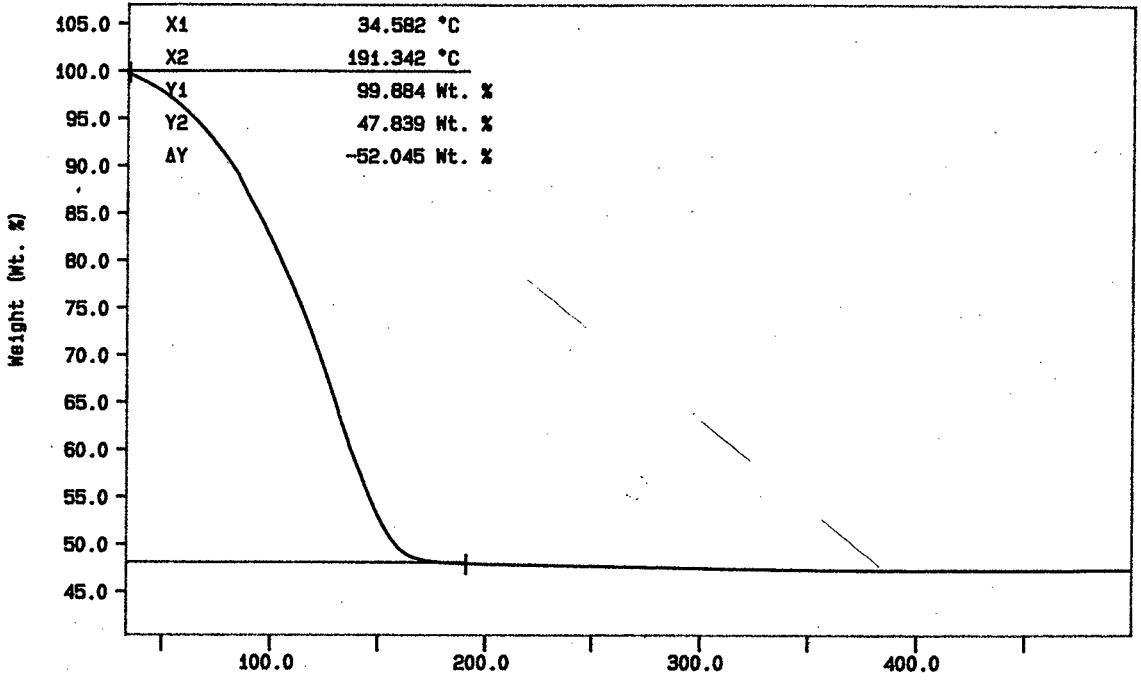
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 292 TO 301.



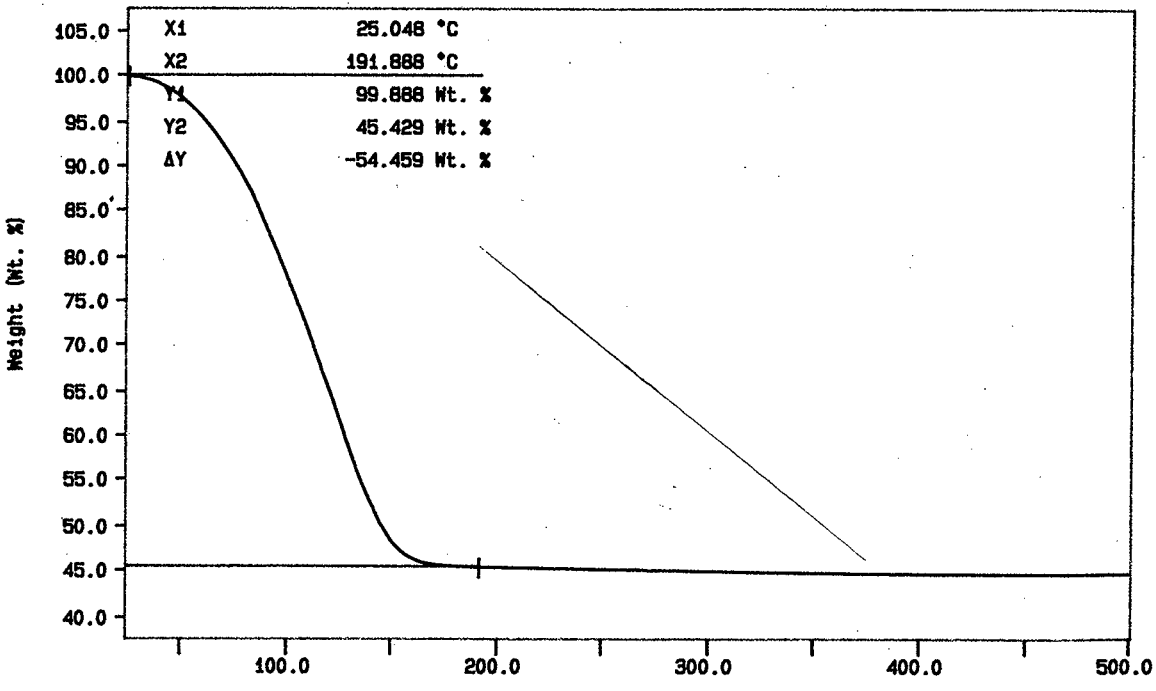
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 05:59:28 1997

Curve 1: TGA
File info: SAM060301 Tue Jun 3 06:58:13 1997
Sample Weight: 28.270 mg
S97T000982



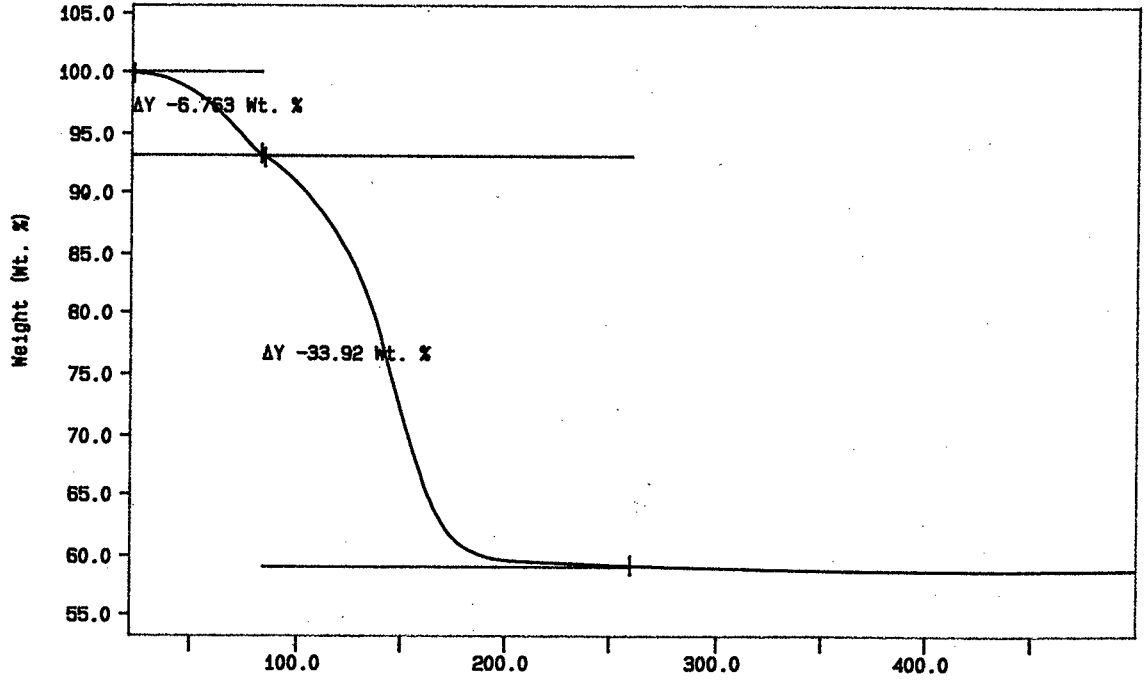
Curve 1: TGA
File info: SAM060302 Tue Jun 3 08:22:11 1997
Sample Weight: 23.728 mg
S97T000982DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 09:22:14 1997

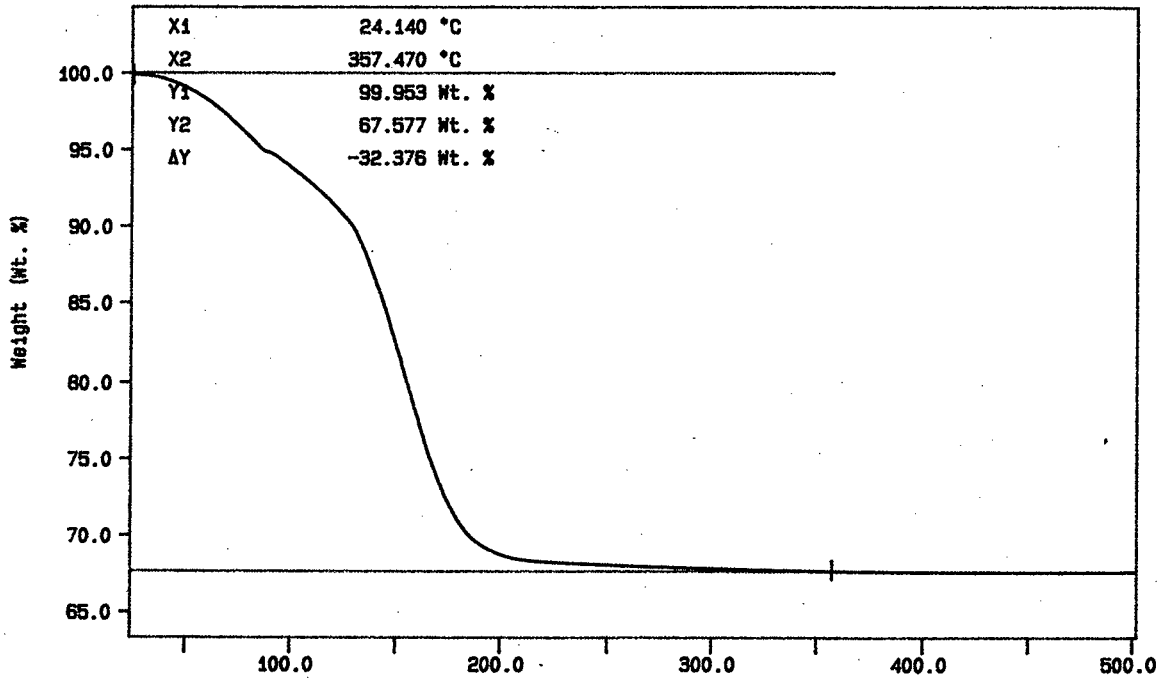
Curve 1: TGA
File info: SAM060303 Tue Jun 3 10:13:26 1997
Sample Weight: 31.826 mg
S97T000983



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 12:14:45 1997

Curve 1: TGA
File info: SAM060304 Tue Jun 3 13:07:42 1997
Sample Weight: 51.435 mg
S97T000983DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 14:47:14 1997

worklistrpt Version 2.1 05/15/95
06/06/97 06:12

LABCORE Data Entry Template for Worklist# 18389

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	59.07*	N/A	%
97000333	AW-103	2 SAMPLE	S97T001030	0		TGA-03	SOLID	N/A	66.83		%
97000333	AW-103	3 DUP	S97T001030	0		TGA-03	SOLID	66.83	71.62	N/A	%
97000333	AW-103	4 SAMPLE	S97T001031	0		TGA-03	SOLID	N/A	56.00		%
97000333	AW-103	5 DUP	S97T001031	0		TGA-03	SOLID	57.00	61.00	N/A	%

Final page for worklist # 18389

See Attached for Signature
Analyst Signature Date

6-6-97
Analyst Signature Date

Validated 6/9/97 Bachelor

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# 18389

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000333	AW-103	2	SAMPLE	S97T001030	0		TGA-01	SOLID	N/A			%
97000333	AW-103	3	DUP	S97T001030	0		TGA-01	SOLID			N/A	%
97000333	AW-103	4	SAMPLE	S97T001031	0		TGA-01	SOLID	N/A			%
97000333	AW-103	5	DUP	S97T001031	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18389

Analyst Signature 5-30-97 Date

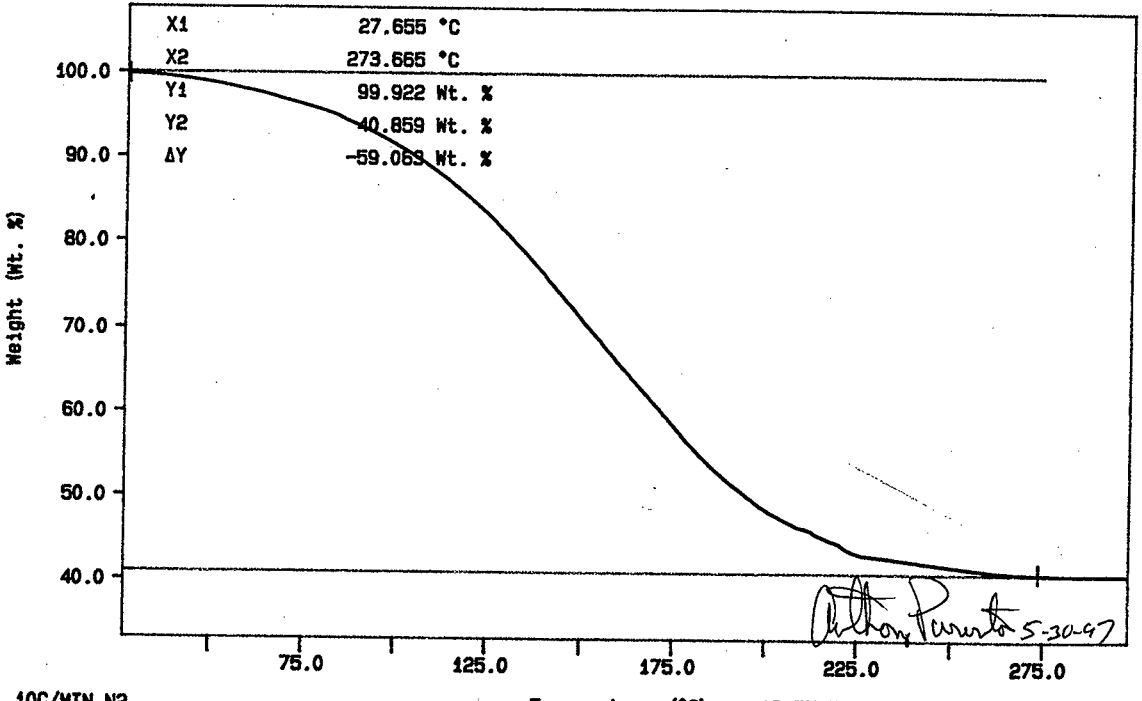
Analyst Signature Date

Data Entry Comments:
Ran samples on TGA-03. 6/4/97

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.

Curve 1: TGA
File info: TER053002 Fri May 30 19:20:45 1997
Sample Weight: 39.978 mg
97N8-A

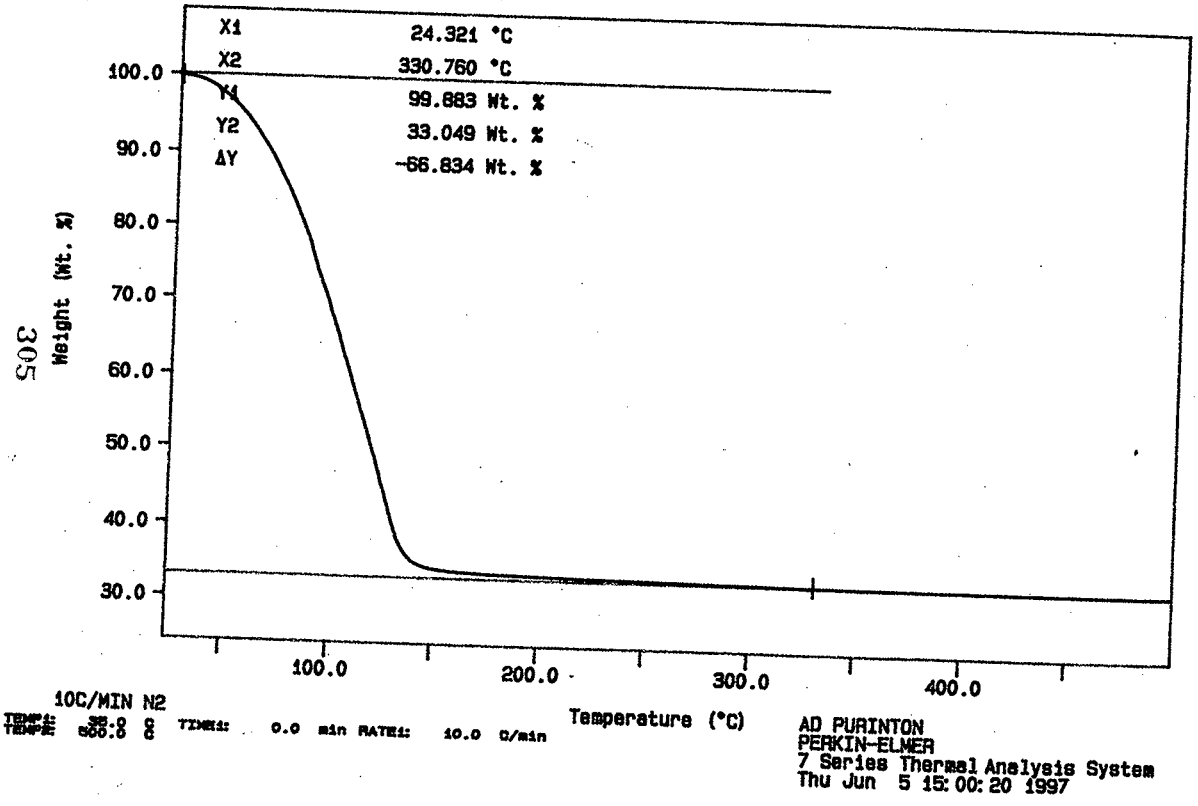
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 304 TO 308.



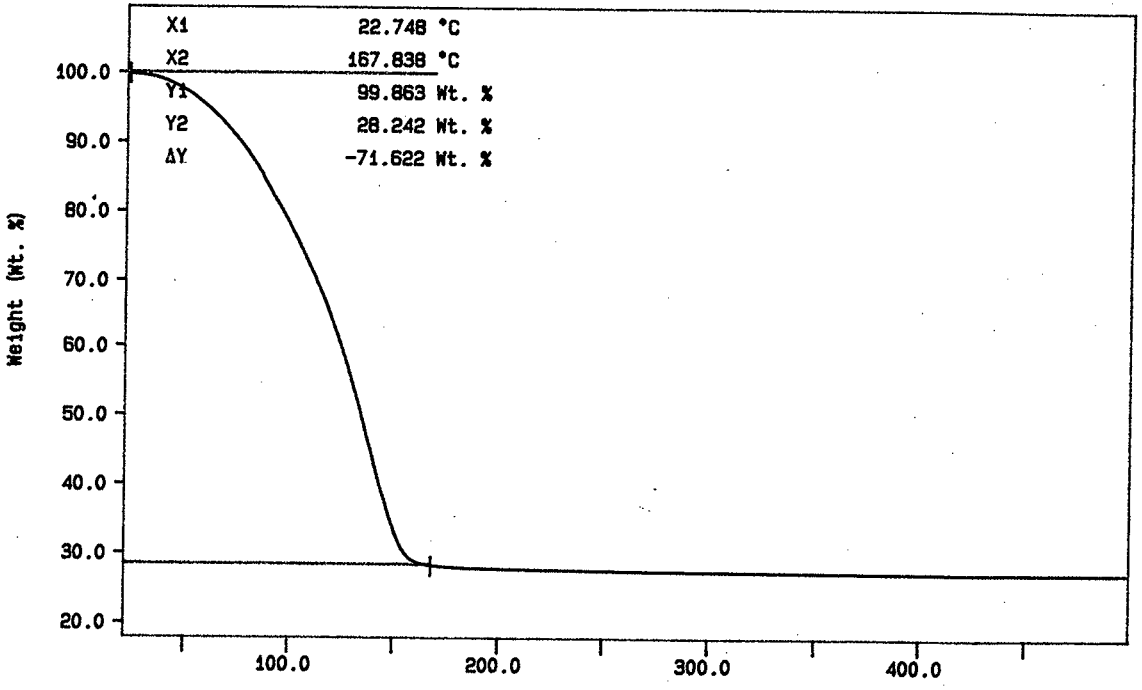
10C/MIN N2
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 30 20:26:58 1997

Curve 1: TGA
File info: SAM053009 Fri May 30 21:38:38 1997
Sample Weight: 22.792 mg
S97T001030 SAM

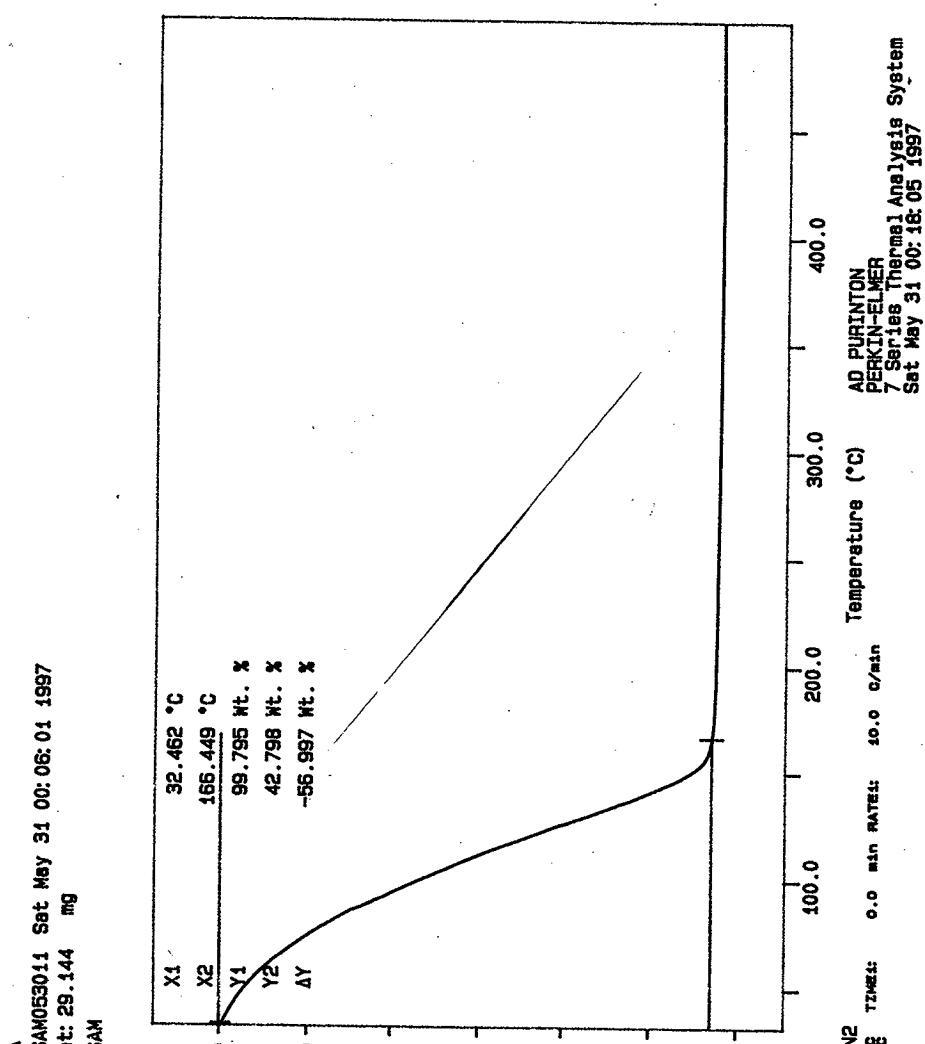


Curve 1: TGA
File info: SAM053010 Fri May 30 23:01:44 1997
Sample Weight: 32.162 mg
S97T001030 DUP

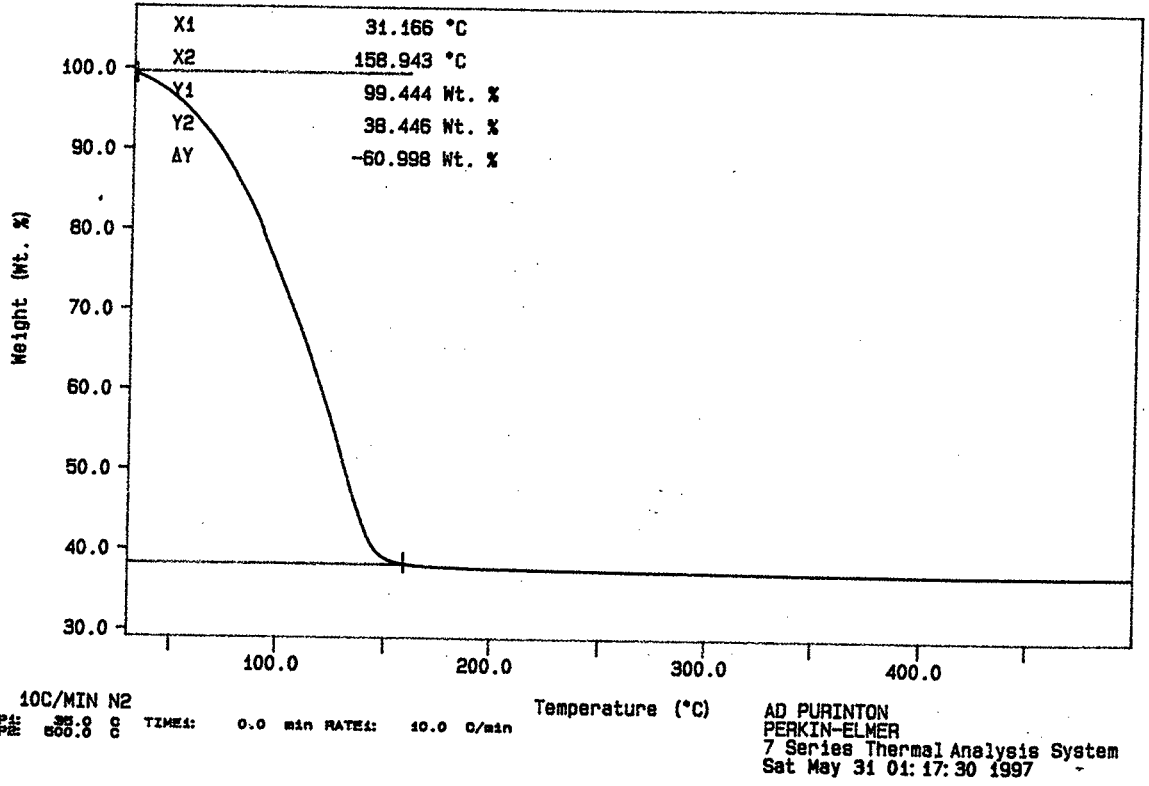


10C/MIN N2
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 30 23:04:32 1997


Curve 1: TGA
File info: SAM053011 Sat May 31 00:06:01 1997
Sample Weight: 29.144 mg
S97T001031 SAM
X1 32.462 °C
X2 166.449 °C
Y1 99.795 Wt. %
Y2 42.798 Wt. %
ΔY -56.997 Wt. %
Weight (Wt. %)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
100.0
200.0
300.0
400.0
Temperature (°C)
10C/MIN N2
TEMP: 25.8 C
TEMP: 666.8 C
TIME: 0.0 min RATE: 10.0 C/min
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 00:18:05 1997

Curve 1: TGA
File info: SAM053012 Sat May 31 01:13:41 1997
Sample Weight: 30.445 mg
S97T001031 DUP



worklistrpt Version 2.1 05/15/95
06/04/97 09:34

LABCORE Data Entry Template for Worklist# 18390

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97W8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	59.06*	N/A	%
97000333	AW-103	2 SAMPLE	S97T001032	0		TGA-03	SOLID	N/A	60.75		%
97000333	AW-103	3 DUP	S97T001032	0		TGA-03	SOLID	60.75	59.62	N/A	%
97000333	AW-103	4 SAMPLE	S97T001033	0		TGA-03	SOLID	N/A	51.74		%
97000333	AW-103	5 DUP	S97T001033	0		TGA-03	SOLID	51.74	53.70	N/A	%

Final page for worklist # 18390

See Attached for Signature
Analyst Signature **Date**

6-5-97
Analyst Signature **Date**

Validated 6/6/97 Bachelor

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# 18390

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97N84

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
97000333	AW-103	2 SAMPLE	S97T001032	0		TGA-01	SOLID	N/A			%
97000333	AW-103	3 DUP	S97T001032	0		TGA-01	SOLID			N/A	%
97000333	AW-103	4 SAMPLE	S97T001033	0		TGA-01	SOLID	N/A			%
97000333	AW-103	5 DUP	S97T001033	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18390

5-31-97
Analyst Signature **Date**
Susie M. Dutton

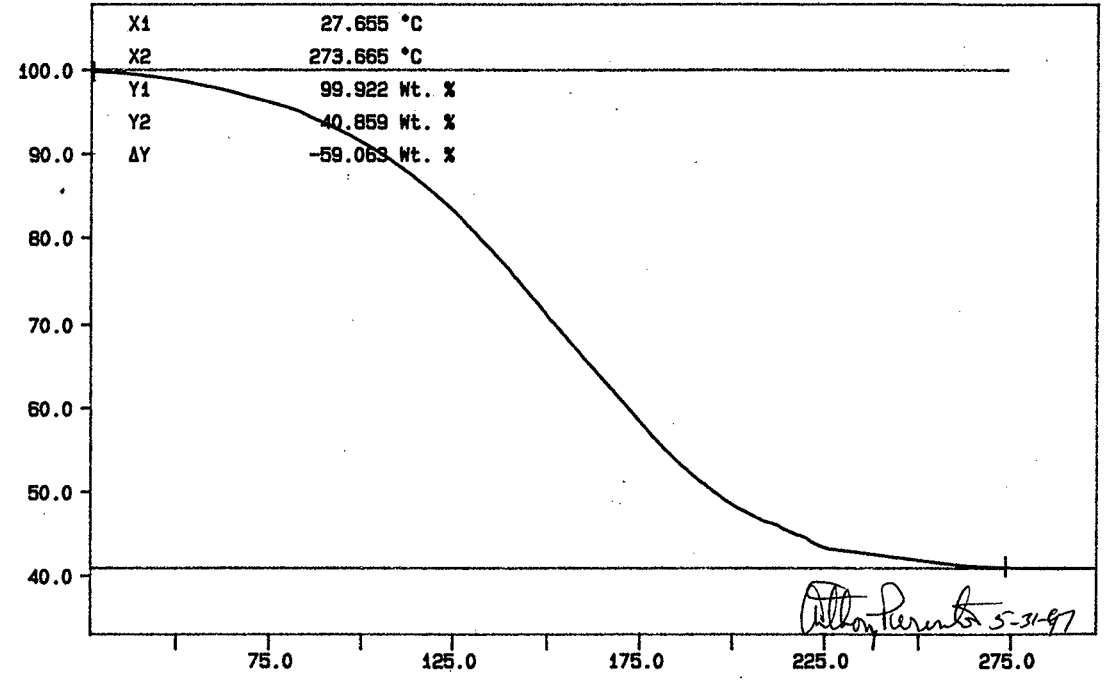
Analyst Signature **Date**

Data Entry Comments:
Ran Samples on TGA-03. 6/4/97

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.

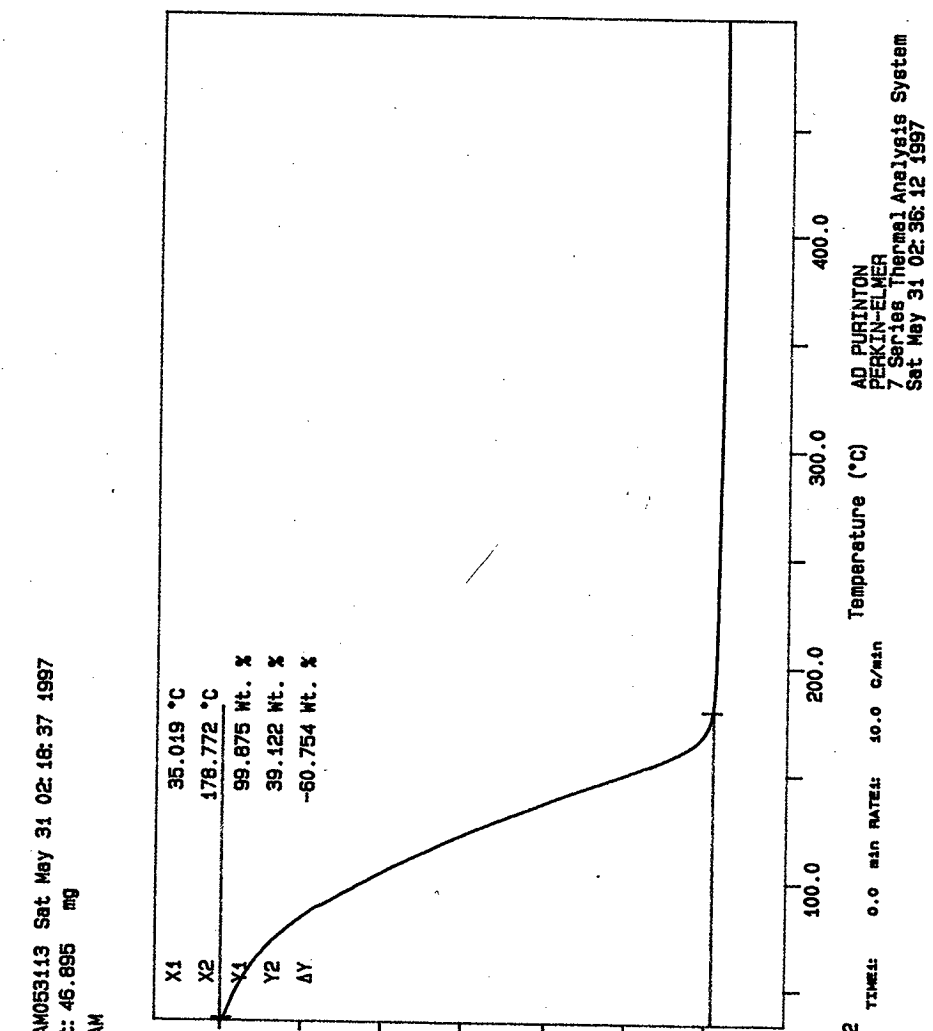
Curve 1: TGA
File info: TER053002 Fri May 30 19:20:45 1997
Sample Weight: 39.978 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 311 TO 315.

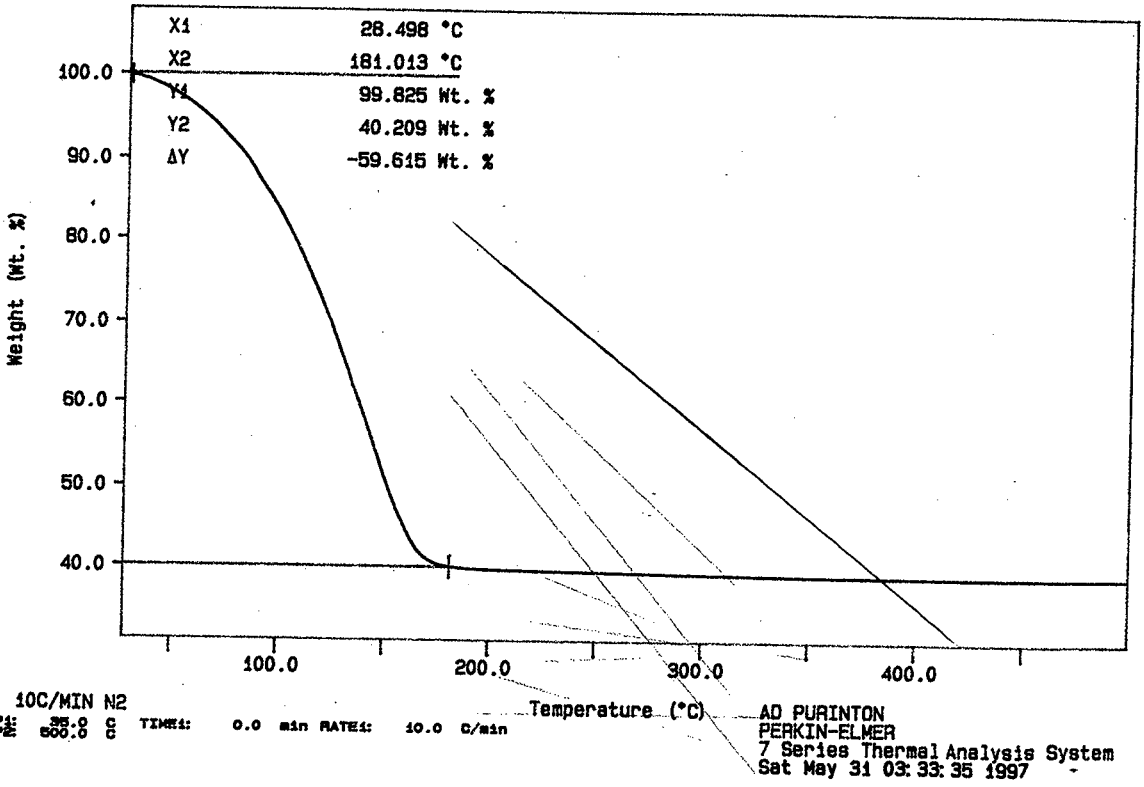


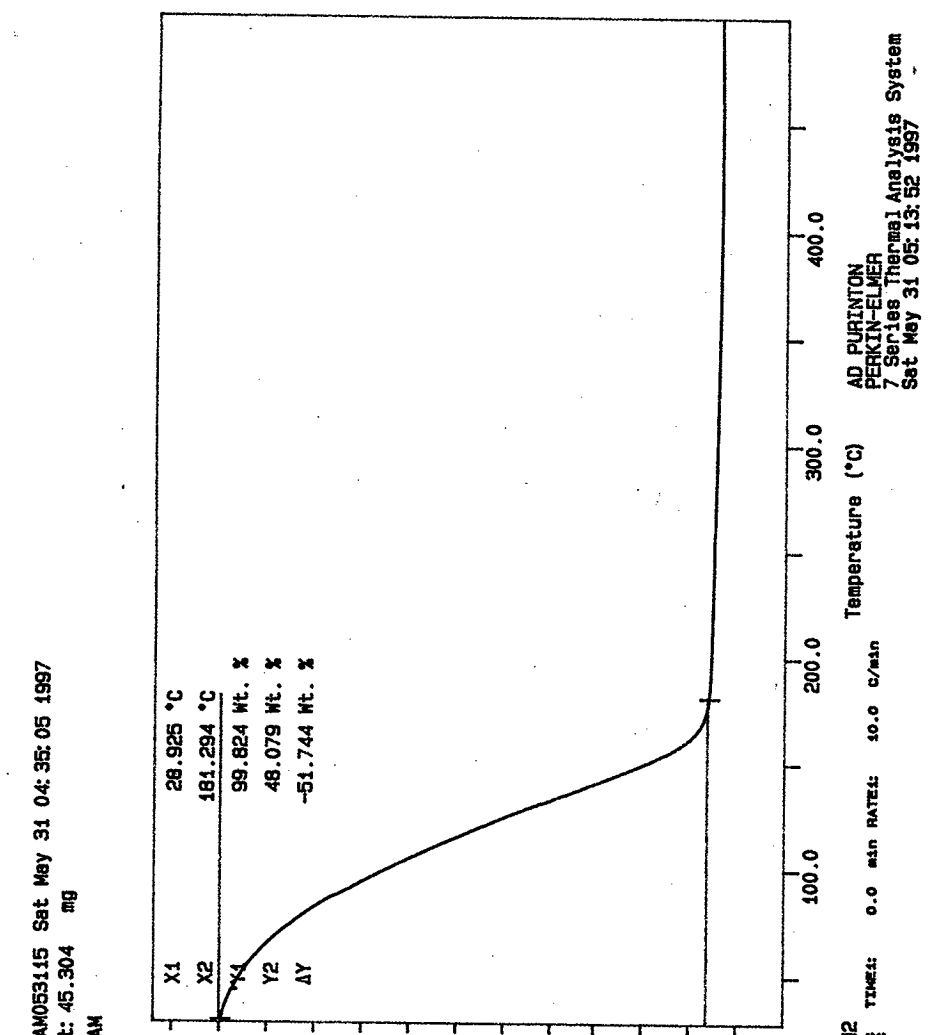
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 30 20:41:44 1997

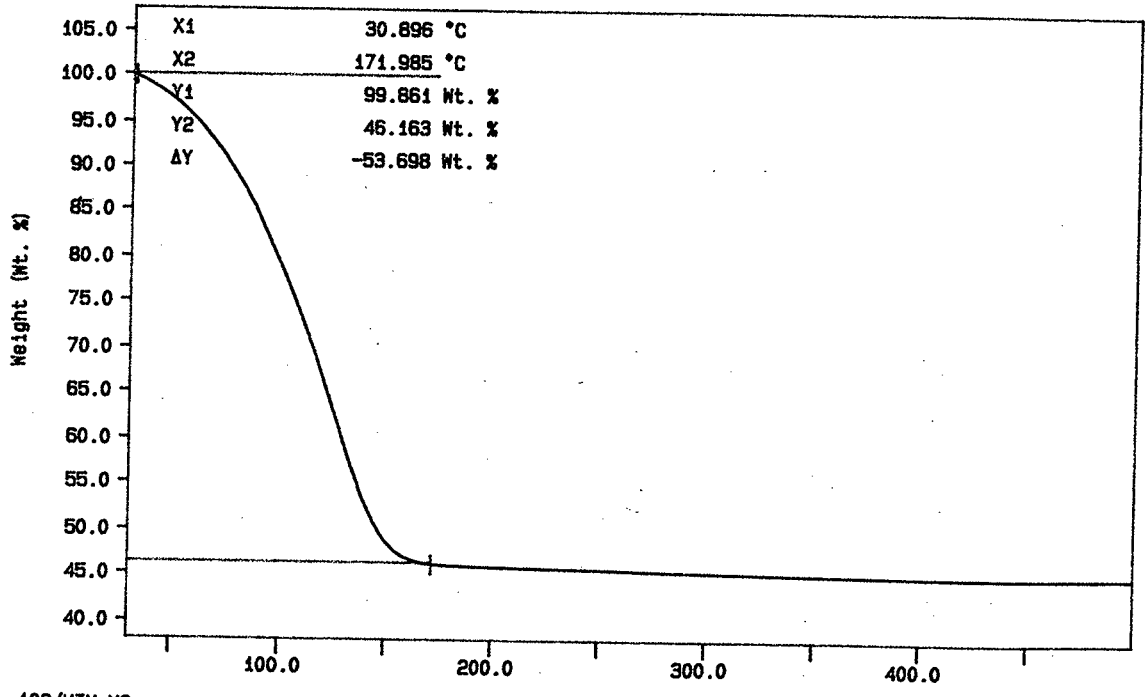

Curve 1: TGA
File Info: SAM053113 Sat May 31 02:18:37 1997
Sample Weight: 46.895 mg
S97T001032 SAM
X1 35.019 °C
X2 178.772 °C
Y1 99.875 Wt. %
Y2 39.122 Wt. %
ΔY -60.754 Wt. %
Weight (Wt. %)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
100.0
200.0
300.0
400.0
Temperature (°C)
10C/MIN N2
TEMP: 35.8 C
TEMP: 656.8 C
TIME: 0.0 min RATE: 10.0 C/min
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 02:36:12 1997

Curve 1: TGA
File info: SAM053114 Sat May 31 03:28:24 1997
Sample Weight: 32.631 mg
S97T001032 DUP




Curve 1: TGA
File info: SAM053115 Sat May 31 04:35:05 1997
Sample Weight: 45.304 mg
S97T001033 SAM
X1 28.925 °C
X2 181.294 °C
Y1 99.824 Wt. %
Y2 48.079 Wt. %
ΔY -51.744 Wt. %
Weight (Wt. %)
105.0
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
10C/MIN N2
TEMP: 30.0 C TIME: 0.0 min RATE: 10.0 C/min
100.0
200.0
300.0
400.0
Temperature (°C)
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 05:13:52 1997

Curve 1: TGA
File info: SAM053101 Sat May 31 06:48:08 1997
Sample Weight: 24.145 mg
S97T001033 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 08:32:17 1997

This document was too large to scan as a whole document; therefore, it is divided into smaller sections.

DOCUMENT NUMBER: SD-WM-DP-249

SECTION 2 OF 3

TITLE: Tank 241-AW-103, Cores 193 and 194 Analytical Results for the Final Report.

DATE: 8/20/97 REV: 0

ORIGINATOR: Steen, F H

CO: WMH

REFERENCES: EDT-620418

KEYWORDS:

PROJECTS: J Farm

LABCORE Data Entry Template for Worklist# 18391

Analyst: SMF **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	59.07*	N/A	%
97000333	AW-103	2 SAMPLE	S97T001035	0		TGA-03	SOLID	N/A	74.22		%
97000333	AW-103	3 DUP	S97T001035	0		TGA-03	SOLID	74.22	73.44	N/A	%
97000333	AW-103	4 SAMPLE	S97T001036	0		TGA-03	SOLID	N/A	66.30		%
97000333	AW-103	5 DUP	S97T001036	0		TGA-03	SOLID	66.30	67.44	N/A	%

Final page for worklist # 18391

See Attached for Signature
Analyst Signature Date

Validated 6/6/97 Bachelor

6-5-97
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.

worklistrpt Version 2.1 05/15/95
05/30/97 14:44

LABCORE Data Entry Template for Worklist# 18391

Analyst: SMF **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000333	AW-103	2	SAMPLE	S97T001035	0		TGA-01	SOLID	N/A			%
97000333	AW-103	3	DUP	S97T001035	0		TGA-01	SOLID			N/A	%
97000333	AW-103	4	SAMPLE	S97T001036	0		TGA-01	SOLID	N/A			%
97000333	AW-103	5	DUP	S97T001036	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18391

Susie M. Dalton 5-31-97
Analyst Signature **Date**

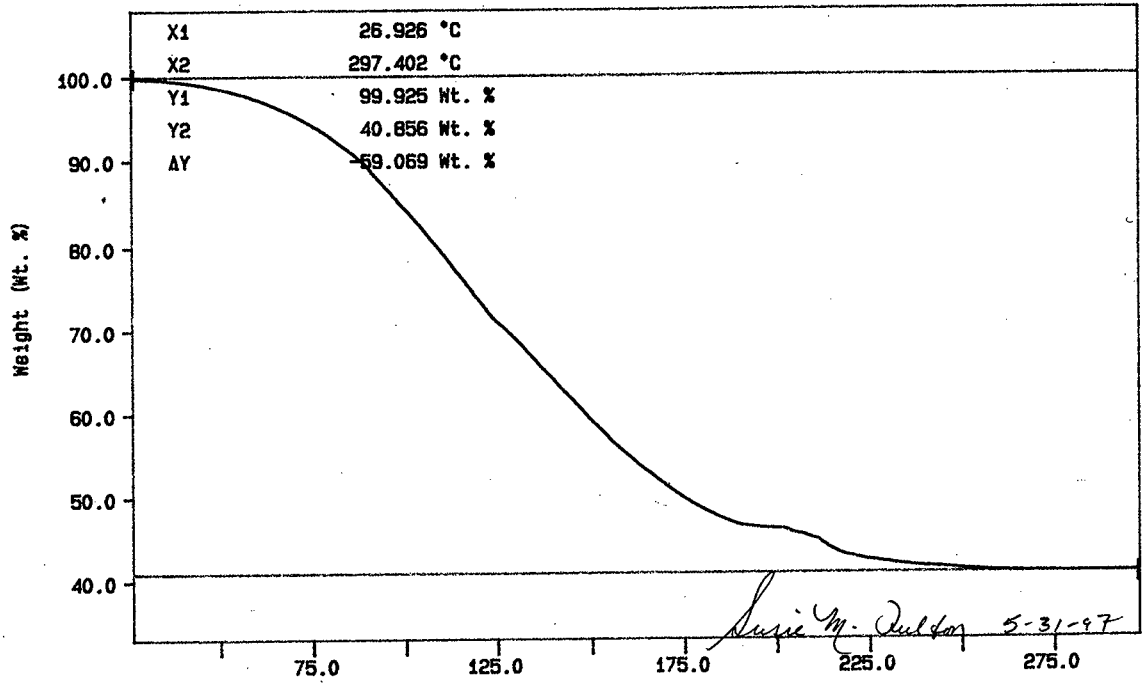
Analyst Signature **Date**

Data Entry Comments:
Ran samples on DTGA-03. 6/4/97

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.

Curve 1: TGA
File info: TER053101 Sat May 31 05:39:36 1997
Sample Weight: 25.794 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 318 TO 322

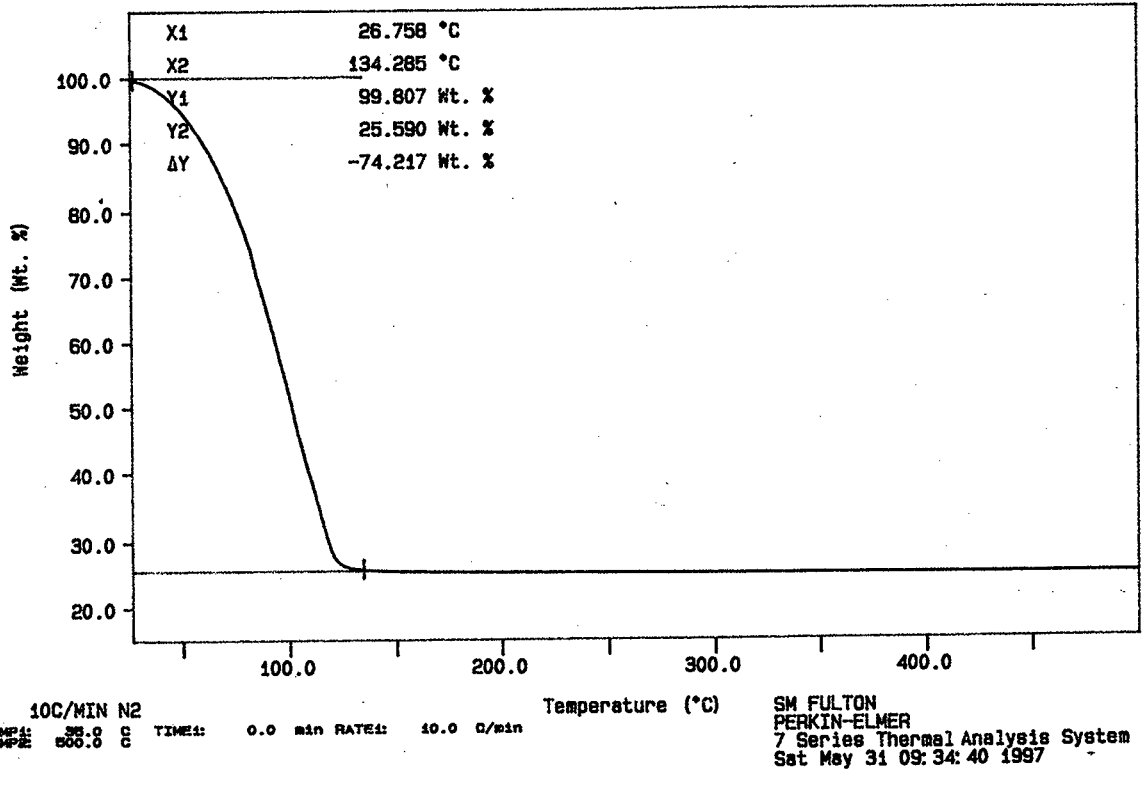


Susie M. Fulton 5-31-97

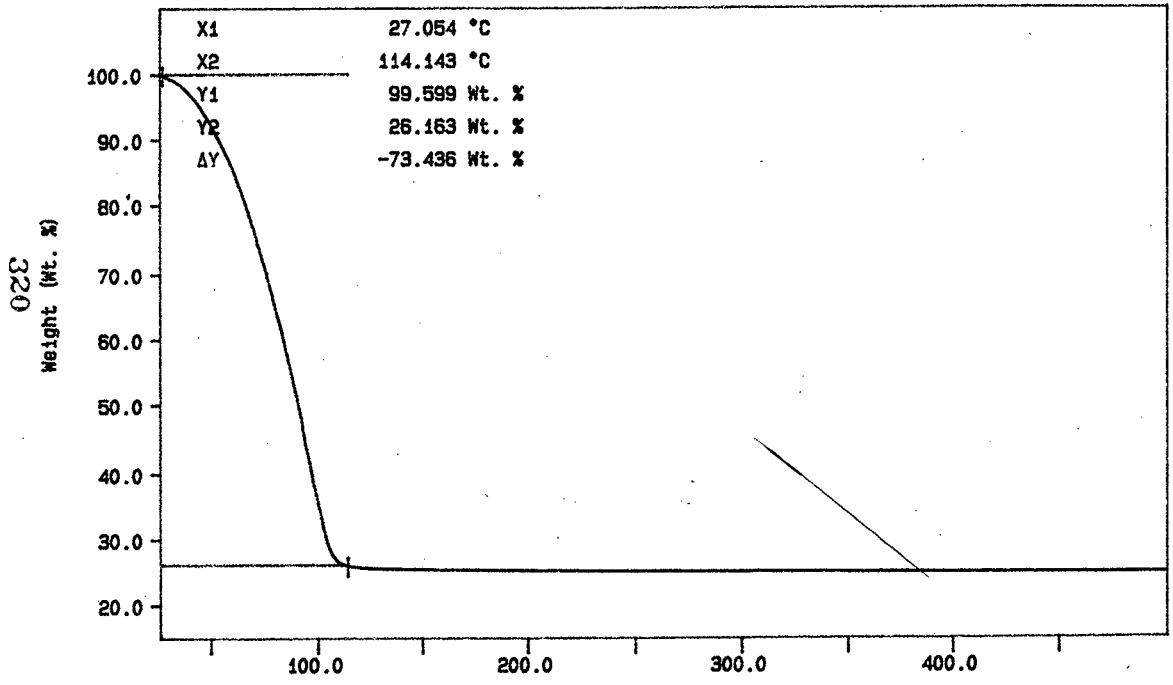
10C/MIN N2
TEMP1: 30.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 05:56:40 1997

Curve 1: TGA
File info: SAM053102 Sat May 31 09:12:45 1997
Sample Weight: 18.144 mg
S97T001035



Curve 1: TGA
File info: SAM053105 Sat May 31 14:11:08 1997
Sample Weight: 10.658 mg
S97T001035 DUP

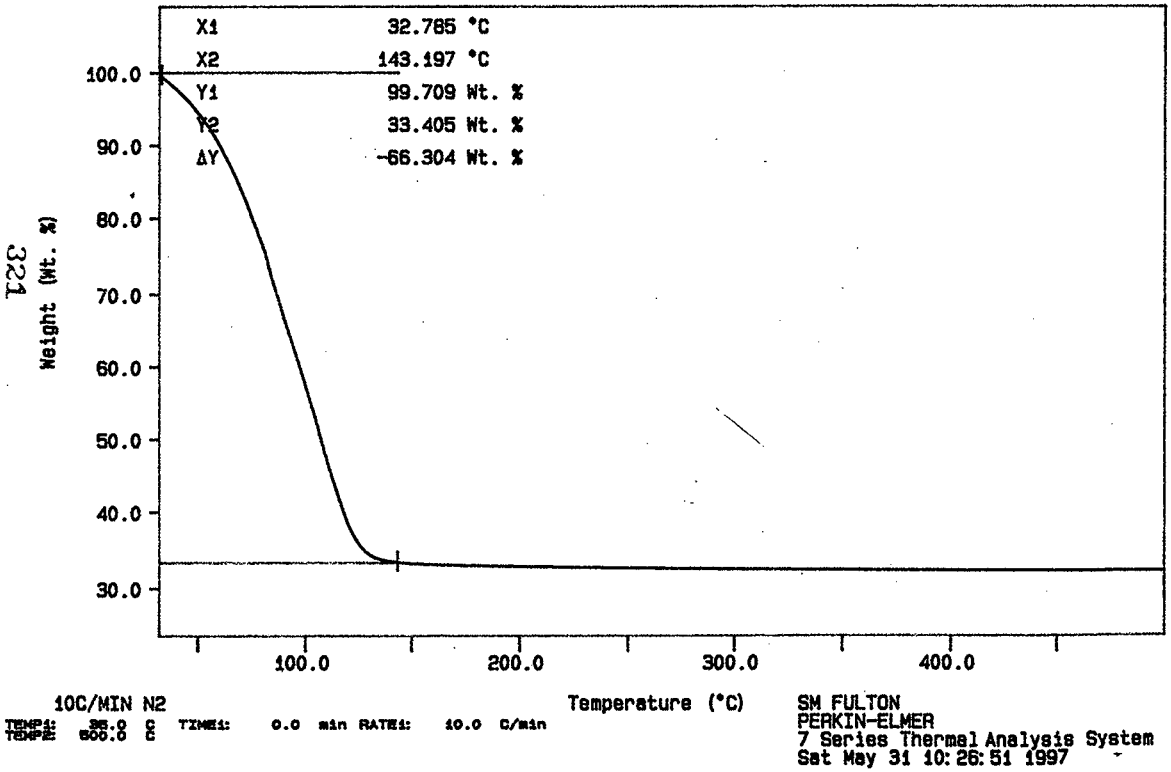


10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 15:12:54 1997

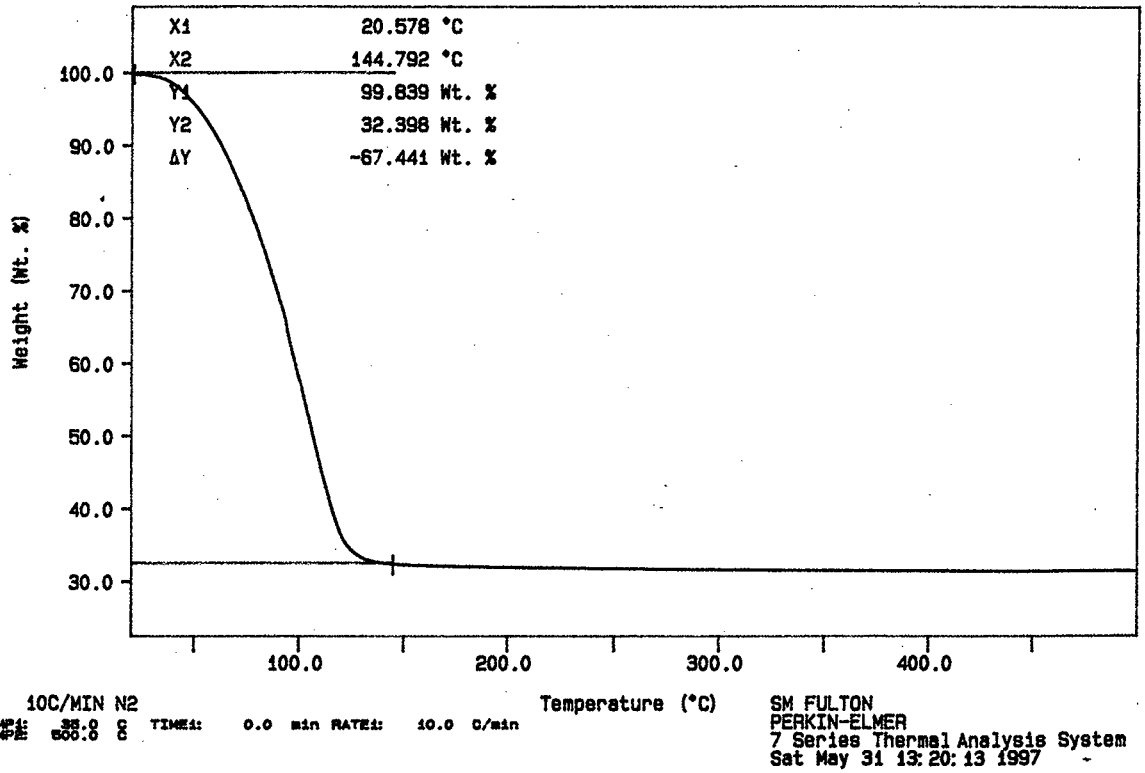
320

Curve 1: TGA
File info: SAM053103 Sat May 31 10:19:34 1997
Sample Weight: 16.939 mg
S97T001036



321

Curve 1: TGA
File info: SAM053104 Sat May 31 13:00:15 1997
Sample Weight: 13.086 mg
S97T001036 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 13:20:13 1997

LABCORE Data Entry Template for Worklist# 18392

Analyst: SMF **Instrument:** TGA0 3 **Book #** 97N89

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	59.07	N/A	%
97000333	AW-103	2 SAMPLE	S97T001037	0		TGA-03	SOLID	N/A	64.62		%
97000333	AW-103	3 DUP	S97T001037	0		TGA-03	SOLID	64.62	65.10	N/A	%
97000333	AW-103	4 SAMPLE	S97T001038	0		TGA-03	SOLID	N/A	51.03		%
97000333	AW-103	5 DUP	S97T001038	0		TGA-03	SOLID	51.03	33.93	N/A	%

Final page for worklist # 18392

See Attached for Signature
Analyst Signature **Date**

6-5-97
Analyst Signature **Date**

Validated 6/6/97 Bachelor

Data Entry Comments:
High RPD S97T001038 due to tech error. Rerun sample. 6/4/97
S97T001038 was rerun on worklist 18517

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# 18392

Analyst: SMF **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000333	AW-103	2	SAMPLE	S97T001037	0		TGA-01	SOLID	N/A			%
97000333	AW-103	3	DUP	S97T001037	0		TGA-01	SOLID			N/A	%
97000333	AW-103	4	SAMPLE	S97T001038	0		TGA-01	SOLID	N/A			%
97000333	AW-103	5	DUP	S97T001038	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18392

Susie M. Dalton 5-31-97
Analyst Signature **Date**

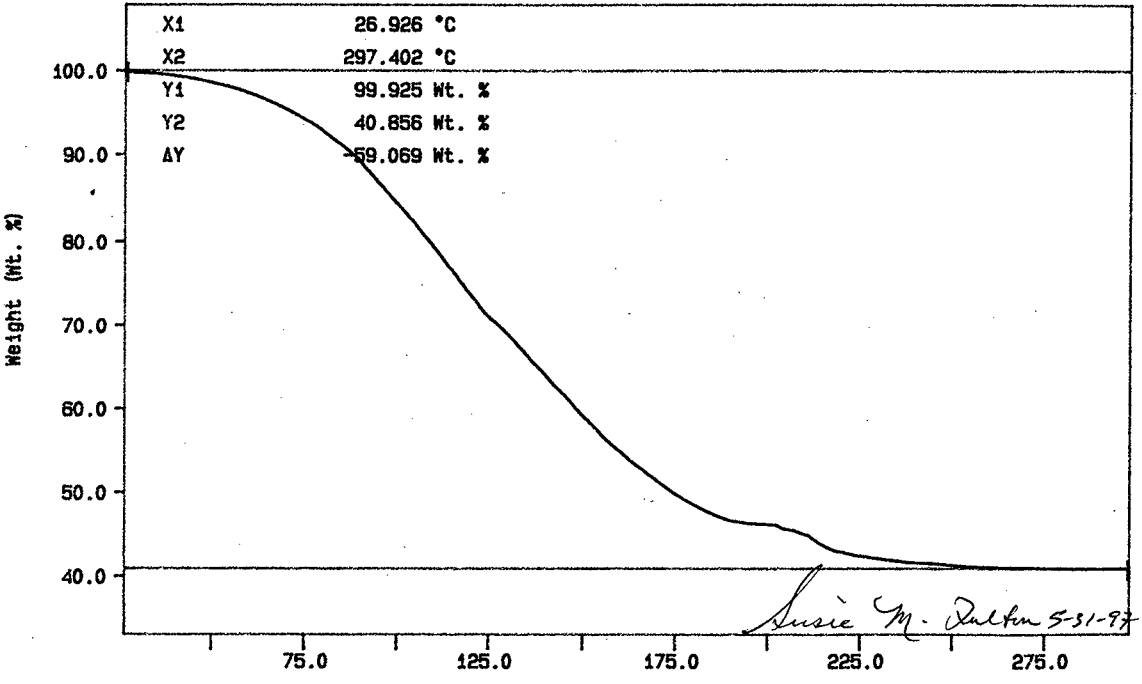
A Lambel 5-31-97
Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03. SMF 6/4/97

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.

Curve 1: TGA
File info: TER053101 Sat May 31 05:39:36 1997
Sample Weight: 25.794 mg
97N8-A

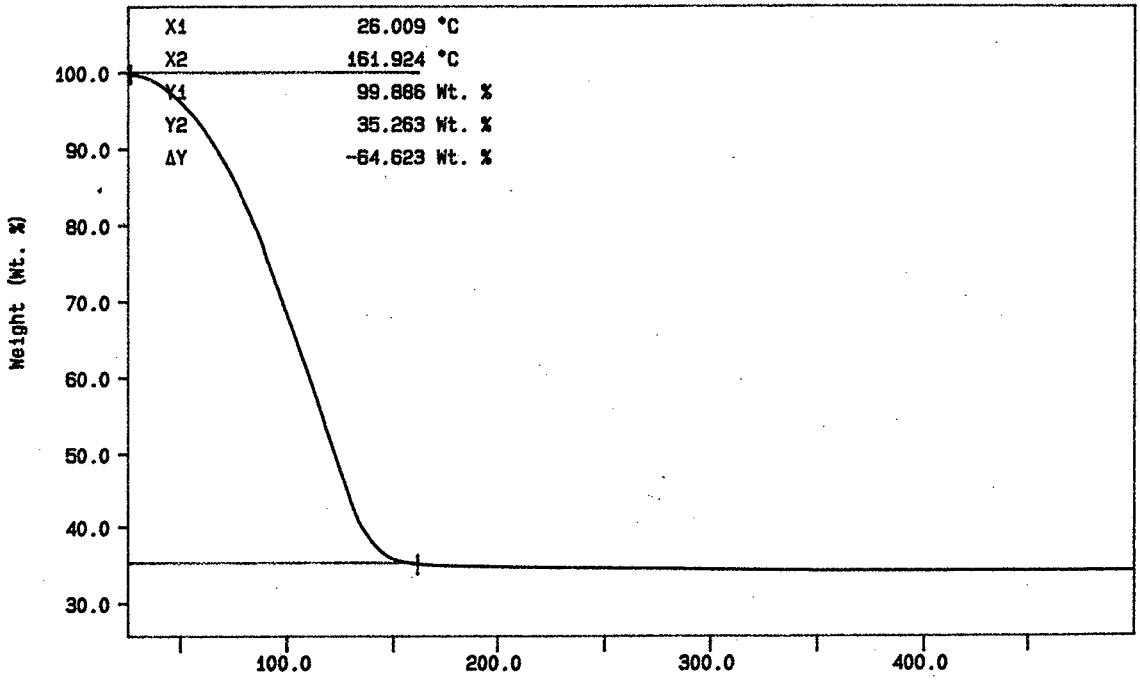
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 322 TO 327



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 05:49:21 1997

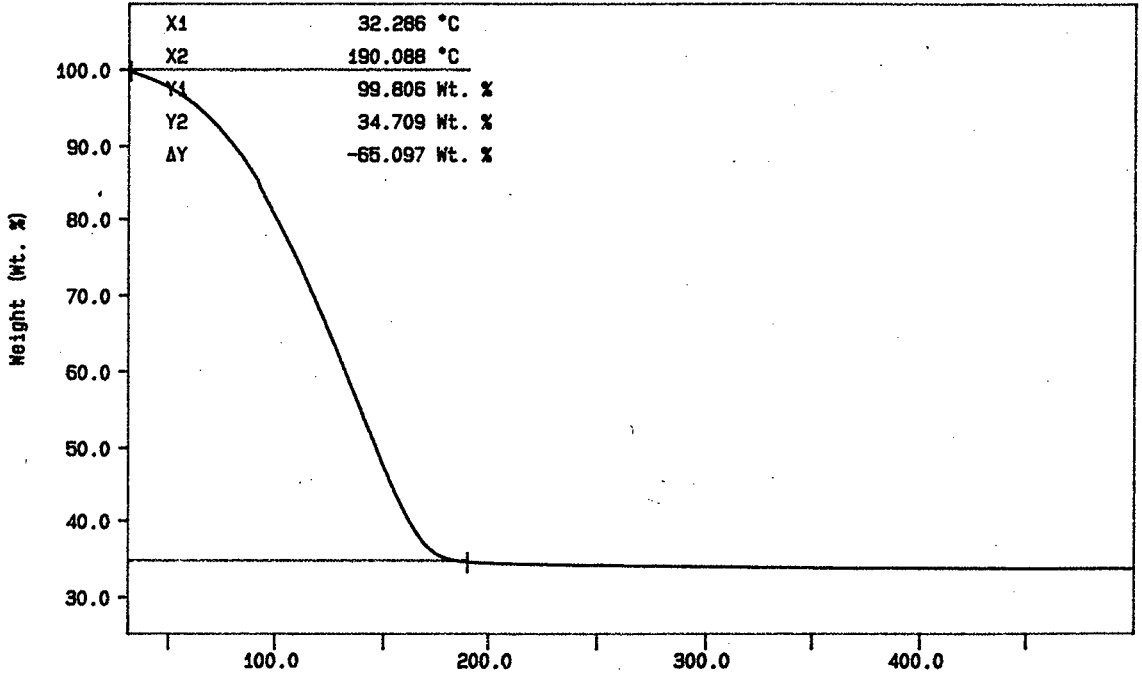
Curve 1: TGA
File info: SAM053106 Sat May 31 15:58:51 1997
Sample Weight: 24.088 mg
S97T001037



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 16:02:35 1997

Curve 1: TGA
File info: SAM053107 Sat May 31 17:05:06 1997
Sample Weight: 38.429 mg
S97T001037 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 31 17:46:22 1997

LABCORE Data Entry Template for Worklist# 18374

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	59.12	N/A	%
97000332	AW-103	2	SAMPLE	S97T000980	0		TGA-03	SOLID	N/A	63.43		%
97000332	AW-103	3	DUP	S97T000980	0		TGA-03	SOLID	63.43	65.61	N/A	%
97000332	AW-103	4	SAMPLE	S97T000981	0		TGA-03	SOLID	N/A	51.91 ~~51.94~~ 6/4/97		%
97000332	AW-103	5	DUP	S97T000981	0		TGA-03	SOLID	51.91	55.49	N/A	%

Final page for worklist # 18374

See Attached for Signature
Analyst Signature **Date**

Validated 6/6/97 Bachelor

6-5-97
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.

LABCORE Data Entry Template for Worklist# 18374

Analyst: ADP **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-560-112 Rev/Mod 1-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000332	AW-103	2	SAMPLE	S97T000980	0		TGA-01	SOLID	N/A			%
97000332	AW-103	3	DUP	S97T000980	0		TGA-01	SOLID			N/A	%
97000332	AW-103	4	SAMPLE	S97T000981	0		TGA-01	SOLID	N/A			%
97000332	AW-103	5	DUP	S97T000981	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18374

Anthony Purnton 6-3-97
Analyst Signature **Date**

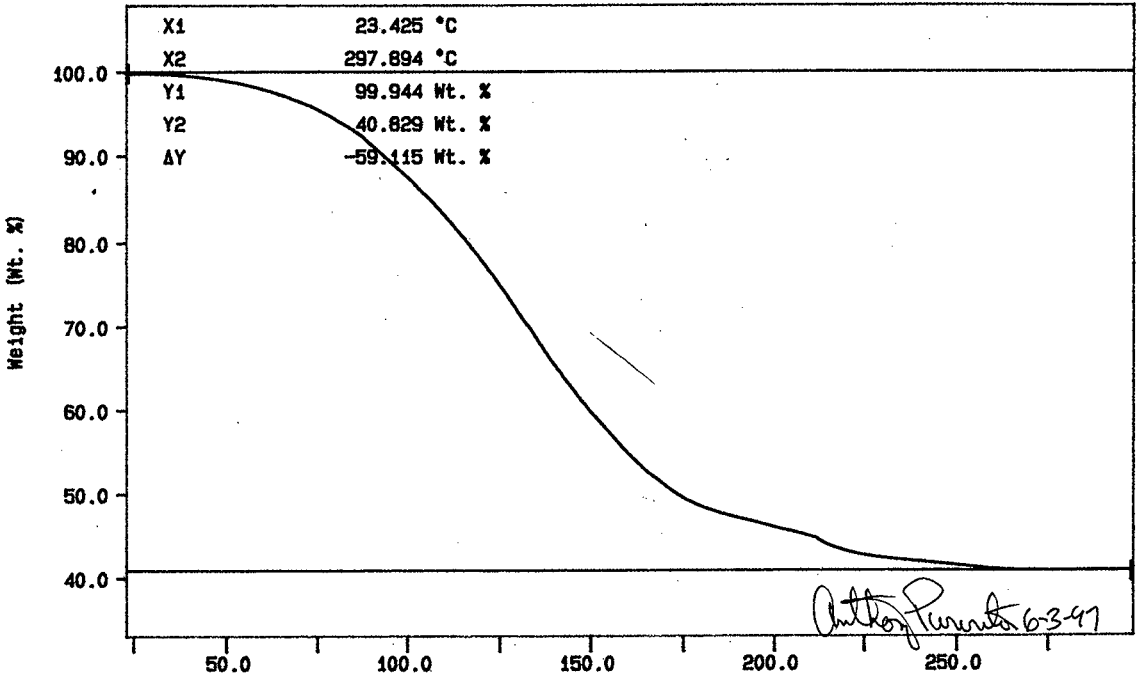
Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03. BB 6/4/97

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.

Curve 1: TGA
File info: TER060201 Mon Jun 2 13:21:54 1997
Sample Weight: 22.666 mg
97NB-A

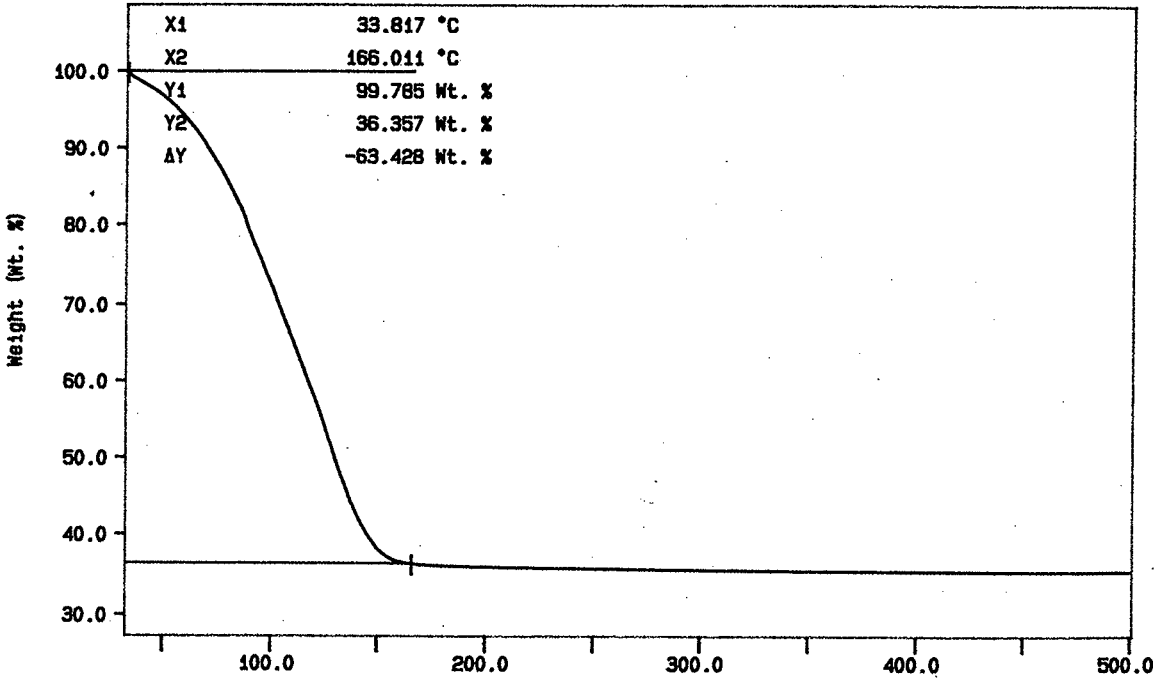
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 330 TO 334



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 2 17:19:32 1997

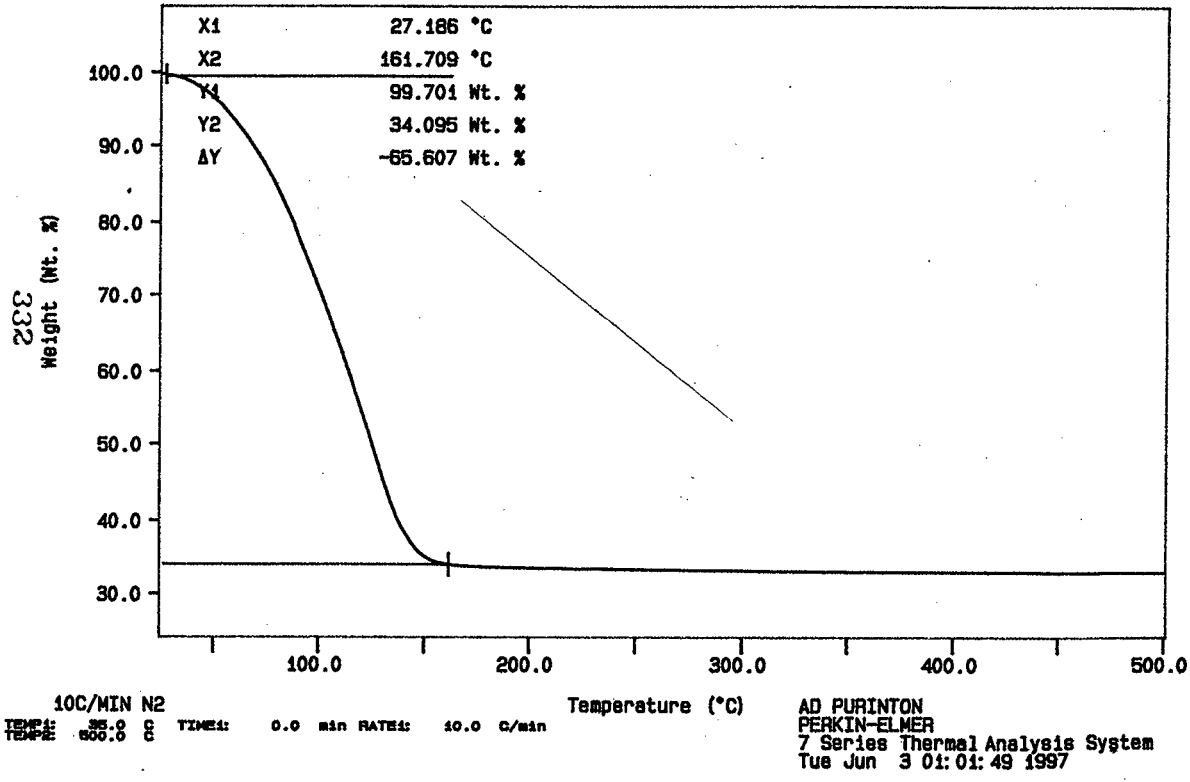
Curve 1: TGA
File info: SAM060206 Mon Jun 2 23:22:52 1997
Sample Weight: 29.488 mg
S97T000980 SAM



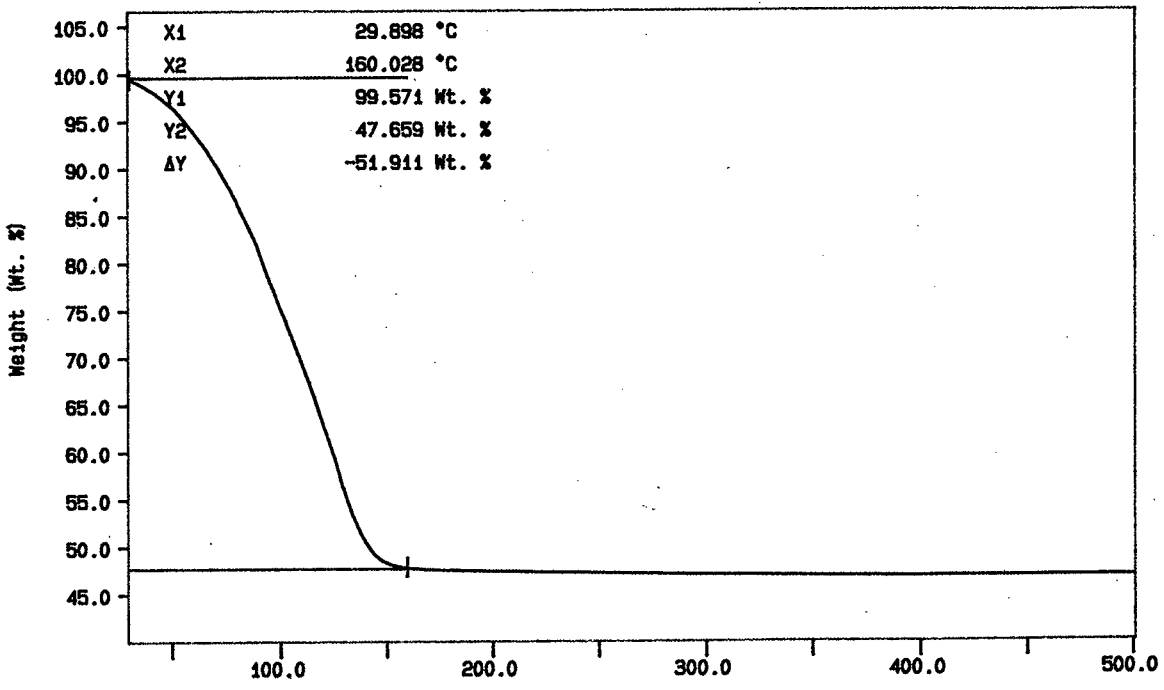
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 00:07:37 1997

Curve 1: TGA
File info: SAM060207 Tue Jun 3 01:01:22 1997
Sample Weight: 24.402 mg
S97T000980 DUP



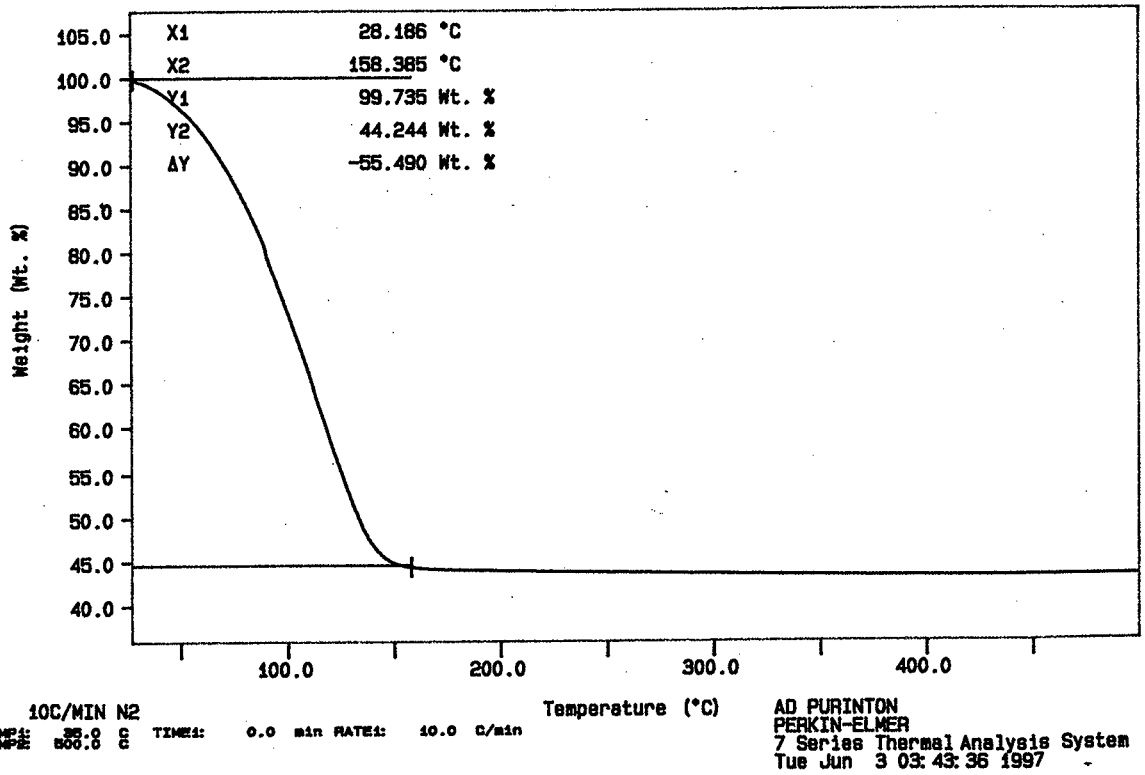
Curve 1: TGA
File info: SAM060208 Tue Jun 3 02:09:06 1997
Sample Weight: 30.937 mg
S97T000981 SAM



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 02:43:41 1997

Curve 1: TGA
File info: SAM060210 Tue Jun 3 03:36:26 1997
Sample Weight: 21.604 mg
S97T000981 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 03:43:36 1997

LABCORE Completed Worklist Report for Worklist# 18427

Analyst: dpb **Instrument:** TGA03 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	TGA-03	LIQUID	5.94e01	58.67 X	98.771	% Recovery
2	SAMPLE	S97T001079		0	TGA-03	LIQUID	N/A	92.02		%
3	DUP	S97T001079		0	TGA-03	LIQUID	92.02	92.29	0.293	RPD

Final page for worklist# 18427

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/12/97
Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

worklistrpt Version 2.1 05/15/95
06/05/97 13:17

LABCORE Data Entry Template for Worklist# 18427

Analyst: DPB **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID	59.4	58.67X	N/A	%
97000333	AW-103	2	SAMPLE	S97T001079	0		TGA-01	LIQUID	N/A	92.02		%
97000333	AW-103	3	DUP	S97T001079	0		TGA-01	LIQUID	92.02	92.29	N/A	%

Final page for worklist # 18427

See Attached for Signature
Analyst Signature **Date**

Sushi Mark 6-5-97
Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03 SKM 6/4/97

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
06/03/97 06:58

LABCORE Data Entry Template for Worklist# 18427

Analyst: DFB **Instrument:** TGA0 3 **Book #** 97N8-A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	LIQUID			N/A	%
97000333	AW-103	2 SAMPLE	S97T001079	0		TGA-01	LIQUID	N/A			%
97000333	AW-103	3 DUP	S97T001079	0		TGA-01	LIQUID			N/A	%

Final page for worklist # 18427

Daniel F. Bromley 6/4/97 0500

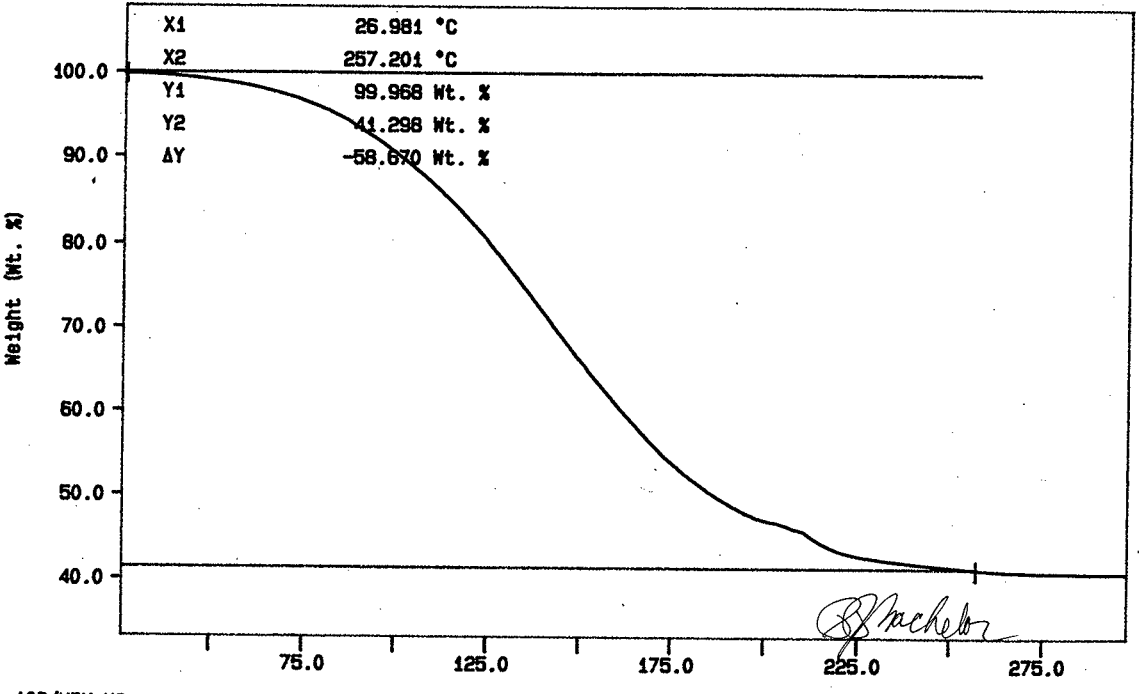
Analyst Signature **Date** **Analyst Signature** **Date**

Data Entry Comments:
Ran samples on TGA-03. DFB 6/5/97

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.

Curve 1: TGA
File info: TER060301 Tue Jun 3 05:55:50 1997
Sample Weight: 29.756 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 338 TO 340

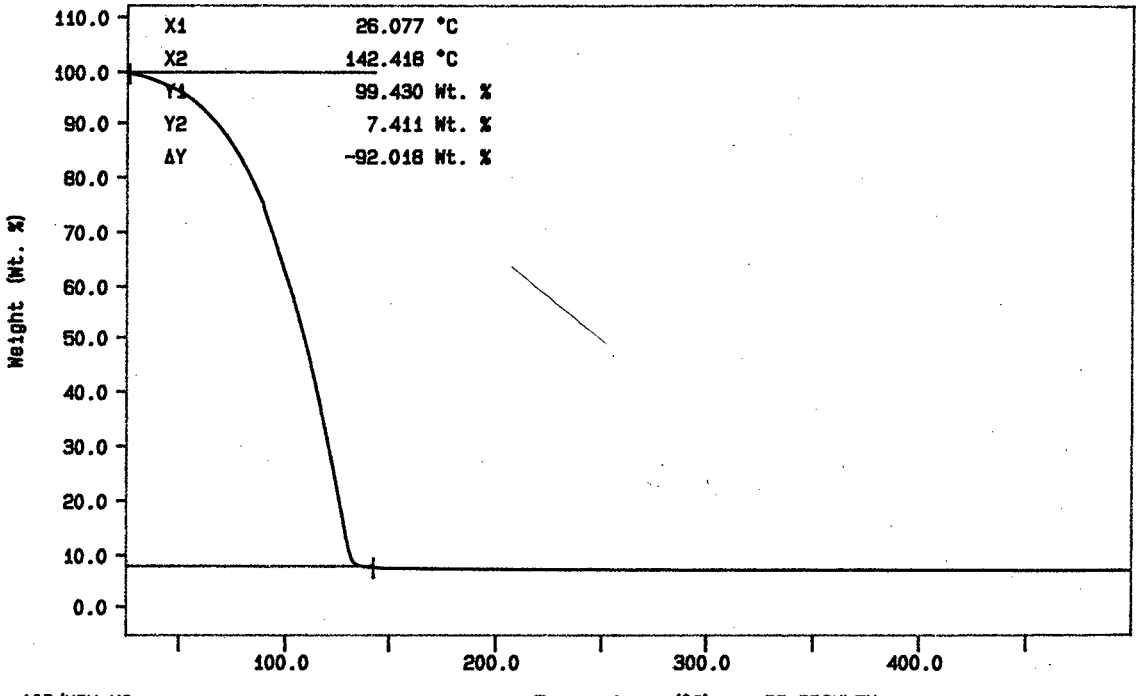


10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 03:44:53 1997

338

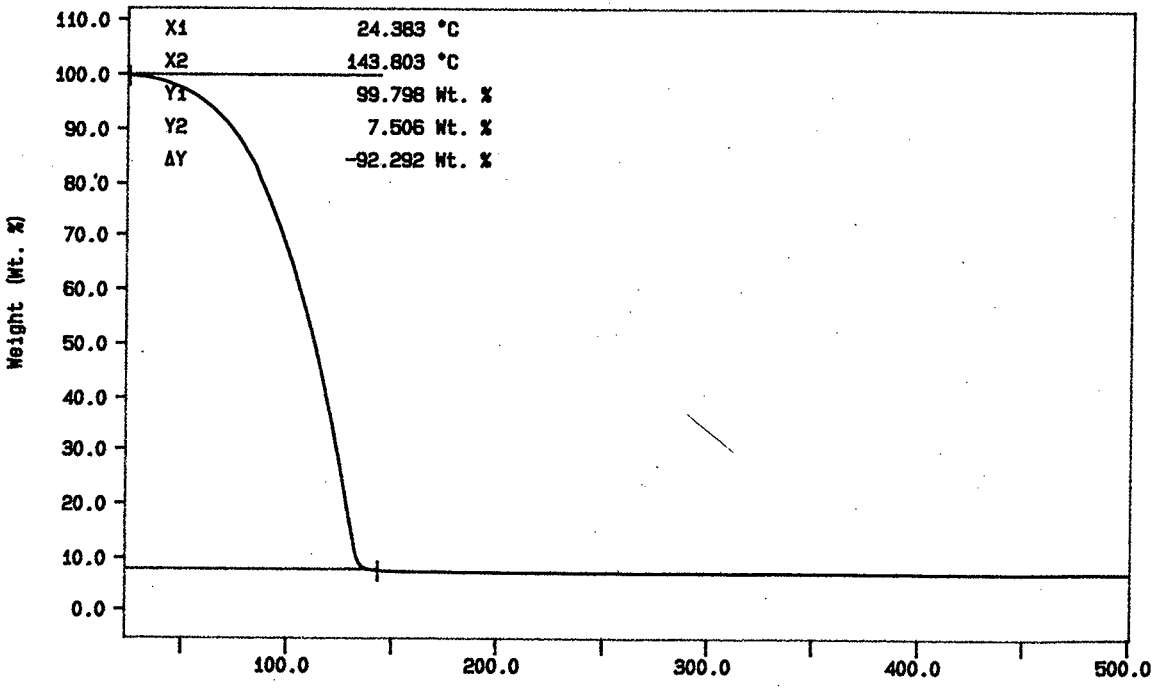
Curve 1: TGA
File info: SAM060305 Tue Jun 3 21:13:30 1997
Sample Weight: 11.148 mg
S97T001079SAM



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 3 21:46:32 1997

Curve 1: TGA
File info: SAM060306 Tue Jun 3 23:14:16 1997
Sample Weight: 11.021 mg
S97T001079DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 03:14:07 1997

worklistrpt Version 2.1 05/15/95
06/06/97 09:00

LABCORE Data Entry Template for Worklist# 18442

Analyst: JDS **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	59.10	N/A	%
97000333	AW-103	2 SAMPLE	S97T001034	0		TGA-03	SOLID	N/A	35.34		%
97000333	AW-103	3 DUP	S97T001034	0		TGA-03	SOLID	35.34	39.46 64	6/6/97 N/A	%
97000333	AW-103	4 SAMPLE	S97T001040	0		TGA-03	SOLID	N/A	38.20		%
97000333	AW-103	5 DUP	S97T001040	0		TGA-03	SOLID	38.20	38.40	N/A	%

Final page for worklist # 18442

See Attached for Signature
Analyst Signature **Date**

Susan Lee 6/06/97
Analyst Signature **Date**

Validated 6/9/97 [illegible]

Data Entry Comments:
Second STD run due to delay in completion of worklist. STD value was 58.68 % with a % Recovery of 98.79. [illegible] 6/6/97

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
06/03/97 08:31

LABCORE Data Entry Template for Worklist# 18442

Analyst: JDS **Instrument:** TGA0 3 **Book #** 97N87

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000333	AW-103	2	SAMPLE	S97T001034	0		TGA-01	SOLID	N/A			%
97000333	AW-103	3	DUP	S97T001034	0		TGA-01	SOLID			N/A	%
97000333	AW-103	4	SAMPLE	S97T001040	0		TGA-01	SOLID	N/A			%
97000333	AW-103	5	DUP	S97T001040	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18442

JDS 6/4/97
Analyst Signature **Date**

Analyst Signature **Date**

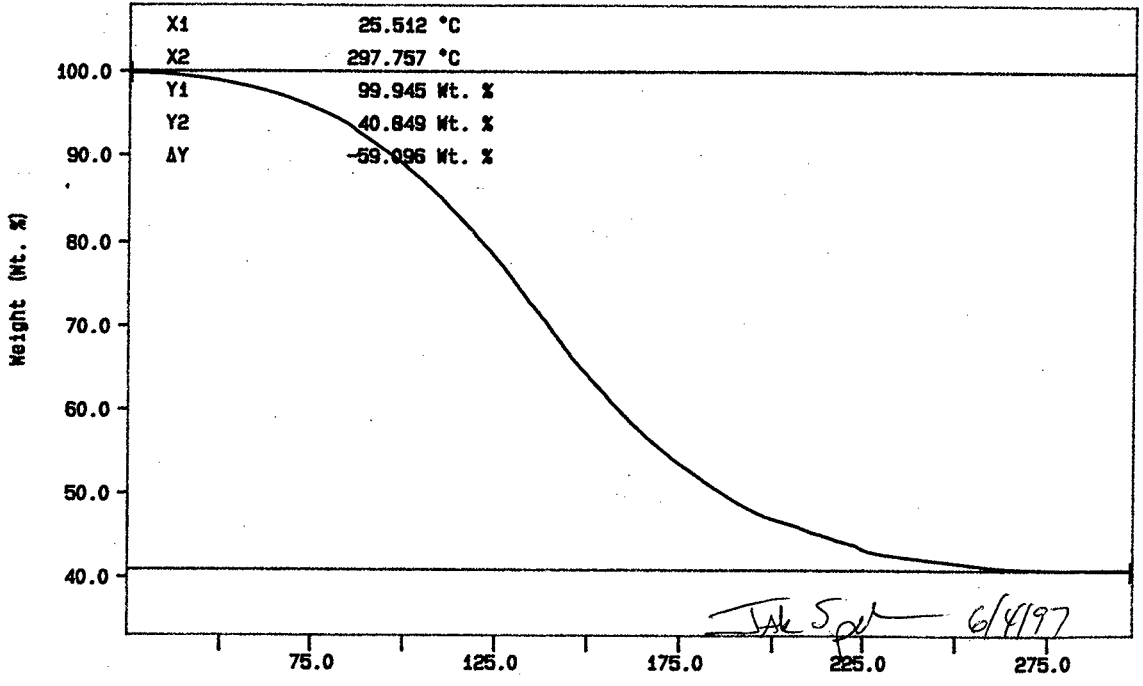
David P. Brandy 6/5/97

Data Entry Comments:
Ran samples on TGA-03. DPB 6/6/97

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.

Curve 1: TGA
File info: TER060401 Wed Jun 4 05:46:39 1997
Sample Weight: 31.266 mg
97N8-A

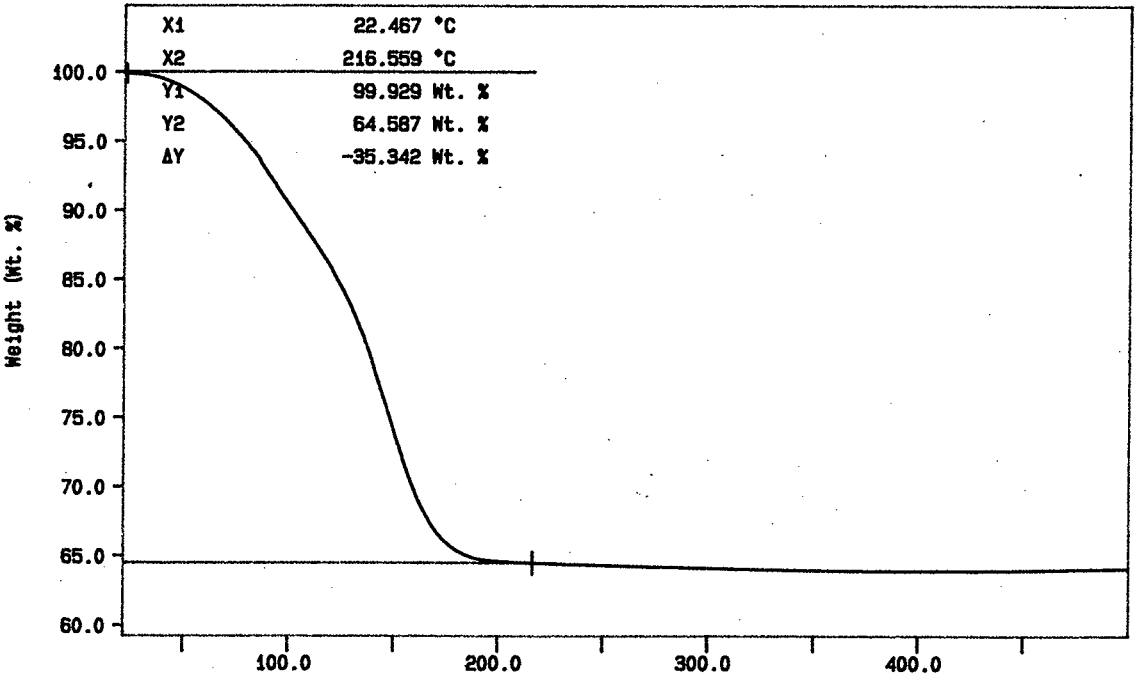
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 343 TO 348



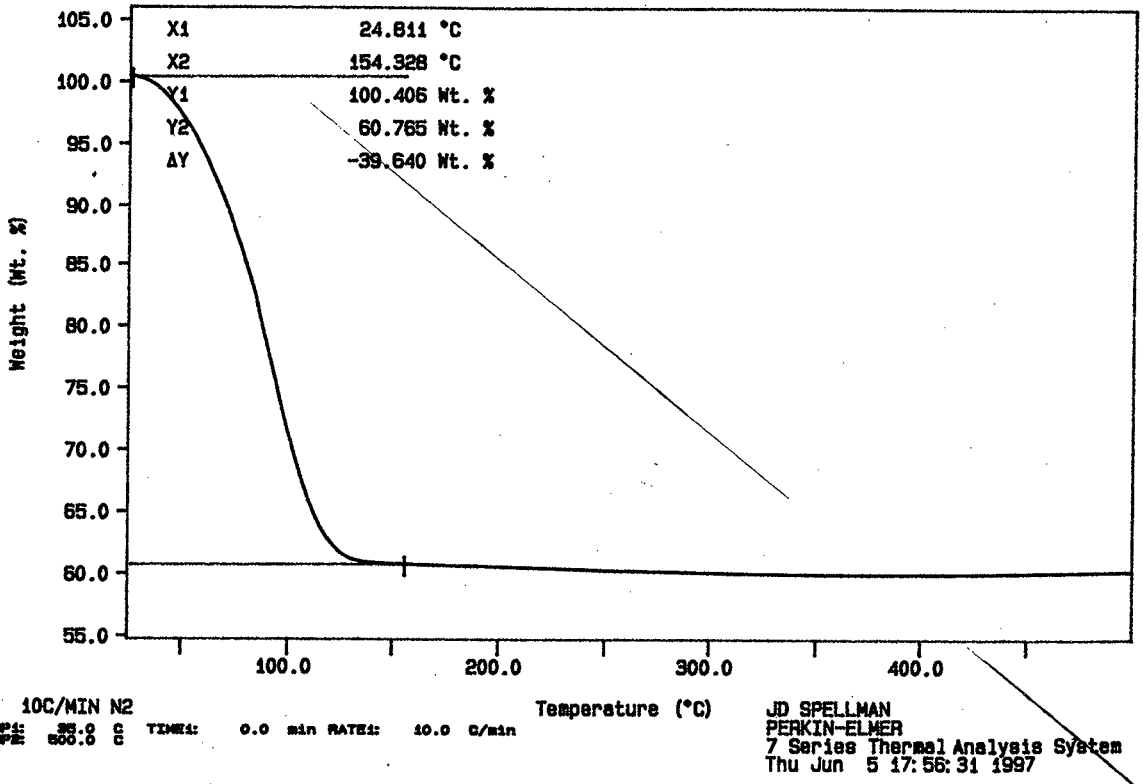
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Jun 4 07:08:46 1997

Curve 1: TGA
File info: SAM060401 Wed Jun 4 13:09:28 1997
Sample Weight: 46.894 mg
S97T001034



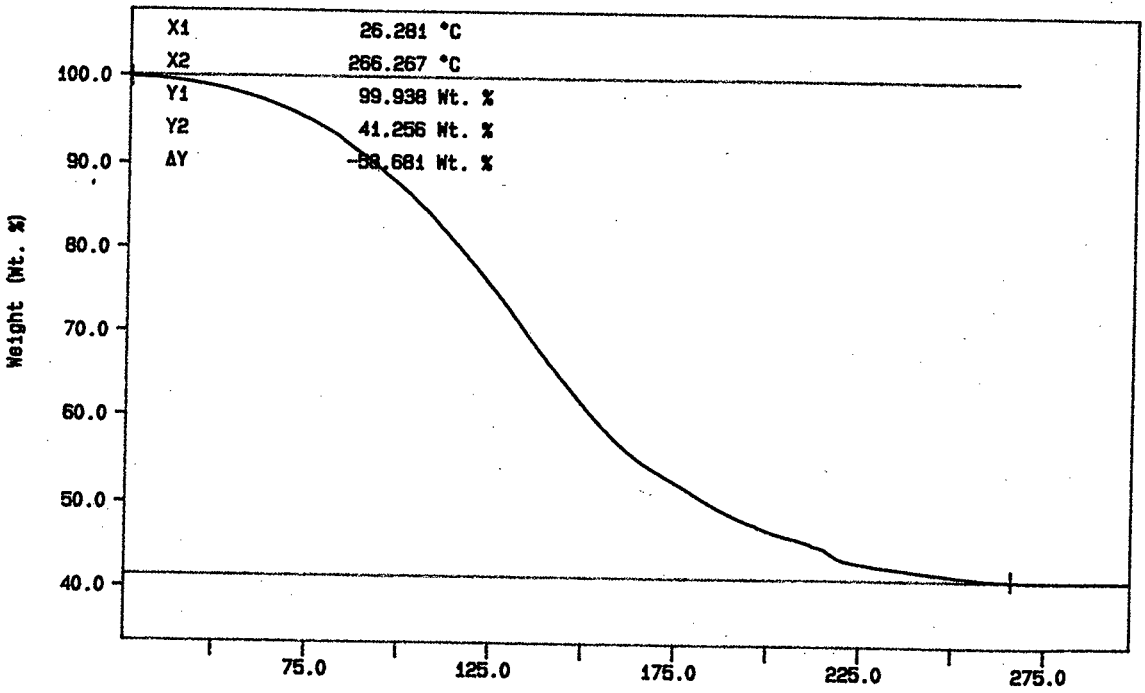
Curve 1: TGA
File info: SAM060406 Wed Jun 4 15:46:27 1997
Sample Weight: 10.447 mg
S97T001034DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 17:56:31 1997

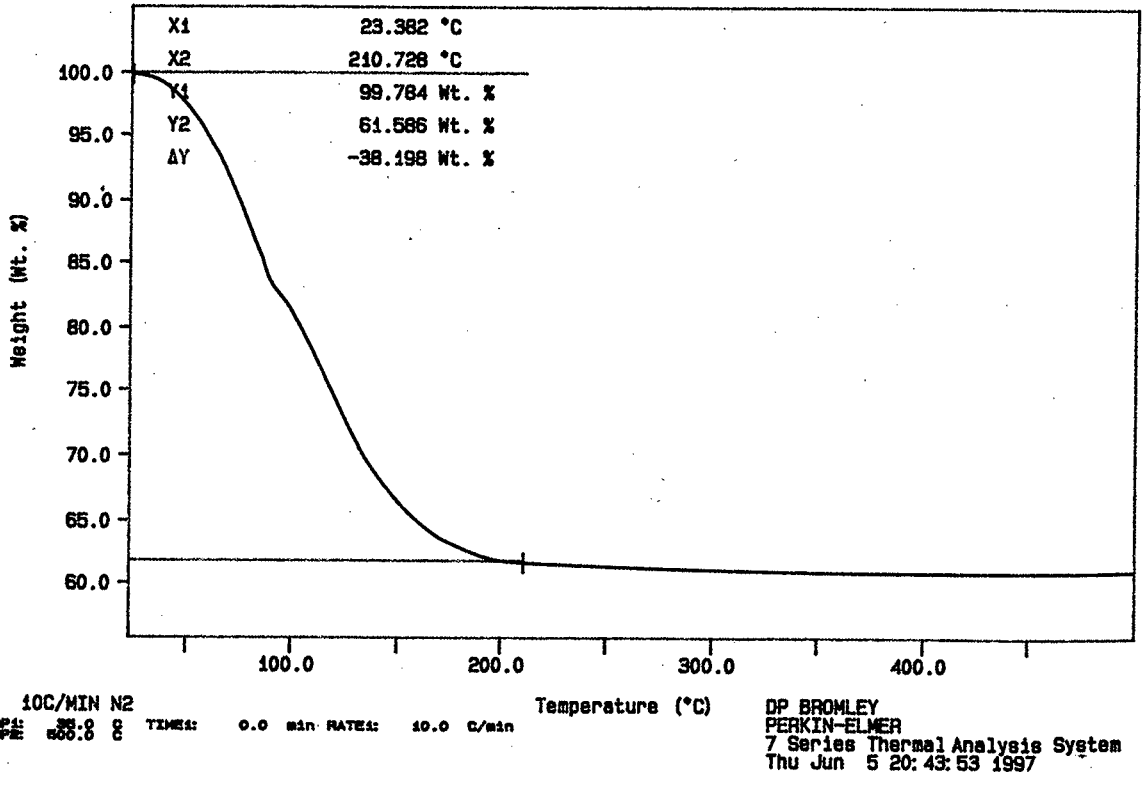
Curve 1: TGA
File info: TER060501 Thu Jun 5 05:57:27 1997
Sample Weight: 27.868 mg
97N8-A



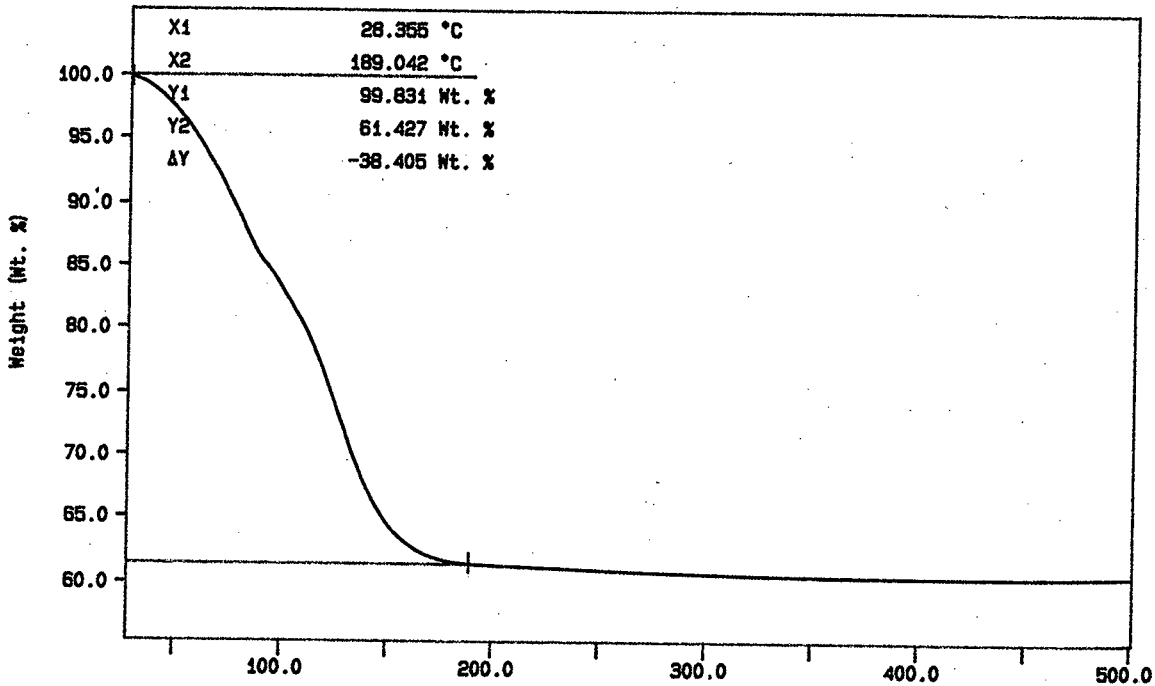
10C/MIN N2
TEMP1: 35.8 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 13:21:55 1997

Curve 1: TGA
File info: SAM060507 Thu Jun 5 19:12:59 1997
Sample Weight: 17.241 mg
S97T001040SAM



Curve 1: TGA
File info: SAM060508 Thu Jun 5 21:14:43 1997
Sample Weight: 16.176 mg
~~S97T0010408AM~~ DPB 6/5/97 S97T001040Dup



10C/MIN N2
~~TEMP1: 35.0 C TEMP2: 500.0 C~~ TIME1: 0.0 min RATE1: 10.0 C/min

DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 21:59:11 1997

LABCORE Completed Worklist Report for Worklist# 18471

Analyst: dpb **Instrument:** TGA03 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	TGA-03	SOLID	5.94e01	58.37	98.266	% Recovery
2	SAMPLE	S97T001041		0	TGA-03	SOLID	N/A	45.61		%
3	DUP	S97T001041		0	TGA-03	SOLID	45.61	44.47	2.531	RPD

Final page for worklist# 18471

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature 6/12/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18471

Analyst: DPB **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.4	58.37	N/A	%
97000333	AW-103	2 SAMPLE	S97T001041	0		TGA-01	SOLID	N/A	45.61		%
97000333	AW-103	3 DUP	S97T001041	0		TGA-01	SOLID	45.61	44.47	N/A	%

Final page for worklist # 18471

See Attached for Signature
Analyst Signature **Date**

Analyst Signature 6-5-97 **Date**

Data Entry Comments:
Samples run on TGA-03 6/6/97

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# 18471

Analyst: DPB **Instrument:** TGA0 3 **Book #** 97N8-A

Method: LA-560-112 Rev/Mod D-0

Worklist Comment: AW103, TGA-01 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	*		N/A	%
97000333	AW-103	2 SAMPLE	S97T001041	0		TGA-01	SOLID	N/A			%
97000333	AW-103	3 DUP	S97T001041	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18471

Dennis P. Bramble 6/5/97 0430

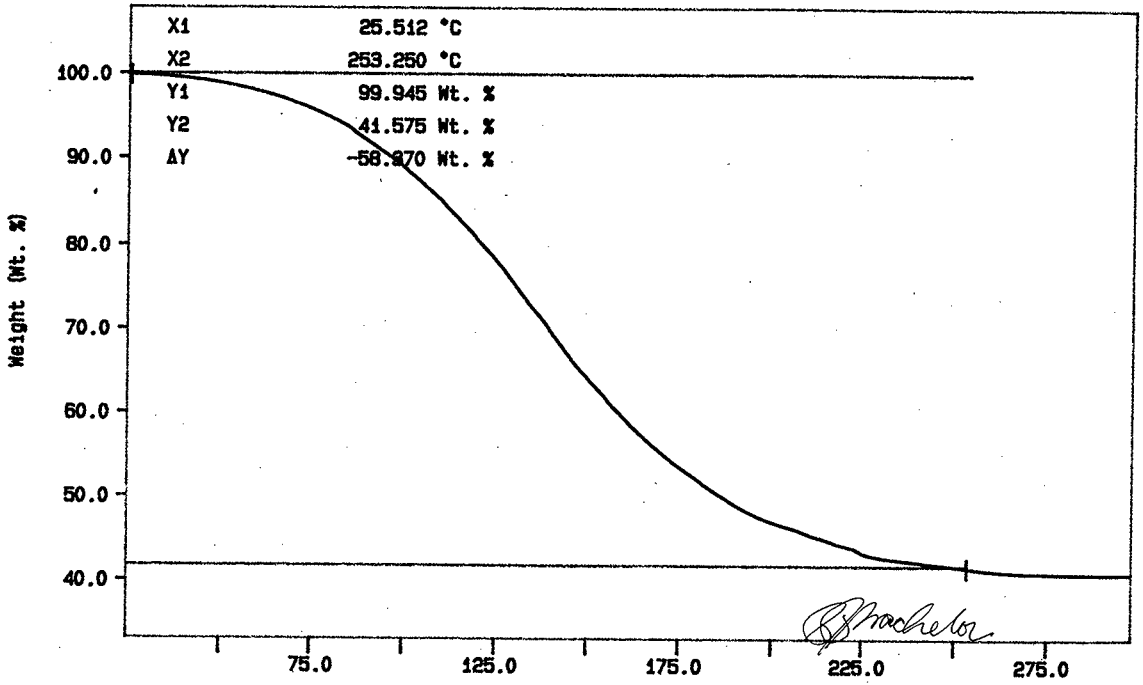
Analyst Signature **Date** **Analyst Signature** **Date**

Data Entry Comments:
Ran Samples on TGA-03. DPB 6/5/97

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.

Curve 1: TGA
File info: TER060401 Wed Jun 4 05:46:39 1997
Sample Weight: 31.266 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 352 TO 354

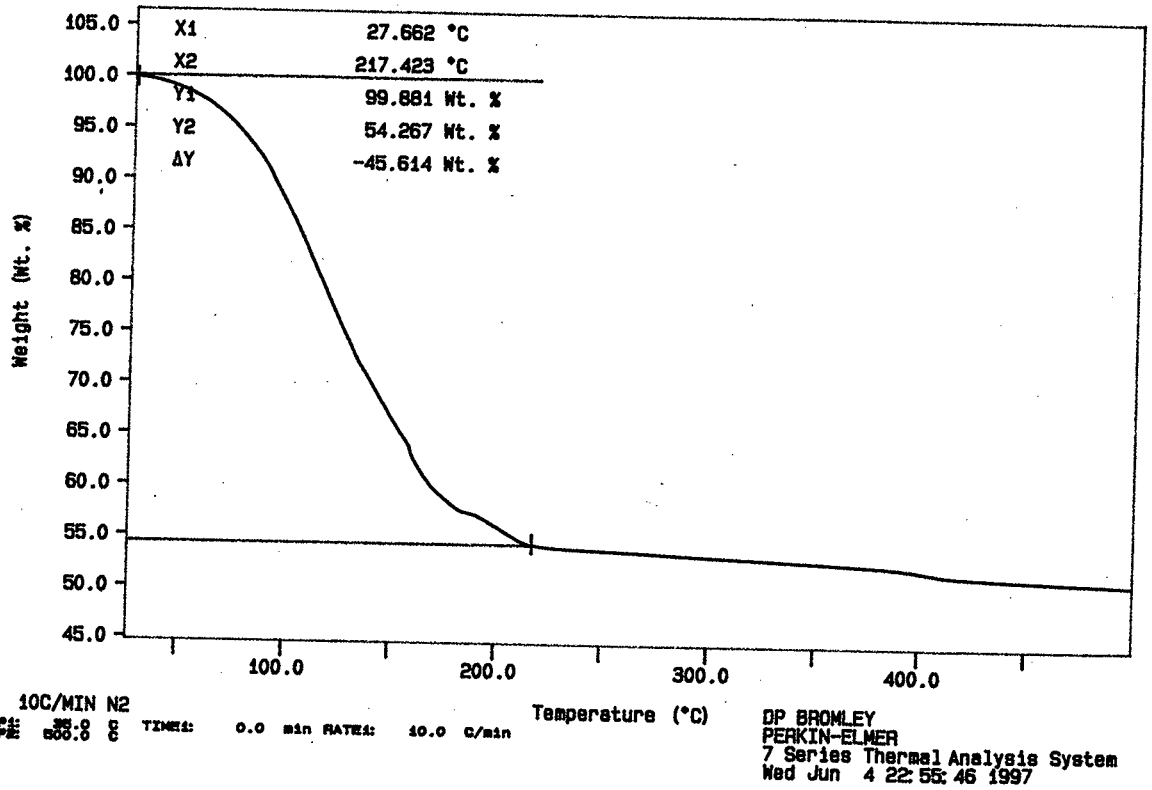


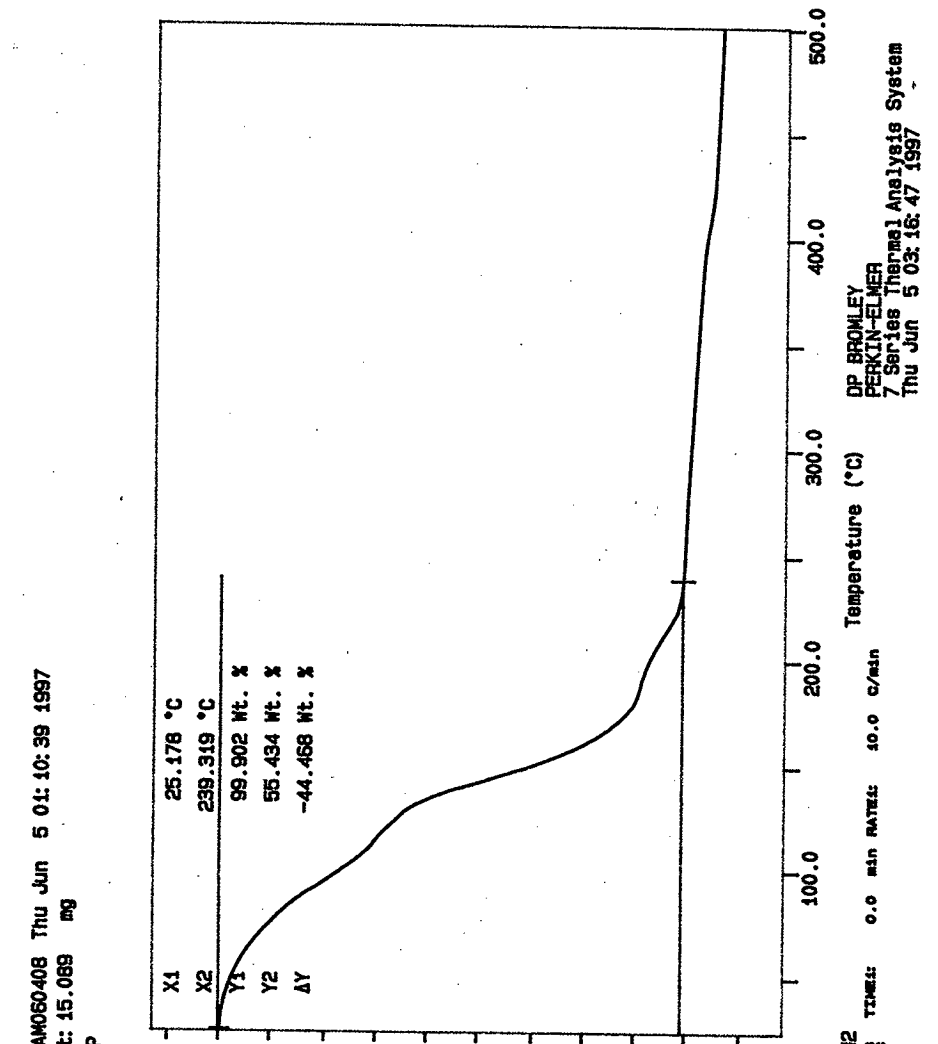
10C/MIN N2
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 03:42:12 1997

352

Curve 1: TGA
File info: SAM060407 Wed Jun 4 22:36:42 1997
Sample Weight: 13.884 mg
S97T001041SAM




Curve 1: TGA
File info: SAM060408 Thu Jun 5 01:10:39 1997
Sample Weight: 15.089 mg
S97T0010410UP
X1 25.178 °C
X2 239.319 °C
Y1 99.902 Wt. %
Y2 55.434 Wt. %
ΔY -44.468 Wt. %
Weight (Wt. %)
105.0
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMPS 30.0 C TIMES: 0.0 min RATES: 10.0 C/min
TEMPE 600.0 C
DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Jun 5 03:16:47 1997

LABCORE Data Entry Template for Worklist# 18516

Analyst: RJM **Instrument:** TGA0 3 **Book #** 97NB1

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: Rerun #1 due to high RPD. Run under N2. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	58.44*	N/A	%
97000332	AW-103	2 SAMPLE	S97T000984	0		TGA-03	SOLID	N/A	47.10		%
97000332	AW-103	3 DUP	S97T000984	0		TGA-03	SOLID	47.10	43.50	N/A	%
97000333	AW-103	4 SAMPLE	S97T001039	0		TGA-03	SOLID	N/A	50.75		%
97000333	AW-103	5 DUP	S97T001039	0		TGA-03	SOLID	50.75	52.41	N/A	%

Final page for worklist # 18516

See Attached for Signature
Analyst Signature Date

Susan Dee 6/13/97
Analyst Signature Date

Validated 6/16/97 Bachelor

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
06/06/97 13:15

LABCORE Data Entry Template for Worklist# 18516

Analyst: RJM **Instrument:** ~~DSC0~~ TGA 6/12/97 03 **Book #** 97N8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: Rerun #1 due to high RPD. Run under N2. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	58.44	N/A	%
97000332	AW-103	2	SAMPLE	S97T000984	0		TGA-03	SOLID	N/A	47.10		%
97000332	AW-103	3	DUP	S97T000984	0		TGA-03	SOLID	47.10	43.50	N/A	%
97000333	AW-103	4	SAMPLE	S97T001039	0		TGA-03	SOLID	N/A	50.75		%
97000333	AW-103	5	DUP	S97T001039	0		TGA-03	SOLID	50.75	52.41	N/A	%

Final page for worklist # 18516

RJ McCann 6/9/97
Analyst Signature **Date**

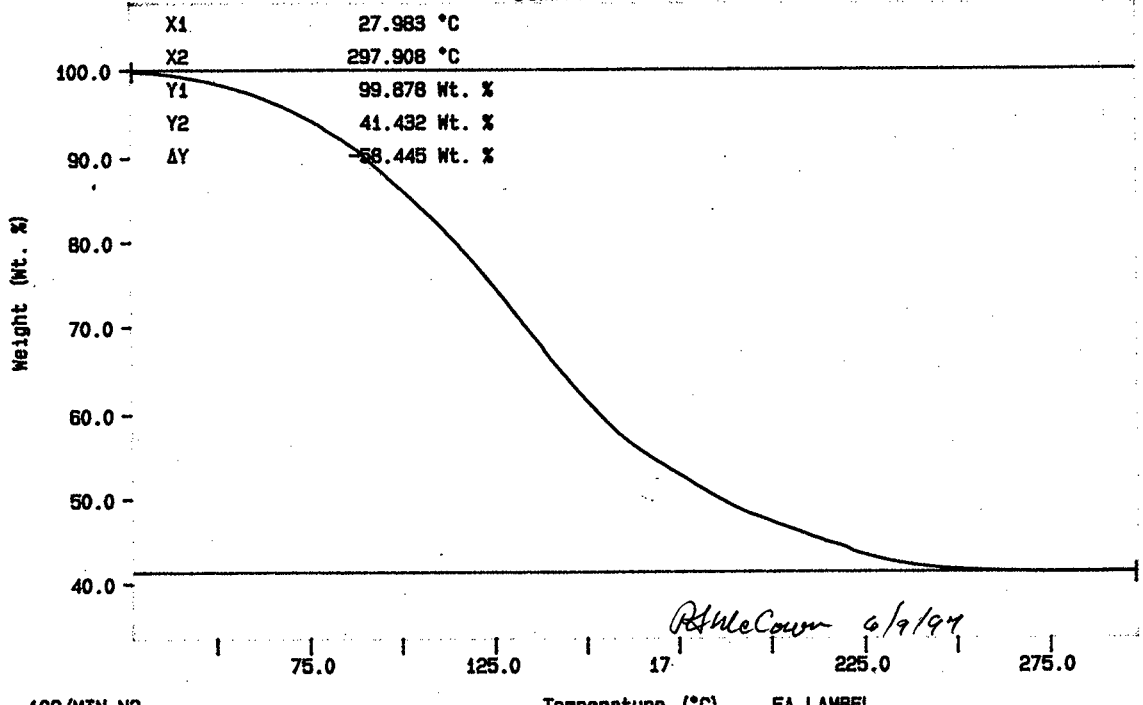
Analyst Signature **Date**

Data Entry Comments:
Changed instrument code to TGA-03. RJM 6/12/97

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.

Curve 1: TGA
File info: TER060801 Sun Jun 8 06:09:57 1997
Sample Weight: 29.086 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 357 TO 361

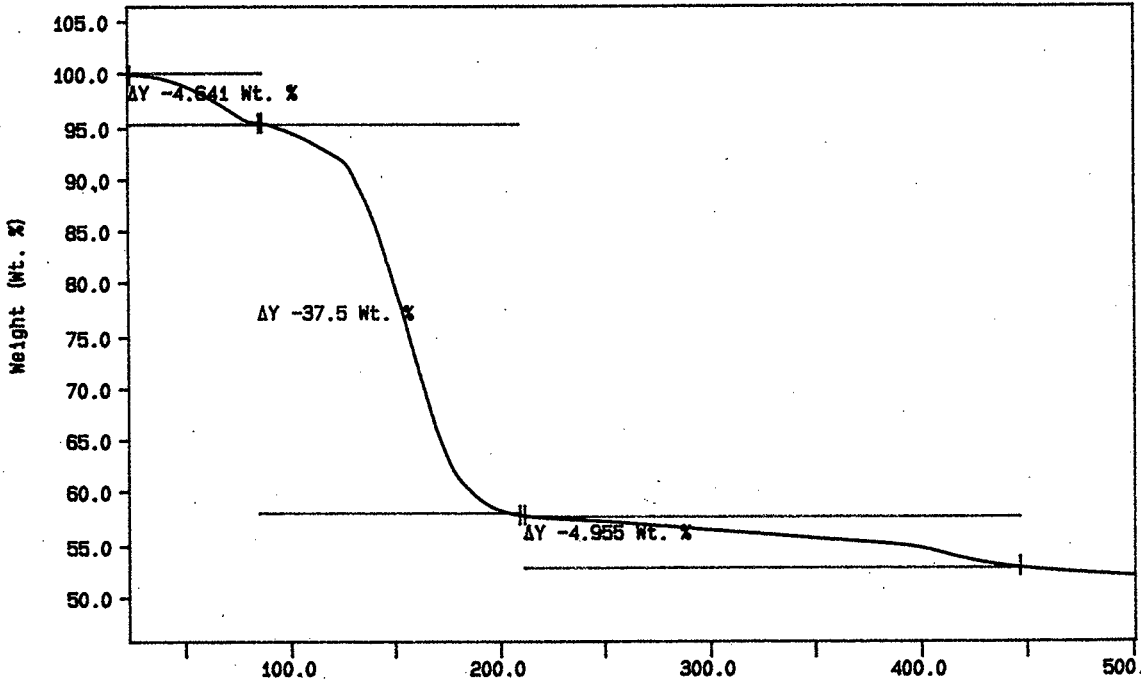


R H McCown 6/9/97

10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 19:22:58 1997

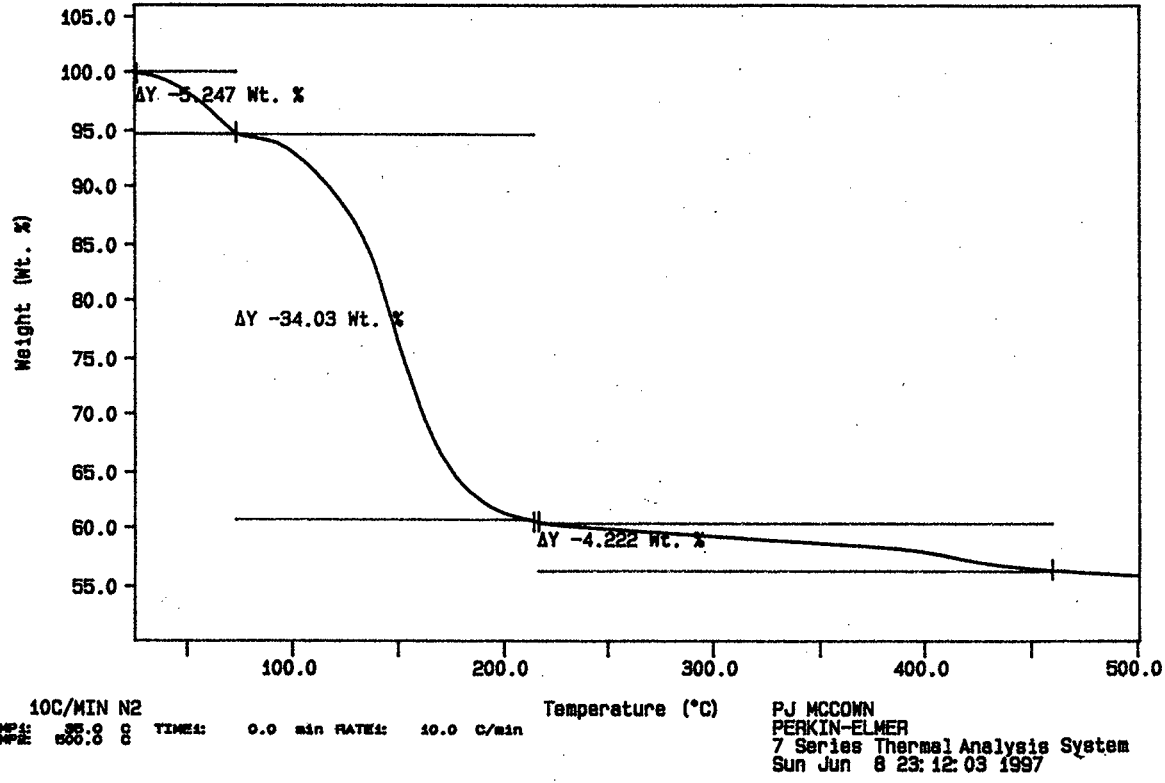
Curve 1: TGA
File info: SAM060811 Sun Jun 8 21:33:15 1997
Sample Weight: 24.825 mg
S97T000984



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 21:55:56 1997

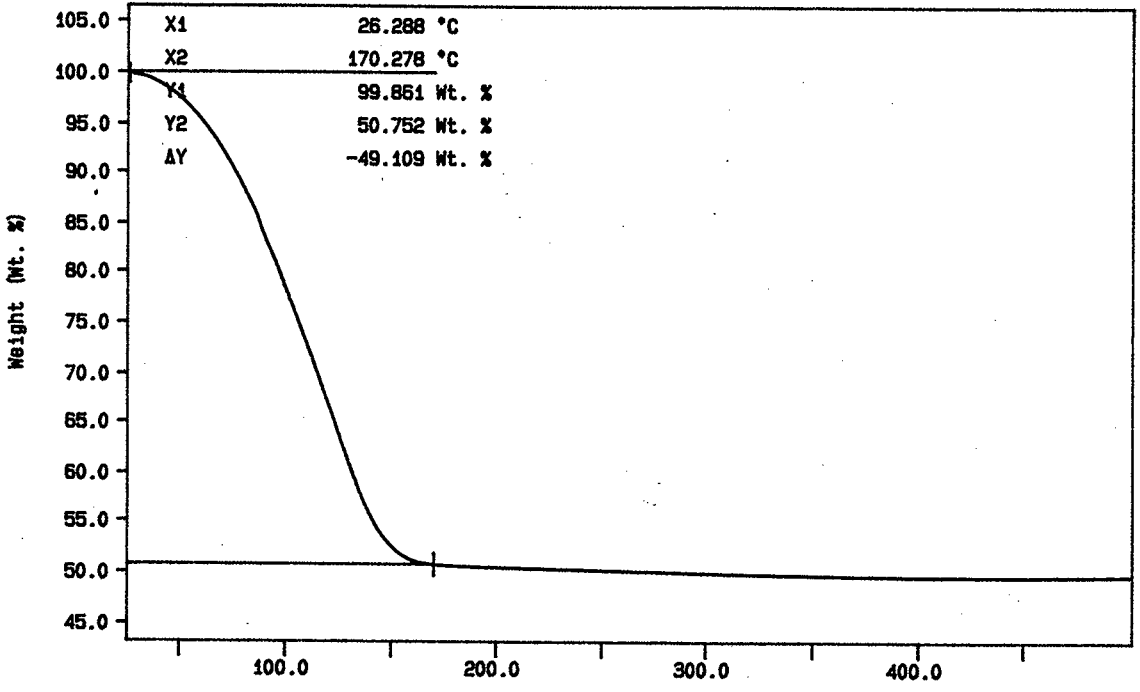
Curve 1: TGA
File info: SAM060812 Sun Jun 8 22:48:45 1997
Sample Weight: 20.973 mg
S97T000984 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 23:12:03 1997

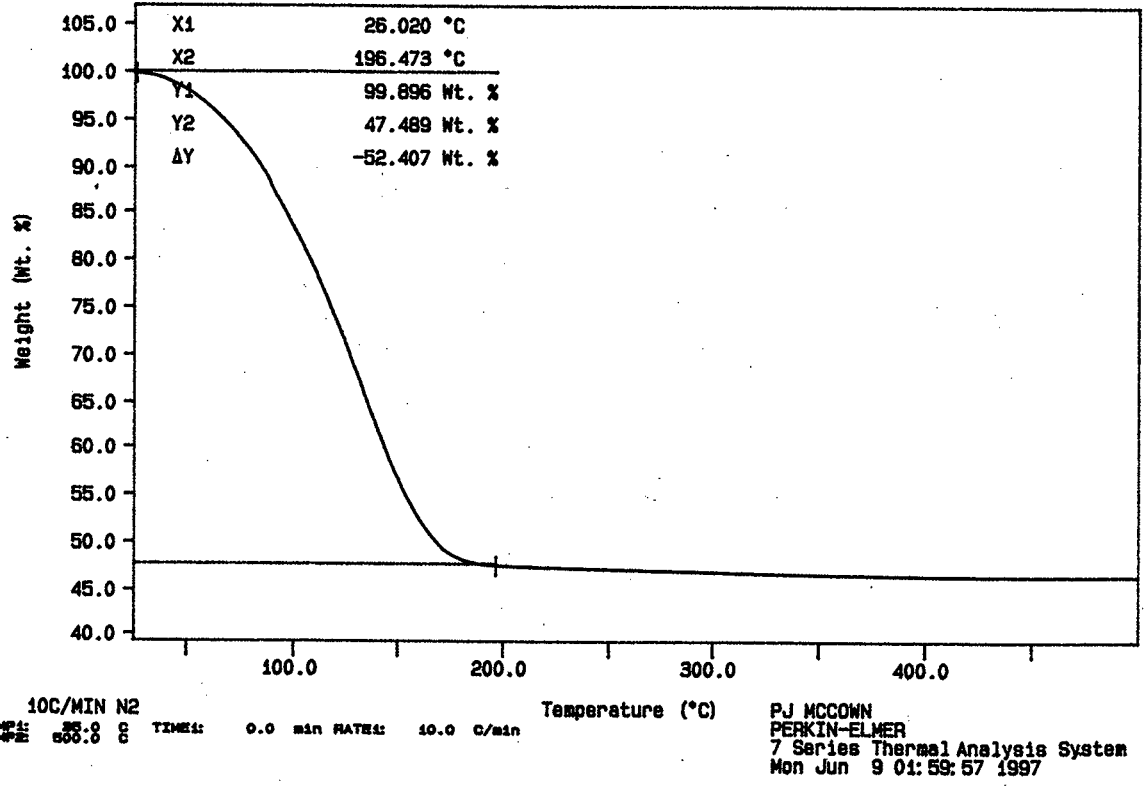
Curve 1: TGA
File info: SAM060901 Mon Jun 9 00:10:05 1997
Sample Weight: 25.106 mg
S97T001039



10C/MIN N2
TEMP1: 30.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 9 02:42:02 1997

Curve 1: TGA
File info: SAM060902 Mon Jun 9 01:34:01 1997
Sample Weight: 25.100 mg
S97T001039 DUP



worklistrpt Version 2.1 05/15/95
06/12/97 15:17

LABCORE Data Entry Template for Worklist# 18517

Analyst: RJM **Instrument:** TGA0 3 **Book #** 97N84

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: Rerun #1 due to high RPD. Run under N2. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	58.44	N/A	%
97000333	AW-103	2 SAMPLE	S97T001038	0		TGA-03	SOLID	N/A	48.10		%
97000333	AW-103	3 DUP	S97T001038	0		TGA-03	SOLID	48.10	47.89	N/A	%

Final page for worklist # 18517

See Attached for Signature
Analyst Signature Date

Susan Bee 6/13/97
Analyst Signature Date

Validated 6/16/97 Bachelor

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
06/06/97 13:16

LABCORE Data Entry Template for Worklist# 18517

Analyst: [signature] **Instrument:** ~~DSC0~~ TGA BB 6/12/97 03 **Book #** 97NS-A

Method: LA-514-114 Rev/Mod D-C

Worklist Comment: Rerun #1 due to high RPD. Run under N2. -ppb

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	58.44	N/A	%
97000333	AW-103	2	SAMPLE	S97T001038	0		TGA-03	SOLID	N/A	48.10		%
97000333	AW-103	3	DUP	S97T001038	0		TGA-03	SOLID	48.10	47.89	N/A	%

Final page for worklist # 18517

RJ MaCoun 6/8/97
Analyst Signature **Date**

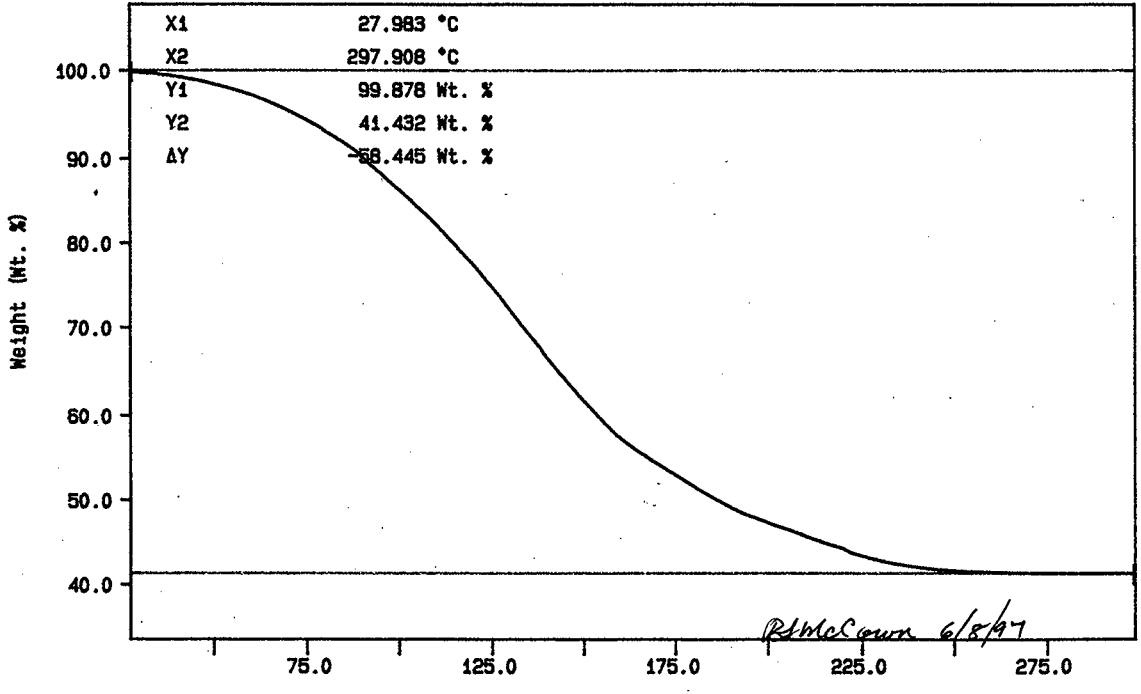
Analyst Signature **Date**

Data Entry Comments:
Changed instrument code to TGA-03. BB 6/12/97

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.

Curve 1: TGA
File info: TER060801 Sun Jun 8 06:09:57 1997
Sample Weight: 29.086 mg
97N8-A

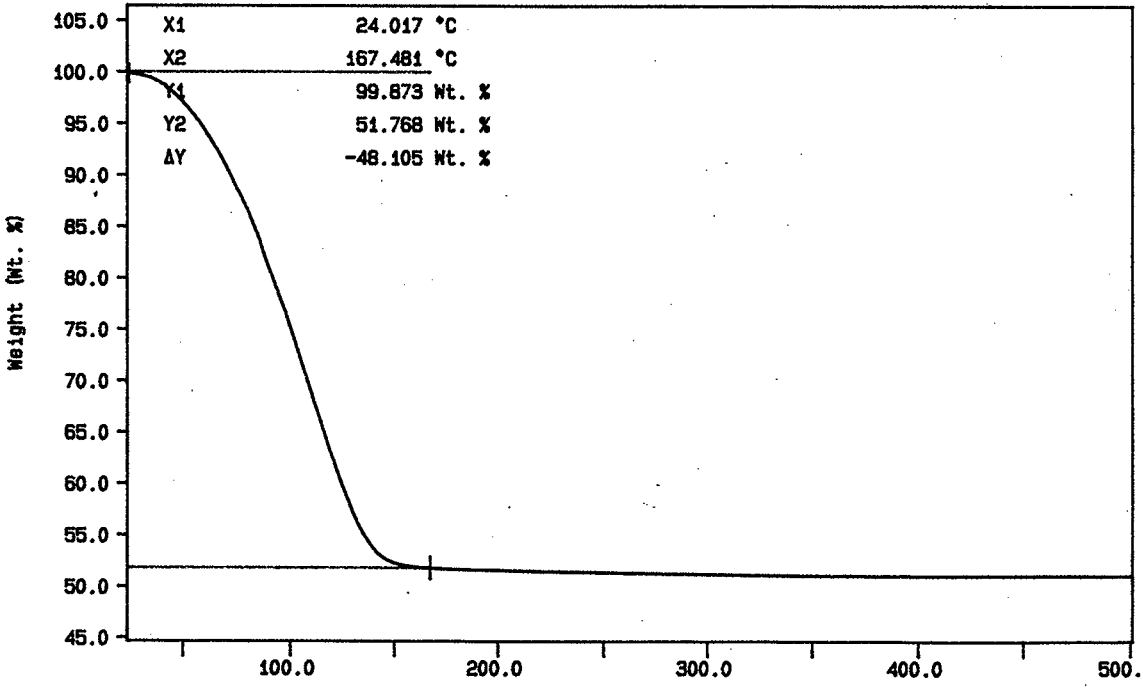
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 364 TO 366



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 17:55:21 1997

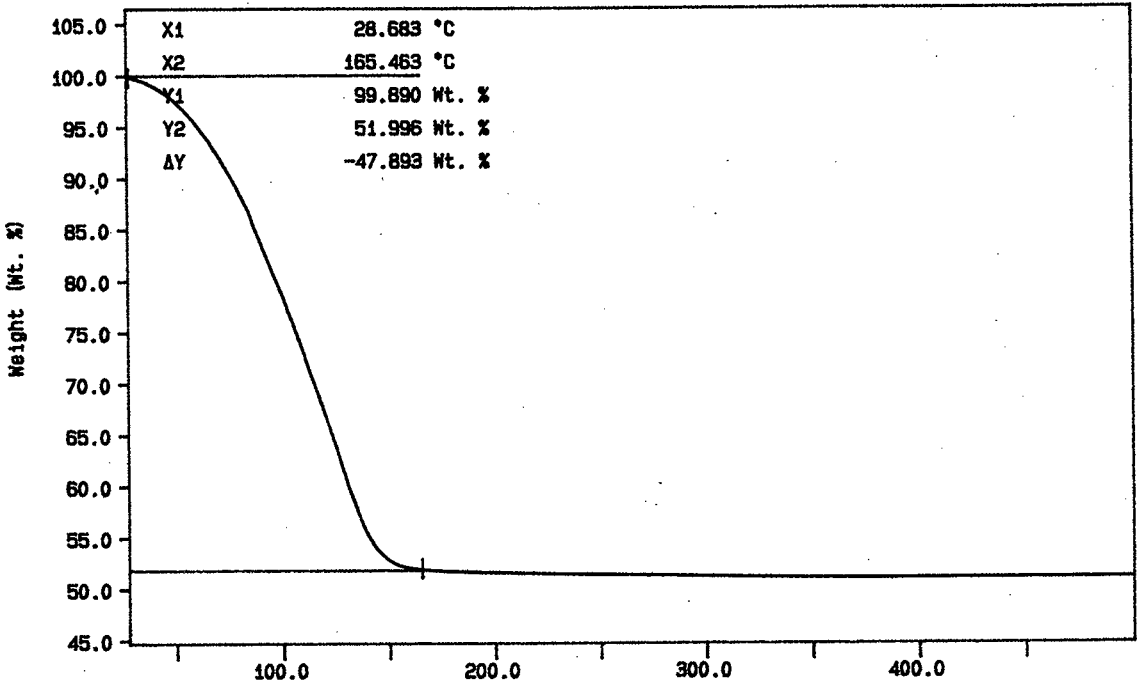
Curve 1: TGA
File info: SAM060809 Sun Jun 8 18:51:21 1997
Sample Weight: 20.994 mg
S97T001038



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 18:51:37 1997

Curve 1: TGA
File info: SAM060810 Sun Jun 8 19:58:44 1997
Sample Weight: 26.827 mg
S97T001038 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 20:33:18 1997

LABCORE Data Entry Template for Worklist# 18543

Analyst: EAL **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW-103 TGA,RUN UNDER N2.TDM

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	58.44	N/A	%
97000332	AW-103	2	SAMPLE	S97T000878	0		TGA-03	SOLID	N/A	60.69		%
97000332	AW-103	3	DUP	S97T000878	0		TGA-03	SOLID	60.69	62.49	N/A	%
97000332	AW-103	4	SAMPLE	S97T000879	0		TGA-03	SOLID	N/A	64.94		%
97000332	AW-103	5	DUP	S97T000879	0		TGA-03	SOLID	64.94	64.43	N/A	%

Final page for worklist # 18543

See Attached for Signature
Analyst Signature **Date**

6-9-97
Analyst Signature **Date**

Validated 6/12/97

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
06/06/97 14:56

LABCORE Data Entry Template for Worklist# 18543

Analyst: AL **Instrument:** TGA0 3 **Book #** 97N8-A

Method: LA-560-112 Rev/Mod 0.0

Worklist Comment: AW-103 TGA,RUN UNDER N2.TDM

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
97000332	AW-103	2	SAMPLE	S97T000878	0		TGA-01	SOLID	N/A			%
97000332	AW-103	3	DUP	S97T000878	0		TGA-01	SOLID			N/A	%
97000332	AW-103	4	SAMPLE	S97T000879	0		TGA-01	SOLID	N/A			%
97000332	AW-103	5	DUP	S97T000879	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18543

A Lambel 06/08/97

Analyst Signature **Date** **Analyst Signature** **Date**

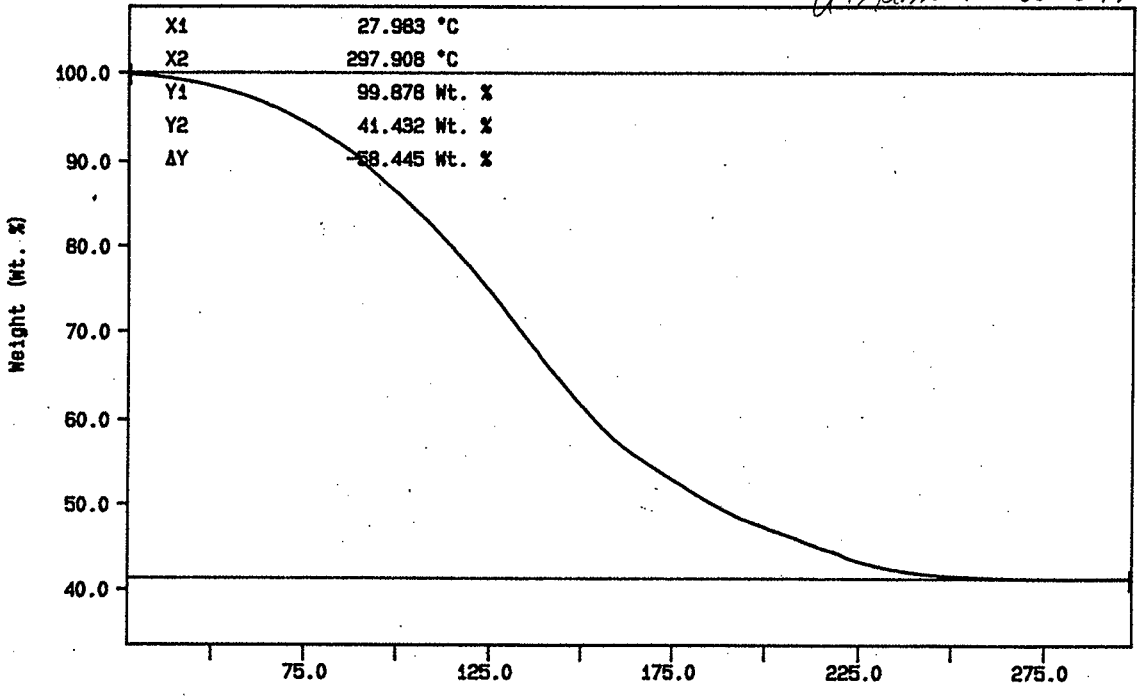
Data Entry Comments:
Ran Samples on TGA-03. [illegible] 6/8/97

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.

Curve 1: TGA
File info: TER060801 Sun Jun 8 06:09:57 1997
Sample Weight: 29.086 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 367 TO 373

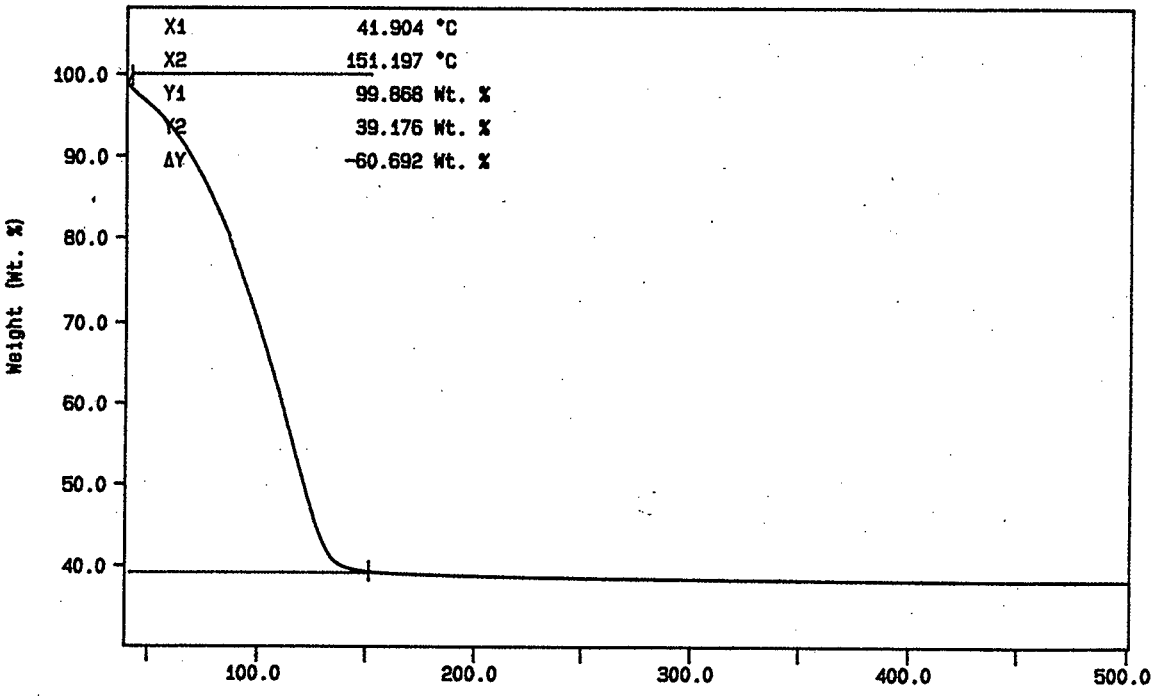
A. Lambel 06-08-97



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 09:10:22 1997

Curve 1: TGA
File info: SAM060801 Sun Jun 8 07:11:08 1997
Sample Weight: 27.404 mg
S97T000878

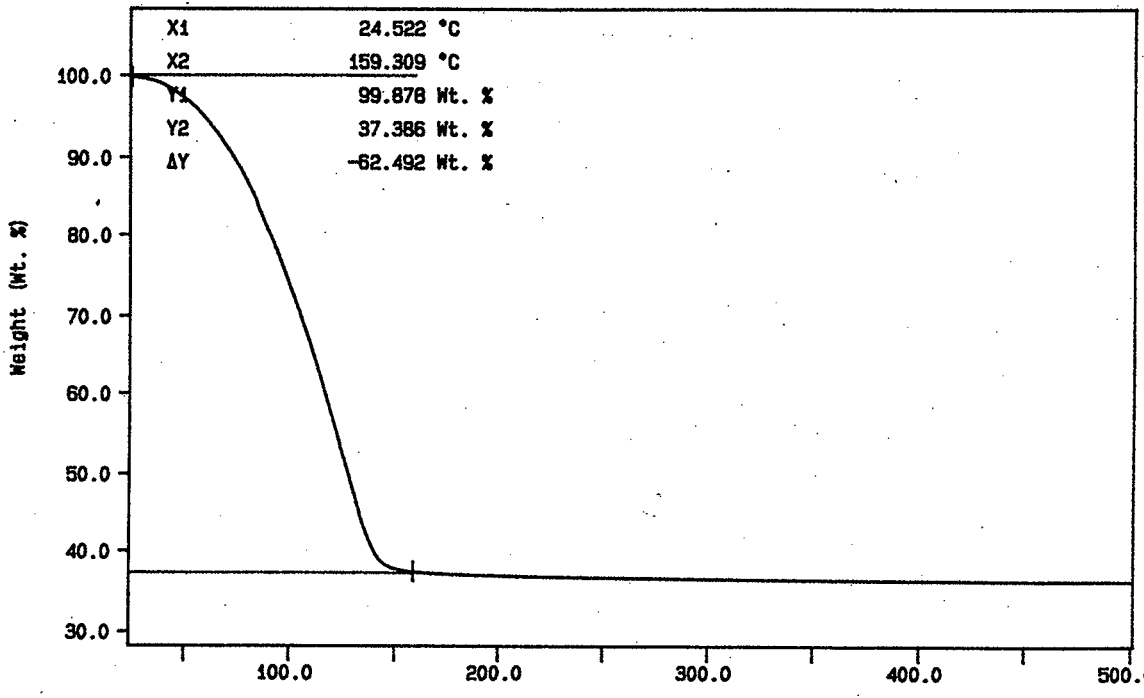


10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 09:48:34 1997

370

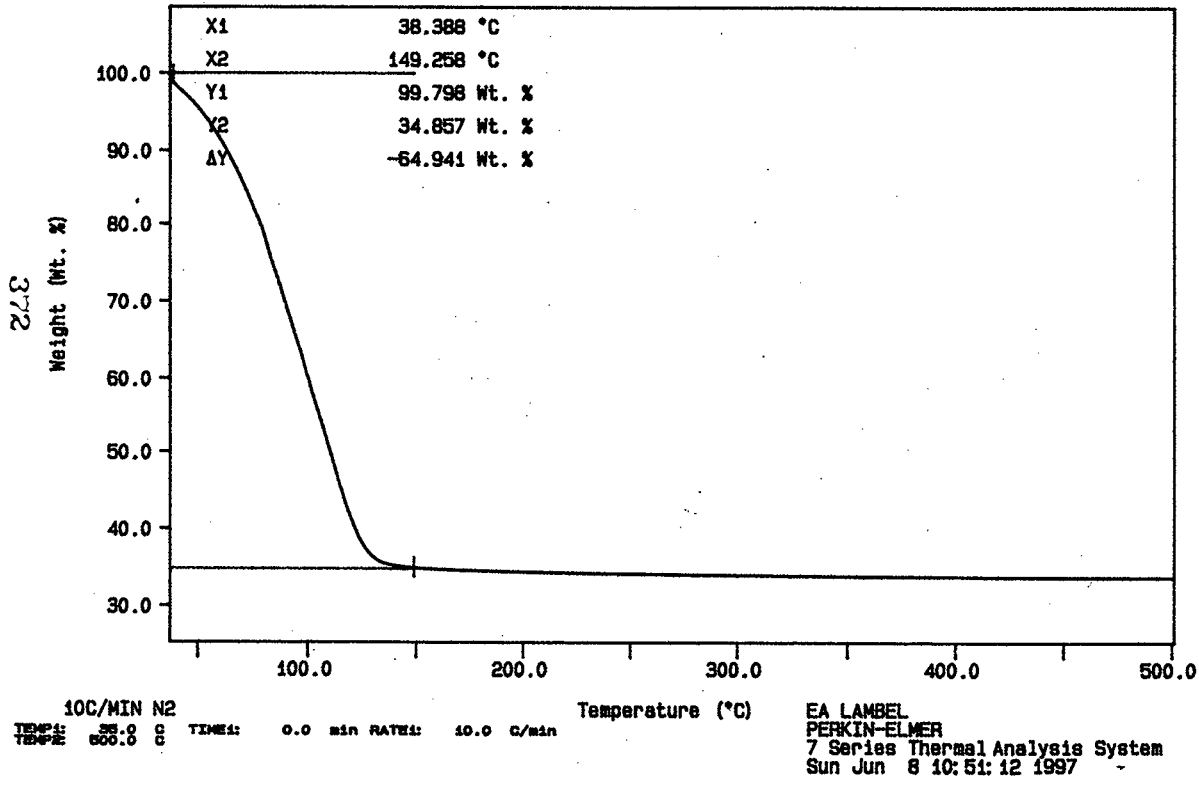
Curve 1: TGA
File info: SAM060802 Sun Jun 8 09:30:10 1997
Sample Weight: 26.912 mg
S97T000878 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

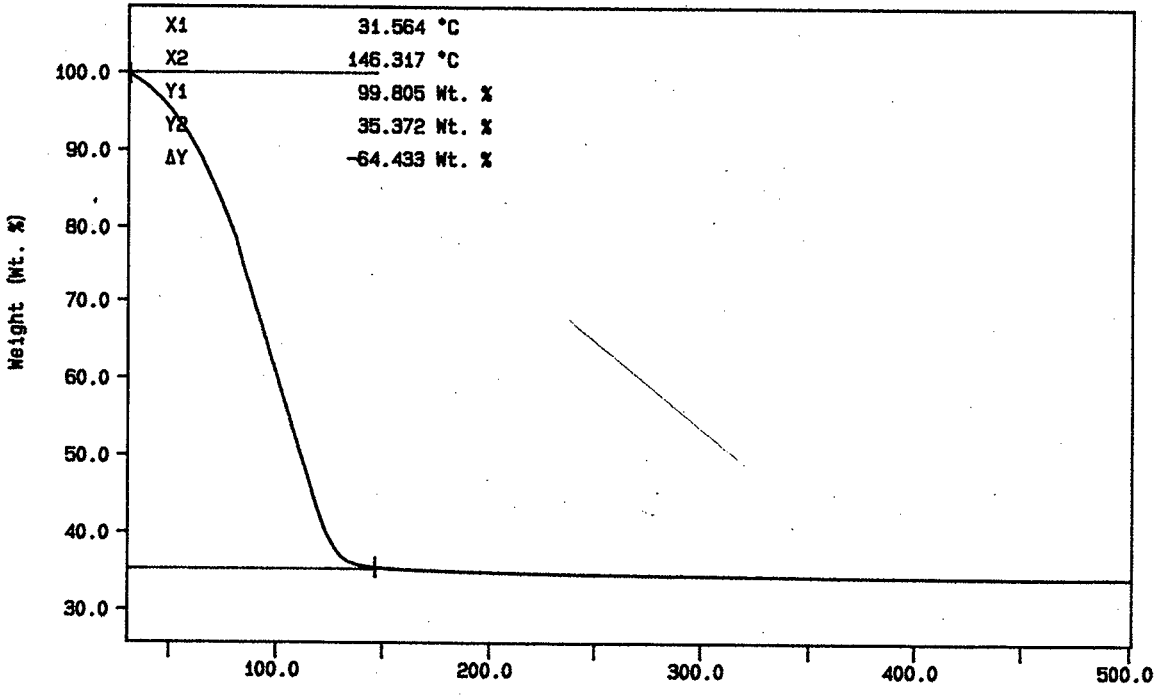
EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 09:35:31 1997

Curve 1: TGA
File info: SAM060803 Sun Jun 8 10:34:15 1997
Sample Weight: 18.556 mg
S97T000879



3.72

Curve 1: TGA
File info: SAM060804 Sun Jun 8 11:42:20 1997
Sample Weight: 18.914 mg
S97T000879 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 12:12:49 1997

worklistrpt Version 2.1 05/15/95
06/11/97 08:34

LABCORE Data Entry Template for Worklist# 18544

Analyst: RMK **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW-103 TGA,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.4	58.80	N/A	%
97000332	AW-103	2 SAMPLE	S97T000880	0		TGA-03	SOLID	N/A	63.32 3 6/11/97		%
97000332	AW-103	3 DUP	S97T000880	0		TGA-03	SOLID	63.53	61.87	N/A	%

Final page for worklist # 18544

See Attached for Signature
Analyst Signature **Date**

Validated 6/16/97 Machelor

Frank Mark 6-12-97
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.

worklistrpt Version 2.1 05/15/95
06/06/97 14:57

LABCORE Data Entry Template for Worklist# 18544

Analyst: KK **Instrument:** TGA0 3 **Book #** 9718-A

Method: LA-560-112 Rev/Mod 00

Worklist Comment: AW-103 TGA,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
97000332	AW-103	2 SAMPLE	S97T000880	0		TGA-01	SOLID	N/A			%
97000332	AW-103	3 DUP	S97T000880	0		TGA-01	SOLID			N/A	%

Final page for worklist # 18544

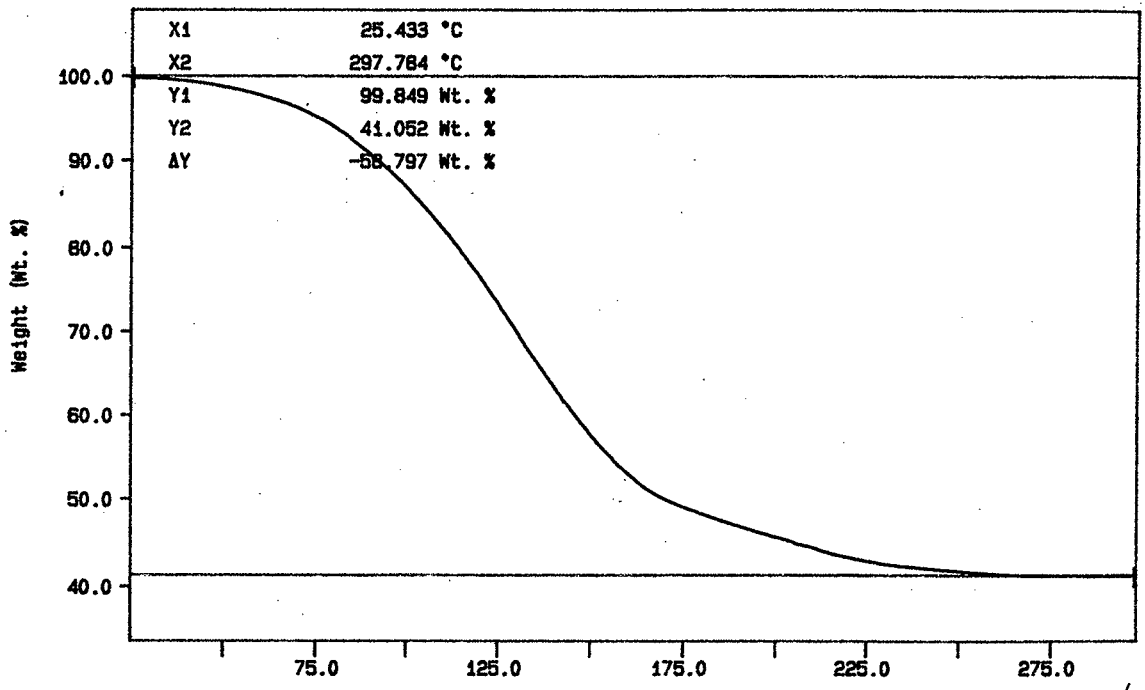
Kat King 6/10/97
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:
Ran samples on TGA-03. KK 6/11/97

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.

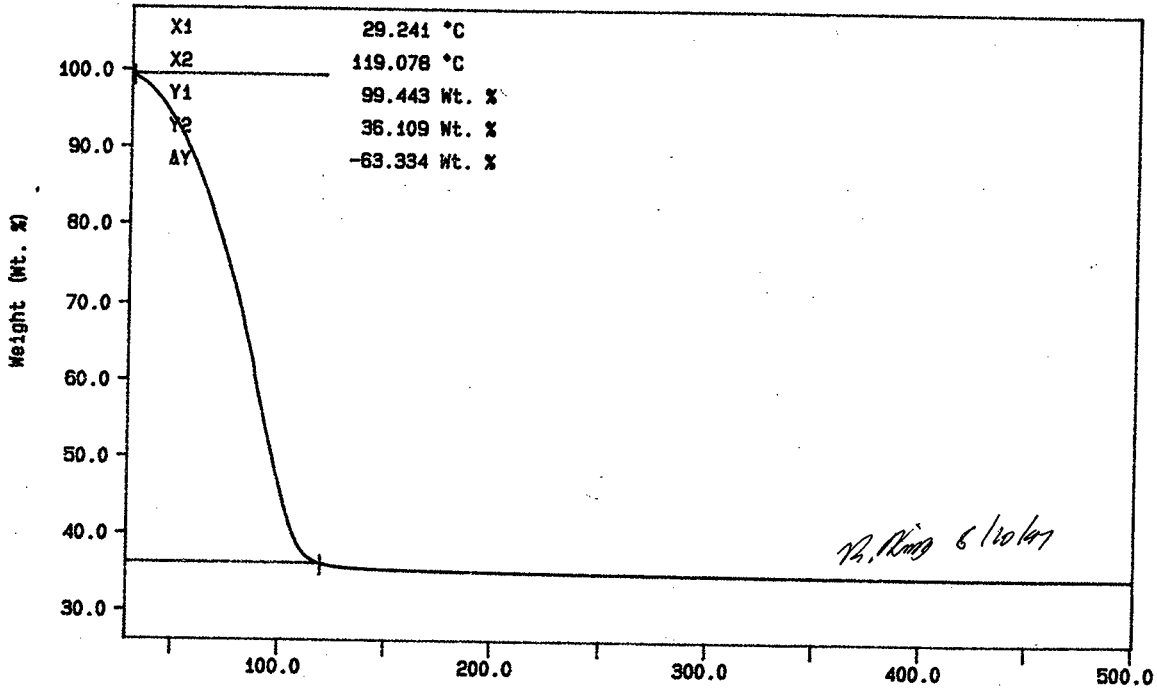
Curve 1: TGA
File info: TER060901 Mon Jun 9 06:11:52 1997
Sample Weight: 19.802 mg
97N8-A



10C/MIN N2
TEMP1: 25.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

DP-BROMLEY 6/10/97
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Jun 9 22:10:31 1997

Curve 1: TGA
File info: SAM061002 Tue Jun 10 02:05:37 1997
Sample Weight: 11.977 mg
S97T000880

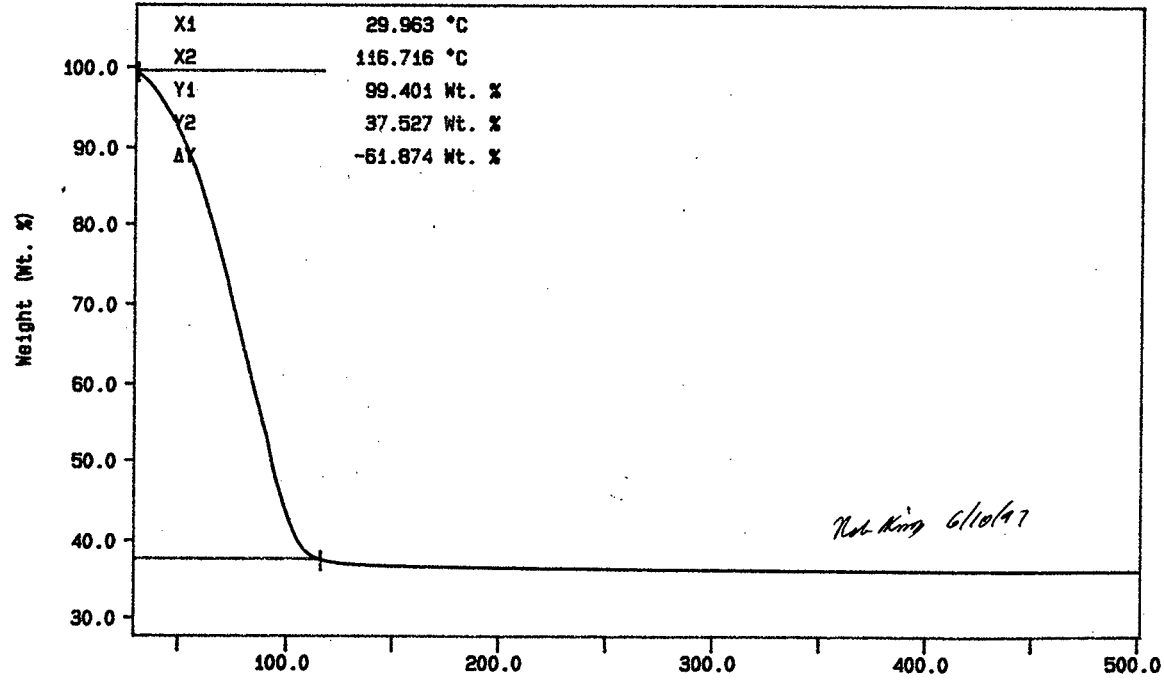


10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 10 02:26:43 1997

377

Curve 1: TGA
File info: SAM061003 Tue Jun 10 03:12:39 1997
Sample Weight: 9.335 mg
S97T000880 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 650.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 10 03:16:13 1997

worklistrpt Version 2.1 05/15/95
06/09/97 10:00

LABCORE Data Entry Template for Worklist# 18545

Analyst: EAL **Instrument:** TGA0 3 **Book #** 97N8A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW-103 TGA,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	LIQUID	59.4	58.44	N/A	%
97000332	AW-103	2 SAMPLE	S97T000881	0		TGA-03	LIQUID	N/A	92.53		%
97000332	AW-103	3 DUP	S97T000881	0		TGA-03	LIQUID	92.53	92.30	N/A	%
97000332	AW-103	4 SAMPLE	S97T000882	0		TGA-03	LIQUID	N/A	99.80		%
97000332	AW-103	5 DUP	S97T000882	0		TGA-03	LIQUID	99.80	99.795 @ 6/12/97	N/A	%

Final page for worklist # 18545

See Attached for Signature
Analyst Signature **Date**

6-9-97
Analyst Signature **Date**

Validated 6/12/97 Bachelor

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# 18545

Analyst: [illegible] **Instrument:** TGA0 3 **Book #** 97NBA

Method: LA-560-112 Rev/Mod DO

Worklist Comment: AW-103 TGA,RUN UNDER N2.TDM

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	LIQUID			N/A	%
97000332	AW-103	2 SAMPLE	S97T000881	0		TGA-01	LIQUID	N/A			%
97000332	AW-103	3 DUP	S97T000881	0		TGA-01	LIQUID			N/A	%
97000332	AW-103	4 SAMPLE	S97T000882	0		TGA-01	LIQUID	N/A			%
97000332	AW-103	5 DUP	S97T000882	0		TGA-01	LIQUID			N/A	%

Final page for worklist # 18545

[illegible] 06.08.97
Analyst Signature **Date**

Analyst Signature **Date**

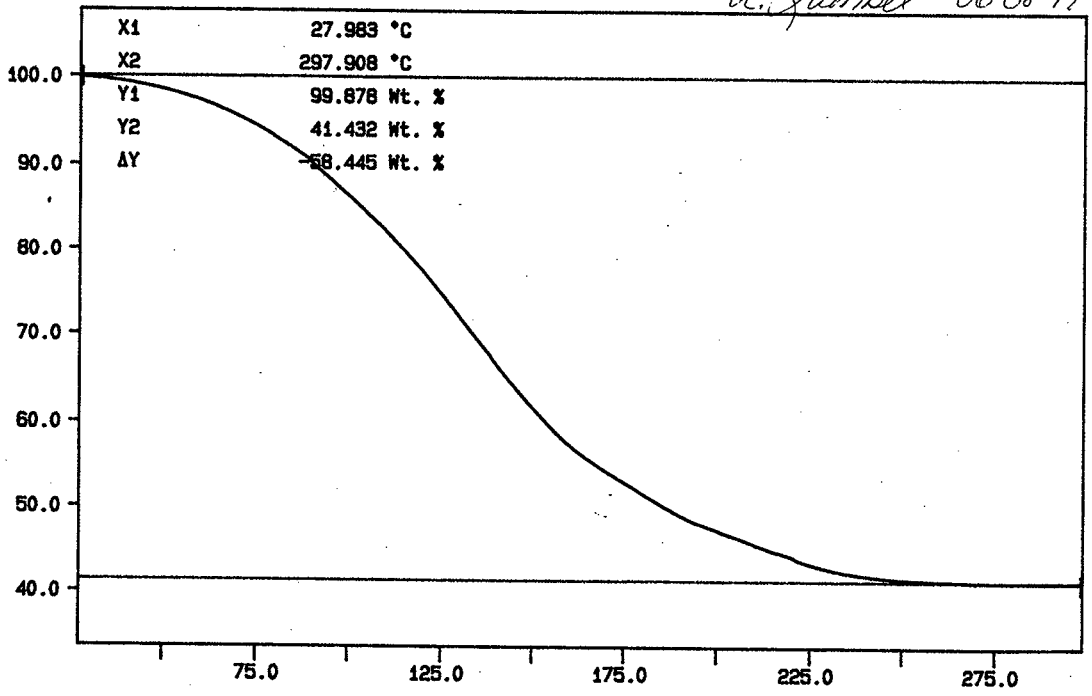
Data Entry Comments:
Ran samples on TGA-03 [illegible] 6/9/97

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.

Curve 1: TGA
File info: TER060801 Sun Jun 8 06:09:57 1997
Sample Weight: 29.086 mg
97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 381 TO 385

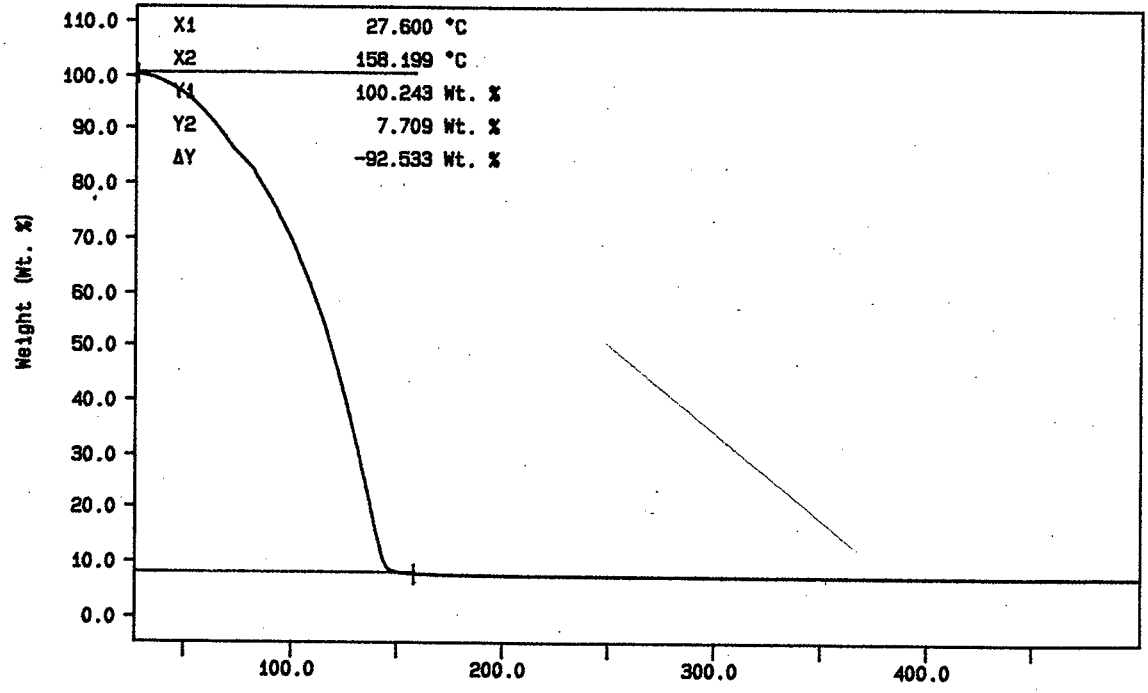
A. Lambel 06.08.97



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 09:15:58 1997

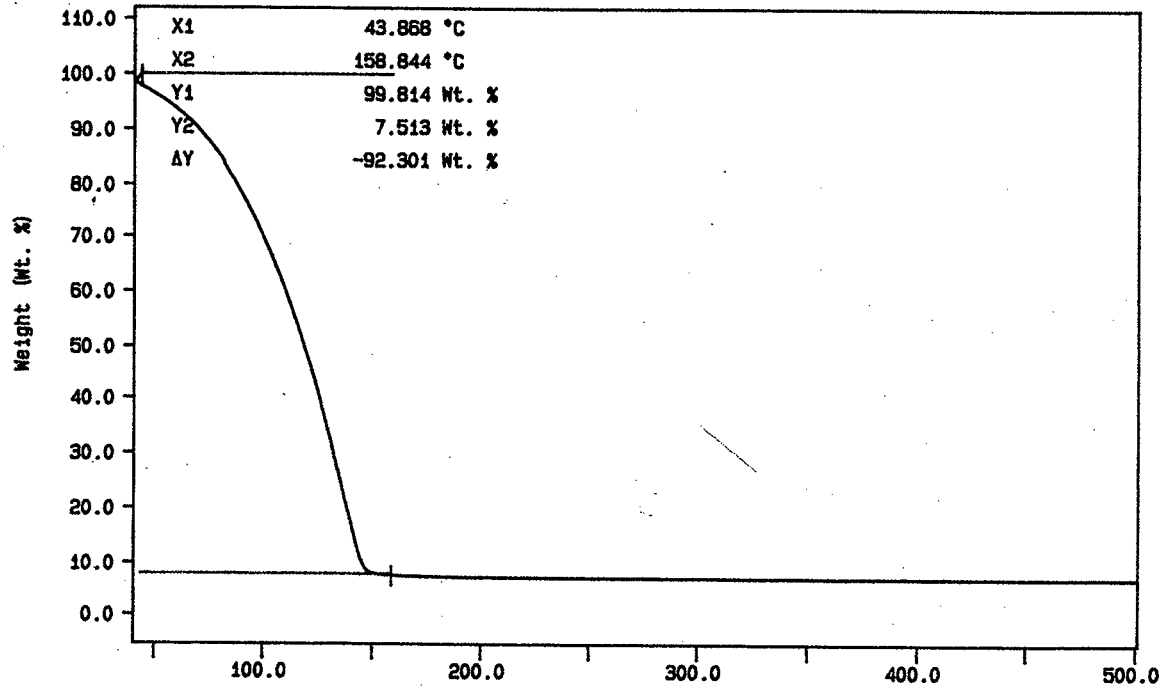
Curve 1: TGA
File info: SAM060805 Sun Jun 8 13:04:00 1997
Sample Weight: 17.104 mg
S97T000881



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 13:05:43 1997

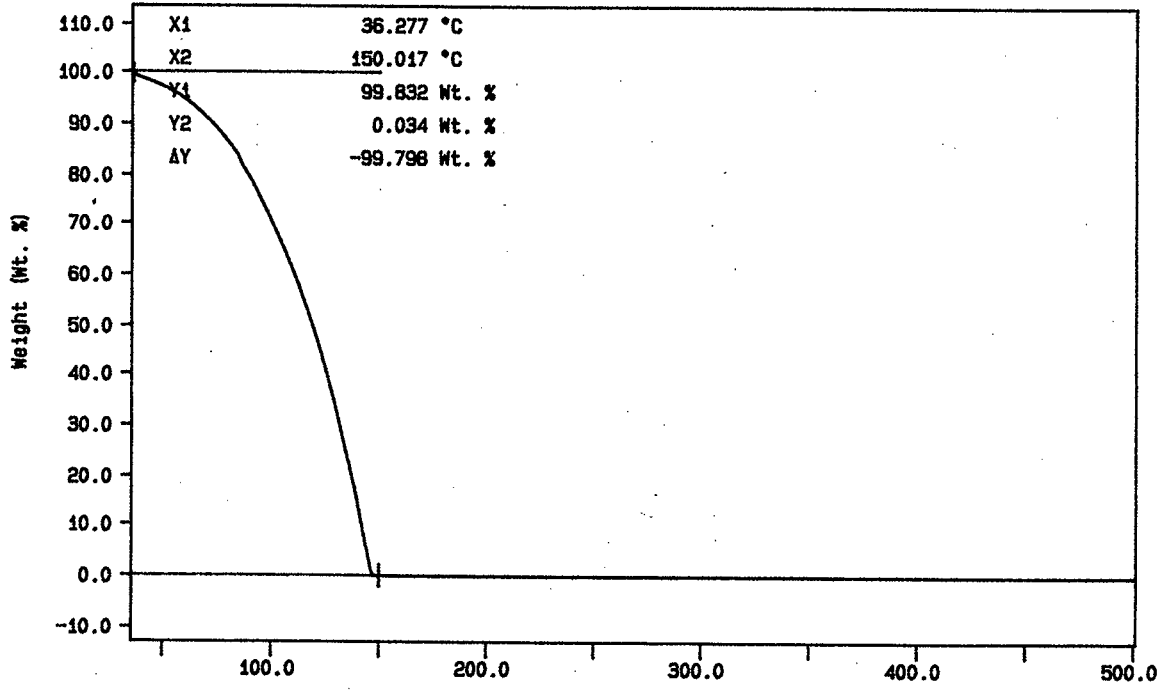
Curve 1: TGA
File info: SAM060806 Sun Jun 8 14:05:19 1997
Sample Weight: 17.707 mg
S97T000881 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 14:18:48 1997

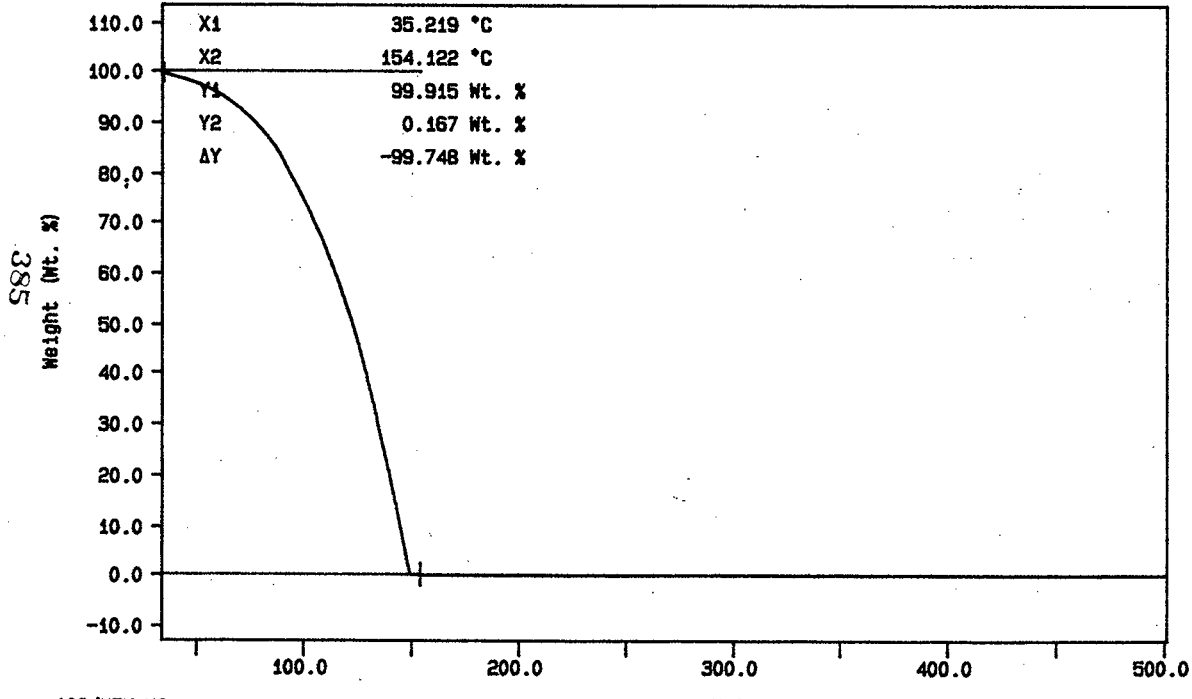
Curve 1: TGA
File info: SAM060807 Sun Jun 8 15:08:52 1997
Sample Weight: 17.849 mg
S97T000882



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 15:09:40 1997

Curve 1: TGA
File info: SAM060808 Sun Jun 8 16:12:43 1997
Sample Weight: 18.235 mg
S97T000882 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Jun 8 17:19:40 1997

worklistrpt Version 2.1 05/15/95
06/17/97 08:15

LABCORE Data Entry Template for Worklist# 18705

Analyst: ADP **Instrument:** TGA0 3 **Book #** 103N8-A

Method: LA-514-114 Rev/Mod D-0

Worklist Comment: AW103, TGA-03 Run under Nitrogen. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	58.60	N/A	%
97000332	AW-103	2	SAMPLE	S97T000878	1		TGA-03	SOLID	N/A	60.92		%
97000332	AW-103	3	DUP	S97T000878	1		TGA-03	SOLID	60.92	57.58	N/A	%

Final page for worklist # 18705

Analyst Signature Date 6-17-97

Analyst Signature Date 6-17-97

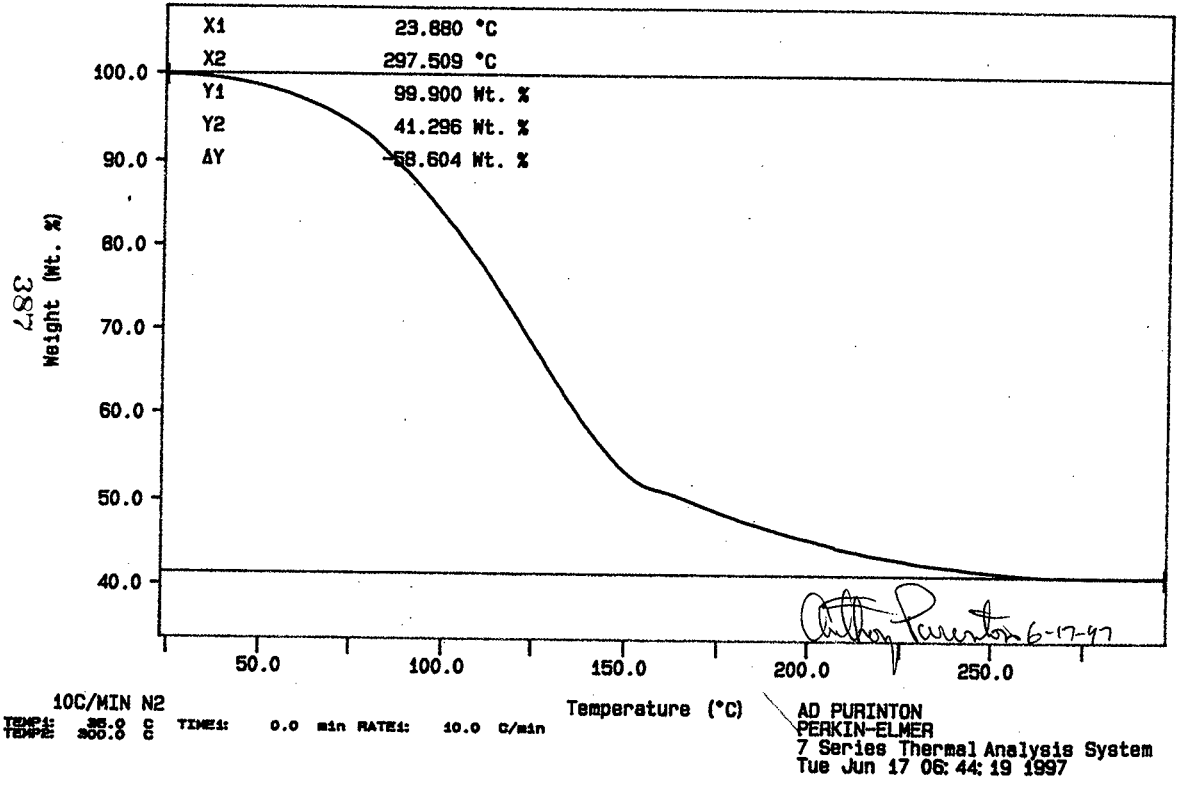
Validated 6/17/97 Bachelor

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.

Curve 1: TGA
File info: TER0601702 Tue Jun 17 06:08:23 1997
Sample Weight: 15.492 mg
103N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 384 TO 389.

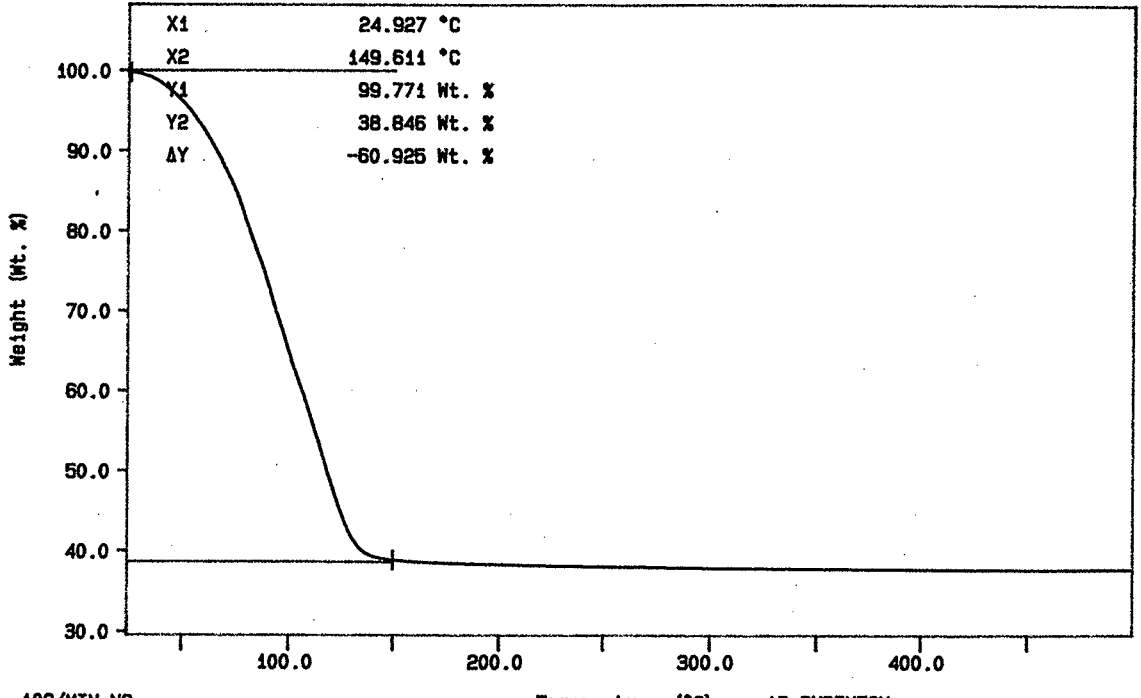


10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 17 06:44:19 1997

387

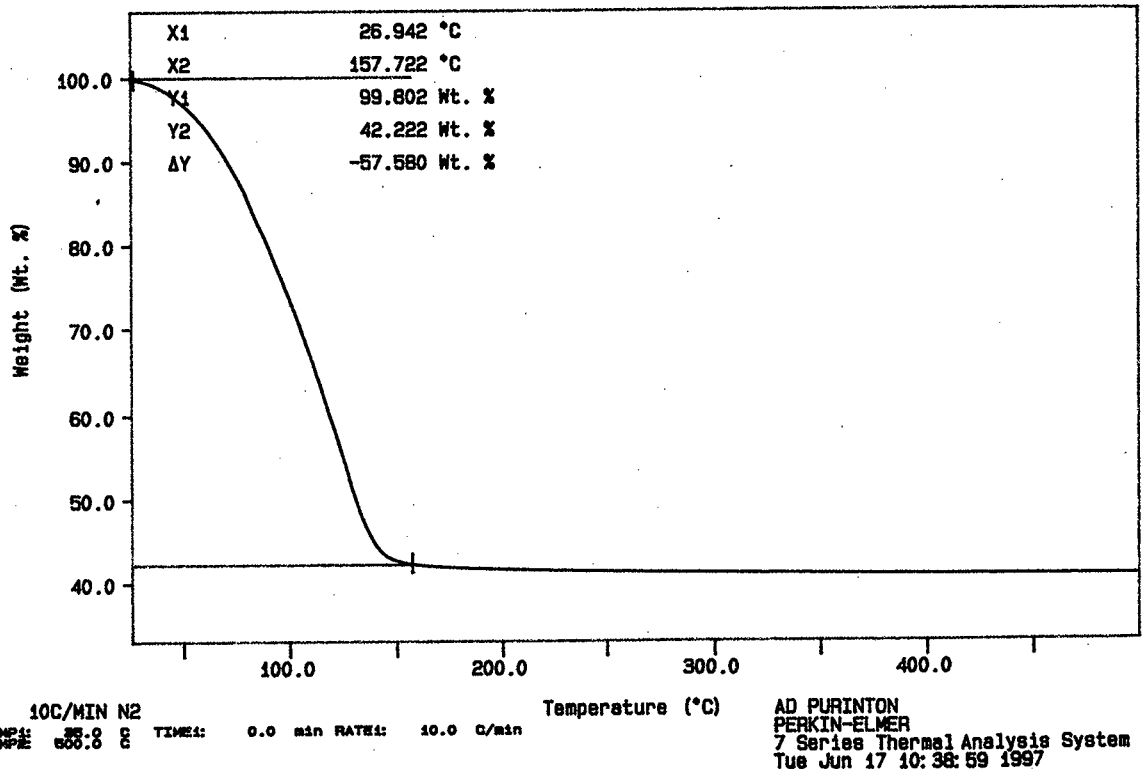
Curve 1: TGA
File info: SAM061702 Tue Jun 17 09:28:55 1997
Sample Weight: 21.691 mg
S97T000878.SAM



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 17 09:41:01 1997

Curve 1: TGA
File info: SDAM061703 Tue Jun 17 10:38:43 1997
Sample Weight: 25.345 mg
S97T000878 DUP



10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Jun 17 10:38:59 1997

worklistrpt Version 2.1 05/15/95
06/04/97 13:52

LABCORE Data Entry Template for Worklist# 18474

Analyst: KRG **Instrument:** BA001 **Book #** 13311/16-A

Method: LA-510-112 Rev/Mod D-1

Worklist Comment: AW103, SPG-01 Use a calibrated pipette. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				SPG-01	LIQUID	1.39755	1.362	N/A	Sp.G.
97000333	AW-103	2 SAMPLE	S97T001079	0		SPG-01	LIQUID	N/A	1.028	0.01	Sp.G.
97000333	AW-103	3 DUP	S97T001079	0		SPG-01	LIQUID	1.028	1.028	N/A	Sp.G.

Final page for worklist # 18474

KRG 6/05/97
Analyst Signature **Date**

RS Jones 6-5-97
Analyst Signature **Date**

Approved RW Schroeder 6/5/97

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	1.4891	1.4598
Work List	Tare Weight (W1)	1.3862	1.3573
18474	Weight of Solution (W2-W1)	0.1029	0.1025
Test Code	Volume of Solution µL	75.3800	75.3800
SPG-01	Specific Gravity	1.3651	1.3598
Matrix	Specific Gravity (Average)	1.3624	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
KRQ	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/05/97	v RESULT v		
Time	Specific Gravity Average = 1.362		
03:45 AM			

Data Entry by:	KRQ	Date:	06/05/97
Approved by:	RW Schmeltz	Date:	6/5/97

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4585	
Work List	Tare Weight (W1)	1.3810	
18474	Weight of Solution (W2-W1)	0.0775	0
Test Code	Volume of Solution µL	75.3800	
SPG-01	Specific Gravity	1.0281	NA
Matrix			
LIQUID			
Sample #			
S97T001079			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
KRQ	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/05/97	v RESULT v		
Time	Specific Gravity =	1.028	
03:45 AM			

Data Entry by:	KRQ	Date:	06/05/97
Approved by:	RW Schroeder	Date:	6/5/97

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.4490	
Work List	Tare Weight (W1)	1.3715	
18474	Weight of Solution (W2-W1)	0.0775	0
Test Code	Volume of Solution µL	75.3800	
SPG-01	Specific Gravity	1.0281	NA
Matrix			
LIQUID			
Sample #			
S97T001079			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
KRQ	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/05/97	v RESULT v		
Time	Specific Gravity =	1.028	
03:45 AM			

Data Entry by:	[signature]	Date:	06/05/97
Approved by:	RW Schroeder	Date:	6/5/97

worklistrpt Version 2.1 05/15/95
06/09/97 10:32

LABCORE Data Entry Template for Worklist# 18556

Analyst: SMT **Instrument:** BA001 **Book #** 133N16-17

Method: LA-510-112 Rev/Mod D-1

Worklist Comment: AW103, SPG-01 Use a calibrated pipette. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				SPG-01	LIQUID	1.39755	1.390	N/A	Sp.G.
97000332	AW-103	2 SAMPLE	S97T000881	0		SPG-01	LIQUID	N/A	1.045	0.01	Sp.G.
97000332	AW-103	3 DUP	S97T000881	0		SPG-01	LIQUID	1.045	0.960	N/A	Sp.G.
97000332	AW-103	4 SAMPLE	S97T000882	0		SPG-01	LIQUID	N/A	0.981	0.01	Sp.G.
97000332	AW-103	5 DUP	S97T000882	0		SPG-01	LIQUID	0.981	0.976	N/A	Sp.G.

Final page for worklist # 18556

Susie M. Dalton 6-10-97
Analyst Signature **Date**

6-10-97
Analyst Signature **Date**

Approved RW Schoedel 6/11/97

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.

Turned OFF

To Soil Paper

-- Battery discharged --

LC-P45 V2.1(c)Mettler93

-- Battery discharged --

Vol. 07483ml

06/10/97 07:23:58

T 1.3295 g STD

G 1.4333 g

T 1.3056 g 133N16-A

G 1.4098 g

06/10/97 07:43:11

T 1.3159 g

G 1.3941 g 97T1000881

T 1.2871 g

G 1.3589 g

-- Battery discharged --

06/10/97 10:29:36

T 1.3420 g

G 1.4154 g 97T1000882

T 1.3687 g

G 1.4417 g

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	1.4333	1.4098
Work List	Tare Weight (W1)	1.3295	1.3056
18556	Weight of Solution (W2-W1)	0.1038	0.1042
Test Code	Volume of Solution µL	74.8300	74.8300
SPG-01	Specific Gravity	1.3871	1.3925
Matrix	Specific Gravity (Average)	1.3898	
LIQUID			
Sample #			
STANDARD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SMF	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/10/97	v RESULT v		
Time	Specific Gravity Average =	1.390	
10:30 AM			

Data Entry by:	RJ	Date:	06/10/97
Approved by:	RW Schroeder	Date:	6/11/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.3941	
Work List	Tare Weight (W1)	1.3159	
18556	Weight of Solution (W2-W1)	0.0782	0
Test Code	Volume of Solution µL	74.8300	
SPG-01	Specific Gravity	1.0450	NA
Matrix			
LIQUID			
Sample #			
S97T000881			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SMF	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/10/97	v RESULT v		
Time	Specific Gravity =	1.045	
10:30 AM			

Data Entry by:		Date:	06/10/97
Approved by:	RW Schreed	Date:	6/11/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.3589	
Work List	Tare Weight (W1)	1.2871	
18556	Weight of Solution (W2-W1)	0.0718	0
Test Code	Volume of Solution µL	74.8300	
SPG-01	Specific Gravity	0.9595	NA
Matrix			
LIQUID			
Sample #			
S97T000881			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SMF	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/10/97	v RESULT v		
Time	Specific Gravity =	0.960	
10:30 AM			

Data Entry by:	RJ	Date:	06/10/97
Approved by:	Rw Schroeder	Date:	6/11/97

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4154	
Work List	Tare Weight (W1)	1.3420	
18556	Weight of Solution (W2-W1)	0.0734	0
Test Code	Volume of Solution µL	74.8300	
SPG-01	Specific Gravity	0.9809	NA
Matrix			
LIQUID			
Sample #			
S97T000882			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SMF	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/10/97	v RESULT v		
Time	Specific Gravity =	0.981	
10:30 AM			

Data Entry by: [signature] Date: 06/10/97

Approved by: RW Schroeder Date: 6/11/97

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.4417	
Work List	Tare Weight (W1)	1.3687	
18556	Weight of Solution (W2-W1)	0.073	0
Test Code	Volume of Solution µL	74.8300	
SPG-01	Specific Gravity	0.9755	NA
Matrix			
LIQUID			
Sample #			
S97T000882			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SMF	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
06/10/97	v RESULT v		
Time	Specific Gravity =	0.976	
10:30 AM			

Data Entry by:		Date:	06/10/97
Approved by:	RW Schroeder	Date:	6/11/97

Form 510112L1 Rev. 1.1

LABCORE Data Entry Template for Worklist# 18708

Analyst: RSM **Instrument:** BA001 **Book #** 103N8A

Method: LA-564-101 Rev/Mod G-0

Worklist Comment: AW-103 %H2O. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	SOLID	590e+1	58.1	N/A	%
97000332	AW-103	2 SAMPLE	S97T000878	0		WATER-01	SOLID	N/A	59.4	0.01	%
97000332	AW-103	3 DUP	S97T000878	0		WATER-01	SOLID	59.4	60.3	N/A	%
97000332	AW-103	4 SAMPLE	S97T000879	0		WATER-01	SOLID	N/A	63.0	0.01	%
97000332	AW-103	5 DUP	S97T000879	0		WATER-01	SOLID	63.0	63.5	N/A	%
97000332	AW-103	6 SAMPLE	S97T000880	0		WATER-01	SOLID	N/A	64.4	0.01	%
97000332	AW-103	7 DUP	S97T000880	0		WATER-01	SOLID	64.4	64.2	N/A	%
97000332	AW-103	8 SAMPLE	S97T000976	0		WATER-01	SOLID	N/A	60.4	0.01	%
97000332	AW-103	9 DUP	S97T000976	0		WATER-01	SOLID	60.4	62.2	N/A	%
97000332	AW-103	10 SAMPLE	S97T000977	0		WATER-01	SOLID	N/A	57.7	0.01	%
97000332	AW-103	11 DUP	S97T000977	0		WATER-01	SOLID	57.7	58.1	N/A	%

Final page for worklist# 18708

RSMcCown 6-20-97
Analyst Signature **Date**
Susie M. Fulson

Linda Mock 6-21-97
Analyst Signature **Date**
Approved RCJ Schroeder 6/23/97

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
STD	18708	WATER-01	SOLID	STD# 103N8A	BA001	PJ McCOWN	06/20/97	

	STD	REPLICATE
Tare Weight (W1) grams	14.9758	
Gross Weight (W2) grams	16.3648	
First Residue Weight (W3) grams	15.5645	
Second Residue Weight (W4) grams	15.5583	
Percent Difference	0.0399	N/A
QC Check	Pass	N/A
Percent Weight Loss	58.06	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	58.1

Data Entry by:	Linda Mack	Date:	06/21/97
Approved by:	RW Schreck	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMP: 14.9088	REPLICATE:
SAMP	Gross Weight (W2) grams	15.4265	
Work List	First Residue Weight (W3) grams	15.1221	
18708	Second Residue Weight (W4) grams	15.1191	
Test Code	Percent Difference	0.0198	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	59.38	N/A
SOLID			
Sample #			
S97T000878			
Instrument Code			
BA001			
Analyst			
PJ McCOWN			
Date			
06/20/97			
Time			
11:30 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	59.4

Data Entry by:	Frank Mach	Date:	06/21/97
Approved by:	Paul Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMP-DUP	18708	WATER-01	SOLID	S97T000878	BA001	PJ McCOWN	06/20/97	11:30 PM

	SAMP-DUP	REPLICATE
Tare Weight (W1) grams	14.9175	
Gross Weight (W2) grams	15.3532	
First Residue Weight (W3) grams	15.0930	
Second Residue Weight (W4) grams	15.0906	
Percent Difference	0.0159	N/A
QC Check	Pass	N/A
Percent Weight Loss	60.27	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	60.3

Data Entry by:	Sandra Magh	Date:	06/21/97
Approved by:	D.W. Schneider	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type		SAMP	REPLICATE
SAMP	Tare Weight (W1) grams	14.9577	
Work List	Gross Weight (W2) grams	15.5516	
18708	First Residue Weight (W3) grams	15.1805	
Test Code	Second Residue Weight (W4) grams	15.1773	
WATER-01	Percent Difference	0.0211	N/A
Matrix	QC Check	Pass	N/A
SOLID	Percent Weight Loss	63.02	N/A
Sample #			
S97T000879			
Instrument Code			
BA001			
Analyst			
PJ McCOWN			
Date			
06/20/97			
Time			
11:30 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	63.0

Data Entry by:	Frank Magee	Date:	06/21/97
Approved by:	R W Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMP-DUP	18708	WATER-01	SOLID	S97T000879	BA001	PJ McCOWN	06/20/97	11:30 PM

	SAMP-DUP	REPLICATE
Tare Weight (W1) grams	14.8858	
Gross Weight (W2) grams	15.4518	
First Residue Weight (W3) grams	15.0957	
Second Residue Weight (W4) grams	15.0922	
Percent Difference	0.0232	N/A
QC Check	Pass	N/A
Percent Weight Loss	63.53	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	63.5

Data Entry by:	[signature]	Date:	06/21/97
Approved by:	[signature]	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMP: 14.8377	REPLICATE:
SAMP	Gross Weight (W2) grams	15.3815	
Work List	First Residue Weight (W3) grams	15.0338	
18708	Second Residue Weight (W4) grams	15.0312	
Test Code	Percent Difference	0.0173	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	64.42	N/A
SOLID			
Sample #			
S97T000880			
Instrument Code			
BA001			
Analyst			
PJ McCOWN			
Date			
06/20/97			
Time			
11:30 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	64.4

Data Entry by:	Priscilla Mack	Date:	06/21/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMP-DUP: 14.9575	REPLICATE:
SAMP-DUP	Gross Weight (W2) grams	15.4226	
Work List	First Residue Weight (W3) grams	15.1266	
18708	Second Residue Weight (W4) grams	15.1239	
Test Code	Percent Difference	0.0179	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	64.22	N/A
SOLID			
Sample #			
S97T000880			
Instrument Code			
BA001			
Analyst			
PJ McCOWN			
Date			
06/20/97			
Time			
11:30 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	64.2

Data Entry by:	Sandra D Roach	Date:	06/21/97
Approved by:	R W Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMP: 14.8767	REPLICATE:
SAMP	Gross Weight (W2) grams	15.3147	
Work List	First Residue Weight (W3) grams	15.0519	
18708	Second Residue Weight (W4) grams	15.0501	
Test Code	Percent Difference	0.0120	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	60.41	N/A
SOLID			
Sample #			
S97T000976			
Instrument Code			
BA001			
Analyst			
PJ McCOWN			
Date			
06/20/97			
Time			
11:30 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	60.4

Data Entry by:	Jennifer Branch	Date:	06/21/97
Approved by:	R W Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMP-DUP	18708	WATER-01	SOLID	S97T000976	BA001	PJ McCOWN	06/20/97	11:30 PM

	SAMP-DUP	REPLICATE
Tare Weight (W1) grams	14.9063	
Gross Weight (W2) grams	15.3965	
First Residue Weight (W3) grams	15.0939	
Second Residue Weight (W4) grams	15.0918	
Percent Difference	0.0139	N/A
QC Check	Pass	N/A
Percent Weight Loss	62.16	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	62.2

Data Entry by:	Lynda Branch	Date:	06/21/97
Approved by:	D.W. Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMP	18708	WATER-01	SOLID	S97T000977	BA001	PJ McCOWN	06/20/97	11:30 PM

	SAMP	REPLICATE
Tare Weight (W1) grams	14.9246	
Gross Weight (W2) grams	15.4882	
First Residue Weight (W3) grams	15.1652	
Second Residue Weight (W4) grams	15.1629	
Percent Difference	0.0152	N/A
QC Check	Pass	N/A
Percent Weight Loss	57.72	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	57.7

Data Entry by:	[signature]	Date:	06/21/97
Approved by:	[signature]	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMP-DUP	18708	WATER-01	SOLID	S97T000977	BA001	PJ McCOWN	06/20/97	11:30 PM

	SAMP-DUP	REPLICATE
Tare Weight (W1) grams	15.0152	
Gross Weight (W2) grams	15.6073	
First Residue Weight (W3) grams	15.2660	
Second Residue Weight (W4) grams	15.2635	
Percent Difference	0.0164	N/A
QC Check	Pass	N/A
Percent Weight Loss	58.06	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	58.1

Data Entry by:	[signature]	Date:	06/21/97
Approved by:	RW Schroeder	Date:	6/23/97

LABCORE Data Entry Template for Worklist# 18709

Analyst: [illegible] **Instrument:** BA001 **Book #** 103 NBA

Method: LA-564-101 Rev/Mod G--O

Worklist Comment: AW-103 %H2O. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
										57.6 RWS 6/23/97		
		1	STD				WATER-01	SOLID	5.90e'	47.5	N/A	%
97000332	AW-103	2	SAMPLE	S97T000978	0		WATER-01	SOLID	N/A	47.5	0.01	%
97000332	AW-103	3	DUP	S97T000978	0		WATER-01	SOLID	47.5	46.5	N/A	%
97000332	AW-103	4	SAMPLE	S97T000979	0		WATER-01	SOLID	N/A	36.4	0.01	%
97000332	AW-103	5	DUP	S97T000979	0		WATER-01	SOLID	36.4	37.9	N/A	%
97000332	AW-103	6	SAMPLE	S97T000980	0		WATER-01	SOLID	N/A	63.3	0.01	%
97000332	AW-103	7	DUP	S97T000980	0		WATER-01	SOLID	63.3	66.7	N/A	%
97000332	AW-103	8	SAMPLE	S97T000981	0		WATER-01	SOLID	N/A	54.9	0.01	%
97000332	AW-103	9	DUP	S97T000981	0		WATER-01	SOLID	54.9	53.2	N/A	%
97000332	AW-103	10	SAMPLE	S97T000982	0		WATER-01	SOLID	N/A	52.5	0.01	%
97000332	AW-103	11	DUP	S97T000982	0		WATER-01	SOLID	52.5	52.6	N/A	%

Final page for worklist # 18709

[signature] 6/20/97
Analyst Signature **Date**

Susan Bu 6/23/97
Analyst Signature **Date**

Approved RW Schroeder 6/23/97

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

		STD	REPLICATE
Type	Tare Weight (W1) grams	14.9842	
STD	Gross Weight (W2) grams	16.3667	
Work List	First Residue Weight (W3) grams	15.5543	
18709	Second Residue Weight (W4) grams	15.5697	
Test Code	Percent Difference	0.0989	N/A
WATER -01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	57.65	N/A
SOLID			
Sample #			
STD			
Instrument Code			
BA001			
Analyst			
RDM			
Date			
06/20/97			
Time			
05:00 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	57.6

Data Entry by:		Date:	06/23/97
Approved by:	Ric Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18709	WATER-01	SOLID	S97T000978	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9551	
Gross Weight (W2) grams	15.2458	
First Residue Weight (W3) grams	15.1135	
Second Residue Weight (W4) grams	15.1076	
Percent Difference	0.0391	N/A
QC Check	Pass	N/A
Percent Weight Loss	47.54	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	47.5

Data Entry by:		Date:	06/22/97
Approved by:	R W Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
DUPLICATE	18709	WATER-01	SOLID	S97T000978	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.8106	
Gross Weight (W2) grams	14.9647	
First Residue Weight (W3) grams	14.8969	
Second Residue Weight (W4) grams	14.8931	
Percent Difference	0.0255	N/A
QC Check	Pass	N/A
Percent Weight Loss	46.46	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	46.5

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18709	WATER-01	SOLID	S97T000979	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9931	
Gross Weight (W2) grams	15.0838	
First Residue Weight (W3) grams	15.0535	
Second Residue Weight (W4) grams	15.0508	
Percent Difference	0.0179	N/A
QC Check	Pass	N/A
Percent Weight Loss	36.38	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	36.4

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
DUPLICATE	18709	WATER-01	SOLID	S97T000979	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9479	
Gross Weight (W2) grams	15.0358	
First Residue Weight (W3) grams	15.0055	
Second Residue Weight (W4) grams	15.0025	
Percent Difference	0.0200	N/A
QC Check	Pass	N/A
Percent Weight Loss	37.88	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	37.9

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18709	WATER-01	SOLID	S97T000980	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9383	
Gross Weight (W2) grams	15.1359	
First Residue Weight (W3) grams	15.0143	
Second Residue Weight (W4) grams	15.0109	
Percent Difference	0.0227	N/A
QC Check	Pass	N/A
Percent Weight Loss	63.26	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	63.3

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMPLE	REPLICATE
DUPLICATE	Gross Weight (W2) grams	15.1464	
Work List	First Residue Weight (W3) grams	14.9788	
18709	Second Residue Weight (W4) grams	14.9588	
Test Code	Percent Difference	0.1337	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	66.74	N/A
SOLID			
Sample #			
S97T000980			
Instrument Code			
BA001			
Analyst			
RDM			
Date			
06/20/97			
Time			
05:00 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	66.7

Data Entry by:		Date:	06/22/97
Approved by:	RU Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type		SAMPLE	REPLICATE
SAMPLE	Tare Weight (W1) grams	14.8859	
	Gross Weight (W2) grams	15.0948	
Work List	First Residue Weight (W3) grams	14.9835	
18709	Second Residue Weight (W4) grams	14.9801	
Test Code	Percent Difference	0.0227	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	54.91	N/A
SOLID			
Sample #			
S97T000981			
Instrument Code			
BA001			
Analyst			
RDM			
Date			
06/20/97			
Time			
05:00 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	54.9

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
DUPLICATE	18709	WATER-01	SOLID	S97T000981	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.8661	
Gross Weight (W2) grams	15.0393	
First Residue Weight (W3) grams	14.9506	
Second Residue Weight (W4) grams	14.9471	
Percent Difference	0.0234	N/A
QC Check	Pass	N/A
Percent Weight Loss	53.23	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	53.2

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMPLE: 14.9112	REPLICATE:
SAMPLE	Gross Weight (W2) grams	14.9727	
Work List	First Residue Weight (W3) grams	14.9424	
18709	Second Residue Weight (W4) grams	14.9404	
Test Code	Percent Difference	0.0134	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	52.52	N/A
SOLID			
Sample #			
S97T000982			
Instrument Code			
BA001			
Analyst			
RDM			
Date			
06/20/97			
Time			
05:00 PM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	52.5

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
DUPLICATE	18709	WATER-01	SOLID	S97T000982	BA001	RDM	06/20/97	05:00 PM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.8074	
Gross Weight (W2) grams	14.9028	
First Residue Weight (W3) grams	14.8550	
Second Residue Weight (W4) grams	14.8526	
Percent Difference	0.0162	N/A
QC Check	Pass	N/A
Percent Weight Loss	52.62	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	52.6

Data Entry by:		Date:	06/22/97
Approved by:	RW Schroeder	Date:	6/23/97

LABCORE Data Entry Template for Worklist# 18710

Analyst: SMF **Instrument:** BA001 **Book #** 103N/8-A

Method: LA-564-101 Rev/Mod G-O

Worklist Comment: AW-103 %H2O. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				WATER-01	SOLID	5.902	58.3 ~~56.2~~ RWS 6/25/97	N/A	%
97000332	AW-103	2	SAMPLE	S97T000983	0		WATER-01	SOLID	N/A	38.3	0.01	%
97000332	AW-103	3	DUP	S97T000983	0		WATER-01	SOLID	38.3	38.4	N/A	%
97000332	AW-103	4	SAMPLE	S97T000984	0		WATER-01	SOLID	N/A	37.4	0.01	%
97000332	AW-103	5	DUP	S97T000984	0		WATER-01	SOLID	37.4	34.2	N/A	%
97000333	AW-103	6	SAMPLE	S97T001030	0		WATER-01	SOLID	N/A	62.4	0.01	%
97000333	AW-103	7	DUP	S97T001030	0		WATER-01	SOLID	62.4	62.9	N/A	%
97000333	AW-103	8	SAMPLE	S97T001031	0		WATER-01	SOLID	N/A	60.2	0.01	%
97000333	AW-103	9	DUP	S97T001031	0		WATER-01	SOLID	60.2	60.2	N/A	%
97000333	AW-103	10	SAMPLE	S97T001032	0		WATER-01	SOLID	N/A	58.4	0.01	%
97000333	AW-103	11	DUP	S97T001032	0		WATER-01	SOLID	58.4	56.7	N/A	%

Final page for worklist # 18710

Susie M. Dalton 6-24-97
Analyst Signature **Date**

Susan Bu 6/24/97
Analyst Signature **Date**

Approved RW Schroeder 6/25/97

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type		STD	REPLICATE
STD	Tare Weight (W1) grams	14.9597	
Work List	Gross Weight (W2) grams	16.3576	
18710	First Residue Weight (W3) grams	15.5430	
Test Code	Second Residue Weight (W4) grams	15.5421	
WATER-01	Percent Difference	0.0058	N/A
Matrix	QC Check	Pass	N/A
SOLID	Percent Weight Loss	58.34	N/A
Sample #			
STD			
Instrument Code			
BA001			
Analyst			
SMF			
Date			
06/23/97			
Time			
02:30 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	58.3

Data Entry by:		Date:	06/25/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T000983	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9172	
Gross Weight (W2) grams	15.1825	
First Residue Weight (W3) grams	15.0826	
Second Residue Weight (W4) grams	15.0809	
Percent Difference	0.0113	N/A
QC Check	Pass	N/A
Percent Weight Loss	38.30	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	38.3

Data Entry by:		Date:	06/24/97
Approved by:	DW Edwards	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T000983 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9216	
Gross Weight (W2) grams	15.5443	
First Residue Weight (W3) grams	15.3053	
Second Residue Weight (W4) grams	15.3050	
Percent Difference	0.0020	N/A
QC Check	Pass	N/A
Percent Weight Loss	38.43	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	38.4

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T000984	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9577	
Gross Weight (W2) grams	15.1968	
First Residue Weight (W3) grams	15.1089	
Second Residue Weight (W4) grams	15.1073	
Percent Difference	0.0106	N/A
QC Check	Pass	N/A
Percent Weight Loss	37.43	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	37.4

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T000984 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1188	
Gross Weight (W2) grams	15.4111	
First Residue Weight (W3) grams	15.3117	
Second Residue Weight (W4) grams	15.3111	
Percent Difference	0.0039	N/A
QC Check	Pass	N/A
Percent Weight Loss	34.21	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	34.2

Data Entry by:		Date:	06/24/97
Approved by:	R W Schwedler	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMPLE: 14.9756	REPLICATE:
SAMPLE	Gross Weight (W2) grams	15.2061	
Work List	First Residue Weight (W3) grams	15.0632	
18710	Second Residue Weight (W4) grams	15.0623	
Test Code	Percent Difference	0.0060	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	62.39	N/A
SOLID			
Sample #			
S97T001030			
Instrument Code			
BA001			
Analyst			
SMF			
Date			
06/23/97			
Time			
02:30 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	62.4

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T001030 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1365	
Gross Weight (W2) grams	15.4292	
First Residue Weight (W3) grams	15.2461	
Second Residue Weight (W4) grams	15.2450	
Percent Difference	0.0072	N/A
QC Check	Pass	N/A
Percent Weight Loss	62.93	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	62.9

Data Entry by:		Date:	06/24/97
Approved by:	Bill Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T001031	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1979	
Gross Weight (W2) grams	15.5291	
First Residue Weight (W3) grams	15.3301	
Second Residue Weight (W4) grams	15.3297	
Percent Difference	0.0026	N/A
QC Check	Pass	N/A
Percent Weight Loss	60.21	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	60.2

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMPLE: 14.9551	REPLICATE:
SAMPLE	Gross Weight (W2) grams	15.3680	
Work List	First Residue Weight (W3) grams	15.1203	
18710	Second Residue Weight (W4) grams	15.1196	
Test Code	Percent Difference	0.0046	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	60.16	N/A
SOLID			
Sample #			
S97T001031 DUP			
Instrument Code			
BA001			
Analyst			
SMF			
Date			
06/23/97			
Time			
02:30 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	60.2

Data Entry by:		Date:	06/24/97
Approved by:	RW Johnson	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18710	WATER-01	SOLID	S97T001032	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.2241	
Gross Weight (W2) grams	15.7006	
First Residue Weight (W3) grams	15.4237	
Second Residue Weight (W4) grams	15.4225	
Percent Difference	0.0078	N/A
QC Check	Pass	N/A
Percent Weight Loss	58.36	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	58.4

Data Entry by:		Date:	06/24/97
Approved by:	R W Schreeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Tare Weight (W1) grams	SAMPLE: 15.3379	REPLICATE:
SAMPLE	Gross Weight (W2) grams	15.8712	
Work List	First Residue Weight (W3) grams	15.5697	
18710	Second Residue Weight (W4) grams	15.5690	
Test Code	Percent Difference	0.0045	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	56.67	N/A
SOLID			
Sample #			
S97T001032 DUP			
Instrument Code			
BA001			
Analyst			
SMF			
Date			
06/23/97			
Time			
02:30 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	56.7

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

LABCORE Completed Worklist Report for Worklist# 18711

Analyst: smf **Instrument:** BA001 **Book#** 103N8A

Method: LA564-101 Rev/Mod G-0

Worklist Comment: AW-103 %H2O. RCJ

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	WATER-01	SOLID	5.90e01	57.4	97.288	% Recovery
2	SAMPLE	S97T001033		0	WATER-01	SOLID	N/A	51.1	1.00e-002	%
3	DUP	S97T001033		0	WATER-01	SOLID	51.1	48.8	4.605	RPD
4	SAMPLE	S97T001034		0	WATER-01	SOLID	N/A	37.1	1.00e-002	%
5	DUP	S97T001034		0	WATER-01	SOLID	37.1	36.1	2.732	RPD
6	SAMPLE	S97T001035		0	WATER-01	SOLID	N/A	74.9	1.00e-002	%
7	DUP	S97T001035		0	WATER-01	SOLID	74.9	75.5	0.798	RPD
8	SAMPLE	S97T001036		0	WATER-01	SOLID	N/A	65.4	1.00e-002	%
9	DUP	S97T001036		0	WATER-01	SOLID	65.4	65.3	0.153	RPD
10	SAMPLE	S97T001037		0	WATER-01	SOLID	N/A	63.2	1.00e-002	%
11	DUP	S97T001037		0	WATER-01	SOLID	63.2	63.1	0.158	RPD

Final page for worklist# 18711

Analyst Signature Date

Susan Bu 4/24/97
Analyst Signature Date

RW Schmeltz 6/25/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

worklistrpt Version 2.1 05/15/95
06/17/97 08:41

LABCORE Data Entry Template for Worklist# 18711

Analyst: SMF **Instrument:** BA001 **Book #** 103N8-A

Method: LA-564-101 Rev/Mod

Worklist Comment: AW-103 %H2O. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				WATER-01	SOLID	5.90E'	42.6	57.4 N/A	% Bw 6/24/97
97000333	AW-103	2	SAMPLE	S97T001033	0		WATER-01	SOLID	N/A	48.9	51.1	% Bw 6/24/97
97000333	AW-103	3	DUP	S97T001033	0		WATER-01	SOLID	51.1 48.9	48.8 51.2	48.8 N/A	% Bw 6/24/97
97000333	AW-103	4	SAMPLE	S97T001034	0		WATER-01	SOLID	N/A	62.9	37.1	% Bw 6/24/97
97000333	AW-103	5	DUP	S97T001034	0		WATER-01	SOLID	37.1 62.9	36.1 63.9	36.1 N/A	% Bw 6/24/97
97000333	AW-103	6	SAMPLE	S97T001035	0		WATER-01	SOLID	N/A	25.1	74.9	% Bw 6/24/97
97000333	AW-103	7	DUP	S97T001035	0		WATER-01	SOLID	74.9 25.1	24.5	75.5 N/A	% Bw 6/24/97
97000333	AW-103	8	SAMPLE	S97T001036	0		WATER-01	SOLID	N/A	34.6	65.4	% Bw 6/24/97
97000333	AW-103	9	DUP	S97T001036	0		WATER-01	SOLID	65.4 34.6	34.7	65.3 N/A	% Bw 6/24/97
97000333	AW-103	10	SAMPLE	S97T001037	0		WATER-01	SOLID	N/A	36.8	63.2	% Bw 6/24/97
97000333	AW-103	11	DUP	S97T001037	0		WATER-01	SOLID	63.2 36.8	36.9	63.1 N/A	% Bw 6/24/97

Final page for worklist # 18711

Susie M. Dutton 6-24-97
Analyst Signature **Date**

Susan Bw 6/24/97
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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
STD	18711	WATER-01	SOLID	STD	BA001	SMF	06/23/97	02:30 AM

	STD	REPLICATE
Tare Weight (W1) grams	14.9227	
Gross Weight (W2) grams	16.2957	
First Residue Weight (W3) grams	15.5098	
Second Residue Weight (W4) grams	15.5082	
Percent Difference	0.0103	N/A
QC Check	Pass	N/A
Percent Weight Loss	57.36	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	57.4

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

Form 564101L1 Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001033	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.2087	
Gross Weight (W2) grams	15.6053	
First Residue Weight (W3) grams	15.4032	
Second Residue Weight (W4) grams	15.4027	
Percent Difference	0.0032	N/A
QC Check	Pass	N/A
Percent Weight Loss	51.08	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	51.1

Data Entry by:		Date: 06/24/97
Approved by:	RW Schroeder	Date: 6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001033 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1130	
Gross Weight (W2) grams	15.5176	
First Residue Weight (W3) grams	15.3207	
Second Residue Weight (W4) grams	15.3200	
Percent Difference	0.0046	N/A
QC Check	Pass	N/A
Percent Weight Loss	48.84	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	48.8

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001034	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1969	
Gross Weight (W2) grams	15.6375	
First Residue Weight (W3) grams	15.4759	
Second Residue Weight (W4) grams	15.4740	
Percent Difference	0.0123	N/A
QC Check	Pass	N/A
Percent Weight Loss	37.11	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	37.1

Data Entry by:		Date:	06/24/97
Approved by:	RW Schmelzer	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001034 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.0441	
Gross Weight (W2) grams	15.2853	
First Residue Weight (W3) grams	15.1998	
Second Residue Weight (W4) grams	15.1983	
Percent Difference	0.0099	N/A
QC Check	Pass	N/A
Percent Weight Loss	36.07	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	36.1

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001035	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1847	
Gross Weight (W2) grams	16.5940	
First Residue Weight (W3) grams	15.5384	
Second Residue Weight (W4) grams	15.5389	
Percent Difference	0.0032	N/A
QC Check	Pass	N/A
Percent Weight Loss	74.87	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	74.9

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001035 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.1210	
Gross Weight (W2) grams	16.0196	
First Residue Weight (W3) grams	15.3412	
Second Residue Weight (W4) grams	15.3408	
Percent Difference	0.0026	N/A
QC Check	Pass	N/A
Percent Weight Loss	75.54	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	75.5

Data Entry by:		Date:	06/24/97
Approved by:	Rui Schroeder	Date:	6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001036	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	13.2862	
Gross Weight (W2) grams	13.6058	
First Residue Weight (W3) grams	13.3979	
Second Residue Weight (W4) grams	13.3968	
Percent Difference	0.0082	N/A
QC Check	Pass	N/A
Percent Weight Loss	65.39	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	65.4

Data Entry by:		Date: 06/24/97
Approved by:	RW Schmelzer	Date: 6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001036 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	13.1719	
Gross Weight (W2) grams	13.5280	
First Residue Weight (W3) grams	13.2962	
Second Residue Weight (W4) grams	13.2953	
Percent Difference	0.0068	N/A
QC Check	Pass	N/A
Percent Weight Loss	65.35	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	65.3

Data Entry by:		Date: 06/24/97
Approved by:	D W Schroeder	Date: 6/25/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001037	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9432	
Gross Weight (W2) grams	15.2748	
First Residue Weight (W3) grams	15.0667	
Second Residue Weight (W4) grams	15.0651	
Percent Difference	0.0106	N/A
QC Check	Pass	N/A
Percent Weight Loss	63.24	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	63.2

Data Entry by:		Date:	06/24/97
Approved by:	R W Schroeder	Date:	6/25/97

Form 564101L1 Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	18711	WATER-01	SOLID	S97T001037 DUP	BA001	SMF	06/23/97	02:30 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	15.0241	
Gross Weight (W2) grams	15.3664	
First Residue Weight (W3) grams	15.1516	
Second Residue Weight (W4) grams	15.1503	
Percent Difference	0.0086	N/A
QC Check	Pass	N/A
Percent Weight Loss	63.13	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	63.1

Data Entry by:		Date:	06/24/97
Approved by:	RW Schroeder	Date:	6/25/97

Form 564101L1 Rev. 1.2

LABCORE Completed Worklist Report for Worklist# 19014

Analyst: rag **Instrument:** BA001 **Book#** 103N8A

Method: LA-564-101 Rev/Mod G-0

Worklist Comment: AW-~~013~~ 103 %H2O *RERUN* LAD 7/15/97

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	WATER-01	SOLID	5.90e01	58.3	98.814	% Recovery
2	SAMPLE	S97T001038		0	WATER-01	SOLID	N/A	35.85	1.00e-002	%
3	DUP	S97T001038		0	WATER-01	SOLID	38.85	26.60	37.433	RPD
4	SAMPLE	S97T001039		0	WATER-01	SOLID	N/A	47.61	1.00e-002	%
5	DUP	S97T001039		0	WATER-01	SOLID	47.61	46.25	2.898	RPD

Final page for worklist# 19014

Analyst Signature Date

Analyst Signature 7/14/97 Date

RW Schroeder 7/15/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 19014

Analyst: RS **Instrument:** BA001 **Book#** 10398-A

Method: LA-564-101 Rev/Mod G-0

Worklist Comment: AW-013 %H2O *RERUN*

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				WATER-01	SOLID		
2	SAMPLE	S97T001038	0		WATER-01	SOLID	97000333	AW-103
	Analytes Requested: WATER-01							
3	DUP	S97T001038	0		WATER-01	SOLID		
4	SAMPLE	S97T001039	0		WATER-01	SOLID	97000333	AW-103
	Analytes Requested: WATER-01							
5	DUP	S97T001039	0		WATER-01	SOLID		

Final page for worklist # 19014

RaeAnn Green 07-11-97
Analyst Signature Date

7.14.97
Analyst Signature Date

Data Entry Comments: Samples non-homogeneous, dry-flakey parts + sticky parts. Running low on samples wasn't able to get 1g sample sizes out of vial contacted Chemist Heather Anastos to deviate from procedures by taking the amount of sample I could get.

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type		STANDARD	REPLICATE
STANDARD	Tare Weight (W1) grams	15.0166	
	Gross Weight (W2) grams	16.4065	
Work List	First Residue Weight (W3) grams	15.5961	
19014	Second Residue Weight (W4) grams	15.5956	
Test Code	Percent Difference	0.0032	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	58.34	N/A
SOLID			
Sample #			
STD			
Instrument Code			
BA001			
Analyst			
RAG			
Date			
07/11/97			
Time			
11:00 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	58.3

Data Entry by: [signature] Date: 07/14/97

Approved by: [signature] Date: 7/15/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Duplicate RWS 7/15/97

		SAMPLE	~~REPLICATE~~
Type	Tare Weight (W1) grams	14.9321	14.8502
SAMPLE	Gross Weight (W2) grams	15.0961	15.1900
Work List	First Residue Weight (W3) grams	15.0366	15.0991
19014	Second Residue Weight (W4) grams	15.0373	15.0996
Test Code	Percent Difference	0.0047	0.0033
WATER-01	QC Check	Pass	Pass
Matrix	Percent Weight Loss	35.85	26.60
SOLID			
Sample #			
S97T001038			
Instrument Code			
BA001			
Analyst			
RAG			
Date			
07/11/97			
Time			
11:00 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O (Average) =	31.2

Data Entry by:	Amy J Hammond	Date:	07/14/97
Approved by:	RW Schroeder	Date:	7/15/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

Duplicate 7/15/97

% WATER : LA-564-101 (G-0)

Type		SAMPLE	~~REPLICATE~~
SAMPLE	Tare Weight (W1) grams	14.9684	15.0154
Work List	Gross Weight (W2) grams	15.1438	15.5017
19014	First Residue Weight (W3) grams	15.0596	15.2760
Test Code	Second Residue Weight (W4) grams	15.0603	15.2768
WATER-01	Percent Difference	0.0046	0.0052
Matrix	QC Check	Pass	Pass
SOLID	Percent Weight Loss	47.61	46.25
Sample #			
S97T001039			
Instrument Code			
BA001			
Analyst			
RAG			
Date			
07/11/97			
Time			
11:00 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O (Average) =	46.9

Data Entry by:	[signature]	Date:	07/14/97
Approved by:	[signature]	Date:	7/15/97

Form 564101L1 Rev. 1.2

worklistrpt Version 2.1 05/15/95
07/17/97 15:58

LABCORE Data Entry Template for Worklist# 19265

Analyst: RAG **Instrument:** BA001 **Book #** 103N8-A

Method: LA-564-101 Rev/Mod G-0

Worklist Comment: AW-103 WATER-01 RERUN

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	SOLID	59.0	58.6	N/A	%
97000333	AW-103	2 SAMPLE	S97T001040	0		WATER-01	SOLID	N/A	36.6	0.01	%
97000333	AW-103	3 DUP	S97T001040	0		WATER-01	SOLID	36.6	32.5	N/A	%
97000333	AW-103	4 SAMPLE	S97T001041	0		WATER-01	SOLID	N/A	42.0	0.01	%
97000333	AW-103	5 DUP	S97T001041	0		WATER-01	SOLID	42.0	44.1	N/A	%

Final page for worklist # 19265

SEE ATTACHED
Analyst Signature **Date**

7-17-97
Analyst Signature **Date**

Approved RW Schneider 7/21/97

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.

07/11/97 08:31
A-0004-1

LABCORE Data Entry Template for Worklist# 19265

Analyst: RJS **Instrument:** BA001 **Book#** 103N 8-A

Method: LA-564-101 Rev/Mod G.0

Worklist Comment: AW-103 WATER-01 RERUN

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				WATER-01	SOLID		
2	SAMPLE	S97T001040	0		WATER-01	SOLID	97000333	AW-103
	Analytes Requested: WATER-01							
3	DUP	S97T001040	0		WATER-01	SOLID		
4	SAMPLE	S97T001041	0		WATER-01	SOLID	97000333	AW-103
	Analytes Requested: WATER-01							
5	DUP	S97T001041	0		WATER-01	SOLID		

Final page for worklist # 19265

HaeAnn Green 02-16-97
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type		STANDARD	REPLICATE
STANDARD	Tare Weight (W1) grams	14.9082	
Work List	Gross Weight (W2) grams	16.3204	
19265	First Residue Weight (W3) grams	15.4947	
Test Code	Second Residue Weight (W4) grams	15.4933	
WATER-01	Percent Difference	0.0090	N/A
Matrix	QC Check	Pass	N/A
SOLID	Percent Weight Loss	58.57	N/A
Sample #			
STANDARD			
Instrument Code			
BA001			
Analyst			
RAG			
Date			
07/16/97			
Time			
10:15 AM			

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	58.6

Data Entry by: RAG Date: 07/17/97

Approved by: RW Schroeder Date: 7/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Sample #	Work List	Test Code	Matrix	Instrument Code	Analyst	Date	Time
SAMPLE	S97T001040	19265	WATER-01	SOLID	BA001	RAG	07/16/97	10:15 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9314	
Gross Weight (W2) grams	15.8703	
First Residue Weight (W3) grams	15.5271	
Second Residue Weight (W4) grams	15.5268	
Percent Difference	0.0019	N/A
QC Check	Pass	N/A
Percent Weight Loss	36.59	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	36.6

Data Entry by:		Date:	07/17/97
Approved by:	RW Schroeder	Date:	7/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
DUPLICATE	19265	WATER-01	SOLID	S97T001040	BA001	RAG	07/16/97	10:15 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.8918	
Gross Weight (W2) grams	15.8245	
First Residue Weight (W3) grams	15.5222	
Second Residue Weight (W4) grams	15.5215	
Percent Difference	0.0045	N/A
QC Check	Pass	N/A
Percent Weight Loss	32.49	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	32.5

Data Entry by: [signature] Date: 07/17/97

Approved by: DW Schroeder Date: 7/21/97

Form 564101L1 Rev. 1.2

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER.

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
SAMPLE	19265	WATER-01	SOLID	S97T001041	BA001	RAG	07/16/97	10:15 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.9051	
Gross Weight (W2) grams	15.8182	
First Residue Weight (W3) grams	15.4356	
Second Residue Weight (W4) grams	15.4349	
Percent Difference	0.0045	N/A
QC Check	Pass	N/A
Percent Weight Loss	41.98	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	42.0

Data Entry by: [signature] Date: 07/17/97

Approved by: RW Schwendiman Date: 7/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (G-0)

Type	Work List	Test Code	Matrix	Sample #	Instrument Code	Analyst	Date	Time
DUPLICATE	19265	WATER-01	SOLID	S97T001041	BA001	RAG	07/16/97	10:15 AM

	SAMPLE	REPLICATE
Tare Weight (W1) grams	14.8372	
Gross Weight (W2) grams	15.8703	
First Residue Weight (W3) grams	15.4156	
Second Residue Weight (W4) grams	15.4150	
Percent Difference	0.0039	N/A
QC Check	Pass	N/A
Percent Weight Loss	44.07	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.0
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O =	44.1

Data Entry by: [signature] Date: 07/17/97

Approved by: DW Schroeder Date: 7/21/97

LABCORE Completed Worklist Report for Worklist# 18395

Analyst: krq **Instrument:** IC01 **Book#** 6IN20B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB		0		@IC-QC	F	QC	1		<1.20e-2	ug/mL
1	CCB		0		@IC-QC	CL	QC	1		<1.70e-2	ug/mL
1	CCB		0		@IC-QC	NO2	QC	1		<1.08e-1	ug/mL
1	CCB		0		@IC-QC	BR	QC	1		<1.25e-1	ug/mL
1	CCB		0		@IC-QC	NO3	QC	1		<1.39e-1	ug/mL
1	CCB		0		@IC-QC	PO4	QC	1		<1.20e-1	ug/mL
1	CCB		0		@IC-QC	SO4	QC	1		<1.38e-1	ug/mL
1	CCB		0		@IC-QC	OXALATE2	QC	1		<1.05e-1	ug/mL
2	CCV		0		@IC-QC	F	QC	5.90e01		5.95e+01	100.847 % Recovery
2	CCV		0		@IC-QC	CL	QC	7.90e01		8.08e+01	102.278 % Recovery
2	CCV		0		@IC-QC	NO2	QC	5.44e02		5.29e+02	97.243 % Recovery
2	CCV		0		@IC-QC	BR	QC	5.89e02		5.68e+02	96.435 % Recovery
2	CCV		0		@IC-QC	NO3	QC	5.94e02		5.63e+02	94.781 % Recovery
2	CCV		0		@IC-QC	PO4	QC	5.45e02		5.27e+02	96.697 % Recovery
2	CCV		0		@IC-QC	SO4	QC	6.31e02		6.10e+02	96.672 % Recovery
2	CCV		0		@IC-QC	OXALATE2	QC	5.36e02		5.30e+02	98.881 % Recovery
3	BLNK-PREP		0		@IC-01	F-02	SOLID	1		<1.20e-2	ug/g
3	BLNK-PREP		0		@IC-01	CL-02	SOLID	1		<1.70e-2	ug/g
3	BLNK-PREP		0		@IC-01	NO2-02	SOLID	1		<1.08e-1	ug/g
3	BLNK-PREP		0		@IC-01	BR-02	SOLID	1		<1.25e-1	ug/g
3	BLNK-PREP		0		@IC-01	NO3-02	SOLID	1		<1.39e-1	ug/g
3	BLNK-PREP		0		@IC-01	PO4-02	SOLID	1		<1.20e-1	ug/g
3	BLNK-PREP		0		@IC-01	SO4-02	SOLID	1		<1.38e-1	ug/g
3	BLNK-PREP		0		@IC-01	OXALATE2	SOLID	1		<1.05e-1	ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	F-02	SOLID	N/A		6.831e+04	86.840 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	CL-02	SOLID	N/A		8.260e+02	123.000 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	NO2-02	SOLID	N/A		1.821e+04	781.500 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	BR-02	SOLID	N/A	<	9.044e+02	904.500 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	NO3-02	SOLID	N/A		4.657e+04	1006.000 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	PO4-02	SOLID	N/A	<	8.682e+02	868.400 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	SO4-02	SOLID	N/A	<	9.984e+02	998.400 ug/g
4	SAMPLE	S97T001005	0	W	@IC-01	OXALATE2	SOLID	N/A	<	7.597e+02	759.700 ug/g
5	DUP	S97T001005	0	W	@IC-01	F-02	SOLID	6.83e+04		7.08e+04	3.595 RPD
5	DUP	S97T001005	0	W	@IC-01	CL-02	SOLID	8.26e+02		9.68e+02	15.831 RPD
5	DUP	S97T001005	0	W	@IC-01	NO2-02	SOLID	1.82e+04		1.88e+04	3.243 RPD
5	DUP	S97T001005	0	W	@IC-01	BR-02	SOLID	<9.04e2		<9.35e2	RPD
5	DUP	S97T001005	0	W	@IC-01	NO3-02	SOLID	4.66e+04		4.68e+04	0.428 RPD
5	DUP	S97T001005	0	W	@IC-01	PO4-02	SOLID	<8.68e2		<8.97e2	RPD
5	DUP	S97T001005	0	W	@IC-01	SO4-02	SOLID	<9.98e2		1.12e+03	RPD
5	DUP	S97T001005	0	W	@IC-01	OXALATE2	SOLID	<7.60e2		<7.85e2	RPD
6	SAMPLE	S97T001006	0	W	@IC-01	F-02	SOLID	N/A		6.696e+04	88.150 ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18395

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S97T001008	0	W @IC-01	CL-02	SOLID	N/A		6.269e+02	124.900	ug/g
6	SAMPLE	S97T001008	0	W @IC-01	NO2-02	SOLID	N/A		8.603e+03	793.400	ug/g
6	SAMPLE	S97T001008	0	W @IC-01	BR-02	SOLID	N/A	<	9.183e+02	918.400	ug/g
6	SAMPLE	S97T001008	0	W @IC-01	NO3-02	SOLID	N/A		1.895e+04	1021.000	ug/g
6	SAMPLE	S97T001008	0	W @IC-01	PO4-02	SOLID	N/A	<	8.816e+02	881.500	ug/g
6	SAMPLE	S97T001008	0	W @IC-01	SO4-02	SOLID	N/A	<	1.014e+03	1014.000	ug/g
6	SAMPLE	S97T001008	0	W @IC-01	OXALATE2	SOLID	N/A	<	7.714e+02	771.200	ug/g
7	DUP	S97T001008	0	W @IC-01	F-02	SOLID	6.70e+04		6.60e+04	1.504	RPD
7	DUP	S97T001008	0	W @IC-01	CL-02	SOLID	6.27e+02		4.94e+02	23.729	RPD
7	DUP	S97T001008	0	W @IC-01	NO2-02	SOLID	8.60e+03		8.46e+03	1.641	RPD
7	DUP	S97T001008	0	W @IC-01	BR-02	SOLID	<9.18e2		<9.39e2		RPD
7	DUP	S97T001008	0	W @IC-01	NO3-02	SOLID	1.90e+04		1.89e+04	0.528	RPD
7	DUP	S97T001008	0	W @IC-01	PO4-02	SOLID	<8.82e2		<9.02e2		RPD
7	DUP	S97T001008	0	W @IC-01	SO4-02	SOLID	<1.01e3		<1.04e3		RPD
7	DUP	S97T001008	0	W @IC-01	OXALATE2	SOLID	<7.71e2		<7.89e2		RPD
8	SAMPLE	S97T001009	0	W @IC-01	F-02	SOLID	N/A		6.562e+04	91.350	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	CL-02	SOLID	N/A		5.785e+02	129.400	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	NO2-02	SOLID	N/A		1.183e+04	822.500	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	BR-02	SOLID	N/A	<	9.517e+02	951.600	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	NO3-02	SOLID	N/A		2.776e+04	1058.000	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	PO4-02	SOLID	N/A	<	9.136e+02	913.500	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	SO4-02	SOLID	N/A	<	1.051e+03	1051.000	ug/g
8	SAMPLE	S97T001009	0	W @IC-01	OXALATE2	SOLID	N/A	<	7.994e+02	799.500	ug/g
9	DUP	S97T001009	0	W @IC-01	F-02	SOLID	6.56e+04		6.38e+04	2.782	RPD
9	DUP	S97T001009	0	W @IC-01	CL-02	SOLID	5.78e+02		5.97e+02	3.234	RPD
9	DUP	S97T001009	0	W @IC-01	NO2-02	SOLID	1.18e+04		1.21e+04	2.510	RPD
9	DUP	S97T001009	0	W @IC-01	BR-02	SOLID	<9.52e2		<9.73e2		RPD
9	DUP	S97T001009	0	W @IC-01	NO3-02	SOLID	2.78e+04		2.90e+04	4.225	RPD
9	DUP	S97T001009	0	W @IC-01	PO4-02	SOLID	<9.14e2		<9.34e2		RPD
9	DUP	S97T001009	0	W @IC-01	SO4-02	SOLID	<1.05e3		1.63e+03		RPD
9	DUP	S97T001009	0	W @IC-01	OXALATE2	SOLID	<7.99e2		<8.17e2		RPD
10	SPK	S97T001009	0	W @IC-01	F-02	SOLID	5.90e01		3.80e+01	64.407	% Recovery
10	SPK	S97T001009	0	W @IC-01	CL-02	SOLID	7.90e01		8.14e+01	103.038	% Recovery
10	SPK	S97T001009	0	W @IC-01	NO2-02	SOLID	5.44e02		5.55e+02	102.022	% Recovery
10	SPK	S97T001009	0	W @IC-01	BR-02	SOLID	5.89e02		5.78e+02	98.132	% Recovery
10	SPK	S97T001009	0	W @IC-01	NO3-02	SOLID	5.94e02		5.76e+02	96.970	% Recovery
10	SPK	S97T001009	0	W @IC-01	PO4-02	SOLID	5.45e02		5.12e+02	93.945	% Recovery
10	SPK	S97T001009	0	W @IC-01	SO4-02	SOLID	6.31e02		6.20e+02	98.257	% Recovery
10	SPK	S97T001009	0	W @IC-01	OXALATE2	SOLID	5.36e02		5.45e+02	101.679	% Recovery

Final page for worklist# 18395

Analyst Signature Date

Analyst Signature Date

Jason M. Luge 6/5/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18395

Analyst: [illegible] **Instrument:** IC0 1 **Book#** GLW20-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001005	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001005	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001008	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T001008	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001009	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
9	DUP	S97T001009	0	W	@IC-01	SOLID		
10	SPK	S97T001009	0	W	@IC-01	SOLID		

Final page for worklist # 18395

[signature] 6/01/97

Analyst Signature **Date**

uploaded 6-4-97
John Wenek
18395JUN.CSV
Validated 6/5/97 [signature]

Analyst Signature **Date**

Data Entry Comments: Tested on ver. 14

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

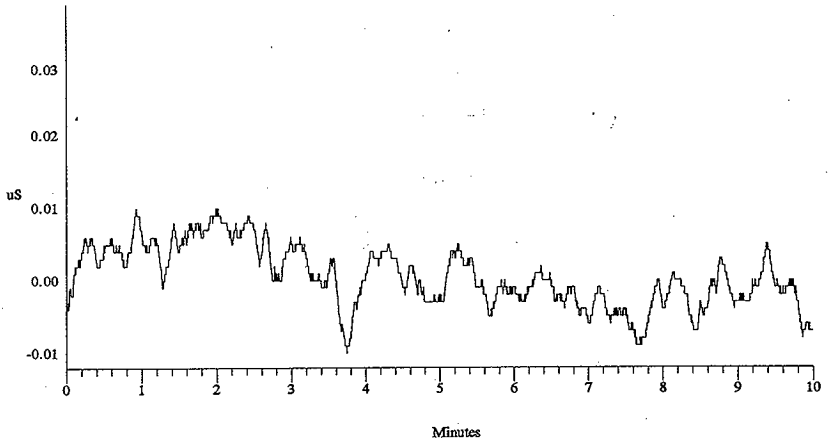
Sample Name: CCB Date: 06/01/1997 14:54:06
Data File : C:\DX\DATA\97060151.D03
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: 97060151.D03 Sample: CCB



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 465 TO 474.

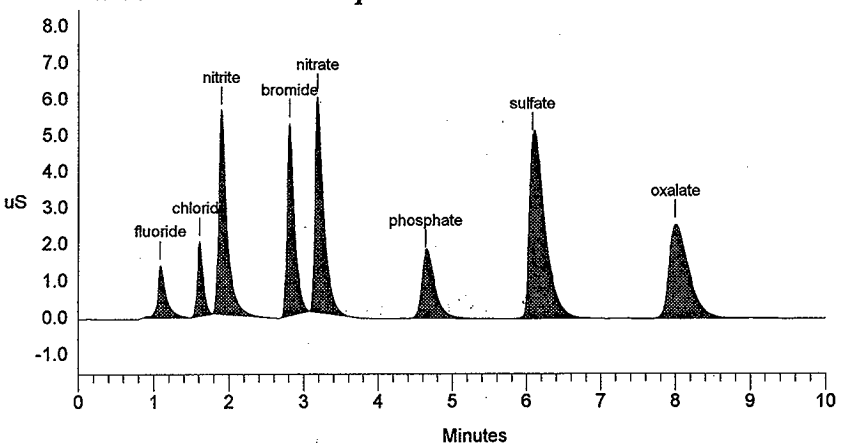
Sample Name: CCV 61N20-B Date: 06/01/1997 15:06:46
Data File : C:\DX\DATA\97060151.D04
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	59.478	1403	10753	1	-2.98
2	1.61	chloride	80.831	2005	10556	1	0.84
3	1.89	nitrite	529.046	5559	41779	1	-1.73
4	2.81	bromide	567.679	5265	35456	1	-1.52
5	3.18	nitrate	562.888	5872	46807	1	-2.15
6	4.64	phosphate	526.630	1737	23332	1	0.58
7	6.08	sulfate	610.008	4971	74869	1	0.88
8	8.00	oxalate	529.543	2557	46817	1	2.04
		Totals	3466.104	29369	290370		

File: 97060151.D04 Sample: CCV 61N20-B



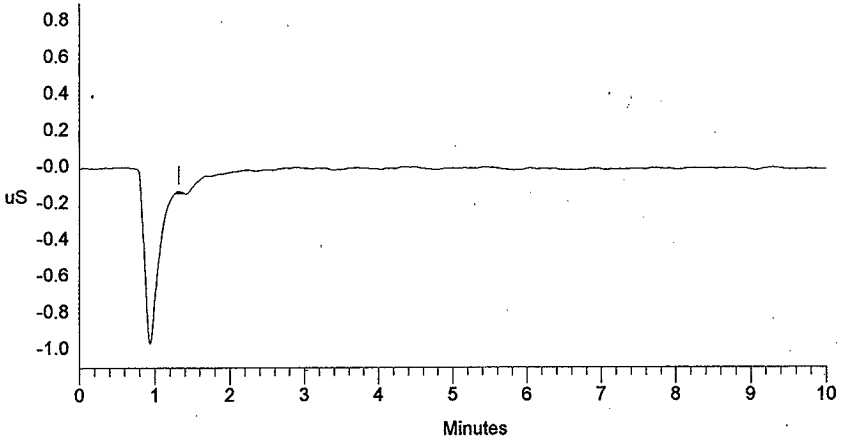
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Sample Name: BLANK PREP                          Date: 06/01/1997 15:39:23
Data File  : C:\DX\DATA\97060151.D06
Method     : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1  System: 1  Inject#: 6                    Detector:CDM-1
Analyst                    Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.31		0.000	13	70	1	
		Totals	0.000	13	70		

File: 97060151.D06 Sample: BLANK PREP



Data Reprocessed On 06/01/1997 17:32:22

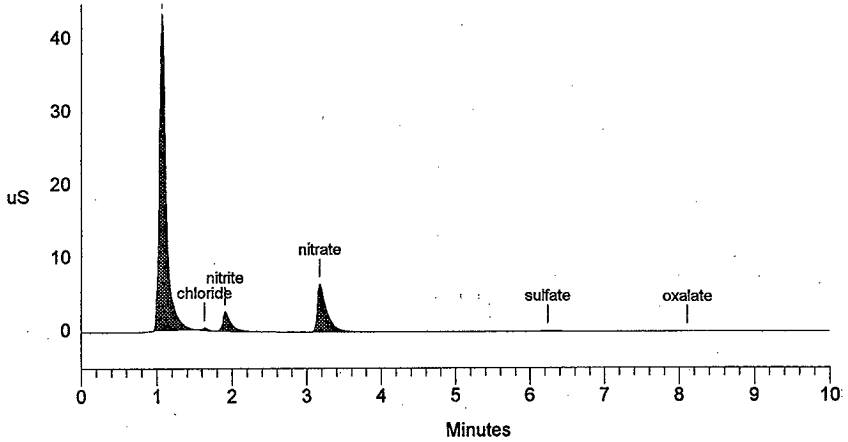
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Sample Name: S97T001005 SAMPLE                Date: 06/01/1997 15:52:02
Data File  : C:\DX\DATA\97060151.D07
Method     : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1  System: 1  Inject#: 7                    Detector:CDM-1
Analyst                    Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	387.095	43063	267019	1	-4.76
2	1.63	chloride	4.681	330	1543	1	2.51
3	1.91	nitrite	103.195	2558	19537	1	-1.04
4	3.17	nitrate	263.894	6538	54278	1	-2.36
5	6.24	sulfate	5.447	146	2384	1	3.54
6	8.11	oxalate	3.280	29	474	1	3.40
		Totals	767.592	52663	345236		

File: 97060151.D07 Sample: S97T001005 SAMPLE



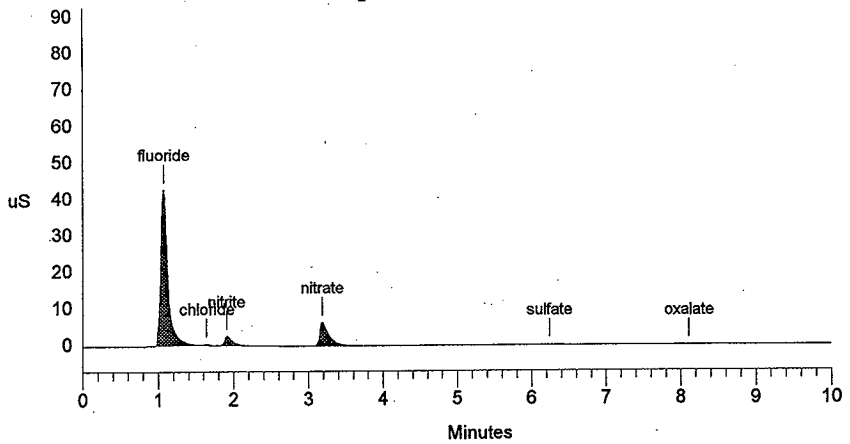
Sample Name: S97T001005 DUP Date: 06/01/1997 16:04:42
Data File : C:\DX\DATA\97060151.D08
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	388.520	42728	268976	1	-4.17
2	1.64	chloride	5.310	369	1742	1	2.93
3	1.91	nitrite	103.248	2515	19548	1	-1.04
4	3.18	nitrate	256.434	6365	52701	1	-2.15
5	6.24	sulfate	6.163	165	2595	1	3.54
6	8.11	oxalate	3.388	29	497	1	3.40
		Totals	763.063	52170	346058		

File: 97060151.D08 Sample: S97T001005 DUP



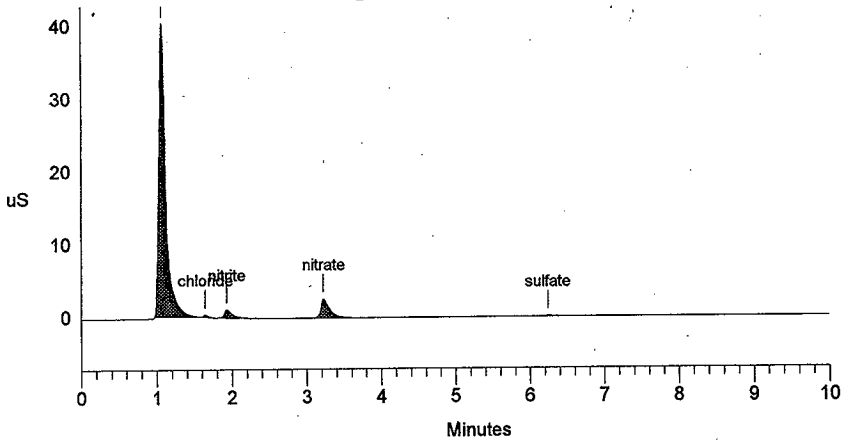
Sample Name: S97T001008 SAMPLE Date: 06/01/1997 16:17:21
Data File : C:\DX\DATA\97060151.D09
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	373.730	40189	249872	1	-4.76
2	1.64	chloride	3.499	256	1170	1	2.93
3	1.93	nitrite	48.012	1115	8647	1	0.00
4	3.22	nitrate	105.786	2604	21164	1	-0.92
5	6.24	sulfate	4.779	139	2187	1	3.54
		Totals	535.805	44303	283040		

File: 97060151.D09 Sample: S97T001008 SAMPLE



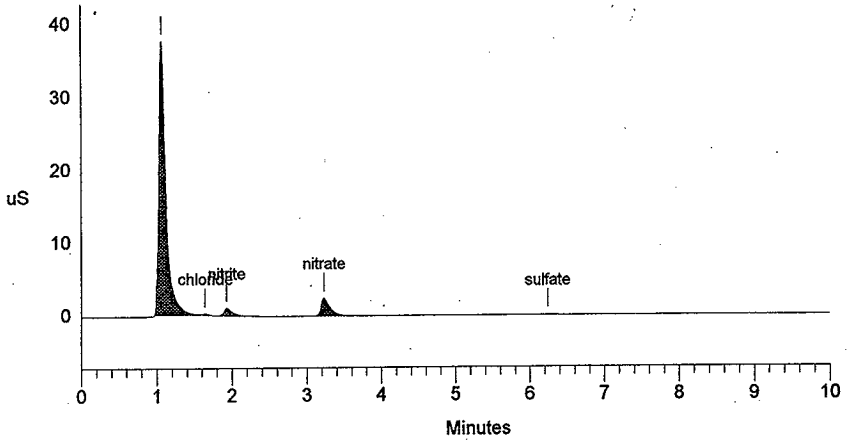
Sample Name: S97T001008 DUP Date: 06/01/1997 16:30:00
Data File : C:\DX\DATA\97060151.D10
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	360.200	37611	234261	1	-4.76
2	1.64	chloride	2.693	196	916	1	2.93
3	1.93	nitrite	46.176	1044	8286	1	0.00
4	3.23	nitrate	103.301	2473	20649	1	-0.72
5	6.24	sulfate	4.599	134	2134	1	3.54
		Totals	516.970	41458	266247		

File: 97060151.D10 Sample: S97T001008 DUP



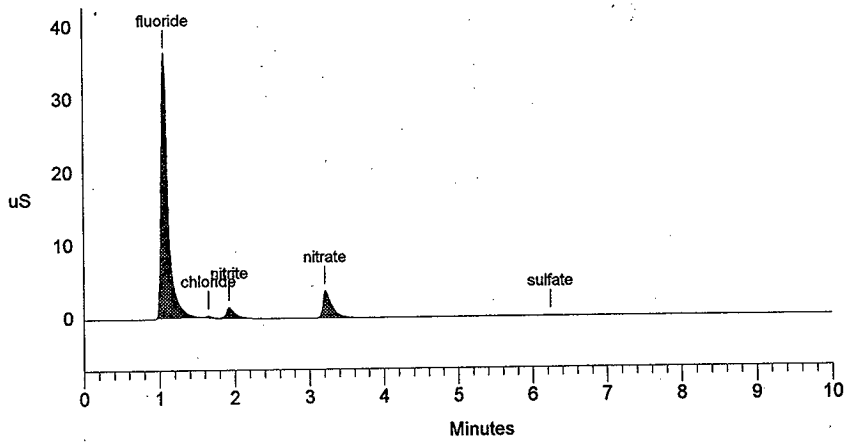
Sample Name: S97T001009 SAMPLE Date: 06/01/1997 16:42:40
Data File : C:\DX\DATA\97060151.D11
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 11 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	353.346	36123	226874	1	-4.76
2	1.65	chloride	3.115	232	1049	1	3.35
3	1.93	nitrite	63.709	1472	11738	1	0.00
4	3.21	nitrate	149.508	3684	30255	1	-1.33
5	6.24	sulfate	3.937	129	1939	1	3.54
		Totals	573.615	41641	271855		

File: 97060151.D11 Sample: S97T001009 SAMPLE



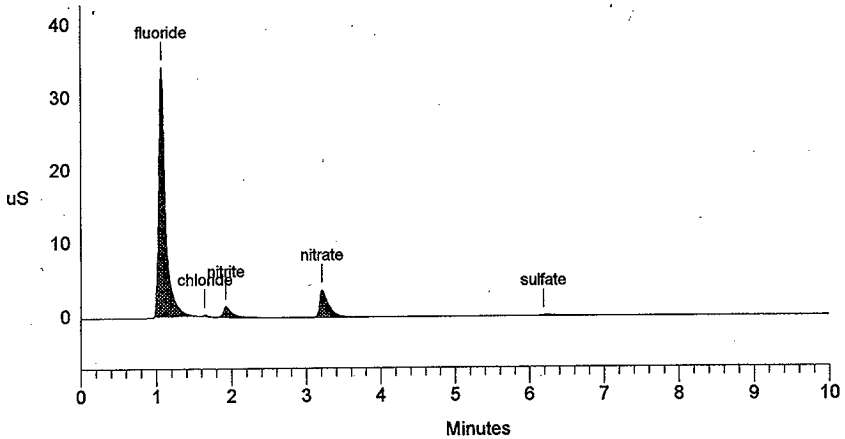
Sample Name: S97T001009 DUP Date: 06/01/1997 16:55:19
Data File : C:\DX\DATA\97060151.D12
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	336.139	34210	209558	1	-4.76
2	1.64	chloride	3.145	227	1059	1	2.93
3	1.92	nitrite	63.573	1474	11711	1	-0.35
4	3.21	nitrate	152.637	3741	30908	1	-1.33
5	6.19	sulfate	8.599	177	3313	1	2.65
		Totals	564.093	39830	256549		

File: 97060151.D12 Sample: S97T001009 DUP



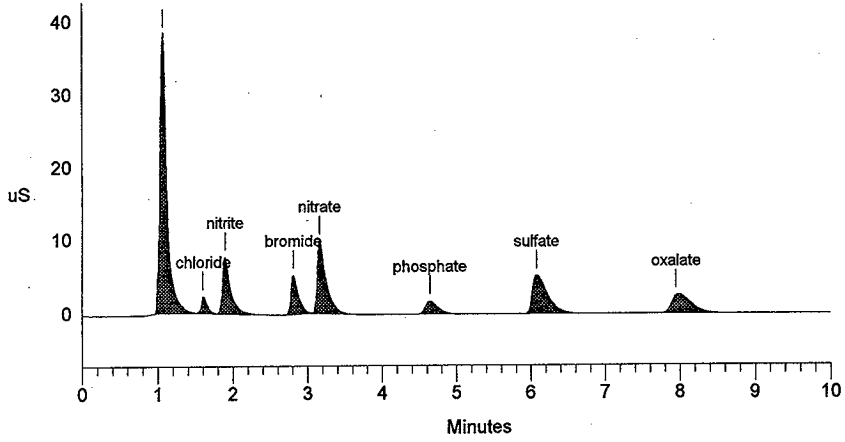
Sample Name: S97T001009 SPIKE Date: 06/01/1997 17:07:58
Data File : C:\DX\DATA\97060151.D13
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	368.526	38300	243688	1	-4.76
2	1.60	chloride	35.679	2153	11491	1	0.42
3	1.89	nitrite	285.880	7639	56119	1	-1.73
4	2.81	bromide	231.042	5245	35550	1	-1.52
5	3.16	nitrate	379.862	9816	79000	1	-2.77
6	4.64	phosphate	204.943	1778	22342	1	0.58
7	6.08	sulfate	248.181	5184	75037	1	0.88
8	7.95	oxalate	218.020	2446	47490	1	1.36
		Totals	1972.132	72561	570717		

File: 97060151.D13 Sample: S97T001009 SPIKE



LABCORE Completed Worklist Report for Worklist# 18396

Analyst: krq **Instrument:** IC02 **Book#** 6/N20B

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB			0	@IC-QC	F	QC	1		<1.20e-2	ug/mL
1	CCB			0	@IC-QC	CL	QC	1		<1.70e-2	ug/mL
1	CCB			0	@IC-QC	NO2	QC	1		<1.08e-1	ug/mL
1	CCB			0	@IC-QC	BR	QC	1		<1.25e-1	ug/mL
1	CCB			0	@IC-QC	NO3	QC	1		<1.39e-1	ug/mL
1	CCB			0	@IC-QC	PO4	QC	1		<1.20e-1	ug/mL
1	CCB			0	@IC-QC	SO4	QC	1		<1.38e-1	ug/mL
1	CCB			0	@IC-QC	OXALATE2	QC	1		<1.05e-1	ug/mL
2	CCV			0	@IC-QC	F	QC	5.90e01		5.49e+01	93.051 % Recovery
2	CCV			0	@IC-QC	CL	QC	7.90e01		7.73e+01	97.848 % Recovery
2	CCV			0	@IC-QC	NO2	QC	5.44e02		5.14e+02	94.485 % Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e02		5.67e+02	96.265 % Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e02		5.66e+02	95.286 % Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e02		5.49e+02	100.734 % Recovery
2	CCV			0	@IC-QC	SO4	QC	6.31e02		6.14e+02	97.306 % Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.36e02		5.07e+02	94.590 % Recovery
3	BLNK-PREP			0	@IC-01	F-02	SOLID	1		<2.52e-1	ug/g
3	BLNK-PREP			0	@IC-01	CL-02	SOLID	1		6.23e-01	0.623 ug/g
3	BLNK-PREP			0	@IC-01	NO2-02	SOLID	1		3.13e+00	3.130 ug/g
3	BLNK-PREP			0	@IC-01	BR-02	SOLID	1		<2.62e0	ug/g
3	BLNK-PREP			0	@IC-01	NO3-02	SOLID	1		<2.92e0	ug/g
3	BLNK-PREP			0	@IC-01	PO4-02	SOLID	1		<2.52e0	ug/g
3	BLNK-PREP			0	@IC-01	SO4-02	SOLID	1		<2.90e0	ug/g
3	BLNK-PREP			0	@IC-01	OXALATE2	SOLID	1		<2.21e0	ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	F-02	SOLID	N/A		3.596e+04	50.480 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	CL-02	SOLID	N/A		2.454e+02	71.530 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	NO2-02	SOLID	N/A		2.250e+03	454.400 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	BR-02	SOLID	N/A	<	5.259e+02	526.100 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	NO3-02	SOLID	N/A		3.172e+03	584.900 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	PO4-02	SOLID	N/A	<	5.049e+02	504.800 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	SO4-02	SOLID	N/A		8.507e+02	580.600 ug/g
4	SAMPLE	S97T001066	0	W	@IC-01	OXALATE2	SOLID	N/A	<	4.418e+02	441.800 ug/g
5	DUP	S97T001066	0	W	@IC-01	F-02	SOLID	3.60e+04		3.52e+04	2.247 RPD
5	DUP	S97T001066	0	W	@IC-01	CL-02	SOLID	2.45e+02		1.81e+02	30.047 RPD
5	DUP	S97T001066	0	W	@IC-01	NO2-02	SOLID	2.25e+03		2.21e+03	1.794 RPD
5	DUP	S97T001066	0	W	@IC-01	BR-02	SOLID	<5.26e2		<5.17e2	RPD
5	DUP	S97T001066	0	W	@IC-01	NO3-02	SOLID	3.17e+03		3.12e+03	1.590 RPD
5	DUP	S97T001066	0	W	@IC-01	PO4-02	SOLID	<5.05e2		<4.96e2	RPD
5	DUP	S97T001066	0	W	@IC-01	SO4-02	SOLID	8.51e+02		<5.71e2	RPD
5	DUP	S97T001066	0	W	@IC-01	OXALATE2	SOLID	<4.42e2		<4.34e2	RPD
6	SAMPLE	S97T001071	0	W	@IC-01	F-02	SOLID	N/A		3.685e+04	50.300 ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18396

Seq	Type	Sample#	R	A		Test	Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S97T001071	0	W	@IC-01	CL-02	SOLID	N/A		1.539e+02	71.250	ug/g
6	SAMPLE	S97T001071	0	W	@IC-01	NO2-02	SOLID	N/A		1.555e+03	452.800	ug/g
6	SAMPLE	S97T001071	0	W	@IC-01	BR-02	SOLID	N/A	<	5.240e+02	523.900	ug/g
6	SAMPLE	S97T001071	0	W	@IC-01	NO3-02	SOLID	N/A		3.129e+03	582.500	ug/g
6	SAMPLE	S97T001071	0	W	@IC-01	PO4-02	SOLID	N/A	<	5.030e+02	502.900	ug/g
6	SAMPLE	S97T001071	0	W	@IC-01	SO4-02	SOLID	N/A		7.860e+02	578.300	ug/g
6	SAMPLE	S97T001071	0	W	@IC-01	OXALATE2	SOLID	N/A	<	4.401e+02	440.200	ug/g
7	DUP	S97T001071	0	W	@IC-01	F-02	SOLID	3.68e+04		3.61e+04	1.920	RPD
7	DUP	S97T001071	0	W	@IC-01	CL-02	SOLID	1.54e+02		2.15e+02	33.062	RPD
7	DUP	S97T001071	0	W	@IC-01	NO2-02	SOLID	1.56e+03		1.55e+03	0.643	RPD
7	DUP	S97T001071	0	W	@IC-01	BR-02	SOLID	<5.24e2		<5.16e2		RPD
7	DUP	S97T001071	0	W	@IC-01	NO3-02	SOLID	3.13e+03		3.01e+03	3.909	RPD
7	DUP	S97T001071	0	W	@IC-01	PO4-02	SOLID	<5.03e2		<4.95e2		RPD
7	DUP	S97T001071	0	W	@IC-01	SO4-02	SOLID	7.86e+02		8.36e+02	6.165	RPD
7	DUP	S97T001071	0	W	@IC-01	OXALATE2	SOLID	<4.40e2		<4.33e2		RPD
9	DUP	S97T001072	0	W	@IC-01	F-02	SOLID	4.49e+02		2.73e+04	193.528	RPD
9	DUP	S97T001072	0	W	@IC-01	CL-02	SOLID	<6.97e1		3.09e+02		RPD
9	DUP	S97T001072	0	W	@IC-01	NO2-02	SOLID	<4.43e2		3.12e+03		RPD
9	DUP	S97T001072	0	W	@IC-01	BR-02	SOLID	<5.13e2		<5.16e2		RPD
9	DUP	S97T001072	0	W	@IC-01	NO3-02	SOLID	<5.70e2		3.93e+03		RPD
9	DUP	S97T001072	0	W	@IC-01	PO4-02	SOLID	<4.92e2		<4.95e2		RPD
9	DUP	S97T001072	0	W	@IC-01	SO4-02	SOLID	<5.66e2		6.43e+02		RPD
9	DUP	S97T001072	0	W	@IC-01	OXALATE2	SOLID	<4.31e2		<4.33e2		RPD
10	SPK	S97T001072	0	W	@IC-01	F-02	SOLID	5.90e01		6.77e+02	1147.458	% Recovery
10	SPK	S97T001072	0	W	@IC-01	CL-02	SOLID	7.90e01		7.40e+00	9.367	% Recovery
10	SPK	S97T001072	0	W	@IC-01	NO2-02	SOLID	5.44e02		8.14e+01	14.963	% Recovery
10	SPK	S97T001072	0	W	@IC-01	BR-02	SOLID	5.89e02		0.00e+00	0.000	% Recovery
10	SPK	S97T001072	0	W	@IC-01	NO3-02	SOLID	5.94e02		1.00e+02	16.835	% Recovery
10	SPK	S97T001072	0	W	@IC-01	PO4-02	SOLID	5.45e02		0.00e+00	0.000	% Recovery
10	SPK	S97T001072	0	W	@IC-01	SO4-02	SOLID	6.31e02		1.79e+01	2.837	% Recovery
10	SPK	S97T001072	0	W	@IC-01	OXALATE2	SOLID	5.36e02		0.00e+00	0.000	% Recovery

Final page for worklist# 18396

Analyst Signature **Date**

Analyst Signature **Date**

Jann M. Luyc 6/12/97
Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18396

Analyst: KBQ **Instrument:** IC0 2 **Book#** GIN30-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001066	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001066	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001071	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T001071	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001072	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
9	DUP	S97T001072	0	W	@IC-01	SOLID		
10	SPK	S97T001072	0	W	@IC-01	SOLID		

Final page for worklist # 18396

KBQ 6/4/97

Analyst Signature **Date**

Analyst Signature **Date**

18396ja.csv

S97T001072 rejected for dilution errors. Test validated. Reseen for #1072 on WKL 18615. JM Luyc

Data Entry Comments:

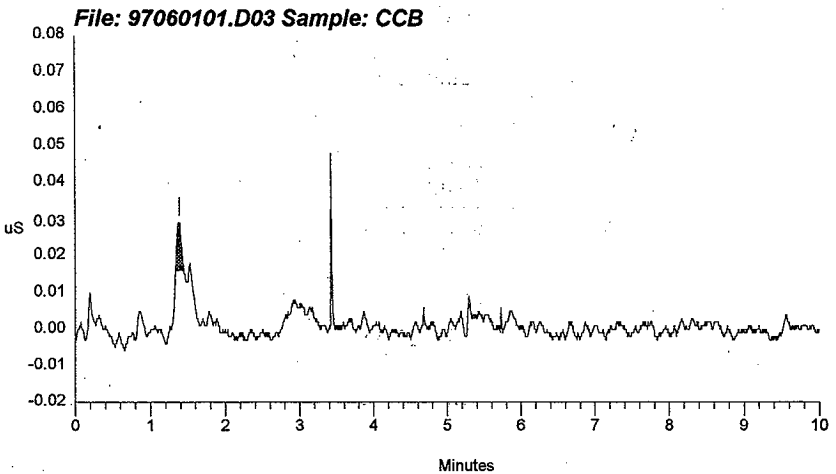
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: CCB Date: 06/01/1997 14:40:53
Data File : C:\DX\DATA\97060101.D03
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.39		0.000	13	53	1	
		Totals	0.000	13	53		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 478 TO 484.

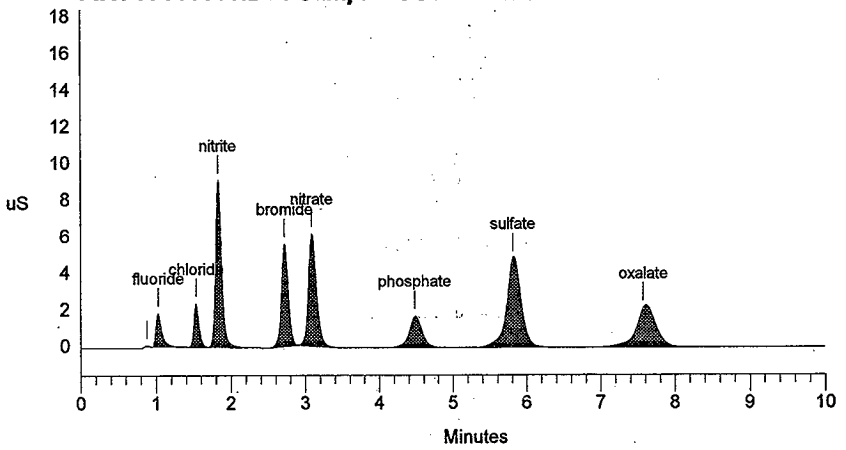
Sample Name: CCV 61N20-B Date: 06/01/1997 14:53:31
Data File : C:\DX\DATA\97060101.D04
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	67	260	2	
2	1.03	fluoride	54.900	1825	9976	2	1.65
3	1.53	chloride	77.257	2349	10956	1	-0.43
4	1.83	nitrite	514.380	9098	49855	1	-2.14
5	2.72	bromide	567.432	5603	35509	1	0.99
6	3.09	nitrate	566.045	6149	46157	1	3.35
7	4.48	phosphate	549.193	1733	21508	1	0.60
8	5.81	sulfate	613.780	4878	67477	1	1.81
9	7.57	oxalate	506.848	2160	42545	1	-4.74
		Totals	3449.835	33862	284244		

File: 97060101.D04 Sample: CCV 61N20-B



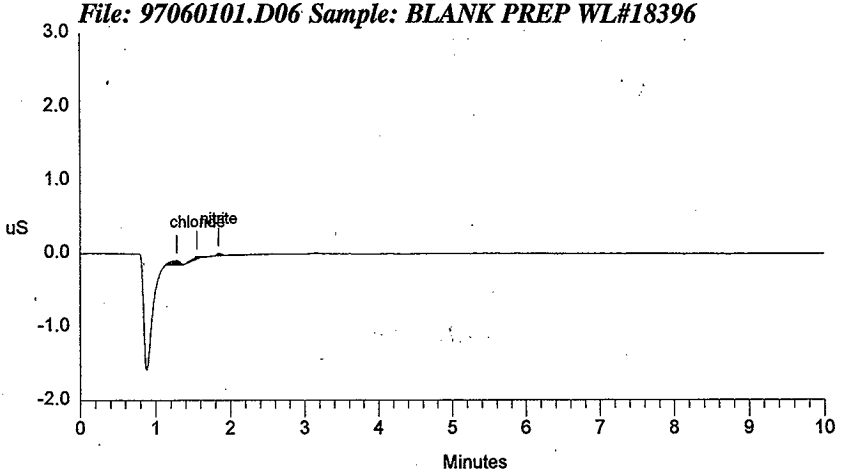
Sample Name: BLANK PREP WL#18396 Date: 06/01/1997 15:18:49
Data File : C:\DX\DATA\97060101.D06
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.28		0.000	58	512	1	
2	1.55	chloride	0.623	37	268	1	0.87
3	1.84	nitrite	3.135	35	161	1	-1.43
		Totals	3.757	130	941		

File: 97060101.D06 Sample: BLANK PREP WL#18396



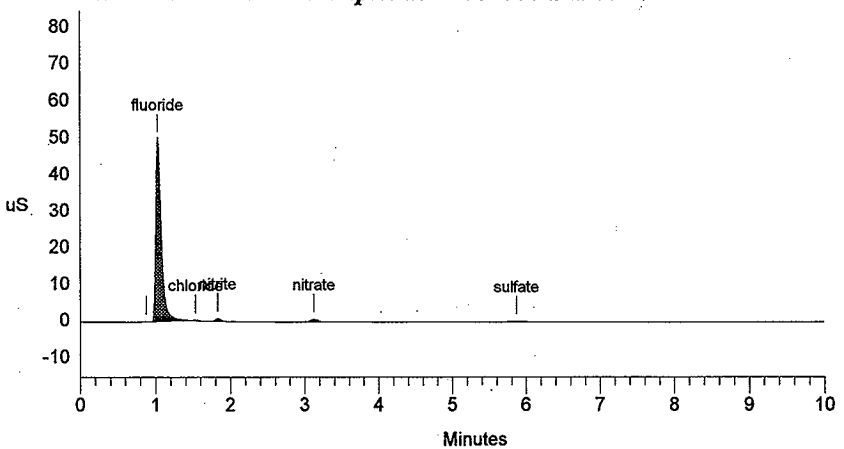
Sample Name: S97T001066 SAMPLE Date: 06/01/1997 15:31:27
Data File : C:\DX\DATA\97060101.D07
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	46	153	1	
2	1.03	fluoride	179.476	49766	258739	1	1.65
3	1.53	chloride	1.225	166	681	1	-0.87
4	1.83	nitrite	11.228	778	4025	1	-2.14
5	3.12	nitrate	15.833	710	5373	1	4.46
6	5.87	sulfate	4.246	153	2046	1	2.74
		Totals	212.009	51619	271016		

File: 97060101.D07 Sample: S97T001066 SAMPLE



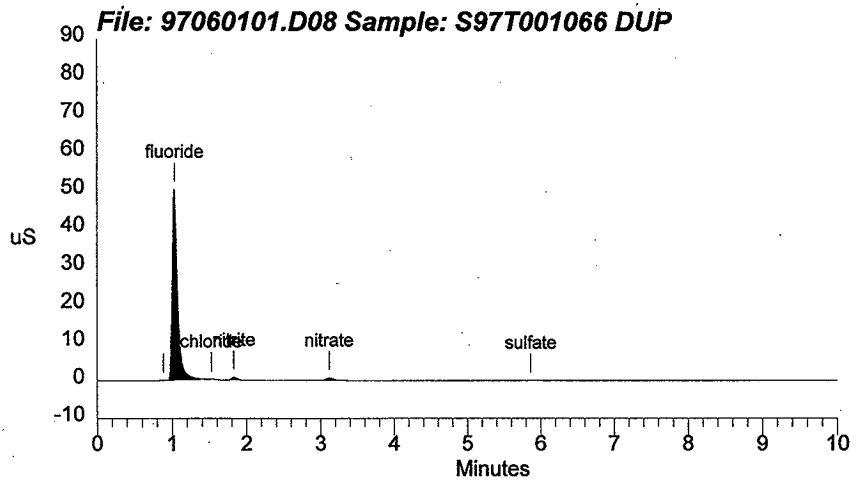
Data Reprocessed On 06/01/1997 17:30:36

Sample Name: S97T001066 DUP Date: 06/01/1997 15:44:05
Data File : C:\DX\DATA\97060101.D08
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : [signature] Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	45	149	1	
2	1.03	fluoride	178.631	50298	255432	1	2.31
3	1.53	chloride	0.919	117	471	1	-0.87
4	1.83	nitrite	11.232	773	4027	1	-2.14
5	3.12	nitrate	15.844	718	5377	1	4.46
6	5.87	sulfate	2.000	65	876	1	2.74
		Totals	208.625	52017	266331		



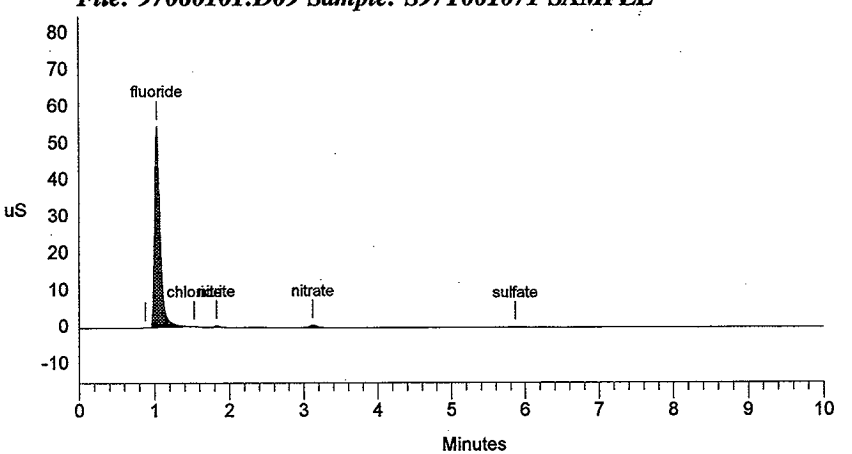
Sample Name: S97T001071 SAMPLE Date: 06/01/1997 15:56:44
Data File : C:\DX\DATA\97060101.D09
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	45	148	1	
2	1.03	fluoride	184.618	54831	283485	1	2.31
3	1.53	chloride	0.771	95	369	1	-0.87
4	1.83	nitrite	7.791	488	2384	1	-2.14
5	3.12	nitrate	15.678	702	5312	1	4.46
6	5.87	sulfate	3.938	138	1885	1	2.74
		Totals	212.795	56298	293582		

File: 97060101.D09 Sample: S97T001071 SAMPLE



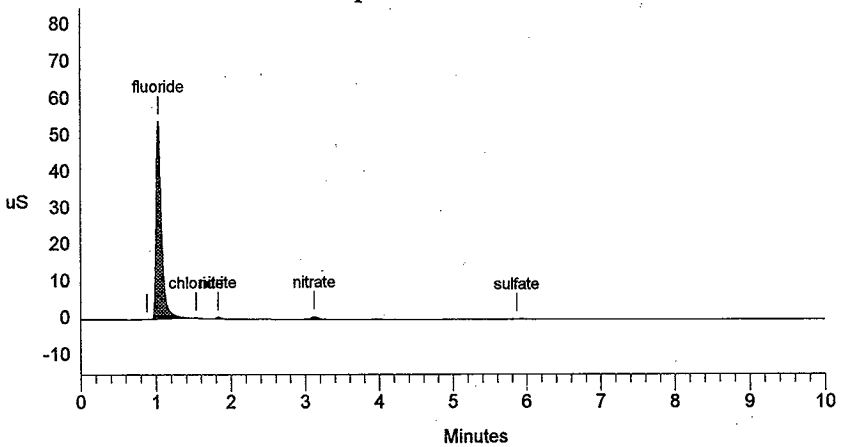
Sample Name: S97T001071 DUP Date: 06/01/1997 16:09:24
Data File : C:\DX\DATA\97060101.D10
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	47	158	1	
2	1.03	fluoride	183.716	54191	278309	1	2.31
3	1.53	chloride	1.096	154	592	1	-0.43
4	1.83	nitrite	7.870	476	2421	1	-2.14
5	3.12	nitrate	15.316	701	5169	1	4.46
6	5.87	sulfate	4.257	145	2051	1	2.74
		Totals	212.255	55714	288702		

File: 97060101.D10 Sample: S97T001071 DUP



LABCORE Completed Worklist Report for Worklist# 18400

Analyst: eal **Instrument:** IC01 **Book#** 61N20B

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB			0	@IC-QC	F	QC	1		<1.20e-2		ug/mL
1	CCB			0	@IC-QC	CL	QC	1		<1.70e-2		ug/mL
1	CCB			0	@IC-QC	NO2	QC	1		<1.08e-1		ug/mL
1	CCB			0	@IC-QC	BR	QC	1		<1.25e-1		ug/mL
1	CCB			0	@IC-QC	NO3	QC	1		<1.39e-1		ug/mL
1	CCB			0	@IC-QC	PO4	QC	1		<1.20e-1		ug/mL
1	CCB			0	@IC-QC	SO4	QC	1		<1.38e-1		ug/mL
1	CCB			0	@IC-QC	OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV			0	@IC-QC	F	QC	5.90e01		5.79e+01	98.136	% Recovery
2	CCV			0	@IC-QC	CL	QC	7.90e01		7.79e+01	98.608	% Recovery
2	CCV			0	@IC-QC	NO2	QC	5.44e02		5.43e+02	99.816	% Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e02		5.77e+02	97.963	% Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e02		5.70e+02	95.960	% Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e02		5.11e+02	93.761	% Recovery
2	CCV			0	@IC-QC	SO4	QC	6.31e02		6.16e+02	97.623	% Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.36e02		5.27e+02	98.321	% Recovery
3	BLNK-PREP			0	@IC-01	F-02	SOLID	1		<1.20e-2		ug/g
3	BLNK-PREP			0	@IC-01	CL-02	SOLID	1		2.20e-02	0.022	ug/g
3	BLNK-PREP			0	@IC-01	NO2-02	SOLID	1		<1.08e-1		ug/g
3	BLNK-PREP			0	@IC-01	BR-02	SOLID	1		<1.25e-1		ug/g
3	BLNK-PREP			0	@IC-01	NO3-02	SOLID	1		<1.39e-1		ug/g
3	BLNK-PREP			0	@IC-01	PO4-02	SOLID	1		<1.20e-1		ug/g
3	BLNK-PREP			0	@IC-01	SO4-02	SOLID	1		<1.38e-1		ug/g
3	BLNK-PREP			0	@IC-01	OXALATE2	SOLID	1		<1.05e-1		ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	F-02	SOLID	N/A		8.691e+04	119.200	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	CL-02	SOLID	N/A		9.663e+02	168.900	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	NO2-02	SOLID	N/A		2.302e+04	1073.000	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	BR-02	SOLID	N/A	<	1.242e+03	1242.000	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	NO3-02	SOLID	N/A		6.883e+04	1381.000	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	PO4-02	SOLID	N/A	<	1.192e+03	1192.000	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.371e+03	1371.000	ug/g
4	SAMPLE	S97T001006	0	W	@IC-01	OXALATE2	SOLID	N/A	<	1.043e+03	1043.000	ug/g
5	DUP	S97T001006	0	W	@IC-01	F-02	SOLID	8.69e+04		8.72e+04	0.345	RPD
5	DUP	S97T001006	0	W	@IC-01	CL-02	SOLID	9.66e+02		1.00e+03	3.459	RPD
5	DUP	S97T001006	0	W	@IC-01	NO2-02	SOLID	2.30e+04		2.30e+04	0.000	RPD
5	DUP	S97T001006	0	W	@IC-01	BR-02	SOLID	<1.24e3		<1.25e3		RPD
5	DUP	S97T001006	0	W	@IC-01	NO3-02	SOLID	6.88e+04		6.90e+04	0.290	RPD
5	DUP	S97T001006	0	W	@IC-01	PO4-02	SOLID	<1.19e3		<1.20e3		RPD
5	DUP	S97T001006	0	W	@IC-01	SO4-02	SOLID	<1.37e3		1.48e+03		RPD
5	DUP	S97T001006	0	W	@IC-01	OXALATE2	SOLID	<1.04e3		<1.05e3		RPD
6	SAMPLE	S97T001010	0	W	@IC-01	F-02	SOLID	N/A		6.232e+04	118.500	ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18400

Seq	Type	Sample#	R	A		Test	Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S97T001010	0	W	@IC-01	CL-02	SOLID	N/A		1.072e+03	167.900	ug/g
6	SAMPLE	S97T001010	0	W	@IC-01	NO2-02	SOLID	N/A		3.162e+04	1066.000	ug/g
6	SAMPLE	S97T001010	0	W	@IC-01	BR-02	SOLID	N/A	<	1.235e+03	1235.000	ug/g
6	SAMPLE	S97T001010	0	W	@IC-01	NO3-02	SOLID	N/A		1.103e+05	1373.000	ug/g
6	SAMPLE	S97T001010	0	W	@IC-01	PO4-02	SOLID	N/A	<	1.185e+03	1185.000	ug/g
6	SAMPLE	S97T001010	0	W	@IC-01	SO4-02	SOLID	N/A		1.839e+03	1363.000	ug/g
6	SAMPLE	S97T001010	0	W	@IC-01	OXALATE2	SOLID	N/A		1.299e+03	1037.000	ug/g
7	DUP	S97T001010	0	W	@IC-01	F-02	SOLID	6.23e+04		6.37e+04	2.222	RPD
7	DUP	S97T001010	0	W	@IC-01	CL-02	SOLID	1.07e+03		1.23e+03	13.913	RPD
7	DUP	S97T001010	0	W	@IC-01	NO2-02	SOLID	3.16e+04		3.19e+04	0.945	RPD
7	DUP	S97T001010	0	W	@IC-01	BR-02	SOLID	<1.24e3		<1.23e3		RPD
7	DUP	S97T001010	0	W	@IC-01	NO3-02	SOLID	1.10e+05		1.09e+05	0.913	RPD
7	DUP	S97T001010	0	W	@IC-01	PO4-02	SOLID	<1.18e3		<1.18e3		RPD
7	DUP	S97T001010	0	W	@IC-01	SO4-02	SOLID	1.84e+03		1.94e+03	5.291	RPD
7	DUP	S97T001010	0	W	@IC-01	OXALATE2	SOLID	1.30e+03		1.30e+03	0.000	RPD
8	SAMPLE	S97T001011	0	W	@IC-01	F-02	SOLID	N/A		5.769e+03	118.400	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	CL-02	SOLID	N/A		1.660e+03	167.700	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	NO2-02	SOLID	N/A		3.515e+04	1065.000	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	BR-02	SOLID	N/A	<	1.233e+03	1233.000	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	NO3-02	SOLID	N/A		2.010e+05	1371.000	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	PO4-02	SOLID	N/A		3.685e+04	1184.000	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	SO4-02	SOLID	N/A		2.019e+03	1362.000	ug/g
8	SAMPLE	S97T001011	0	W	@IC-01	OXALATE2	SOLID	N/A		2.888e+04	1036.000	ug/g
9	DUP	S97T001011	0	W	@IC-01	F-02	SOLID	5.77e+03		5.81e+03	0.691	RPD
9	DUP	S97T001011	0	W	@IC-01	CL-02	SOLID	1.66e+03		1.68e+03	1.198	RPD
9	DUP	S97T001011	0	W	@IC-01	NO2-02	SOLID	3.52e+04		3.50e+04	0.570	RPD
9	DUP	S97T001011	0	W	@IC-01	BR-02	SOLID	<1.23e3		<1.24e3		RPD
9	DUP	S97T001011	0	W	@IC-01	NO3-02	SOLID	2.01e+05		2.02e+05	0.496	RPD
9	DUP	S97T001011	0	W	@IC-01	PO4-02	SOLID	3.68e+04		3.68e+04	0.000	RPD
9	DUP	S97T001011	0	W	@IC-01	SO4-02	SOLID	2.02e+03		2.36e+03	15.525	RPD
9	DUP	S97T001011	0	W	@IC-01	OXALATE2	SOLID	2.89e+04		2.85e+04	1.394	RPD
10	SPK	S97T001011	0	W	@IC-01	F-02	SOLID	5.90e01		6.35e+01	107.627	% Recovery
10	SPK	S97T001011	0	W	@IC-01	CL-02	SOLID	7.90e01		7.83e+01	99.114	% Recovery
10	SPK	S97T001011	0	W	@IC-01	NO2-02	SOLID	5.44e02		5.44e+02	100.000	% Recovery
10	SPK	S97T001011	0	W	@IC-01	BR-02	SOLID	5.89e02		5.25e+02	89.134	% Recovery
10	SPK	S97T001011	0	W	@IC-01	NO3-02	SOLID	5.94e02		6.38e+02	107.407	% Recovery
10	SPK	S97T001011	0	W	@IC-01	PO4-02	SOLID	5.45e02		5.46e+02	100.183	% Recovery
10	SPK	S97T001011	0	W	@IC-01	SO4-02	SOLID	6.31e02		6.07e+02	96.197	% Recovery
10	SPK	S97T001011	0	W	@IC-01	OXALATE2	SOLID	5.36e02		5.50e+02	102.612	% Recovery

Final page for worklist# 18400

Analyst Signature **Date**

Analyst Signature **Date**

Jason M Tuyo 6/5/97
Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18400

Analyst: EAL **Instrument:** IC0 1 **Book#** 60N20.0

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001006	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001006	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001010	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T001010	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001011	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
9	DUP	S97T001011	0	W	@IC-01	SOLID		
10	SPK	S97T001011	0	W	@IC-01	SOLID		

Final page for worklist # 18400

A Lambert 06.01.97

Analyst Signature **Date**

Analyst Signature **Date**

Uploaded 6-4-97
JK Worrell
18400JUN.CSV
Validated 6/5/97 JM Fuyc

Data Entry Comments:

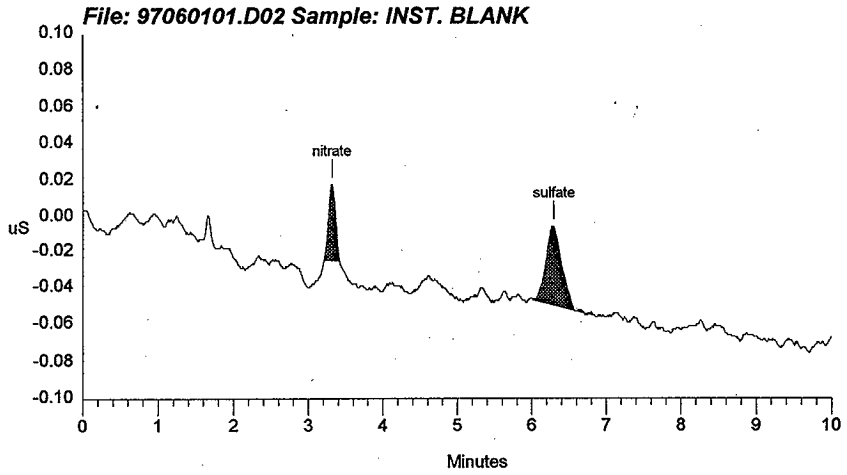
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: INST. BLANK Date: 06/01/1997 19:09:25
Data File : C:\DX\DATA\97060101.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst Jan Luge for EAL 6/5/97 Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.31	nitrate	0.107	42	270	1	1.95
2	6.29	sulfate	-0.011	44	643	1	4.42
		Totals	0.096	86	913		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 488 TO 497.

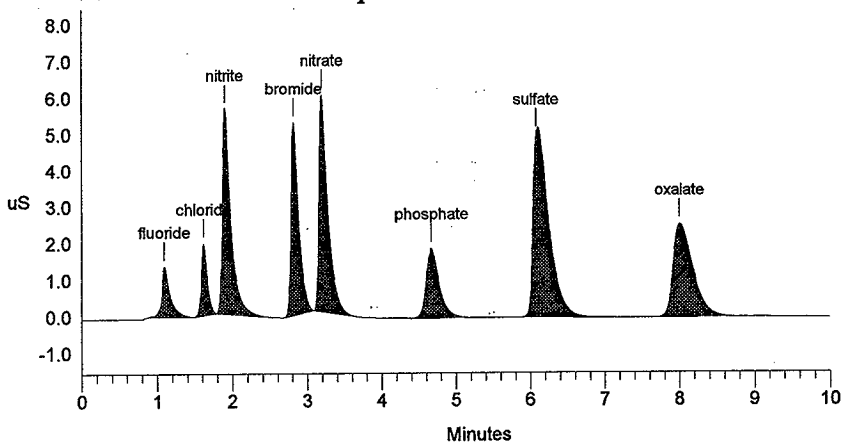
Sample Name: 61N20-B STD. Date: 06/01/1997 19:21:03
Data File : C:\DX\DATA\97060101.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	57.872	1366	10443	1	-2.38
2	1.61	chloride	77.918	1948	10172	1	1.26
3	1.90	nitrite	542.639	5606	42887	1	-1.38
4	2.81	bromide	577.207	5277	36067	1	3.05
5	3.19	nitrate	569.914	5957	47408	1	-1.74
6	4.67	phosphate	511.106	1897	22626	1	1.16
7	6.08	sulfate	615.917	5054	75599	1	0.88
8	8.00	oxalate	527.498	2548	46634	1	2.04
		Totals	3480.070	29654	291835		

File: 97060101.D03 Sample: 61N20-B STD.



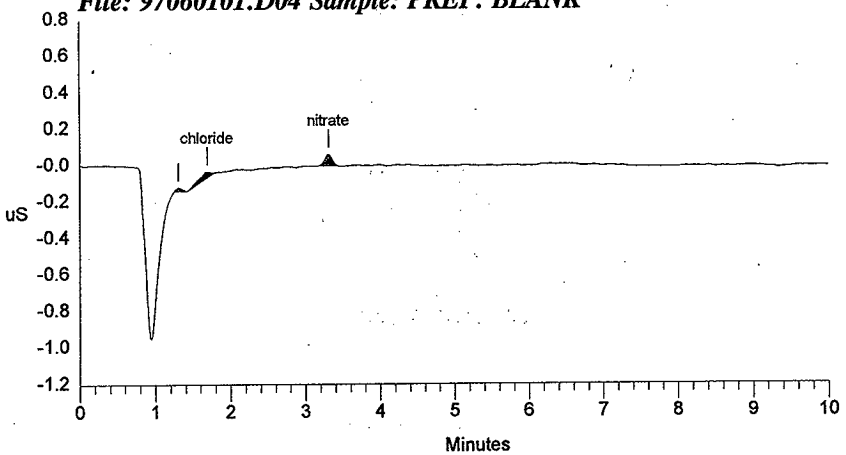
```
Sample Name: PREP. BLANK                    Date: 06/01/1997 19:33:23
Data File  : C:\DX\DATA\97060101.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 4                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.31		0.000	17	91	1	
2	1.69	chloride	0.022	31	357	1	5.86
3	3.31	nitrate	0.126	62	428	1	1.74
		Totals	0.148	110	876		

File: 97060101.D04 Sample: PREP. BLANK



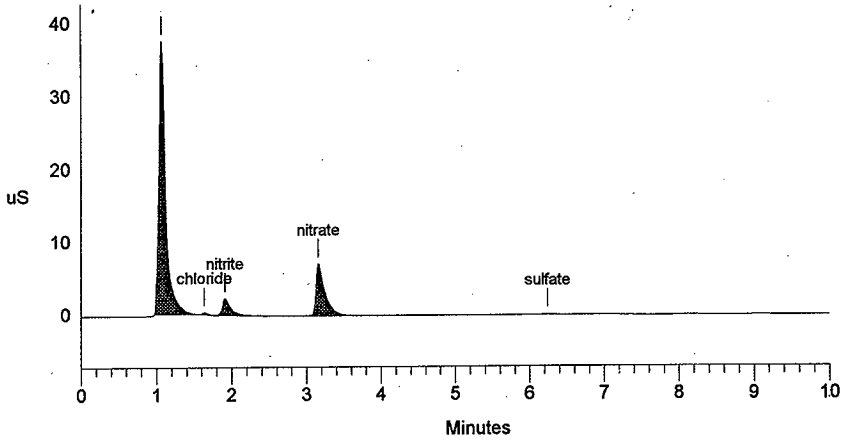
Sample Name: S97T001006 Date: 06/01/1997 19:58:00
Data File : C:\DX\DATA\97060101.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	446.116	37544	232554	1	-4.76
2	1.63	chloride	4.960	279	1324	1	2.51
3	1.91	nitrite	118.158	2341	17914	1	-1.04
4	3.15	nitrate	353.285	7114	58540	1	-2.97
5	6.24	sulfate	5.365	141	2050	1	3.54
		Totals	927.885	47420	312382		

File: 97060101.D06 Sample: S97T001006



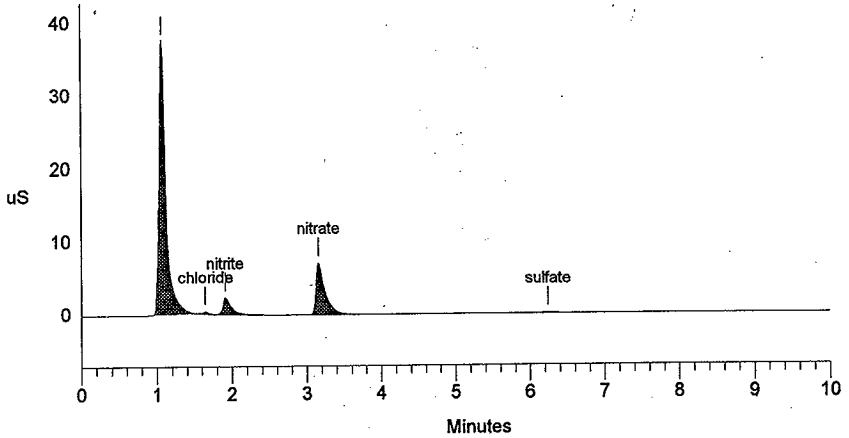
```
Sample Name: S97T001006 DUP                    Date: 06/01/1997 20:08:59
Data File  : C:\DX\DATA\97060101.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 7                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	446.088	37423	232530	1	-4.76
2	1.64	chloride	5.136	302	1369	1	2.93
3	1.91	nitrite	117.394	2339	17792	1	-1.04
4	3.15	nitrate	353.040	7169	58499	1	-2.97
5	6.24	sulfate	7.574	157	2573	1	3.54
		Totals	929.232	47389	312762		

File: 97060101.D07 Sample: S97T001006 DUP



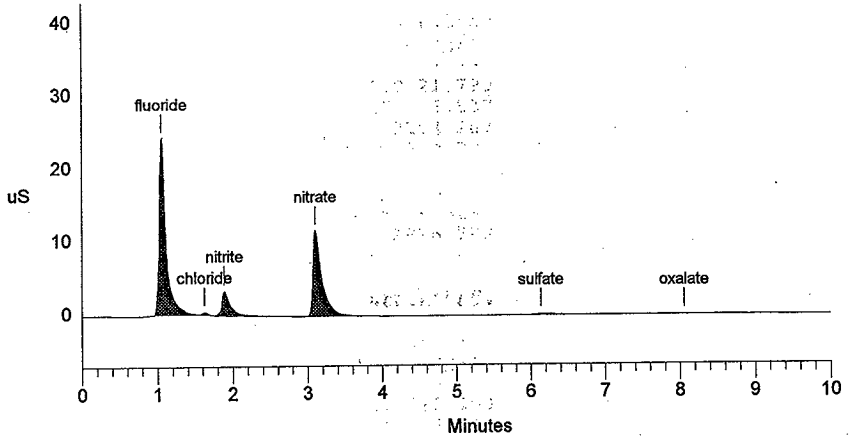
```
Sample Name: S97T001010                    Date: 06/01/1997 22:56:21
Data File  : C:\DX\DATA\97060101.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 8                Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	321.799	24063	145574	1	-5.95
2	1.62	chloride	5.537	326	1471	1	1.67
3	1.89	nitrite	163.267	3292	25103	1	-2.08
4	3.10	nitrate	569.772	11630	95884	1	-4.62
5	6.13	sulfate	9.496	160	3028	1	1.77
6	8.05	oxalate	6.709	46	933	1	2.72
		Totals	1076.579	39517	271993		

File: 97060101.D08 Sample: S97T001010



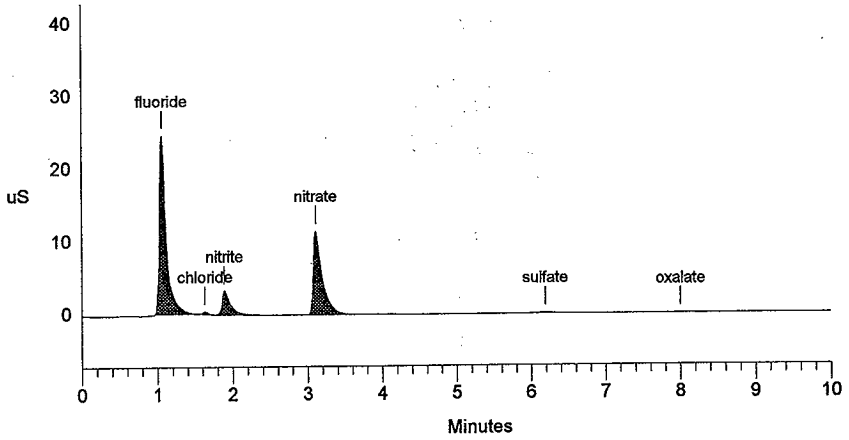
```
Sample Name: S97T001010 DUP                    Date: 06/01/1997 23:08:11
Data File  : C:\DX\DATA\97060101.D09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 9                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	328.893	24554	149738	1	-5.36
2	1.63	chloride	6.343	357	1675	1	2.09
3	1.89	nitrite	164.569	3297	25311	1	-2.08
4	3.11	nitrate	561.791	11532	94492	1	-4.41
5	6.19	sulfate	10.024	188	3153	1	2.65
6	8.00	oxalate	6.719	44	935	1	2.04
		Totals	1078.338	39972	275304		

File: 97060101.D09 Sample: S97T001010 DUP



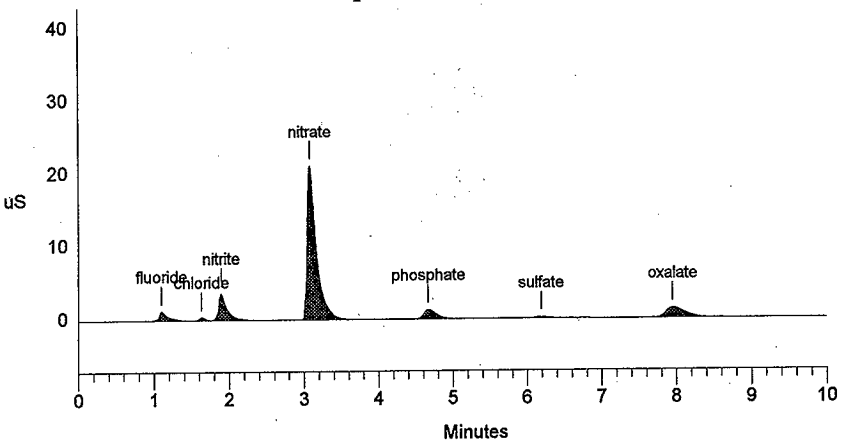
```
Sample Name: S97T001011                    Date: 06/01/1997 23:19:40
Data File  : C:\DX\DATA\97060101.D10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 10                 Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.10	fluoride	29.819	1268	10671	1	-1.79
2	1.63	chloride	8.582	447	2244	1	2.51
3	1.89	nitrite	181.675	3659	28046	1	-1.73
4	3.08	nitrate	1038.732	21144	179947	1	-5.23
5	4.67	phosphate	190.484	1321	16560	1	1.16
6	6.19	sulfate	10.437	225	3251	1	2.65
7	7.95	oxalate	149.306	1404	25956	1	1.36
		Totals	1609.035	29469	266674		

File: 97060101.D10 Sample: S97T001011



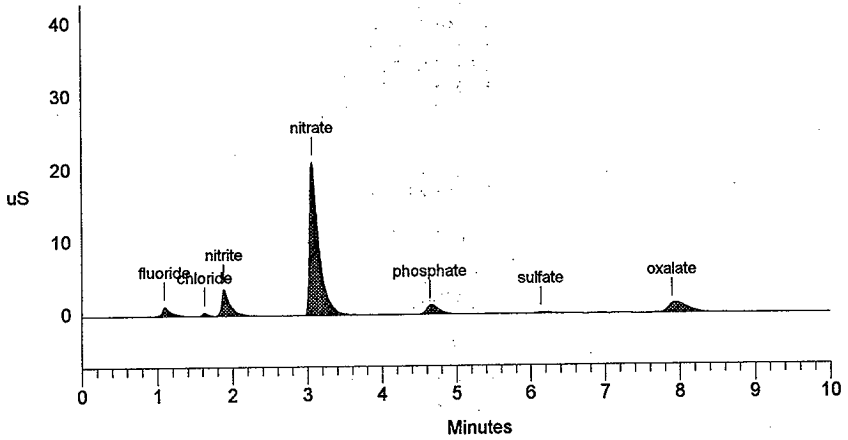
```
Sample Name: S97T001011DUP                    Date: 06/01/1997 23:30:53
Data File  : C:\DX\DATA\97060101.D11
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 11                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	29.966	1248	10727	1	-2.38
2	1.63	chloride	8.653	445	2262	1	2.09
3	1.88	nitrite	180.782	3604	27903	1	-2.42
4	3.07	nitrate	1044.710	21122	181049	1	-5.64
5	4.64	phosphate	190.130	1247	16528	1	0.58
6	6.13	sulfate	12.171	205	3662	1	1.77
7	7.89	oxalate	147.079	1266	25563	1	0.68
		Totals	1613.490	29138	267694		

File: 97060101.D11 Sample: S97T001011DUP



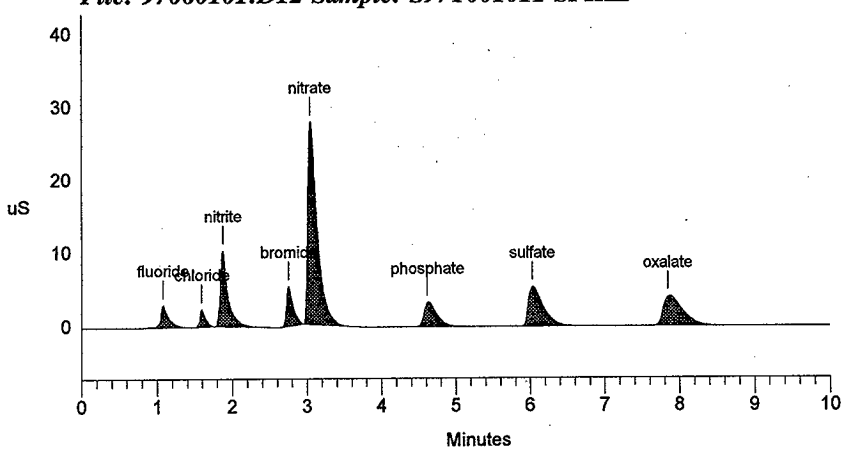
```
Sample Name: S97T001011 SPIKE                Date: 06/01/1997 23:42:14
Data File  : C:\DX\DATA\97060101.D12
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 12                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.08	fluoride	61.588	2991	23031	1	-3.57
2	1.59	chloride	47.741	2386	12373	1	0.00
3	1.87	nitrite	453.764	10296	72181	1	-2.77
4	2.75	bromide	262.567	5331	32398	1	0.85
5	3.04	nitrate	1357.817	27712	239930	1	-6.46
6	4.61	phosphate	463.641	3269	41376	1	0.00
7	6.03	sulfate	313.974	5365	76324	1	0.00
8	7.84	oxalate	424.136	3944	74706	1	0.00
		Totals	3385.228	61295	572320		

File: 97060101.D12 Sample: S97T001011 SPIKE



LABCORE Completed Worklist Report for Worklist# 18401

Analyst: eal **Instrument:** IC02 **Book#** 61N20B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB			0	@IC-QC F	QC	1	<1.20e-2		ug/mL
1	CCB			0	@IC-QC CL	QC	1	3.40e-02	0.034	ug/mL
1	CCB			0	@IC-QC NO2	QC	1	<1.08e-1		ug/mL
1	CCB			0	@IC-QC BR	QC	1	<1.25e-1		ug/mL
1	CCB			0	@IC-QC NO3	QC	1	<1.39e-1		ug/mL
1	CCB			0	@IC-QC PO4	QC	1	<1.20e-1		ug/mL
1	CCB			0	@IC-QC SO4	QC	1	<1.38e-1		ug/mL
1	CCB			0	@IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV			0	@IC-QC F	QC	5.90e01	5.50e+01	93.220	% Recovery
2	CCV			0	@IC-QC CL	QC	7.90e01	7.51e+01	95.063	% Recovery
2	CCV			0	@IC-QC NO2	QC	5.44e02	5.07e+02	93.199	% Recovery
2	CCV			0	@IC-QC BR	QC	5.89e02	5.55e+02	94.228	% Recovery
2	CCV			0	@IC-QC NO3	QC	5.94e02	5.73e+02	96.465	% Recovery
2	CCV			0	@IC-QC PO4	QC	5.45e02	5.39e+02	98.899	% Recovery
2	CCV			0	@IC-QC SO4	QC	6.31e02	6.17e+02	97.781	% Recovery
2	CCV			0	@IC-QC OXALATE2	QC	5.36e02	5.06e+02	94.403	% Recovery
3	BLNK-PREP			0	@IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3	BLNK-PREP			0	@IC-01 CL-02	SOLID	1	3.30e-02	0.033	ug/g
3	BLNK-PREP			0	@IC-01 NO2-02	SOLID	1	2.65e-01	0.265	ug/g
3	BLNK-PREP			0	@IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3	BLNK-PREP			0	@IC-01 NO3-02	SOLID	1	1.84e-01	0.184	ug/g
3	BLNK-PREP			0	@IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP			0	@IC-01 SO4-02	SOLID	1	<1.38e-1		ug/g
3	BLNK-PREP			0	@IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 F-02	SOLID	N/A	7.252e+04	125.500	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 CL-02	SOLID	N/A	4.214e+02	177.700	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 NO2-02	SOLID	N/A	4.837e+03	1129.000	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 BR-02	SOLID	N/A <	1.307e+03	1307.000	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 NO3-02	SOLID	N/A	6.301e+03	1453.000	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 PO4-02	SOLID	N/A <	1.254e+03	1255.000	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 SO4-02	SOLID	N/A	1.652e+03	1442.000	ug/g
4	SAMPLE	S97T001067	0	W	@IC-01 OXALATE2	SOLID	N/A <	1.098e+03	1098.000	ug/g
5	DUP	S97T001067	0	W	@IC-01 F-02	SOLID	7.25e+04	7.02e+04	3.224	RPD
5	DUP	S97T001067	0	W	@IC-01 CL-02	SOLID	4.21e+02	4.18e+02	0.715	RPD
5	DUP	S97T001067	0	W	@IC-01 NO2-02	SOLID	4.84e+03	4.77e+03	1.457	RPD
5	DUP	S97T001067	0	W	@IC-01 BR-02	SOLID	<1.31e3	<1.29e3		RPD
5	DUP	S97T001067	0	W	@IC-01 NO3-02	SOLID	6.30e+03	6.09e+03	3.390	RPD
5	DUP	S97T001067	0	W	@IC-01 PO4-02	SOLID	<1.25e3	<1.24e3		RPD
5	DUP	S97T001067	0	W	@IC-01 SO4-02	SOLID	1.65e+03	1.68e+03	1.802	RPD
5	DUP	S97T001067	0	W	@IC-01 OXALATE2	SOLID	<1.10e3	<1.08e3		RPD
6	SAMPLE	S97T001068	0	W	@IC-01 F-02	SOLID	N/A	6.749e+04	118.900	ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18401

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S97T001068	0	W	@IC-01	CL-02	SOLID	N/A	6.923e+02	168.500	ug/g
6	SAMPLE	S97T001068	0	W	@IC-01	NO2-02	SOLID	N/A	8.444e+03	1070.000	ug/g
6	SAMPLE	S97T001068	0	W	@IC-01	BR-02	SOLID	N/A <	1.239e+03	1239.000	ug/g
6	SAMPLE	S97T001068	0	W	@IC-01	NO3-02	SOLID	N/A	1.246e+04	1378.000	ug/g
6	SAMPLE	S97T001068	0	W	@IC-01	PO4-02	SOLID	N/A <	1.190e+03	1189.000	ug/g
6	SAMPLE	S97T001068	0	W	@IC-01	SO4-02	SOLID	N/A	2.174e+03	1368.000	ug/g
6	SAMPLE	S97T001068	0	W	@IC-01	OXALATE2	SOLID	N/A <	1.041e+03	1041.000	ug/g
7	DUP	S97T001068	0	W	@IC-01	F-02	SOLID	6.75e+04	6.68e+04	1.042	RPD
7	DUP	S97T001068	0	W	@IC-01	CL-02	SOLID	6.92e+02	7.33e+02	5.754	RPD
7	DUP	S97T001068	0	W	@IC-01	NO2-02	SOLID	8.44e+03	8.67e+03	2.688	RPD
7	DUP	S97T001068	0	W	@IC-01	BR-02	SOLID	<1.24e3	<1.25e3		RPD
7	DUP	S97T001068	0	W	@IC-01	NO3-02	SOLID	1.25e+04	1.25e+04	0.000	RPD
7	DUP	S97T001068	0	W	@IC-01	PO4-02	SOLID	<1.19e3	<1.20e3		RPD
7	DUP	S97T001068	0	W	@IC-01	SO4-02	SOLID	2.17e+03	2.21e+03	1.826	RPD
7	DUP	S97T001068	0	W	@IC-01	OXALATE2	SOLID	<1.04e3	<1.05e3		RPD
9	DUP	S97T001073	0	W	@IC-01	F-02	SOLID	4.61e+04	4.74e+04	2.781	RPD
9	DUP	S97T001073	0	W	@IC-01	CL-02	SOLID	7.00e+02	7.21e+02	2.956	RPD
9	DUP	S97T001073	0	W	@IC-01	NO2-02	SOLID	6.33e+03	6.50e+03	2.650	RPD
9	DUP	S97T001073	0	W	@IC-01	BR-02	SOLID	<1.26e3	<1.30e3		RPD
9	DUP	S97T001073	0	W	@IC-01	NO3-02	SOLID	8.56e+03	8.75e+03	2.195	RPD
9	DUP	S97T001073	0	W	@IC-01	PO4-02	SOLID	<1.21e3	<1.24e3		RPD
9	DUP	S97T001073	0	W	@IC-01	SO4-02	SOLID	2.16e+03	2.18e+03	0.922	RPD
9	DUP	S97T001073	0	W	@IC-01	OXALATE2	SOLID	<1.06e3	<1.09e3		RPD
10	SPK	S97T001073	0	W	@IC-01	F-02	SOLID	5.90e01	9.77e+00	16.559	% Recovery
10	SPK	S97T001073	0	W	@IC-01	CL-02	SOLID	7.90e01	-3.14e-1	-0.397	% Recovery
10	SPK	S97T001073	0	W	@IC-01	NO2-02	SOLID	5.44e02	-3.10e-2	-0.006	% Recovery
10	SPK	S97T001073	0	W	@IC-01	BR-02	SOLID	5.89e02	0.00e+00	0.000	% Recovery
10	SPK	S97T001073	0	W	@IC-01	NO3-02	SOLID	5.94e02	1.64e+00	0.276	% Recovery
10	SPK	S97T001073	0	W	@IC-01	PO4-02	SOLID	5.45e02	0.00e+00	0.000	% Recovery
10	SPK	S97T001073	0	W	@IC-01	SO4-02	SOLID	6.31e02	3.19e-01	0.051	% Recovery
10	SPK	S97T001073	0	W	@IC-01	OXALATE2	SOLID	5.36e02	0.00e+00	0.000	% Recovery

Final page for worklist# 18401

Analyst Signature **Date**

Analyst Signature **Date**

Jann M. Faye 6/5/97
Reviewer Signature **Date**

Review of S97T001073 on WKL 18498.
JMF

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18401

Analyst: EAL **Instrument:** IC0 2 **Book#** 16MN20B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC USE DIONEX IV STD .1ML-10ML lcm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001067	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001067	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001068	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T001068	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001073	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
9	DUP	S97T001073	0	W	@IC-01	SOLID		
10	SPK	S97T001073	0	W	@IC-01	SOLID		

Final page for worklist # 18401

A Lambert 06-01-97
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6/5/97 JMF
S97T001073 rejected because spike was done incorrectly
Rest validated 6/5/97. JM Leye Rerun on WKL 18498. JMF

Data Entry Comments:

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

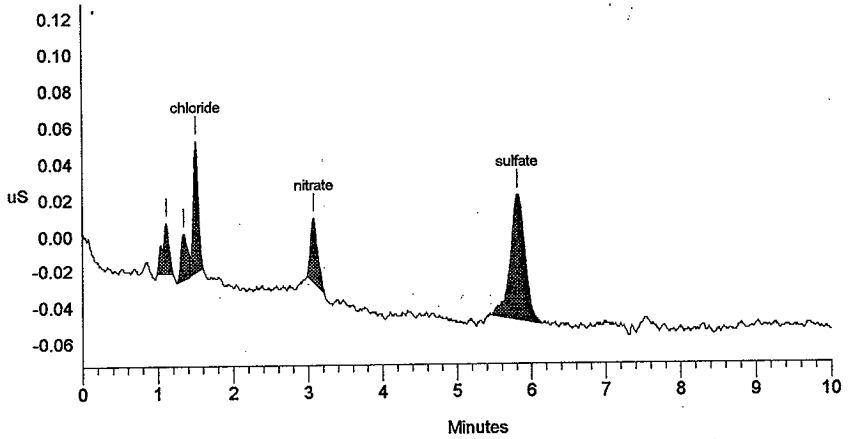
Sample Name: INST. BLANK Date: 06/01/1997 19:10:34
Data File : C:\DX\DATA\97060111.D01
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : for EAL 6/15/97 Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11		0.000	28	182	1	
2	1.35		0.000	25	155	2	
3	1.51	chloride	0.034	72	335	2	-2.16
4	3.08	nitrate	0.132	36	233	1	-2.84
5	5.81	sulfate	0.102	69	952	1	1.81
		Totals	0.269	230	1858		

File: 97060111.D01 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 501 TO 502.

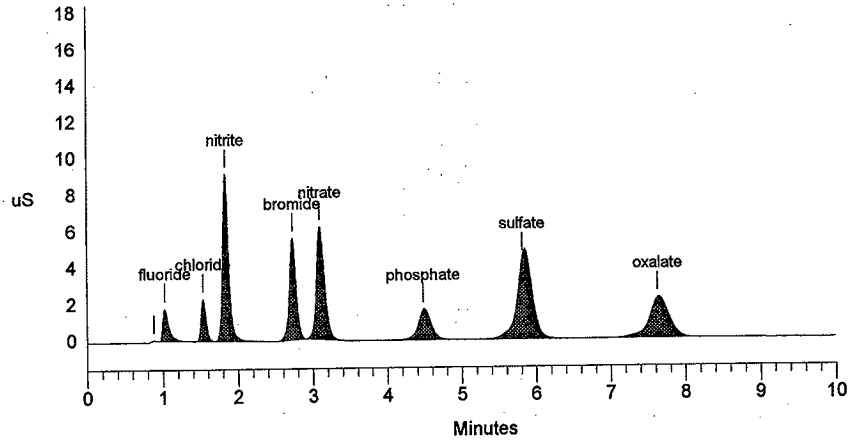
Sample Name: 61N20-B STD. Date: 06/01/1997 19:22:23
Data File : C:\DX\DATA\97060111.D02
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	71	282	2	
2	1.03	fluoride	55.036	1773	10002	2	1.65
3	1.53	chloride	75.129	2311	10647	1	-0.43
4	1.83	nitrite	506.711	9132	49090	1	-1.79
5	2.73	bromide	554.548	5563	34669	1	-2.27
6	3.09	nitrate	573.256	6168	46766	1	-2.42
7	4.48	phosphate	539.331	1675	21109	1	0.60
8	5.81	sulfate	617.047	4451	67844	1	1.81
9	7.63	oxalate	506.466	2235	42513	1	-4.07
		Totals	3427.523	33379	282921		

File: 97060111.D02 Sample: 61N20-B STD.



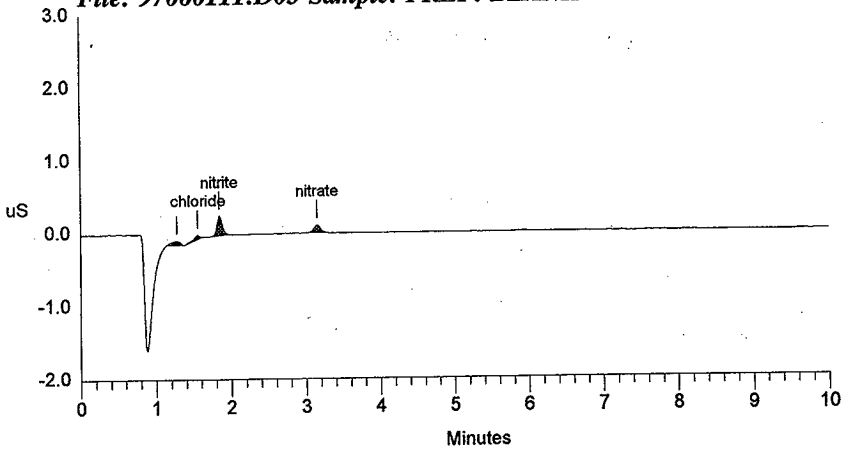
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Sample Name: PREP. BLANK                    Date: 06/01/1997 19:34:17
Data File  : C:\DX\DATA\97060111.D03
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 3                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.27		0.000	56	477	1	
2	1.55	chloride	0.033	51	312	1	0.87
3	1.84	nitrite	0.265	264	1324	1	-1.43
4	3.15	nitrate	0.184	103	660	1	-0.74
		Totals	0.482	474	2773		

File: 97060111.D03 Sample: PREP. BLANK



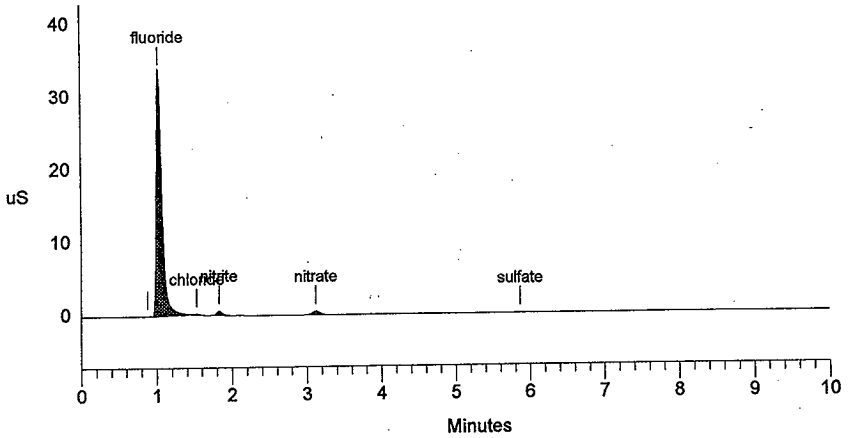
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Sample Name: S97T001067                          Date: 06/01/1997 20:00:42
Data File  : C:\DX\DATA\97060111.D05
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 5                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	37	119	1	
2	1.03	fluoride	353.815	33575	173422	1	1.65
3	1.53	chloride	2.056	104	421	1	-0.87
4	1.83	nitrite	23.602	619	3304	1	-2.14
5	3.12	nitrate	30.744	554	4121	1	-1.58
6	5.87	sulfate	8.059	110	1562	1	2.74
		Totals	418.276	34999	182950		

File: 97060111.D05 Sample: S97T001067



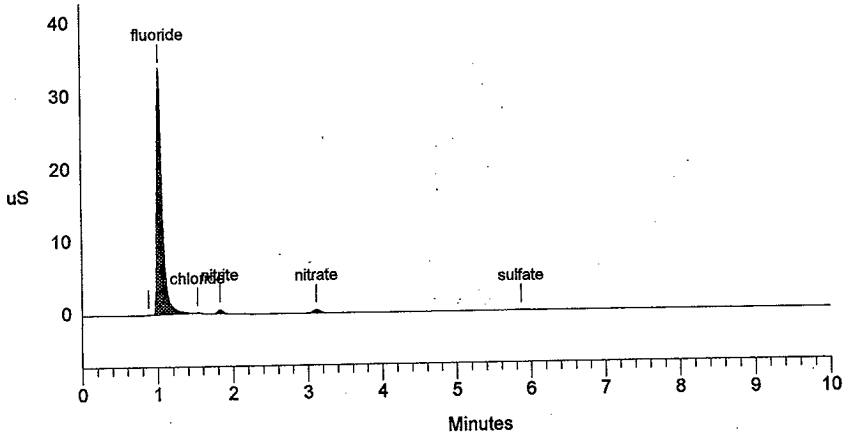
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Sample Name: S97T001067 DUP                    Date: 06/01/1997 20:11:34
Data File  : C:\DX\DATA\97060111.D06
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 6                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	37	120	1	
2	1.03	fluoride	346.533	33769	167982	1	1.65
3	1.53	chloride	2.063	102	423	1	-0.87
4	1.83	nitrite	23.538	622	3291	1	-2.14
5	3.11	nitrate	30.083	547	4014	1	-1.79
6	5.87	sulfate	8.289	115	1612	1	2.74
		Totals	410.506	35192	177443		

File: 97060111.D06 Sample: S97T001067 DUP



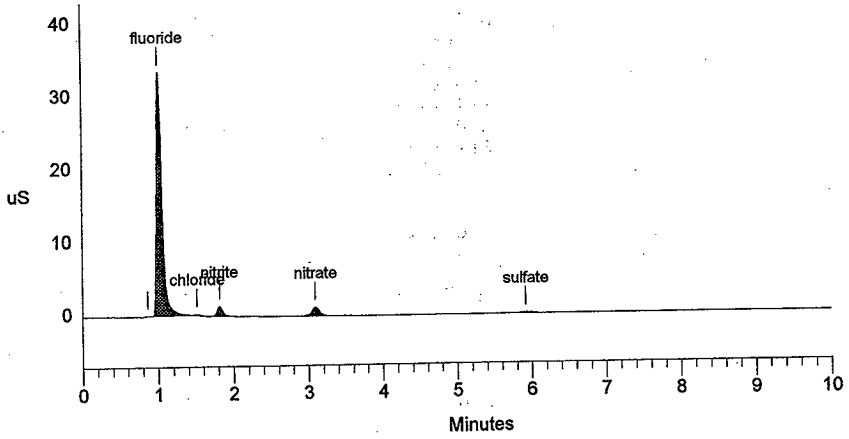
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Sample Name: S97T001068                    Date: 06/01/1997 22:55:31
Data File  : C:\DX\DATA\97060111.D07
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 7                Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	70	257	1	
2	1.01	fluoride	347.221	33467	168489	1	0.33
3	1.51	chloride	3.562	206	847	1	-1.73
4	1.81	nitrite	43.446	1356	7206	1	-2.86
5	3.09	nitrate	64.103	1233	9546	1	-2.42
6	5.92	sulfate	11.185	154	2233	1	3.68
		Totals	469.517	36486	188577		

File: 97060111.D07 Sample: S97T001068



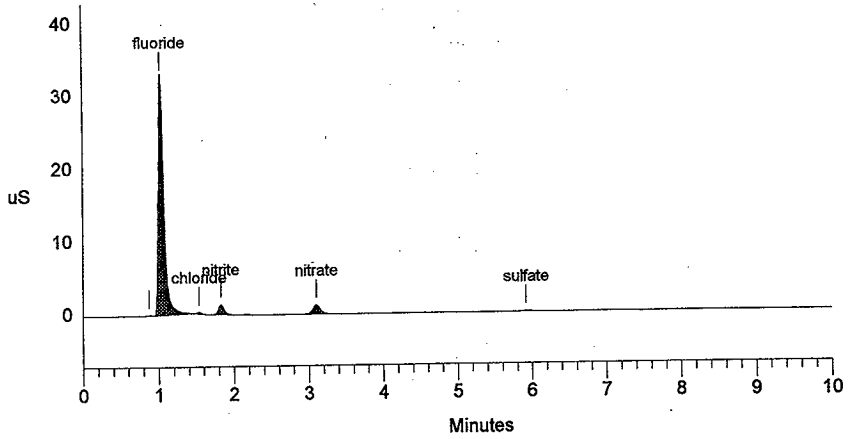
Sample Name: S97T001068 DUP Date: 06/01/1997 23:07:05
Data File : C:\DX\DATA\97060111.D08
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	68	235	1	
2	1.03	fluoride	340.688	32672	163744	1	1.65
3	1.53	chloride	3.738	218	897	1	-0.43
4	1.83	nitrite	44.247	1370	7363	1	-2.14
5	3.10	nitrate	63.674	1273	9476	1	-2.21
6	5.92	sulfate	11.278	151	2253	1	3.68
		Totals	463.626	35752	183968		

File: 97060111.D08 Sample: S97T001068 DUP



LABCORE Completed Worklist Report for Worklist# 18443

Analyst: kgh **Instrument:** IC01 **Book#** 6/N20B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC. RCJ

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB			0	@IC-QC	F	QC	1		<1.20e-2	ug/mL
1	CCB			0	@IC-QC	CL	QC	1		<1.70e-2	ug/mL
1	CCB			0	@IC-QC	NO2	QC	1		<1.08e-1	ug/mL
1	CCB			0	@IC-QC	BR	QC	1		<1.25e-1	ug/mL
1	CCB			0	@IC-QC	NO3	QC	1		<1.39e-1	ug/mL
1	CCB			0	@IC-QC	PO4	QC	1		<1.20e-1	ug/mL
1	CCB			0	@IC-QC	SO4	QC	1		<1.38e-1	ug/mL
1	CCB			0	@IC-QC	OXALATE2	QC	1		<1.05e-1	ug/mL
2	CCV			0	@IC-QC	F	QC	5.90e01		5.98e+01	101.356 % Recovery
2	CCV			0	@IC-QC	CL	QC	7.90e01		7.71e+01	97.595 % Recovery
2	CCV			0	@IC-QC	NO2	QC	5.44e02		5.45e+02	100.184 % Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e02		5.75e+02	97.623 % Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e02		5.56e+02	93.603 % Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e02		5.13e+02	94.128 % Recovery
2	CCV			0	@IC-QC	SO4	QC	6.31e02		5.84e+02	92.552 % Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.36e02		5.34e+02	99.627 % Recovery
3	SAMPLE	S97T001079		0	@IC-01	F-02	LIQUID	N/A		1.608e+04	49.690 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	CL-02	LIQUID	N/A		1.465e+02	70.400 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	NO2-02	LIQUID	N/A		1.757e+03	447.200 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	BR-02	LIQUID	N/A	<	5.176e+02	517.600 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	NO3-02	LIQUID	N/A		4.237e+03	575.600 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	PO4-02	LIQUID	N/A	<	4.969e+02	496.900 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	SO4-02	LIQUID	N/A		7.831e+02	571.500 ug/mL
3	SAMPLE	S97T001079		0	@IC-01	OXALATE2	LIQUID	N/A	<	4.348e+02	434.800 ug/mL
4	DUP	S97T001079		0	@IC-01	F-02	LIQUID	1.61e+04		1.59e+04	1.250 RPD
4	DUP	S97T001079		0	@IC-01	CL-02	LIQUID	1.46e+02		1.50e+02	2.703 RPD
4	DUP	S97T001079		0	@IC-01	NO2-02	LIQUID	1.76e+03		1.75e+03	0.570 RPD
4	DUP	S97T001079		0	@IC-01	BR-02	LIQUID	<5.18e2		<5.18e2	RPD
4	DUP	S97T001079		0	@IC-01	NO3-02	LIQUID	4.24e+03		4.29e+03	1.172 RPD
4	DUP	S97T001079		0	@IC-01	PO4-02	LIQUID	<4.97e2		<4.97e2	RPD
4	DUP	S97T001079		0	@IC-01	SO4-02	LIQUID	7.83e+02		7.62e+02	2.718 RPD
4	DUP	S97T001079		0	@IC-01	OXALATE2	LIQUID	<4.35e2		<4.35e2	RPD
5	SPK	S97T001079		0	@IC-01	F-02	LIQUID	5.90e01		5.64e+01	95.593 % Recovery
5	SPK	S97T001079		0	@IC-01	CL-02	LIQUID	7.90e01		7.88e+01	99.747 % Recovery
5	SPK	S97T001079		0	@IC-01	NO2-02	LIQUID	5.44e02		5.33e+02	97.978 % Recovery
5	SPK	S97T001079		0	@IC-01	BR-02	LIQUID	5.89e02		5.73e+02	97.284 % Recovery
5	SPK	S97T001079		0	@IC-01	NO3-02	LIQUID	5.94e02		5.83e+02	98.148 % Recovery
5	SPK	S97T001079		0	@IC-01	PO4-02	LIQUID	5.45e02		5.45e+02	100.000 % Recovery
5	SPK	S97T001079		0	@IC-01	SO4-02	LIQUID	6.31e02		5.94e+02	94.136 % Recovery
5	SPK	S97T001079		0	@IC-01	OXALATE2	LIQUID	5.36e02		5.53e+02	103.172 % Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18443

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit

Final page for worklist# 18443

Analyst Signature Date

Analyst Signature Date

James M. Fuge 6/8/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18443

Analyst: KRH **Instrument:** IC0 1 **Book#** 6/1220-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-103 IC. RCJ

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S97T001079	0		@IC-01	LIQUID	97000333	AW-103
		Analytes Requested:			BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
4	DUP	S97T001079	0		@IC-01	LIQUID		
5	SPK	S97T001079	0		@IC-01	LIQUID		

Final page for worklist # 18443

Analyst Signature Date 6/6/97

UPLOADED 6-6-97
John Worrell
18443.CSV

Validated 6/6/97 JM Leyba

Analyst Signature Date

Data Entry Comments:

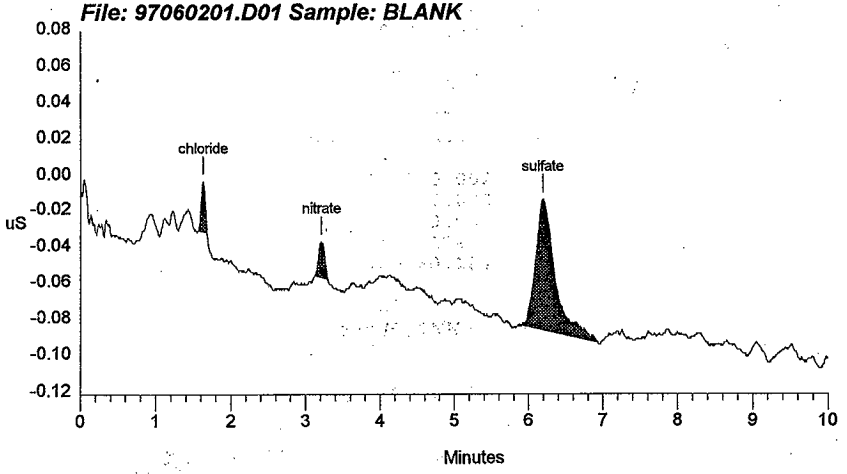
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: BLANK Date: 06/03/1997 10:10:38
Data File : C:\DX\DATA\97060201.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst Jann Fuge Column: AG4A/AS4A anion column
for KGH 6/8/97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63	chloride	0.002	28	100	1	2.09
2	3.21	nitrate	0.088	20	112	1	-1.33
3	6.19	sulfate	0.044	72	1306	1	2.65
		Totals	0.134	120	1518		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 511 TO 515.

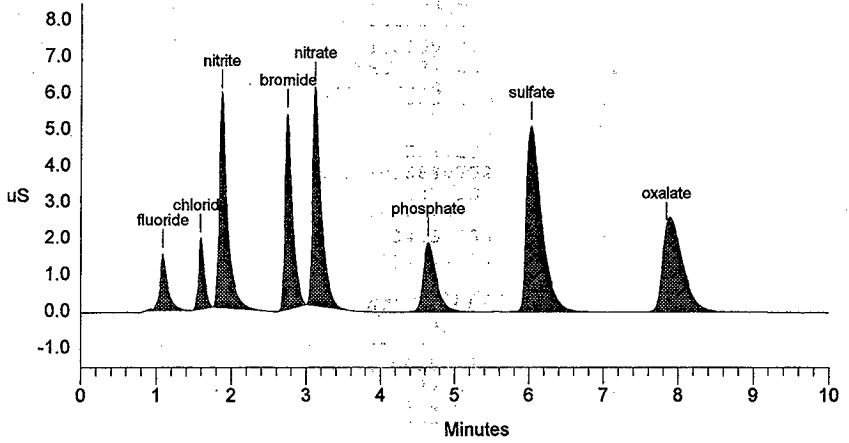
Sample Name: STD 61N20-B Date: 06/03/1997 10:54:43
Data File : C:\DX\DATA\97060201.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	59.787	1539	10813	1	-2.98
2	1.59	chloride	77.056	1927	10058	1	-0.42
3	1.87	nitrite	544.617	5844	43049	1	-3.11
4	2.75	bromide	575.013	5355	35926	1	0.61
5	3.11	nitrate	556.388	6011	46252	1	-4.21
6	4.64	phosphate	513.187	1892	22720	1	0.58
7	6.03	sulfate	583.752	5099	71630	1	0.00
8	7.84	oxalate	533.986	2326	47214	1	0.00
		Totals	3443.785	29993	287663		

File: 97060201.D03 Sample: STD 61N20-B



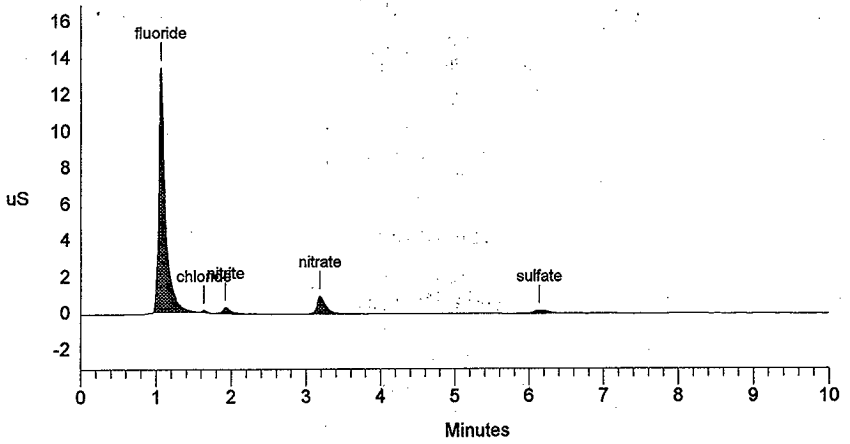
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Sample Name: S97T001079 SAM                    Date: 06/03/1997 13:44:39
Data File  : C:\DX\DATA\97060201.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 4                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	4141	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	16082.066	13443	81458	1	-5.36
2	1.63	chloride	146.474	120	525	1	2.51
3	1.92	nitrite	1757.235	344	2636	1	-0.35
4	3.18	nitrate	4237.082	990	7980	1	-2.15
5	6.13	sulfate	783.114	187	3064	1	1.77
		Totals	23005.971	15084	95663		

File: 97060201.D04 Sample: S97T001079 SAM



Data Reprocessed On 06/03/1997 16:26:17

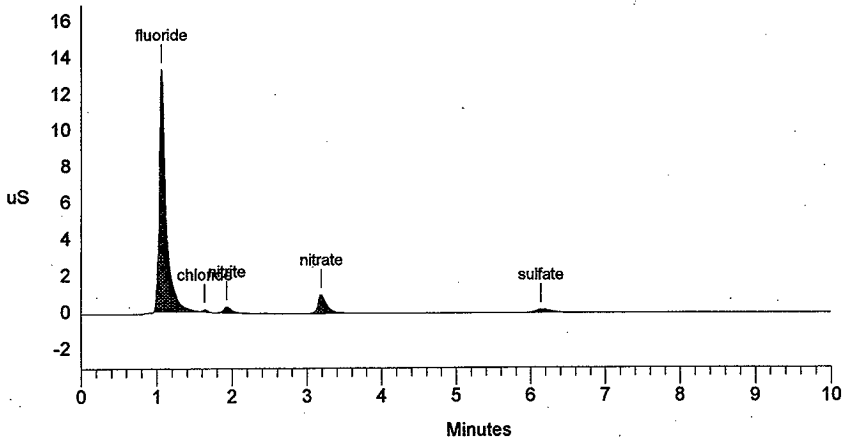
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Sample Name: S97T001079 DUP                    Date: 06/03/1997 13:58:10
Data File  : F:\DATA\97060201.d05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 5                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	4141	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	15890.472	13309	80358	1	-5.36
2	1.63	chloride	149.556	124	535	1	2.51
3	1.93	nitrite	1752.958	346	2628	1	0.00
4	3.19	nitrate	4292.309	1017	8092	1	-1.95
5	6.13	sulfate	761.834	192	3001	1	1.77
		Totals	22847.130	14987	94615		

File: 97060201.d05 Sample: S97T001079 DUP



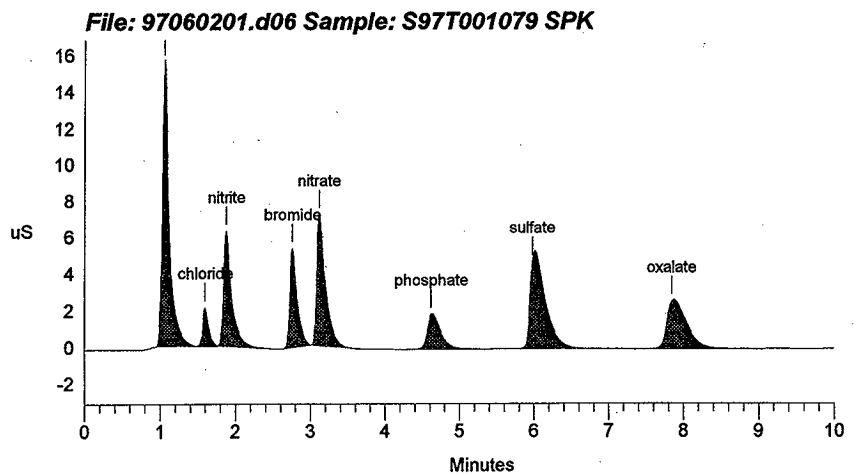
Data Reprocessed On 06/03/1997 16:26:19

Sample Name: S97T001079 SPK Date: 06/03/1997 14:11:13
Data File : F:\DATA\97060201.d06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	4141	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	18357.292	15563	94814	1	-5.95
2	1.59	chloride	3324.192	2052	10589	1	0.00
3	1.87	nitrite	23260.722	6238	44902	1	-2.77
4	2.75	bromide	23124.723	5355	35221	1	0.85
5	3.11	nitrate	27726.868	7139	56529	1	-4.21
6	4.61	phosphate	21959.281	1873	23741	1	0.00
7	5.97	sulfate	24751.527	4710	74090	1	-0.88
8	7.84	oxalate	22282.367	2554	48063	1	0.00
		Totals	164786.971	45484	387949		



LABCORE Completed Worklist Report for Worklist# 18559

Analyst: rag **Instrument:** IC02 **Book#** 6/W20B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB		0	@IC-QC	F	QC	1		<1.20e-2		ug/mL
1	CCB		0	@IC-QC	CL	QC	1		<1.70e-2		ug/mL
1	CCB		0	@IC-QC	NO2	QC	1		<1.08e-1		ug/mL
1	CCB		0	@IC-QC	BR	QC	1		<1.25e-1		ug/mL
1	CCB		0	@IC-QC	NO3	QC	1		1.76e-01	0.176	ug/mL
1	CCB		0	@IC-QC	PO4	QC	1		<1.20e-1		ug/mL
1	CCB		0	@IC-QC	SO4	QC	1		1.63e-01	0.163	ug/mL
1	CCB		0	@IC-QC	OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0	@IC-QC	F	QC	5.90e01		5.79e+01	98.136	% Recovery
2	CCV		0	@IC-QC	CL	QC	7.90e01		7.61e+01	96.329	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.44e02		5.14e+02	94.485	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e02		5.68e+02	96.435	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e02		5.95e+02	100.168	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e02		5.55e+02	101.835	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.31e02		6.36e+02	100.792	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.36e02		5.27e+02	98.321	% Recovery
4	DUP	S97T000881	0	@IC-01	F-02	LIQUID	1.73e+04		1.76e+04	1.719	RPD
4	DUP	S97T000881	0	@IC-01	CL-02	LIQUID	2.33e+02		2.20e+02	5.740	RPD
4	DUP	S97T000881	0	@IC-01	NO2-02	LIQUID	1.85e+03		1.90e+03	2.667	RPD
4	DUP	S97T000881	0	@IC-01	BR-02	LIQUID	<5.18e2		<5.18e2		RPD
4	DUP	S97T000881	0	@IC-01	NO3-02	LIQUID	4.18e+03		4.35e+03	3.986	RPD
4	DUP	S97T000881	0	@IC-01	PO4-02	LIQUID	<4.97e2		<4.97e2		RPD
4	DUP	S97T000881	0	@IC-01	SO4-02	LIQUID	6.95e+02		7.58e+02	8.672	RPD
4	DUP	S97T000881	0	@IC-01	OXALATE2	LIQUID	<4.35e2		<4.35e2		RPD
5	SPK	S97T000881	0	@IC-01	F-02	LIQUID	5.90e01		-5.70e1	-96.610	% Recovery
5	SPK	S97T000881	0	@IC-01	CL-02	LIQUID	7.90e01		6.20e-01	0.785	% Recovery
5	SPK	S97T000881	0	@IC-01	NO2-02	LIQUID	5.44e02		5.09e+00	0.936	% Recovery
5	SPK	S97T000881	0	@IC-01	BR-02	LIQUID	5.89e02		2.14e+01	3.633	% Recovery
5	SPK	S97T000881	0	@IC-01	NO3-02	LIQUID	5.94e02		-4.51e0	-0.759	% Recovery
5	SPK	S97T000881	0	@IC-01	PO4-02	LIQUID	5.45e02		1.87e+01	3.431	% Recovery
5	SPK	S97T000881	0	@IC-01	SO4-02	LIQUID	6.31e02		1.25e+01	1.981	% Recovery
5	SPK	S97T000881	0	@IC-01	OXALATE2	LIQUID	5.36e02		-3.11e0	-0.580	% Recovery
6	SAMPLE	S97T000882	0	@IC-01	F-02	LIQUID	N/A		1.780e-01	0.132	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	CL-02	LIQUID	N/A		7.392e+00	0.187	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	NO2-02	LIQUID	N/A	<	1.188e+00	1.188	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	BR-02	LIQUID	N/A	<	1.375e+00	1.375	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	NO3-02	LIQUID	N/A		2.233e+00	1.529	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	PO4-02	LIQUID	N/A	<	1.320e+00	1.320	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	SO4-02	LIQUID	N/A		1.539e+01	1.518	ug/mL
6	SAMPLE	S97T000882	0	@IC-01	OXALATE2	LIQUID	N/A	<	1.155e+00	1.155	ug/mL
7	DUP	S97T000882	0	@IC-01	F-02	LIQUID	1.78e-01		1.77e-01	0.563	RPD

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18559

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
7	DUP	S97T000882	0	@IC-01	CL-02	LIQUID	7.39e+00	7.41e+00	0.270	RPD
7	DUP	S97T000882	0	@IC-01	NO2-02	LIQUID	<1.19e0	<1.19e0		RPD
7	DUP	S97T000882	0	@IC-01	BR-02	LIQUID	<1.38e0	<1.38e0		RPD
7	DUP	S97T000882	0	@IC-01	NO3-02	LIQUID	2.23e+00	2.61e+00	15.702	RPD
7	DUP	S97T000882	0	@IC-01	PO4-02	LIQUID	<1.32e0	<1.32e0		RPD
7	DUP	S97T000882	0	@IC-01	SO4-02	LIQUID	1.54e+01	1.54e+01	0.000	RPD
7	DUP	S97T000882	0	@IC-01	OXALATE2	LIQUID	<1.16e0	<1.16e0		RPD

Final page for worklist# 18559

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/18/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 11:03
A-0004-I

LABCORE Data Entry Template for Worklist# 18559

Analyst: RG **Instrument:** IC0 2 **Book#** 61N20-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S97T000881	0		@IC-01	LIQUID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
4	DUP	S97T000881	0		@IC-01	LIQUID		
5	SPK	S97T000881	0		@IC-01	LIQUID		
6	SAMPLE	S97T000882	0		@IC-01	LIQUID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T000882	0		@IC-01	LIQUID		

Final page for worklist # 18559

Rae Ann Green 06-10-97
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-12-97
JW
18559JUN.CSV

Sample S97T000881 rejected due to spike dilution problem, rest was validated 6/16/97 JMLuyc. The reanalysis on WKL # 18701. JMF

Data Entry Comments:

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

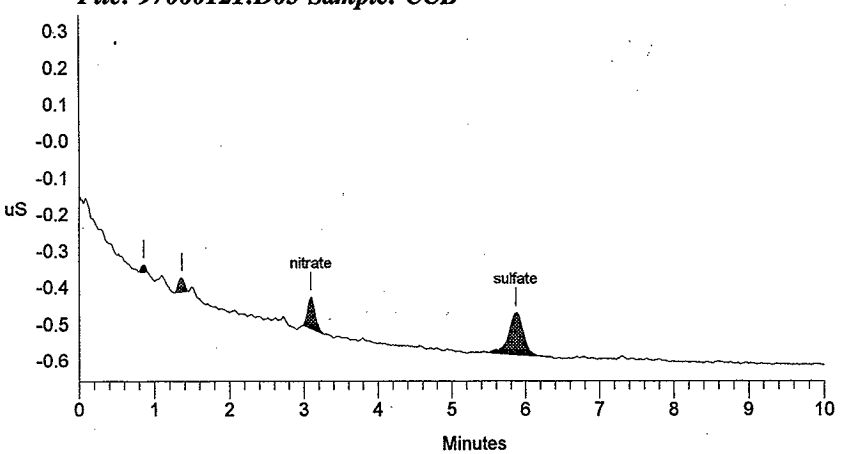
Sample Name: CCB Date: 06/10/1997 13:28:53
Data File : C:\DX\DATA\97060121.D05
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Rae Ann Green Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	20	89	1	
2	1.36		0.000	38	221	1	
3	3.09	nitrate	0.176	85	591	1	-2.42
4	5.87	sulfate	0.163	114	1617	1	2.74
		Totals	0.339	257	2519		

File: 97060121.D05 Sample: CCB



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 519 TO 522.

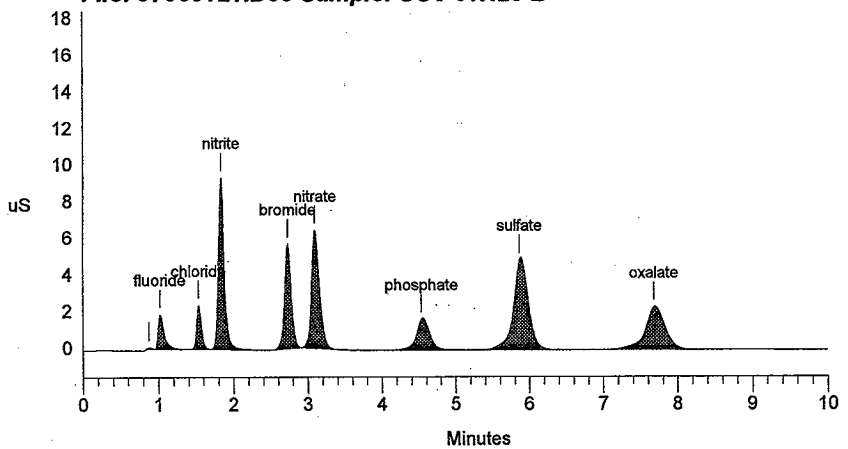
Sample Name: CCV 61N20-B Date: 06/10/1997 12:01:28
Data File : C:\DX\DATA\97060121.D03
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Rae Ann Green Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	80	316	2	
2	1.02	fluoride	57.875	1855	10539	2	0.99
3	1.53	chloride	76.132	2359	10793	1	-0.43
4	1.83	nitrite	514.056	9351	49823	1	-1.79
5	2.73	bromide	568.105	5677	35553	1	-2.27
6	3.09	nitrate	594.596	6416	48572	1	-2.42
7	4.53	phosphate	555.332	1670	21756	1	1.80
8	5.87	sulfate	635.889	4881	69961	1	2.74
9	7.68	oxalate	526.516	2324	44175	1	-3.40
		Totals	3528.502	34612	291489		

File: 97060121.D03 Sample: CCV 61N20-B



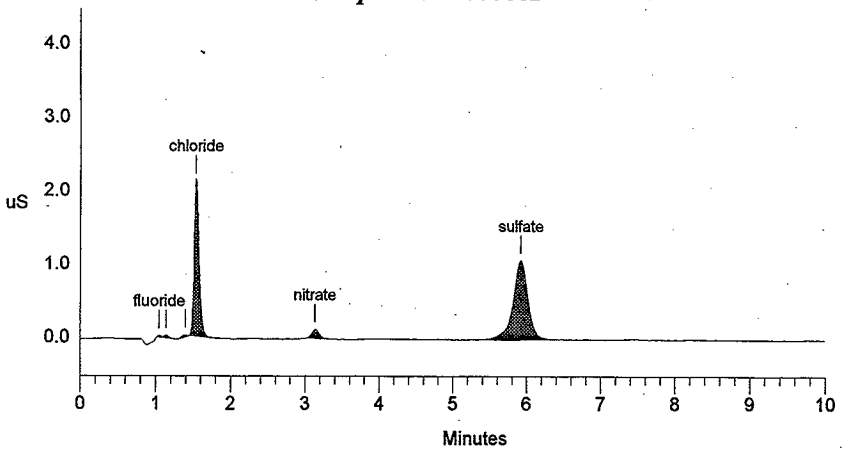
Sample Name: S97T000882 Date: 06/10/1997 15:43:56
Data File : C:\DX\DATA\97060121.D15
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 15 Detector:CDM-1
Analyst : RaeAnn Green Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	11	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	0.178	22	71	2	3.63
2	1.14		0.000	36	146	2	
3	1.39		0.000	25	125	1	
4	1.53	chloride	7.392	2118	9594	1	-0.43
5	3.13	nitrate	2.233	120	816	1	-1.16
6	5.92	sulfate	15.391	1078	15188	1	3.68
		Totals	25.194	3399	25940		

File: 97060121.D15 Sample: S97T000882



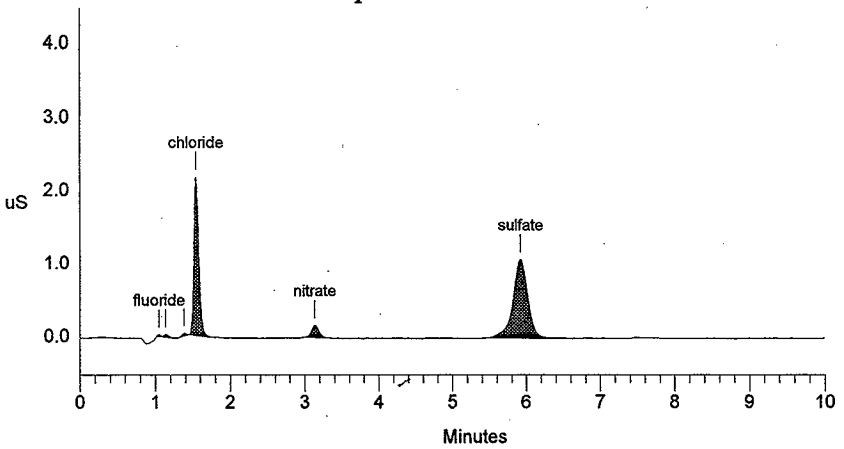
Sample Name: S97T000882 DUP Date: 06/10/1997 15:54:31
Data File : C:\DX\DATA\97060121.D16
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 16 Detector:CDM-1
Analyst : Raelynn Green Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	11	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	0.177	22	69	2	3.63
2	1.13		0.000	36	157	2	
3	1.38		0.000	35	147	1	
4	1.54	chloride	7.414	2171	9624	1	0.00
5	3.13	nitrate	2.613	164	1102	1	-1.16
6	5.92	sulfate	15.364	1078	15161	1	3.68
		Totals	25.569	3507	26259		

File: 97060121.D16 Sample: S97T000882 DUP



LABCORE Completed Worklist Report for Worklist# 18565

Analyst: smf **Instrument:** IC01 **Book#** 6/N 208

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB		0		@IC-QC F	QC	1		<1.20e-2		ug/mL
1	CCB		0		@IC-QC CL	QC	1		<1.70e-2		ug/mL
1	CCB		0		@IC-QC NO2	QC	1		<1.08e-1		ug/mL
1	CCB		0		@IC-QC BR	QC	1		<1.25e-1		ug/mL
1	CCB		0		@IC-QC NO3	QC	1		<1.39e-1		ug/mL
1	CCB		0		@IC-QC PO4	QC	1		<1.20e-1		ug/mL
1	CCB		0		@IC-QC SO4	QC	1		<1.38e-1		ug/mL
1	CCB		0		@IC-QC OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0		@IC-QC F	QC	5.90e01		6.06e+01	102.712	% Recovery
2	CCV		0		@IC-QC CL	QC	7.90e01		7.90e+01	100.000	% Recovery
2	CCV		0		@IC-QC NO2	QC	5.44e02		5.31e+02	97.610	% Recovery
2	CCV		0		@IC-QC BR	QC	5.89e02		5.58e+02	94.737	% Recovery
2	CCV		0		@IC-QC NO3	QC	5.94e02		5.65e+02	95.118	% Recovery
2	CCV		0		@IC-QC PO4	QC	5.45e02		5.24e+02	96.147	% Recovery
2	CCV		0		@IC-QC SO4	QC	6.31e02		5.95e+02	94.295	% Recovery
2	CCV		0		@IC-QC OXALATE2	QC	5.36e02		5.41e+02	100.933	% Recovery
3	BLNK-PREP		0		@IC-01 F-02	SOLID	1		<1.20e-2		ug/g
3	BLNK-PREP		0		@IC-01 CL-02	SOLID	1		<1.70e-2		ug/g
3	BLNK-PREP		0		@IC-01 NO2-02	SOLID	1		<1.08e-1		ug/g
3	BLNK-PREP		0		@IC-01 BR-02	SOLID	1		<1.25e-1		ug/g
3	BLNK-PREP		0		@IC-01 NO3-02	SOLID	1		<1.39e-1		ug/g
3	BLNK-PREP		0		@IC-01 PO4-02	SOLID	1		<1.20e-1		ug/g
3	BLNK-PREP		0		@IC-01 SO4-02	SOLID	1		<1.38e-1		ug/g
3	BLNK-PREP		0		@IC-01 OXALATE2	SOLID	1		<1.05e-1		ug/g
4	SAMPLE	S97T000891	0	W	@IC-01 F-02	SOLID	N/A		5.943e+04	255.200	ug/g
5	DUP	S97T000891	0	W	@IC-01 F-02	SOLID	5.94e+04		6.74e+04	12.618	RPD
5	DUP	S97T000891	0	W	@IC-01 CL-02	SOLID	2.97e+02		<1.48e2		RPD
5	DUP	S97T000891	0	W	@IC-01 NO2-02	SOLID	3.20e+03		1.48e+03	73.504	RPD
5	DUP	S97T000891	0	W	@IC-01 BR-02	SOLID	1.69e+03		<1.09e3		RPD
5	DUP	S97T000891	0	W	@IC-01 NO3-02	SOLID	9.99e+03		2.78e+03	112.921	RPD
5	DUP	S97T000891	0	W	@IC-01 PO4-02	SOLID	<1.04e3		<1.05e3		RPD
5	DUP	S97T000891	0	W	@IC-01 SO4-02	SOLID	2.80e+03		1.41e+03	66.033	RPD
5	DUP	S97T000891	0	W	@IC-01 OXALATE2	SOLID	1.57e+03		<9.16e2		RPD
6	SAMPLE	S97T000892	0	W	@IC-01 F-02	SOLID	N/A		3.047e+04	100.400	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 CL-02	SOLID	N/A	<	1.422e+02	142.200	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 NO2-02	SOLID	N/A		2.130e+03	903.600	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 BR-02	SOLID	N/A	<	1.046e+03	1046.000	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 NO3-02	SOLID	N/A		2.976e+03	1163.000	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 PO4-02	SOLID	N/A	<	1.004e+03	1004.000	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 SO4-02	SOLID	N/A	<	1.154e+03	1155.000	ug/g
6	SAMPLE	S97T000892	0	W	@IC-01 OXALATE2	SOLID	N/A	<	8.784e+02	878.200	ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18565

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
7	DUP	S97T000892	0	W	@IC-01	F-02	SOLID	3.05e+04	3.14e+04	2.908	RPD
7	DUP	S97T000892	0	W	@IC-01	CL-02	SOLID	<1.42e2	1.55e+02		RPD
7	DUP	S97T000892	0	W	@IC-01	NO2-02	SOLID	2.13e+03	2.35e+03	9.821	RPD
7	DUP	S97T000892	0	W	@IC-01	BR-02	SOLID	<1.05e3	<1.05e3		RPD
7	DUP	S97T000892	0	W	@IC-01	NO3-02	SOLID	2.98e+03	3.51e+03	16.333	RPD
7	DUP	S97T000892	0	W	@IC-01	PO4-02	SOLID	<1.00e3	<1.00e3		RPD
7	DUP	S97T000892	0	W	@IC-01	SO4-02	SOLID	<1.15e3	<1.15e3		RPD
7	DUP	S97T000892	0	W	@IC-01	OXALATE2	SOLID	<8.78e2	<8.79e2		RPD
8	SAMPLE	S97T000893	0	W	@IC-01	F-02	SOLID	N/A	4.388e+04	92.050	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	CL-02	SOLID	N/A	1.542e+02	130.400	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	NO2-02	SOLID	N/A	2.779e+03	828.600	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	BR-02	SOLID	N/A <	9.588e+02	959.000	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	NO3-02	SOLID	N/A	4.217e+03	1066.000	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	PO4-02	SOLID	N/A <	9.205e+02	920.400	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	SO4-02	SOLID	N/A <	1.059e+03	1059.000	ug/g
8	SAMPLE	S97T000893	0	W	@IC-01	OXALATE2	SOLID	N/A <	8.054e+02	805.200	ug/g
9	DUP	S97T000893	0	W	@IC-01	F-02	SOLID	4.39e+04	4.46e+04	1.582	RPD
9	DUP	S97T000893	0	W	@IC-01	CL-02	SOLID	1.54e+02	1.55e+02	0.647	RPD
9	DUP	S97T000893	0	W	@IC-01	NO2-02	SOLID	2.78e+03	2.77e+03	0.360	RPD
9	DUP	S97T000893	0	W	@IC-01	BR-02	SOLID	<9.59e2	<9.67e2		RPD
9	DUP	S97T000893	0	W	@IC-01	NO3-02	SOLID	4.22e+03	4.02e+03	4.854	RPD
9	DUP	S97T000893	0	W	@IC-01	PO4-02	SOLID	<9.20e2	<9.28e2		RPD
9	DUP	S97T000893	0	W	@IC-01	SO4-02	SOLID	<1.06e3	<1.07e3		RPD
9	DUP	S97T000893	0	W	@IC-01	OXALATE2	SOLID	<8.05e2	<8.12e2		RPD

Final page for worklist# 18565

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 7/1/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18565

Analyst: SMF **Instrument:** IC0 1 **Book#** 16IN20-B

Method: LA-533-105 **Rev/Mod** _____

Worklist Comment: AW103, @IC-01 QC for Br only. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T000891	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S97T000891	0	W	@IC-01	SOLID		
6	SAMPLE	S97T000892	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7	DUP	S97T000892	0	W	@IC-01	SOLID		
8	SAMPLE	S97T000893	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9	DUP	S97T000893	0	W	@IC-01	SOLID		

Final page for worklist # 18565

Susie M. Dalton 6-10-97
Analyst Signature **Date**

Analyst Signature **Date**

Uploaded 6-20-97
John Worrell

18565JUN.CSV

S97T0089[illegible] put out for reversion for all except F WKL 18954 for poor RPD

Data Entry Comments: Best validated 6/24/97 SMF

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

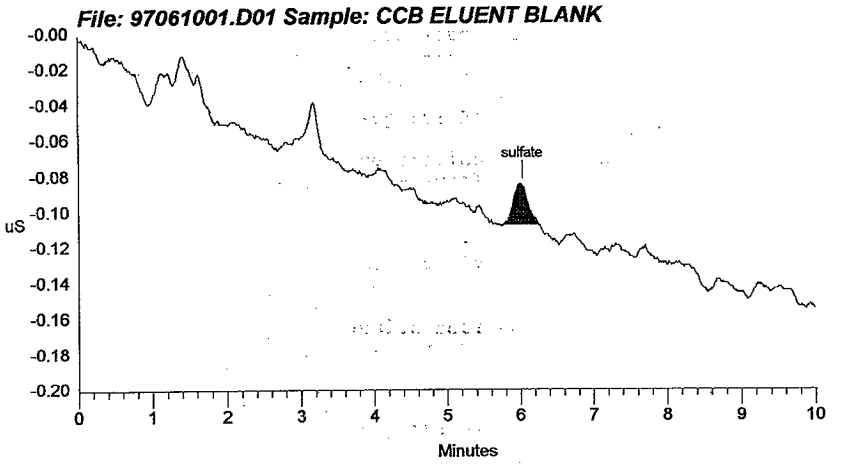
Sample Name: CCB ELUENT BLANK Date: 06/10/1997 07:20:16
Data File : C:\DX\DATA\97061001.D01
Method : C:\DX\METHOD\KIT.MET HNF-SD-WM-DP-249, REV. 0
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

for SMF 7/1/97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.03	sulfate	-0.039	22	307	1	0.00
		Totals	-0.039	22	307		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 526 TO 536.

Sample Name: CCV STD 61N20-B
Data File : C:\DX\DATA\97061001.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2
Analyst : Susie M. Dalton

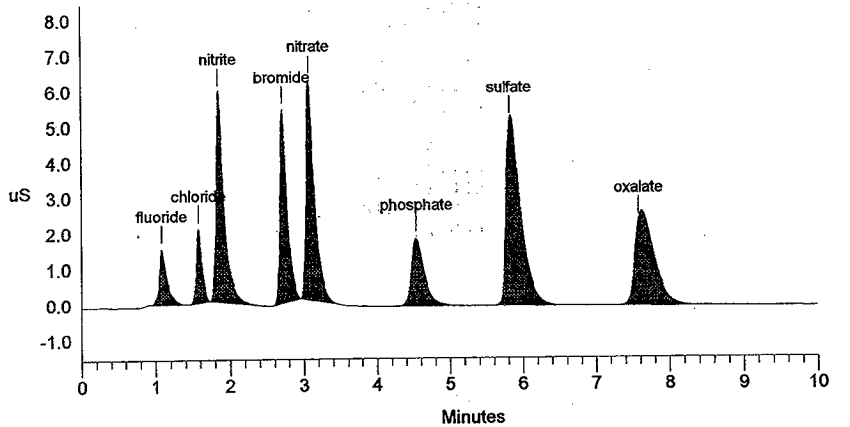
Date: 06/10/1997 07:33:49
HNF-SD-WM-DP-249, REV. 0
Detector: CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.08	fluoride	60.577	1542	10966	1	-3.57
2	1.57	chloride	79.043	2062	10320	1	-1.26
3	1.85	nitrite	531.106	5880	41947	1	-4.15
4	2.71	bromide	557.877	5407	34827	1	-0.85
5	3.07	nitrate	565.304	6166	47014	1	-5.64
6	4.53	phosphate	523.968	1889	23211	1	-1.73
7	5.81	sulfate	594.714	5188	72982	1	-3.54
8	7.57	oxalate	541.443	2357	47882	1	-3.40
		Totals	3454.034	30490	289149		

File: 97061001.D02 Sample: CCV STD 61N20-B



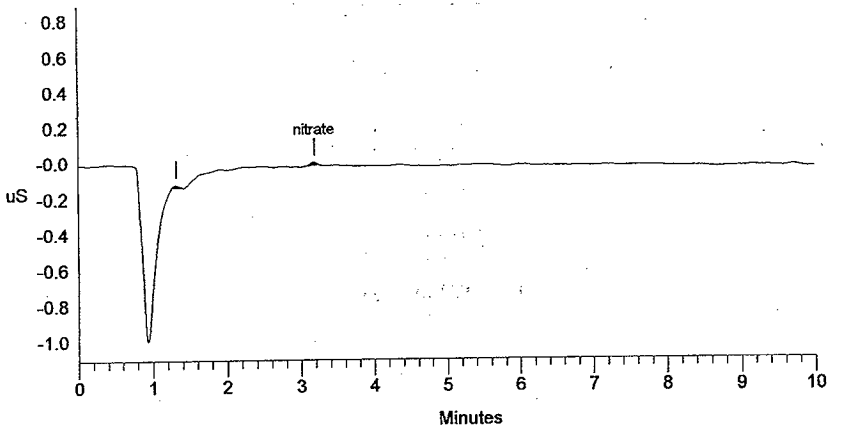
Sample Name: PREP BLANK
Data File : C:\DX\DATA\97061001.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3
Analyst :
Date: 06/10/1997 07:48:05
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.32		0.000	16	89	1	
2	3.19	nitrate	0.087	18	105	1	-1.95
		Totals	0.087	34	194		

File: 97061001.D03 Sample: PREP BLANK



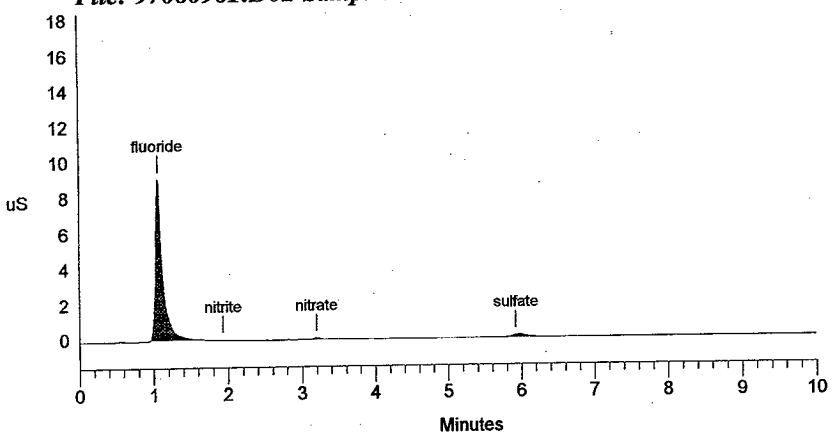
Sample Name: S97T000891
Data File : C:\DX\DATA\97060961.D01
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 1
Analyst :
Date: 06/10/1997 10:11:03
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	282.187	9064	56481	1	-5.36
2	1.93	nitrite	12.593	41	230	1	0.00
3	3.19	nitrate	15.523	96	661	1	-1.74
4	5.92	sulfate	16.951	156	2806	1	-1.77
		Totals	327.254	9357	60179		

File: 97060961.D01 Sample: S97T000891



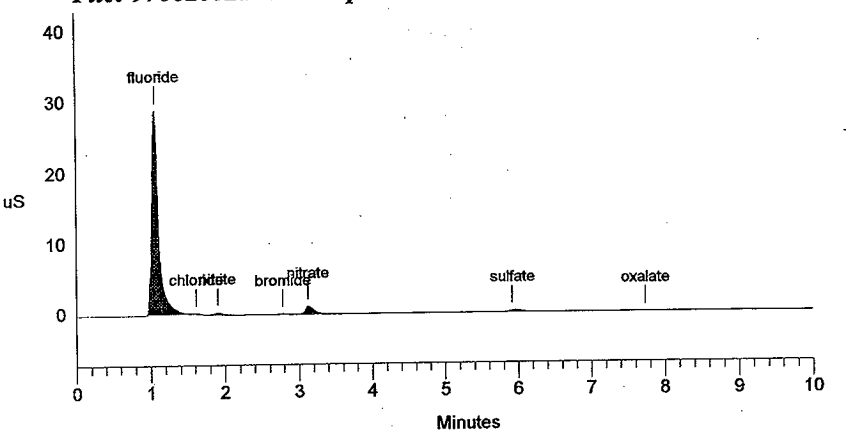
Sample Name: S97T000891 SAMPLE
Data File : C:\DX\DATA\97061001.D04
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4
Analyst :
Date: 06/10/1997 08:00:59
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	298.133	28773	175909	1	-5.36
2	1.61	chloride	1.410	121	513	1	1.26
3	1.90	nitrite	15.208	308	2207	1	-1.38
4	2.78	bromide	8.021	132	852	1	1.83
5	3.13	nitrate	47.422	1140	9106	1	-3.79
6	5.92	sulfate	13.278	282	4692	1	-1.77
7	7.73	oxalate	7.464	76	1384	1	-1.36
		Totals	390.936	30831	194662		

File: 97061001.D04 Sample: S97T000891 SAMPLE



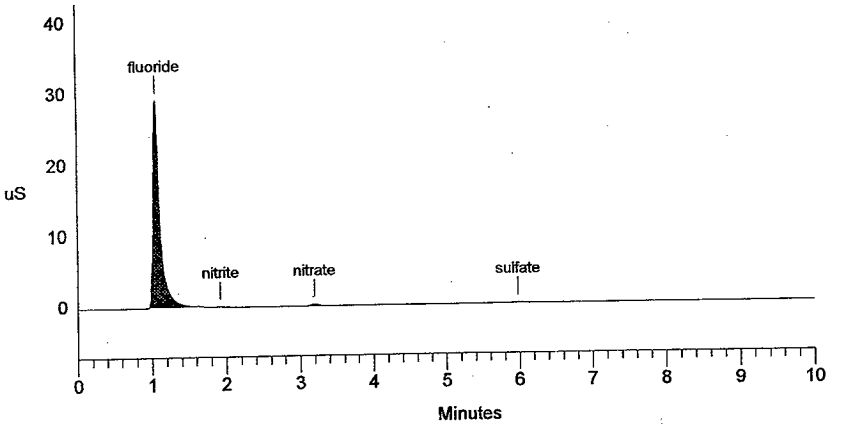
Sample Name: S97T000891 DUP
Data File : C:\DX\DATA\97060961.D02
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 2
Analyst :
Date: 06/10/1997 10:23:41
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	297.132	29060	175090	1	-5.36
2	1.91	nitrite	6.956	101	591	1	-0.69
3	3.19	nitrate	13.051	270	2045	1	-1.95
4	5.97	sulfate	6.636	166	2734	1	-0.88
		Totals	323.775	29597	180459		

File: 97060961.D02 Sample: S97T000891 DUP



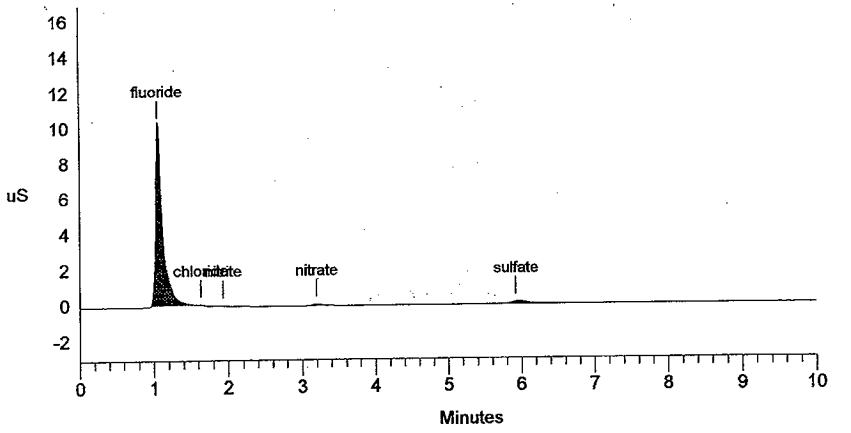
Sample Name: S97T000891 DUP
Data File : C:\DX\DATA\97060961.D03
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 3
Analyst :
Date: 06/10/1997 10:36:21
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	316.565	10185	64086	1	-5.95
2	1.63	chloride	0.791	41	170	1	2.09
3	1.93	nitrite	12.389	39	214	1	0.00
4	3.19	nitrate	16.165	104	715	1	-1.74
5	5.92	sulfate	13.593	139	2405	1	-1.77
		Totals	359.503	10508	67590		

File: 97060961.D03 Sample: S97T000891 DUP



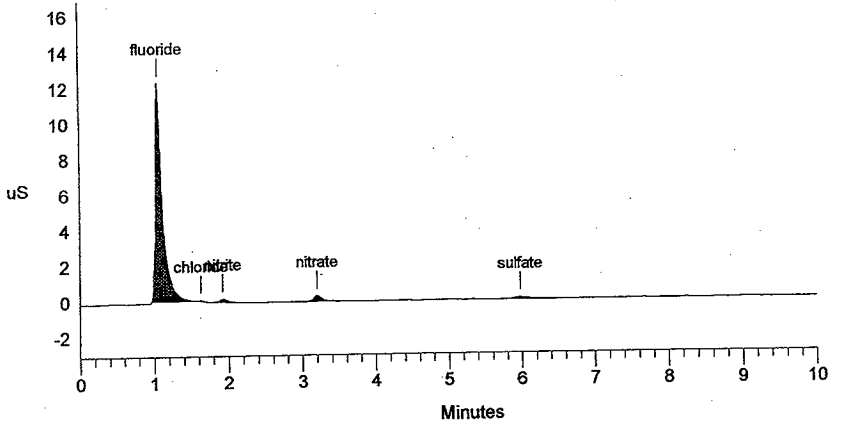
Sample Name: S97T000892
Data File : C:\DX\DATA\97060951.D07
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 7
Analyst :
Date: 06/10/1997 11:26:59
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	149.357	12281	75776	1	-5.36
2	1.63	chloride	0.568	58	248	1	2.09
3	1.92	nitrite	10.438	185	1273	1	-0.35
4	3.19	nitrate	14.586	315	2359	1	-1.74
5	5.97	sulfate	2.484	101	1511	1	-0.88
		Totals	177.431	12940	81166		

File: 97060951.D07 Sample: S97T000892



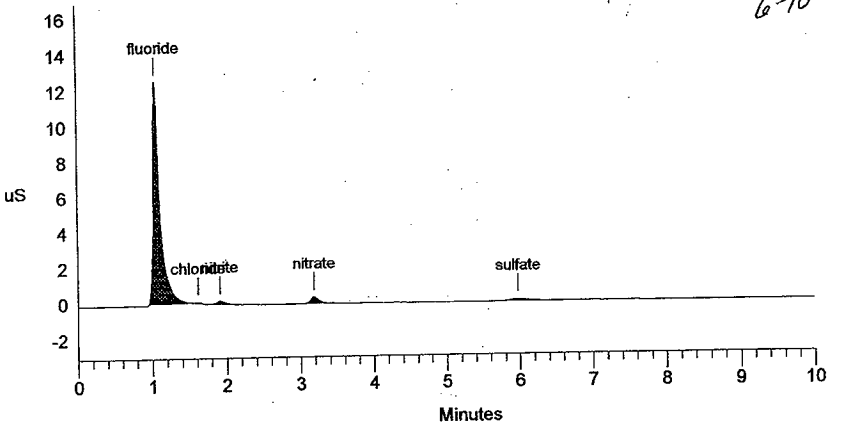
Sample Name: S97T000892 ~~SAMPLE~~ DUP Date: 06/10/1997 09:38:25
Data File : C:\DX\DATA\97061001.D05 6-20-97 HNF-SD-WM-DP-249, REV. 0
Method : C:\DX\METHOD\KIT.MET Detector:CDM-1
ACI Address: 1 System: 1 Inject#: 5
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	153.840	12522	78344	1	-5.95
2	1.61	chloride	0.759	72	308	1	1.26
3	1.91	nitrite	11.505	199	1482	1	-1.04
4	3.18	nitrate	17.197	373	2895	1	-2.15
5	5.97	sulfate	5.121	133	2288	1	-0.88
		Totals	188.422	13299	85316		

File: 97061001.D05 Sample: S97T000892 SAMPLE DUP 6-10-97



HNF-SD-WM-DP-249, REV. 0

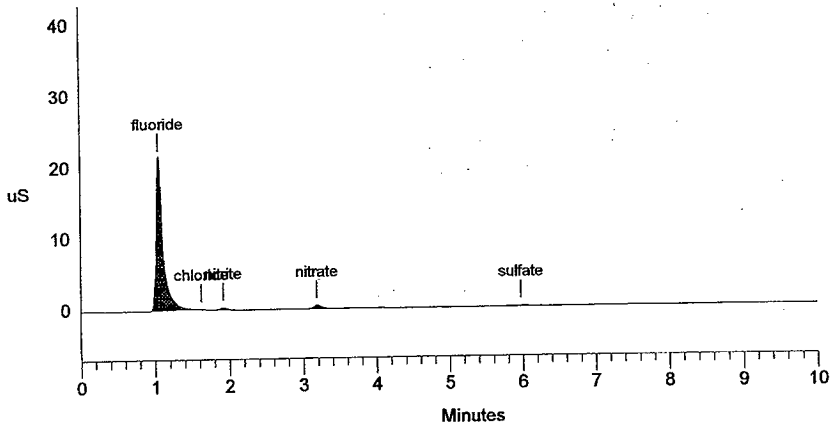
Sample Name: S97T000893 SAMPLE
Data File : C:\DX\DATA\97061001.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6
Analyst : Column: AG4A/AS4A anion column
Date: 06/10/1997 09:50:04
Detector:CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.05	fluoride	234.528	21355	128620	1	-5.95
2	1.62	chloride	0.824	80	328	1	1.67
3	1.91	nitrite	14.854	294	2138	1	-0.69
4	3.18	nitrate	22.542	493	3991	1	-2.15
5	5.97	sulfate	2.826	106	1612	1	-0.88
		Totals	275.575	22328	136690		

File: 97061001.D06 Sample: S97T000893 SAMPLE



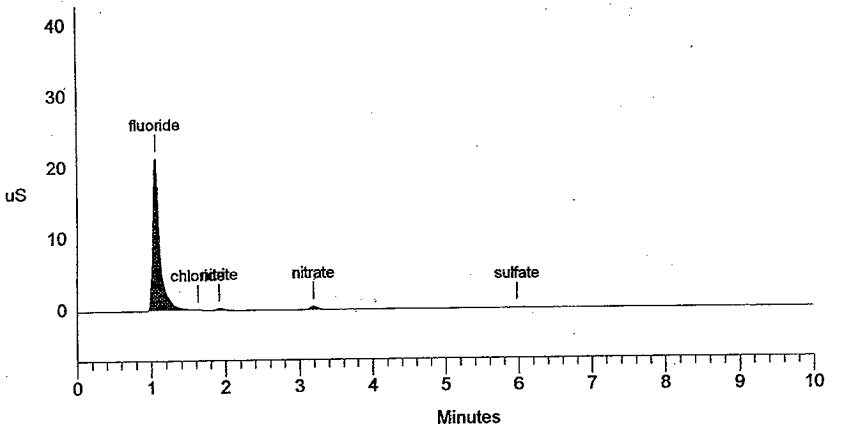
Sample Name: S97T000893 DUP
Data File : C:\DX\DATA\97060951.D10
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 10
Analyst :
Date: 06/10/1997 12:04:59
HNF-SD-WM-DP-249, REV. 0
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	236.252	21320	129795	1	-5.36
2	1.63	chloride	0.821	77	327	1	2.09
3	1.91	nitrite	14.661	278	2100	1	-0.69
4	3.19	nitrate	21.304	462	3737	1	-1.95
5	5.97	sulfate	2.881	109	1628	1	-0.88
		Totals	275.919	22246	137587		

File: 97060951.D10 Sample: S97T000893 DUP



worklistdata Version 1.0 05/15/96
06/18/97 15:50

LABCORE Completed Worklist Report for Worklist# 18569

Analyst: eal **Instrument:** IC01 **Book#** 6/N2068

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB		0		@IC-QC	F	QC	1	5.70e-02	0.057	ug/mL
1	CCB		0		@IC-QC	CL	QC	1	<1.70e-2		ug/mL
1	CCB		0		@IC-QC	NO2	QC	1	<1.08e-1		ug/mL
1	CCB		0		@IC-QC	BR	QC	1	<1.25e-1		ug/mL
1	CCB		0		@IC-QC	NO3	QC	1	1.65e-01	0.165	ug/mL
1	CCB		0		@IC-QC	PO4	QC	1	<1.20e-1		ug/mL
1	CCB		0		@IC-QC	SO4	QC	1	<1.38e-1		ug/mL
1	CCB		0		@IC-QC	OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV		0		@IC-QC	F	QC	5.90e01	5.35e+01	90.678	% Recovery
2	CCV		0		@IC-QC	CL	QC	7.90e01	7.80e+01	98.734	% Recovery
2	CCV		0		@IC-QC	NO2	QC	5.44e02	5.30e+02	97.426	% Recovery
2	CCV		0		@IC-QC	BR	QC	5.89e02	5.66e+02	96.095	% Recovery
2	CCV		0		@IC-QC	NO3	QC	5.94e02	5.79e+02	97.475	% Recovery
2	CCV		0		@IC-QC	PO4	QC	5.45e02	5.28e+02	96.881	% Recovery
2	CCV		0		@IC-QC	SO4	QC	6.31e02	6.13e+02	97.147	% Recovery
2	CCV		0		@IC-QC	OXALATE2	QC	5.36e02	5.34e+02	99.627	% Recovery
3	BLNK-PREP		0		@IC-01	F-02	SOLID	1	<1.20e-2		ug/g
3	BLNK-PREP		0		@IC-01	CL-02	SOLID	1	<1.70e-2		ug/g
3	BLNK-PREP		0		@IC-01	NO2-02	SOLID	1	<1.08e-1		ug/g
3	BLNK-PREP		0		@IC-01	BR-02	SOLID	1	<1.25e-1		ug/g
3	BLNK-PREP		0		@IC-01	NO3-02	SOLID	1	<1.39e-1		ug/g
3	BLNK-PREP		0		@IC-01	PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP		0		@IC-01	SO4-02	SOLID	1	<1.38e-1		ug/g
3	BLNK-PREP		0		@IC-01	OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	F-02	SOLID	N/A	6.167e+04	235.200	ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	CL-02	SOLID	N/A	1.314e+03	333.300	ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	NO2-02	SOLID	N/A	4.097e+03	2117.000	ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	NO3-02	SOLID	N/A	6.936e+03	2725.000	ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	PO4-02	SOLID	N/A <	2.352e+03	2352.000	ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	SO4-02	SOLID	N/A <	2.705e+03	2706.000	ug/g
4	SAMPLE	S97T001003	0	W	@IC-01	OXALATE2	SOLID	N/A <	2.058e+03	2059.000	ug/g
5	DUP	S97T001003	0	W	@IC-01	F-02	SOLID	6.17e+04	6.15e+04	0.325	RPD
5	DUP	S97T001003	0	W	@IC-01	CL-02	SOLID	1.31e+03	1.38e+03	5.204	RPD
5	DUP	S97T001003	0	W	@IC-01	NO2-02	SOLID	4.10e+03	4.42e+03	7.512	RPD
5	DUP	S97T001003	0	W	@IC-01	BR-02	SOLID	<2.45e3	<2.47e3		RPD
5	DUP	S97T001003	0	W	@IC-01	NO3-02	SOLID	6.94e+03	7.53e+03	8.155	RPD
5	DUP	S97T001003	0	W	@IC-01	PO4-02	SOLID	<2.35e3	<2.37e3		RPD
5	DUP	S97T001003	0	W	@IC-01	SO4-02	SOLID	<2.70e3	<2.72e3		RPD
5	DUP	S97T001003	0	W	@IC-01	OXALATE2	SOLID	<2.06e3	<2.07e3		RPD
6	SAMPLE	S97T001004	0	W	@IC-01	F-02	SOLID	N/A	8.292e+04	249.000	ug/g
6	SAMPLE	S97T001004	0	W	@IC-01	CL-02	SOLID	N/A	4.030e+02	352.700	ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18569

Seq	Type	Sample#	R	A		Test	Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S97T001004	0	W	@IC-01	NO2-02	SOLID	N/A		6.897e+03	2241.000	ug/g
6	SAMPLE	S97T001004	0	W	@IC-01	NO3-02	SOLID	N/A		1.383e+04	2884.000	ug/g
6	SAMPLE	S97T001004	0	W	@IC-01	PO4-02	SOLID	N/A	<	2.490e+03	2490.000	ug/g
6	SAMPLE	S97T001004	0	W	@IC-01	SO4-02	SOLID	N/A		3.213e+03	2863.000	ug/g
6	SAMPLE	S97T001004	0	W	@IC-01	OXALATE2	SOLID	N/A	<	2.179e+03	2179.000	ug/g
7	DUP	S97T001004	0	W	@IC-01	F-02	SOLID	8.29e+04		8.39e+04	1.199	RPD
7	DUP	S97T001004	0	W	@IC-01	CL-02	SOLID	4.03e+02		5.11e+02	23.632	RPD
7	DUP	S97T001004	0	W	@IC-01	NO2-02	SOLID	6.90e+03		7.11e+03	2.998	RPD
7	DUP	S97T001004	0	W	@IC-01	BR-02	SOLID	<2.59e3		<2.61e3		RPD
7	DUP	S97T001004	0	W	@IC-01	NO3-02	SOLID	1.38e+04		1.37e+04	0.727	RPD
7	DUP	S97T001004	0	W	@IC-01	PO4-02	SOLID	<2.49e3		<2.50e3		RPD
7	DUP	S97T001004	0	W	@IC-01	SO4-02	SOLID	3.21e+03		<2.88e3		RPD
7	DUP	S97T001004	0	W	@IC-01	OXALATE2	SOLID	<2.18e3		<2.19e3		RPD
8	SAMPLE	S97T001007	0	W	@IC-01	F-02	SOLID	N/A		3.988e+04	241.700	ug/g
8	SAMPLE	S97T001007	0	W	@IC-01	CL-02	SOLID	N/A		6.375e+02	342.400	ug/g
8	SAMPLE	S97T001007	0	W	@IC-01	NO2-02	SOLID	N/A		5.539e+03	2176.000	ug/g
8	SAMPLE	S97T001007	0	W	@IC-01	NO3-02	SOLID	N/A		9.445e+03	2800.000	ug/g
8	SAMPLE	S97T001007	0	W	@IC-01	PO4-02	SOLID	N/A	<	2.417e+03	2417.000	ug/g
8	SAMPLE	S97T001007	0	W	@IC-01	SO4-02	SOLID	N/A		3.819e+03	2780.000	ug/g
8	SAMPLE	S97T001007	0	W	@IC-01	OXALATE2	SOLID	N/A	<	2.115e+03	2115.000	ug/g
9	DUP	S97T001007	0	W	@IC-01	F-02	SOLID	3.99e+04		3.90e+04	2.281	RPD
9	DUP	S97T001007	0	W	@IC-01	CL-02	SOLID	6.38e+02		7.11e+02	10.823	RPD
9	DUP	S97T001007	0	W	@IC-01	NO2-02	SOLID	5.54e+03		5.32e+03	4.052	RPD
9	DUP	S97T001007	0	W	@IC-01	BR-02	SOLID	<2.52e3		<2.51e3		RPD
9	DUP	S97T001007	0	W	@IC-01	NO3-02	SOLID	9.44e+03		1.04e+04	9.677	RPD
9	DUP	S97T001007	0	W	@IC-01	PO4-02	SOLID	<2.42e3		<2.41e3		RPD
9	DUP	S97T001007	0	W	@IC-01	SO4-02	SOLID	3.82e+03		2.80e+03	30.816	RPD
9	DUP	S97T001007	0	W	@IC-01	OXALATE2	SOLID	<2.12e3		<2.11e3		RPD

Final page for worklist# 18569

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature 6/18/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 14:41
A-0004-1

LABCORE Data Entry Template for Worklist# 18569

Analyst: EAL **Instrument:** IC0 1 **Book#** WN20.B

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001003	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S97T001003	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001004	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7	DUP	S97T001004	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001007	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9	DUP	S97T001007	0	W	@IC-01	SOLID		

Final page for worklist # 18569

A Lambert 06.10.97
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-12-97
John Worrell
18569JUN.CSV
Br rejected on all samples - less than too high. Will rerun Br only on WKL# 18702. Rest validated. JM Leyva 6/16/97

Data Entry Comments:

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

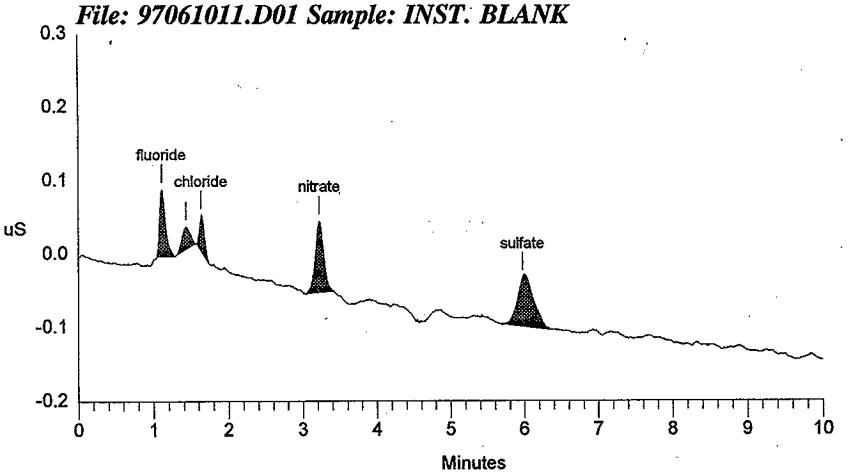
Sample Name: INST. BLANK Date: 06/10/1997 22:54:14
Data File : C:\DX\DATA\97061011.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : [signature] for EAL 6/18/97 Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11	fluoride	0.057	92	494	1	-1.19
2	1.43		0.000	31	234	1	
3	1.63	chloride	0.012	48	229	1	2.51
4	3.22	nitrate	0.165	98	755	1	-0.92
5	5.97	sulfate	0.024	66	1064	1	-0.88
		Totals	0.258	334	2776		

File: 97061011.D01 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 540 TO 548.

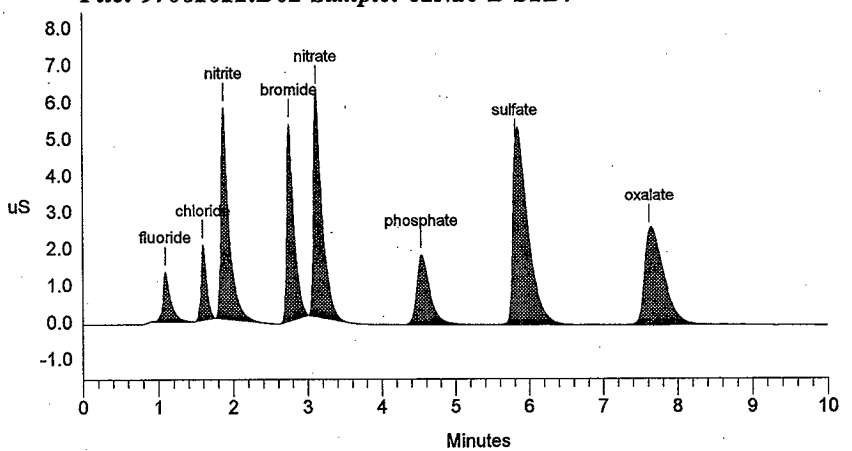
Sample Name: 61N20-B STD. Date: 06/10/1997 23:08:10
Data File : C:\DX\DATA\97061011.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	53.521	1353	9603	1	-2.38
2	1.59	chloride	78.004	2042	10183	1	0.00
3	1.87	nitrite	529.923	5746	41851	1	-2.77
4	2.75	bromide	566.380	5370	35372	1	0.85
5	3.11	nitrate	578.569	6153	48148	1	-4.21
6	4.53	phosphate	527.522	1897	23373	1	-1.73
7	5.81	sulfate	613.175	4928	75260	1	-3.54
8	7.63	oxalate	534.014	2601	47217	1	-2.72
		Totals	3481.107	30090	291007		

File: 97061011.D02 Sample: 61N20-B STD.



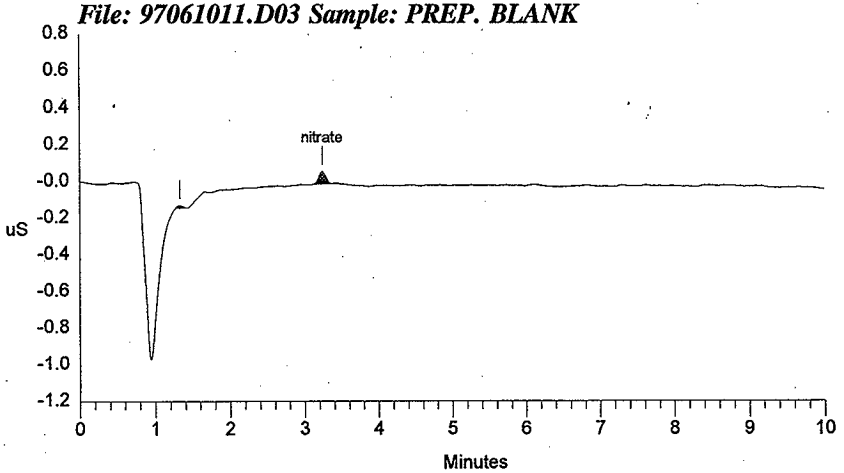
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Sample Name: PREP. BLANK                    Date: 06/10/1997 23:18:56
Data File  : C:\DX\DATA\97061011.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 3                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.33		0.000	13	63	1	
2	3.24	nitrate	0.126	66	430	1	-0.31
		Totals	0.126	79	493		

File: 97061011.D03 Sample: PREP. BLANK



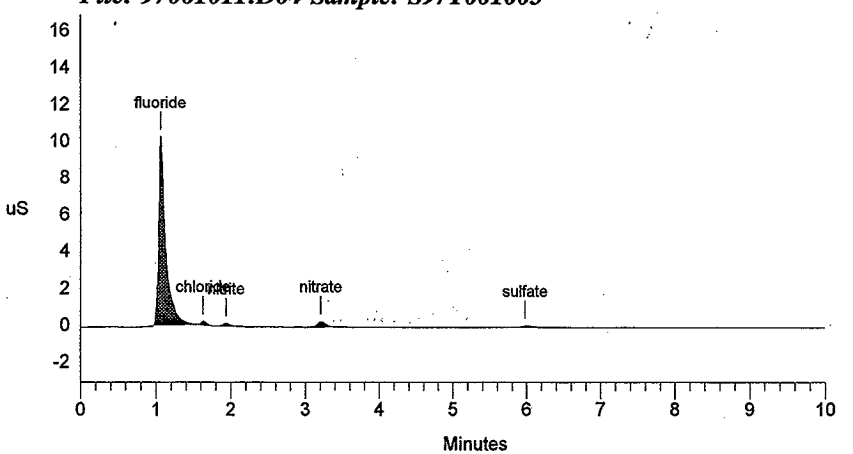
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Sample Name: S97T001003                    Date: 06/10/1997 23:30:06
Data File  : C:\DX\DATA\97061011.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 4                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	317.748	10186	64351	1	-5.36
2	1.63	chloride	6.769	197	934	1	2.09
3	1.93	nitrite	21.107	140	907	1	0.35
4	3.21	nitrate	35.735	299	2343	1	-1.33
5	5.97	sulfate	4.713	76	1343	1	-0.88
		Totals	386.071	10898	69877		

File: 97061011.D04 Sample: S97T001003



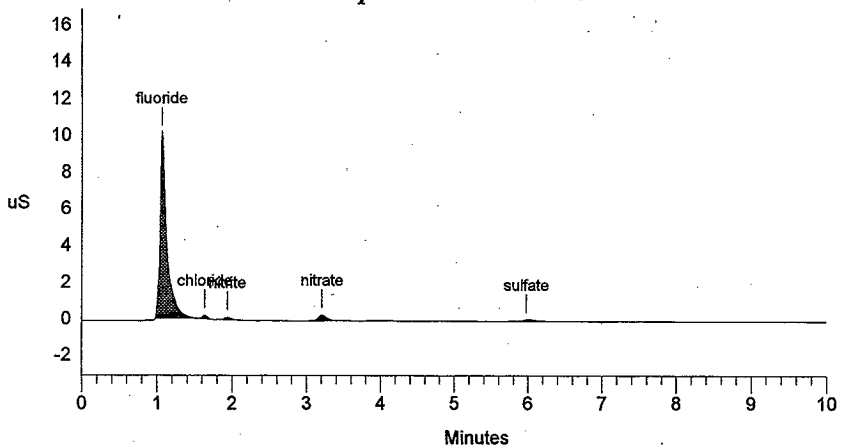
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Sample Name: S97T001003 DUP                    Date: 06/10/1997 23:42:12
Data File  : C:\DX\DATA\97061011.D05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 5                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	314.628	10112	63653	1	-5.36
2	1.63	chloride	7.083	211	974	1	2.51
3	1.93	nitrite	22.591	145	1025	1	0.35
4	3.21	nitrate	38.501	324	2573	1	-1.33
5	5.97	sulfate	5.525	86	1440	1	-0.88
		Totals	388.329	10878	69665		

File: 97061011.D05 Sample: S97T001003 DUP



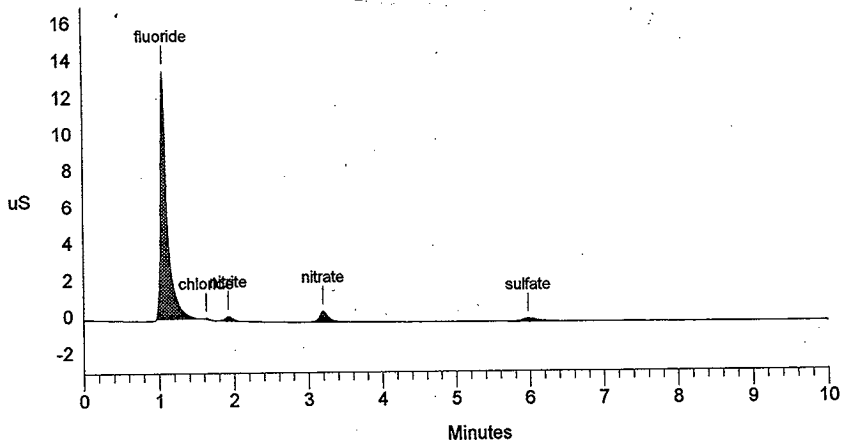
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Sample Name: S97T001004                    Date: 06/11/1997 01:56:15
Data File  : C:\DX\DATA\97061011.D06
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 6              Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	403.647	13573	84157	1	-5.36
2	1.63	chloride	1.962	78	320	1	2.09
3	1.92	nitrite	33.574	262	1898	1	-0.35
4	3.19	nitrate	67.329	604	4975	1	-1.74
5	5.97	sulfate	15.642	169	2650	1	-0.88
		Totals	522.154	14685	93999		

File: 97061011.D06 Sample: S97T001004



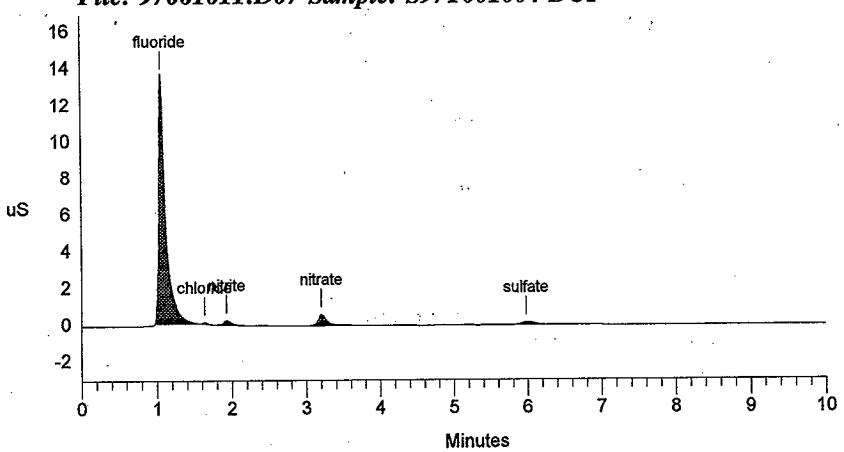
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Sample Name: S97T001004 DUP                    Date: 06/11/1997 02:13:11
Data File  : C:\DX\DATA\97061011.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 7                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	406.435	13507	84820	1	-5.36
2	1.63	chloride	2.478	87	385	1	2.51
3	1.93	nitrite	34.466	264	1969	1	0.00
4	3.20	nitrate	66.320	611	4891	1	-1.54
5	5.97	sulfate	13.297	158	2369	1	-0.88
		Totals	522.996	14627	94434		

File: 97061011.D07 Sample: S97T001004 DUP



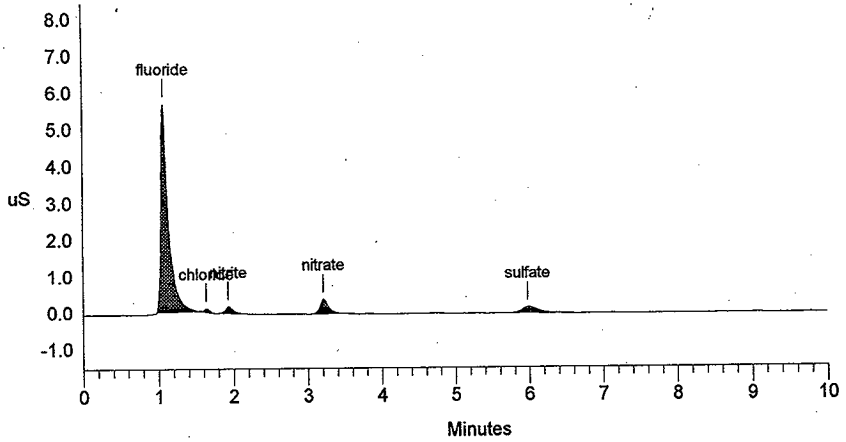
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Sample Name: S97T001007                        Date: 06/11/1997 02:23:51
Data File  : C:\DX\DATA\97061011.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 8                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	200.011	5661	38942	1	-4.17
2	1.63	chloride	3.197	100	477	1	2.51
3	1.93	nitrite	27.776	192	1437	1	0.00
4	3.21	nitrate	47.365	407	3311	1	-1.33
5	5.97	sulfate	19.150	182	3070	1	-0.88
		Totals	297.498	6542	47237		

File: 97061011.D08 Sample: S97T001007



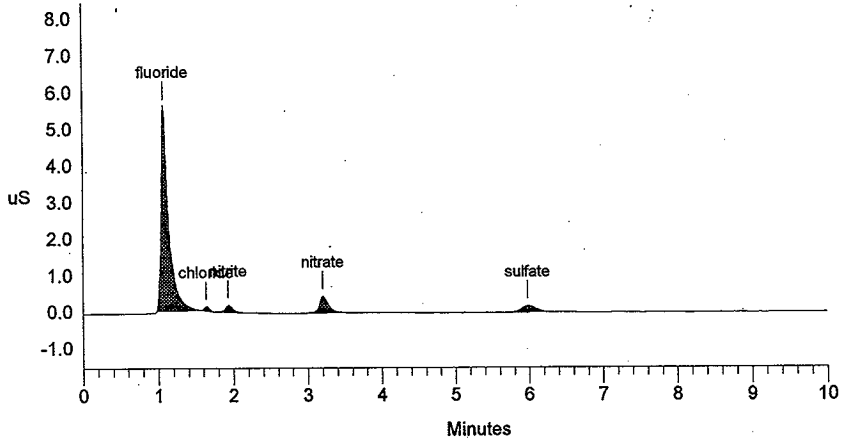
```
Sample Name: S97T001007 DUP                    Date: 06/11/1997 02:35:19
Data File  : C:\DX\DATA\97061011.D09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 9                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	196.184	5580	38146	1	-4.76
2	1.63	chloride	3.580	113	526	1	2.51
3	1.93	nitrite	26.806	187	1359	1	0.00
4	3.20	nitrate	52.533	457	3742	1	-1.54
5	5.97	sulfate	14.090	174	2464	1	-0.88
		Totals	293.193	6512	46237		

File: 97061011.D09 Sample: S97T001007 DUP



LABCORE Completed Worklist Report for Worklist# 18570

Analyst: eal **Instrument:** IC02 **Book#** 61N20B

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB			0	@IC-QC F	QC	1	<1.20e-2		ug/mL
1	CCB			0	@IC-QC CL	QC	1	2.10e-02	0.021	ug/mL
1	CCB			0	@IC-QC NO2	QC	1	<1.08e-1		ug/mL
1	CCB			0	@IC-QC BR	QC	1	<1.25e-1		ug/mL
1	CCB			0	@IC-QC NO3	QC	1	1.56e-01	0.156	ug/mL
1	CCB			0	@IC-QC PO4	QC	1	<1.20e-1		ug/mL
1	CCB			0	@IC-QC SO4	QC	1	<1.38e-1		ug/mL
1	CCB			0	@IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV			0	@IC-QC F	QC	5.90e01	5.51e+01	93.390	% Recovery
2	CCV			0	@IC-QC CL	QC	7.90e01	7.67e+01	97.089	% Recovery
2	CCV			0	@IC-QC NO2	QC	5.44e02	5.11e+02	93.934	% Recovery
2	CCV			0	@IC-QC BR	QC	5.89e02	5.65e+02	95.925	% Recovery
2	CCV			0	@IC-QC NO3	QC	5.94e02	5.66e+02	95.286	% Recovery
2	CCV			0	@IC-QC PO4	QC	5.45e02	5.40e+02	99.083	% Recovery
2	CCV			0	@IC-QC SO4	QC	6.31e02	6.04e+02	95.721	% Recovery
2	CCV			0	@IC-QC OXALATE2	QC	5.36e02	5.09e+02	94.963	% Recovery
3	BLNK-PREP			0	@IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3	BLNK-PREP			0	@IC-01 CL-02	SOLID	1	2.60e-02	0.026	ug/g
3	BLNK-PREP			0	@IC-01 NO2-02	SOLID	1	1.86e-01	0.186	ug/g
3	BLNK-PREP			0	@IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3	BLNK-PREP			0	@IC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3	BLNK-PREP			0	@IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP			0	@IC-01 SO4-02	SOLID	1	<1.38e-1		ug/g
3	BLNK-PREP			0	@IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 F-02	SOLID	N/A	6.598e+04	231.100	ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 CL-02	SOLID	N/A	8.238e+02	327.300	ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 NO2-02	SOLID	N/A	5.462e+03	2080.000	ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 NO3-02	SOLID	N/A	7.937e+03	2676.000	ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 PO4-02	SOLID	N/A <	2.311e+03	2311.000	ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 SO4-02	SOLID	N/A <	2.657e+03	2657.000	ug/g
4	SAMPLE	S97T001070	0	W	@IC-01 OXALATE2	SOLID	N/A <	2.022e+03	2022.000	ug/g
5	DUP	S97T001070	0	W	@IC-01 F-02	SOLID	6.60e+04	6.37e+04	3.547	RPD
5	DUP	S97T001070	0	W	@IC-01 CL-02	SOLID	8.24e+02	7.21e+02	13.333	RPD
5	DUP	S97T001070	0	W	@IC-01 NO2-02	SOLID	5.46e+03	5.33e+03	2.410	RPD
5	DUP	S97T001070	0	W	@IC-01 BR-02	SOLID	<2.41e3	<2.35e3		RPD
5	DUP	S97T001070	0	W	@IC-01 NO3-02	SOLID	7.94e+03	8.32e+03	4.674	RPD
5	DUP	S97T001070	0	W	@IC-01 PO4-02	SOLID	<2.31e3	<2.25e3		RPD
5	DUP	S97T001070	0	W	@IC-01 SO4-02	SOLID	<2.66e3	<2.59e3		RPD
5	DUP	S97T001070	0	W	@IC-01 OXALATE2	SOLID	<2.02e3	<1.97e3		RPD
6	SAMPLE	S97T001076	0	W	@IC-01 F-02	SOLID	N/A	6.292e+03	206.800	ug/g
6	SAMPLE	S97T001076	0	W	@IC-01 CL-02	SOLID	N/A	3.151e+03	293.000	ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18570

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S97T001076	0	W @IC-01	NO2-02	SOLID	N/A	5.295e+04	1861.000	ug/g
6 SAMPLE	S97T001076	0	W @IC-01	NO3-02	SOLID	N/A	1.242e+05	2396.000	ug/g
6 SAMPLE	S97T001076	0	W @IC-01	PO4-02	SOLID	N/A	7.183e+03	2068.000	ug/g
6 SAMPLE	S97T001076	0	W @IC-01	SO4-02	SOLID	N/A	3.149e+03	2379.000	ug/g
6 SAMPLE	S97T001076	0	W @IC-01	OXALATE2	SOLID	N/A	1.472e+04	1810.000	ug/g
7 DUP	S97T001076	0	W @IC-01	F-02	SOLID	6.29e+03	6.23e+03	0.958	RPD
7 DUP	S97T001076	0	W @IC-01	CL-02	SOLID	3.15e+03	3.26e+03	3.432	RPD
7 DUP	S97T001076	0	W @IC-01	NO2-02	SOLID	5.30e+04	5.27e+04	0.568	RPD
7 DUP	S97T001076	0	W @IC-01	BR-02	SOLID	<2.15e3	<2.14e3		RPD
7 DUP	S97T001076	0	W @IC-01	NO3-02	SOLID	1.24e+05	1.24e+05	0.000	RPD
7 DUP	S97T001076	0	W @IC-01	PO4-02	SOLID	7.18e+03	7.01e+03	2.396	RPD
7 DUP	S97T001076	0	W @IC-01	SO4-02	SOLID	3.15e+03	3.31e+03	4.954	RPD
7 DUP	S97T001076	0	W @IC-01	OXALATE2	SOLID	1.47e+04	1.43e+04	2.759	RPD
8 SAMPLE	S97T001077	0	W @IC-01	F-02	SOLID	N/A	1.143e+05	231.400	ug/g
8 SAMPLE	S97T001077	0	W @IC-01	CL-02	SOLID	N/A	2.540e+03	327.800	ug/g
8 SAMPLE	S97T001077	0	W @IC-01	NO2-02	SOLID	N/A	4.481e+04	2083.000	ug/g
8 SAMPLE	S97T001077	0	W @IC-01	NO3-02	SOLID	N/A	1.042e+05	2681.000	ug/g
8 SAMPLE	S97T001077	0	W @IC-01	PO4-02	SOLID	N/A <	2.314e+03	2314.000	ug/g
8 SAMPLE	S97T001077	0	W @IC-01	SO4-02	SOLID	N/A	3.641e+03	2661.000	ug/g
8 SAMPLE	S97T001077	0	W @IC-01	OXALATE2	SOLID	N/A <	2.025e+03	2025.000	ug/g
9 DUP	S97T001077	0	W @IC-01	F-02	SOLID	1.14e+05	1.13e+05	0.881	RPD
9 DUP	S97T001077	0	W @IC-01	CL-02	SOLID	2.54e+03	2.49e+03	1.988	RPD
9 DUP	S97T001077	0	W @IC-01	NO2-02	SOLID	4.48e+04	4.49e+04	0.223	RPD
9 DUP	S97T001077	0	W @IC-01	BR-02	SOLID	<2.41e3	<2.42e3		RPD
9 DUP	S97T001077	0	W @IC-01	NO3-02	SOLID	1.04e+05	1.05e+05	0.957	RPD
9 DUP	S97T001077	0	W @IC-01	PO4-02	SOLID	<2.31e3	<2.32e3		RPD
9 DUP	S97T001077	0	W @IC-01	SO4-02	SOLID	3.64e+03	3.36e+03	8.000	RPD
9 DUP	S97T001077	0	W @IC-01	OXALATE2	SOLID	<2.02e3	<2.03e3		RPD
10 SPK	S97T001077	0	W @IC-01	F-02	SOLID	5.90e01	5.06e+01	85.763	% Recovery
10 SPK	S97T001077	0	W @IC-01	CL-02	SOLID	7.90e01	6.56e+01	83.038	% Recovery
10 SPK	S97T001077	0	W @IC-01	NO2-02	SOLID	5.44e02	4.86e+02	89.338	% Recovery
10 SPK	S97T001077	0	W @IC-01	BR-02	SOLID	5.89e02	4.96e+02	84.211	% Recovery
10 SPK	S97T001077	0	W @IC-01	NO3-02	SOLID	5.94e02	5.64e+02	94.949	% Recovery
10 SPK	S97T001077	0	W @IC-01	PO4-02	SOLID	5.45e02	4.75e+02	87.156	% Recovery
10 SPK	S97T001077	0	W @IC-01	SO4-02	SOLID	6.31e02	5.18e+02	82.092	% Recovery
10 SPK	S97T001077	0	W @IC-01	OXALATE2	SOLID	5.36e02	4.50e+02	83.955	% Recovery

Comments Section:

Comments for sample# S97T001070 and test @IC-01 .
~~results between 51df & 101df don't relate.~~
~~results between 51df & 101df don't relate.~~ JMF 6/18/97

Final page for worklist# 18570

Jann M. Fuge

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 14:42
A-0004-1

LABCORE Data Entry Template for Worklist# 18570

Analyst: EM **Instrument:** IC0 2 **Book#** 6/N20:B

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001070	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001070	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001076	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T001076	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001077	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
9	DUP	S97T001077	0	W	@IC-01	SOLID		
10	SPK	S97T001077	0	W	@IC-01	SOLID		

Final page for worklist # 18570

A Lambel 06.10.97
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-12-97
John Worrell
18570JUN.CSV.
Validated 6/17/97 JM Duyn Br rejected on all samples & will be re-run on WKL #18717

Data Entry Comments:

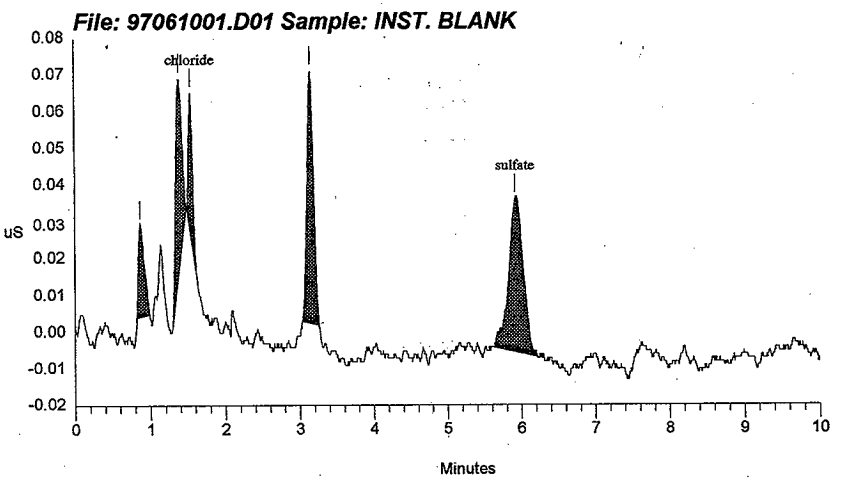
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: INST. BLANK Date: 06/10/1997 19:09:13
Data File : C:\DX\DATA\97061001.D01
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : [signature] for EAL 6/18/97 Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	25	139	1	
2	1.39		0.000	51	307	1	
3	1.54	chloride	0.021	39	146	1	0.00
4	3.15	nitrate	0.156	68	429	1	-0.74
5	5.92	sulfate	0.069	41	584	1	3.68
		Totals	0.246	224	1604		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 551 TO 563.

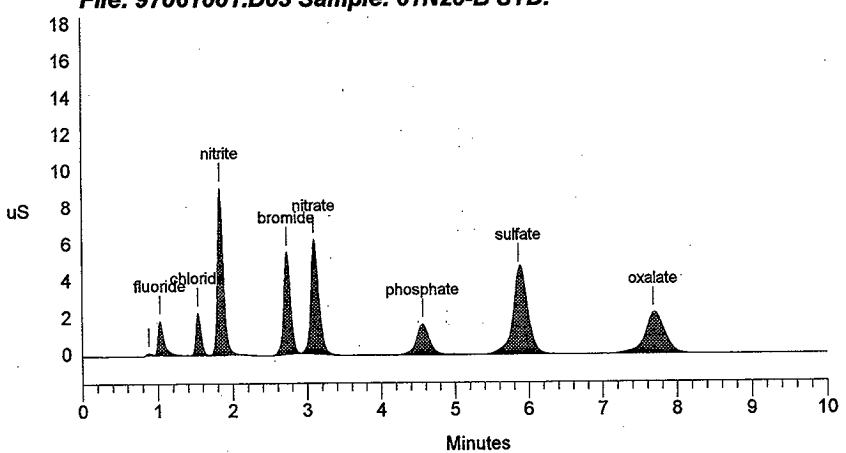
Sample Name: 61N20-B STD. Date: 06/10/1997 19:21:30
Data File : C:\DX\DATA\97061001.D03
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	83	337	2	
2	1.03	fluoride	55.141	1845	10022	2	1.65
3	1.53	chloride	76.739	2300	10881	1	-0.43
4	1.83	nitrite	511.454	9093	49563	1	-1.79
5	2.73	bromide	565.484	5548	35382	1	-2.27
6	3.09	nitrate	566.439	6187	46190	1	-2.42
7	4.56	phosphate	540.243	1677	21146	1	2.40
8	5.87	sulfate	604.485	4645	66433	1	2.74
9	7.68	oxalate	509.281	2241	42746	1	-3.40
		Totals	3429.265	33619	282700		

File: 97061001.D03 Sample: 61N20-B STD.



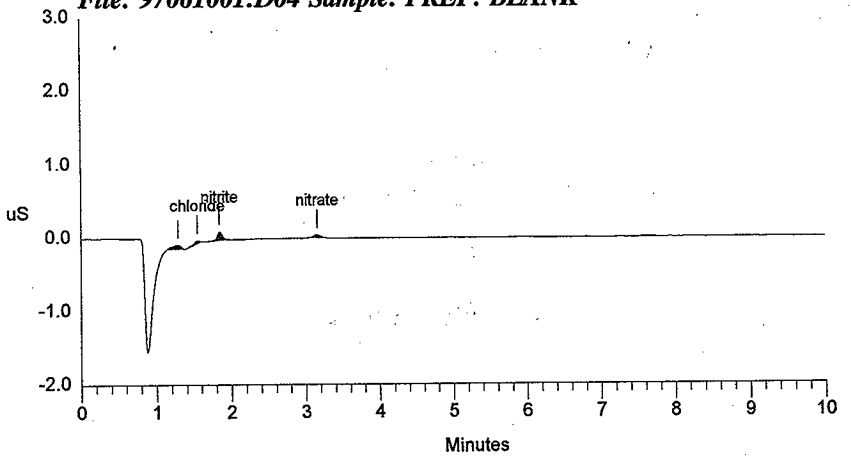
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Sample Name: PREP. BLANK                    Date: 06/10/1997 19:34:56
Data File  : C:\DX\DATA\97061001.D04
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 4                Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.29		0.000	52	439	1	
2	1.55	chloride	0.026	43	221	1	0.43
3	1.84	nitrite	0.186	117	526	1	-1.43
4	3.15	nitrate	0.134	40	245	1	-0.53
		Totals	0.346	251	1431		

File: 97061001.D04 Sample: PREP. BLANK



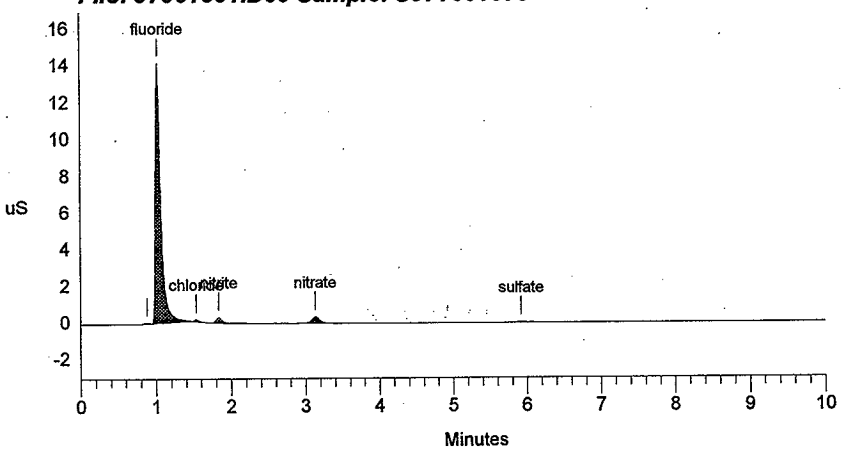
Sample Name: S97T001070 Date: 06/10/1997 22:36:21
Data File : C:\DX\DATA\97061001.D09
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	27	101	1	
2	1.03	fluoride	346.084	14148	70687	1	1.65
3	1.53	chloride	4.321	110	457	1	-0.43
4	1.83	nitrite	28.649	296	1508	1	-1.79
5	3.13	nitrate	41.632	344	2545	1	-1.16
6	5.92	sulfate	6.233	36	509	1	3.68
		Totals	426.918	14960	75807		

File: 97061001.D09 Sample: S97T001070



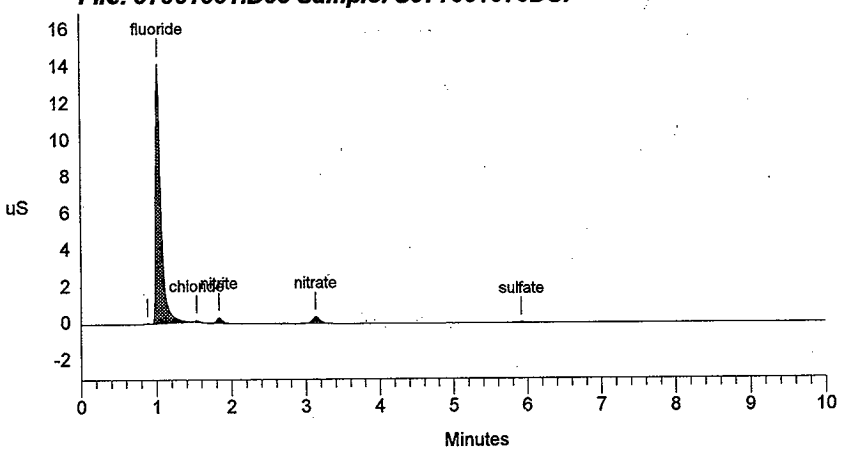
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Sample Name: S97T001070DUP                    Date: 06/10/1997 22:15:40
Data File  : C:\DX\DATA\97061001.D08
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 8                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	26	95	1	
2	1.03	fluoride	342.439	14175	69840	1	1.65
3	1.53	chloride	3.878	94	394	1	-0.43
4	1.83	nitrite	28.632	293	1506	1	-1.79
5	3.13	nitrate	44.718	376	2797	1	-1.16
6	5.92	sulfate	5.530	33	433	1	3.68
		Totals	425.197	14998	75066		

File: 97061001.D08 Sample: S97T001070DUP



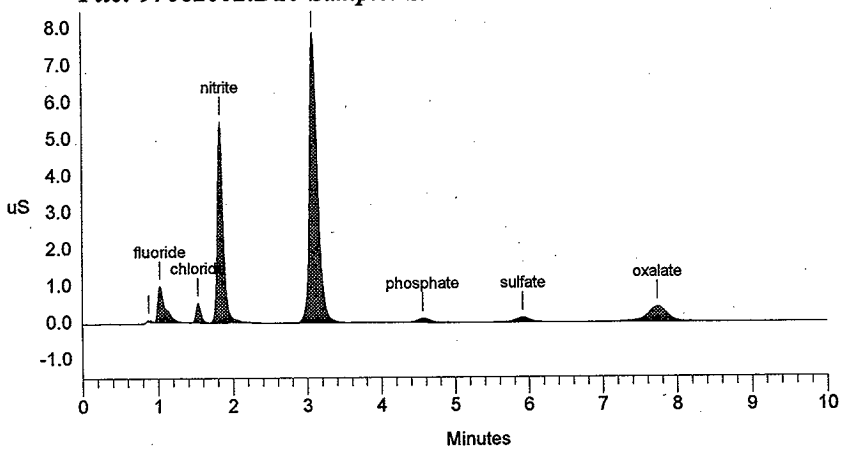
Sample Name: S97T001076 Date: 06/10/1997 22:50:03
Data File : C:\DX\DATA\97061001.D10
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	52	214	2	
2	1.03	fluoride	36.869	963	6590	2	1.65
3	1.53	chloride	18.464	533	2478	1	-0.43
4	1.83	nitrite	310.277	5466	29505	1	-1.79
5	3.08	nitrate	727.983	7866	59914	1	-2.84
6	4.56	phosphate	42.095	112	1364	1	2.40
7	5.92	sulfate	18.455	132	1833	1	3.68
8	7.73	oxalate	86.268	418	7938	1	-2.73
		Totals	1240.411	15541	109835		

File: 97061001.D10 Sample: S97T001076



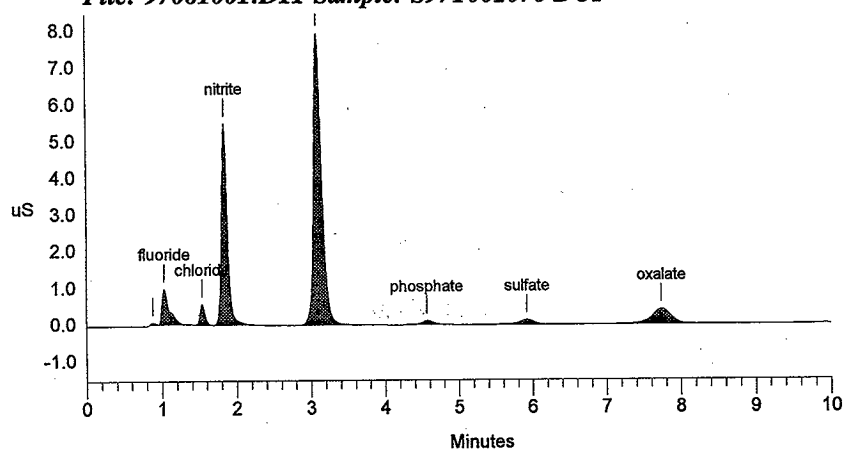
Sample Name: S97T001076 DUP Date: 06/10/1997 23:05:27
Data File : C:\DX\DATA\97061001.D11
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 11 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	52	219	2	
2	1.03	fluoride	36.770	974	6571	2	1.65
3	1.53	chloride	19.203	565	2584	1	-0.43
4	1.83	nitrite	311.096	5496	29587	1	-1.79
5	3.09	nitrate	731.016	7963	60173	1	-2.63
6	4.56	phosphate	41.338	113	1334	1	2.40
7	5.92	sulfate	19.544	135	1951	1	3.68
8	7.73	oxalate	84.173	415	7767	1	-2.73
		Totals	1243.141	15711	110186		

File: 97061001.D11 Sample: S97T001076 DUP



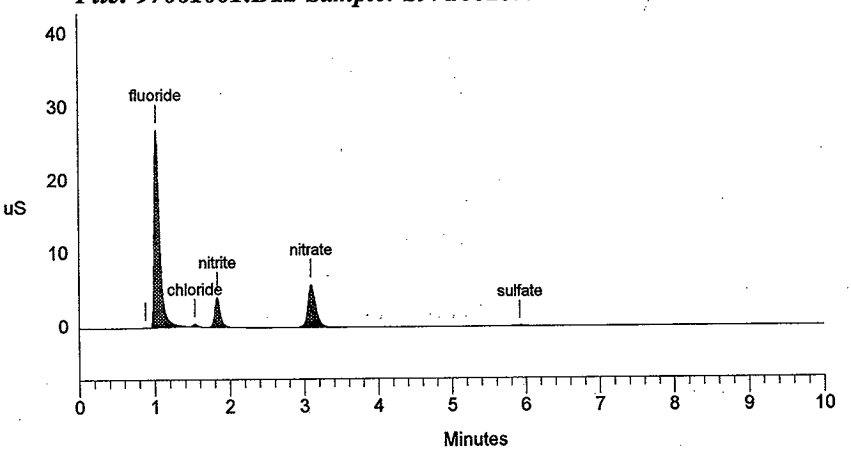
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Sample Name: S97T001077                          Date: 06/10/1997 23:16:24
Data File  : C:\DX\DATA\97061001.D12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 12                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	55	183	1	
2	1.03	fluoride	598.554	27002	138161	1	1.65
3	1.53	chloride	13.300	399	1739	1	-0.43
4	1.83	nitrite	234.687	4098	21982	1	-1.79
5	3.09	nitrate	545.514	5831	44423	1	-2.42
6	5.92	sulfate	19.068	130	1899	1	3.68
		Totals	1411.123	37516	208386		

File: 97061001.D12 Sample: S97T001077



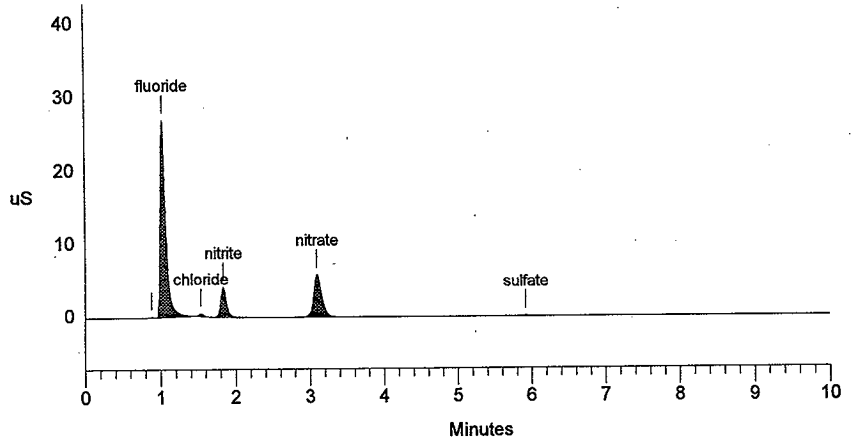
Sample Name: S97T001077 DUP Date: 06/10/1997 23:27:05
Data File : C:\DX\DATA\97061001.D13
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	62	215	1	
2	1.03	fluoride	589.583	26914	135366	1	1.65
3	1.53	chloride	13.004	393	1697	1	-0.43
4	1.83	nitrite	234.244	4103	21938	1	-1.79
5	3.09	nitrate	546.589	5881	44514	1	-2.42
6	5.92	sulfate	17.526	126	1732	1	3.68
		Totals	1400.947	37479	205461		

File: 97061001.D13 Sample: S97T001077 DUP



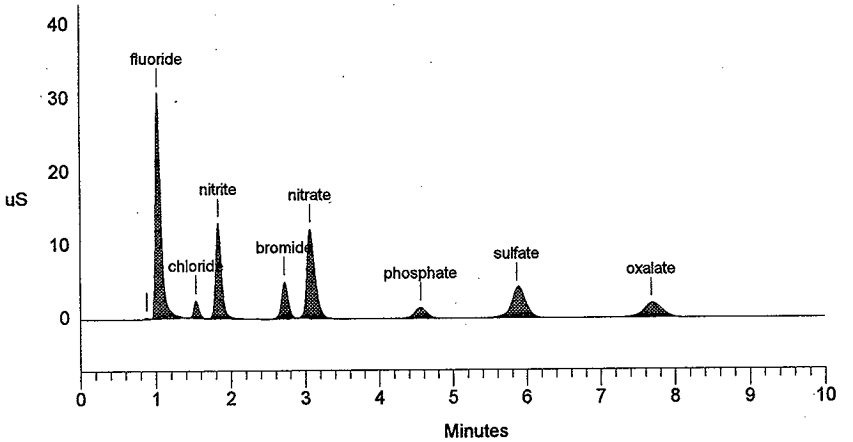
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Sample Name: S97T001077 SPIKE                Date: 06/10/1997 23:38:12
Data File  : C:\DX\DATA\97061001.D14
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 14                Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	106	368	1	
2	1.03	fluoride	649.136	30593	154743	1	1.65
3	1.53	chloride	78.920	2352	11198	1	-0.43
4	1.83	nitrite	720.828	12920	70490	1	-1.79
5	2.72	bromide	496.137	4934	30868	1	-2.51
6	3.07	nitrate	1109.331	12124	92889	1	-3.26
7	4.56	phosphate	474.752	1485	18503	1	2.40
8	5.87	sulfate	537.522	4142	58934	1	2.74
9	7.68	oxalate	449.798	2004	37821	1	-3.40
		Totals	4516.424	70662	475813		

File: 97061001.D14 Sample: S97T001077 SPIKE



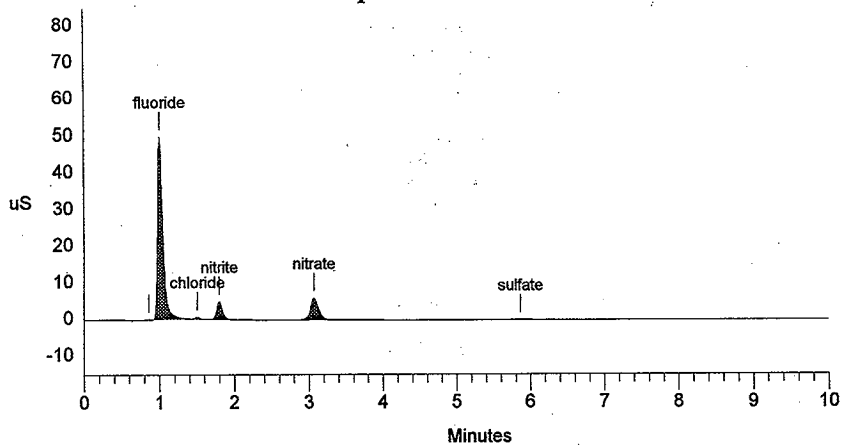
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Data File  : C:\DX\DATA\97061001.D06
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 6                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	85	271	1	
2	1.01	fluoride	422.457	49606	239250	1	-0.33
3	1.50	chloride	9.054	532	2401	1	-2.60
4	1.79	nitrite	145.946	4921	27390	1	-3.93
5	3.07	nitrate	288.849	6072	46663	1	-3.26
6	5.87	sulfate	8.568	112	1672	1	2.74
		Totals	874.874	61327	317647		

File: 97061001.D06 Sample: S97T001070



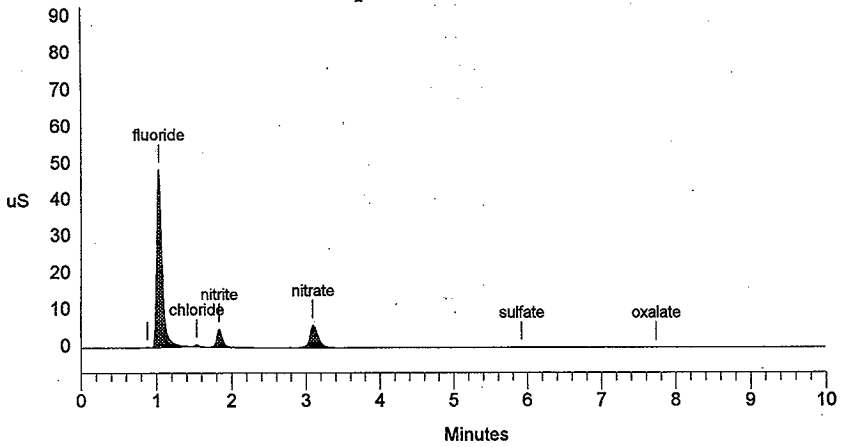
Sample Name: S97T001070DUP Date: 06/10/1997 22:04:43
Data File : C:\DX\DATA\97061001.D07
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	81	267	1	
2	1.03	fluoride	427.613	48650	246215	1	2.31
3	1.53	chloride	8.979	549	2380	1	-0.43
4	1.83	nitrite	141.296	4921	26473	1	-1.79
5	3.09	nitrate	291.742	6094	47148	1	-2.42
6	5.92	sulfate	9.011	117	1767	1	3.68
7	7.73	oxalate	-3.076	21	406	1	-2.73
		Totals	875.566	60432	324655		

File: 97061001.D07 Sample: S97T001070DUP



LABCORE Completed Worklist Report for Worklist# 18571

Analyst: krq **Instrument:** IC01 **Book#** 6/1/2018

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB		0		@IC-QC F	QC	1		<1.20e-2		ug/mL
1	CCB		0		@IC-QC CL	QC	1		<1.70e-2		ug/mL
1	CCB		0		@IC-QC NO2	QC	1		<1.08e-1		ug/mL
1	CCB		0		@IC-QC BR	QC	1		<1.25e-1		ug/mL
1	CCB		0		@IC-QC NO3	QC	1		<1.39e-1		ug/mL
1	CCB		0		@IC-QC PO4	QC	1		<1.20e-1		ug/mL
1	CCB		0		@IC-QC SO4	QC	1		<1.38e-1		ug/mL
1	CCB		0		@IC-QC OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0		@IC-QC F	QC	5.90e01		5.82e+01	98.644	% Recovery
2	CCV		0		@IC-QC CL	QC	7.90e01		7.81e+01	98.861	% Recovery
2	CCV		0		@IC-QC NO2	QC	5.44e02		5.27e+02	96.875	% Recovery
2	CCV		0		@IC-QC BR	QC	5.89e02		5.74e+02	97.453	% Recovery
2	CCV		0		@IC-QC NO3	QC	5.94e02		5.81e+02	97.811	% Recovery
2	CCV		0		@IC-QC PO4	QC	5.45e02		5.33e+02	97.798	% Recovery
2	CCV		0		@IC-QC SO4	QC	6.31e02		6.12e+02	96.989	% Recovery
2	CCV		0		@IC-QC OXALATE2	QC	5.36e02		5.43e+02	101.306	% Recovery
3	BLNK-PREP		0		@IC-01 F-02	SOLID	1		<1.20e-2		ug/g
3	BLNK-PREP		0		@IC-01 CL-02	SOLID	1		<1.70e-2		ug/g
3	BLNK-PREP		0		@IC-01 NO2-02	SOLID	1		1.28e-01	0.128	ug/g
3	BLNK-PREP		0		@IC-01 BR-02	SOLID	1		<1.25e-1		ug/g
3	BLNK-PREP		0		@IC-01 NO3-02	SOLID	1		<1.39e-1		ug/g
3	BLNK-PREP		0		@IC-01 PO4-02	SOLID	1		<1.20e-1		ug/g
3	BLNK-PREP		0		@IC-01 SO4-02	SOLID	1		<1.38e-1		ug/g
3	BLNK-PREP		0		@IC-01 OXALATE2	SOLID	1		<1.05e-1		ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 F-02	SOLID	N/A		6.137e+04	90.810	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 CL-02	SOLID	N/A		9.786e+02	128.700	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 NO2-02	SOLID	N/A		1.601e+04	817.500	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 BR-02	SOLID	N/A	<	9.461e+02	946.300	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 NO3-02	SOLID	N/A		2.611e+04	1052.000	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 PO4-02	SOLID	N/A	<	9.083e+02	908.100	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 SO4-02	SOLID	N/A	<	1.044e+03	1045.000	ug/g
4	SAMPLE	S97T001069	0	W	@IC-01 OXALATE2	SOLID	N/A	<	7.947e+02	794.600	ug/g
5	DUP	S97T001069	0	W	@IC-01 F-02	SOLID	6.14e+04		6.49e+04	5.542	RPD
5	DUP	S97T001069	0	W	@IC-01 CL-02	SOLID	9.79e+02		9.00e+02	8.409	RPD
5	DUP	S97T001069	0	W	@IC-01 NO2-02	SOLID	1.60e+04		1.70e+04	6.061	RPD
5	DUP	S97T001069	0	W	@IC-01 BR-02	SOLID	<9.46e2		<9.39e2		RPD
5	DUP	S97T001069	0	W	@IC-01 NO3-02	SOLID	2.61e+04		2.85e+04	8.791	RPD
5	DUP	S97T001069	0	W	@IC-01 PO4-02	SOLID	<9.08e2		<9.01e2		RPD
5	DUP	S97T001069	0	W	@IC-01 SO4-02	SOLID	<1.04e3		<1.04e3		RPD
5	DUP	S97T001069	0	W	@IC-01 OXALATE2	SOLID	<7.95e2		<7.88e2		RPD
6	SAMPLE	S97T001074	0	W	@IC-01 F-02	SOLID	N/A		8.119e+04	93.770	ug/g

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18571

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found		DL or Yield	Unit
6	SAMPLE	S97T001074	0	W	@IC-01	CL-02	SOLID	N/A		6.176e+02	132.900	ug/g
6	SAMPLE	S97T001074	0	W	@IC-01	NO2-02	SOLID	N/A		9.567e+03	844.200	ug/g
6	SAMPLE	S97T001074	0	W	@IC-01	BR-02	SOLID	N/A	<	9.769e+02	977.000	ug/g
6	SAMPLE	S97T001074	0	W	@IC-01	NO3-02	SOLID	N/A		1.557e+04	1086.000	ug/g
6	SAMPLE	S97T001074	0	W	@IC-01	PO4-02	SOLID	N/A	<	9.379e+02	937.700	ug/g
6	SAMPLE	S97T001074	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.079e+03	1079.000	ug/g
6	SAMPLE	S97T001074	0	W	@IC-01	OXALATE2	SOLID	N/A	<	8.206e+02	820.800	ug/g
7	DUP	S97T001074	0	W	@IC-01	F-02	SOLID	8.12e+04		7.12e+04	13.123	RPD
7	DUP	S97T001074	0	W	@IC-01	CL-02	SOLID	6.18e+02		4.83e+02	24.523	RPD
7	DUP	S97T001074	0	W	@IC-01	NO2-02	SOLID	9.57e+03		9.44e+03	1.368	RPD
7	DUP	S97T001074	0	W	@IC-01	BR-02	SOLID	<9.77e2		<9.81e2		RPD
7	DUP	S97T001074	0	W	@IC-01	NO3-02	SOLID	1.56e+04		1.51e+04	3.257	RPD
7	DUP	S97T001074	0	W	@IC-01	PO4-02	SOLID	<9.38e2		<9.42e2		RPD
7	DUP	S97T001074	0	W	@IC-01	SO4-02	SOLID	<1.08e3		<1.08e3		RPD
7	DUP	S97T001074	0	W	@IC-01	OXALATE2	SOLID	<8.21e2		<8.24e2		RPD
8	SAMPLE	S97T001075	0	W	@IC-01	F-02	SOLID	N/A		5.319e+04	96.020	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	CL-02	SOLID	N/A		1.309e+03	136.000	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	NO2-02	SOLID	N/A		2.096e+04	864.300	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	BR-02	SOLID	N/A	<	1.000e+03	1000.000	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	NO3-02	SOLID	N/A		3.768e+04	1112.000	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	PO4-02	SOLID	N/A	<	9.604e+02	960.200	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.104e+03	1105.000	ug/g
8	SAMPLE	S97T001075	0	W	@IC-01	OXALATE2	SOLID	N/A	<	8.403e+02	840.500	ug/g
9	DUP	S97T001075	0	W	@IC-01	F-02	SOLID	5.32e+04		6.17e+04	14.795	RPD
9	DUP	S97T001075	0	W	@IC-01	CL-02	SOLID	1.31e+03		1.11e+03	16.529	RPD
9	DUP	S97T001075	0	W	@IC-01	NO2-02	SOLID	2.10e+04		2.36e+04	11.659	RPD
9	DUP	S97T001075	0	W	@IC-01	BR-02	SOLID	<1.00e3		<9.87e2		RPD
9	DUP	S97T001075	0	W	@IC-01	NO3-02	SOLID	3.77e+04		4.19e+04	10.553	RPD
9	DUP	S97T001075	0	W	@IC-01	PO4-02	SOLID	<9.60e2		<9.48e2		RPD
9	DUP	S97T001075	0	W	@IC-01	SO4-02	SOLID	<1.10e3		<1.09e3		RPD
9	DUP	S97T001075	0	W	@IC-01	OXALATE2	SOLID	<8.40e2		<8.29e2		RPD

Final page for worklist# 18571

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date 6/18/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18571

Analyst: KBC **Instrument:** IC0 2# 1 (JW 6-12-97) **Book#** 61N20-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW103, @IC-01 QC for Br only. skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001069	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001069	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001074	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
7	DUP	S97T001074	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001075	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
9	DUP	S97T001075	0	W	@IC-01	SOLID		

Final page for worklist # 18571

Analyst Signature Date 6/11/97 (JW 6-12-97)

Analyst Signature Date

uploaded 6-12-97 John Worrell
18571JUNLCSV

Validated 6/16/97 MLeyse

Data Entry Comments:

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

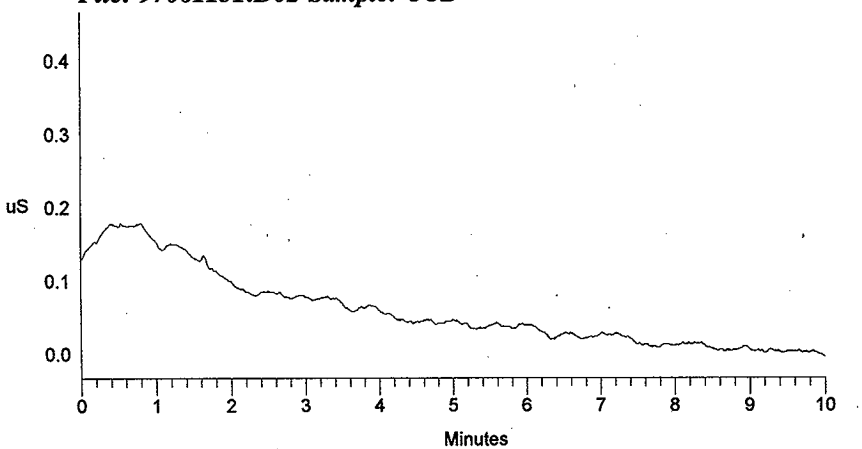
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Method     : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1  System: 1  Inject#: 2                        Detector:CDM-1
Analyst                    Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
		Totals	0.000	0	0		

File: 97061151.D02 Sample: CCB



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 567 TO 575.

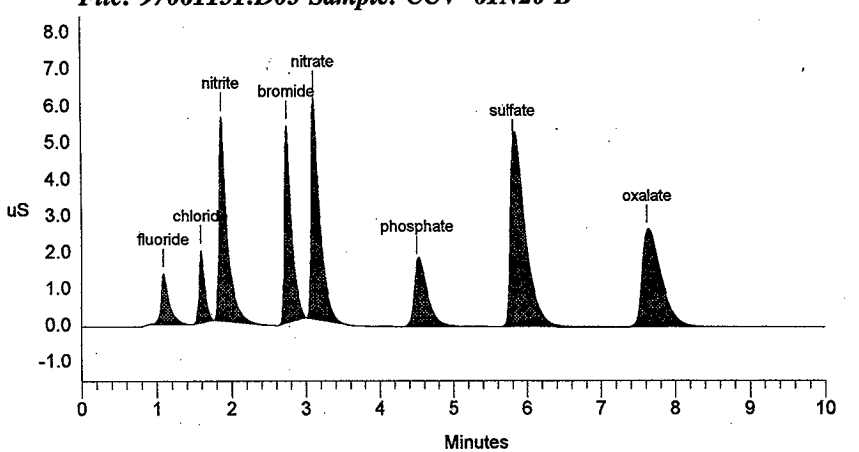
Sample Name: CCV 61N20-B Date: 06/11/1997 08:15:13
Data File : C:\DX\DATA\97061151.D03
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst: Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	58.220	1399	10510	1	-2.98
2	1.59	chloride	78.059	1992	10190	1	-0.42
3	1.87	nitrite	527.221	5564	41631	1	-3.11
4	2.75	bromide	573.601	5395	35836	1	-3.63
5	3.11	nitrate	580.841	6091	48343	1	-4.41
6	4.51	phosphate	533.002	1811	23623	1	-2.31
7	5.81	sulfate	611.801	4982	75090	1	-3.54
8	7.63	oxalate	542.758	2663	47999	1	-2.72
		Totals	3505.503	29896	293222		

File: 97061151.D03 Sample: CCV 61N20-B



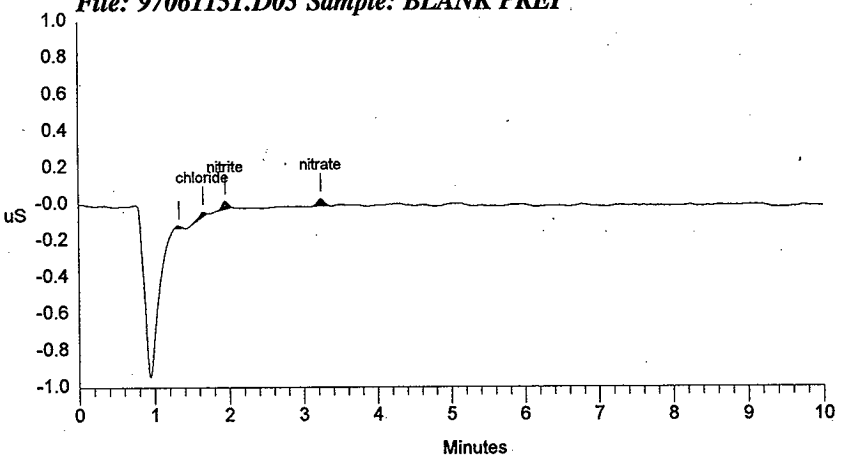
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Data File : C:\DX\DATA\97061151.D05
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.33		0.000	14	73	1	
2	1.65	chloride	0.008	27	174	1	3.77
3	1.95	nitrite	0.128	43	258	1	1.38
4	3.24	nitrate	0.106	42	263	1	-0.31
		Totals	0.242	126	768		

File: 97061151.D05 Sample: BLANK PREP



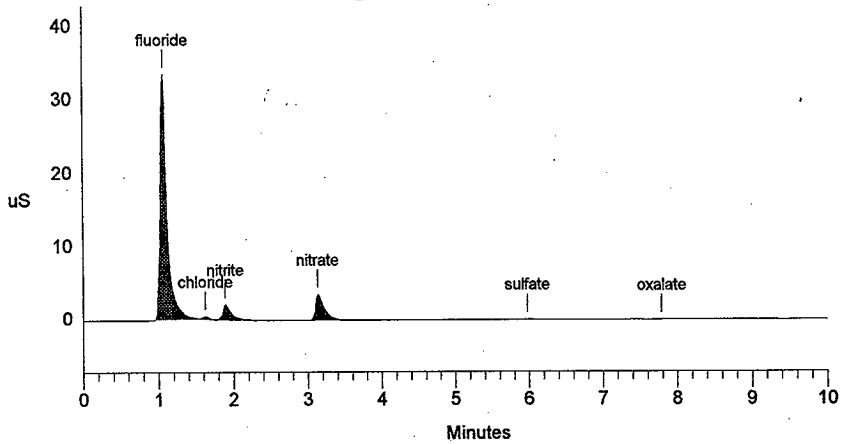
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Data File : C:\DX\DATA\97061151.D06
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	332.461	33323	206053	1	-4.76
2	1.62	chloride	5.301	360	1739	1	1.67
3	1.89	nitrite	86.745	2066	16283	1	-2.08
4	3.13	nitrate	141.437	3517	28573	1	-3.59
5	5.97	sulfate	3.040	104	1675	1	-0.88
6	7.79	oxalate	3.032	32	420	1	-0.68
		Totals	572.016	39401	254743		

File: 97061151.D06 Sample: S97T001069 SAMPLE



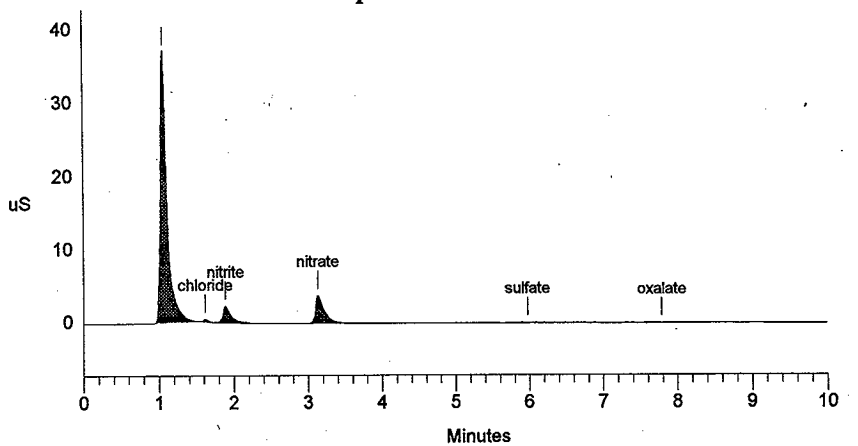
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Data File : C:\DX\DATA\97061161.D07
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	354.153	36888	227728	1	-5.36
2	1.61	chloride	4.916	345	1617	1	1.26
3	1.89	nitrite	93.043	2291	17529	1	-2.08
4	3.13	nitrate	155.837	3840	31575	1	-3.59
5	5.97	sulfate	4.071	127	1978	1	-0.88
6	7.79	oxalate	2.842	18	379	1	-0.68
		Totals	614.863	43510	280806		

File: 97061161.D07 Sample: S97T001069 DUP



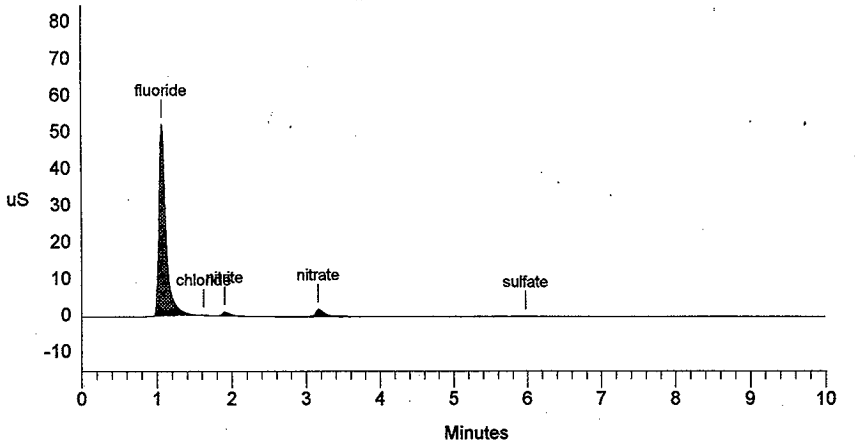
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Data File : C:\DX\DATA\97061151.D08
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	425.940	52071	338515	1	-4.76
2	1.62	chloride	3.240	235	1089	1	1.67
3	1.90	nitrite	50.187	1161	9075	1	-1.38
4	3.16	nitrate	81.683	2001	16174	1	-2.77
5	5.97	sulfate	1.297	81	1161	1	-0.88
		Totals	562.347	55549	366013		

File: 97061151.D08 Sample: S97T001074 SAMPLE



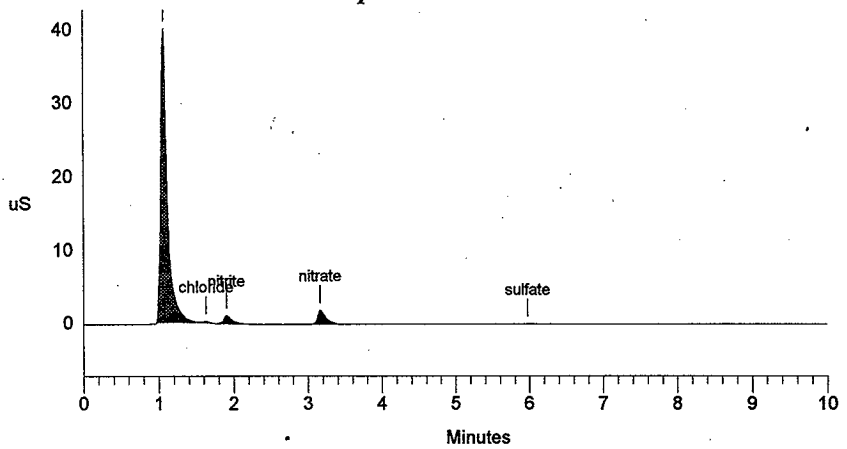
Sample Name: S97T001074 DUP Date: 06/11/1997 10:38:48
Data File : C:\DX\DATA\97061151.D09
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	371.887	40037	247655	1	-4.76
2	1.63	chloride	2.521	198	862	1	2.09
3	1.90	nitrite	49.329	1135	8906	1	-1.38
4	3.16	nitrate	78.961	1963	15611	1	-2.77
5	5.97	sulfate	1.480	74	1215	1	-0.88
		Totals	504.178	43407	274249		

File: 97061151.D09 Sample: S97T001074 DUP



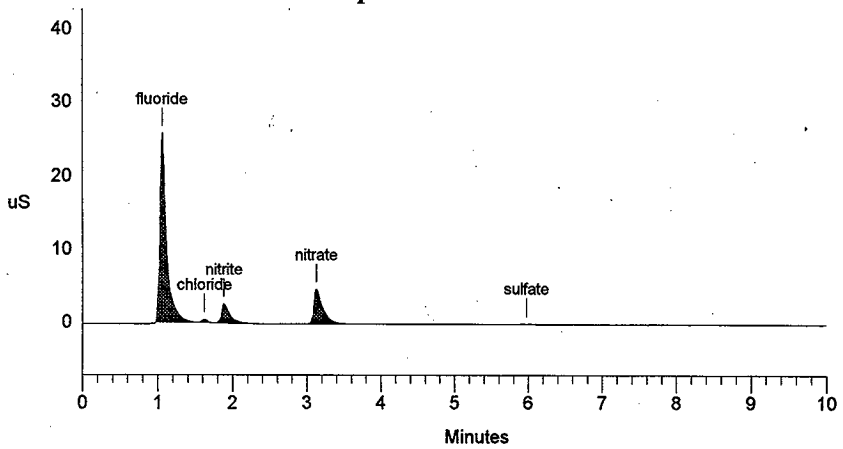
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Sample Name: S97T001075 SAMPLE                Date: 06/11/1997 10:51:27
Data File  : C:\DX\DATA\97061151.D10
Method     : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1  System: 1  Inject#: 10                  Detector:CDM-1
Analyst                    Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	272.473	25712	155748	1	-5.36
2	1.62	chloride	6.708	454	2183	1	1.67
3	1.88	nitrite	107.363	2614	20363	1	-2.42
4	3.13	nitrate	193.024	4779	39353	1	-3.79
5	5.97	sulfate	3.639	107	1851	1	-0.88
		Totals	583.207	33666	219499		

File: 97061151.D10 Sample: S97T001075 SAMPLE



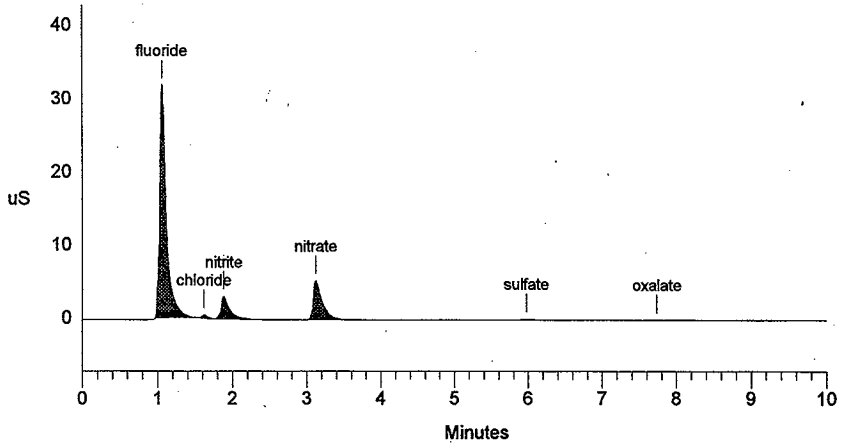
Sample Name: S97T001075 DUP Date: 06/11/1997 11:04:06
Data File : C:\DX\DATA\97061151.D11
Method : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 11 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	320.454	31706	195016	1	-5.36
2	1.61	chloride	5.747	385	1880	1	1.26
3	1.88	nitrite	122.603	3022	23385	1	-2.42
4	3.12	nitrate	217.352	5320	44461	1	-4.00
5	5.97	sulfate	2.414	103	1490	1	-0.88
6	7.73	oxalate	3.332	26	485	1	-1.36
		Totals	671.901	40561	266717		

File: 97061151.D11 Sample: S97T001075 DUP



worklistdata Version 1.0 05/15/96
06/18/97 16:11

LABCORE Completed Worklist Report for Worklist# 18599

Analyst: eal **Instrument:** IC01 **Book#** 6/N20B

Method: 64-5733-105 Rev/Mod D-1

Worklist Comment: Rerun AW 103 use DF 51. Spikes came out weird before.jmf

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB		0		@IC-QC F	QC	1		<1.20e-2		ug/mL
1	CCB		0		@IC-QC CL	QC	1		<1.70e-2		ug/mL
1	CCB		0		@IC-QC NO2	QC	1		<1.08e-1		ug/mL
1	CCB		0		@IC-QC BR	QC	1		<1.25e-1		ug/mL
1	CCB		0		@IC-QC NO3	QC	1		<1.39e-1		ug/mL
1	CCB		0		@IC-QC PO4	QC	1		<1.20e-1		ug/mL
1	CCB		0		@IC-QC SO4	QC	1		<1.38e-1		ug/mL
1	CCB		0		@IC-QC OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0		@IC-QC F	QC	5.90e01		5.94e+01	100.678	% Recovery
2	CCV		0		@IC-QC CL	QC	7.90e01		7.91e+01	100.127	% Recovery
2	CCV		0		@IC-QC NO2	QC	5.44e02		5.55e+02	102.022	% Recovery
2	CCV		0		@IC-QC BR	QC	5.89e02		5.97e+02	101.358	% Recovery
2	CCV		0		@IC-QC NO3	QC	5.94e02		6.06e+02	102.020	% Recovery
2	CCV		0		@IC-QC PO4	QC	5.45e02		5.41e+02	99.266	% Recovery
2	CCV		0		@IC-QC SO4	QC	6.31e02		6.29e+02	99.683	% Recovery
2	CCV		0		@IC-QC OXALATE2	QC	5.36e02		5.57e+02	103.918	% Recovery
3	BLNK-PREP		0		@IC-01 F-02	SOLID	1		<1.20e-2		ug/g
3	BLNK-PREP		0		@IC-01 CL-02	SOLID	1		3.80e-02	0.038	ug/g
3	BLNK-PREP		0		@IC-01 NO2-02	SOLID	1		1.98e-01	0.198	ug/g
3	BLNK-PREP		0		@IC-01 BR-02	SOLID	1		<1.25e-1		ug/g
3	BLNK-PREP		0		@IC-01 NO3-02	SOLID	1		1.67e-01	0.167	ug/g
3	BLNK-PREP		0		@IC-01 PO4-02	SOLID	1		<1.20e-1		ug/g
3	BLNK-PREP		0		@IC-01 SO4-02	SOLID	1		<1.38e-1		ug/g
3	BLNK-PREP		0		@IC-01 OXALATE2	SOLID	1		<1.05e-1		ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 F-02	SOLID	N/A		4.660e+04	121.000	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 CL-02	SOLID	N/A		3.886e+02	171.500	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 NO2-02	SOLID	N/A		6.307e+03	1089.000	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 BR-02	SOLID	N/A	<	1.261e+03	1261.000	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 NO3-02	SOLID	N/A		8.451e+03	1402.000	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 PO4-02	SOLID	N/A	<	1.210e+03	1210.000	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 SO4-02	SOLID	N/A		1.481e+03	1392.000	ug/g
4	SAMPLE	S97T001073	0	W	@IC-01 OXALATE2	SOLID	N/A	<	1.059e+03	1059.000	ug/g
5	DUP	S97T001073	0	W	@IC-01 F-02	SOLID	4.66e+04		4.81e+04	3.168	RPD
5	DUP	S97T001073	0	W	@IC-01 CL-02	SOLID	3.89e+02		3.97e+02	2.036	RPD
5	DUP	S97T001073	0	W	@IC-01 NO2-02	SOLID	6.31e+03		6.40e+03	1.416	RPD
5	DUP	S97T001073	0	W	@IC-01 BR-02	SOLID	<1.26e3		<1.30e3		RPD
5	DUP	S97T001073	0	W	@IC-01 NO3-02	SOLID	8.45e+03		9.35e+03	10.112	RPD
5	DUP	S97T001073	0	W	@IC-01 PO4-02	SOLID	<1.21e3		<1.24e3		RPD
5	DUP	S97T001073	0	W	@IC-01 SO4-02	SOLID	1.48e+03		1.44e+03	2.740	RPD
5	DUP	S97T001073	0	W	@IC-01 OXALATE2	SOLID	<1.06e3		<1.09e3		RPD
6	SPK	S97T001073	0	W	@IC-01 F-02	SOLID	5.90e01		3.76e+01	63.729	% Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18599

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	SPK	S97T001073	0	W	@IC-01	CL-02	SOLID	7.90e01	8.18e+01	103.544 % Recovery
6	SPK	S97T001073	0	W	@IC-01	NO2-02	SOLID	5.44e02	5.73e+02	105.331 % Recovery
6	SPK	S97T001073	0	W	@IC-01	BR-02	SOLID	5.89e02	6.09e+02	103.396 % Recovery
6	SPK	S97T001073	0	W	@IC-01	NO3-02	SOLID	5.94e02	6.04e+02	101.684 % Recovery
6	SPK	S97T001073	0	W	@IC-01	PO4-02	SOLID	5.45e02	5.59e+02	102.569 % Recovery
6	SPK	S97T001073	0	W	@IC-01	SO4-02	SOLID	6.31e02	6.30e+02	99.842 % Recovery
6	SPK	S97T001073	0	W	@IC-01	OXALATE2	SOLID	5.36e02	5.64e+02	105.224 % Recovery

Final page for worklist# 18599

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date 6/18/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/11/97 11:31
A-0004-1

LABCORE Data Entry Template for Worklist# 18599

Analyst: [illegible] **Instrument:** IC0 1 **Book#** 61N20-13

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AW 103 use DF 51. Spikes came out weird before.jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001073	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T001073	0	W	@IC-01	SOLID		
6	SPK	S97T001073	0	W	@IC-01	SOLID		

Final page for worklist # 18599

A. Lambell 06-11-97
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-12-97
John Worrell
18599JUN.ESV

Validated 6/16/97

Data Entry Comments:

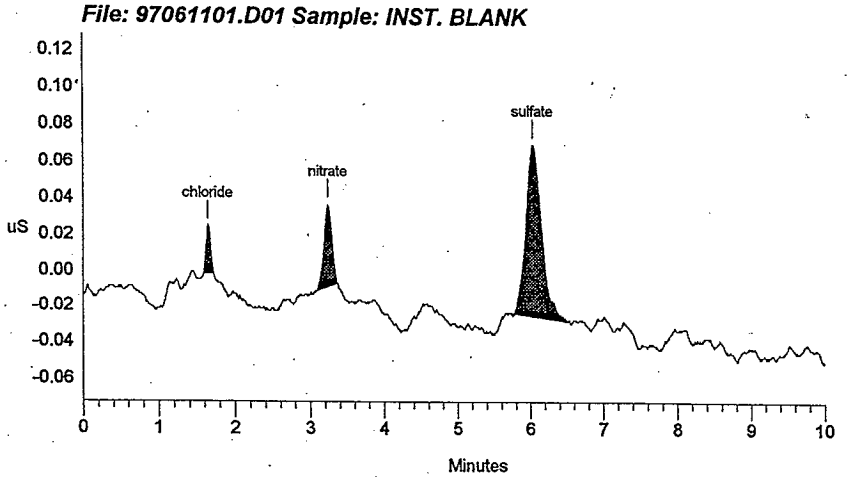
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: INST. BLANK Date: 06/11/1997 19:30:07
Data File : C:\DX\DATA\97061101.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : Jason Lyle for EAL 6/18/97 Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.64	chloride	0.003	26	111	1	2.93
2	3.23	nitrate	0.115	45	333	1	-0.51
3	6.03	sulfate	0.054	94	1430	1	0.00
		Totals	0.172	165	1875		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 579 TO 584.

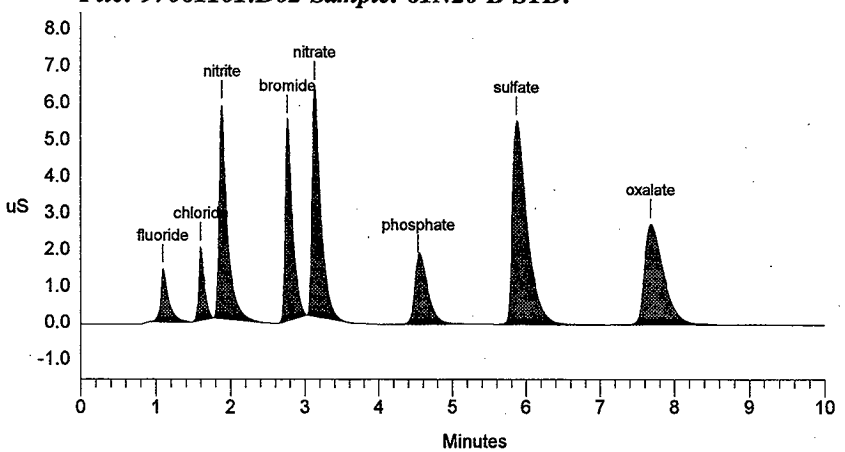
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Sample Name: 61N20-B STD.                    Date: 06/11/1997 19:42:51
Data File  : C:\DX\DATA\97061101.D02
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 2                Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	59.444	1450	10747	1	-2.38
2	1.60	chloride	79.059	2005	10322	1	0.42
3	1.88	nitrite	555.302	5815	43920	1	-2.42
4	2.76	bromide	596.946	5481	37336	1	1.10
5	3.13	nitrate	605.938	6267	50492	1	-3.79
6	4.53	phosphate	541.311	1784	24001	1	-1.73
7	5.87	sulfate	628.837	5535	77195	1	-2.65
8	7.68	oxalate	557.100	2755	49283	1	-2.04
		Totals	3623.937	31092	303296		

File: 97061101.D02 Sample: 61N20-B STD.

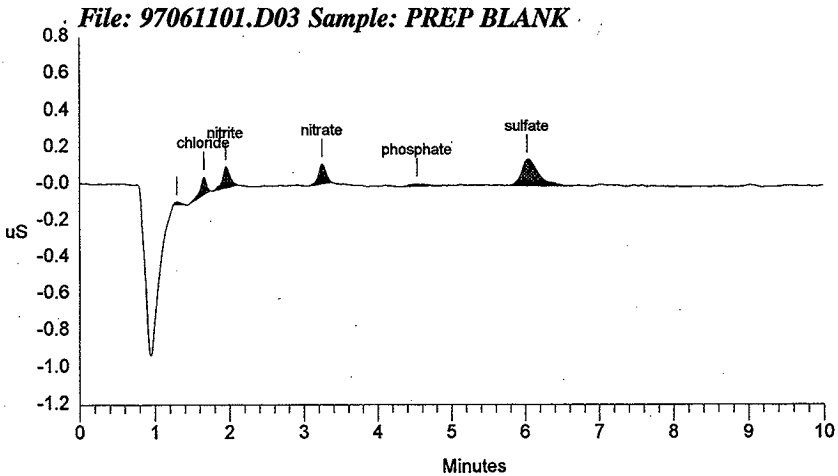


```
Sample Name: PREP BLANK                          Date: 06/11/1997 19:53:56
Data File  : C:\DX\DATA\97061101.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 3                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.29		0.000	13	78	1	
2	1.65	chloride	0.038	96	554	1	3.77
3	1.95	nitrite	0.198	114	816	1	1.04
4	3.25	nitrate	0.167	108	770	1	-0.10
5	4.53	phosphate	0.108	13	199	1	-1.73
6	6.03	sulfate	0.123	141	2269	1	0.00
		Totals	0.633	486	4687		



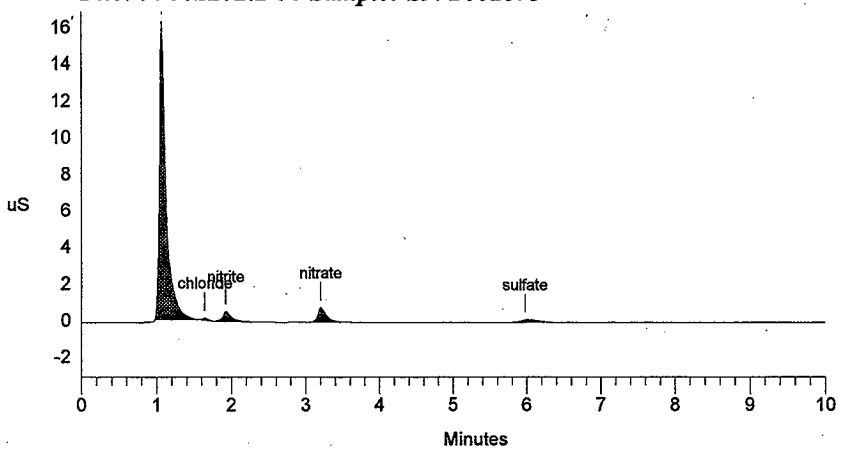
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Sample Name: S97T001073                          Date: 06/11/1997 20:06:07
Data File  : C:\DX\DATA\97061101.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 4                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	235.633	16323	99498	1	-4.76
2	1.64	chloride	1.965	124	566	1	2.93
3	1.92	nitrite	31.886	524	4251	1	-0.35
4	3.20	nitrate	42.726	795	6416	1	-1.54
5	5.97	sulfate	7.489	146	2553	1	-0.88
		Totals	319.698	17912	113284		

File: 97061101.D04 Sample: S97T001073



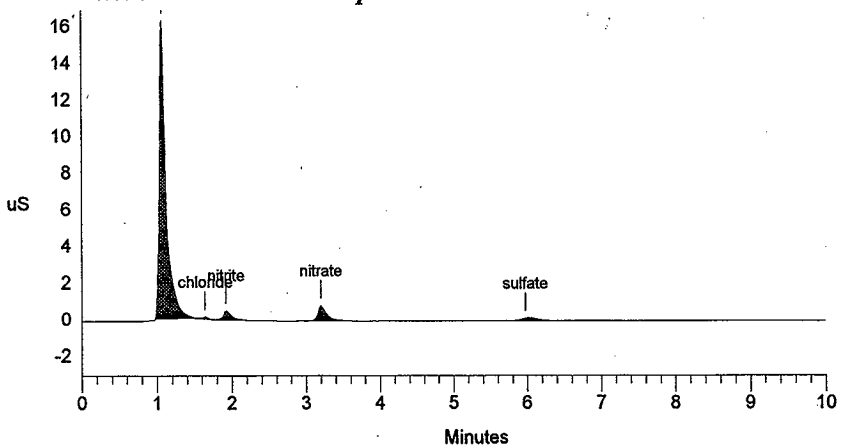
Sample Name: S97T001073 DUP Date: 06/11/1997 20:17:19
Data File : C:\DX\DATA\97061101.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	236.400	16275	99877	1	-4.76
2	1.64	chloride	1.952	128	563	1	2.93
3	1.92	nitrite	31.463	517	4184	1	-0.35
4	3.20	nitrate	46.000	834	6957	1	-1.54
5	5.97	sulfate	7.100	151	2461	1	-0.88
		Totals	322.915	17906	114043		

File: 97061101.D05 Sample: S97T001073 DUP



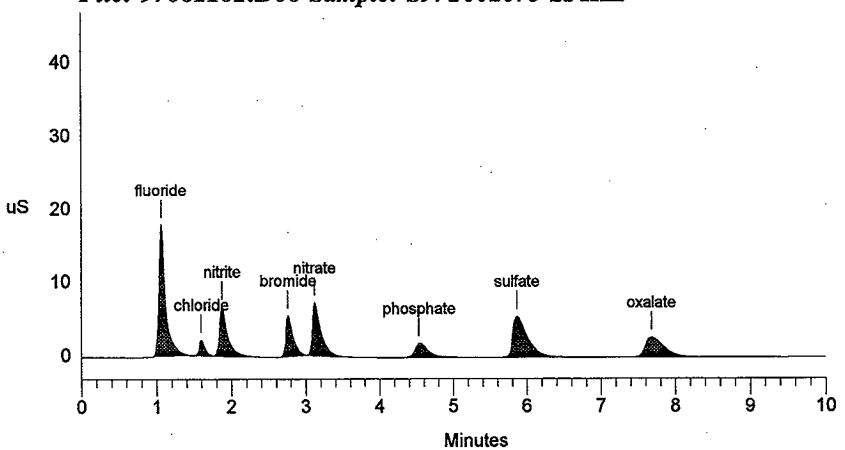
Sample Name: S97T001073 SPIKE Date: 06/11/1997 22:28:15
Data File : C:\DX\DATA\97061101.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	51	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	254.424	17831	108934	1	-5.36
2	1.59	chloride	42.854	2133	11090	1	0.00
3	1.87	nitrite	318.384	6648	50070	1	-2.77
4	2.76	bromide	304.487	5555	37726	1	1.10
5	3.12	nitrate	344.888	7193	57109	1	-4.00
6	4.53	phosphate	279.685	1959	24574	1	-1.73
7	5.87	sulfate	322.479	5601	78406	1	-2.65
8	7.68	oxalate	281.980	2771	49402	1	-2.04
		Totals	2149.180	49691	417311		

File: 97061101.D06 Sample: S97T001073 SPIKE



LABCORE Completed Worklist Report for Worklist# 18615

Analyst: eal **Instrument:** IC01 **Book#** 61N20B

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AW103 IC. Try 41 df. jmf

Seq	Type	Sample#	R	A		Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB			0	@IC-QC	F	QC	1		<1.20e-2		ug/mL
1	CCB			0	@IC-QC	CL	QC	1		<1.70e-2		ug/mL
1	CCB			0	@IC-QC	NO2	QC	1		<1.08e-1		ug/mL
1	CCB			0	@IC-QC	BR	QC	1		<1.25e-1		ug/mL
1	CCB			0	@IC-QC	NO3	QC	1		<1.39e-1		ug/mL
1	CCB			0	@IC-QC	PO4	QC	1		<1.20e-1		ug/mL
1	CCB			0	@IC-QC	SO4	QC	1		<1.38e-1		ug/mL
1	CCB			0	@IC-QC	OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV			0	@IC-QC	F	QC	5.90e01		5.49e+01	93.051	% Recovery
2	CCV			0	@IC-QC	CL	QC	7.90e01		7.82e+01	98.987	% Recovery
2	CCV			0	@IC-QC	NO2	QC	5.44e02		5.45e+02	100.184	% Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e02		5.88e+02	99.830	% Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e02		6.01e+02	101.178	% Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e02		5.26e+02	96.514	% Recovery
2	CCV			0	@IC-QC	SO4	QC	6.31e02		6.35e+02	100.634	% Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.36e02		5.52e+02	102.985	% Recovery
3	BLNK-PREP			0	@IC-01	F-02	SOLID	1		<1.20e-2		ug/g
3	BLNK-PREP			0	@IC-01	CL-02	SOLID	1		1.80e-02	0.018	ug/g
3	BLNK-PREP			0	@IC-01	NO2-02	SOLID	1		<1.08e-1		ug/g
3	BLNK-PREP			0	@IC-01	BR-02	SOLID	1		<1.25e-1		ug/g
3	BLNK-PREP			0	@IC-01	NO3-02	SOLID	1		<1.39e-1		ug/g
3	BLNK-PREP			0	@IC-01	PO4-02	SOLID	1		<1.20e-1		ug/g
3	BLNK-PREP			0	@IC-01	SO4-02	SOLID	1		<1.38e-1		ug/g
3	BLNK-PREP			0	@IC-01	OXALATE2	SOLID	1		<1.05e-1		ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	F-02	SOLID	N/A		2.797e+04	96.100	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	CL-02	SOLID	N/A		3.081e+02	136.200	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	NO2-02	SOLID	N/A		3.232e+03	865.100	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	BR-02	SOLID	N/A	<	1.001e+03	1001.000	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	NO3-02	SOLID	N/A		4.796e+03	1113.000	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	PO4-02	SOLID	N/A	<	9.611e+02	961.000	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.105e+03	1105.000	ug/g
4	SAMPLE	S97T001072	0	W	@IC-01	OXALATE2	SOLID	N/A	<	8.410e+02	840.900	ug/g
5	DUP	S97T001072	0	W	@IC-01	F-02	SOLID	2.80e+04		2.87e+04	2.469	RPD
5	DUP	S97T001072	0	W	@IC-01	CL-02	SOLID	3.08e+02		3.40e+02	9.877	RPD
5	DUP	S97T001072	0	W	@IC-01	NO2-02	SOLID	3.23e+03		3.30e+03	2.144	RPD
5	DUP	S97T001072	0	W	@IC-01	BR-02	SOLID	<1.00e3		<1.01e3		RPD
5	DUP	S97T001072	0	W	@IC-01	NO3-02	SOLID	4.80e+03		4.86e+03	1.242	RPD
5	DUP	S97T001072	0	W	@IC-01	PO4-02	SOLID	<9.61e2		<9.66e2		RPD
5	DUP	S97T001072	0	W	@IC-01	SO4-02	SOLID	<1.10e3		1.15e+03		RPD
5	DUP	S97T001072	0	W	@IC-01	OXALATE2	SOLID	<8.41e2		<8.46e2		RPD
6	SPK	S97T001072	0	W	@IC-01	F-02	SOLID	5.90e01		5.96e+01	101.017	% Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18615

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	SPK	S97T001072	0	W	@IC-01	CL-02	SOLID	7.90e01	8.32e+01	105.316 % Recovery
6	SPK	S97T001072	0	W	@IC-01	NO2-02	SOLID	5.44e02	5.79e+02	106.434 % Recovery
6	SPK	S97T001072	0	W	@IC-01	BR-02	SOLID	5.89e02	6.24e+02	105.942 % Recovery
6	SPK	S97T001072	0	W	@IC-01	NO3-02	SOLID	5.94e02	6.12e+02	103.030 % Recovery
6	SPK	S97T001072	0	W	@IC-01	PO4-02	SOLID	5.45e02	5.51e+02	101.101 % Recovery
6	SPK	S97T001072	0	W	@IC-01	SO4-02	SOLID	6.31e02	6.67e+02	105.705 % Recovery
6	SPK	S97T001072	0	W	@IC-01	OXALATE2	SOLID	5.36e02	5.81e+02	108.396 % Recovery

Final page for worklist# 18615

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature 6/18/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/11/97 15:23
A-0004-1

LABCORE Data Entry Template for Worklist# 18615

Analyst: EAJ **Instrument:** IC0 1 **Book#** 61N20:B

Method: LA-533-105 Rev/Mod D·1

Worklist Comment: Rerun AW103 IC. Try 41 df. jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001072	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested:	BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S97T001072	0	W	@IC-01	SOLID		
6	SPK	S97T001072	0	W	@IC-01	SOLID		

Final page for worklist # 18615

A Lambert 06.11.97

Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-12-97
John Worrell
18615TIN.CSV

Validated 6/17/97 JM Luse

Data Entry Comments:

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

Sample Name: INST. BLANK Date: 06/11/1997 22:39:02
Data File : C:\DX\DATA\97061101.D07
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:CDM-1
Analyst : Jann Luse Column: AG4A/AS4A anion column

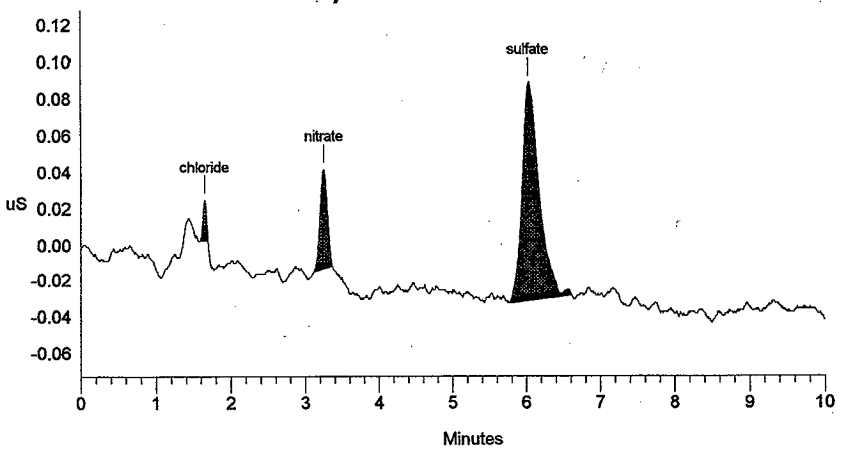
for EAL 6/18/97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.65	chloride	0.000	22	75	1	3.35
2	3.25	nitrate	0.120	54	380	1	0.10
3	6.03	sulfate	0.095	119	1926	1	0.00
		Totals	0.216	195	2381		

File: 97061101.D07 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 588 TO 593.

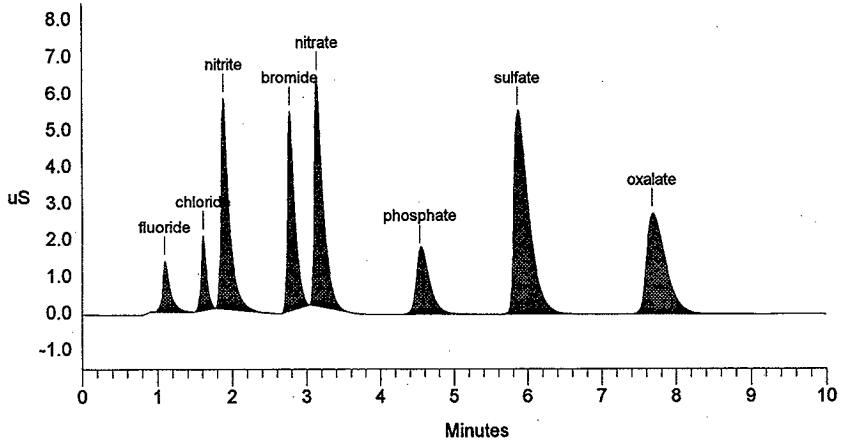
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Sample Name: 61N20-B STD.                    Date: 06/11/1997 22:50:11
Data File  : C:\DX\DATA\97061101.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 8                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	54.900	1374	9869	1	-2.38
2	1.61	chloride	78.188	2028	10208	1	0.84
3	1.89	nitrite	545.078	5750	43086	1	-2.08
4	2.77	bromide	588.492	5443	36793	1	1.59
5	3.14	nitrate	600.903	6271	50060	1	-3.38
6	4.53	phosphate	526.461	1756	23325	1	-1.73
7	5.87	sulfate	634.543	5531	77900	1	-2.65
8	7.68	oxalate	551.893	2733	48817	1	-2.04
		Totals	3580.458	30886	300057		

File: 97061101.D08 Sample: 61N20-B STD.



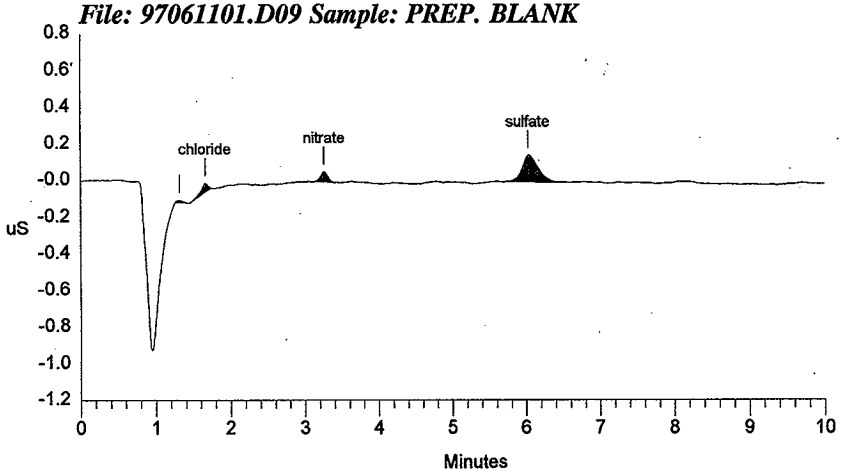
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Sample Name: PREP. BLANK                    Date: 06/11/1997 23:01:24
Data File  : C:\DX\DATA\97061101.D09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 9              Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.31		0.000	13	70	1	
2	1.66	chloride	0.018	46	297	1	4.18
3	3.26	nitrate	0.117	55	352	1	0.31
4	6.03	sulfate	0.114	144	2152	1	0.00
		Totals	0.248	258	2871		

File: 97061101.D09 Sample: PREP. BLANK



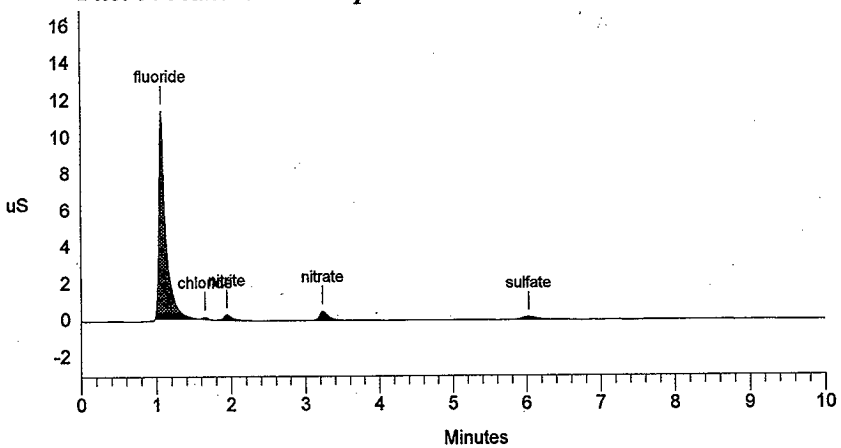
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Sample Name: S97T001072                    Date: 06/11/1997 23:12:45
Data File  : C:\DX\DATA\97061101.D10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 10              Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	143.161	11359	72259	1	-4.76
2	1.65	chloride	1.577	127	565	1	3.35
3	1.94	nitrite	16.544	317	2469	1	0.69
4	3.23	nitrate	24.549	523	4403	1	-0.72
5	6.03	sulfate	5.589	168	2426	1	0.00
		Totals	191.420	12494	82122		

File: 97061101.D10 Sample: S97T001072



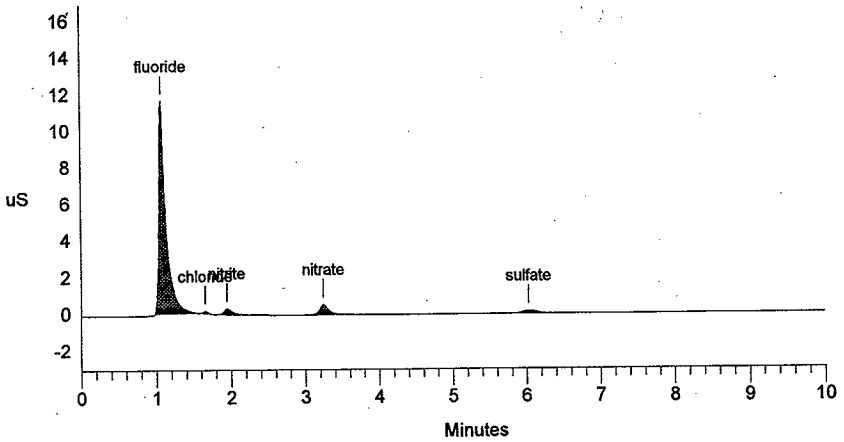
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Sample Name: S97T001072 DUP                    Date: 06/11/1997 23:23:40
Data File  : C:\DX\DATA\97061101.D11
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 11                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	146.102	11643	73924	1	-4.17
2	1.65	chloride	1.730	131	613	1	3.35
3	1.94	nitrite	16.819	322	2523	1	0.69
4	3.24	nitrate	24.725	547	4440	1	-0.31
5	6.03	sulfate	5.831	168	2497	1	0.00
		Totals	195.207	12812	83996		

File: 97061101.D11 Sample: S97T001072 DUP



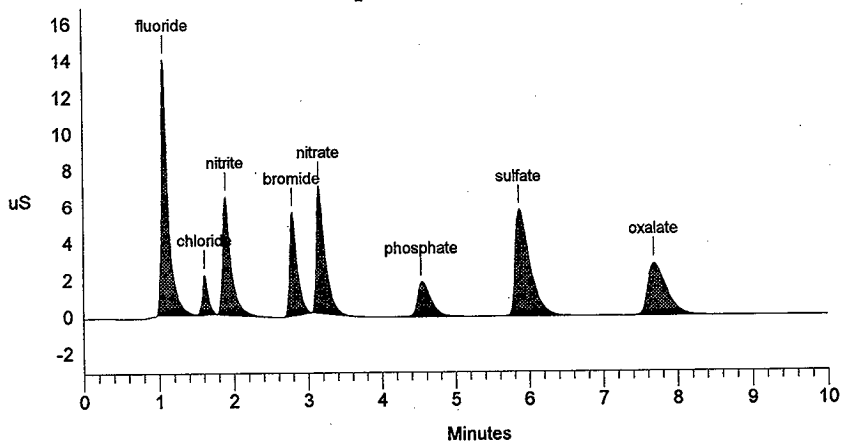
```
Sample Name: S97T001072 SPIKE                Date: 06/11/1997 23:35:01
Data File  : C:\DX\DATA\97061101.D12
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 12                Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	167.003	13969	86004	1	-4.17
2	1.61	chloride	34.865	2135	11225	1	0.84
3	1.89	nitrite	248.185	6417	48503	1	-1.73
4	2.79	bromide	249.571	5636	38485	1	2.08
5	3.15	nitrate	269.340	6901	55431	1	-3.18
6	4.53	phosphate	220.561	1850	24093	1	-1.73
7	5.87	sulfate	266.906	5786	80739	1	-2.65
8	7.68	oxalate	232.538	2851	50693	1	-2.04
		Totals	1688.969	45546	395172		

File: 97061101.D12 Sample: S97T001072 SPIKE



LABCORE Completed Worklist Report for Worklist# 18701

Analyst: dgg **Instrument:** IC01 **Book#** 72U20A

Method: IA-583-05 Rev/Mod D-1

Worklist Comment: Rerun AW103 IC. Use 4141 dilution. Spike failed last time.jf

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB			0	@IC-QC	F	QC	1		<1.20e-2	ug/mL
1	CCB			0	@IC-QC	CL	QC	1		<1.70e-2	ug/mL
1	CCB			0	@IC-QC	NO2	QC	1		<1.08e-1	ug/mL
1	CCB			0	@IC-QC	BR	QC	1		<1.25e-1	ug/mL
1	CCB			0	@IC-QC	NO3	QC	1		1.70e-01	0.170 ug/mL
1	CCB			0	@IC-QC	PO4	QC	1		<1.20e-1	ug/mL
1	CCB			0	@IC-QC	SO4	QC	1		<1.38e-1	ug/mL
1	CCB			0	@IC-QC	OXALATE2	QC	1		<1.05e-1	ug/mL
2	CCV			0	@IC-QC	F	QC	5.90e01		5.88e+01	99.661 % Recovery
2	CCV			0	@IC-QC	CL	QC	7.90e01		7.50e+01	94.937 % Recovery
2	CCV			0	@IC-QC	NO2	QC	5.43e02		5.60e+02	103.131 % Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e02		5.89e+02	100.000 % Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e02		5.89e+02	99.158 % Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e02		5.05e+02	92.661 % Recovery
2	CCV			0	@IC-QC	SO4	QC	6.32e02		6.22e+02	98.418 % Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.34e02		5.46e+02	102.247 % Recovery
3	SAMPLE	S97T000881		0	@IC-01	F-02	LIQUID	N/A		1.737e+04	49.690 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	CL-02	LIQUID	N/A		1.188e+02	70.400 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	NO2-02	LIQUID	N/A		1.836e+03	447.200 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	BR-02	LIQUID	N/A	<	5.176e+02	517.600 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	NO3-02	LIQUID	N/A		4.094e+03	575.600 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	PO4-02	LIQUID	N/A	<	4.969e+02	496.900 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	SO4-02	LIQUID	N/A	<	5.715e+02	571.500 ug/mL
3	SAMPLE	S97T000881		0	@IC-01	OXALATE2	LIQUID	N/A	<	4.348e+02	434.800 ug/mL
4	DUP	S97T000881		0	@IC-01	F-02	LIQUID	1.74e+04		1.79e+04	2.833 RPD
4	DUP	S97T000881		0	@IC-01	CL-02	LIQUID	1.19e+02		1.36e+02	13.333 RPD
4	DUP	S97T000881		0	@IC-01	NO2-02	LIQUID	1.84e+03		1.76e+03	4.444 RPD
4	DUP	S97T000881		0	@IC-01	BR-02	LIQUID	<5.18e2		<5.18e2	RPD
4	DUP	S97T000881		0	@IC-01	NO3-02	LIQUID	4.09e+03		4.27e+03	4.306 RPD
4	DUP	S97T000881		0	@IC-01	PO4-02	LIQUID	<4.97e2		<4.97e2	RPD
4	DUP	S97T000881		0	@IC-01	SO4-02	LIQUID	<5.72e2		<5.71e2	RPD
4	DUP	S97T000881		0	@IC-01	OXALATE2	LIQUID	<4.35e2		<4.35e2	RPD
5	SPK	S97T000881		0	@IC-01	F-02	LIQUID	5.90e01		6.57e+01	111.356 % Recovery
5	SPK	S97T000881		0	@IC-01	CL-02	LIQUID	7.90e01		7.31e+01	92.532 % Recovery
5	SPK	S97T000881		0	@IC-01	NO2-02	LIQUID	5.43e02		5.34e+02	98.343 % Recovery
5	SPK	S97T000881		0	@IC-01	BR-02	LIQUID	5.89e02		5.75e+02	97.623 % Recovery
5	SPK	S97T000881		0	@IC-01	NO3-02	LIQUID	5.94e02		5.72e+02	96.296 % Recovery
5	SPK	S97T000881		0	@IC-01	PO4-02	LIQUID	5.45e02		4.96e+02	91.009 % Recovery
5	SPK	S97T000881		0	@IC-01	SO4-02	LIQUID	6.32e02		6.14e+02	97.152 % Recovery
5	SPK	S97T000881		0	@IC-01	OXALATE2	LIQUID	5.34e02		5.40e+02	101.124 % Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18701

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit

Final page for worklist# 18701

Analyst Signature **Date**

Analyst Signature **Date**

Jann M. Frye 6/18/97
Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18701

Analyst: DBS **Instrument:** IC0 1 **Book#** 72N20-A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AW103 IC. Use 4141 dilution. Spike failed last time.jf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S97T000881	0		@IC-01	LIQUID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
4	DUP	S97T000881	0		@IC-01	LIQUID		
5	SPK	S97T000881	0		@IC-01	LIQUID		

Final page for worklist # 18701

DBS
Analyst Signature **Date**

Analyst Signature **Date**

18701 jenacsv
uploaded 6/18/97
Validated 6/18/97 MTuge

Data Entry Comments:

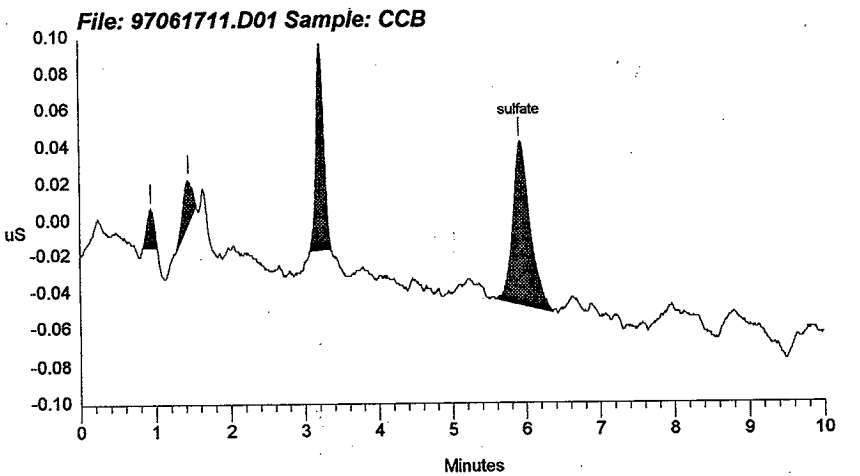
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: CCB Date: 06/17/1997 19:23:00
Data File : C:\DX\DATA\97061711.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : DB Sullivan Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	21	143	1	
2	1.45		0.000	23	214	1	
3	3.22	nitrate	0.170	113	797	1	-0.92
4	5.92	sulfate	0.054	88	1433	1	-1.77
		Totals	0.224	245	2586		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 597 TO 601.

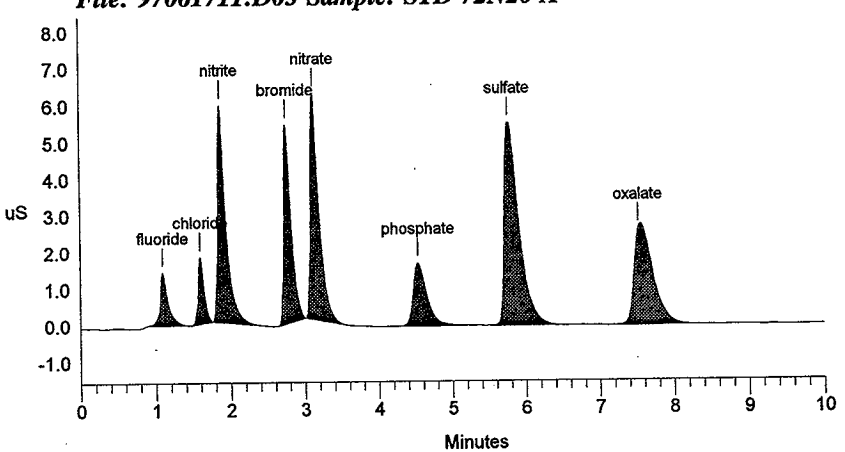
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Sample Name: STD 72N20-A                    Date: 06/17/1997 19:49:27
Data File  : C:\DX\DATA\97061711.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 3              Detector:CDM-1
Analyst    : D B Griffin   Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	58.784	1450	10619	1	-2.38
2	1.59	chloride	74.955	1820	9781	1	0.00
3	1.87	nitrite	559.880	5912	44294	1	-3.11
4	2.75	bromide	589.094	5428	36831	1	0.85
5	3.12	nitrate	589.378	6167	49074	1	-4.00
6	4.53	phosphate	505.359	1726	22364	1	-1.73
7	5.76	sulfate	621.564	5536	76296	1	-4.42
8	7.52	oxalate	545.949	2627	48285	1	-4.08
		Totals	3544.963	30666	297544		

File: 97061711.D03 Sample: STD 72N20-A



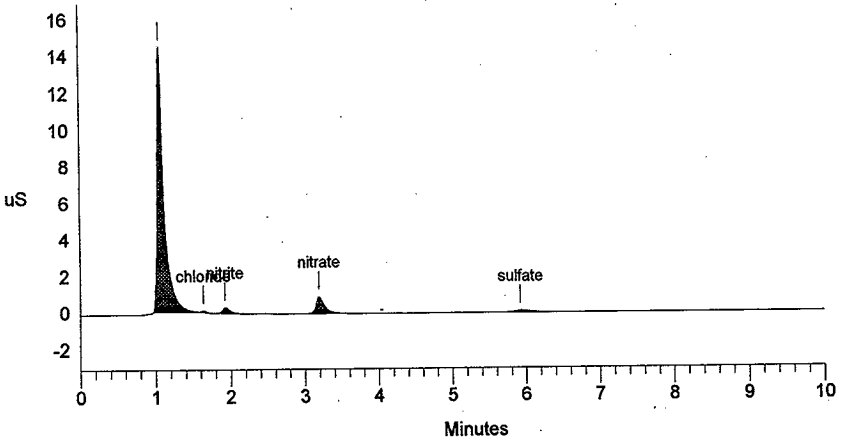
Sample Name: S97T000881 Date: 06/17/1997 20:07:47
Data File : C:\DX\DATA\97061711.D04
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	4141	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	17366.824	14482	88930	1	-5.36
2	1.63	chloride	118.790	97	439	1	2.51
3	1.92	nitrite	1835.668	347	2788	1	-0.35
4	3.19	nitrate	4094.209	935	7689	1	-1.95
5	5.92	sulfate	270.217	107	1567	1	-1.77
		Totals	23685.707	15969	101414		

File: 97061711.D04 Sample: S97T000881



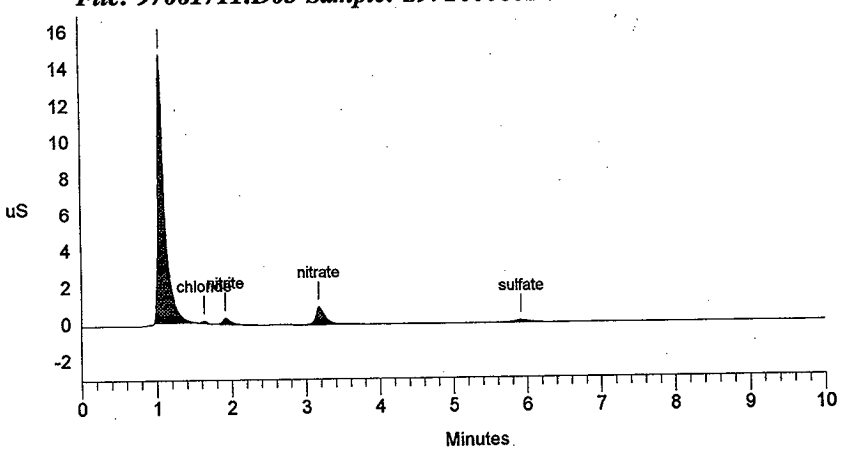
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Sample Name: S97T000881-DUP                    Date: 06/17/1997 21:34:34
Data File  : C:\DX\DATA\97061711.D05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 5                  Detector:CDM-1
Analyst    : D B Bruff     Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	4141	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	17899.331	14706	92080	1	-5.36
2	1.63	chloride	135.812	116	492	1	2.51
3	1.91	nitrite	1761.719	338	2645	1	-0.69
4	3.17	nitrate	4270.317	956	8048	1	-2.36
5	5.92	sulfate	430.843	129	2036	1	-1.77
		Totals	24498.022	16245	105300		

File: 97061711.D05 Sample: S97T000881-DUP



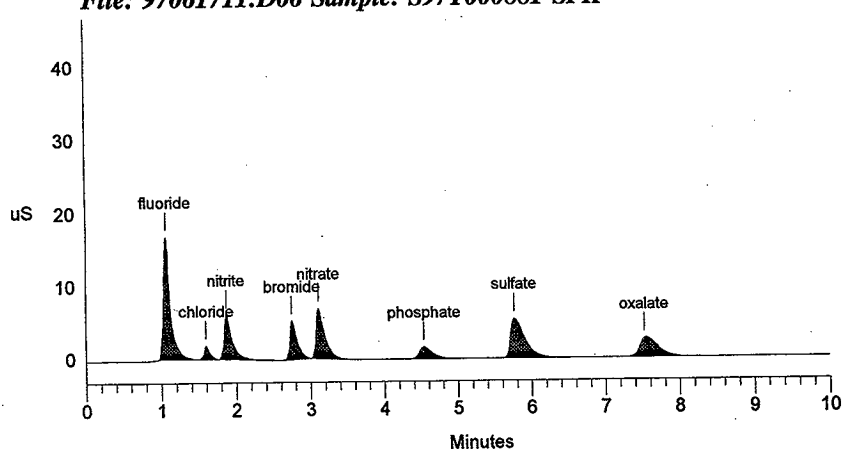
Sample Name: S97T000881-SPK Date: 06/17/1997 21:47:03
Data File : C:\DX\DATA\97061711.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : [signature] Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	4141	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	20015.044	16823	104920	1	-5.36
2	1.59	chloride	3067.564	1858	9763	1	0.00
3	1.87	nitrite	23349.754	6080	45080	1	-3.11
4	2.75	bromide	23193.458	5305	35328	1	0.61
5	3.11	nitrate	27152.320	6887	55324	1	-4.41
6	4.53	phosphate	19985.841	1682	21551	1	-1.73
7	5.76	sulfate	24744.716	5465	74070	1	-4.42
8	7.52	oxalate	21791.444	2627	46992	1	-4.08
		Totals	163300.142	46727	393027		

File: 97061711.D06 Sample: S97T000881-SPK



LABCORE Completed Worklist Report for Worklist# 18702

Analyst: dgg **Instrument:** IC01 **Book#** 72N20A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AW103 for Br. Use 41 df.jmf

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	CCB		0		@IC-QC F	QC	1		<1.20e-2		ug/mL
1	CCB		0		@IC-QC CL	QC	1		<1.70e-2		ug/mL
1	CCB		0		@IC-QC NO2	QC	1		<1.08e-1		ug/mL
1	CCB		0		@IC-QC BR	QC	1		<1.25e-1		ug/mL
1	CCB		0		@IC-QC NO3	QC	1		<1.39e-1		ug/mL
1	CCB		0		@IC-QC PO4	QC	1		<1.20e-1		ug/mL
1	CCB		0		@IC-QC SO4	QC	1		<1.38e-1		ug/mL
1	CCB		0		@IC-QC OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0		@IC-QC F	QC	5.90e01		5.71e+01	96.780	% Recovery
2	CCV		0		@IC-QC CL	QC	7.90e01		7.46e+01	94.430	% Recovery
2	CCV		0		@IC-QC NO2	QC	5.43e02		5.48e+02	100.921	% Recovery
2	CCV		0		@IC-QC BR	QC	5.89e02		5.81e+02	98.642	% Recovery
2	CCV		0		@IC-QC NO3	QC	5.94e02		5.74e+02	96.633	% Recovery
2	CCV		0		@IC-QC PO4	QC	5.45e02		4.98e+02	91.376	% Recovery
2	CCV		0		@IC-QC SO4	QC	6.32e02		6.17e+02	97.627	% Recovery
2	CCV		0		@IC-QC OXALATE2	QC	5.34e02		5.39e+02	100.936	% Recovery
3	BLNK-PREP		0		@IC-01 F-02	SOLID	1		<1.20e-2		ug/g
3	BLNK-PREP		0		@IC-01 CL-02	SOLID	1		<1.70e-2		ug/g
3	BLNK-PREP		0		@IC-01 NO2-02	SOLID	1		<1.08e-1		ug/g
3	BLNK-PREP		0		@IC-01 BR-02	SOLID	1		<1.25e-1		ug/g
3	BLNK-PREP		0		@IC-01 NO3-02	SOLID	1		1.61e-01	0.181	ug/g
3	BLNK-PREP		0		@IC-01 PO4-02	SOLID	1		<1.20e-1		ug/g
3	BLNK-PREP		0		@IC-01 SO4-02	SOLID	1		<1.38e-1		ug/g
3	BLNK-PREP		0		@IC-01 OXALATE2	SOLID	1		<1.05e-1		ug/g
4	SAMPLE	S97T001003	0	W	@IC-01 BR-02	SOLID	N/A	<	9.948e+02	994.700	ug/g
5	DUP	S97T001003	0	W	@IC-01 BR-02	SOLID	<9.95e2		<1.00e3		RPD
6	SAMPLE	S97T001004	0	W	@IC-01 BR-02	SOLID	N/A	<	1.053e+03	1053.000	ug/g
7	DUP	S97T001004	0	W	@IC-01 BR-02	SOLID	<1.05e3		<1.06e3		RPD
8	SAMPLE	S97T001007	0	W	@IC-01 BR-02	SOLID	N/A	<	1.022e+03	1022.000	ug/g
9	DUP	S97T001007	0	W	@IC-01 BR-02	SOLID	<1.02e3		<1.02e3		RPD

Final page for worklist# 18702

Analyst Signature Date

Analyst Signature 6-20-97 Date

Reviewer Signature 6/20/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18702

Analyst: DBS **Instrument:** IC0 1 **Book#** 72N20-A

Method: LA-533-105 Rev/Mod _____

Worklist Comment: Rerun AW103 for Br. Use 41 df.jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001003	0	W	@IC-01	SOLID	97000332	AW-103
		Analytes Requested: BR-02						
5	DUP	S97T001003	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001004	0	W	@IC-01	SOLID	97000332	AW-103
		Analytes Requested: BR-02						
7	DUP	S97T001004	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001007	0	W	@IC-01	SOLID	97000332	AW-103
		Analytes Requested: BR-02						
9	DUP	S97T001007	0	W	@IC-01	SOLID		

Final page for worklist # 18702

DB Sullivan 6-18-97
Analyst Signature **Date**

Analyst Signature **Date**

Validated 6/20/97 JMF

Data Entry Comments: 18702 Jun. Sch

18702 Jun. CSV

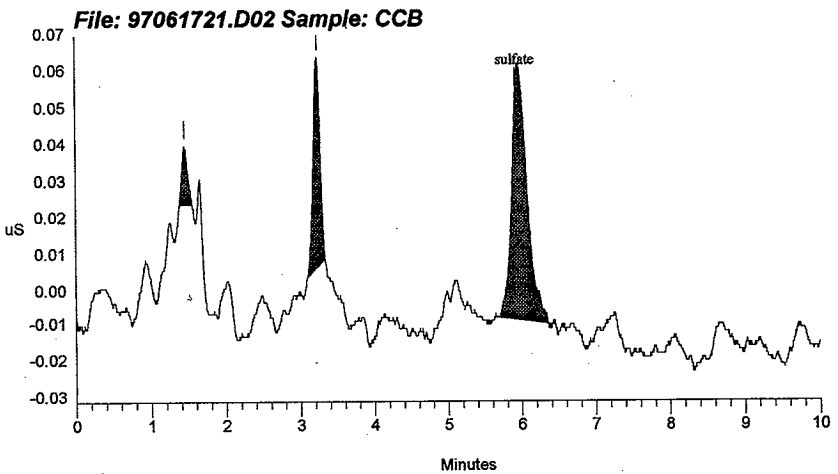
S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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Sample Name: CCB                              Date: 06/18/1997 19:46:51
Data File  : C:\DX\DATA\97061721.D02
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 2                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.45		0.000	16	85	1	
2	3.23	nitrate	0.120	57	376	1	-0.51
3	5.92	sulfate	0.019	62	1007	1	-1.77
		Totals	0.139	135	1467		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 604 TO 612.

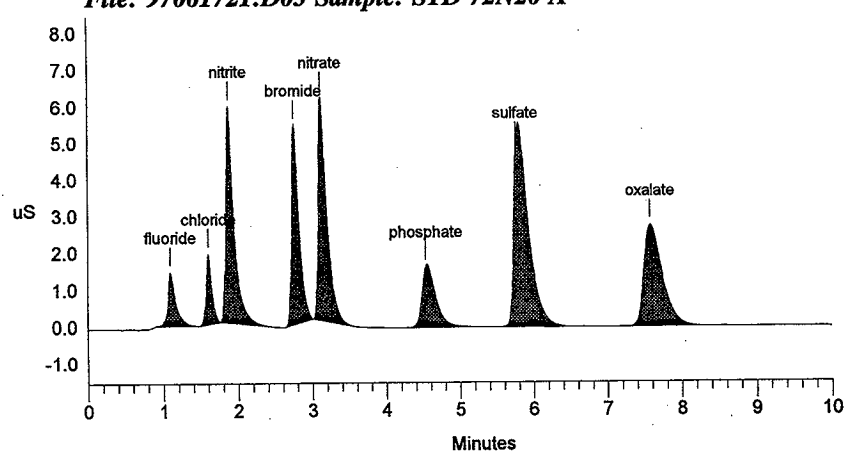
Sample Name: STD 72N20-A Date: 06/18/1997 19:58:53
Data File : C:\DX\DATA\97061721.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : D B Bruffey Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	57.126	1446	10299	1	-2.38
2	1.60	chloride	74.551	1905	9728	1	0.42
3	1.87	nitrite	548.012	5900	43326	1	-2.77
4	2.75	bromide	580.641	5439	36288	1	0.85
5	3.11	nitrate	573.750	6094	47736	1	-4.21
6	4.53	phosphate	497.793	1645	22020	1	-1.73
7	5.76	sulfate	617.391	4910	75781	1	-4.42
8	7.57	oxalate	539.067	2764	47669	1	-3.40
		Totals	3488.330	30105	292846		

File: 97061721.D03 Sample: STD 72N20-A

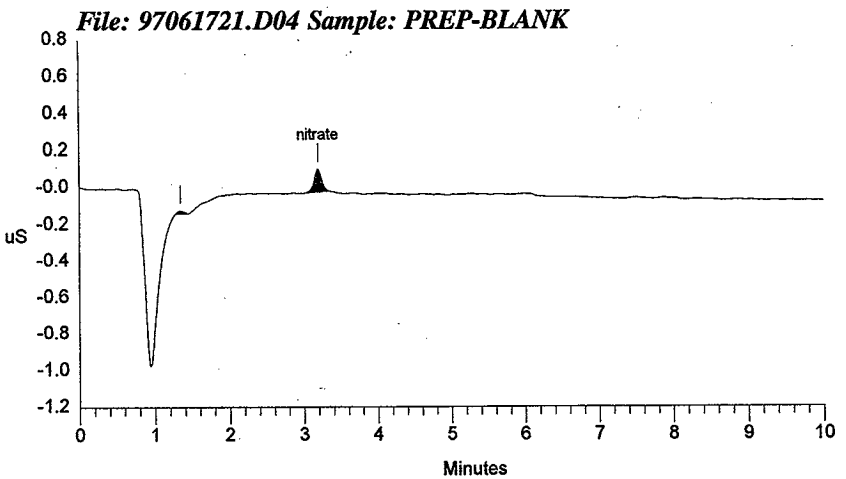


Sample Name: PREP-BLANK Date: 06/18/1997 22:07:10
Data File : C:\DX\DATA\97061721.D04
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.35		0.000	14	82	1	
2	3.19	nitrate	0.181	126	893	1	-1.74
		Totals	0.181	140	975		



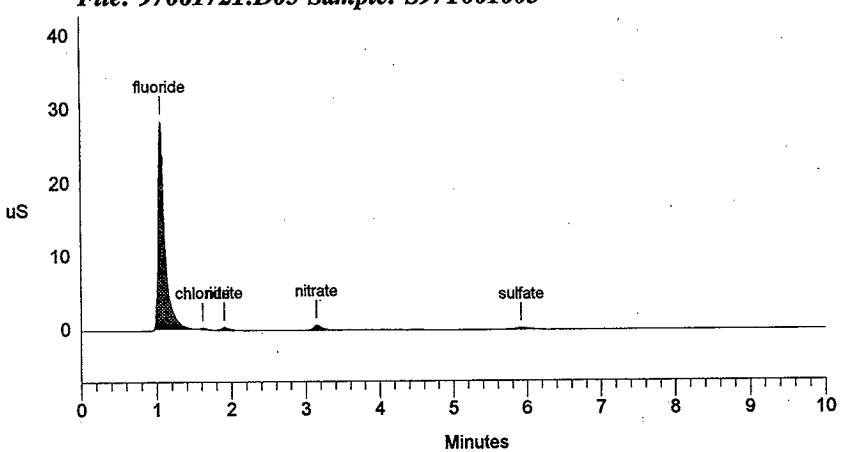
Sample Name: S97T001003 Date: 06/18/1997 22:20:48
Data File : C:\DX\DATA\97061721.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	292.966	28351	171709	1	-5.36
2	1.61	chloride	2.863	219	970	1	1.26
3	1.90	nitrite	17.841	379	2723	1	-1.38
4	3.14	nitrate	31.637	725	5859	1	-3.38
5	5.92	sulfate	8.561	220	3302	1	-1.77
		Totals	353.868	29894	184563		

File: 97061721.D05 Sample: S97T001003



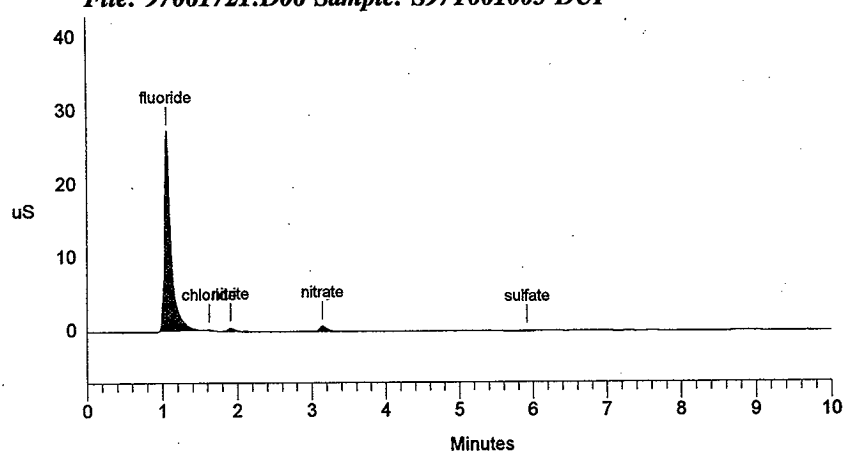
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Data File : C:\DX\DATA\97061721.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	283.694	27127	164357	1	-5.36
2	1.62	chloride	1.587	132	568	1	1.67
3	1.91	nitrite	19.012	388	2953	1	-1.04
4	3.14	nitrate	29.836	696	5489	1	-3.38
5	5.92	sulfate	2.714	96	1579	1	-1.77
		Totals	336.843	28439	174945		

File: 97061721.D06 Sample: S97T001003-DUP



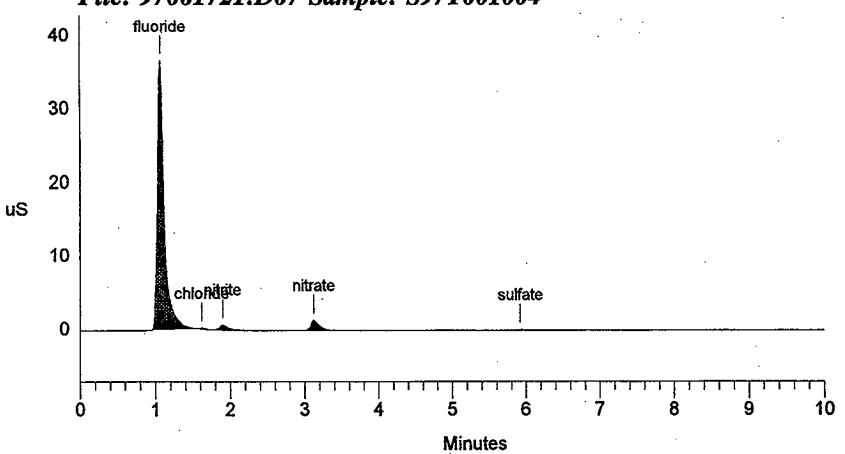
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Data File  : C:\DX\DATA\97061721.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 7                  Detector:CDM-1
Analyst    : A B Smith      Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	351.520	36497	224958	1	-4.76
2	1.61	chloride	1.472	119	532	1	1.26
3	1.89	nitrite	29.785	668	5066	1	-1.73
4	3.12	nitrate	57.769	1403	11237	1	-4.00
5	5.92	sulfate	2.688	116	1571	1	-1.77
		Totals	443.235	38802	243364		

File: 97061721.D07 Sample: S97T001004



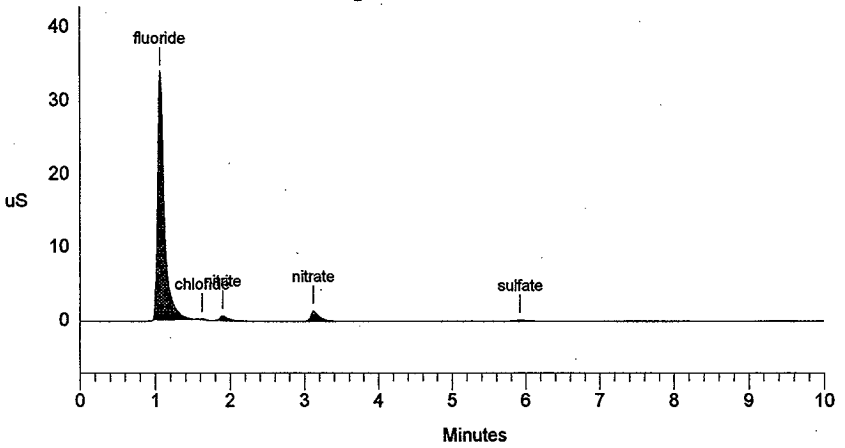
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Data File : C:\DX\DATA\97061721.D08
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	340.644	33741	213941	1	-5.36
2	1.62	chloride	1.696	141	602	1	1.67
3	1.89	nitrite	30.671	682	5240	1	-1.73
4	3.11	nitrate	59.591	1428	11613	1	-4.21
5	5.92	sulfate	7.962	189	3125	1	-1.77
		Totals	440.565	36181	234521		

File: 97061721.D08 Sample: S97T001004-DUP



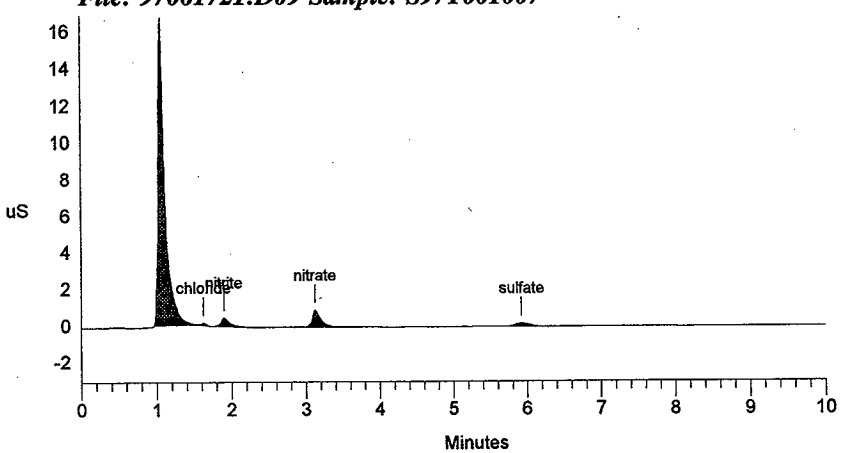
Sample Name: S97T001007 Date: 06/18/1997 23:16:25
Data File : C:\DX\DATA\97061721.D09
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	193.390	16707	101943	1	-5.36
2	1.62	chloride	1.415	121	514	1	1.67
3	1.89	nitrite	23.736	487	3879	1	-1.73
4	3.12	nitrate	39.235	923	7421	1	-4.00
5	5.92	sulfate	5.783	184	2483	1	-1.77
		Totals	263.559	18423	116239		

File: 97061721.D09 Sample: S97T001007



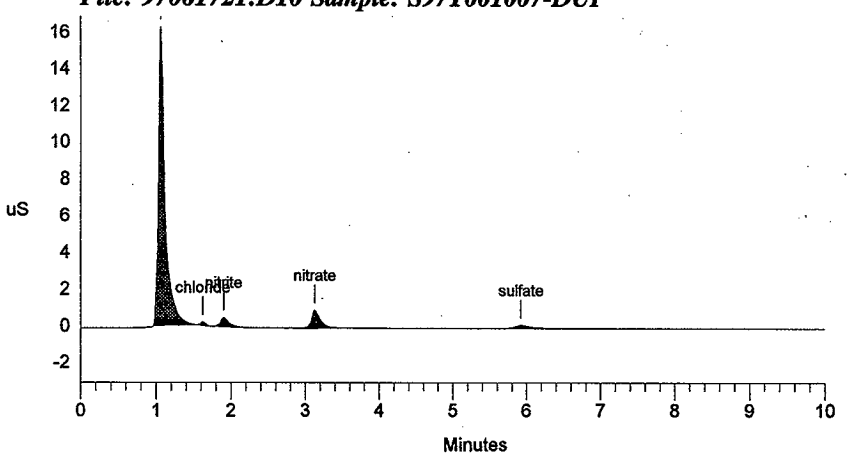
Sample Name: S97T001007-DUP Date: 06/18/1997 23:29:07
Data File : C:\DX\DATA\97061721.D10
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:CDM-1
Analyst : D E Griffin Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	186.485	16287	97692	1	-5.36
2	1.62	chloride	2.313	177	797	1	1.67
3	1.90	nitrite	23.918	497	3915	1	-1.38
4	3.13	nitrate	39.988	960	7576	1	-3.79
5	5.92	sulfate	5.992	164	2544	1	-1.77
		Totals	258.696	18086	112523		

File: 97061721.D10 Sample: S97T001007-DUP



LABCORE Completed Worklist Report for Worklist# 18717

Analyst: eal **Instrument:** IC01 **Book#** 72N20A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AW103 for Br. Try 21 or 41 df to get lower det. lim.

	Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB			0	@IC-QC	F	QC	1	<1.20e-2		ug/mL
1	CCB			0	@IC-QC	CL	QC	1	<1.70e-2		ug/mL
1	CCB			0	@IC-QC	NO2	QC	1	<1.08e-1		ug/mL
1	CCB			0	@IC-QC	BR	QC	1	<1.25e-1		ug/mL
1	CCB			0	@IC-QC	NO3	QC	1	<1.39e-1		ug/mL
1	CCB			0	@IC-QC	PO4	QC	1	<1.20e-1		ug/mL
1	CCB			0	@IC-QC	SO4	QC	1	<1.38e-1		ug/mL
1	CCB			0	@IC-QC	OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV			0	@IC-QC	F	QC	5.90e01	5.61e+01	95.085	% Recovery
2	CCV			0	@IC-QC	CL	QC	7.90e01	7.37e+01	93.291	% Recovery
2	CCV			0	@IC-QC	NO2	QC	5.43e02	5.31e+02	97.790	% Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e02	5.68e+02	96.435	% Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e02	5.58e+02	93.939	% Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e02	4.98e+02	91.376	% Recovery
2	CCV			0	@IC-QC	SO4	QC	6.32e02	5.85e+02	92.563	% Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.34e02	5.21e+02	97.566	% Recovery
3	BLNK-PREP			0	@IC-01	F-02	SOLID	1	<1.20e-2		ug/g
3	BLNK-PREP			0	@IC-01	CL-02	SOLID	1	<1.70e-2		ug/g
3	BLNK-PREP			0	@IC-01	NO2-02	SOLID	1	1.47e-01	0.147	ug/g
3	BLNK-PREP			0	@IC-01	BR-02	SOLID	1	<1.25e-1		ug/g
3	BLNK-PREP			0	@IC-01	NO3-02	SOLID	1	1.49e-01	0.149	ug/g
3	BLNK-PREP			0	@IC-01	PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP			0	@IC-01	SO4-02	SOLID	1	<1.38e-1		ug/g
3	BLNK-PREP			0	@IC-01	OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S97T001070	0	W	@IC-01	BR-02	SOLID	N/A <	9.771e+02	977.000	ug/g
5	DUP	S97T001070	0	W	@IC-01	BR-02	SOLID	<9.77e2	<9.53e2		RPD
6	SAMPLE	S97T001076	0	W	@IC-01	BR-02	SOLID	N/A <	8.746e+02	874.500	ug/g
7	DUP	S97T001076	0	W	@IC-01	BR-02	SOLID	<8.75e2	<8.69e2		RPD
8	SAMPLE	S97T001077	0	W	@IC-01	BR-02	SOLID	N/A <	9.786e+02	978.700	ug/g
9	DUP	S97T001077	0	W	@IC-01	BR-02	SOLID	<9.79e2	<9.83e2		RPD
10	SPK	S97T001077	0	W	@IC-01	BR-02	SOLID	5.89e02	5.46e+02	92.699	% Recovery

Comments Section:

Comments for sample# S97T001070 and test @IC-01

~~results between 51df & 101df don't relate.~~ JMF 6/20/97

results between 51df & 101df don't relate.

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18717

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit

Final page for worklist# 18717

Analyst Signature Date

Analyst Signature 6-20-97 Date

Reviewer Signature 6/20/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/17/97 13:44
A-0004-1

LABCORE Data Entry Template for Worklist# 18717

Analyst: [illegible] **Instrument:** IC0 1 **Book#** 72N204

Method: LA-533-105 Rev/Mod D1

Worklist Comment: Rerun AW103 for Br. Try 21 or 41 df to get lower det. lim.

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T001070	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested: BR-02							
5	DUP	S97T001070	0	W	@IC-01	SOLID		
6	SAMPLE	S97T001076	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested: BR-02							
7	DUP	S97T001076	0	W	@IC-01	SOLID		
8	SAMPLE	S97T001077	0	W	@IC-01	SOLID	97000333	AW-103
	Analytes Requested: BR-02							
9	DUP	S97T001077	0	W	@IC-01	SOLID		
10	SPK	S97T001077	0	W	@IC-01	SOLID		

Final page for worklist # 18717

A. Lambert 06-19-97
Analyst Signature **Date**

Analyst Signature **Date**

Validated 6/20/97 AMF

Data Entry Comments: 18717 JUN. SCH

18717 JUN. CSV

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

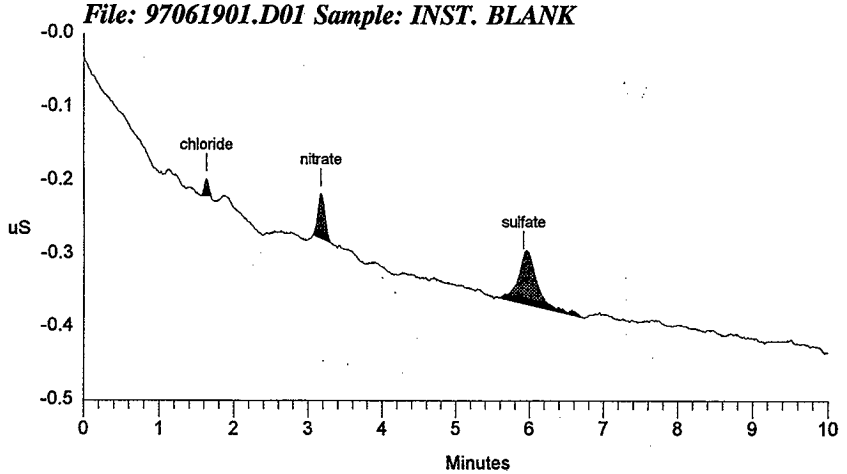
```
Sample Name: INST. BLANK                    Date: 06/19/1997 09:52:32
Data File  : C:\DX\DATA\97061901.D01
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 1                  Detector:CDM-1
Analyst    : Jan Luyendyk                Column: AG4A/AS4A anion column
```

per EAL 8/18/97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63	chloride	0.002	23	90	1	2.51
2	3.17	nitrate	0.122	61	396	1	-2.36
3	5.92	sulfate	0.046	65	1331	1	-1.77
		Totals	0.169	148	1817		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 616 TO 625.

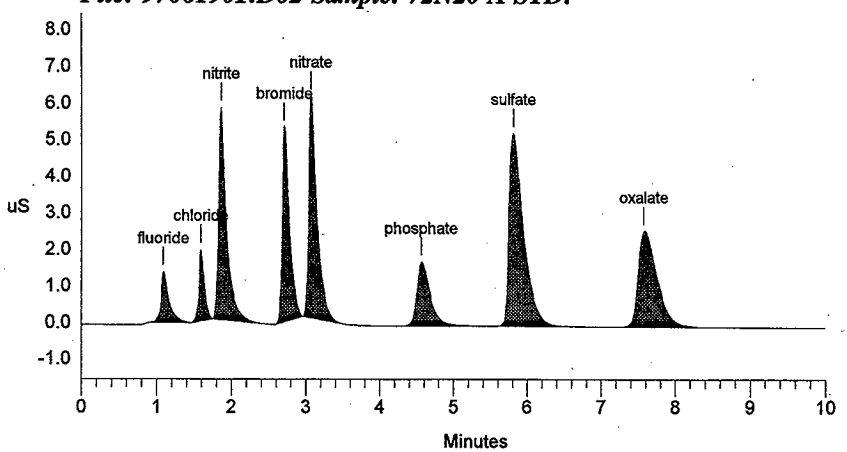
```
Sample Name: 72N20-A STD.                    Date: 06/19/1997 10:03:57
Data File  : C:\DX\DATA\97061901.D02
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 2                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	56.067	1378	10094	1	-2.98
2	1.59	chloride	73.689	1941	9615	1	-0.42
3	1.86	nitrite	531.019	5791	41940	1	-3.46
4	2.71	bromide	568.201	5312	35489	1	-0.85
5	3.07	nitrate	558.159	6057	46403	1	-5.64
6	4.56	phosphate	497.525	1738	22008	1	-1.16
7	5.81	sulfate	584.616	5274	71737	1	-3.54
8	7.57	oxalate	521.303	2610	46079	1	-3.40
		Totals	3390.579	30102	283365		

File: 97061901.D02 Sample: 72N20-A STD.



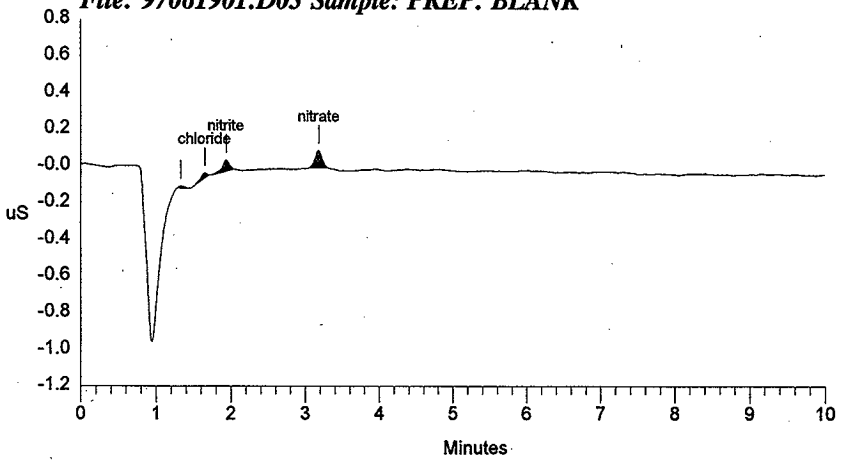
```
Sample Name: PREP. BLANK                    Date: 06/19/1997 10:15:08
Data File  : C:\DX\DATA\97061901.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 3                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.33		0.000	11	58	1	
2	1.65	chloride	0.007	27	162	1	3.35
3	1.93	nitrite	0.147	61	406	1	0.35
4	3.18	nitrate	0.149	92	620	1	-2.15
		Totals	0.303	192	1246		

File: 97061901.D03 Sample: PREP. BLANK



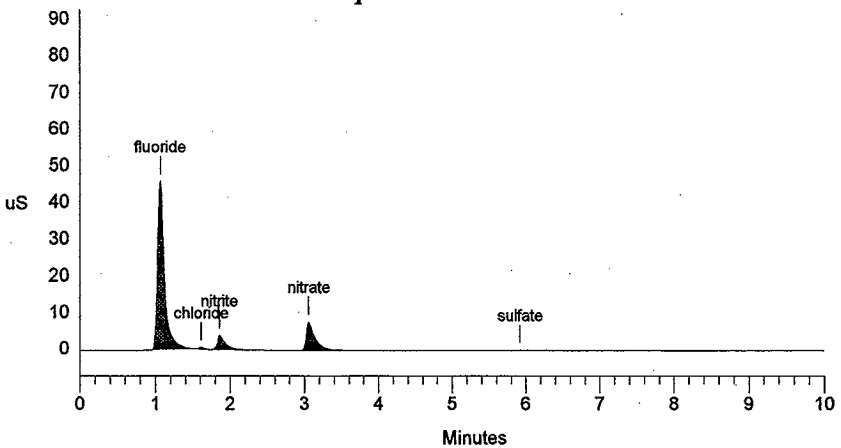
```
Sample Name: S97T001070                    Date: 06/19/1997 10:30:37
Data File  : C:\DX\DATA\97061901.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 4                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	402.668	45759	290192	1	-4.76
2	1.61	chloride	7.811	529	2533	1	0.84
3	1.85	nitrite	152.490	3927	29327	1	-3.81
4	3.05	nitrate	305.852	7789	63179	1	-6.05
5	5.92	sulfate	5.440	149	2382	1	-1.77
		Totals	874.261	58153	387613		

File: 97061901.D04 Sample: S97T001070



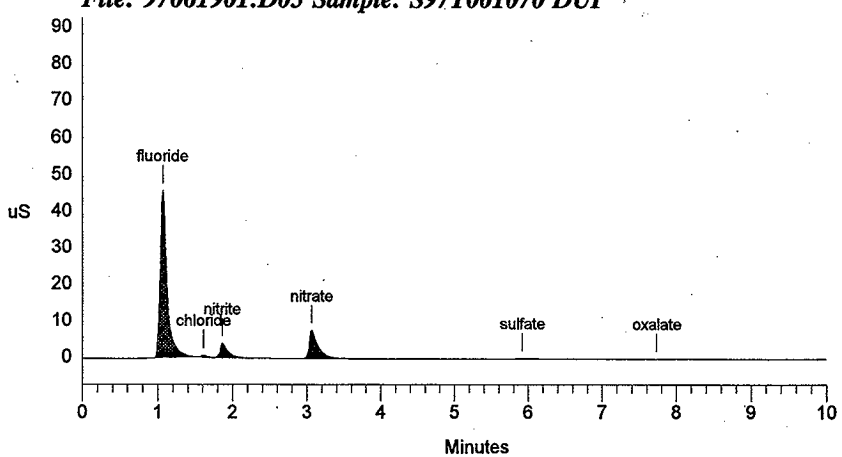
```
Sample Name: S97T001070 DUP                    Date: 06/19/1997 10:42:26
Data File  : C:\DX\DATA\97061901.D05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 5                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	401.132	45595	287703	1	-4.76
2	1.61	chloride	8.278	576	2680	1	0.84
3	1.86	nitrite	150.482	3927	28928	1	-3.46
4	3.06	nitrate	301.169	7727	62183	1	-5.85
5	5.92	sulfate	5.767	161	2478	1	-1.77
6	7.73	oxalate	3.730	30	572	1	-1.36
		Totals	870.558	58015	384544		

File: 97061901.D05 Sample: S97T001070 DUP



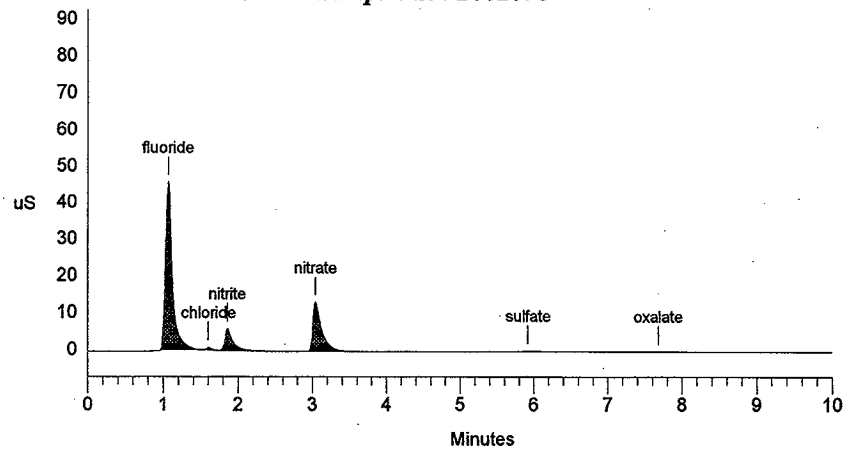
```
Sample Name: S97T001076                    Date: 06/19/1997 10:53:22
Data File  : C:\DX\DATA\97061901.D06
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 6                Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	403.370	45727	291348	1	-4.76
2	1.60	chloride	9.496	642	3066	1	0.42
3	1.85	nitrite	226.056	5906	44048	1	-3.81
4	3.04	nitrate	516.498	13264	108623	1	-6.46
5	5.92	sulfate	8.410	216	3257	1	-1.77
6	7.68	oxalate	3.239	21	465	1	-2.04
		Totals	1167.068	65776	450808		

File: 97061901.D06 Sample: S97T001076



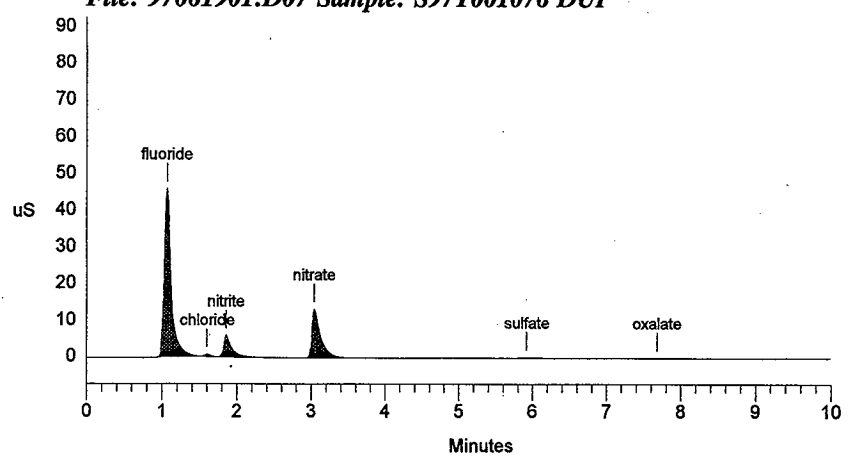
```
Sample Name: S97T001076 DUP                    Date: 06/19/1997 11:07:11
Data File  : C:\DX\DATA\97061901.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 7                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	403.913	45896	292252	1	-4.76
2	1.60	chloride	9.604	656	3101	1	0.42
3	1.85	nitrite	223.969	5914	43629	1	-3.81
4	3.04	nitrate	511.394	13288	107507	1	-6.46
5	5.92	sulfate	8.803	216	3373	1	-1.77
6	7.68	oxalate	3.276	23	473	1	-2.04
		Totals	1160.959	65994	450333		

File: 97061901.D07 Sample: S97T001076 DUP



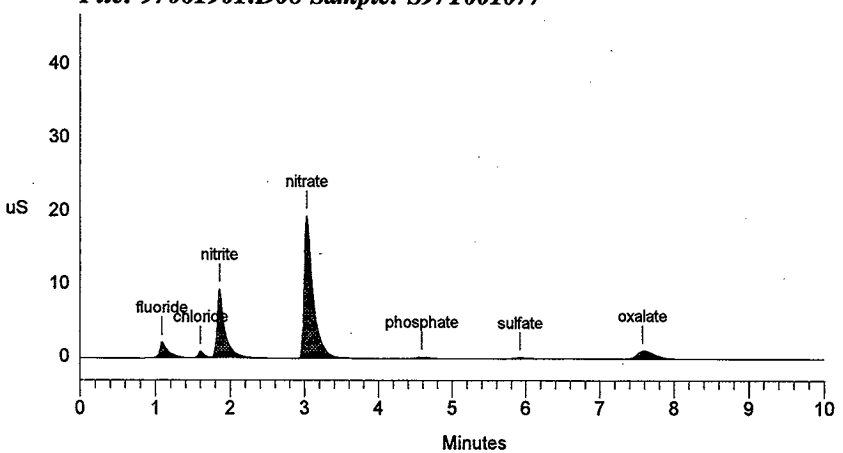
```
Sample Name: S97T001077                          Date: 06/19/1997 11:20:27
Data File  : C:\DX\DATA\97061901.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 8                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	37.883	2178	17354	1	-2.98
2	1.60	chloride	14.520	906	4664	1	0.42
3	1.85	nitrite	343.297	9412	67790	1	-3.81
4	3.03	nitrate	765.676	19517	164128	1	-6.87
5	4.59	phosphate	35.716	278	3613	1	-0.58
6	5.92	sulfate	7.556	204	3005	1	-1.77
7	7.57	oxalate	94.725	1141	20416	1	-3.40
		Totals	1299.373	33636	280972		

File: 97061901.D08 Sample: S97T001077



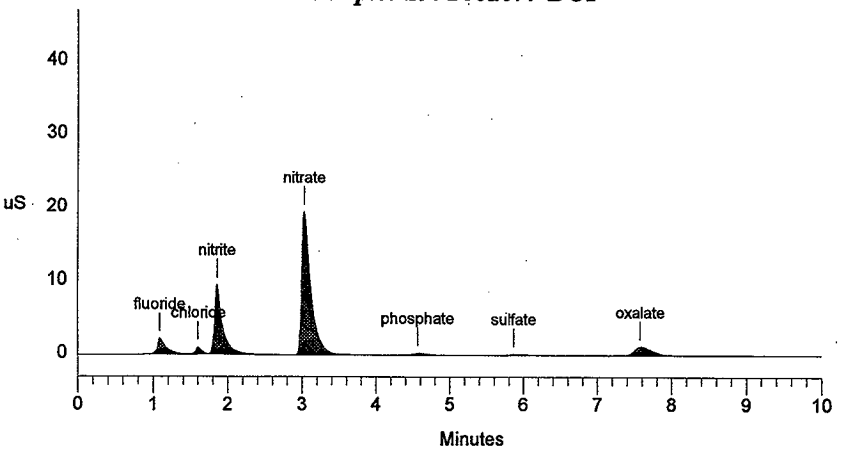
```
Sample Name: S97T001077 DUP                    Date: 06/19/1997 11:31:30
Data File  : C:\DX\DATA\97061901.D09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 9                    Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	37.078	2159	16964	1	-2.98
2	1.60	chloride	14.968	930	4807	1	0.42
3	1.85	nitrite	346.389	9432	68421	1	-3.81
4	3.03	nitrate	772.372	19545	165648	1	-6.87
5	4.56	phosphate	33.717	262	3394	1	-1.16
6	5.87	sulfate	7.766	167	3067	1	-2.65
7	7.57	oxalate	95.495	1159	20585	1	-3.40
		Totals	1307.785	33654	282887		

File: 97061901.D09 Sample: S97T001077 DUP



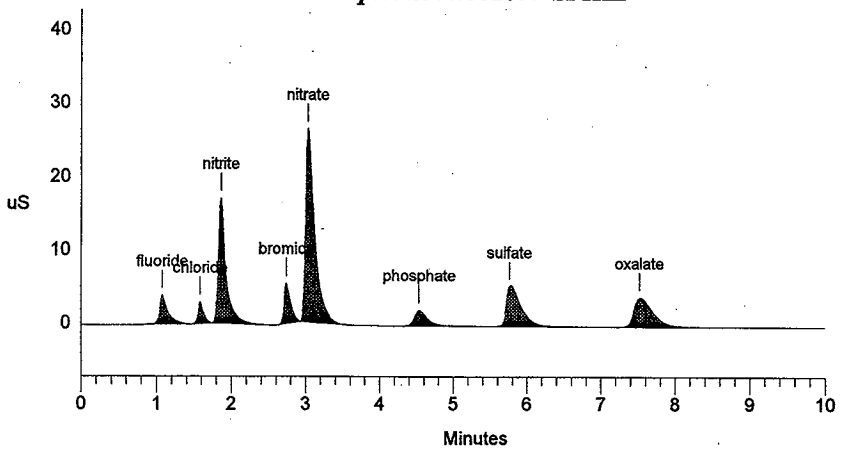
```
Sample Name: S97T001077 SPIKE                    Date: 06/19/1997 13:30:12
Data File  : C:\DX\DATA\97061901.D10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 10                    Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	63.484	3943	29965	1	-4.17
2	1.58	chloride	47.316	3012	15314	1	-0.84
3	1.86	nitrite	599.381	17089	120924	1	-3.46
4	2.74	bromide	218.358	5542	33546	1	0.37
5	3.03	nitrate	1026.667	26296	224519	1	-6.87
6	4.53	phosphate	248.750	2170	27265	1	-1.73
7	5.76	sulfate	257.423	5388	77850	1	-4.42
8	7.52	oxalate	323.999	3963	70936	1	-4.08
		Totals	2785.377	67403	600319		

File: 97061901.D10 Sample: S97T001077 SPIKE



LABCORE Completed Worklist Report for Worklist# 18954

Analyst: eal **Instrument:** IC01 **Book#** 72/620A

Method: IA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AW103 IC ,Br most important. Use 41 df. F not needed.

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB		0	@IC-QC	F	QC	1	<1.20e-2		ug/mL
1	CCB		0	@IC-QC	CL	QC	1	5.90e-02	0.059	ug/mL
1	CCB		0	@IC-QC	NO2	QC	1	<1.08e-1		ug/mL
1	CCB		0	@IC-QC	BR	QC	1	<1.25e-1		ug/mL
1	CCB		0	@IC-QC	NO3	QC	1	2.37e-01	0.237	ug/mL
1	CCB		0	@IC-QC	PO4	QC	1	<1.20e-1		ug/mL
1	CCB		0	@IC-QC	SO4	QC	1	<1.38e-1		ug/mL
1	CCB		0	@IC-QC	OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV		0	@IC-QC	F	QC	5.90e01	5.36e+01	90.847	% Recovery
2	CCV		0	@IC-QC	CL	QC	7.90e01	7.59e+01	96.076	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.43e02	5.27e+02	97.053	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e02	5.75e+02	97.623	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e02	5.88e+02	98.990	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e02	4.94e+02	90.642	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e02	5.99e+02	94.778	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.34e02	5.40e+02	101.124	% Recovery
3	BLNK-PREP		0	@IC-01	F-02	SOLID	1	<1.20e-2		ug/g
3	BLNK-PREP		0	@IC-01	CL-02	SOLID	1	<1.70e-2		ug/g
3	BLNK-PREP		0	@IC-01	NO2-02	SOLID	1	<1.08e-1		ug/g
3	BLNK-PREP		0	@IC-01	BR-02	SOLID	1	<1.25e-1		ug/g
3	BLNK-PREP		0	@IC-01	NO3-02	SOLID	1	<1.39e-1		ug/g
3	BLNK-PREP		0	@IC-01	PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP		0	@IC-01	SO4-02	SOLID	1	<1.38e-1		ug/g
3	BLNK-PREP		0	@IC-01	OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S97T000891	0	W @IC-01	CL-02	SOLID	N/A	< 1.468e+02	146.800	ug/g
4	SAMPLE	S97T000891	0	W @IC-01	NO2-02	SOLID	N/A	1.633e+03	932.800	ug/g
4	SAMPLE	S97T000891	0	W @IC-01	BR-02	SOLID	N/A	< 1.079e+03	1080.000	ug/g
4	SAMPLE	S97T000891	0	W @IC-01	NO3-02	SOLID	N/A	3.517e+03	1200.000	ug/g
4	SAMPLE	S97T000891	0	W @IC-01	PO4-02	SOLID	N/A	< 1.036e+03	1036.000	ug/g
4	SAMPLE	S97T000891	0	W @IC-01	SO4-02	SOLID	N/A	< 1.192e+03	1191.000	ug/g
4	SAMPLE	S97T000891	0	W @IC-01	OXALATE2	SOLID	N/A	< 9.067e+02	906.500	ug/g
5	DUP	S97T000891	0	W @IC-01	F-02	SOLID	?	6.42e+04		RPD
5	DUP	S97T000891	0	W @IC-01	CL-02	SOLID	<1.47e2	<1.48e2		RPD
5	DUP	S97T000891	0	W @IC-01	NO2-02	SOLID	1.63e+03	1.58e+03	3.115	RPD
5	DUP	S97T000891	0	W @IC-01	BR-02	SOLID	<1.08e3	<1.09e3		RPD
5	DUP	S97T000891	0	W @IC-01	NO3-02	SOLID	3.52e+03	3.62e+03	2.801	RPD
5	DUP	S97T000891	0	W @IC-01	PO4-02	SOLID	<1.04e3	<1.05e3		RPD
5	DUP	S97T000891	0	W @IC-01	SO4-02	SOLID	<1.19e3	<1.20e3		RPD
5	DUP	S97T000891	0	W @IC-01	OXALATE2	SOLID	<9.07e2	<9.16e2		RPD

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 18954

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit

Final page for worklist# 18954

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature **Date** 7/1/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18954

Analyst: EAL **Instrument:** IC0 1 **Book#** 72N20-A

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun AW103 IC ,Br most important. Use 41 df. F not needed.

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S97T000891	0	W	@IC-01	SOLID	97000332	AW-103
	Analytes Requested:				BR-02 , CL-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S97T000891	0	W	@IC-01	SOLID		

Final page for worklist # 18954

A. Lambert 06.28.97
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-30-97
JL Worrell
18954-JUN.CSV

Validated 6/30/97 MLuye

Data Entry Comments:

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

Sample Name: INST. BLANK Date: 06/28/1997 19:50:37
Data File : C:\DX\DATA\97062801.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : James Fruge Column: AG4A/AS4A anion column

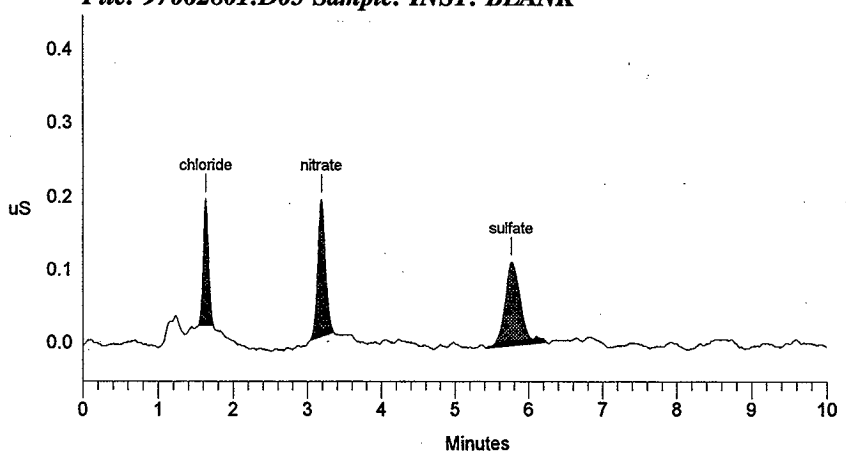
to EHAD 7/1/97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63	chloride	0.059	173	835	1	2.51
2	3.19	nitrate	0.237	188	1357	1	-1.95
3	5.76	sulfate	0.078	115	1719	1	-4.42
		Totals	0.374	476	3911		

File: 97062801.D05 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 625.4 TO 625.8.

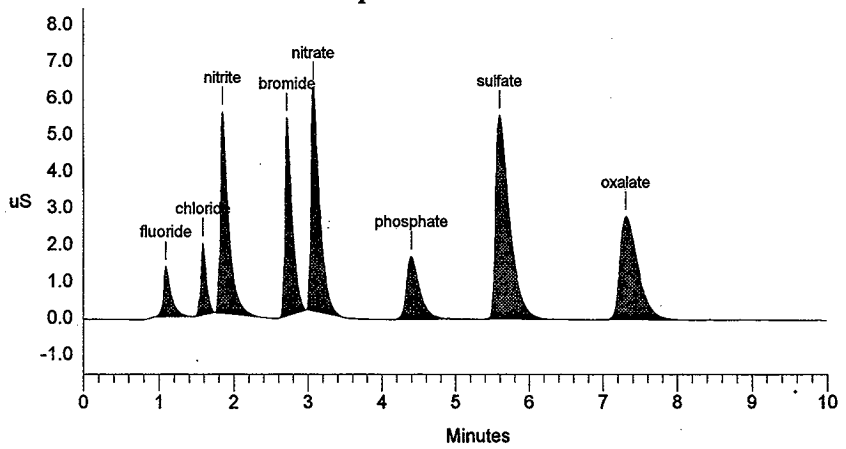
```
Sample Name: 72N20-A STD.                    Date: 06/28/1997 20:02:39
Data File  : C:\DX\DATA\97062801.D06
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 6                  Detector:CDM-1
Analyst    :               Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	53.557	1369	9610	1	-2.38
2	1.59	chloride	75.895	1949	9905	1	-0.42
3	1.85	nitrite	526.779	5496	41595	1	-3.81
4	2.72	bromide	574.924	5397	35921	1	-0.37
5	3.07	nitrate	588.230	6123	48975	1	-5.44
6	4.40	phosphate	494.185	1721	21856	1	-4.62
7	5.60	sulfate	599.131	5570	73527	1	-7.08
8	7.31	oxalate	539.651	2802	47721	1	-6.80
		Totals	3452.353	30426	289110		

File: 97062801.D06 Sample: 72N20-A STD.



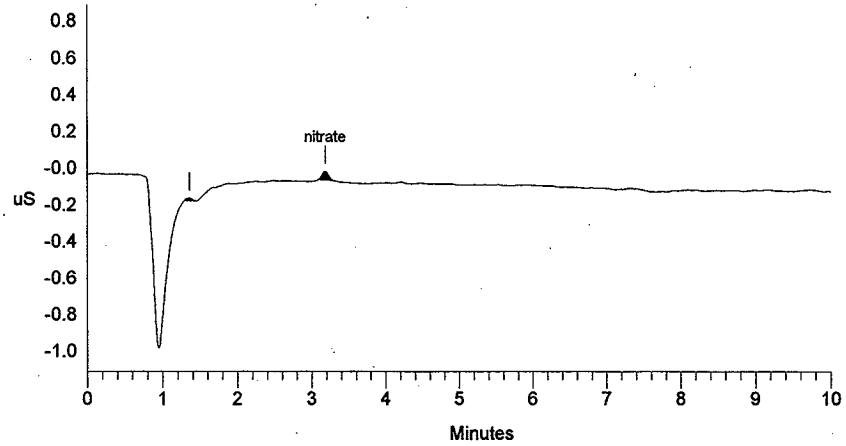
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Sample Name: PREP. BLANK                    Date: 06/28/1997 21:45:12
Data File  : C:\DX\DATA\97062801.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 7                  Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.35		0.000	16	86	1	
2	3.18	nitrate	0.109	48	287	1	-2.15
		Totals	0.109	64	372		

File: 97062801.D07 Sample: PREP. BLANK



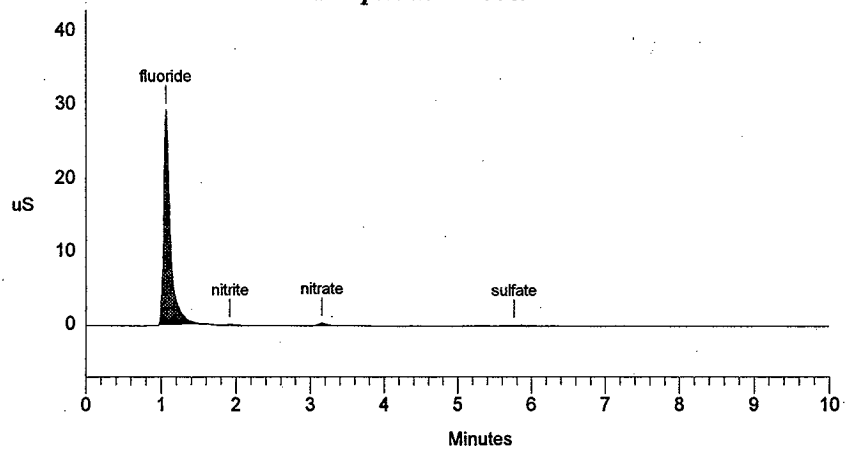
Sample Name: S97T000891 Date: 06/28/1997 21:56:39
Data File : C:\DX\DATA\97062801.D08
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.06	fluoride	305.362	29041	181918	1	-5.36
2	1.91	nitrite	7.754	113	747	1	-0.69
3	3.15	nitrate	16.700	351	2793	1	-2.97
4	5.76	sulfate	3.655	131	1856	1	-4.42
		Totals	333.471	29636	187314		

File: 97062801.D08 Sample: S97T000891



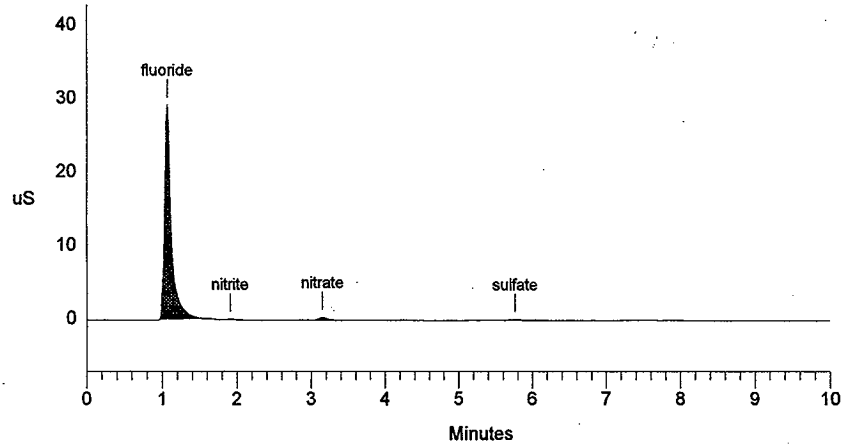
Sample Name: S97T000891 DUP Date: 06/28/1997 22:09:36
Data File : C:\DX\DATA\97062801.D09
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	3000	5Hz	0.00	10.00	30

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.07	fluoride	301.677	29103	178835	1	-4.76
2	1.91	nitrite	7.408	103	679	1	-1.04
3	3.15	nitrate	17.006	381	2856	1	-3.18
4	5.76	sulfate	4.613	143	2138	1	-4.42
		Totals	330.704	29731	184508		

File: 97062801.D09 Sample: S97T000891 DUP



LABCORE Data Entry Template for Worklist# 18587

Analyst: JK Sato **Instrument:** ICP01 **Book#** 66 B48.B

Method: LA-505-151/~~461~~ Rev/Mod E-1

JK 6-10-97

Worklist Comment: ICP AW-103 (DIRECT)

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	SERDIL	S97T001079	0	D	@ICP-D01	LIQUID		
7	SAMPLE	S97T001079	0	D	@ICP-D01	LIQUID	97000333	AW-103
	Analytes Requested:	AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
8	DUP	S97T001079	0	D	@ICP-D01	LIQUID		
9	SPK	S97T001079	0	D	@ICP-D01	LIQUID		
10	CCV				@ICP-QC	QC		
11	CCB				@ICP-QC	QC		
12	SERDIL	S97T000881	0	D	@ICP-D01	LIQUID		
13	SAMPLE	S97T000881	0	D	@ICP-D01	LIQUID	97000332	AW-103
	Analytes Requested:	AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 ,						

Sample X post Spike QX (10ppm) AE 6-10-97

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18587

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01			
14	DUP	S97T000881	0	D	@ICP-D01	LIQUID		
15	SPK	S97T000881	0	D	@ICP-D01	LIQUID		
16	SAMPLE	S97T000882	0	D	@ICP-D01	LIQUID	97000332	AW-103
	Analytes Requested:				AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01			
17	DUP	S97T000882	0	D	@ICP-D01	LIQUID		
18	ICSA				@ICP-QC	QC		
19	ICSAB				@ICP-QC	QC		
20	CCV				@ICP-QC	QC		
21	CCB				@ICP-QC	QC		

Final page for worklist # 18587

Reviewed & Validated by:

Analyst Signature	Date			Analyst Signature	Date
JK	06-09-97				6/11/97
S97T000107[illegible]_L	,05-10-1-8, JF 1005	S97T000881_L	,05-10-1-8	S97T000882	,05-10, DF 101
S97T000107[illegible]	,05-10 101	S97T000881	,05-10	S97T000882_D	,05-10 101
S97T000107[illegible]_D	,05-10 101	S97T000881_D	,05-10		
S97T000107[illegible]_Q	,05-10 101	S97T000881_Q	,05-10		
S97T000107[illegible]_X	,05-10-1-9 1010	S97T000881_X	,05-10-1-9		
S97T000107[illegible]_QX	,05-10-1-9 1010	S97T000881_QX	,05-10-1-9		

Post Spikes (1ppm-SST5)
.05 ml sample
2.01 ml SST5
7.99 ml HNO_3

Post Spikes (10 ppm-XWHC 28+35)
.05-10-1-9
1 ml sample
1 ml each XWHC 28+35
7 ml HNO_3

Data Entry Comments:

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

Post Spike : 597T00 1079

$$K = \frac{\left(\frac{33821.257}{2010}\right) - \left(\frac{14775.739}{2010}\right)}{10} \times 100 = 94.75\ \%$$

$$Na = \frac{\left(\frac{44413.057}{2010}\right) - \left(\frac{25762.046}{2010}\right)}{10} \times 100 = 92.79\ \%$$

597T000881

$$K = \frac{\left(\frac{34806.410}{2010}\right) - \left(\frac{15623.984}{2010}\right)}{10} \times 100 = 95.43\ \%$$

$$Na = \frac{\left(\frac{45427.792}{2010}\right) - \left(\frac{26020.076}{2010}\right)}{10} \times 100 = 96.56\ \%$$

File # 9706098.JAT

Identity 1: ICV Identity 2: Quality Control 12:08 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.919	4.954	5.036	4.943	4.866	5.073	5.169	4.856
S.D.	0.012	0.010	0.029	0.012	0.011	0.007	0.013	0.021
% R.S.D.	0.236	0.205	0.584	0.246	0.221	0.131	0.253	0.423

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.107	4.883	4.912	4.855	4.748	4.785	5.104	9.797
S.D.	0.007	0.011	0.013	0.030	0.012	0.013	0.031	0.025
% R.S.D.	0.141	0.216	0.257	0.613	0.247	0.273	0.610	0.251

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.874	5.035	4.931	5.088	4.946	4.800	5.078	5.062
S.D.	0.012	0.009	0.011	0.002	0.021	0.007	0.014	0.022
% R.S.D.	0.246	0.169	0.224	0.044	0.426	0.154	0.281	0.435

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.020	5.040	4.799	4.843	4.895	5.011	4.990	4.882
S.D.	0.015	0.010	0.022	0.008	0.019	0.011	0.005	0.013
% R.S.D.	0.295	0.204	0.453	0.178	0.389	0.227	0.099	0.271

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.713	5.030	5.003	4.994
S.D.	0.028	0.008	0.012	0.005
% R.S.D.	0.604	0.152	0.237	0.109

K [signature]
06-09-97

QY-101 597V006037
QW-103 597T001079
597T000881
597T000882
QW-105 597T001112
T-101 597T001103

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 629 TO 654.

Identity 1: ICB Identity 2: Quality Control 12:13 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.001	0.013	0.007	-0.006	0.008	-0.000	0.001
S.D.	0.001	0.000	0.002	0.002	0.001	0.002	0.000	0.000
% R.S.D.	52.944	13.323	18.143	26.567	16.363	24.792	237.764	40.521

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.005	0.001	0.000	0.001	-0.003	-0.005	0.027
S.D.	0.000	0.001	0.003	0.001	0.000	0.002	0.001	0.016
% R.S.D.	9.857	27.052	307.470	1369.453	6.792	51.137	16.798	59.817

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.012	-0.007	0.001	-0.012	0.004	0.001	-0.010	-0.006
S.D.	0.003	0.002	0.000	0.005	0.003	0.000	0.005	0.001
% R.S.D.	27.773	23.258	6.662	44.325	71.165	13.325	49.042	21.657

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	-0.001	0.001	0.001	0.001	0.003	0.077	0.000
S.D.	0.001	0.000	0.012	0.000	0.001	0.000	0.007	0.000
% R.S.D.	415.985	24.745	840.886	5.708	37.499	11.415	9.573	0.470

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.027	0.001	0.001	0.000
S.D.	0.032	0.000	0.000	0.001
% R.S.D.	118.036	78.294	0.492	6692.815

‡

This document was too large to scan as a whole document; therefore, it is divided into smaller sections.

DOCUMENT NUMBER: SD-WM-DP-249

SECTION 3 OF 3

TITLE: Tank 241-AW-103, Cores 193 and 194 Analytical Results for the Final Report.

DATE: 8/20/97 REV: 0

ORIGINATOR: Steen, F H

CO: WMH

REFERENCES: EDT-620418

KEYWORDS:

PROJECTS: T Farm

Identity 1: LLS Identity 2: Quality Control 12:16 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.020	0.021	0.199	0.198	0.126	0.046	0.021	0.021
S.D.	0.001	0.000	0.005	0.001	0.003	0.002	0.000	0.000
% R.S.D.	3.153	0.179	2.514	0.672	2.711	4.031	0.912	0.533

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.022	0.041	0.099	0.093	0.211	0.018	0.220	0.361
S.D.	0.001	0.000	0.002	0.002	0.000	0.001	0.004	0.026
% R.S.D.	3.159	0.767	1.921	2.363	0.211	5.026	1.596	7.176

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.226	0.183	0.101	0.414	0.208	0.207	0.196	0.218
S.D.	0.004	0.005	0.000	0.016	0.003	0.000	0.004	0.001
% R.S.D.	1.594	2.576	0.057	3.955	1.360	0.086	2.065	0.575

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.096	0.026	0.224	0.019	0.013	0.107	0.667	0.020
S.D.	0.002	0.000	0.008	0.000	0.001	0.001	0.011	0.000
% R.S.D.	2.492	1.542	3.423	1.134	6.035	0.677	1.695	1.815

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.135	0.105	0.011	0.442
S.D.	0.034	0.001	0.000	0.016
% R.S.D.	25.496	0.591	1.251	3.719

Identity 1: ICSA Identity 2: Quality Control 12:21 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.005	0.002	-0.018	0.035	203.946	0.010	-0.001	-0.000
S.D.	0.000	0.000	0.009	0.001	1.436	0.002	0.000	0.000
% R.S.D.	7.143	1.682	52.463	2.718	0.704	18.680	30.187	101.745

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.004	0.003	95.343	100.084	-0.002	0.013	0.096
S.D.	0.000	0.001	0.003	0.147	0.129	0.002	0.005	0.014
% R.S.D.	5.276	14.544	100.427	0.154	0.129	77.796	40.411	14.318

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.007	0.039	0.002	0.004	0.036	93.325	-0.023	185.891
S.D.	0.005	0.002	0.000	0.015	0.004	0.192	0.004	0.563
% R.S.D.	70.432	4.807	9.030	433.887	10.758	0.206	15.743	0.303

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	0.000	0.018	0.001	0.001	0.016	0.202	-0.001
S.D.	0.002	0.000	0.022	0.000	0.000	0.001	0.006	0.000
% R.S.D.	149.982	46.073	128.416	9.279	45.491	6.558	2.816	34.679

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.023	0.000	0.003	-0.005
S.D.	0.024	0.000	0.000	0.007
% R.S.D.	104.066	201.993	8.274	125.885

Identity 1: ICSAB Identity 2: Quality Control 12:24 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	-0.005	0.031	205.544	0.497	0.496	0.976
S.D.	0.001	0.000	0.011	0.005	1.929	0.004	0.002	0.006
% R.S.D.	336.480	7.559	213.293	15.068	0.938	0.811	0.345	0.614

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.989	0.975	0.003	94.153	99.515	0.485	0.010	0.045
S.D.	0.002	0.005	0.003	0.277	0.213	0.002	0.015	0.069
% R.S.D.	0.203	0.472	101.258	0.294	0.214	0.367	147.608	152.580

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.011	0.013	0.505	0.020	0.016	91.257	-0.030	188.064
S.D.	0.021	0.013	0.001	0.001	0.006	0.324	0.007	0.986
% R.S.D.	196.233	99.015	0.254	6.518	39.188	0.355	23.255	0.524

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.004	1.028	0.957	0.000	0.971	0.015	0.123	0.484
S.D.	0.001	0.001	0.008	0.001	0.002	0.001	0.014	0.001
% R.S.D.	15.814	0.082	0.784	264.636	0.201	8.420	11.051	0.113

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.059	0.492	0.492	-0.013
S.D.	0.017	0.002	0.001	0.031
% R.S.D.	29.069	0.388	0.299	240.630

Identity 1: S97T001079_L Identity 2: direct, .05-10-2-8ml 1:17 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1005.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	1.357	0.259	-5.082	98.777	108.183	11.610	0.212	0.293
S.D.	1.016	0.065	6.918	4.347	7.643	0.064	0.158	0.254
% R.S.D.	74.901	25.000	136.133	4.401	7.065	0.550	74.672	86.659

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	2.764	4.923	2.104	-10.547	0.447	26.260	7.182	50.906
S.D.	0.198	1.837	1.911	1.449	0.039	1.233	3.264	27.671
% R.S.D.	7.157	37.315	90.805	13.735	8.660	4.697	45.452	54.356

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	13.901	-12.265	0.446	15.443	18.551	2.041	3.942	25802.135
S.D.	3.901	5.448	0.094	5.618	1.794	0.104	5.414	288.145
% R.S.D.	28.063	44.415	20.964	36.378	9.670	5.097	137.322	1.117

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.102	39.382	-4.266	0.123	2.316	8.203	14621.963	0.407
S.D.	0.619	0.429	9.768	0.220	1.317	0.968	169.910	0.313
% R.S.D.	606.092	1.088	228.959	177.933	56.840	11.799	1.162	76.851

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.414	2.174	0.883	-2.318
S.D.	31.739	0.135	0.239	15.204
% R.S.D.	7673.982	6.204	27.010	655.959

Identity 1: S97T001079 Identity 2: direct, .05-10 ml 1:22 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.151	0.030	0.359	249.958	98.830	7.096	0.385	0.039
S.D.	0.212	0.015	0.886	1.111	0.337	0.021	0.053	0.034
% R.S.D.	140.356	49.487	247.066	0.445	0.341	0.292	13.737	86.988

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	2.163	0.843	-0.181	-9.104	1.404	25.193	1.904	-27.693
S.D.	0.042	0.218	0.145	0.301	0.015	0.833	1.007	3.425
% R.S.D.	1.932	25.891	80.032	3.304	1.103	3.308	52.925	12.369

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.287	-9.364	0.041	15.332	13.350	0.408	2.752	25026.883
S.D.	1.156	0.243	0.006	2.692	0.667	0.021	0.977	89.709
% R.S.D.	89.789	2.600	14.286	17.557	4.993	5.095	35.512	0.358

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	1.177	1.836	4.334	-0.173	0.286	6.180	14220.491	0.147
S.D.	0.109	0.177	1.489	0.058	0.093	0.284	58.785	0.062
% R.S.D.	9.237	9.658	34.350	33.415	32.344	4.595	0.413	42.021

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-9.016	0.567	0.328	-5.003
S.D.	1.241	0.197	0.073	2.638
% R.S.D.	13.761	34.731	22.396	52.738

Identity 1: S97T001079_D Identity 2: direct, .05-10 ml 1:25 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.445	0.052	1.004	248.921	61.347	7.274	0.008	0.093
S.D.	0.049	0.013	1.606	1.978	1.044	0.756	0.047	0.022
% R.S.D.	11.056	25.000	159.874	0.795	1.702	10.388	598.524	24.148

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	2.731	1.360	0.252	-10.827	4.109	23.806	0.173	8.778
S.D.	0.042	0.253	0.434	0.730	0.013	0.412	0.449	2.896
% R.S.D.	1.522	18.570	172.276	6.741	0.326	1.730	259.603	32.992

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	3.686	-3.222	0.081	16.037	12.664	0.576	5.422	23949.432
S.D.	0.982	0.509	0.000	4.539	0.577	0.021	0.300	61.504
% R.S.D.	26.636	15.790	0.000	28.306	4.558	3.607	5.541	0.257

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.898	1.106	1.155	0.085	0.519	6.510	13793.389	-0.026
S.D.	0.170	0.083	1.050	0.027	0.187	0.072	66.842	0.036
% R.S.D.	18.973	7.485	90.904	31.540	36.130	1.103	0.485	137.260

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	7.776	0.663	0.287	5.966
S.D.	0.517	0.052	0.056	0.580
% R.S.D.	6.644	7.910	19.374	9.724

Identity 1: S97T001079_A Identity 2: direct, .05-10 ml 1:29 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	195.637	197.087	200.762	475.286	253.015	207.042	203.710	183.583
S.D.	0.348	0.210	1.885	1.133	1.740	0.363	0.108	0.435
% R.S.D.	0.178	0.106	0.939	0.238	0.688	0.175	0.053	0.237

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	205.420	193.001	193.158	200.379	190.325	212.796	196.246	388.915
S.D.	0.197	0.345	0.286	1.760	0.183	1.081	0.539	6.646
% R.S.D.	0.096	0.179	0.148	0.878	0.096	0.508	0.275	1.709

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	194.399	198.449	194.719	218.744	210.855	191.079	203.185	24579.578
S.D.	1.807	0.960	0.153	3.516	1.665	0.484	1.384	51.536
% R.S.D.	0.929	0.484	0.079	1.608	0.790	0.253	0.681	0.210

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	200.961	195.599	188.393	191.709	192.214	199.050	14061.587	192.068
S.D.	0.994	0.367	6.174	0.380	0.386	0.404	44.854	0.305
% R.S.D.	0.495	0.188	3.277	0.198	0.201	0.203	0.319	0.159

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	177.764	199.348	193.268	192.745
S.D.	7.177	0.640	0.239	2.506
% R.S.D.	4.037	0.321	0.123	1.300

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Identity 1: S97T001079_X Identity 2: direct,.05-10-1-9ml 1:33 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 2010.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-5.705	0.432	38.427	63.282	92.651	21.237	-1.070	0.098
S.D.	0.898	0.150	13.365	4.925	11.402	3.711	0.429	0.169
% R.S.D.	15.732	34.641	34.780	7.783	12.306	17.474	40.105	173.482

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	3.039	-3.339	-0.108	-11.955	2.191	26.337	19.638	-227.003
S.D.	0.818	1.584	2.492	2.929	0.134	3.307	4.781	27.387
% R.S.D.	26.912	47.451	2312.978	24.497	6.122	12.558	24.344	12.065

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-17.257	-61.846	0.194	-5.462	-5.605	4.563	-7.198	25762.046
S.D.	14.770	10.712	0.146	15.342	11.656	0.000	11.468	109.246
% R.S.D.	85.590	17.321	75.498	280.879	207.949	0.000	159.338	0.424

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.443	14.337	3.112	-0.631	3.376	9.066	14775.739	-0.388
S.D.	1.115	0.624	40.967	0.583	0.534	0.913	76.904	0.003
% R.S.D.	77.312	4.351	1316.600	92.297	15.803	10.072	0.520	0.833

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-54.595	2.269	1.069	-13.870
S.D.	54.047	1.412	0.280	18.175
% R.S.D.	98.996	62.219	26.191	131.045

Identity 1: S977001079_AX Identity 2: direct,.05-10-1-9ml 1:38 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 2010.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	19906.421	19928.699	20276.404	21112.361	19751.939	20083.231	19267.750	19201.609
S.D.	10.269	25.950	80.357	40.269	9.656	0.024	34.886	111.555
% R.S.D.	0.052	0.130	0.396	0.191	0.049	0.000	0.181	0.581

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	20034.743	19743.440	19860.255	19620.056	19613.112	19561.288	20124.810	38608.993
S.D.	10.339	23.409	16.083	42.069	12.869	49.678	43.787	41.231
% R.S.D.	0.052	0.119	0.081	0.214	0.066	0.254	0.218	0.107

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	20083.424	20035.832	19754.988	20380.643	19719.189	19895.323	19857.096	44413.057
S.D.	11.337	22.251	44.009	29.778	88.943	8.729	60.931	288.382
% R.S.D.	0.056	0.111	0.223	0.146	0.451	0.044	0.307	0.649

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	19976.206	20859.663	20054.698	19878.195	19725.959	19885.700	33821.257	19753.531
S.D.	19.302	8.867	23.355	14.623	18.014	5.785	202.652	17.079
% R.S.D.	0.097	0.043	0.116	0.074	0.091	0.029	0.599	0.086

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	19891.547	19928.511	19670.853	20655.231
S.D.	88.819	18.757	8.832	54.929
% R.S.D.	0.447	0.094	0.045	0.266

Identity 1: CCV Identity 2: Quality Control 1:45 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.933	4.996	5.031	4.926	4.842	5.018	5.203	4.874
S.D.	0.004	0.010	0.010	0.009	0.003	0.013	0.017	0.044
% R.S.D.	0.085	0.192	0.205	0.185	0.067	0.259	0.329	0.893

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.037	4.829	4.915	4.825	4.784	4.727	5.198	9.865
S.D.	0.008	0.014	0.008	0.006	0.003	0.014	0.016	0.021
% R.S.D.	0.158	0.281	0.153	0.117	0.065	0.299	0.314	0.215

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.910	5.092	4.978	5.125	4.947	4.761	5.059	5.091
S.D.	0.013	0.007	0.011	0.039	0.061	0.009	0.027	0.043
% R.S.D.	0.264	0.133	0.224	0.760	1.225	0.186	0.535	0.852

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.998	4.988	4.731	4.838	4.855	4.987	4.963	4.840
S.D.	0.009	0.007	0.053	0.006	0.002	0.006	0.036	0.004
% R.S.D.	0.185	0.133	1.124	0.122	0.033	0.123	0.717	0.090

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.662	5.008	5.002	4.931
S.D.	0.068	0.009	0.007	0.024
% R.S.D.	1.454	0.170	0.138	0.494

Identity 1: CCB Identity 2: Quality Control 1:52 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.000	0.001	0.009	0.005	0.005	0.006	0.001	0.001
S.D.	0.001	0.000	0.007	0.002	0.001	0.002	0.000	0.000
% R.S.D.	189.586	13.323	79.277	50.423	24.373	28.975	91.774	58.817

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.004	0.001	-0.003	0.000	0.000	0.011	0.027
S.D.	0.000	0.002	0.001	0.000	0.000	0.001	0.008	0.040
% R.S.D.	14.667	60.353	86.351	7.403	56.727	269.865	69.726	151.823

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.027	-0.005	0.001	-0.020	0.005	0.000	-0.005	0.014
S.D.	0.011	0.009	0.000	0.001	0.002	0.000	0.000	0.006
% R.S.D.	41.735	156.722	23.368	2.623	44.304	28.873	6.915	45.582

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.001	0.004	0.003	0.001	0.002	0.005	0.285	0.001
S.D.	0.000	0.001	0.010	0.000	0.001	0.000	0.011	0.000
% R.S.D.	30.119	30.387	351.968	14.353	41.777	7.915	3.779	28.694

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.002	0.005	0.001	0.063
S.D.	0.014	0.001	0.000	0.030
% R.S.D.	676.166	17.295	27.203	47.881

Identity 1: S97T000881_L Identity 2: direct,.05-10-2-8ml 1:56 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1005.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	2.511	-0.281	-3.779	77.888	38.648	9.472	-1.798	-0.586
S.D.	0.124	0.075	1.623	1.947	2.056	1.855	0.377	0.073
% R.S.D.	4.953	26.647	42.959	2.500	5.319	19.579	20.996	12.499

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	6.298	2.307	-2.066	-8.564	9.322	28.045	-2.749	39.709
S.D.	0.363	4.604	1.912	1.797	0.039	0.751	4.909	10.349
% R.S.D.	5.763	199.612	92.550	20.976	0.415	2.679	178.560	26.063

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-30.026	-4.159	-0.698	-0.592	24.205	2.221	-3.611	25900.536
S.D.	4.504	5.267	0.127	5.422	3.764	0.104	3.063	63.527
% R.S.D.	15.002	126.624	18.162	915.649	15.552	4.680	84.800	0.245

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.310	0.122	-1.799	0.428	2.138	5.068	15137.858	0.192
S.D.	0.852	0.560	4.912	0.134	0.556	0.876	17.362	0.180
% R.S.D.	274.382	458.469	273.029	31.365	26.002	17.287	0.115	93.794

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-53.354	-0.850	0.642	-17.296
S.D.	18.626	0.170	0.002	4.649
% R.S.D.	34.910	19.938	0.310	26.876

Identity 1: S97T000881 Identity 2: direct,.05-10 ml 2:00 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	1.630	0.009	4.177	234.334	50.494	6.966	-0.112	-0.029
S.D.	0.132	0.007	0.929	2.108	0.450	0.744	0.061	0.000
% R.S.D.	8.078	86.603	22.233	0.900	0.892	10.683	54.609	0.003

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.745	0.537	-0.175	-10.410	12.237	26.174	-0.947	-12.319
S.D.	0.041	0.260	0.144	0.251	0.061	0.157	1.448	1.362
% R.S.D.	0.706	48.376	82.237	2.407	0.495	0.602	152.956	11.059

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.796	-5.006	-0.008	11.661	22.041	0.840	3.591	25384.916
S.D.	1.500	0.150	0.015	1.181	0.873	0.021	0.632	105.192
% R.S.D.	83.489	2.994	188.746	10.130	3.963	2.474	17.588	0.414

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.383	0.127	1.526	-0.061	0.038	3.246	14797.399	0.029
S.D.	0.135	0.104	1.398	0.046	0.031	0.080	61.684	0.036
% R.S.D.	35.246	82.050	91.566	76.132	81.260	2.451	0.417	121.788

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-4.136	0.201	0.426	-2.413
S.D.	3.616	0.140	0.027	2.020
% R.S.D.	87.430	69.728	6.418	83.719

Identity 1: S97T000881_D Identity 2: direct,.05-10 ml 2:03 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	1.413	-0.009	-103.346	260.736	47.617	7.516	-0.184	0.054
S.D.	0.089	0.007	1.529	2.428	0.569	0.032	0.043	0.034
% R.S.D.	6.296	86.603	1.480	0.931	1.196	0.421	23.143	63.083

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.603	0.421	0.078	-11.033	3.805	26.011	2.685	-7.126
S.D.	0.072	0.251	0.629	0.080	0.020	0.415	1.194	4.011
% R.S.D.	1.283	59.778	806.006	0.723	0.539	1.597	44.475	56.285

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.957	-5.863	0.047	11.601	23.597	0.396	4.348	24080.340
S.D.	2.267	0.789	0.015	0.706	0.465	0.021	0.777	132.118
% R.S.D.	115.840	13.460	33.072	6.086	1.969	5.247	17.864	0.549

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.692	0.224	1.023	-0.011	0.163	3.420	14235.042	0.100
S.D.	0.193	0.043	0.683	0.104	0.111	0.119	34.124	0.035
% R.S.D.	27.920	19.292	66.827	919.139	68.257	3.468	0.240	35.253

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.399	0.627	0.459	9.828
S.D.	6.962	0.136	0.048	5.342
% R.S.D.	290.209	21.753	10.367	54.358

Identity 1: S97T000881_A Identity 2: direct,.05-10 ml-1% HNO3 2:06 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

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	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	201.508	200.510	203.714	455.342	241.121	211.042	208.799	187.306
S.D.	0.246	0.145	0.887	1.504	1.366	0.045	0.432	1.560
% R.S.D.	0.122	0.072	0.436	0.330	0.566	0.022	0.207	0.833

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	212.807	198.486	199.743	187.625	198.018	220.538	206.258	404.795
S.D.	0.073	0.288	0.144	1.607	0.083	0.399	0.498	1.535
% R.S.D.	0.034	0.145	0.072	0.857	0.042	0.181	0.241	0.379

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	192.220	202.066	198.172	214.398	226.643	196.405	210.374	24202.008
S.D.	1.951	0.155	0.197	2.043	2.015	0.219	2.301	195.165
% R.S.D.	1.015	0.077	0.099	0.953	0.889	0.111	1.094	0.806

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	203.570	202.343	198.530	195.565	198.675	204.651	14452.978	198.794
S.D.	0.851	0.150	3.855	0.057	0.729	0.908	133.165	0.353
% R.S.D.	0.418	0.074	1.942	0.029	0.367	0.444	0.921	0.177

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	202.166	205.088	199.821	197.077
S.D.	4.596	0.166	0.146	1.692
% R.S.D.	2.273	0.081	0.073	0.858

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Identity 1: S97T000881 ~~AX~~ Identity 2: direct,.05-10-1-9 ml 2:09 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 2010.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	2.422	0.778	-6.678	87.436	39.865	19.212	-0.515	0.244
S.D.	2.114	0.225	8.407	8.712	4.581	3.714	0.534	0.592
% R.S.D.	87.247	28.868	125.893	9.964	11.491	19.334	103.685	242.553

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	7.500	6.284	6.712	-13.729	6.528	23.517	-29.004	112.178
S.D.	0.457	2.873	3.844	1.970	0.205	2.340	9.476	75.157
% R.S.D.	6.089	45.711	57.272	14.352	3.139	9.950	32.671	66.998

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-18.014	24.537	0.737	-38.924	49.128	4.682	11.507	26020.076
S.D.	18.889	10.006	0.488	11.648	8.246	0.550	4.824	205.268
% R.S.D.	104.859	40.777	66.209	29.924	16.785	11.751	41.927	0.789

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	2.063	3.519	49.630	1.363	2.675	8.357	15623.984	1.633
S.D.	1.086	1.145	21.328	0.526	0.310	1.881	102.425	0.351
% R.S.D.	52.653	32.547	42.974	38.600	11.590	22.502	0.656	21.513

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	13.235	3.611	2.087	-25.939
S.D.	7.977	0.725	0.740	47.739
% R.S.D.	60.273	20.072	35.451	184.040

‡

Identity 1: S97T000881_AX Identity 2: direct,.05-10-1-9 ml 2:13 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 2010.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	19911.983	20076.146	20295.208	20901.247	19670.596	19704.004	19518.254	19537.437
S.D.	22.491	71.261	84.635	42.226	81.853	52.699	102.492	231.255
% R.S.D.	0.113	0.355	0.417	0.202	0.416	0.267	0.525	1.184

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	19547.183	19514.078	20013.070	19578.977	19796.246	19175.424	20673.179	39478.821
S.D.	20.864	28.551	63.847	35.958	47.114	43.348	75.860	88.710
% R.S.D.	0.107	0.146	0.319	0.184	0.238	0.226	0.367	0.225

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	20063.895	20418.188	20012.137	20231.956	19453.862	19510.666	19583.760	45427.792
S.D.	50.321	65.823	67.407	68.333	110.623	27.047	58.127	505.454
% R.S.D.	0.251	0.322	0.337	0.338	0.569	0.139	0.297	1.113

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	19612.688	20606.883	19793.076	19806.458	19529.987	19873.759	34806.410	19511.495
S.D.	21.707	11.753	106.720	43.707	29.336	24.477	421.227	28.292
% R.S.D.	0.111	0.057	0.539	0.221	0.150	0.123	1.210	0.145

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	19596.239	19746.400	19722.861	20744.440
S.D.	79.875	9.752	36.301	25.797
% R.S.D.	0.408	0.049	0.184	0.124

‡

Identity 1: S97T000882 Identity 2: direct 2:18 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 201.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	1.191	18.280	1.895	681.027	-2.317	2.214	0.387	1.045
S.D.	0.350	0.204	0.455	0.756	0.683	0.373	0.285	0.237
% R.S.D.	29.384	1.115	24.013	0.111	29.474	16.849	73.648	22.662

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	17.143	1.907	0.540	2.135	3491.263	-6.560	5.387	14.034
S.D.	0.419	0.368	0.143	0.086	6.876	0.271	0.606	7.577
% R.S.D.	2.447	19.297	26.521	4.027	0.197	4.125	11.256	53.990

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-7.508	5.467	5.422	2.241	1165.610	775.265	-1.071	664.171
S.D.	1.821	1.542	0.239	0.837	5.137	1.336	1.014	2.660
% R.S.D.	24.249	28.211	4.405	37.351	0.441	0.172	94.689	0.401

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.680	-0.381	2.258	0.822	0.889	159.537	209.328	15.148
S.D.	0.258	0.280	1.819	0.301	0.241	0.520	1.033	0.240
% R.S.D.	37.865	73.453	80.572	36.558	27.085	0.326	0.493	1.584

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-9.926	0.113	0.639	-2.558
S.D.	4.170	0.418	0.264	5.106
% R.S.D.	42.007	368.676	41.342	199.601

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See next page

Identity 1: S97T000882 Identity 2: direct 2:21 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.089	0.012	3.365	-0.014	0.004	-0.002	0.002
S.D.	0.001	0.000	0.003	0.012	0.001	0.000	0.000	0.000
% R.S.D.	36.629	0.167	23.442	0.351	9.436	0.451	12.024	10.497

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.085	0.008	0.003	0.008	17.486	-0.037	0.018	0.029
S.D.	0.000	0.001	0.000	0.002	0.011	0.002	0.005	0.050
% R.S.D.	0.306	16.944	0.625	21.539	0.064	4.744	30.136	174.091

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.053	0.016	0.024	0.008	5.797	3.854	-0.005	3.333
S.D.	0.010	0.008	0.000	0.009	0.070	0.012	0.005	0.025
% R.S.D.	18.095	47.849	0.382	104.229	1.203	0.310	99.737	0.742

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.004	0.012	0.001	0.000	0.787	0.969	0.073
S.D.	0.001	0.001	0.008	0.000	0.000	0.005	0.015	0.001
% R.S.D.	175.048	13.545	65.382	28.831	231.045	0.626	1.535	1.264

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.010	-0.000	0.001	-0.013
S.D.	0.005	0.000	0.000	0.023
% R.S.D.	50.518	128.712	38.344	184.036

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Identity 1: S97T000882_D Identity 2: direct 2:23 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.103	0.088	-0.074	3.053	-0.023	0.003	0.002	0.003
S.D.	0.006	0.001	0.023	0.010	0.023	0.000	0.002	0.001
% R.S.D.	5.610	0.681	30.932	0.341	101.551	1.128	77.095	37.952

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.083	-0.041	-0.066	0.016	17.182	-0.028	0.037	-4.420
S.D.	0.002	0.001	0.004	0.003	0.180	0.002	0.023	0.231
% R.S.D.	2.416	2.235	6.758	16.817	1.047	7.654	61.354	5.221

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.019	-1.275	0.025	0.021	5.780	3.801	-0.002	3.270
S.D.	0.063	0.044	0.000	0.019	0.041	0.021	0.008	0.103
% R.S.D.	336.559	3.488	1.939	92.050	0.704	0.546	438.687	3.162

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	0.001	0.017	-0.032	0.002	0.775	0.939	0.073
S.D.	0.001	0.004	0.006	0.002	0.001	0.005	0.029	0.000
% R.S.D.	94.291	564.849	36.553	5.763	35.324	0.669	3.112	0.605

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.015	0.020	-0.000	-0.061
S.D.	0.023	0.003	0.000	0.120
% R.S.D.	148.845	15.473	49.627	195.935

Identity 1: ICSA Identity 2: Quality Control 2:29 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	-0.019	0.024	194.871	0.007	-0.001	0.001
S.D.	0.001	0.000	0.008	0.001	0.497	0.000	0.000	0.000
% R.S.D.	527.853	2.778	40.901	2.424	0.255	2.494	37.527	50.806

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.005	0.001	94.795	99.243	-0.001	0.023	-0.097
S.D.	0.000	0.001	0.001	0.098	0.215	0.002	0.007	0.023
% R.S.D.	2.912	24.555	109.245	0.104	0.217	196.543	27.738	23.431

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.029	0.013	0.002	0.010	0.038	91.892	-0.010	184.203
S.D.	0.004	0.004	0.000	0.002	0.005	0.200	0.005	0.829
% R.S.D.	14.318	28.550	4.822	23.212	14.178	0.217	51.688	0.450

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	0.003	-0.009	0.000	0.002	0.015	0.225	-0.001
S.D.	0.001	0.000	0.003	0.000	0.001	0.000	0.012	0.000
% R.S.D.	138.209	9.986	40.199	98.569	44.469	1.176	5.421	46.600

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.060	0.003	0.003	0.022
S.D.	0.021	0.001	0.000	0.012
% R.S.D.	35.052	25.305	8.391	52.050

‡

Identity 1: ICSAB Identity 2: Quality Control 2:32 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	-0.019	0.025	198.091	0.506	0.491	0.962
S.D.	0.000	0.000	0.008	0.002	0.228	0.003	0.001	0.005
% R.S.D.	8.709	3.363	42.248	9.048	0.115	0.620	0.125	0.504

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.003	0.984	0.003	94.828	99.297	0.493	0.017	0.053
S.D.	0.002	0.003	0.003	0.180	0.067	0.004	0.007	0.037
% R.S.D.	0.223	0.334	110.106	0.190	0.067	0.835	40.278	70.428

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.010	0.011	0.501	0.011	0.024	93.075	-0.034	186.680
S.D.	0.006	0.007	0.001	0.005	0.009	0.090	0.003	0.782
% R.S.D.	59.054	61.952	0.172	43.507	35.542	0.097	7.900	0.419

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	1.037	0.976	0.000	0.981	0.017	0.239	0.489
S.D.	0.001	0.003	0.020	0.000	0.003	0.001	0.010	0.002
% R.S.D.	23.198	0.242	2.035	52.296	0.296	6.053	4.300	0.479

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.023	0.495	0.492	-0.033
S.D.	0.011	0.001	0.000	0.019
% R.S.D.	50.681	0.249	0.101	58.714

Identity 1: CCV Identity 2: Quality Control 2:36 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.959	5.034	5.089	4.971	4.974	5.075	5.222	4.905
S.D.	0.004	0.007	0.020	0.002	0.044	0.012	0.011	0.026
% R.S.D.	0.080	0.136	0.401	0.038	0.886	0.228	0.203	0.526

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.096	4.878	4.937	4.886	4.835	4.763	5.151	9.927
S.D.	0.009	0.017	0.006	0.007	0.021	0.007	0.014	0.021
% R.S.D.	0.179	0.355	0.114	0.153	0.432	0.151	0.272	0.210

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.970	5.105	5.007	5.214	5.037	4.853	5.113	5.229
S.D.	0.011	0.003	0.007	0.042	0.033	0.015	0.012	0.069
% R.S.D.	0.217	0.056	0.139	0.805	0.649	0.315	0.239	1.327

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.057	5.026	4.807	4.874	4.901	5.003	5.018	4.870
S.D.	0.008	0.005	0.016	0.006	0.003	0.011	0.035	0.009
% R.S.D.	0.163	0.099	0.342	0.118	0.071	0.217	0.689	0.183

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.700	5.042	5.024	4.943
S.D.	0.048	0.003	0.006	0.017
% R.S.D.	1.031	0.062	0.126	0.347

Identity 1: CCB Identity 2: Quality Control 2:40 PM June 9, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.001	0.006	-0.001	0.018	0.009	0.002	0.002
S.D.	0.001	0.000	0.006	0.002	0.002	0.003	0.000	0.000
% R.S.D.	44.670	12.026	100.015	234.705	8.779	37.556	12.535	21.822

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	-0.002	0.002	0.003	0.005	0.002	0.010	-0.100
S.D.	0.000	0.001	0.001	0.003	0.001	0.001	0.007	0.032
% R.S.D.	10.634	44.418	44.335	106.587	14.834	53.649	67.767	31.660

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.012	-0.027	0.001	-0.005	0.000	0.005	0.002	0.024
S.D.	0.011	0.005	0.000	0.008	0.002	0.001	0.003	0.001
% R.S.D.	91.039	19.612	9.147	176.762	609.066	14.869	113.206	5.248

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.003	0.003	0.005	0.001	0.002	0.004	0.132	0.001
S.D.	0.001	0.001	0.010	0.000	0.000	0.000	0.002	0.000
% R.S.D.	20.815	17.702	188.617	31.076	15.871	1.173	1.875	15.821

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.033	0.005	0.001	0.036
S.D.	0.009	0.001	0.000	0.023
% R.S.D.	29.004	16.075	21.638	63.890

06-09-97

File #: 970610C.DAT

LABCORE Data Entry Template for Worklist# 18593

Analyst: JK Sato **Instrument:** ICP01 _____ **Book#** 64848-B

Method: LA-505-151/~~161~~ Rev/Mod E-1

Worklist Comment: ICP AW-103 (FUSION) #6-10-97

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	PREPBLKARL				@ICP-F01	SOLID		
7	SAMPLE	S97T000996	0	F	@ICP-F01	SOLID	97000332 AW-103	
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
8	DUP	S97T000996	0	F	@ICP-F01	SOLID		
9	SAMPLE	S97T000999	0	F	@ICP-F01	SOLID	97000332 AW-103	
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
10	DUP	S97T000999	0	F	@ICP-F01	SOLID		
11	SAMPLE	S97T001000	0	F	@ICP-F01	SOLID	97000332 AW-103	
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18593

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
12	DUP	S97T001000	0	F	@ICP-F01	SOLID		
13	CCV				@ICP-QC	QC		
14	CCB				@ICP-QC	QC		
15	SAMPLE	S97T000997	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:				AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
16	DUP	S97T000997	0	F	@ICP-F01	SOLID		
17	SAMPLE	S97T001001	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:				AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
18	DUP	S97T001001	0	F	@ICP-F01	SOLID		
19	CCV				@ICP-QC	QC		
20	CCB				@ICP-QC	QC		
21	SERDIL	S97T001002	0	F	@ICP-F01	SOLID		
22	SAMPLE	S97T001002	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:				AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
23	DUP	S97T001002	0	F	@ICP-F01	SOLID		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18593

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
24	SPK sample X post-spike QX (10ppm)	S97T001002 ※ 6-10-97	0	F	@ICP-F01	SOLID		
25	ICSA				@ICP-QC	QC		
26	ICSAB				@ICP-QC	QC		
27	CCV				@ICP-QC	QC		
28	CCB				@ICP-QC	QC		

Final page for worklist # 18593

JK [illegible] 06-10-97

Analyst Signature **Date** ※ 6-10-97

Reviewed & Validated by:
Sal R. Pang 6/11/97

Analyst Signature **Date**

Prep blk QRL , .25-10 , DF 41
S97T0000996 .25-10 41
S97T0000996_D .25-10 41
S97T0000999 .25-10 41
S97T0000999_D .25-10 41
S97T001000 .25-10 41
S97T001000_D .25-10 41

Prep blk QRL , .25-10 , DF 1
S97T0000997 .25-10 41
S97T0000997_D .25-10 41
S97T001001 .25-10 41
S97T001001_D .25-10 41
S97T001002_L , .25-10-2.8 205
S97T001002 .25-10 41
S97T001002_D .25-10 41
S97T001002_Q .25-10 41
S97T001002_X .25-10-1.9 410
S97T001002_QX .25-10-1.9 410

※ 6-10-97
Post Spike (10 ppm-STS)
.25 ml sample
2.05 ml STS
7.95 ml HNO_3

Post Spike (10 ppm-XWHC 28+35)
.25-10-1.9
1 ml sample
1 ml each XWHC 28+35
7 ml HNO_3

Data Entry Comments:

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

F/L #: 970610C.DAT HNF-SD-WM-DP-249, REV. 0

Identity 1: ICV Identity 2: Quality Control 12:35 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.831	4.811	4.889	4.806	4.728	4.833	5.090	4.804
S.D.	0.002	0.004	0.020	0.006	0.005	0.012	0.009	0.030
% R.S.D.	0.049	0.085	0.403	0.115	0.099	0.242	0.176	0.626

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.958	4.765	4.841	4.818	4.696	4.645	5.229	9.551
S.D.	0.010	0.005	0.010	0.006	0.003	0.022	0.015	0.016
% R.S.D.	0.192	0.114	0.200	0.119	0.059	0.478	0.285	0.166

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.674	4.961	4.804	4.902	4.705	4.562	4.888	5.015
S.D.	0.011	0.007	0.006	0.046	0.013	0.005	0.004	0.030
% R.S.D.	0.236	0.142	0.130	0.928	0.273	0.100	0.083	0.594

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.783	4.934	4.777	4.666	4.774	5.006	5.002	4.780
S.D.	0.007	0.007	0.017	0.002	0.013	0.001	0.032	0.010
% R.S.D.	0.156	0.138	0.360	0.048	0.276	0.016	0.635	0.207

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.718	4.920	4.961	4.946
S.D.	0.017	0.001	0.002	0.016
% R.S.D.	0.363	0.024	0.048	0.317

‡

DK Jeld
06-10-97
GW-163

597T000996 597T000997
597T000999 597T001001
597T001006 597T001002

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 658 TO 658.

Identity 1: ICB Identity 2: Quality Control 12:40 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.000	0.022	0.009	-0.041	0.000	-0.002	-0.000
S.D.	0.001	0.000	0.003	0.000	0.003	0.002	0.000	0.000
% R.S.D.	13.191	404.145	11.855	3.807	6.240	6683.606	19.630	107.363

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.004	0.005	-0.001	0.005	0.000	-0.021	0.143
S.D.	0.000	0.001	0.002	0.003	0.000	0.001	0.004	0.027
% R.S.D.	256.366	33.907	45.827	452.298	5.582	596.481	18.879	18.560

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.053	0.026	0.000	0.012	0.005	0.000	0.006	-0.008
S.D.	0.006	0.004	0.000	0.005	0.001	0.000	0.008	0.004
% R.S.D.	11.672	15.470	1050.397	40.493	28.639	37.466	130.052	47.236

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.001	-0.003	0.001	0.000	-0.001	-0.066	-0.001
S.D.	0.000	0.000	0.007	0.000	0.000	0.001	0.004	0.000
% R.S.D.	17.627	33.912	242.198	27.462	437.224	62.640	6.415	40.656

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.033	-0.003	0.000	-0.030
S.D.	0.052	0.000	0.000	0.011
% R.S.D.	156.082	15.540	516.812	38.036

Identity 1: LLS Identity 2: Quality Control 12:43 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.020	0.020	0.197	0.193	0.076	0.037	0.020	0.020
S.D.	0.001	0.000	0.008	0.002	0.003	0.004	0.000	0.000
% R.S.D.	3.374	0.188	3.929	1.292	4.013	10.168	2.158	0.560

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.039	0.103	0.101	0.209	0.021	0.217	0.433
S.D.	0.000	0.002	0.001	0.004	0.000	0.001	0.003	0.015
% R.S.D.	2.264	5.796	1.383	3.557	0.208	5.222	1.282	3.448

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.183	0.199	0.099	0.411	0.188	0.193	0.193	0.191
S.D.	0.004	0.004	0.000	0.015	0.004	0.001	0.009	0.002
% R.S.D.	2.223	1.817	0.078	3.773	2.053	0.293	4.866	1.132

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.093	0.025	0.195	0.019	0.011	0.102	0.468	0.019
S.D.	0.001	0.000	0.007	0.000	0.000	0.002	0.009	0.000
% R.S.D.	0.987	1.774	3.418	1.114	2.720	1.828	1.826	2.533

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.147	0.099	0.010	0.424
S.D.	0.012	0.001	0.000	0.017
% R.S.D.	8.153	0.627	1.336	4.009

Identity 1: ICSA Identity 2: Quality Control 12:46 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.002	-0.006	0.038	194.700	0.003	-0.001	0.000
S.D.	0.001	0.000	0.005	0.004	0.538	0.000	0.000	0.000
% R.S.D.	33.441	4.629	81.295	11.670	0.276	4.373	15.306	78.127

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.003	0.003	95.041	98.092	-0.001	0.021	-0.009
S.D.	0.000	0.001	0.003	0.249	0.152	0.003	0.010	0.032
% R.S.D.	8.427	42.803	85.667	0.262	0.155	464.494	48.914	370.830

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.010	0.031	0.002	0.029	-0.002	95.901	0.005	176.454
S.D.	0.007	0.008	0.000	0.010	0.009	0.185	0.001	1.158
% R.S.D.	64.841	24.549	8.444	35.249	595.943	0.193	26.794	0.657

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.003	0.001	-0.019	0.001	0.001	0.014	0.037	-0.003
S.D.	0.000	0.001	0.004	0.000	0.001	0.001	0.010	0.001
% R.S.D.	13.928	69.696	21.072	25.158	71.390	7.844	26.364	17.302

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.091	-0.000	0.003	-0.003
S.D.	0.026	0.000	0.000	0.018
% R.S.D.	28.209	489.715	5.459	573.179

Identity 1: ICSAB Identity 2: Quality Control 12:49 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	-0.010	0.034	194.636	0.483	0.478	0.880
S.D.	0.001	0.000	0.007	0.002	0.962	0.002	0.000	0.002
% R.S.D.	96.075	1.883	63.677	7.205	0.494	0.335	0.076	0.269

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.975	0.956	0.005	95.427	98.874	0.485	0.014	0.050
S.D.	0.003	0.007	0.002	0.138	0.240	0.001	0.008	0.017
% R.S.D.	0.313	0.738	43.079	0.144	0.243	0.262	58.478	34.140

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.004	0.028	0.485	0.026	-0.003	97.907	0.010	178.077
S.D.	0.003	0.002	0.001	0.007	0.003	0.440	0.002	0.617
% R.S.D.	68.925	7.948	0.210	26.588	95.307	0.449	24.307	0.346

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	1.013	0.951	0.001	0.954	0.015	0.087	0.480
S.D.	0.001	0.002	0.011	0.000	0.000	0.001	0.007	0.002
% R.S.D.	57.666	0.239	1.154	26.936	0.028	4.234	8.525	0.499

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.143	0.483	0.487	-0.029
S.D.	0.008	0.001	0.000	0.012
% R.S.D.	5.336	0.127	0.096	40.058

‡

Identity 1: PREPBLK Identity 2: Quality Control 12:54 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	-0.000	0.022	0.013	-0.013	0.000	-0.001	-0.001
S.D.	0.000	0.000	0.010	0.002	0.005	0.002	0.000	0.000
% R.S.D.	11.264	17.647	47.114	18.830	38.772	6650.558	3.175	13.878

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.077	0.005	0.018	0.017	-0.001	-0.006	0.067
S.D.	0.000	0.017	0.002	0.002	0.001	0.001	0.006	0.009
% R.S.D.	25.772	21.959	37.860	11.432	6.174	93.010	99.239	13.534

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.059	0.012	-0.000	0.035	0.007	0.013	0.001	0.108
S.D.	0.008	0.001	0.000	0.001	0.002	0.001	0.001	0.003
% R.S.D.	12.842	10.836	16.013	3.694	24.667	7.802	74.824	2.310

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	-0.002	-0.022	0.001	-0.000	-0.003	309.342	0.000
S.D.	0.002	0.000	0.005	0.000	0.000	0.000	0.473	0.000
% R.S.D.	563.373	6.134	24.702	18.619	91.133	9.980	0.153	623.794

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.037	-0.003	0.000	-0.041
S.D.	0.032	0.001	0.000	0.009
% R.S.D.	85.894	17.850	80.940	21.955

‡

Identity 1: S97T000996 Identity 2: Fusion, .25-10 ml 12:57 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	262.437	0.009	0.932	3.982	4.900	0.064	-0.059	-0.030
S.D.	0.187	0.003	0.222	0.057	0.231	0.134	0.007	0.006
% R.S.D.	0.071	30.000	23.836	1.429	4.721	208.949	12.339	20.812

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.239	78.085	0.308	2.061	0.329	0.412	-0.756	79.581
S.D.	0.003	0.202	0.001	0.100	0.017	0.062	0.235	1.593
% R.S.D.	1.092	0.259	0.243	4.866	5.050	15.018	31.082	2.001

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.886	0.708	-0.007	1.397	0.578	0.151	-0.034	381.387
S.D.	0.442	0.161	0.005	0.332	0.111	0.018	0.102	1.319
% R.S.D.	23.430	22.732	73.471	23.783	19.129	11.987	303.188	0.346

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.907	1.176	-1.027	0.080	0.049	-0.214	14205.140	0.155
S.D.	0.036	0.028	0.184	0.004	0.017	0.021	53.886	0.007
% R.S.D.	4.014	2.342	17.892	4.758	34.031	9.671	0.379	4.613

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.817	1.492	0.192	-3.598
S.D.	1.666	0.025	0.000	0.602
% R.S.D.	91.679	1.644	0.158	16.745

Identity 1: S97T000996_D Identity 2: Fusion, .25-10 ml 1:00 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	263.215	0.025	0.247	3.105	5.285	0.373	0.010	0.010
S.D.	0.065	0.000	0.249	0.052	0.020	0.153	0.006	0.008
% R.S.D.	0.025	0.000	101.070	1.682	0.378	41.122	57.603	79.447

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.272	85.621	0.240	1.884	0.183	0.340	-0.474	79.071
S.D.	0.010	0.257	0.029	0.090	0.006	0.070	0.075	0.866
% R.S.D.	3.834	0.300	12.236	4.775	3.092	20.590	15.856	1.096

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.237	0.351	0.025	0.885	0.924	0.110	0.064	374.871
S.D.	0.120	0.156	0.004	0.302	0.210	0.008	0.257	2.184
% R.S.D.	50.456	44.594	14.321	34.114	22.699	7.531	399.467	0.583

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.828	1.306	-0.516	0.087	0.038	-0.081	12554.296	0.130
S.D.	0.039	0.008	0.463	0.003	0.013	0.047	69.069	0.015
% R.S.D.	4.724	0.586	89.789	3.458	32.995	58.752	0.550	11.346

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.617	1.673	0.211	-2.011
S.D.	0.981	0.014	0.010	0.713
% R.S.D.	158.990	0.830	4.594	35.433

Identity 1: S97T000999 Identity 2: Fusion, .25-10 ml 1:04 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	261.451	0.024	0.525	4.793	-0.054	0.172	0.019	0.011
S.D.	0.086	0.003	0.318	0.105	0.217	0.000	0.006	0.005
% R.S.D.	0.033	12.830	60.510	2.198	401.984	0.257	31.285	41.659

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.206	56.307	0.607	0.795	0.194	0.255	-0.088	69.206
S.D.	0.012	0.152	0.088	0.165	0.018	0.018	0.140	1.027
% R.S.D.	5.777	0.270	14.490	20.764	9.121	7.003	159.211	1.484

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.396	0.619	0.015	1.149	0.718	0.129	0.171	285.863
S.D.	0.297	0.250	0.009	0.374	0.132	0.015	0.014	2.181
% R.S.D.	74.943	40.339	59.766	32.562	18.448	11.566	8.255	0.763

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.854	1.248	-0.377	0.079	0.042	0.013	11495.368	0.093
S.D.	0.024	0.027	0.243	0.002	0.039	0.016	86.881	0.007
% R.S.D.	2.840	2.203	64.487	2.924	94.163	125.285	0.756	7.748

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.440	1.723	0.219	-1.432
S.D.	0.823	0.019	0.010	0.677
% R.S.D.	57.143	1.084	4.386	47.231

‡

Identity 1: S97T000999_D Identity 2: Fusion, .25-10 ml 1:08 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	261.327	0.012	1.227	3.146	0.453	0.217	-0.061	-0.020
S.D.	0.293	0.005	0.247	0.114	0.500	0.077	0.019	0.005
% R.S.D.	0.112	39.970	20.153	3.615	110.308	35.291	30.886	25.975

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.159	47.225	0.659	0.769	0.300	0.046	-0.535	71.850
S.D.	0.012	0.257	0.050	0.021	0.002	0.016	0.194	2.146
% R.S.D.	7.787	0.545	7.659	2.707	0.523	34.088	36.191	2.987

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.759	1.241	-0.001	1.356	0.540	0.093	0.147	285.241
S.D.	0.530	0.189	0.005	0.134	0.153	0.004	0.149	1.726
% R.S.D.	30.140	15.216	692.820	9.860	28.438	4.440	101.952	0.605

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.875	1.176	-1.211	0.142	0.046	-0.108	10328.135	0.054
S.D.	0.043	0.019	0.514	0.013	0.035	0.047	23.110	0.007
% R.S.D.	4.872	1.606	42.472	9.086	77.283	43.779	0.224	12.973

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.086	1.547	0.213	-2.188
S.D.	1.166	0.026	0.005	1.018
% R.S.D.	1360.735	1.704	2.571	46.524

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Identity 1: S97T001000 Identity 2: Fusion, .25-10 ml 1:11 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	229.403	0.015	0.099	3.514	1.478	0.089	-0.024	-0.023
S.D.	0.164	0.003	0.493	0.216	0.084	0.077	0.021	0.005
% R.S.D.	0.071	20.377	499.321	6.145	5.706	86.726	85.730	22.589

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.228	68.282	0.309	1.457	0.667	0.064	-0.565	81.488
S.D.	0.012	0.564	0.088	0.075	0.002	0.078	0.572	1.589
% R.S.D.	5.371	0.826	28.557	5.156	0.236	121.889	101.123	1.950

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.300	0.465	0.011	0.755	0.689	0.192	-0.277	298.392
S.D.	0.454	0.242	0.007	0.113	0.138	0.000	0.241	1.160
% R.S.D.	34.905	51.978	64.603	15.024	19.976	0.001	86.904	0.389

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.835	1.060	-1.235	0.124	0.067	-0.176	13394.753	0.129
S.D.	0.015	0.022	0.068	0.011	0.032	0.016	42.685	0.007
% R.S.D.	1.772	2.114	5.527	8.708	46.723	9.335	0.319	5.579

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.062	1.342	0.170	-2.122
S.D.	0.877	0.041	0.006	1.492
% R.S.D.	21.593	3.039	3.455	70.297

Identity 1: S97T001000_D Identity 2: Fusion, .25-10 ml 1:14 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	232.468	0.023	0.625	3.440	0.815	0.443	-0.021	-0.000
S.D.	0.554	0.004	0.338	0.144	0.143	0.133	0.015	0.007
% R.S.D.	0.238	17.625	54.102	4.178	17.553	30.026	72.803	519763.791

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.225	64.698	0.240	0.997	0.253	0.188	-0.115	79.157
S.D.	0.015	0.412	0.078	0.100	0.003	0.057	0.465	1.729
% R.S.D.	6.835	0.637	32.609	10.006	1.242	30.599	404.726	2.184

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.380	0.181	0.027	1.270	0.733	0.093	0.195	297.859
S.D.	0.452	0.183	0.007	0.184	0.078	0.004	0.135	0.713
% R.S.D.	118.836	100.920	24.723	14.467	10.646	4.441	68.959	0.239

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.715	1.158	-0.445	0.080	0.067	-0.057	11539.508	0.130
S.D.	0.048	0.017	0.183	0.015	0.044	0.010	15.064	0.015
% R.S.D.	6.721	1.447	41.085	18.674	65.462	16.662	0.131	11.351

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.542	1.519	0.176	-1.500
S.D.	1.298	0.007	0.011	0.299
% R.S.D.	84.130	0.449	6.521	19.919

Identity 1: CCV Identity 2: Quality Control 1:22 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.916	4.916	4.997	4.830	4.769	4.900	5.142	4.693
S.D.	0.018	0.017	0.026	0.029	0.019	0.026	0.012	0.014
% R.S.D.	0.365	0.341	0.521	0.608	0.392	0.531	0.238	0.302

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.951	4.807	4.925	4.836	4.772	4.692	5.286	9.821
S.D.	0.028	0.025	0.014	0.007	0.010	0.033	0.018	0.054
% R.S.D.	0.566	0.530	0.291	0.151	0.213	0.701	0.348	0.547

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.737	5.083	4.905	5.001	4.747	4.615	4.939	4.905
S.D.	0.045	0.010	0.014	0.056	0.037	0.028	0.030	0.013
% R.S.D.	0.946	0.204	0.293	1.126	0.773	0.613	0.599	0.266

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.849	4.933	4.783	4.749	4.821	4.988	4.847	4.827
S.D.	0.037	0.016	0.026	0.020	0.018	0.004	0.016	0.018
% R.S.D.	0.765	0.315	0.545	0.415	0.366	0.086	0.326	0.379

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.803	4.979	5.001	4.930
S.D.	0.063	0.019	0.011	0.022
% R.S.D.	1.319	0.390	0.216	0.446

Identity 1: CCB Identity 2: Quality Control 1:27 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.000	0.011	0.005	-0.029	0.008	-0.000	0.000
S.D.	0.001	0.000	0.004	0.004	0.006	0.002	0.000	0.000
% R.S.D.	38.442	43.644	31.656	81.407	21.887	24.664	219.264	63.090

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.001	0.008	0.004	0.005	0.003	-0.006	0.065
S.D.	0.000	0.001	0.001	0.000	0.000	0.001	0.006	0.024
% R.S.D.	57.617	74.876	8.750	11.905	2.830	37.961	90.335	37.219

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.008	0.014	0.001	0.007	0.007	0.001	-0.002	0.004
S.D.	0.011	0.004	0.000	0.011	0.003	0.000	0.001	0.003
% R.S.D.	136.054	26.508	44.251	157.043	52.299	50.893	37.397	76.386

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.000	-0.020	0.001	0.002	-0.000	0.097	-0.001
S.D.	0.001	0.001	0.017	0.000	0.000	0.001	0.024	0.000
% R.S.D.	43.584	287.064	82.284	35.353	30.545	554.098	24.871	15.350

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.036	0.001	0.000	0.019
S.D.	0.030	0.001	0.000	0.017
% R.S.D.	83.600	159.441	199.355	92.575

Identity 1: PREPBLK Identity 2: Quality Control 1:31 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	-0.000	0.005	0.012	-0.022	0.005	-0.000	0.000
S.D.	0.001	0.000	0.017	0.002	0.004	0.000	0.000	0.000
% R.S.D.	27.338	173.205	318.236	17.695	17.866	0.078	72.664	85.698

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.056	0.002	0.001	-0.002	0.002	-0.010	0.043
S.D.	0.000	0.005	0.001	0.002	0.000	0.001	0.005	0.006
% R.S.D.	70.948	9.450	28.591	152.929	1.946	26.107	52.502	14.458

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.010	0.015	0.000	0.013	0.002	0.002	-0.001	0.109
S.D.	0.002	0.001	0.000	0.004	0.003	0.000	0.005	0.002
% R.S.D.	24.010	3.850	39.787	29.510	129.164	0.003	332.360	1.987

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	0.000	-0.012	0.001	0.000	-0.000	297.509	0.000
S.D.	0.000	0.000	0.006	0.000	0.001	0.001	1.609	0.000
% R.S.D.	65.475	325.622	47.877	26.492	207.327	330.773	0.541	152.276

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.065	0.001	0.000	0.022
S.D.	0.024	0.000	0.000	0.014
% R.S.D.	37.141	13.103	165.327	60.692

Identity 1: S97T000997 Identity 2: Fusion, .25-10 ml 1:34 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	236.177	0.012	1.293	2.569	8.209	0.215	-0.046	-0.034
S.D.	0.230	0.007	0.174	0.017	0.036	0.001	0.014	0.005
% R.S.D.	0.097	61.056	13.441	0.677	0.441	0.238	30.312	13.472

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.159	58.899	0.299	0.865	0.004	0.338	-0.665	96.505
S.D.	0.011	0.267	0.029	0.041	0.004	0.009	0.505	0.873
% R.S.D.	6.840	0.454	9.757	4.725	114.564	2.689	75.872	0.905

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.774	2.201	0.002	1.536	0.545	0.096	-0.107	436.214
S.D.	0.377	0.190	0.008	0.034	0.029	0.004	0.121	1.613
% R.S.D.	21.272	8.609	325.320	2.235	5.391	4.330	112.612	0.370

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.749	1.070	-0.532	0.098	0.021	0.035	12799.777	0.102
S.D.	0.019	0.017	0.200	0.014	0.022	0.015	29.380	0.019
% R.S.D.	2.564	1.623	37.584	13.984	105.660	43.708	0.230	18.780

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.336	1.458	0.173	-1.713
S.D.	1.150	0.019	0.011	0.612
% R.S.D.	26.523	1.325	6.512	35.722

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Identity 1: S97T000997_D Identity 2: Fusion, .25-10 ml 1:38 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	230.248	0.011	1.081	3.333	8.613	0.220	-0.048	-0.016
S.D.	0.381	0.006	0.143	0.181	0.349	0.000	0.015	0.014
% R.S.D.	0.166	57.735	13.252	5.432	4.051	0.166	31.812	88.521

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.145	54.985	0.137	1.003	0.025	0.460	-1.130	112.159
S.D.	0.019	0.284	0.030	0.110	0.002	0.066	0.010	2.390
% R.S.D.	12.870	0.517	21.990	10.972	6.415	14.243	0.928	2.131

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.663	1.319	0.002	1.117	0.489	0.093	0.129	440.123
S.D.	0.344	0.445	0.012	0.264	0.122	0.004	0.329	1.590
% R.S.D.	20.682	33.746	758.700	23.591	25.029	4.441	254.807	0.361

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.743	1.041	-0.212	0.065	0.036	-0.093	12147.955	0.101
S.D.	0.029	0.038	0.142	0.015	0.023	0.010	12.112	0.007
% R.S.D.	3.951	3.605	67.173	23.005	63.978	11.326	0.100	7.197

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.919	1.360	0.166	-2.703
S.D.	0.862	0.023	0.005	1.096
% R.S.D.	44.928	1.720	3.293	40.559

‡

Identity 1: S97T001001 Identity 2: Fusion, .25-10 ml 1:40 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	242.308	0.026	0.769	3.115	16.461	0.165	0.038	0.012
S.D.	0.314	0.002	0.218	0.134	0.139	0.077	0.005	0.006
% R.S.D.	0.130	5.973	28.318	4.308	0.842	46.488	13.276	52.171

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.181	63.935	0.107	1.976	0.148	1.443	-0.377	83.077
S.D.	0.013	0.175	0.051	0.125	0.002	0.063	0.197	1.294
% R.S.D.	6.976	0.274	47.655	6.305	1.063	4.338	52.394	1.558

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.636	-0.211	0.041	1.558	0.662	0.086	-0.044	424.573
S.D.	0.244	0.300	0.008	0.040	0.162	0.004	0.136	0.420
% R.S.D.	38.375	142.088	18.498	2.563	24.511	4.811	311.850	0.099

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.672	1.259	-0.106	0.048	0.093	-0.070	12480.886	0.154
S.D.	0.051	0.028	0.178	0.007	0.033	0.088	28.596	0.007
% R.S.D.	7.560	2.211	167.712	15.051	35.965	124.623	0.229	4.786

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	7.387	1.561	0.154	-0.142
S.D.	4.764	0.052	0.010	0.721
% R.S.D.	64.491	3.315	6.407	506.444

Identity 1: S97T001001_D Identity 2: Fusion, .25-10 ml 1:44 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	237.702	0.013	0.773	2.594	16.540	0.516	-0.030	-0.023
S.D.	0.174	0.003	0.272	0.072	0.779	0.077	0.013	0.005
% R.S.D.	0.073	23.094	35.152	2.782	4.712	14.854	43.686	22.561

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.149	56.596	0.140	1.802	0.119	1.264	-0.336	82.562
S.D.	0.009	0.232	0.030	0.069	0.003	0.086	0.199	1.180
% R.S.D.	5.921	0.409	21.162	3.830	2.290	6.782	59.194	1.429

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.155	-0.148	0.008	1.663	0.493	0.077	0.193	408.193
S.D.	0.377	0.203	0.006	0.490	0.175	0.000	0.278	2.195
% R.S.D.	32.671	137.021	71.903	29.473	35.583	0.002	144.100	0.538

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.704	1.091	0.216	0.053	0.067	-0.042	11034.609	0.121
S.D.	0.029	0.034	0.067	0.003	0.023	0.011	63.917	0.007
% R.S.D.	4.167	3.161	30.881	5.853	33.787	26.099	0.579	6.015

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	6.855	1.486	0.147	-2.516
S.D.	0.885	0.047	0.005	1.153
% R.S.D.	12.911	3.191	3.679	45.804

‡

Identity 1: CCV Identity 2: Quality Control 1:47 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.901	4.861	4.969	4.888	4.750	4.996	5.047	4.596
S.D.	0.007	0.013	0.034	0.010	0.017	0.018	0.016	0.038
% R.S.D.	0.141	0.257	0.675	0.195	0.358	0.358	0.313	0.835

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.086	4.865	4.889	4.915	4.718	4.791	5.169	9.645
S.D.	0.010	0.013	0.017	0.024	0.008	0.010	0.019	0.004
% R.S.D.	0.203	0.266	0.343	0.494	0.173	0.216	0.373	0.044

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.734	4.961	4.817	4.990	4.800	4.714	5.014	4.848
S.D.	0.022	0.009	0.013	0.032	0.028	0.008	0.020	0.036
% R.S.D.	0.455	0.178	0.273	0.634	0.584	0.179	0.408	0.736

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.936	5.009	4.888	4.743	4.893	4.993	5.057	4.896
S.D.	0.016	0.005	0.023	0.012	0.002	0.009	0.017	0.007
% R.S.D.	0.330	0.092	0.475	0.251	0.051	0.172	0.337	0.142

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.772	5.021	4.990	4.925
S.D.	0.018	0.006	0.006	0.025
% R.S.D.	0.374	0.112	0.113	0.512

Identity 1: CCB Identity 2: Quality Control 1:51 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.001	0.020	0.012	-0.048	0.000	-0.001	0.001
S.D.	0.000	0.000	0.004	0.001	0.012	0.002	0.000	0.000
% R.S.D.	7.593	13.887	20.644	10.671	25.559	11156.542	17.770	54.539

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.001	0.008	-0.001	0.005	-0.000	-0.017	0.106
S.D.	0.000	0.001	0.002	0.001	0.000	0.001	0.002	0.017
% R.S.D.	19.118	104.924	31.480	173.641	0.722	279.321	9.754	16.210

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.039	0.022	0.001	0.009	0.001	0.001	-0.000	-0.007
S.D.	0.004	0.004	0.000	0.004	0.003	0.000	0.001	0.001
% R.S.D.	8.981	18.408	15.963	44.127	203.725	0.003	466.071	19.245

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Tl (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.003	0.001	-0.014	0.002	0.002	0.000	0.049	-0.001
S.D.	0.001	0.000	0.015	0.000	0.001	0.002	0.006	0.000
% R.S.D.	27.608	11.350	106.859	13.999	57.644	393.526	11.359	28.245

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.013	-0.003	0.001	-0.042
S.D.	0.124	0.001	0.000	-0.003
% R.S.D.	928.377	17.762	28.589	7.946

‡

Identity 1: S97T001002_L Identity 2: Fusion,.25-10-1-4 ml 1:55 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 205.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.853	0.013	0.212	2.139	88.114	-0.558	0.027	-0.010
S.D.	0.337	0.020	0.903	0.314	1.052	0.767	0.072	0.015
% R.S.D.	6.940	152.753	424.963	14.691	1.194	137.442	263.754	147.693

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.424	3.436	-0.004	2.383	5.546	49.895	-3.044	-8.172
S.D.	0.032	0.413	0.636	0.189	0.008	1.005	2.237	4.998
% R.S.D.	7.435	12.024	16162.437	7.944	0.142	2.015	73.481	61.158

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-8.153	-1.195	0.085	34.424	-0.156	1.520	0.393	421.774
S.D.	0.951	0.750	0.022	1.599	0.561	0.041	0.614	1.175
% R.S.D.	11.665	62.753	26.414	4.644	359.943	2.727	156.182	0.279

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.147	0.196	2.747	-0.019	0.236	-0.623	12992.247	0.037
S.D.	0.455	0.027	0.335	0.056	0.137	0.165	5.194	0.063
% R.S.D.	308.914	14.005	12.208	297.100	58.274	26.512	0.040	171.303

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	18.595	-0.197	-0.035	-3.646
S.D.	6.880	0.178	0.047	2.522
% R.S.D.	37.001	90.374	133.732	69.157

‡

Identity 1: S97T001002 Identity 2: Fusion,.25-10 ml 1:58 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.102	0.004	0.517	1.789	82.149	0.328	0.056	-0.010
S.D.	0.013	0.006	0.249	0.085	2.728	0.133	0.009	0.009
% R.S.D.	12.692	124.900	48.209	4.761	3.321	40.515	15.606	90.375

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.072	4.565	0.221	0.929	1.119	51.101	0.016	2.877
S.D.	0.006	0.682	0.052	0.068	0.004	0.302	0.300	2.245
% R.S.D.	8.034	14.948	23.300	7.269	0.372	0.590	1867.923	78.037

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.435	0.181	0.030	29.396	0.183	0.144	0.394	403.913
S.D.	0.453	0.399	0.010	1.397	0.266	0.004	0.065	0.801
% R.S.D.	104.282	220.779	32.083	4.751	145.279	2.887	16.402	0.198

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.004	0.018	-0.186	0.011	0.233	0.000	12391.584	0.252
S.D.	0.004	0.044	0.599	0.011	0.023	0.038	40.906	0.008
% R.S.D.	88.985	238.636	322.400	97.884	9.783	20697.709	0.330	3.008

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.936	-0.031	0.021	-0.976
S.D.	1.352	0.006	0.010	0.966
% R.S.D.	27.382	18.765	46.955	98.996

‡

Identity 1: S97T001002_D Identity 2: Fusion,.25-10 ml 2:01 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.259	0.004	0.595	1.980	80.589	0.235	0.044	-0.008
S.D.	0.025	0.005	0.091	0.181	2.685	0.077	0.002	0.009
% R.S.D.	9.777	150.000	15.218	9.165	3.332	32.794	3.830	110.523

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.147	5.857	0.171	0.943	1.008	49.406	-0.134	3.554
S.D.	0.020	0.308	0.051	0.041	0.003	0.306	0.158	1.641
% R.S.D.	13.863	5.265	30.031	4.399	0.312	0.619	118.344	46.167

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.403	0.830	0.034	26.181	0.171	0.112	-0.142	387.030
S.D.	0.567	0.392	0.009	0.021	0.169	0.000	0.176	1.931
% R.S.D.	140.723	47.261	26.784	0.080	99.246	0.004	124.118	0.499

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.043	-0.034	-0.435	0.040	0.207	0.086	14258.736	0.252
S.D.	0.030	0.014	0.620	0.009	0.049	0.020	97.082	0.019
% R.S.D.	71.175	40.348	142.346	22.072	23.730	23.919	0.681	7.731

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.004	-0.034	0.018	-1.333
S.D.	0.310	0.014	0.006	0.565
% R.S.D.	6.193	42.152	31.160	42.391

‡

Identity 1: S97T001002_A Identity 2: Fusion,.25-10 ml 2:04 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	40.823	40.153	42.149	42.372	125.532	40.674	42.072	36.220
S.D.	0.050	0.056	0.287	0.200	0.914	0.077	0.112	0.117
% R.S.D.	0.123	0.139	0.680	0.471	0.728	0.190	0.265	0.323

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	40.826	41.446	40.742	41.114	40.008	90.161	43.146	85.311
S.D.	0.146	0.292	0.203	0.356	0.084	0.561	0.529	1.703
% R.S.D.	0.357	0.704	0.499	0.867	0.210	0.622	1.225	1.996

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	36.692	42.046	39.811	69.204	38.706	37.777	40.694	439.919
S.D.	0.769	0.311	0.074	0.496	0.106	0.069	0.323	1.571
% R.S.D.	2.095	0.738	0.186	0.717	0.273	0.182	0.794	0.357

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	39.719	34.966	39.089	38.921	39.908	40.127	12318.340	40.169
S.D.	0.163	0.114	0.154	0.020	0.073	0.298	43.735	0.060
% R.S.D.	0.411	0.325	0.395	0.052	0.182	0.743	0.355	0.149

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	37.807	41.120	40.228	38.991
S.D.	0.603	0.089	0.039	1.087
% R.S.D.	1.594	0.217	0.096	2.789

Identity 1: S97T001002_X Identity 2: Fusion,.25-10-1-9 ml 2:10 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 410.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.463	0.000	2.151	-0.846	65.800	0.541	-0.232	-0.069
S.D.	0.309	0.041	0.857	0.378	1.472	0.771	0.075	0.062
% R.S.D.	66.696	85916400758000.000	39.831	44.722	2.236	142.570	32.408	89.066

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.034	6.265	0.658	0.739	-0.009	51.508	-5.549	-40.052
S.D.	0.041	1.225	0.506	0.630	0.027	1.314	0.327	9.337
% R.S.D.	118.313	19.551	76.900	85.237	300.000	2.551	5.896	23.311

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-8.869	-1.638	0.059	36.369	-0.819	0.742	-2.091	413.184
S.D.	2.905	2.035	0.038	2.186	1.412	0.042	1.475	2.856
% R.S.D.	32.758	124.237	64.291	6.011	172.339	5.591	70.535	0.691

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.788	-0.331	-4.602	-0.056	0.254	-0.571	13193.157	-0.459
S.D.	0.595	0.176	2.170	0.048	0.126	0.170	51.632	0.145
% R.S.D.	75.528	53.122	47.153	85.076	49.847	29.850	0.391	31.642

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	32.734	-0.416	0.087	0.535
S.D.	18.597	0.190	0.113	11.020
% R.S.D.	56.813	45.764	129.505	2061.549

Identity 1: S97T001002_AX Identity 2: Fusion,.25-10-1-9 ml 2:13 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 410.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4026.416	3951.482	4026.742	4067.710	3996.567	3927.658	3868.472	3720.878
S.D.	4.279	4.974	5.686	4.954	28.153	2.035	5.588	13.332
% R.S.D.	0.106	0.126	0.141	0.122	0.704	0.052	0.144	0.358

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	3958.169	3959.155	4044.234	4042.028	3965.667	3951.183	4247.133	7829.782
S.D.	2.140	5.951	6.344	2.366	4.145	5.758	17.358	9.314
% R.S.D.	0.054	0.150	0.157	0.059	0.105	0.146	0.409	0.119

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	3894.073	4045.970	3929.603	3960.412	3748.418	3927.849	3891.870	4165.773
S.D.	4.042	3.026	3.310	8.001	5.434	1.684	13.553	17.025
% R.S.D.	0.104	0.075	0.084	0.202	0.145	0.043	0.348	0.409

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	3878.982	3113.558	4065.370	3921.704	3953.189	4059.878	16716.441	3991.420
S.D.	1.646	0.346	7.899	3.929	4.698	4.271	40.926	0.983
% R.S.D.	0.042	0.011	0.194	0.100	0.119	0.105	0.245	0.025

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4062.296	4013.804	4000.841	4193.198
S.D.	20.942	2.446	5.069	3.224
% R.S.D.	0.516	0.061	0.127	0.077

‡

Identity 1: ICSA Identity 2: Quality Control 2:20 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.002	-0.011	0.044	193.651	-0.004	-0.002	-0.000
S.D.	0.001	0.000	0.004	0.003	0.233	0.002	0.000	0.000
% R.S.D.	16.261	1.925	35.980	7.526	0.120	36.062	16.716	53.252

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.004	0.007	94.463	97.853	-0.003	0.017	0.076
S.D.	0.000	0.002	0.002	0.110	0.097	0.003	0.003	0.016
% R.S.D.	4.542	59.721	27.904	0.117	0.099	82.531	16.355	20.862

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.027	0.048	0.001	0.008	0.000	93.761	0.014	178.023
S.D.	0.004	0.004	0.000	0.004	0.010	0.130	0.009	1.074
% R.S.D.	13.661	8.654	4.731	54.210	29109.673	0.138	65.666	0.603

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.003	0.013	-0.017	0.001	0.001	0.012	0.051	-0.004
S.D.	0.001	0.001	0.010	0.000	0.001	0.001	0.006	0.000
% R.S.D.	31.011	11.178	60.626	7.732	51.882	6.888	12.602	3.529

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.042	-0.004	0.003	-0.063
S.D.	0.053	0.000	0.000	0.011
% R.S.D.	126.012	6.159	5.325	18.188

Identity 1: ICSAB Identity 2: Quality Control 2:23 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.008	0.029	197.711	0.467	0.480	0.878
S.D.	0.001	0.000	0.008	0.004	1.103	0.003	0.001	0.005
% R.S.D.	57.481	4.406	105.174	14.342	0.558	0.651	0.215	0.561

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.941	0.927	0.007	93.734	97.649	0.467	0.005	-0.035
S.D.	0.000	0.005	0.001	0.245	0.129	0.006	0.011	0.044
% R.S.D.	0.016	0.556	19.988	0.262	0.132	1.180	203.154	128.174

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.016	0.014	0.486	0.035	0.003	93.983	0.009	177.318
S.D.	0.012	0.009	0.001	0.010	0.006	0.207	0.001	0.900
% R.S.D.	78.291	63.856	0.300	29.575	205.650	0.221	7.206	0.508

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	0.993	0.949	0.000	0.931	0.013	0.102	0.467
S.D.	0.000	0.001	0.009	0.001	0.004	0.001	0.032	0.001
% R.S.D.	37.139	0.128	0.902	145.899	0.394	5.015	31.837	0.191

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.084	0.476	0.483	0.016
S.D.	0.031	0.001	0.001	0.035
% R.S.D.	36.875	0.245	0.176	219.774

Identity 1: CCV Identity 2: Quality Control 2:29 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.833	4.761	4.873	4.797	4.914	4.877	4.987	4.520
S.D.	0.007	0.006	0.031	0.009	0.018	0.016	0.007	0.010
% R.S.D.	0.152	0.121	0.643	0.188	0.364	0.328	0.137	0.218

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.007	4.807	4.844	4.886	4.666	4.706	5.210	9.528
S.D.	0.008	0.024	0.005	0.027	0.004	0.010	0.005	0.023
% R.S.D.	0.151	0.502	0.102	0.559	0.093	0.203	0.097	0.243

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.608	4.878	4.729	4.878	4.653	4.619	4.903	4.775
S.D.	0.013	0.008	0.005	0.054	0.020	0.010	0.026	0.013
% R.S.D.	0.280	0.170	0.111	1.111	0.430	0.217	0.524	0.277

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.790	4.968	4.803	4.640	4.822	4.978	4.945	4.843
S.D.	0.009	0.009	0.018	0.009	0.017	0.012	0.022	0.011
% R.S.D.	0.178	0.177	0.379	0.201	0.351	0.244	0.451	0.222

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.711	4.952	4.958	4.897
S.D.	0.062	0.010	0.009	0.013
% R.S.D.	1.315	0.209	0.176	0.267

Identity 1: CCB Identity 2: Quality Control 2:34 PM June 10, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	-0.000	0.033	0.005	-0.044	0.001	-0.002	-0.001
S.D.	0.001	0.000	0.007	0.002	0.009	0.002	0.000	0.000
% R.S.D.	19.917	458.258	21.591	39.335	19.440	170.409	11.733	22.592

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	-0.001	0.008	-0.000	0.007	0.000	-0.027	0.108
S.D.	0.000	0.002	0.001	0.002	0.000	0.001	0.004	0.027
% R.S.D.	64.823	254.514	8.463	1051.925	0.538	522.212	15.579	24.762

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.058	0.023	-0.000	0.019	0.004	0.001	-0.001	-0.005
S.D.	0.005	0.005	0.000	0.003	0.004	0.000	0.003	0.001
% R.S.D.	9.515	20.961	113.578	18.099	110.491	14.998	452.947	24.739

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.000	-0.003	-0.009	0.001	0.000	0.000	0.019	-0.002
S.D.	0.002	0.001	0.013	0.000	0.000	0.001	0.006	0.000
% R.S.D.	1322.836	25.997	142.187	23.393	167.694	241.463	33.076	10.122

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.066	-0.005	0.000	-0.070
S.D.	0.050	0.000	0.000	0.019
% R.S.D.	75.818	6.914	77.430	27.263

DK
06-10-97

LABCORE Data Entry Template for Worklist# 18619

Analyst: DK Sdo **Instrument:** ICP01 _____ **Book#** 66848

Method: LA-505-151/~~161~~ Rev/Mod E-1

Worklist Comment: ICP AW-103 (FUSION)

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	PREPBLKARL				@ICP-F01	SOLID		
7	SAMPLE	S97T001054	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
8	DUP	S97T001054	0	F	@ICP-F01	SOLID		
9	SAMPLE	S97T001059	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
10	DUP	S97T001059	0	F	@ICP-F01	SOLID		
11	SAMPLE	S97T001060	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18619

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 ,			
					TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
12	DUP	S97T001060	0	F	@ICP-F01	SOLID		
13	CCV				@ICP-QC	QC		
14	CCB				@ICP-QC	QC		
15	PREPBLKARL				@ICP-F01	SOLID		
16	SAMPLE	S97T001055	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 ,						
		BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 ,						
		CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 ,						
		MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,						
		S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 ,						
		TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
17	DUP	S97T001055	0	F	@ICP-F01	SOLID		
18	SAMPLE	S97T001056	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 ,						
		BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 ,						
		CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 ,						
		MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,						
		S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 ,						
		TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
19	DUP	S97T001056	0	F	@ICP-F01	SOLID		
20	SAMPLE	S97T001061	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 ,						
		BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 ,						
		CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 ,						
		MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,						
		S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 ,						
		TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
21	DUP	S97T001061	0	F	@ICP-F01	SOLID		
22	ICSA				@ICP-QC	QC		
23	ICSAB				@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18619

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
24	CCV				@ICP-QC	QC		
25	CCB				@ICP-QC	QC		

Final page for worklist # 18619

DK 06-11-97
Analyst Signature Date

Revised + Validated by:
Karl R. Lang 6/12/97
Analyst Signature Date

Prep blk QVL	.25-10	DF 1
597T06 1054	.25-10	41
597T06 1054_D	.25-10	41
597T00 1059	.25-10	41
597T00 1059_D	.25-10	41
597T00 1060	.25-10	41
597T00 1060_D	.25-10	41
Prep blk QVL	.25-10	DF 1
597T00 1055	.25-10	41
597T00 1055_D	.25-10	41
597T00 1056	.25-10	41
597T00 1056_D	.25-10	41
597T00 1061	.25-10	41
597T00 1061_D	.25-10	41

Data Entry Comments:

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

File #: 970611C.DAT

Identity 1: ICV Identity 2: Quality Control 9:16 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.856	4.809	4.946	4.847	4.803	4.952	5.125	4.796
S.D.	0.004	0.013	0.012	0.003	0.008	0.005	0.010	0.024
% R.S.D.	0.086	0.261	0.233	0.066	0.175	0.103	0.193	0.498

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.052	4.871	4.884	4.907	4.767	4.780	5.186	9.879
S.D.	0.010	0.006	0.015	0.013	0.002	0.005	0.032	0.012
% R.S.D.	0.188	0.114	0.316	0.257	0.049	0.107	0.609	0.117

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.665	4.965	4.831	4.859	4.691	4.744	4.945	4.986
S.D.	0.015	0.004	0.012	0.017	0.017	0.001	0.040	0.021
% R.S.D.	0.325	0.071	0.254	0.342	0.361	0.030	0.811	0.425

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.906	5.023	4.836	4.795	4.884	5.043	4.941	4.895
S.D.	0.009	0.006	0.046	0.006	0.004	0.003	0.021	0.006
% R.S.D.	0.190	0.122	0.960	0.132	0.080	0.065	0.417	0.113

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.733	5.004	5.016	5.042
S.D.	0.033	0.005	0.003	0.034
% R.S.D.	0.696	0.104	0.065	0.684

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GW-103

597T0C1054 597T0000888
597T0C1059 597T0000889
597T00 1060 597T0000890
597T00 1055 597T0000994
597T00 1056 597T0000995
597T00 1061 597T0000998

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1092 TO 1116.

Identity 1: ICB Identity 2: Quality Control 9:22 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.004	0.022	-0.006	0.019	0.008	-0.001	0.004
S.D.	0.001	0.000	0.011	0.004	0.005	0.002	0.000	0.000
% R.S.D.	121.996	8.118	49.795	65.619	27.626	24.858	31.764	7.178

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.004	0.001	-0.000	0.005	0.013	0.006	0.015	-0.135
S.D.	0.000	0.002	0.002	0.002	0.001	0.001	0.010	0.038
% R.S.D.	7.512	171.301	400.676	40.930	8.313	10.098	64.447	27.734

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.038	-0.029	0.004	0.001	-0.002	0.015	0.012	0.016
S.D.	0.007	0.007	0.000	0.008	0.006	0.001	0.006	0.000
% R.S.D.	19.519	24.511	5.861	1143.985	233.895	6.855	45.911	0.001

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.008	0.005	-0.009	0.003	0.005	0.009	0.114	-0.001
S.D.	0.001	0.000	0.002	0.000	0.001	0.001	0.012	0.001
% R.S.D.	8.192	7.598	26.041	8.640	18.936	6.201	10.961	44.624

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.025	0.007	0.004	0.011
S.D.	0.022	0.001	0.000	0.017
% R.S.D.	85.440	9.385	10.284	151.065

Identity 1: LLS Identity 2: Quality Control 9:25 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.023	0.022	0.204	0.137	0.111	0.042	0.016	0.022
S.D.	0.001	0.000	0.014	0.001	0.003	0.000	0.001	0.000
% R.S.D.	5.260	1.469	6.791	0.719	2.423	0.025	3.992	1.501

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.024	0.044	0.097	0.107	0.202	0.022	0.202	0.450
S.D.	0.000	0.002	0.001	0.001	0.001	0.001	0.007	0.051
% R.S.D.	1.046	3.735	1.504	0.714	0.530	2.841	3.676	11.221

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.208	0.200	0.100	0.386	0.189	0.219	0.210	0.202
S.D.	0.010	0.008	0.000	0.007	0.007	0.001	0.003	0.001
% R.S.D.	4.784	3.895	0.355	1.866	3.959	0.592	1.325	0.623

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.104	0.027	0.207	0.022	0.012	0.111	0.624	0.017
S.D.	0.002	0.001	0.018	0.001	0.000	0.000	0.015	0.000
% R.S.D.	1.766	3.076	8.820	2.894	2.576	0.061	2.477	2.115

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.144	0.106	0.013	0.395
S.D.	0.022	0.001	0.000	0.022
% R.S.D.	15.457	1.241	1.912	5.476

‡

Identity 1: ICSA Identity 2: Quality Control 9:28 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.004	-0.024	0.043	197.202	-0.003	-0.005	0.001
S.D.	0.001	0.000	0.004	0.002	0.546	0.002	0.000	0.000
% R.S.D.	194.763	8.439	17.087	4.325	0.277	49.008	8.578	14.818

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.008	0.007	0.000	96.317	100.337	0.001	0.007	-0.086
S.D.	0.000	0.001	0.001	0.144	0.104	0.003	0.009	0.027
% R.S.D.	4.233	16.993	187.379	0.149	0.103	374.816	121.042	31.233

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.009	0.011	0.003	0.013	0.015	88.144	0.015	181.476
S.D.	0.008	0.007	0.000	0.004	0.010	0.264	0.002	1.069
% R.S.D.	93.098	66.836	11.743	30.167	66.401	0.300	11.069	0.589

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.003	-0.015	0.001	0.001	0.017	-0.063	-0.004
S.D.	0.002	0.001	0.008	0.001	0.001	0.000	0.012	0.000
% R.S.D.	100.184	24.320	54.600	43.288	82.406	0.559	19.731	9.413

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.066	0.001	0.004	-0.040
S.D.	0.015	0.000	0.000	0.010
% R.S.D.	22.007	60.883	9.901	23.975

Identity 1: ICSAB Identity 2: Quality Control 9:30 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.004	0.003	0.008	0.029	196.051	0.483	0.485	0.919
S.D.	0.000	0.000	0.002	0.003	0.184	0.005	0.001	0.003
% R.S.D.	5.864	2.474	23.517	10.145	0.094	1.115	0.255	0.288

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.972	0.954	-0.005	94.733	100.106	0.485	0.013	-0.077
S.D.	0.003	0.004	0.001	0.198	0.089	0.003	0.006	0.015
% R.S.D.	0.281	0.429	30.403	0.209	0.089	0.592	44.661	19.332

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.041	-0.020	0.493	-0.006	0.004	87.689	0.010	184.217
S.D.	0.005	0.002	0.001	0.009	0.011	0.252	0.009	0.701
% R.S.D.	11.396	11.466	0.224	158.383	264.404	0.287	97.971	0.381

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	1.020	0.974	-0.000	0.962	0.014	-0.094	0.477
S.D.	0.000	0.001	0.009	0.000	0.003	0.000	0.005	0.001
% R.S.D.	197.135	0.112	0.875	161.654	0.317	3.158	5.600	0.264

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.073	0.487	0.489	0.011
S.D.	0.015	0.001	0.000	0.009
% R.S.D.	20.904	0.282	0.048	83.642

Identity 1: PREPBLK Identity 2: Quality Control 9:40 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.000	0.007	0.002	0.080	-0.005	-0.006	-0.000
S.D.	0.001	0.000	0.010	0.002	0.003	0.002	0.000	0.000
% R.S.D.	83.464	0.000	135.949	97.293	3.499	34.862	5.020	38.168

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.308	-0.004	0.046	0.035	-0.001	0.005	-0.020
S.D.	0.000	0.003	0.000	0.002	0.001	0.001	0.001	0.014
% R.S.D.	25.178	0.872	0.177	3.994	2.707	63.794	12.748	69.987

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.010	-0.001	0.000	0.002	-0.001	0.040	-0.002	0.222
S.D.	0.003	0.005	0.000	0.011	0.004	0.001	0.010	0.003
% R.S.D.	29.424	395.604	4.811	647.194	649.341	2.376	470.051	1.498

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	-0.002	-0.013	0.000	-0.001	0.001	493.924	-0.002
S.D.	0.001	0.000	0.005	0.000	0.000	0.001	2.261	0.000
% R.S.D.	567.663	10.614	39.546	89.075	29.623	104.294	0.458	22.520

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.033	0.000	0.000	-0.018
S.D.	0.033	0.000	0.000	0.006
% R.S.D.	98.026	1073.964	28.556	31.431

‡

Identity 1: S97T001054 Identity 2: Fusion, .25-10 ml 9:45 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	326.502	0.031	-0.346	3.714	2.905	0.058	-0.156	0.022
S.D.	0.546	0.004	0.317	0.055	0.096	0.079	0.010	0.009
% R.S.D.	0.167	13.093	91.740	1.493	3.293	136.773	6.476	39.374

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.249	80.311	2.269	2.033	0.356	0.148	1.029	88.628
S.D.	0.012	0.279	0.030	0.141	0.016	0.024	0.057	1.606
% R.S.D.	4.933	0.348	1.318	6.917	4.632	16.329	5.507	1.812

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.644	-0.398	0.014	-0.124	0.072	0.763	-0.001	160.974
S.D.	0.299	0.179	0.002	0.127	0.199	0.020	0.221	0.644
% R.S.D.	46.447	44.979	17.143	102.440	277.757	2.628	18650.772	0.400

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.918	1.635	-0.553	0.048	0.047	-0.080	17736.946	-0.024
S.D.	0.042	0.009	0.158	0.006	0.036	0.033	5.538	0.015
% R.S.D.	4.625	0.561	28.594	13.449	77.077	41.051	0.031	63.118

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.483	2.145	0.266	-1.430
S.D.	0.545	0.027	0.005	0.617
% R.S.D.	21.949	1.237	2.060	43.159

Identity 1: S97T001054_D Identity 2: Fusion, .25-10 ml 9:48 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	322.396	0.048	0.121	3.617	2.372	0.464	-0.135	0.039
S.D.	0.388	0.002	0.361	0.097	0.195	0.079	0.086	0.006
% R.S.D.	0.120	3.208	299.158	2.669	8.226	16.927	4.552	16.014

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.287	87.112	2.130	1.862	0.097	0.121	1.065	84.758
S.D.	0.009	0.132	0.129	0.065	0.010	0.107	0.281	0.534
% R.S.D.	3.083	0.152	6.077	3.504	9.847	88.159	26.419	0.630

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.496	-1.665	0.046	-0.426	-0.217	0.442	0.157	158.263
S.D.	0.249	0.128	0.005	0.326	0.206	0.009	0.080	0.575
% R.S.D.	9.984	7.693	10.675	76.675	95.027	1.979	51.071	0.363

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.966	1.696	-0.309	0.053	0.065	0.045	24679.717	0.012
S.D.	0.028	0.018	0.158	0.005	0.030	0.039	88.463	0.013
% R.S.D.	2.945	1.062	50.948	9.709	45.349	85.859	0.358	112.563

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.396	2.297	0.285	0.611
S.D.	0.553	0.049	0.015	0.662
% R.S.D.	23.078	2.128	5.308	108.340

Identity 1: S97T001059 Identity 2: Fusion, .25-10 ml 9:52 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	166.305	0.027	0.846	3.532	1.961	0.270	-0.175	0.028
S.D.	0.512	0.003	0.203	0.090	0.327	0.000	0.027	0.005
% R.S.D.	0.308	9.677	23.980	2.562	16.674	0.053	15.383	16.366

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.284	81.476	0.156	1.063	-0.127	0.019	0.720	40.943
S.D.	0.005	0.572	0.029	0.066	0.011	0.060	0.031	1.044
% R.S.D.	1.687	0.703	18.680	6.203	8.599	322.460	4.277	2.549

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.774	-0.645	0.042	0.743	0.296	0.275	0.198	142.535
S.D.	0.072	0.201	0.003	0.193	0.037	0.016	0.305	0.338
% R.S.D.	4.055	31.239	7.418	25.946	12.505	5.729	153.964	0.237

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.457	0.859	-0.145	0.227	0.057	0.067	23933.828	-0.009
S.D.	0.013	0.018	0.202	0.020	0.034	0.010	26.665	0.013
% R.S.D.	2.857	2.088	138.738	8.704	60.177	15.443	0.111	144.978

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.465	1.235	0.152	2.019
S.D.	1.088	0.005	0.000	0.476
% R.S.D.	74.230	0.435	0.130	23.574

Identity 1: S97T001059_D Identity 2: Fusion, .25-10 ml 9:54 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	186.677	0.016	-0.215	4.020	1.445	0.137	-0.200	-0.007
S.D.	0.262	0.004	0.301	0.123	0.057	0.000	0.016	0.008
% R.S.D.	0.140	25.459	139.627	3.063	3.966	0.325	7.914	113.346

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.266	82.272	0.297	1.181	-0.139	0.047	-0.203	47.855
S.D.	0.010	0.282	0.030	0.106	0.008	0.044	0.362	1.486
% R.S.D.	3.691	0.343	10.151	8.965	5.623	94.026	178.777	3.105

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.236	0.239	0.015	0.387	0.045	0.242	0.132	151.739
S.D.	0.368	0.231	0.008	0.444	0.075	0.009	0.080	1.190
% R.S.D.	156.100	96.778	55.263	114.879	165.430	3.608	60.492	0.784

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.500	0.904	-0.917	0.072	0.072	0.066	23077.603	-0.036
S.D.	0.046	0.034	0.272	0.007	0.023	0.026	119.231	0.013
% R.S.D.	9.162	3.763	29.674	9.258	32.460	38.988	0.517	36.640

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.345	1.264	0.143	-1.442
S.D.	0.358	0.040	0.000	0.732
% R.S.D.	26.647	3.139	0.198	50.748

Identity 1: S97T001060 Identity 2: Fusion, .25-10 ml 10:02 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	329.106	0.035	0.143	4.401	1.862	0.138	-0.163	0.018
S.D.	0.269	0.003	0.251	0.035	0.114	0.000	0.012	0.007
% R.S.D.	0.082	8.882	175.473	0.790	6.133	0.124	7.326	41.951

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.413	111.131	3.466	1.453	0.162	0.055	1.809	85.764
S.D.	0.009	0.139	0.078	0.044	0.003	0.028	0.314	1.399
% R.S.D.	2.094	0.125	2.256	3.015	1.935	49.907	17.379	1.631

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.460	-1.832	0.030	0.206	-0.070	0.197	0.447	121.058
S.D.	0.449	0.248	0.007	0.248	0.127	0.004	0.066	0.273
% R.S.D.	30.767	13.535	23.094	120.348	182.738	2.220	14.719	0.226

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.868	1.641	-0.101	0.063	0.077	-0.018	24886.239	0.055
S.D.	0.041	0.023	0.336	0.011	0.030	0.046	71.998	0.008
% R.S.D.	4.696	1.397	333.120	17.421	38.632	260.827	0.289	13.678

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.569	2.229	0.262	-0.381
S.D.	0.617	0.023	0.005	0.873
% R.S.D.	24.021	1.022	2.071	229.324

‡

Identity 1: S97T001060_D Identity 2: Fusion, .25-10 ml 10:04 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	322.553	0.038	0.249	4.249	1.582	0.365	-0.174	0.023
S.D.	0.453	0.003	0.293	0.104	0.048	0.079	0.005	0.008
% R.S.D.	0.141	6.977	117.924	2.459	3.020	21.559	2.948	34.514

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.272	88.559	3.399	1.541	0.097	0.156	0.888	88.882
S.D.	0.011	0.420	0.079	0.155	0.008	0.066	0.175	0.784
% R.S.D.	4.179	0.474	2.321	10.032	8.019	42.190	19.654	0.882

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.366	-0.909	0.023	0.075	0.191	0.164	0.306	117.364
S.D.	0.170	0.090	0.004	0.300	0.202	0.013	0.094	0.410
% R.S.D.	12.431	9.847	16.079	398.145	105.717	7.995	30.767	0.349

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.879	1.625	0.181	0.069	0.054	0.044	21892.166	-0.019
S.D.	0.015	0.022	0.393	0.003	0.011	0.004	44.240	0.007
% R.S.D.	1.715	1.330	217.345	3.981	20.564	9.110	0.202	38.547

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.069	2.223	0.279	0.768
S.D.	1.242	0.006	0.010	0.670
% R.S.D.	116.163	0.258	3.546	87.292

‡

Identity 1: CCV Identity 2: Quality Control 10:12 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.850	4.797	4.941	4.880	4.775	5.062	5.000	4.637
S.D.	0.009	0.011	0.022	0.006	0.005	0.012	0.011	0.010
% R.S.D.	0.180	0.232	0.449	0.125	0.108	0.231	0.230	0.214

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.135	4.904	4.829	4.906	4.653	4.850	5.001	9.784
S.D.	0.003	0.013	0.015	0.007	0.011	0.010	0.036	0.009
% R.S.D.	0.050	0.258	0.301	0.137	0.226	0.200	0.721	0.088

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.714	4.867	4.764	5.004	4.788	4.815	4.991	4.874
S.D.	0.005	0.005	0.012	0.036	0.005	0.002	0.022	0.003
% R.S.D.	0.106	0.103	0.256	0.720	0.111	0.049	0.434	0.052

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.005	5.005	4.818	4.782	4.932	4.970	5.391	4.923
S.D.	0.010	0.001	0.018	0.006	0.007	0.001	0.076	0.005
% R.S.D.	0.194	0.013	0.376	0.128	0.135	0.022	1.409	0.104

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.755	5.018	4.962	4.980
S.D.	0.010	0.004	0.002	0.036
% R.S.D.	0.203	0.080	0.042	0.717

Identity 1: CCB Identity 2: Quality Control 10:18 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.002	0.012	-0.005	0.014	0.003	-0.002	0.003
S.D.	0.001	0.000	0.008	0.002	0.008	0.002	0.000	0.000
% R.S.D.	124.933	14.525	68.744	45.373	52.951	58.090	4.025	17.060

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.002	-0.003	0.007	0.002	0.003	0.002	-0.096
S.D.	0.000	0.000	0.001	0.001	0.000	0.002	0.010	0.010
% R.S.D.	12.228	15.586	21.246	12.726	19.651	86.826	464.037	10.300

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.039	-0.024	0.003	0.006	-0.001	0.003	0.012	0.018
S.D.	0.003	0.004	0.000	0.012	0.001	0.000	0.003	0.000
% R.S.D.	8.410	15.265	14.788	207.751	52.438	17.966	29.421	0.004

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.005	0.005	-0.003	0.002	0.004	0.006	0.338	-0.004
S.D.	0.001	0.001	0.009	0.000	0.001	0.001	0.019	0.000
% R.S.D.	16.042	11.801	308.942	11.102	36.412	16.593	5.714	12.722

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.040	0.005	0.002	0.031
S.D.	0.003	0.000	0.001	0.011
% R.S.D.	6.574	6.309	36.089	35.691

Identity 1: PREPBLK Identity 2: Quality Control 10:22 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.001	0.011	0.007	0.018	0.007	-0.003	0.001
S.D.	0.000	0.000	0.005	0.001	0.005	0.004	0.000	0.000
% R.S.D.	26.289	11.743	46.097	16.344	26.344	57.557	9.215	14.976

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.003	0.492	-0.004	0.003	-0.004	0.004	0.019	-0.112
S.D.	0.000	0.012	0.002	0.003	0.000	0.000	0.001	0.032
% R.S.D.	12.702	2.352	45.499	82.812	3.061	8.924	6.828	28.766

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.055	-0.021	0.002	0.010	-0.011	0.003	0.006	0.182
S.D.	0.004	0.005	0.000	0.001	0.004	0.000	0.001	0.002
% R.S.D.	6.745	22.076	10.660	13.607	35.697	3.766	17.347	1.200

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.003	0.002	0.000	0.001	0.001	0.005	553.051	-0.003
S.D.	0.001	0.000	0.005	0.000	0.000	0.001	0.802	0.000
% R.S.D.	19.680	7.120	1037.767	90.575	14.511	18.467	0.145	6.509

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.047	0.006	0.001	0.046
S.D.	0.012	0.001	0.000	0.006
% R.S.D.	26.016	10.371	67.846	12.654

‡

Identity 1: S97T001055 Identity 2: Fusion, .25-10 ml 10:26 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	239.327	0.040	0.207	3.606	1.073	0.116	-0.192	0.017
S.D.	0.300	0.007	0.567	0.125	0.019	0.079	0.014	0.015
% R.S.D.	0.125	16.777	274.124	3.462	1.782	67.553	7.374	88.245

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.211	59.890	2.107	0.804	-0.230	0.114	0.398	72.340
S.D.	0.012	0.265	0.060	0.085	0.003	0.055	0.090	0.865
% R.S.D.	5.775	0.442	2.832	10.511	1.358	48.509	22.549	1.195

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.377	-0.273	0.025	-0.112	0.009	0.106	0.223	229.009
S.D.	0.326	0.293	0.009	0.231	0.126	0.009	0.138	0.801
% R.S.D.	86.575	107.525	36.370	206.610	1453.543	8.246	61.952	0.350

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.705	1.177	-1.047	0.118	0.062	0.255	19730.030	-0.017
S.D.	0.007	0.026	0.443	0.021	0.006	0.033	69.718	0.007
% R.S.D.	0.926	2.190	42.306	17.713	10.490	12.749	0.353	43.789

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.552	1.705	0.210	-0.618
S.D.	1.378	0.051	0.006	0.869
% R.S.D.	249.687	3.009	2.685	140.476

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Identity 1: S97T001055_D Identity 2: Fusion, .25-10 ml 10:29 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	245.205	0.029	0.584	4.504	1.820	0.027	-0.205	0.002
S.D.	0.606	0.002	0.174	0.106	0.120	0.000	0.008	0.006
% R.S.D.	0.247	5.249	29.853	2.352	6.575	1.642	3.693	300.475

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.249	79.883	1.968	0.838	-0.303	0.022	0.418	69.450
S.D.	0.011	0.629	0.030	0.096	0.002	0.061	0.200	0.921
% R.S.D.	4.492	0.788	1.520	11.509	0.515	279.859	47.755	1.326

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.079	-0.686	0.012	-0.344	0.164	0.098	0.124	236.605
S.D.	0.427	0.159	0.004	0.585	0.090	0.004	0.163	2.515
% R.S.D.	543.043	23.227	36.638	170.010	54.761	4.442	131.404	1.063

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.607	1.217	-0.969	0.039	0.017	0.149	23045.287	-0.030
S.D.	0.040	0.023	0.248	0.007	0.017	0.017	149.431	0.007
% R.S.D.	6.541	1.866	25.644	18.133	102.581	11.334	0.648	25.246

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.345	1.713	0.197	-0.491
S.D.	0.328	0.040	0.000	0.771
% R.S.D.	14.009	2.356	0.088	156.900

‡

Identity 1: S97T001056 Identity 2: Fusion, .25-10 ml 10:32 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	244.404	0.047	0.272	3.830	2.436	0.396	-0.144	0.056
S.D.	0.625	0.007	0.130	0.113	0.133	0.079	0.011	0.015
% R.S.D.	0.256	14.245	47.738	2.941	5.443	19.899	7.360	25.964

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.218	71.978	0.665	1.298	-0.332	0.145	0.653	66.224
S.D.	0.011	0.445	0.031	0.102	0.003	0.066	0.330	2.034
% R.S.D.	4.903	0.618	4.605	7.846	0.815	45.372	50.503	3.072

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.151	-0.880	0.053	-0.201	0.007	0.088	0.149	266.303
S.D.	0.596	0.509	0.012	0.253	0.312	0.000	0.277	2.236
% R.S.D.	27.725	57.866	23.374	125.977	4730.697	0.000	186.119	0.840

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.674	1.248	-0.366	0.044	0.028	0.111	22481.563	-0.025
S.D.	0.020	0.030	0.197	0.013	0.017	0.026	186.721	0.000
% R.S.D.	2.957	2.411	53.905	30.546	61.955	23.210	0.831	0.986

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.983	1.801	0.203	0.007
S.D.	0.850	0.011	0.006	1.233
% R.S.D.	28.512	0.635	2.873	18726.747

‡

Identity 1: S97T001056_D Identity 2: Fusion, .25-10 ml 10:35 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	244.881	0.042	0.072	3.170	1.707	0.165	-0.200	0.010
S.D.	0.431	0.004	0.539	0.195	0.057	0.000	0.005	0.007
% R.S.D.	0.176	9.750	751.418	6.148	3.364	0.102	2.521	75.521

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.312	101.112	0.562	1.573	-0.287	0.231	0.539	66.963
S.D.	0.012	0.774	0.060	0.068	0.002	0.031	0.093	1.246
% R.S.D.	3.998	0.766	10.602	4.325	0.545	13.378	17.337	1.860

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.052	-0.576	0.032	0.279	0.239	0.093	-0.058	250.546
S.D.	0.321	0.183	0.004	0.300	0.114	0.004	0.211	0.694
% R.S.D.	30.473	31.866	13.521	107.690	47.839	4.686	361.634	0.277

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.689	1.280	-0.427	0.073	0.069	0.167	26570.976	0.032
S.D.	0.008	0.006	0.094	0.010	0.017	0.009	58.780	0.020
% R.S.D.	1.093	0.458	22.143	14.334	24.895	5.108	0.221	63.349

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.638	1.801	0.222	0.377
S.D.	0.939	0.039	0.012	0.707
% R.S.D.	147.142	2.191	5.209	187.624

‡

Identity 1: S97T001061 Identity 2: Fusion, .25-10 ml 10:41 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	265.363	0.032	0.440	4.580	1.371	0.151	-0.200	0.007
S.D.	0.705	0.004	0.337	0.040	0.189	0.000	0.022	0.006
% R.S.D.	0.266	12.729	76.671	0.863	13.794	0.179	11.213	89.242

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.422	133.013	1.902	1.131	-0.284	0.122	0.385	73.345
S.D.	0.006	0.454	0.059	0.037	0.002	0.075	0.154	1.133
% R.S.D.	1.513	0.341	3.121	3.281	0.550	61.067	40.089	1.545

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.973	-0.153	0.022	0.227	0.054	0.083	0.580	184.506
S.D.	0.314	0.239	0.005	0.053	0.184	0.009	0.125	0.845
% R.S.D.	32.213	155.681	22.044	23.509	339.332	10.500	21.593	0.458

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.822	1.328	0.196	0.097	0.043	0.123	27422.426	0.092
S.D.	0.053	0.014	0.349	0.009	0.011	0.061	32.864	0.013
% R.S.D.	6.497	1.024	177.609	9.375	26.212	49.463	0.120	14.166

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.034	1.855	0.224	-0.925
S.D.	1.180	0.031	0.006	0.607
% R.S.D.	23.436	1.646	2.621	65.576

Identity 1: S97T001061_D Identity 2: Fusion, .25-10 ml 10:44 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	251.950	0.022	0.707	4.150	1.105	0.014	-0.202	-0.001
S.D.	0.170	0.003	0.515	0.093	0.179	0.000	0.000	0.006
% R.S.D.	0.068	12.000	72.881	2.238	16.213	2.547	0.198	598.826

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.261	89.860	1.850	0.758	-0.134	0.022	0.533	73.704
S.D.	0.004	0.900	0.029	0.137	0.000	0.050	0.176	0.926
% R.S.D.	1.686	1.002	1.580	18.037	0.000	223.256	32.946	1.256

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.079	-0.325	0.012	0.110	0.188	0.098	-0.009	178.697
S.D.	0.098	0.145	0.003	0.173	0.143	0.004	0.175	1.132
% R.S.D.	124.698	44.614	24.354	157.695	76.048	4.439	2052.384	0.633

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.735	1.230	-0.614	0.077	0.047	0.043	24970.868	0.087
S.D.	0.010	0.022	0.476	0.010	0.036	0.031	94.740	0.020
% R.S.D.	1.356	1.823	77.556	13.591	77.224	71.673	0.379	22.926

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.379	1.682	0.201	-0.352
S.D.	0.704	0.044	0.006	0.474
% R.S.D.	51.051	2.645	2.862	134.761

Identity 1: ICSA Identity 2: Quality Control 1:53 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	-0.024	0.030	199.853	-0.001	-0.005	0.000
S.D.	0.000	0.000	0.003	0.001	0.734	0.004	0.000	0.000
% R.S.D.	23354.306	0.000	10.947	4.315	0.367	316.915	3.652	33.873

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.002	-0.006	94.807	98.408	-0.000	0.026	-0.099
S.D.	0.000	0.002	0.001	0.037	0.144	0.003	0.007	0.007
% R.S.D.	2.403	79.572	11.917	0.039	0.146	585.406	25.595	7.017

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.049	0.002	0.002	0.017	0.016	88.997	0.020	179.209
S.D.	0.006	0.002	0.000	0.014	0.001	0.314	0.005	0.451
% R.S.D.	11.657	80.486	2.122	80.713	4.834	0.353	25.229	0.252

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.009	0.008	-0.000	0.001	0.014	0.110	-0.005
S.D.	0.001	0.001	0.013	0.000	0.001	0.000	0.010	0.000
% R.S.D.	53.192	6.118	165.981	80.508	110.880	0.993	9.230	6.304

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.097	0.003	0.003	0.022
S.D.	0.032	0.001	0.000	0.002
% R.S.D.	33.314	25.830	5.095	9.690

‡

Identity 1: ICSAB Identity 2: Quality Control 1:56 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.006	0.003	-0.021	0.015	196.210	0.473	0.471	0.868
S.D.	0.001	0.000	0.008	0.004	0.615	0.002	0.001	0.006
% R.S.D.	14.602	1.420	37.962	29.799	0.313	0.331	0.299	0.713

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.967	0.947	-0.007	95.171	98.767	0.479	0.017	-0.179
S.D.	0.002	0.006	0.003	0.194	0.302	0.004	0.011	0.028
% R.S.D.	0.208	0.649	44.196	0.204	0.306	0.782	62.456	15.837

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.069	-0.025	0.481	0.023	0.003	87.689	0.006	176.291
S.D.	0.011	0.007	0.001	0.005	0.005	0.264	0.009	1.254
% R.S.D.	16.075	26.064	0.282	23.516	181.075	0.301	144.055	0.711

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.001	1.012	0.965	-0.001	0.951	0.014	0.177	0.473
S.D.	0.001	0.002	0.006	0.000	0.002	0.001	0.014	0.002
% R.S.D.	157.743	0.188	0.630	19.172	0.207	6.583	8.145	0.332

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.058	0.486	0.484	0.065
S.D.	0.016	0.002	0.003	0.026
% R.S.D.	28.428	0.385	0.686	39.342

Identity 1: CCV Identity 2: Quality Control 1:59 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.841	4.761	4.909	4.853	4.928	5.018	4.942	4.531
S.D.	0.009	0.011	0.015	0.006	0.024	0.019	0.007	0.006
% R.S.D.	0.190	0.233	0.307	0.114	0.478	0.387	0.141	0.142

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.157	4.890	4.827	4.959	4.650	4.822	5.089	9.469
S.D.	0.007	0.006	0.008	0.005	0.013	0.014	0.008	0.012
% R.S.D.	0.132	0.120	0.158	0.107	0.282	0.284	0.152	0.131

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.686	4.802	4.705	4.971	4.811	4.846	4.971	4.882
S.D.	0.016	0.006	0.011	0.030	0.024	0.017	0.010	0.012
% R.S.D.	0.331	0.124	0.243	0.606	0.507	0.353	0.207	0.249

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.932	5.056	4.865	4.701	4.912	4.998	5.103	4.925
S.D.	0.011	0.001	0.026	0.009	0.012	0.010	0.019	0.004
% R.S.D.	0.229	0.025	0.527	0.200	0.253	0.203	0.379	0.082

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.694	5.019	4.970	4.993
S.D.	0.053	0.008	0.007	0.027
% R.S.D.	1.119	0.167	0.135	0.531

Identity 1: CCB Identity 2: Quality Control 2:05 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.001	0.004	0.002	0.018	-0.001	-0.005	0.001
S.D.	0.002	0.000	0.004	0.004	0.007	0.000	0.001	0.000
% R.S.D.	155.270	19.094	98.399	242.910	40.369	1.130	14.877	67.777

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.002	-0.003	0.008	-0.002	-0.002	0.012	-0.027
S.D.	0.000	0.001	0.001	0.005	0.000	0.001	0.011	0.062
% R.S.D.	18.251	30.872	22.106	59.785	6.063	43.851	94.239	227.383

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.023	-0.001	0.001	0.001	-0.006	0.002	0.003	0.013
S.D.	0.018	0.016	0.000	0.009	0.005	0.000	0.007	0.005
% R.S.D.	77.834	2134.775	33.607	1456.398	80.811	0.002	236.162	34.694

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.004	0.001	-0.003	0.001	-0.000	0.004	0.189	-0.005
S.D.	0.001	0.001	0.016	0.001	0.001	0.001	0.008	0.000
% R.S.D.	25.308	60.356	642.816	113.025	20256.215	16.014	4.305	3.320

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.071	0.002	0.000	0.026
S.D.	0.016	0.001	0.000	0.029
% R.S.D.	23.031	31.818	26.724	113.265

DK Ldd
06-11-97

LABCORE Data Entry Template for Worklist# 18620

Analyst: JK Soto **Instrument:** ICP01 **Book#** 64B48B

Method: LA-505-151/~~161~~ Rev/Mod E-1

JK 6-11-97

Worklist Comment: ICP AW-103 (FUSION)

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	PREPBLKARL				@ICP-F01	SOLID		
7	SERDIL	S97T000888	0	F	@ICP-F01	SOLID		
8	SAMPLE	S97T000888	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
9	DUP	S97T000888	0	F	@ICP-F01	SOLID		
10	SPK (1ppm) Sample & Spike (10ppm)	S97T000888	0	F	@ICP-F01	SOLID		
		JK 6-11-97						
11	CCV				@ICP-QC	QC		
12	CCB				@ICP-QC	QC		
13	SAMPLE	S97T000889	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18620

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
14	DUP	S97T000889	0	F	@ICP-F01	SOLID		
15	SAMPLE	S97T000890	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
16	DUP	S97T000890	0	F	@ICP-F01	SOLID		
17	PREPBLKARL				@ICP-F01	SOLID		
18	SAMPLE	S97T000994	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
19	DUP	S97T000994	0	F	@ICP-F01	SOLID		
20	SAMPLE	S97T000995	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
21	DUP	S97T000995	0	F	@ICP-F01	SOLID		
22	CCV				@ICP-QC	QC		
23	CCB				@ICP-QC	QC		
24	SERDIL	S97T000998	0	F	@ICP-F01	SOLID		
25	SAMPLE	S97T000998	0	F	@ICP-F01	SOLID	97000332	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 ,						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18620

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 ,			
					MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,			
					S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 ,			
					TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
26	DUP	S97T000998	0	F		@ICP-F01	SOLID	
27	SPK (1 ppm) sample + spike QX (10 ppm)	S97T000998	0	F	DF 6-11-97	@ICP-F01	SOLID	
28	ICSA					@ICP-QC	QC	
29	ICSAB					@ICP-QC	QC	
30	CCV					@ICP-QC	QC	
31	CCB					@ICP-QC	QC	

Final page for worklist # 18620

Reviewed & Validated by:

DK 06-11-97

Sarah M. Barney 6/16/97

Analyst Signature	Date		Analyst Signature	Date
PrepBlkQRL	,25-10	DF 1	PrepBlkQRL	,25-10 , DF 1
S97T000888_L	,25-10-28	205	S97T000994	,25-10 41
S97T000888	,25-10	41	S97T000994_D	,25-10 41
S97T000888_D	,25-10	41	S97T000995	,25-10 41
S97T000888_Q	,25-10	41	S97T000995_D	,25-10 41
S97T000888_X	,25-10-1-9	410	S97T000998_L	,25-10-28 ~~410~~ 205 DK 6-11-97
S97T000888_QX	,25-10-1-9	410	S97T000998	,25-10 41
S97T000889	,25-10	41	S97T000998_D	,25-10 41
S97T000889_D	,25-10	41	S97T000998_Q	,25-10 41
S97T000890	,25-10	41	S97T000998_X	,25-10-1-9 410
S97T000890_D	,25-10	41	S97T000998_QX	,25-10-1-9 410

Post Spike (1 ppm-SSTS)
.25 mL sample
2.05 mL SSTS
7.25 mL HNO_3

Post Spike (10 ppm)
.25-10-1-9
1 mL sample
1 mL each KWHC 284 35
7 mL HNO_3

Data Entry Comments:

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

File #: 970611C.DAT

Identity 1: ICV Identity 2: Quality Control 9:16 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.856	4.809	4.946	4.847	4.803	4.952	5.125	4.796
S.D.	0.004	0.013	0.012	0.003	0.008	0.005	0.010	0.024
% R.S.D.	0.086	0.261	0.233	0.066	0.175	0.103	0.193	0.498

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.052	4.871	4.884	4.907	4.767	4.780	5.186	9.879
S.D.	0.010	0.006	0.015	0.013	0.002	0.005	0.032	0.012
% R.S.D.	0.188	0.114	0.316	0.257	0.049	0.107	0.609	0.117

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.665	4.965	4.831	4.859	4.691	4.744	4.945	4.986
S.D.	0.015	0.004	0.012	0.017	0.017	0.001	0.040	0.021
% R.S.D.	0.325	0.071	0.254	0.342	0.361	0.030	0.811	0.425

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.906	5.023	4.836	4.795	4.884	5.043	4.941	4.895
S.D.	0.009	0.006	0.046	0.006	0.004	0.003	0.021	0.006
% R.S.D.	0.190	0.122	0.960	0.132	0.080	0.065	0.417	0.113

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.733	5.004	5.016	5.042
S.D.	0.033	0.005	0.003	0.034
% R.S.D.	0.696	0.104	0.065	0.684

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 720 TO 724.

1

DK Sato
06-11-97
GW-103

S97T0C1054	S97T000888
S97T0C1059	S97T000889
S97T0C1060	S97T000890
S97T0C1055	S97T000994
S97T00/056	S97T000995
S97T00/061	S97T000998

Post Spike:

S97T000998 $Na = \frac{\left(\frac{3938.25}{410}\right) - \left(\frac{172.472}{410}\right)}{10} \times 100 = 91.8\%$

$Zr = \frac{\left(\frac{4268.243}{410}\right) - \left(\frac{260.683}{410}\right)}{10} \times 100 = 97.7\%$

Identity 1: ICB Identity 2: Quality Control 9:22 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.004	0.022	-0.006	0.019	0.008	-0.001	0.004
S.D.	0.001	0.000	0.011	0.004	0.005	0.002	0.000	0.000
% R.S.D.	121.996	8.118	49.795	65.619	27.626	24.858	31.764	7.178

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.004	0.001	-0.000	0.005	0.013	0.006	0.015	-0.135
S.D.	0.000	0.002	0.002	0.002	0.001	0.001	0.010	0.038
% R.S.D.	7.512	171.301	400.676	40.930	8.313	10.098	64.447	27.734

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.038	-0.029	0.004	0.001	-0.002	0.015	0.012	0.016
S.D.	0.007	0.007	0.000	0.008	0.006	0.001	0.006	0.000
% R.S.D.	19.519	24.511	5.861	1143.985	233.895	6.855	45.911	0.001

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.008	0.005	-0.009	0.003	0.005	0.009	0.114	-0.001
S.D.	0.001	0.000	0.002	0.000	0.001	0.001	0.012	0.001
% R.S.D.	8.192	7.598	26.041	8.640	18.936	6.201	10.961	44.624

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.025	0.007	0.004	0.011
S.D.	0.022	0.001	0.000	0.017
% R.S.D.	85.440	9.385	10.284	151.065

Identity 1: LLS Identity 2: Quality Control 9:25 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.023	0.022	0.204	0.137	0.111	0.042	0.016	0.022
S.D.	0.001	0.000	0.014	0.001	0.003	0.000	0.001	0.000
% R.S.D.	5.260	1.469	6.791	0.719	2.423	0.025	3.992	1.501

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.024	0.044	0.097	0.107	0.202	0.022	0.202	0.450
S.D.	0.000	0.002	0.001	0.001	0.001	0.001	0.007	0.051
% R.S.D.	1.046	3.735	1.504	0.714	0.530	2.841	3.676	11.221

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.208	0.200	0.100	0.386	0.189	0.219	0.210	0.202
S.D.	0.010	0.008	0.000	0.007	0.007	0.001	0.003	0.001
% R.S.D.	4.784	3.895	0.355	1.866	3.959	0.592	1.325	0.623

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.104	0.027	0.207	0.022	0.012	0.111	0.624	0.017
S.D.	0.002	0.001	0.018	0.001	0.000	0.000	0.015	0.000
% R.S.D.	1.766	3.076	8.820	2.894	2.576	0.061	2.477	2.115

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.144	0.106	0.013	0.395
S.D.	0.022	0.001	0.000	0.022
% R.S.D.	15.457	1.241	1.912	5.476

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Identity 1: ICSA Identity 2: Quality Control 9:28 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.004	-0.024	0.043	197.202	-0.003	-0.005	0.001
S.D.	0.001	0.000	0.004	0.002	0.546	0.002	0.000	0.000
% R.S.D.	194.763	8.439	17.087	4.325	0.277	49.008	8.578	14.818

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.008	0.007	0.000	96.317	100.337	0.001	0.007	-0.086
S.D.	0.000	0.001	0.001	0.144	0.104	0.003	0.009	0.027
% R.S.D.	4.233	16.993	187.379	0.149	0.103	374.816	121.042	31.233

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.009	0.011	0.003	0.013	0.015	88.144	0.015	181.476
S.D.	0.008	0.007	0.000	0.004	0.010	0.264	0.002	1.069
% R.S.D.	93.098	66.836	11.743	30.167	66.401	0.300	11.069	0.589

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.003	-0.015	0.001	0.001	0.017	-0.063	-0.004
S.D.	0.002	0.001	0.008	0.001	0.001	0.000	0.012	0.000
% R.S.D.	100.184	24.320	54.600	43.288	82.406	0.559	19.731	9.413

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.066	0.001	0.004	-0.040
S.D.	0.015	0.000	0.000	0.010
% R.S.D.	22.007	60.883	9.901	23.975

Identity 1: ICSAB Identity 2: Quality Control 9:30 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.004	0.003	0.008	0.029	196.051	0.483	0.485	0.919
S.D.	0.000	0.000	0.002	0.003	0.184	0.005	0.001	0.003
% R.S.D.	5.864	2.474	23.517	10.145	0.094	1.115	0.255	0.288

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.972	0.954	-0.005	94.733	100.106	0.485	0.013	-0.077
S.D.	0.003	0.004	0.001	0.198	0.089	0.003	0.006	0.015
% R.S.D.	0.281	0.429	30.403	0.209	0.089	0.592	44.661	19.332

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.041	-0.020	0.493	-0.006	0.004	87.689	0.010	184.217
S.D.	0.005	0.002	0.001	0.009	0.011	0.252	0.009	0.701
% R.S.D.	11.396	11.466	0.224	158.383	264.404	0.287	97.971	0.381

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	1.020	0.974	-0.000	0.962	0.014	-0.094	0.477
S.D.	0.000	0.001	0.009	0.000	0.003	0.000	0.005	0.001
% R.S.D.	197.135	0.112	0.875	161.654	0.317	3.158	5.600	0.264

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.073	0.487	0.489	0.011
S.D.	0.015	0.001	0.000	0.009
% R.S.D.	20.904	0.282	0.048	83.642

Identity 1: PREPBLK Identity 2: Quality Control 11:56 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.001	0.011	0.007	0.018	-0.001	-0.004	0.001
S.D.	0.001	0.000	0.005	0.004	0.007	0.000	0.000	0.000
% R.S.D.	96.913	10.909	46.731	51.981	37.403	0.585	5.634	31.550

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.045	-0.005	0.005	-0.004	-0.000	0.011	-0.038
S.D.	0.000	0.001	0.001	0.003	0.000	0.002	0.002	0.022
% R.S.D.	13.629	2.571	31.175	48.879	0.912	464.325	22.013	56.972

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.019	-0.011	0.001	-0.001	-0.007	0.003	0.014	0.097
S.D.	0.012	0.006	0.000	0.009	0.004	0.000	0.003	0.003
% R.S.D.	63.722	55.284	10.462	1649.541	57.720	0.001	19.935	3.419

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.001	0.006	0.001	0.003	0.004	301.358	-0.004
S.D.	0.001	0.001	0.013	0.000	0.001	0.000	1.810	0.000
% R.S.D.	58.819	67.946	211.651	13.231	27.974	10.994	0.601	4.761

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.062	0.002	0.001	0.016
S.D.	0.018	0.001	0.000	0.025
% R.S.D.	28.833	46.045	17.547	156.944

Identity 1: S97T000888_L Identity 2: Fusion,.25-10-2-8ml 11:59 AM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 205.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	280.321	0.129	1.050	4.235	4.183	0.291	-1.031	0.089
S.D.	0.483	0.015	1.419	0.159	0.975	0.392	0.052	0.037
% R.S.D.	0.172	11.945	135.155	3.761	23.304	134.759	5.034	41.946

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.159	51.086	0.365	1.452	-0.925	0.085	-0.600	47.168
S.D.	0.012	0.513	0.149	0.246	0.021	0.288	2.949	3.830
% R.S.D.	7.309	1.003	40.776	16.951	2.235	338.459	491.970	8.121

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.748	-4.195	0.130	1.020	-0.941	0.429	2.402	217.302
S.D.	0.136	0.868	0.012	1.423	0.743	0.022	0.437	1.182
% R.S.D.	4.948	20.692	9.462	139.554	79.004	5.091	18.185	0.544

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.022	1.508	-3.418	0.046	0.244	0.295	13611.654	-1.049
S.D.	0.050	0.051	1.527	0.029	0.141	0.132	23.117	0.038
% R.S.D.	229.118	3.408	44.668	62.990	57.819	44.752	0.170	3.581

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-4.310	2.363	0.386	-2.209
S.D.	4.108	0.167	0.099	2.713
% R.S.D.	95.310	7.085	25.662	122.799

Identity 1: S97T000888 Identity 2: Fusion,.25-10 ml 12:03 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	280.613	0.046	0.333	3.651	1.967	0.336	-0.158	0.034
S.D.	0.563	0.005	0.261	0.137	0.199	0.157	0.023	0.007
% R.S.D.	0.201	9.993	78.603	3.748	10.141	46.719	14.553	20.378

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.187	51.087	0.423	1.266	0.547	0.251	0.525	62.991
S.D.	0.010	0.138	0.030	0.100	0.012	0.013	0.246	0.961
% R.S.D.	5.284	0.269	7.016	7.915	2.233	5.236	46.896	1.525

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.135	-1.115	0.045	-0.222	-0.302	0.104	0.364	210.868
S.D.	0.546	0.253	0.005	0.234	0.082	0.008	0.029	1.775
% R.S.D.	25.565	22.680	10.635	105.327	27.290	7.315	7.888	0.842

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.737	1.437	0.627	0.068	0.087	0.112	12787.018	-0.108
S.D.	0.028	0.025	0.369	0.009	0.019	0.039	122.890	0.015
% R.S.D.	3.857	1.736	58.839	13.677	22.192	34.508	0.961	13.839

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	3.155	2.075	0.258	0.785
S.D.	0.621	0.029	0.011	1.221
% R.S.D.	19.672	1.421	4.413	155.525

Identity 1: S97T000888_D Identity 2: Fusion,.25-10 ml 12:05 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	275.473	0.035	-0.074	3.556	1.524	0.289	-0.183	0.031
S.D.	0.331	0.002	0.139	0.055	0.136	0.000	0.018	0.007
% R.S.D.	0.120	4.441	187.028	1.546	8.936	0.084	10.004	24.356

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.199	63.896	0.353	1.485	-0.158	0.126	0.746	58.318
S.D.	0.013	0.212	0.107	0.060	0.002	0.057	0.091	0.764
% R.S.D.	6.386	0.331	30.363	4.006	0.990	44.911	12.229	1.310

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.633	-0.821	0.040	0.461	-0.104	0.091	0.281	206.996
S.D.	0.347	0.246	0.004	0.093	0.034	0.004	0.223	1.182
% R.S.D.	21.260	29.950	11.135	20.268	32.600	4.812	79.184	0.571

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.768	1.384	-0.478	0.041	0.031	0.218	12569.839	-0.094
S.D.	0.008	0.010	0.157	0.000	0.040	0.021	75.839	0.015
% R.S.D.	0.982	0.730	32.892	0.943	129.790	9.517	0.603	16.109

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.948	2.055	0.254	1.206
S.D.	1.038	0.021	0.000	0.399
% R.S.D.	35.219	1.043	0.057	33.096

Identity 1: S97T000888_A Identity 2: Fusion,.25-10 ml 12:08 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	316.025	39.158	40.713	44.636	41.282	42.181	40.105	35.572
S.D.	0.586	0.100	0.924	0.259	0.087	0.078	0.102	0.054
% R.S.D.	0.186	0.256	2.269	0.580	0.212	0.185	0.253	0.152

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	42.508	90.882	39.899	41.050	36.918	40.185	39.925	142.612
S.D.	0.062	0.196	0.178	0.339	0.093	0.178	0.814	1.084
% R.S.D.	0.146	0.215	0.445	0.826	0.251	0.442	2.039	0.760

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	39.248	38.749	38.352	40.224	39.202	39.991	41.035	243.623
S.D.	0.334	0.130	0.114	0.692	0.607	0.079	0.287	0.410
% R.S.D.	0.851	0.337	0.297	1.719	1.550	0.198	0.698	0.168

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	40.397	34.926	40.330	38.990	40.228	39.933	12536.659	40.451
S.D.	0.081	0.122	0.638	0.097	0.175	0.100	33.979	0.054
% R.S.D.	0.202	0.349	1.581	0.248	0.436	0.252	0.271	0.134

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	38.378	43.387	39.613	39.815
S.D.	0.587	0.085	0.111	0.548
% R.S.D.	1.531	0.196	0.279	1.375

Identity 1: S97T000888_X Identity 2: Fusion,.25-10-1-9ml 12:12 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 410.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	288.499	0.506	0.547	8.563	7.652	0.529	-1.913	0.554
S.D.	1.523	0.077	1.759	0.814	3.177	0.788	0.152	0.107
% R.S.D.	0.528	15.193	321.735	9.510	41.527	149.095	7.949	19.315

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.635	53.001	0.381	2.655	-2.239	-0.640	4.467	81.823
S.D.	0.122	0.859	0.296	0.222	0.072	0.682	0.257	9.343
% R.S.D.	19.295	1.620	77.650	8.381	3.200	106.615	5.748	11.418

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	6.751	-2.772	0.588	2.986	-2.675	1.111	2.733	225.792
S.D.	3.136	1.557	0.063	1.020	1.806	0.076	2.769	1.365
% R.S.D.	46.453	56.152	10.654	34.156	67.505	6.816	101.302	0.604

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.131	2.069	-5.775	0.562	1.310	1.194	13904.016	-1.921
S.D.	0.173	0.248	2.500	0.225	0.225	0.150	49.704	0.076
% R.S.D.	132.242	12.011	43.290	39.945	17.146	12.553	0.357	3.931

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	12.241	3.349	0.736	1.215
S.D.	9.315	0.279	0.152	11.541
% R.S.D.	76.095	8.321	20.630	949.691

Identity 1: S97T000888_AX Identity 2: Fusion,.25-10-1-9ml 12:16 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 410.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4262.082	3955.967	4036.662	4147.294	4000.449	4030.724	3808.162	3758.039
S.D.	2.998	4.213	5.060	11.252	1.530	5.663	3.616	7.797
% R.S.D.	0.070	0.106	0.125	0.271	0.038	0.141	0.095	0.207

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4015.643	4020.934	3959.192	3952.953	3896.673	3929.001	4009.531	7920.253
S.D.	7.068	5.105	5.376	12.692	3.453	10.255	4.927	20.144
% R.S.D.	0.176	0.127	0.136	0.321	0.089	0.261	0.123	0.254

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4018.190	3949.097	3907.529	4028.210	3890.742	4000.924	3944.459	4035.986
S.D.	7.147	5.643	5.424	18.175	4.401	8.416	21.376	4.221
% R.S.D.	0.178	0.143	0.139	0.451	0.113	0.210	0.542	0.105

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4015.717	2653.180	4036.486	3972.017	3971.021	3984.710	17389.493	3972.014
S.D.	5.775	14.739	18.703	3.868	7.797	7.140	14.973	7.054
% R.S.D.	0.144	0.556	0.463	0.097	0.196	0.179	0.086	0.178

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	3978.453	4002.795	3922.806	4153.495
S.D.	6.783	7.554	7.139	7.411
% R.S.D.	0.171	0.189	0.182	0.178

Identity 1: CCV Identity 2: Quality Control 12:23 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.875	4.816	4.991	4.951	4.887	5.156	4.946	4.559
S.D.	0.012	0.010	0.028	0.003	0.015	0.019	0.015	0.017
% R.S.D.	0.238	0.217	0.567	0.058	0.309	0.359	0.311	0.366

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.257	4.964	4.825	4.936	4.627	4.915	4.957	9.614
S.D.	0.004	0.012	0.018	0.019	0.018	0.005	0.023	0.020
% R.S.D.	0.076	0.241	0.364	0.394	0.380	0.103	0.462	0.204

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.773	4.803	4.739	5.116	4.916	4.921	5.057	4.825
S.D.	0.007	0.014	0.013	0.027	0.038	0.008	0.017	0.018
% R.S.D.	0.145	0.282	0.274	0.537	0.773	0.159	0.340	0.370

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.085	5.104	4.906	4.785	4.992	4.988	5.072	4.977
S.D.	0.010	0.004	0.025	0.008	0.006	0.024	0.025	0.012
% R.S.D.	0.201	0.073	0.510	0.174	0.123	0.477	0.490	0.234

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.799	5.065	4.963	4.935
S.D.	0.037	0.009	0.006	0.020
% R.S.D.	0.774	0.173	0.124	0.398

Identity 1: CCB Identity 2: Quality Control 12:33 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.001	-0.004	-0.010	0.009	0.007	-0.004	0.001
S.D.	0.001	0.000	0.007	0.001	0.003	0.002	0.000	0.000
% R.S.D.	71.218	19.251	159.560	5.940	31.449	28.960	10.019	22.174

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.001	-0.005	0.006	0.001	0.003	0.010	-0.143
S.D.	0.000	0.002	0.001	0.002	0.000	0.001	0.005	0.004
% R.S.D.	3.878	172.374	15.563	29.890	41.633	17.795	51.594	2.510

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.034	-0.027	0.001	-0.004	-0.010	0.001	0.003	0.010
S.D.	0.004	0.001	0.000	0.004	0.002	0.000	0.007	0.003
% R.S.D.	10.297	3.736	15.356	79.906	20.703	23.062	242.836	32.736

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.006	-0.003	0.000	0.001	0.005	0.210	-0.005
S.D.	0.001	0.001	0.000	0.000	0.001	0.000	0.008	0.000
% R.S.D.	33.528	13.876	0.152	94.713	109.662	5.666	3.681	3.467

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.079	0.003	0.001	0.039
S.D.	0.023	0.000	0.000	0.016
% R.S.D.	29.397	12.499	22.009	41.352

Identity 1: S97T000889 Identity 2: Fusion,.25-10 ml 12:37 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	338.347	0.061	-0.123	3.761	1.547	0.362	-0.151	0.042
S.D.	1.640	0.009	0.401	0.150	0.124	0.079	0.020	0.015
% R.S.D.	0.485	13.976	325.703	3.984	8.017	21.781	12.906	36.656

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.263	75.490	3.708	1.402	-0.232	0.165	1.355	88.746
S.D.	0.016	0.286	0.107	0.052	0.005	0.070	0.082	1.614
% R.S.D.	5.957	0.379	2.894	3.710	2.022	42.415	6.037	1.819

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.386	-0.399	0.046	0.544	-0.140	0.098	0.281	104.049
S.D.	0.670	0.364	0.010	0.472	0.150	0.004	0.094	1.031
% R.S.D.	28.073	91.324	22.107	86.713	107.063	4.442	33.473	0.991

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.966	1.790	0.001	0.083	0.133	0.198	12419.090	-0.036
S.D.	0.052	0.048	0.269	0.016	0.019	0.015	73.383	0.008
% R.S.D.	5.363	2.674	30544.191	18.939	14.625	7.627	0.591	20.809

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	3.672	2.546	0.312	1.118
S.D.	0.362	0.042	0.015	1.461
% R.S.D.	9.859	1.664	4.914	130.644

Identity 1: S97T000889_D Identity 2: Fusion,.25-10 ml 12:40 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	349.512	0.034	0.014	3.756	1.104	0.050	-0.242	0.007
S.D.	0.782	0.002	0.354	0.107	0.151	0.078	0.015	0.007
% R.S.D.	0.224	4.558	2513.178	2.846	13.681	156.659	6.151	107.882

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.222	76.468	3.364	1.557	-0.134	0.073	1.177	86.598
S.D.	0.019	0.143	0.078	0.058	0.003	0.045	0.213	0.719
% R.S.D.	8.648	0.187	2.325	3.742	2.013	61.662	18.096	0.830

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.361	-0.671	0.006	0.581	0.106	0.121	-0.033	130.679
S.D.	0.072	0.134	0.004	0.461	0.169	0.004	0.094	0.410
% R.S.D.	19.918	19.998	74.231	79.430	159.790	3.608	281.380	0.313

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.989	1.656	-1.061	0.075	0.013	0.120	11545.600	-0.054
S.D.	0.033	0.018	0.118	0.023	0.034	0.008	23.803	0.000
% R.S.D.	3.383	1.075	11.147	30.438	258.550	7.051	0.206	0.156

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.052	2.391	0.305	-1.356
S.D.	1.166	0.045	0.011	0.602
% R.S.D.	28.782	1.890	3.732	44.378

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Identity 1: S97T000890 Identity 2: Fusion,.25-10 ml 12:43 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	286.032	0.027	0.167	5.234	1.502	0.010	-0.201	0.003
S.D.	0.117	0.003	0.181	0.039	0.176	0.000	0.012	0.005
% R.S.D.	0.041	9.677	107.813	0.746	11.689	3.948	5.909	152.882

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.348	122.291	2.706	0.758	0.190	0.139	0.484	72.063
S.D.	0.002	0.080	0.136	0.105	0.002	0.059	0.343	1.241
% R.S.D.	0.693	0.066	5.022	13.810	0.825	42.187	70.724	1.722

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.518	-0.639	0.012	0.111	0.100	0.129	0.530	165.054
S.D.	0.235	0.115	0.006	0.302	0.122	0.004	0.241	0.608
% R.S.D.	45.438	17.979	49.661	272.130	122.608	3.397	45.552	0.369

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.781	1.404	-0.267	0.098	0.077	0.146	12801.273	0.070
S.D.	0.021	0.024	0.051	0.014	0.022	0.014	49.982	0.008
% R.S.D.	2.686	1.709	19.024	14.694	29.311	9.898	0.390	11.023

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.793	1.971	0.240	-0.764
S.D.	1.045	0.009	0.006	0.630
% R.S.D.	58.290	0.478	2.450	82.498

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Identity 1: S97T000890_D Identity 2: Fusion,.25-10 ml 12:46 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	272.464	0.043	0.384	4.578	1.441	0.416	-0.153	0.044
S.D.	0.323	0.004	0.362	0.132	0.206	0.001	0.020	0.012
% R.S.D.	0.119	9.547	94.153	2.892	14.277	0.125	13.131	27.274

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.166	53.652	2.328	0.927	0.182	0.280	1.715	70.016
S.D.	0.006	0.216	0.107	0.072	0.003	0.116	0.215	1.982
% R.S.D.	3.728	0.403	4.590	7.732	1.485	41.388	12.530	2.831

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.418	-1.136	0.038	0.464	0.178	0.129	0.339	157.816
S.D.	0.476	0.303	0.008	0.246	0.070	0.004	0.104	1.166
% R.S.D.	19.706	26.647	21.879	52.974	39.161	3.394	30.545	0.739

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.805	1.459	0.035	0.042	0.047	0.071	12945.863	-0.113
S.D.	0.047	0.039	0.293	0.005	0.028	0.008	104.102	0.007
% R.S.D.	5.866	2.651	842.879	12.189	60.472	11.600	0.804	6.470

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.052	2.002	0.249	2.607
S.D.	0.577	0.017	0.006	0.764
% R.S.D.	54.838	0.827	2.426	29.318

‡

Identity 1: PREPBLK Identity 2: Quality Control 12:50 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.008	0.000	0.009	0.004	0.009	0.004	-0.005	-0.000
S.D.	0.002	0.000	0.005	0.001	0.004	0.002	0.000	0.000
% R.S.D.	24.231	44.607	56.842	29.908	38.395	42.990	3.248	688920.242

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.075	-0.008	0.006	-0.003	0.002	0.011	-0.052
S.D.	0.000	0.002	0.002	0.003	0.000	0.002	0.002	0.040
% R.S.D.	390.776	3.287	22.915	59.693	1.228	81.097	18.114	77.175

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.033	-0.024	0.001	-0.003	-0.005	0.003	0.002	0.104
S.D.	0.012	0.009	0.000	0.020	0.002	0.000	0.001	0.005
% R.S.D.	36.223	38.554	54.587	698.686	43.430	4.121	43.401	4.368

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.001	-0.000	-0.026	-0.000	0.001	0.005	319.773	-0.005
S.D.	0.000	0.001	0.007	0.000	0.000	0.000	2.128	0.000
% R.S.D.	24.015	1837.712	25.633	31.456	34.736	4.890	0.665	3.596

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.058	0.002	-0.000	0.013
S.D.	0.026	0.001	0.000	0.017
% R.S.D.	44.928	41.493	267.712	138.403

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Identity 1: S97T000994 Identity 2: Fusion,.25-10 ml 12:53 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	245.990	0.020	0.039	4.157	1.228	0.024	-0.205	0.006
S.D.	0.764	0.005	0.271	0.079	0.246	0.136	0.020	0.013
% R.S.D.	0.311	27.273	703.708	1.893	20.050	557.972	9.641	225.537

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.375	100.306	1.899	1.015	-0.096	0.234	0.388	67.306
S.D.	0.014	0.355	0.078	0.097	0.002	0.081	0.045	1.329
% R.S.D.	3.612	0.354	4.120	9.546	1.634	34.618	11.471	1.974

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.345	-0.366	-0.000	0.243	0.073	0.091	0.662	229.337
S.D.	0.542	0.425	0.009	0.345	0.118	0.004	0.123	0.946
% R.S.D.	156.813	116.096	2400.000	141.859	160.916	4.811	18.496	0.412

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.750	1.176	-0.997	0.086	-0.013	0.392	13122.318	0.036
S.D.	0.030	0.032	0.314	0.014	0.030	0.022	64.557	0.008
% R.S.D.	3.985	2.687	31.455	16.779	222.375	5.483	0.492	21.086

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.086	1.695	0.200	-0.511
S.D.	1.060	0.041	0.012	1.164
% R.S.D.	50.831	2.393	5.785	227.476

‡

Identity 1: S97T000994_D Identity 2: Fusion,.25-10 ml 12:56 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	245.981	0.020	0.027	3.282	1.431	0.155	-0.227	-0.007
S.D.	0.711	0.000	0.010	0.005	0.077	0.000	0.010	0.003
% R.S.D.	0.289	0.000	35.718	0.146	5.375	0.058	4.228	42.840

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.298	97.564	1.984	1.033	0.046	0.010	0.196	66.371
S.D.	0.013	0.403	0.051	0.139	0.003	0.043	0.154	0.415
% R.S.D.	4.386	0.413	2.583	13.448	6.792	440.104	78.594	0.625

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.016	-0.438	-0.001	-0.260	-0.048	0.078	0.190	205.864
S.D.	0.119	0.091	0.004	0.054	0.146	0.004	0.208	0.441
% R.S.D.	747.407	20.811	526.783	20.776	305.344	5.588	109.494	0.214

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.750	1.199	-0.141	0.070	0.017	0.050	12477.736	-0.004
S.D.	0.030	0.003	0.119	0.009	0.017	0.037	21.361	0.008
% R.S.D.	3.985	0.286	84.088	13.021	103.487	73.576	0.171	209.942

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.569	1.675	0.183	-0.650
S.D.	0.909	0.027	0.011	0.393
% R.S.D.	159.804	1.597	6.174	60.546

1

Identity 1: S97T000995 Identity 2: Fusion,.25-10 ml 12:59 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	224.172	0.027	0.025	4.385	1.097	0.171	-0.219	0.010
S.D.	0.210	0.002	0.253	0.042	0.094	0.136	0.019	0.011
% R.S.D.	0.094	5.774	1002.365	0.967	8.544	79.629	8.663	113.599

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.161	56.279	0.147	1.901	-0.292	0.046	-0.307	58.120
S.D.	0.008	0.630	0.059	0.080	0.003	0.067	0.103	1.762
% R.S.D.	4.765	1.119	40.216	4.201	0.929	145.828	33.399	3.031

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.283	-0.773	0.015	0.145	0.030	0.068	0.215	284.444
S.D.	0.330	0.122	0.006	0.247	0.170	0.004	0.146	0.744
% R.S.D.	116.619	15.791	37.945	170.902	561.129	6.411	67.644	0.262

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.622	1.047	-1.407	0.060	0.050	0.255	12813.036	-0.098
S.D.	0.016	0.025	0.291	0.019	0.013	0.046	16.347	0.008
% R.S.D.	2.640	2.381	20.652	32.234	25.943	18.246	0.128	7.662

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.759	1.483	0.181	0.376
S.D.	1.779	0.021	0.005	0.921
% R.S.D.	101.161	1.444	2.990	244.718

Identity 1: S97T000995_D Identity 2: Fusion,.25-10 ml 1:01 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	228.690	0.032	-0.002	4.082	1.617	0.259	-0.182	0.022
S.D.	0.195	0.004	0.174	0.034	0.088	0.079	0.011	0.010
% R.S.D.	0.085	12.729	7659.326	0.843	5.433	30.387	6.116	47.896

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.229	67.010	0.044	1.377	-0.164	0.155	0.199	57.226
S.D.	0.011	0.211	0.060	0.136	0.005	0.093	0.194	0.830
% R.S.D.	4.954	0.315	135.896	9.859	3.297	60.294	97.679	1.450

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.350	-1.430	0.029	0.122	-0.051	0.098	0.298	269.937
S.D.	0.237	0.225	0.009	0.124	0.169	0.004	0.280	0.801
% R.S.D.	17.556	15.748	29.234	101.640	329.967	4.441	94.013	0.297

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.661	1.149	-0.582	0.042	0.035	0.349	12652.946	-0.072
S.D.	0.050	0.019	0.205	0.020	0.017	0.042	48.281	0.007
% R.S.D.	7.537	1.623	35.274	47.226	49.114	12.122	0.382	10.398

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.396	1.600	0.178	1.372
S.D.	0.030	0.018	0.006	0.150
% R.S.D.	1.246	1.131	3.245	10.940

Identity 1: CCV Identity 2: Quality Control 1:08 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.885	4.821	4.975	4.935	4.868	5.149	4.945	4.524
S.D.	0.011	0.013	0.014	0.012	0.021	0.014	0.010	0.027
% R.S.D.	0.228	0.272	0.272	0.237	0.438	0.280	0.208	0.587

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.232	4.968	4.832	4.933	4.632	4.900	4.981	9.645
S.D.	0.017	0.016	0.015	0.041	0.005	0.011	0.016	0.021
% R.S.D.	0.334	0.330	0.304	0.824	0.102	0.227	0.326	0.223

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.771	4.822	4.744	5.105	4.922	4.912	5.065	4.802
S.D.	0.027	0.005	0.012	0.031	0.037	0.014	0.016	0.030
% R.S.D.	0.575	0.110	0.257	0.615	0.747	0.292	0.319	0.616

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.079	5.039	4.898	4.782	4.990	4.982	5.300	4.977
S.D.	0.018	0.007	0.027	0.012	0.004	0.009	0.023	0.012
% R.S.D.	0.350	0.131	0.560	0.251	0.088	0.173	0.441	0.249

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.698	5.070	4.965	4.941
S.D.	0.020	0.014	0.005	0.021
% R.S.D.	0.434	0.271	0.095	0.430

Identity 1: CCB Identity 2: Quality Control 1:18 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.000	-0.009	-0.005	0.010	0.001	-0.005	0.000
S.D.	0.001	0.000	0.004	0.002	0.005	0.002	0.000	0.000
% R.S.D.	50.249	30.000	44.123	32.926	53.187	175.142	5.010	99.223

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	-0.005	-0.005	-0.000	-0.005	0.000	0.017	-0.106
S.D.	0.000	0.001	0.002	0.002	0.000	0.001	0.006	0.023
% R.S.D.	37.997	22.622	41.401	1812.471	0.845	394.991	35.027	21.200

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.023	-0.022	0.000	0.002	-0.012	0.000	0.000	0.010
S.D.	0.005	0.005	0.000	0.011	0.002	0.000	0.001	0.003
% R.S.D.	22.930	21.900	37.962	756.403	20.036	7986.531	229.771	32.734

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.001	0.005	-0.014	-0.000	0.002	0.003	0.264	-0.006
S.D.	0.001	0.001	0.009	0.000	0.000	0.001	0.014	0.000
% R.S.D.	54.488	18.415	65.071	60.774	9.094	27.062	5.336	2.962

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.081	0.003	-0.000	0.034
S.D.	0.026	0.001	0.000	0.017
% R.S.D.	31.715	38.799	201.400	51.652

‡

Identity 1: S97T000998_L Identity 2: Fusion,.25-10-2-8ml 1:22 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 205.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	261.078	0.022	0.583	7.856	3.820	-0.167	-1.230	-0.020
S.D.	0.102	0.028	0.388	0.783	2.099	0.682	0.113	0.077
% R.S.D.	0.039	124.900	66.537	9.963	54.953	408.029	9.168	389.561

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.283	93.757	1.924	2.096	-1.074	0.214	1.839	83.719
S.D.	0.012	0.936	0.539	0.104	0.008	0.241	0.876	8.084
% R.S.D.	4.106	0.998	27.993	4.970	0.728	112.943	47.612	9.657

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	3.061	-0.465	0.016	-2.639	-1.721	0.379	1.035	165.620
S.D.	3.061	1.746	0.036	1.370	0.621	0.022	0.949	1.569
% R.S.D.	99.993	375.928	228.104	51.897	36.079	5.772	91.702	0.947

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.239	1.071	-1.657	0.174	0.021	0.875	13317.388	-1.096
S.D.	0.094	0.159	2.686	0.137	0.141	0.066	115.692	0.038
% R.S.D.	39.363	14.838	162.086	78.826	687.654	7.597	0.869	3.477

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	9.655	2.062	0.212	-2.146
S.D.	1.663	0.225	0.058	5.175
% R.S.D.	17.221	10.894	27.425	241.205

Identity 1: S97T000998 Identity 2: Fusion,.25-10 ml 1:25 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	261.926	0.017	0.433	6.066	1.728	0.236	-0.223	-0.018
S.D.	0.291	0.003	0.224	0.055	0.175	0.079	0.007	0.012
% R.S.D.	0.111	15.789	51.699	0.910	10.144	33.454	3.230	67.346

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.296	92.474	1.866	1.031	-0.088	0.066	0.304	69.881
S.D.	0.004	0.290	0.079	0.054	0.000	0.030	0.266	0.536
% R.S.D.	1.430	0.313	4.212	5.259	0.000	45.941	87.660	0.767

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.298	-0.279	-0.004	0.136	-0.063	0.104	0.016	160.974
S.D.	0.314	0.146	0.007	0.307	0.124	0.000	0.052	0.779
% R.S.D.	105.205	52.347	159.804	225.345	197.339	0.002	318.518	0.484

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.731	1.217	-0.220	0.060	-0.006	0.066	12671.318	-0.021
S.D.	0.024	0.021	0.480	0.009	0.026	0.032	22.240	0.008
% R.S.D.	3.219	1.732	218.569	15.687	447.687	48.595	0.176	35.581

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.931	1.752	0.200	0.013
S.D.	0.390	0.027	0.011	0.299
% R.S.D.	41.944	1.518	5.705	2274.419

Identity 1: S977000998_D Identity 2: Fusion,.25-10 ml 1:27 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	254.024	0.040	-0.534	3.915	1.554	0.006	-0.159	0.029
S.D.	0.389	0.004	0.420	0.053	0.249	0.000	0.010	0.008
% R.S.D.	0.153	10.184	78.572	1.345	16.026	2.995	6.020	27.371

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.378	120.077	1.710	1.876	-0.224	0.209	1.233	65.420
S.D.	0.009	0.420	0.059	0.070	0.003	0.047	0.110	0.464
% R.S.D.	2.287	0.350	3.473	3.736	1.210	22.578	8.888	0.709

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.041	-1.714	0.039	-0.236	0.203	0.081	-0.166	157.578
S.D.	0.218	0.250	0.004	0.287	0.125	0.000	0.038	0.586
% R.S.D.	10.659	14.563	10.604	121.622	61.703	0.002	22.887	0.372

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.735	1.339	-0.410	0.013	0.072	0.179	12929.532	0.049
S.D.	0.020	0.029	0.368	0.015	0.017	0.016	6.982	0.007
% R.S.D.	2.712	2.188	89.797	113.171	23.668	8.893	0.054	15.271

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.534	1.865	0.199	1.830
S.D.	0.781	0.013	0.006	0.343
% R.S.D.	30.816	0.702	2.884	18.755

Identity 1: S97T000998_A Identity 2: Fusion,.25-10 ml 1:30 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	287.787	38.668	40.195	45.001	41.094	40.763	39.783	34.548
S.D.	0.076	0.035	0.284	0.143	0.266	0.343	0.024	0.095
% R.S.D.	0.026	0.091	0.706	0.318	0.648	0.841	0.061	0.274

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	41.802	127.777	40.774	41.007	35.990	39.191	41.958	144.403
S.D.	0.065	0.397	0.089	0.086	0.013	0.102	0.496	0.925
% R.S.D.	0.156	0.311	0.217	0.209	0.036	0.261	1.182	0.641

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	39.060	37.770	37.963	40.058	38.567	39.060	40.340	189.022
S.D.	0.190	0.030	0.022	0.570	0.294	0.060	0.334	0.236
% R.S.D.	0.487	0.078	0.057	1.423	0.763	0.154	0.829	0.125

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	39.331	34.964	39.818	38.221	39.623	39.474	12156.932	39.991
S.D.	0.043	0.200	0.120	0.038	0.066	0.198	29.416	0.046
% R.S.D.	0.110	0.571	0.301	0.099	0.166	0.501	0.242	0.115

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	40.757	42.714	39.361	40.244
S.D.	0.237	0.054	0.046	0.445
% R.S.D.	0.582	0.128	0.116	1.107

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Identity 1: S97T000998_X Identity 2: Fusion,.25-10-1-9 ml 1:33 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 410.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	260.683	0.213	2.204	7.853	7.578	2.326	-2.078	0.030
S.D.	0.528	0.055	3.619	1.142	2.417	1.363	0.241	0.120
% R.S.D.	0.203	26.021	164.191	14.542	31.899	58.597	11.612	404.313

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.568	96.975	1.052	1.834	-2.744	-0.974	1.288	51.141
S.D.	0.151	3.737	0.889	1.107	0.016	0.088	2.177	22.788
% R.S.D.	26.576	3.853	84.514	60.369	0.570	9.079	169.009	44.559

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	7.850	-4.786	0.225	-0.975	-4.228	0.884	3.728	172.472
S.D.	2.678	4.949	0.110	2.139	0.347	0.076	1.792	0.516
% R.S.D.	34.117	103.397	48.903	219.353	8.202	8.567	48.075	0.299

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	1.174	1.439	-0.798	0.175	-0.149	2.085	13562.522	-2.265
S.D.	0.299	0.288	5.844	0.114	0.296	0.496	123.702	0.003
% R.S.D.	25.459	20.011	732.524	64.814	199.437	23.803	0.912	0.121

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	6.207	2.973	0.501	2.918
S.D.	4.740	0.275	0.061	11.176
% R.S.D.	76.376	9.237	12.117	383.026

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Identity 1: S97T000998_AX Identity 2: Fusion,.25-10-1-9 ml 1:37 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 410.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4268.243	3981.912	4091.648	4166.933	4033.345	4114.661	3776.515	3692.672
S.D.	13.173	14.683	8.866	15.716	10.914	8.474	10.374	8.074
% R.S.D.	0.309	0.369	0.217	0.377	0.271	0.206	0.275	0.219

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4109.008	4160.478	4014.031	4040.416	3925.919	4035.719	4026.121	7944.350
S.D.	5.157	8.036	20.002	17.238	12.817	7.128	9.215	32.120
% R.S.D.	0.126	0.193	0.498	0.427	0.326	0.177	0.229	0.404

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4053.983	3950.315	3912.244	4070.724	3935.118	4116.045	4019.562	3938.250
S.D.	20.121	12.670	21.134	46.472	29.728	9.691	7.527	14.047
% R.S.D.	0.496	0.321	0.540	1.142	0.755	0.235	0.187	0.357

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4074.761	2894.057	4139.601	3989.998	4066.670	4017.102	17211.746	4075.154
S.D.	12.071	20.340	5.351	13.234	10.881	3.460	112.097	8.536
% R.S.D.	0.296	0.703	0.129	0.332	0.268	0.086	0.651	0.209

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4005.004	4055.808	3977.488	4189.892
S.D.	45.331	9.173	8.632	8.033
% R.S.D.	1.132	0.226	0.217	0.192

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Identity 1: ICSA Identity 2: Quality Control 1:53 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	-0.024	0.030	199.853	-0.001	-0.005	0.000
S.D.	0.000	0.000	0.003	0.001	0.734	0.004	0.000	0.000
% R.S.D.	23354.306	0.000	10.947	4.315	0.367	316.915	3.652	33.873

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.002	-0.006	94.807	98.408	-0.000	0.026	-0.099
S.D.	0.000	0.002	0.001	0.037	0.144	0.003	0.007	0.007
% R.S.D.	2.403	79.572	11.917	0.039	0.146	585.406	25.595	7.017

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.049	0.002	0.002	0.017	0.016	88.997	0.020	179.209
S.D.	0.006	0.002	0.000	0.014	0.001	0.314	0.005	0.451
% R.S.D.	11.657	80.486	2.122	80.713	4.834	0.353	25.229	0.252

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.009	0.008	-0.000	0.001	0.014	0.110	-0.005
S.D.	0.001	0.001	0.013	0.000	0.001	0.000	0.010	0.000
% R.S.D.	53.192	6.118	165.981	80.508	110.880	0.993	9.230	6.304

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.097	0.003	0.003	0.022
S.D.	0.032	0.001	0.000	0.002
% R.S.D.	33.314	25.830	5.095	9.690

Identity 1: ICSAB Identity 2: Quality Control 1:56 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.006	0.003	-0.021	0.015	196.210	0.473	0.471	0.868
S.D.	0.001	0.000	0.008	0.004	0.615	0.002	0.001	0.006
% R.S.D.	14.602	1.420	37.962	29.799	0.313	0.331	0.299	0.713

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.967	0.947	-0.007	95.171	98.767	0.479	0.017	-0.179
S.D.	0.002	0.006	0.003	0.194	0.302	0.004	0.011	0.028
% R.S.D.	0.208	0.649	44.196	0.204	0.306	0.782	62.456	15.837

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.069	-0.025	0.481	0.023	0.003	87.689	0.006	176.291
S.D.	0.011	0.007	0.001	0.005	0.005	0.264	0.009	1.254
% R.S.D.	16.075	26.064	0.282	23.516	181.075	0.301	144.055	0.711

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.001	1.012	0.965	-0.001	0.951	0.014	0.177	0.473
S.D.	0.001	0.002	0.006	0.000	0.002	0.001	0.014	0.002
% R.S.D.	157.743	0.188	0.630	19.172	0.207	6.583	8.145	0.332

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.058	0.486	0.484	0.065
S.D.	0.016	0.002	0.003	0.026
% R.S.D.	28.428	0.385	0.686	39.342

Identity 1: CCV Identity 2: Quality Control 1:59 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.841	4.761	4.909	4.853	4.928	5.018	4.942	4.531
S.D.	0.009	0.011	0.015	0.006	0.024	0.019	0.007	0.006
% R.S.D.	0.190	0.233	0.307	0.114	0.478	0.387	0.141	0.142

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.157	4.890	4.827	4.959	4.650	4.822	5.089	9.469
S.D.	0.007	0.006	0.008	0.005	0.013	0.014	0.008	0.012
% R.S.D.	0.132	0.120	0.158	0.107	0.282	0.284	0.152	0.131

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.686	4.802	4.705	4.971	4.811	4.846	4.971	4.882
S.D.	0.016	0.006	0.011	0.030	0.024	0.017	0.010	0.012
% R.S.D.	0.331	0.124	0.243	0.606	0.507	0.353	0.207	0.249

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.932	5.056	4.865	4.701	4.912	4.998	5.103	4.925
S.D.	0.011	0.001	0.026	0.009	0.012	0.010	0.019	0.004
% R.S.D.	0.229	0.025	0.527	0.200	0.253	0.203	0.379	0.082

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.694	5.019	4.970	4.993
S.D.	0.053	0.008	0.007	0.027
% R.S.D.	1.119	0.167	0.135	0.531

Identity 1: CCB Identity 2: Quality Control 2:05 PM June 11, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.001	0.004	0.002	0.018	-0.001	-0.005	0.001
S.D.	0.002	0.000	0.004	0.004	0.007	0.000	0.001	0.000
% R.S.D.	155.270	19.094	98.399	242.910	40.369	1.130	14.877	67.777

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.002	-0.003	0.008	-0.002	-0.002	0.012	-0.027
S.D.	0.000	0.001	0.001	0.005	0.000	0.001	0.011	0.062
% R.S.D.	18.251	30.872	22.106	59.785	6.063	43.851	94.239	227.383

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.023	-0.001	0.001	0.001	-0.006	0.002	0.003	0.013
S.D.	0.018	0.016	0.000	0.009	0.005	0.000	0.007	0.005
% R.S.D.	77.834	2134.775	33.607	1456.398	80.811	0.002	236.162	34.694

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.004	0.001	-0.003	0.001	-0.000	0.004	0.189	-0.005
S.D.	0.001	0.001	0.016	0.001	0.001	0.001	0.008	0.000
% R.S.D.	25.308	60.356	642.816	113.025	20256.215	16.014	4.305	3.320

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.071	0.002	0.000	0.026
S.D.	0.016	0.001	0.000	0.029
% R.S.D.	23.031	31.818	26.724	113.265

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DK Dato
06-11-97

LABCORE Data Entry Template for Worklist# 18692

Analyst: JWorrell **Instrument:** ICP01 **Book#** 67648A

Method: LA-505-151/161 Rev/Mod E-1
JW 6-18-97

Worklist Comment: ICP AW-103 (FUSION)

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	PREPBLKARL				@ICP-F01	SOLID		
7	SAMPLE	S97T001057	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
8	DUP	S97T001057	0	F	@ICP-F01	SOLID		
9	SAMPLE	S97T001062	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
10	DUP	S97T001062	0	F	@ICP-F01	SOLID		
11	SAMPLE	S97T001063	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 ,						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18692

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					S-F-01 , SB-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
12	DUP	S97T001063	0	F	@ICP-F01	SOLID		
13	ICSA				@ICP-QC	QC		
14	ICSAB				@ICP-QC	QC		
15	CCV				@ICP-QC	QC		
16	CCB				@ICP-QC	QC		

Final page for worklist # 18692

Reviewed & Validated by:

John Wenell 6-13-97
Analyst Signature Date

Carl R. Lang 6/16/97
Analyst Signature Date

Data Entry Comments:

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

ICV
ICB
LLS
ICSA
ICSAB
Prep Blk

		DF.	D.F.
		#	1
S97T001057	Sample	.250 - 9.75	40
	Dup	.250 - 9.75	40
S97T001062	Sample	.250 - 9.75	40
	Dup	.250 - 9.75	40
S97T001063	Sample	.250 - 9.75	40
	Dup	.250 - 9.75	40

ICSA
ICSAB
CCV
CCB

970613.DAT

Identity 1: ICV Identity 2: Quality Control 1:02 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.954	4.980	5.079	4.786	4.681	4.927	5.188	4.893
S.D.	0.002	0.003	0.020	0.007	0.007	0.018	0.014	0.035
% R.S.D.	0.037	0.058	0.386	0.145	0.154	0.360	0.265	0.710

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.064	4.923	5.008	5.004	4.849	4.811	5.433	9.986
S.D.	0.007	0.005	0.009	0.016	0.004	0.015	0.006	0.020
% R.S.D.	0.141	0.093	0.180	0.325	0.085	0.309	0.114	0.200

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.842	5.161	4.972	4.917	4.725	4.662	5.041	5.152
S.D.	0.015	0.007	0.007	0.062	0.031	0.010	0.034	0.029
% R.S.D.	0.301	0.144	0.134	1.270	0.658	0.225	0.678	0.569

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.871	5.104	4.908	4.760	4.954	5.083	5.069	4.973
S.D.	0.019	0.005	0.007	0.005	0.010	0.011	0.038	0.004
% R.S.D.	0.383	0.099	0.141	0.105	0.203	0.220	0.743	0.086

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.866	5.043	5.161	5.179
S.D.	0.020	0.005	0.004	0.016
% R.S.D.	0.407	0.102	0.079	0.316

John Worrell
6-11-97
AW-103

S97T00 1057
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SP 6/16/97

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 758 TO 773

Identity 1: ICB Identity 2: Quality Control 1:06 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.005	0.022	0.013	-0.009	-0.001	0.006	0.004
S.D.	0.002	0.001	0.002	0.003	0.004	0.004	0.001	0.001
% R.S.D.	45.660	25.358	7.259	21.505	41.747	341.398	19.116	26.631

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.007	0.010	0.010	0.004	0.002	-0.006	0.051
S.D.	0.001	0.002	0.001	0.002	0.001	0.000	0.007	0.036
% R.S.D.	26.960	33.324	12.983	20.066	22.538	19.819	120.225	71.022

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.000	-0.065	0.005	-0.001	0.004	-0.000	0.004	-0.002
S.D.	0.006	0.004	0.001	0.005	0.001	0.001	0.002	0.003
% R.S.D.	578500.038	5.668	25.416	549.806	33.577	450.116	50.918	115.446

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.007	0.006	-0.001	0.005	0.004	0.004	-0.123	0.005
S.D.	0.003	0.001	0.009	0.001	0.002	0.001	0.007	0.001
% R.S.D.	34.607	12.304	732.857	27.077	37.821	26.117	5.474	17.180

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.067	0.004	0.005	0.011
S.D.	0.022	0.002	0.001	0.019
% R.S.D.	33.145	43.573	22.570	182.212

‡

Identity 1: LLS Identity 2: Quality Control 1:09 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Si (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.019	0.019	0.190	0.130	0.092	0.034	0.020	0.018
S.D.	0.003	0.000	0.012	0.006	0.012	0.000	0.001	0.000
% R.S.D.	16.322	1.497	6.159	4.770	13.202	0.081	3.563	2.253

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.043	0.100	0.103	0.195	0.014	0.214	0.447
S.D.	0.000	0.001	0.003	0.002	0.002	0.002	0.010	0.117
% R.S.D.	1.461	2.917	2.732	1.837	0.977	10.735	4.678	26.109

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.173	0.150	0.098	0.387	0.199	0.186	0.199	0.188
S.D.	0.033	0.023	0.000	0.018	0.006	0.000	0.002	0.006
% R.S.D.	18.899	15.489	0.366	4.529	2.792	0.061	1.090	3.409

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.092	0.024	0.205	0.018	0.007	0.101	0.439	0.020
S.D.	0.001	0.002	0.006	0.001	0.001	0.002	0.018	0.000
% R.S.D.	0.593	9.643	2.688	5.251	12.547	1.817	4.101	2.044

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.046	0.098	0.009	0.434
S.D.	0.098	0.002	0.001	0.064
% R.S.D.	213.758	2.184	6.060	14.836

Identity 1: ICSAB Identity 2: Quality Control 1:18 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.003	0.000	-0.001	0.023	189.467	0.470	0.481	0.884
S.D.	0.001	0.000	0.003	0.004	0.573	0.004	0.002	0.008
% R.S.D.	42.758	38.188	217.333	16.209	0.303	0.814	0.517	0.926

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.984	0.981	0.001	98.570	101.957	0.491	-0.007	-0.016
S.D.	0.002	0.005	0.002	0.192	0.248	0.004	0.008	0.048
% R.S.D.	0.238	0.462	131.974	0.195	0.243	0.862	112.086	291.151

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.034	0.046	0.490	0.017	-0.027	100.936	0.017	179.001
S.D.	0.013	0.008	0.002	0.003	0.002	0.081	0.004	1.429
% R.S.D.	37.105	17.393	0.495	19.657	6.044	0.080	22.679	0.798

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.006	1.048	0.991	-0.002	0.982	0.010	-0.012	0.499
S.D.	0.002	0.003	0.017	0.000	0.002	0.001	0.006	0.002
% R.S.D.	27.116	0.331	1.679	26.335	0.231	8.795	47.795	0.409

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.490	0.496	0.048
S.D.	0.008	0.002	0.001	0.030
% R.S.D.	577.350	0.497	0.157	63.989

‡

Identity 1: ICSA Identity 2: Quality Control 1:14 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.001	-0.006	0.030	187.921	-0.005	0.001	-0.001
S.D.	0.004	0.000	0.004	0.010	2.373	0.003	0.002	0.001
% R.S.D.	183.636	48.022	70.192	32.884	1.263	62.104	224.565	143.574

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.000	0.003	97.851	100.131	0.000	0.005	0.075
S.D.	0.000	0.002	0.004	0.670	0.989	0.002	0.002	0.181
% R.S.D.	1.699	598.955	115.263	0.685	0.988	1286.924	45.374	241.613

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.080	0.038	0.001	0.018	-0.023	99.288	0.012	176.067
S.D.	0.046	0.037	0.001	0.008	0.016	0.191	0.004	4.331
% R.S.D.	58.190	97.491	101.149	45.096	70.664	0.192	30.919	2.460

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	0.005	-0.003	-0.001	0.001	0.011	0.010	0.002
S.D.	0.001	0.003	0.016	0.002	0.001	0.000	0.041	0.001
% R.S.D.	64.509	52.780	629.615	170.726	246.907	4.217	404.906	44.537

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.039	0.001	0.001	0.098
S.D.	0.027	0.003	0.001	0.107
% R.S.D.	68.209	218.119	50.251	109.039

Identity 1: prepbikarl Identity 2: .250ml-9.75ml 1:22 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	-0.002	0.027	0.009	0.302	-0.011	0.000	-0.001
S.D.	0.003	0.000	0.011	0.005	0.046	0.000	0.001	0.000
% R.S.D.	173.143	15.997	40.917	62.199	15.230	0.245	433.206	54.495

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.194	0.002	0.160	0.163	-0.003	0.005	0.061
S.D.	0.000	0.003	0.001	0.023	0.026	0.002	0.012	0.132
% R.S.D.	1.013	1.468	58.843	14.365	16.180	88.387	223.423	216.167

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.023	0.022	-0.001	0.006	0.007	0.140	-0.002	0.426
S.D.	0.037	0.025	0.000	0.003	0.005	0.024	0.003	0.046
% R.S.D.	163.235	115.223	62.865	60.638	76.231	17.201	131.128	10.704

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.005	0.002	0.017	-0.001	0.001	-0.005	332.656	-0.000
S.D.	0.001	0.002	0.007	0.001	0.001	0.002	3.199	0.000
% R.S.D.	22.355	123.536	42.856	79.026	108.234	29.510	0.962	3.423

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.111	-0.001	-0.002	0.055
S.D.	0.014	0.003	0.000	0.083
% R.S.D.	12.745	281.412	11.298	151.893

Identity 1: s97t001057 Identity 2: .250ml-9.75ml 1:26 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	516.287	-0.052	0.336	14.445	12.150	-0.109	-0.109	-0.107
S.D.	2.423	0.010	0.758	0.320	0.308	0.002	0.038	0.030
% R.S.D.	0.469	19.667	225.272	2.213	2.537	2.229	34.936	27.600

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ce (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.904	68.360	0.449	2.491	1.355	-0.376	-1.178	149.196
S.D.	0.013	0.450	0.167	0.159	0.100	0.086	0.538	3.662
% R.S.D.	0.678	0.658	37.163	6.392	7.368	22.990	45.624	2.454

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.878	-3.987	-0.096	0.688	0.620	1.379	0.070	653.916
S.D.	1.273	1.025	0.026	0.086	0.099	0.105	0.124	12.744
% R.S.D.	67.813	25.711	27.319	12.562	15.993	7.640	177.013	1.949

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.702	2.358	0.016	0.011	-0.066	0.948	13025.471	0.099
S.D.	0.069	0.092	0.807	0.042	0.043	0.038	224.975	0.001
% R.S.D.	4.038	3.919	5030.052	389.735	65.358	3.983	1.727	0.545

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-2.680	3.048	0.351	-3.788
S.D.	1.114	0.107	0.012	2.131
% R.S.D.	41.558	3.499	3.529	56.251

Identity 1: s97t001057_d Identity 2: .250ml-9.75ml 1:32 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	522.882	-0.038	0.935	13.807	10.370	-0.109	-0.071	-0.092
S.D.	2.319	0.008	0.191	0.155	0.319	0.001	0.015	0.014
% R.S.D.	0.443	22.500	20.367	1.121	3.078	0.771	21.273	14.920

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.254	65.967	0.665	1.270	0.160	-0.128	-1.376	148.972
S.D.	0.009	0.275	0.084	0.131	0.023	0.073	0.552	2.294
% R.S.D.	3.605	0.417	12.575	10.302	14.409	57.037	40.132	1.540

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.172	0.860	-0.075	0.967	0.550	0.111	-0.073	655.248
S.D.	0.974	0.582	0.013	0.430	0.137	0.021	0.180	5.042
% R.S.D.	566.461	67.612	17.410	44.453	24.961	18.899	246.337	0.769

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.881	2.435	-0.098	0.073	-0.045	0.846	13349.547	0.067
S.D.	0.011	0.031	0.660	0.024	0.037	0.030	82.167	0.008
% R.S.D.	0.581	1.284	675.791	32.007	81.372	3.544	0.616	11.736

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-1.412	3.214	0.320	-3.069
S.D.	1.197	0.053	0.006	1.171
% R.S.D.	84.732	1.638	1.931	38.149

‡

Identity 1: s97t001062 Identity 2: .250ml-9.75ml 1:44 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	549.343	-0.046	0.988	35.733	4.773	0.269	-0.119	-0.112
S.D.	1.314	0.000	0.457	0.192	0.163	0.086	0.008	0.004
% R.S.D.	0.239	0.000	46.224	0.536	3.406	32.037	6.396	3.950

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.648	38.011	-0.113	0.785	-0.138	-0.550	-1.795	145.768
S.D.	0.005	0.160	0.094	0.136	0.043	0.065	0.152	0.706
% R.S.D.	0.273	0.422	83.258	17.270	31.526	11.900	8.464	0.484

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.588	-1.350	-0.096	0.792	0.515	-0.092	-0.225	774.626
S.D.	0.456	0.014	0.001	0.453	0.097	0.041	0.189	2.837
% R.S.D.	28.682	1.053	0.743	57.178	18.835	43.984	84.107	0.366

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.886	2.454	3.781	0.080	-0.107	3.274	13075.061	0.007
S.D.	0.044	0.022	0.587	0.013	0.033	0.095	40.035	0.030
% R.S.D.	2.307	0.897	15.516	15.841	30.441	2.914	0.306	451.027

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.869	3.226	0.379	-2.165
S.D.	0.493	0.044	0.010	0.158
% R.S.D.	56.711	1.368	2.730	7.306

Identity 1: s97t001062_d Identity 2: .250ml-9.75ml 1:47 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	438.606	-0.044	0.793	55.076	17.085	-0.232	-0.085	-0.107
S.D.	0.359	0.002	0.283	0.180	0.175	0.086	0.017	0.010
% R.S.D.	0.082	3.685	35.612	0.327	1.027	37.298	19.604	9.489

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.099	38.873	-0.091	0.677	0.878	-0.710	-1.627	115.650
S.D.	0.012	0.038	0.063	0.094	0.003	0.076	0.295	1.182
% R.S.D.	1.061	0.098	69.599	13.929	0.327	10.746	18.109	1.022

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.023	-0.136	-0.038	0.257	0.485	-0.082	0.125	585.907
S.D.	0.256	0.385	0.006	0.191	0.206	0.005	0.124	2.219
% R.S.D.	25.045	283.875	15.580	74.171	42.537	5.587	98.848	0.379

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.528	1.982	3.445	0.238	-0.055	50.633	13991.740	0.033
S.D.	0.037	0.037	0.084	0.010	0.019	0.297	51.447	0.000
% R.S.D.	2.432	1.842	2.445	4.180	34.606	0.587	0.368	0.413

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.123	2.466	0.265	-3.049
S.D.	0.408	0.028	0.006	0.413
% R.S.D.	36.317	1.146	2.291	13.551

Identity 1: s97t001063 Identity 2: .250ml-9.75ml 1:50 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	520.374	-0.044	0.298	13.700	17.506	-0.137	-0.088	-0.103
S.D.	0.303	0.002	0.393	0.075	0.208	0.087	0.014	0.004
% R.S.D.	0.058	3.685	132.085	0.545	1.187	63.846	16.312	4.281

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.260	71.990	0.056	1.311	-0.297	-0.163	-1.059	159.381
S.D.	0.004	0.316	0.094	0.029	0.002	0.116	0.296	0.560
% R.S.D.	1.684	0.439	167.075	2.177	0.557	71.184	27.935	0.351

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.331	-0.076	-0.088	1.213	1.311	-0.200	-0.181	733.294
S.D.	0.444	0.313	0.008	0.281	0.152	0.005	0.122	3.586
% R.S.D.	33.359	414.548	9.098	23.129	11.589	2.277	67.170	0.489

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.731	2.367	-0.250	0.030	-0.090	0.770	14268.630	0.086
S.D.	0.041	0.028	0.323	0.010	0.040	0.048	52.331	0.014
% R.S.D.	2.350	1.168	128.907	33.293	43.848	6.273	0.367	16.547

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-2.680	2.928	0.312	-4.996
S.D.	0.415	0.041	0.006	1.139
% R.S.D.	15.482	1.404	1.957	22.791

Identity 1: s97t001063_d Identity 2: .250ml-9.75ml 1:53 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	471.875	-0.042	0.609	29.068	17.073	0.175	-0.051	-0.081
S.D.	0.559	0.003	0.071	0.139	0.120	0.085	0.016	0.002
% R.S.D.	0.119	7.698	11.677	0.479	0.700	48.565	30.551	2.061

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.217	69.248	-0.023	0.936	0.149	-0.418	-1.267	143.460
S.D.	0.009	0.107	0.062	0.051	0.003	0.067	0.315	2.154
% R.S.D.	4.200	0.154	262.962	5.419	1.923	15.981	24.875	1.502

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.121	-1.175	-0.072	0.351	0.916	-0.182	-0.298	798.401
S.D.	0.594	0.346	0.008	0.523	0.166	0.008	0.095	7.535
% R.S.D.	488.964	29.485	11.669	149.164	18.118	4.347	31.840	0.944

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.614	2.213	0.056	-0.017	-0.050	2.444	13155.352	0.054
S.D.	0.057	0.047	0.183	0.018	0.007	0.076	86.084	0.008
% R.S.D.	3.545	2.112	325.404	100.802	14.454	3.090	0.654	15.357

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-1.557	2.822	0.284	-1.164
S.D.	0.869	0.039	0.011	1.692
% R.S.D.	55.814	1.370	3.768	145.397

Identity 1: ICSA Identity 2: Quality Control 2:36 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.001	-0.006	0.030	187.291	-0.012	0.001	0.001
S.D.	0.003	0.000	0.016	0.008	2.183	0.002	0.001	0.000
% R.S.D.	572.961	29.017	252.391	26.116	1.166	13.721	81.670	47.930

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	-0.002	0.004	97.415	100.005	-0.002	-0.004	-0.038
S.D.	0.001	0.002	0.002	0.519	0.769	0.002	0.011	0.129
% R.S.D.	14.850	119.168	39.468	0.533	0.769	98.517	299.039	336.099

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.047	0.015	0.002	0.023	-0.015	96.779	0.026	174.250
S.D.	0.034	0.023	0.001	0.004	0.002	0.200	0.003	2.990
% R.S.D.	70.920	148.082	30.976	16.502	16.186	0.206	10.837	1.716

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	0.012	-0.020	-0.001	0.004	0.009	0.106	0.003
S.D.	0.002	0.003	0.009	0.001	0.001	0.001	0.027	0.000
% R.S.D.	101.500	26.571	43.427	66.968	16.906	6.153	25.059	15.945

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.006	0.001	0.002	0.054
S.D.	0.022	0.002	0.000	0.059
% R.S.D.	348.393	180.702	11.841	109.553

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Identity 1: ICSAB Identity 2: Quality Control 2:39 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.007	0.001	0.003	0.015	189.041	0.469	0.481	0.870
S.D.	0.001	0.000	0.002	0.002	0.489	0.003	0.002	0.011
% R.S.D.	19.229	10.189	65.548	10.234	0.258	0.676	0.462	1.234

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.980	0.969	0.003	98.606	101.771	0.490	-0.024	-0.116
S.D.	0.001	0.001	0.003	0.106	0.062	0.003	0.007	0.048
% R.S.D.	0.077	0.110	110.823	0.108	0.061	0.533	28.072	41.192

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.012	-0.001	0.490	-0.001	-0.034	100.261	0.010	176.035
S.D.	0.013	0.009	0.002	0.009	0.004	0.128	0.004	1.973
% R.S.D.	111.051	969.349	0.318	744.464	12.758	0.128	37.749	1.121

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.005	1.049	0.992	-0.002	0.978	0.010	0.208	0.499
S.D.	0.000	0.002	0.029	0.000	0.003	0.000	0.016	0.001
% R.S.D.	8.611	0.175	2.897	12.293	0.330	3.689	7.630	0.238

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.064	0.488	0.496	0.006
S.D.	0.017	0.000	0.000	0.014
% R.S.D.	26.973	0.062	0.031	222.095

Identity 1: CCV Identity 2: Quality Control 2:41 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.917	4.930	5.046	4.791	5.118	5.039	5.030	4.581
S.D.	0.011	0.020	0.009	0.013	0.054	0.015	0.020	0.038
% R.S.D.	0.231	0.402	0.175	0.265	1.063	0.300	0.401	0.835

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.164	4.957	4.962	5.267	4.987	4.905	5.209	9.641
S.D.	0.009	0.021	0.004	0.019	0.019	0.006	0.035	0.025
% R.S.D.	0.183	0.420	0.072	0.369	0.382	0.124	0.678	0.259

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.842	5.003	4.882	4.965	4.810	5.004	5.077	5.316
S.D.	0.039	0.014	0.019	0.019	0.028	0.039	0.017	0.038
% R.S.D.	0.798	0.271	0.384	0.373	0.576	0.782	0.326	0.712

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.969	5.153	4.964	4.765	4.993	5.010	4.990	5.025
S.D.	0.014	0.005	0.036	0.016	0.011	0.017	0.021	0.003
% R.S.D.	0.280	0.090	0.729	0.332	0.225	0.330	0.411	0.065

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.682	5.075	5.084	5.122
S.D.	0.009	0.008	0.014	0.017
% R.S.D.	0.193	0.151	0.282	0.336

Identity 1: CCB Identity 2: Quality Control 2:51 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	-0.002	0.016	-0.001	0.025	-0.011	-0.001	-0.002
S.D.	0.000	0.000	0.004	0.001	0.004	0.000	0.000	0.000
% R.S.D.	18.993	5.329	24.515	128.987	14.822	0.041	24.777	11.846

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	-0.004	-0.000	0.022	0.019	-0.007	-0.013	-0.069
S.D.	0.000	0.001	0.002	0.001	0.001	0.001	0.004	0.026
% R.S.D.	32.619	36.836	6621.519	6.393	7.718	13.715	34.335	37.928

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Ne (ppm)
Mean	-0.018	-0.014	-0.002	-0.011	0.002	0.013	-0.006	0.043
S.D.	0.007	0.004	0.000	0.009	0.004	0.001	0.001	0.002
% R.S.D.	37.556	25.199	9.615	82.367	201.892	9.840	16.922	5.172

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.003	-0.001	-0.011	-0.001	-0.001	-0.003	0.019	-0.001
S.D.	0.001	0.001	0.006	0.000	0.001	0.001	0.008	0.000
% R.S.D.	35.536	105.902	53.165	29.927	130.484	29.178	41.668	48.557

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.034	-0.002	-0.002	-0.015
S.D.	0.015	0.001	0.000	0.013
% R.S.D.	44.015	27.888	8.377	88.654

‡

LABCORE Data Entry Template for Worklist# 18700

Analyst: JWoodall **Instrument:** ICP01 **Book#** 67848A

Method: LA-505-151/~~161~~ Rev/Mod E-1 HNF-SD-WM-DP-249, REV. 0

Worklist Comment: ICP AW-103 (FUSION)

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	PREPBLKARL				@ICP-F01	SOLID		
7	SAMPLE	S97T001058	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
8	DUP	S97T001058	0	F	@ICP-F01	SOLID		
9	SAMPLE	S97T001064	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
10	DUP	S97T001064	0	F	@ICP-F01	SOLID		
11	SERDIL	S97T001065	0	F	@ICP-F01	SOLID		
12	SAMPLE	S97T001065	0	F	@ICP-F01	SOLID	97000333	AW-103
	Analytes Requested:	AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 ,						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18700

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
13	DUP	S97T001065	0	F	@ICP-F01	SOLID		
14	SPK	S97T001065	0	F	@ICP-F01	SOLID		
15	ICSA				@ICP-QC	QC		
16	ICSAB				@ICP-QC	QC		
17	CCV				@ICP-QC	QC		
18	CCB				@ICP-QC	QC		

Final page for worklist # 18700

John Worrell 6-18-97
Analyst Signature Date

Reviewed & Validated by:
Karl K. Pang 6/17/97
Analyst Signature Date

Post Spike:

$$Ag = \frac{\left(\frac{1917.674}{400}\right) - 0}{10} \times 100 =$$

$$Na = \frac{\left(\frac{4415.714}{400}\right) - \left(\frac{712.936}{400}\right)}{10} \times 100 = 92.6\%$$

$$U = \frac{\left(\frac{7779.877}{400}\right) - \left(\frac{61.427}{400}\right)}{20} \times 100 = 96.5\%$$

Data Entry Comments:

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

ICV
ICB
LLS
ICSA
ICSAB
Prep BLK

			D.F.
S97T001058	Sample	.250 - 9.75	40
	Dup	.250 - 9.75	40
S97T001064	Sample	.250 - 9.75	40
	Dup	.250 - 9.75	40
S97T001065	Ser Dil	.250 - 9.75 - 2-8	200 -
	Sample	.250 - 9.75	40
	Dup	.250 - 9.75	40
	Spk	2.05 SSTS - 0.250 Sample - 7.9T HNO3	41
Sample X		.250 - 9.75 1-9	400
Spk X		(.250 - 9.75) 1 ml Sample + 1 ml WHC2T + 1 ml WHC7S + 7 ml HNO3	400

ICSA
ICSAB
CCV
CCB

970613.DAT

Identity 1: ICV Identity 2: Quality Control 1:02 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.954	4.980	5.079	4.786	4.681	4.927	5.188	4.893
S.D.	0.002	0.003	0.020	0.007	0.007	0.018	0.014	0.035
% R.S.D.	0.037	0.058	0.386	0.145	0.154	0.360	0.265	0.710

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.064	4.923	5.008	5.004	4.849	4.811	5.433	9.986
S.D.	0.007	0.005	0.009	0.016	0.004	0.015	0.006	0.020
% R.S.D.	0.141	0.093	0.180	0.325	0.085	0.309	0.114	0.200

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.842	5.161	4.972	4.917	4.725	4.662	5.041	5.152
S.D.	0.015	0.007	0.007	0.062	0.031	0.010	0.034	0.029
% R.S.D.	0.301	0.144	0.134	1.270	0.658	0.225	0.678	0.569

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.871	5.104	4.908	4.760	4.954	5.083	5.069	4.973
S.D.	0.019	0.005	0.007	0.005	0.010	0.011	0.038	0.004
% R.S.D.	0.383	0.099	0.141	0.105	0.203	0.220	0.743	0.086

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.866	5.043	5.161	5.179
S.D.	0.020	0.005	0.004	0.016
% R.S.D.	0.407	0.102	0.079	0.316

John Worrell
6-11-97
AW-103

S97100 ~~1057~~
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1065

SP 11/16/97

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 777 TO 796.

Identity 1: ICB Identity 2: Quality Control 1:06 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.005	0.022	0.013	-0.009	-0.001	0.006	0.004
S.D.	0.002	0.001	0.002	0.003	0.004	0.004	0.001	0.001
% R.S.D.	45.660	25.358	7.259	21.505	41.747	341.398	19.116	26.631

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.007	0.010	0.010	0.004	0.002	-0.006	0.051
S.D.	0.001	0.002	0.001	0.002	0.001	0.000	0.007	0.036
% R.S.D.	26.960	33.324	12.983	20.066	22.538	19.819	120.225	71.022

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.000	-0.065	0.005	-0.001	0.004	-0.000	0.004	-0.002
S.D.	0.006	0.004	0.001	0.005	0.001	0.001	0.002	0.003
% R.S.D.	578500.038	5.668	25.416	549.806	33.577	450.116	50.918	115.446

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.007	0.006	-0.001	0.005	0.004	0.004	-0.123	0.005
S.D.	0.003	0.001	0.009	0.001	0.002	0.001	0.007	0.001
% R.S.D.	34.607	12.304	732.857	27.077	37.821	26.117	5.474	17.180

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.067	0.004	0.005	0.011
S.D.	0.022	0.002	0.001	0.019
% R.S.D.	33.145	43.573	22.570	182.212

Identity 1: LLS Identity 2: Quality Control 1:09 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.019	0.019	0.190	0.130	0.092	0.034	0.020	0.018
S.D.	0.003	0.000	0.012	0.006	0.012	0.000	0.001	0.000
% R.S.D.	16.322	1.497	6.159	4.770	13.202	0.081	3.563	2.253

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.043	0.100	0.103	0.195	0.014	0.214	0.447
S.D.	0.000	0.001	0.003	0.002	0.002	0.002	0.010	0.117
% R.S.D.	1.461	2.917	2.732	1.837	0.977	10.735	4.678	26.109

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.173	0.150	0.098	0.387	0.199	0.186	0.199	0.188
S.D.	0.033	0.023	0.000	0.018	0.006	0.000	0.002	0.006
% R.S.D.	18.899	15.489	0.366	4.529	2.792	0.061	1.090	3.409

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.092	0.024	0.205	0.018	0.007	0.101	0.439	0.020
S.D.	0.001	0.002	0.006	0.001	0.001	0.002	0.018	0.000
% R.S.D.	0.593	9.643	2.688	5.251	12.547	1.817	4.101	2.044

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.046	0.098	0.009	0.434
S.D.	0.098	0.002	0.001	0.064
% R.S.D.	213.758	2.184	6.060	14.836

1

Identity 1: ICSAB Identity 2: Quality Control 1:18 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.003	0.000	-0.001	0.023	189.467	0.470	0.481	0.884
S.D.	0.001	0.000	0.003	0.004	0.573	0.004	0.002	0.008
% R.S.D.	42.758	38.188	217.333	16.209	0.303	0.814	0.517	0.926

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.984	0.981	0.001	98.570	101.957	0.491	-0.007	-0.016
S.D.	0.002	0.005	0.002	0.192	0.248	0.004	0.008	0.048
% R.S.D.	0.238	0.462	131.974	0.195	0.243	0.862	112.086	291.151

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.034	0.046	0.490	0.017	-0.027	100.936	0.017	179.001
S.D.	0.013	0.008	0.002	0.003	0.002	0.081	0.004	1.429
% R.S.D.	37.105	17.393	0.495	19.657	6.044	0.080	22.679	0.798

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.006	1.048	0.991	-0.002	0.982	0.010	-0.012	0.499
S.D.	0.002	0.003	0.017	0.000	0.002	0.001	0.006	0.002
% R.S.D.	27.116	0.331	1.679	26.335	0.231	8.795	47.795	0.409

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.490	0.496	0.048
S.D.	0.008	0.002	0.001	0.030
% R.S.D.	577.350	0.497	0.157	63.989

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Identity 1: ICSA Identity 2: Quality Control 1:14 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.001	-0.006	0.030	187.921	-0.005	0.001	-0.001
S.D.	0.004	0.000	0.004	0.010	2.373	0.003	0.002	0.001
% R.S.D.	183.636	48.022	70.192	32.884	1.263	62.104	224.565	143.574

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.000	0.003	97.851	100.131	0.000	0.005	0.075
S.D.	0.000	0.002	0.004	0.670	0.989	0.002	0.002	0.181
% R.S.D.	1.699	598.955	115.263	0.685	0.988	1286.924	45.374	241.613

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.080	0.038	0.001	0.018	-0.023	99.288	0.012	176.067
S.D.	0.046	0.037	0.001	0.008	0.016	0.191	0.004	4.331
% R.S.D.	58.190	97.491	101.149	45.096	70.664	0.192	30.919	2.460

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	0.005	-0.003	-0.001	0.001	0.011	0.010	0.002
S.D.	0.001	0.003	0.016	0.002	0.001	0.000	0.041	0.001
% R.S.D.	64.509	52.780	629.615	170.726	246.907	4.217	404.906	44.537

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.039	0.001	0.001	0.098
S.D.	0.027	0.003	0.001	0.107
% R.S.D.	68.209	218.119	50.251	109.039

Identity 1: prepblkarl Identity 2: .250ml-9.75ml 1:22 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	-0.002	0.027	0.009	0.302	-0.011	0.000	-0.001
S.D.	0.003	0.000	0.011	0.005	0.046	0.000	0.001	0.000
% R.S.D.	173.143	15.997	40.917	62.199	15.230	0.245	433.206	54.495

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.194	0.002	0.160	0.163	-0.003	0.005	0.061
S.D.	0.000	0.003	0.001	0.023	0.026	0.002	0.012	0.132
% R.S.D.	1.013	1.468	58.843	14.365	16.180	88.387	223.423	216.167

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.023	0.022	-0.001	0.006	0.007	0.140	-0.002	0.426
S.D.	0.037	0.025	0.000	0.003	0.005	0.024	0.003	0.046
% R.S.D.	163.235	115.223	62.865	60.638	76.231	17.201	131.128	10.704

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.005	0.002	0.017	-0.001	0.001	-0.005	332.656	-0.000
S.D.	0.001	0.002	0.007	0.001	0.001	0.002	3.199	0.000
% R.S.D.	22.355	123.536	42.856	79.026	108.234	29.510	0.962	3.423

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.111	-0.001	-0.002	0.055
S.D.	0.014	0.003	0.000	0.083
% R.S.D.	12.745	281.412	11.298	151.893

1

Identity 1: s97t001058 Identity 2: .250ml-9.75ml 1:35 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	484.265	-0.043	0.920	23.124	23.943	-0.050	-0.088	-0.102
S.D.	1.517	0.007	0.312	0.106	0.228	0.002	0.030	0.015
% R.S.D.	0.313	17.255	33.933	0.456	0.952	3.794	33.975	14.655

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.566	64.972	-0.122	3.173	0.086	0.385	-1.494	163.161
S.D.	0.052	0.197	0.032	0.071	0.032	0.113	0.333	3.345
% R.S.D.	9.251	0.303	26.561	2.240	37.565	29.352	22.264	2.050

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.544	0.501	-0.081	1.350	1.317	-0.013	-0.075	887.964
S.D.	1.095	0.697	0.019	0.351	0.201	0.041	0.180	10.383
% R.S.D.	201.251	139.064	23.179	26.003	15.262	307.478	241.219	1.169

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.573	2.244	-0.510	0.058	-0.058	1.968	14092.850	0.085
S.D.	0.023	0.069	0.464	0.030	0.033	0.015	135.195	0.000
% R.S.D.	1.461	3.096	91.007	51.800	56.375	0.754	0.959	0.508

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-1.123	2.789	0.288	-2.719
S.D.	1.931	0.063	0.019	2.211
% R.S.D.	172.030	2.267	6.437	81.297

t

Identity 1: s97t001058_d Identity 2: .250ml-9.75ml 1:39 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	477.726	-0.051	0.295	27.174	24.185	-0.050	-0.082	-0.102
S.D.	0.501	0.002	0.045	0.107	0.096	0.001	0.008	0.004
% R.S.D.	0.105	3.208	15.126	0.396	0.395	1.562	9.458	4.362

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.314	67.736	-0.164	2.284	0.033	0.275	-0.550	151.206
S.D.	0.015	0.235	0.093	0.121	0.009	0.101	0.113	1.367
% R.S.D.	4.753	0.347	56.804	5.297	26.186	36.841	20.619	0.904

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.971	-1.157	-0.083	1.700	1.480	-0.092	-0.282	895.840
S.D.	0.312	0.136	0.003	0.154	0.080	0.005	0.274	3.204
% R.S.D.	32.104	11.733	3.464	9.081	5.393	4.948	97.369	0.358

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.500	2.232	-0.368	-0.059	-0.021	2.515	14469.933	0.072
S.D.	0.014	0.041	0.128	0.018	0.044	0.062	64.127	0.000
% R.S.D.	0.954	1.820	34.772	30.446	211.582	2.462	0.443	0.221

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.738	2.761	0.275	-3.521
S.D.	0.788	0.030	0.010	0.504
% R.S.D.	45.321	1.104	3.694	14.300

Identity 1: s97t001064 Identity 2: .250ml-9.75ml 1:56 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	442.071	-0.040	0.489	29.181	31.707	-0.038	-0.037	-0.079
S.D.	0.493	0.004	0.028	0.151	0.353	0.001	0.023	0.012
% R.S.D.	0.111	10.911	5.655	0.517	1.113	2.388	61.298	14.623

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.362	52.788	-0.103	1.872	-0.307	0.328	-0.612	166.609
S.D.	0.003	0.134	0.094	0.082	0.000	0.109	0.214	0.537
% R.S.D.	0.696	0.254	91.536	4.387	0.000	33.167	34.935	0.322

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.465	0.147	-0.062	1.372	1.747	-0.221	-0.300	927.076
S.D.	0.505	0.297	0.008	0.228	0.118	0.000	0.271	3.250
% R.S.D.	108.610	202.148	12.166	16.589	6.764	0.001	90.185	0.351

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.275	2.073	-0.413	-0.059	-0.004	2.751	13212.795	0.080
S.D.	0.032	0.014	0.196	0.012	0.036	0.058	38.411	0.008
% R.S.D.	2.529	0.681	47.331	20.624	882.314	2.107	0.291	10.227

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.145	2.683	0.181	-1.698
S.D.	0.516	0.020	0.006	0.230
% R.S.D.	356.414	0.750	3.341	13.526

‡

Identity 1: s97t001064_d Identity 2: .250ml-9.75ml 1:59 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	437.504	-0.059	0.886	25.692	31.248	0.025	-0.115	-0.121
S.D.	0.140	0.004	0.288	0.116	0.144	0.088	0.009	0.011
% R.S.D.	0.032	7.274	32.528	0.451	0.461	350.516	7.607	9.082

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.191	30.371	0.009	1.818	0.254	0.230	-1.585	174.303
S.D.	0.003	0.166	0.095	0.051	0.002	0.131	0.137	1.977
% R.S.D.	1.555	0.547	1038.834	2.815	0.654	57.268	8.673	1.134

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.619	0.739	-0.096	1.329	1.898	-0.208	-0.399	972.228
S.D.	0.583	0.366	0.010	0.101	0.056	0.005	0.041	7.063
% R.S.D.	35.991	49.449	10.001	7.588	2.957	2.193	10.319	0.726

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-1.292	1.975	-0.680	-0.017	-0.074	2.277	14720.488	-0.007
S.D.	0.019	0.021	0.364	0.018	0.026	0.023	108.873	0.008
% R.S.D.	1.464	1.054	53.565	106.688	34.901	1.008	0.740	121.695

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.123	2.464	0.165	-4.158
S.D.	2.001	0.038	0.000	0.664
% R.S.D.	178.202	1.559	0.226	15.959

Identity 1: s97t001065 Identity 2: .250ml-9.75ml 2:02 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	38.097	-0.074	0.321	3.704	218.379	-0.100	0.044	-0.111
S.D.	0.071	0.000	0.114	0.053	0.316	0.149	0.002	0.004
% R.S.D.	0.186	0.000	35.539	1.438	0.145	148.634	4.569	4.006

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.251	37.414	-0.118	2.756	2.366	57.750	-0.869	18.229
S.D.	0.012	0.243	0.054	0.082	0.003	0.259	0.089	0.401
% R.S.D.	4.881	0.650	45.885	2.981	0.121	0.449	10.292	2.199

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.103	-0.302	-0.070	6.068	1.902	-0.148	-0.198	722.322
S.D.	0.178	0.043	0.003	0.116	0.126	0.005	0.109	3.855
% R.S.D.	16.091	14.088	3.695	1.918	6.613	3.090	55.100	0.534

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.074	0.076	0.174	-0.060	0.123	0.040	14775.679	0.597
S.D.	0.017	0.008	0.505	0.008	0.021	0.014	67.002	0.000
% R.S.D.	22.378	10.563	289.659	12.757	17.352	34.290	0.453	0.009

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.561	-0.033	-0.082	-1.325
S.D.	2.300	0.019	0.006	0.413
% R.S.D.	409.703	56.781	7.377	31.168

‡

Identity 1: s97t001065_d Identity 2: .250ml-9.75ml 2:05 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	43.544	-0.064	0.830	3.130	219.035	-0.111	0.055	-0.089
S.D.	0.101	0.002	0.225	0.078	0.431	0.000	0.007	0.006
% R.S.D.	0.231	2.547	27.124	2.504	0.197	0.371	12.884	6.759

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.981	33.049	-0.099	2.623	1.692	59.812	-0.594	19.762
S.D.	0.025	0.121	0.031	0.053	0.006	0.260	0.286	0.941
% R.S.D.	2.580	0.366	31.279	2.006	0.353	0.435	48.108	4.762

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.076	-0.741	-0.048	5.560	2.240	-0.129	-0.164	673.498
S.D.	0.136	0.176	0.006	0.217	0.152	0.005	0.047	0.853
% R.S.D.	179.425	23.729	13.130	3.897	6.788	3.530	28.573	0.127

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.026	0.170	1.659	-0.066	0.144	0.061	14164.019	0.630
S.D.	0.011	0.022	0.459	0.003	0.038	0.043	16.986	0.008
% R.S.D.	41.683	12.938	27.638	4.990	26.213	69.848	0.120	1.286

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.163	0.126	-0.057	-1.492
S.D.	1.088	0.017	0.006	0.539
% R.S.D.	667.777	13.262	10.523	36.159

‡

Identity 1: s97t001065_L Identity 2: .25ml-9.75ml-2ml-8ml 2:10 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 200.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	36.826	-0.395	5.257	2.357	212.181	-1.054	-0.304	-0.474
S.D.	0.360	0.016	1.498	0.164	1.069	0.432	0.041	0.033
% R.S.D.	0.977	4.124	28.504	6.959	0.504	41.011	13.542	7.064

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.912	36.497	-0.357	3.005	2.641	57.345	-3.196	7.953
S.D.	0.026	0.736	0.271	0.649	0.014	0.571	1.515	1.220
% R.S.D.	2.821	2.017	75.956	21.594	0.544	0.995	47.401	15.342

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.745	-6.013	-0.412	7.152	2.910	-1.173	-0.295	709.976
S.D.	0.678	0.478	0.022	0.791	0.312	0.023	0.546	2.821
% R.S.D.	90.989	7.946	5.294	11.060	10.709	1.946	184.774	0.397

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.582	-0.264	2.670	-0.481	0.102	-0.535	15083.404	0.280
S.D.	0.135	0.034	1.480	0.057	0.216	0.172	74.551	0.041
% R.S.D.	23.268	13.018	55.441	11.834	211.681	32.109	0.494	14.592

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-11.408	-0.077	-0.435	0.673
S.D.	4.077	0.049	0.000	0.598
% R.S.D.	35.741	63.172	0.050	88.792

‡

Identity 1: s97t001065_a Identity 2: .25ml-2.05ml-7.95ml 2:16 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	78.157	40.624	42.991	43.733	256.396	40.987	41.905	36.336
S.D.	0.250	0.273	0.354	0.182	1.160	0.493	0.467	0.773
% R.S.D.	0.319	0.673	0.824	0.416	0.453	1.202	1.114	2.128

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	41.968	78.742	40.948	43.929	40.632	99.639	42.994	104.079
S.D.	0.043	0.259	0.287	0.262	0.299	0.474	0.345	5.511
% R.S.D.	0.103	0.329	0.701	0.596	0.736	0.476	0.803	5.295

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	39.130	42.318	40.200	45.685	41.039	37.795	40.733	729.807
S.D.	1.443	0.767	0.346	0.931	0.152	0.104	0.444	14.660
% R.S.D.	3.687	1.814	0.860	2.038	0.370	0.276	1.090	2.009

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	40.044	22.599	41.708	39.133	40.680	40.408	14294.990	41.890
S.D.	0.141	0.318	0.644	0.089	0.177	0.389	269.452	0.043
% R.S.D.	0.353	1.407	1.543	0.226	0.435	0.963	1.885	0.104

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	38.607	41.899	40.748	42.227
S.D.	0.976	0.100	0.257	2.800
% R.S.D.	2.527	0.239	0.632	6.632

‡

Identity 1: s97t001065_x Identity 2: .25ml-9.75ml-1ml-9ml 2:20 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 400.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	37.332	-0.423	8.913	8.230	214.320	-3.288	-0.147	-0.551
S.D.	1.145	0.086	5.456	3.031	4.635	0.870	0.353	0.184
% R.S.D.	3.066	20.367	61.218	36.834	2.163	26.467	240.409	33.401

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.874	38.561	1.293	2.739	2.947	58.050	-8.301	61.427
S.D.	0.143	0.627	0.329	0.084	0.092	0.913	5.390	36.759
% R.S.D.	2.430	1.627	25.447	3.055	3.131	1.573	64.930	59.841

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.147	5.902	-0.344	10.977	3.398	-2.162	-0.610	712.936
S.D.	11.020	7.112	0.176	6.690	1.327	0.046	1.332	9.116
% R.S.D.	7494.464	120.507	51.159	60.945	39.061	2.110	218.300	1.279

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.665	-0.191	-4.815	-0.163	0.330	-1.575	15300.042	0.510
S.D.	0.041	0.785	5.584	0.383	0.143	0.390	168.900	0.167
% R.S.D.	6.211	410.133	115.969	235.268	43.235	24.776	1.104	32.772

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-5.070	-0.641	-0.373	16.783
S.D.	7.376	0.728	0.122	21.363
% R.S.D.	145.467	113.698	32.719	127.285

Identity 1: s97t001065_AX Identity 2: .25-9.75-1-1-1-7ml 2:25 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 400.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	3986.125	3909.378	4005.707	3950.319	3914.987	3847.398	3810.189	3697.616
S.D.	6.264	11.139	21.791	7.491	14.145	4.317	17.823	49.164
% R.S.D.	0.157	0.285	0.544	0.190	0.361	0.112	0.468	1.330

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	3897.887	3946.980	3999.217	4016.230	3943.933	3931.237	4224.714	7779.877
S.D.	1.115	5.391	10.579	14.078	9.040	7.511	5.772	15.538
% R.S.D.	0.029	0.137	0.265	0.351	0.229	0.191	0.137	0.200

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	3858.297	4021.627	3886.750	3791.193	3644.500	3888.611	3848.574	4415.714
S.D.	7.947	11.229	7.497	21.716	16.045	3.002	5.100	61.291
% R.S.D.	0.206	0.279	0.193	0.573	0.440	0.077	0.133	1.388

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	3789.784	1917.674	4001.604	3814.413	3919.838	3950.834	18918.880	3974.895
S.D.	5.227	16.291	6.180	8.188	7.220	14.284	291.446	6.996
% R.S.D.	0.138	0.850	0.154	0.215	0.184	0.362	1.541	0.176

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	3932.455	3963.903	3979.695	4256.630
S.D.	24.491	5.779	9.961	6.145
% R.S.D.	0.623	0.146	0.250	0.144

Identity 1: ICSA Identity 2: Quality Control 2:36 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.001	-0.006	0.030	187.291	-0.012	0.001	0.001
S.D.	0.003	0.000	0.016	0.008	2.183	0.002	0.001	0.000
% R.S.D.	572.961	29.017	252.391	26.116	1.166	13.721	81.670	47.930

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	-0.002	0.004	97.415	100.005	-0.002	-0.004	-0.038
S.D.	0.001	0.002	0.002	0.519	0.769	0.002	0.011	0.129
% R.S.D.	14.850	119.168	39.468	0.533	0.769	98.517	299.039	336.099

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.047	0.015	0.002	0.023	-0.015	96.779	0.026	174.250
S.D.	0.034	0.023	0.001	0.004	0.002	0.200	0.003	2.990
% R.S.D.	70.920	148.082	30.976	16.502	16.186	0.206	10.837	1.716

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	0.012	-0.020	-0.001	0.004	0.009	0.106	0.003
S.D.	0.002	0.003	0.009	0.001	0.001	0.001	0.027	0.000
% R.S.D.	101.500	26.571	43.427	66.968	16.906	6.153	25.059	15.945

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.006	0.001	0.002	0.054
S.D.	0.022	0.002	0.000	0.059
% R.S.D.	348.393	180.702	11.841	109.553

Identity 1: ICSAB Identity 2: Quality Control 2:39 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.007	0.001	0.003	0.015	189.041	0.469	0.481	0.870
S.D.	0.001	0.000	0.002	0.002	0.489	0.003	0.002	0.011
% R.S.D.	19.229	10.189	65.548	10.234	0.258	0.676	0.462	1.234

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.980	0.969	0.003	98.606	101.771	0.490	-0.024	-0.116
S.D.	0.001	0.001	0.003	0.106	0.062	0.003	0.007	0.048
% R.S.D.	0.077	0.110	110.823	0.108	0.061	0.533	28.072	41.192

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.012	-0.001	0.490	-0.001	-0.034	100.261	0.010	176.035
S.D.	0.013	0.009	0.002	0.009	0.004	0.128	0.004	1.973
% R.S.D.	111.051	969.349	0.318	744.464	12.758	0.128	37.749	1.121

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.005	1.049	0.992	-0.002	0.978	0.010	0.208	0.499
S.D.	0.000	0.002	0.029	0.000	0.003	0.000	0.016	0.001
% R.S.D.	8.611	0.175	2.897	12.293	0.330	3.689	7.630	0.238

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.064	0.488	0.496	0.006
S.D.	0.017	0.000	0.000	0.014
% R.S.D.	26.973	0.062	0.031	222.095

‡

Identity 1: CCV Identity 2: Quality Control 2:41 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.917	4.930	5.046	4.791	5.118	5.039	5.030	4.581
S.D.	0.011	0.020	0.009	0.013	0.054	0.015	0.020	0.038
% R.S.D.	0.231	0.402	0.175	0.265	1.063	0.300	0.401	0.835

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.164	4.957	4.962	5.267	4.987	4.905	5.209	9.641
S.D.	0.009	0.021	0.004	0.019	0.019	0.006	0.035	0.025
% R.S.D.	0.183	0.420	0.072	0.369	0.382	0.124	0.678	0.259

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.842	5.003	4.882	4.965	4.810	5.004	5.077	5.316
S.D.	0.039	0.014	0.019	0.019	0.028	0.039	0.017	0.038
% R.S.D.	0.798	0.271	0.384	0.373	0.576	0.782	0.326	0.712

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.969	5.153	4.964	4.765	4.993	5.010	4.990	5.025
S.D.	0.014	0.005	0.036	0.016	0.011	0.017	0.021	0.003
% R.S.D.	0.280	0.090	0.729	0.332	0.225	0.330	0.411	0.065

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.682	5.075	5.084	5.122
S.D.	0.009	0.008	0.014	0.017
% R.S.D.	0.193	0.151	0.282	0.336

Identity 1: CC8 Identity 2: Quality Control 2:51 PM June 13, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	-0.002	0.016	-0.001	0.025	-0.011	-0.001	-0.002
S.D.	0.000	0.000	0.004	0.001	0.004	0.000	0.000	0.000
% R.S.D.	18.993	5.329	24.515	128.987	14.822	0.041	24.777	11.846

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	-0.004	-0.000	0.022	0.019	-0.007	-0.013	-0.069
S.D.	0.000	0.001	0.002	0.001	0.001	0.001	0.004	0.026
% R.S.D.	32.619	36.836	6621.519	6.393	7.718	13.715	34.335	37.928

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.018	-0.014	-0.002	-0.011	0.002	0.013	-0.006	0.043
S.D.	0.007	0.004	0.000	0.009	0.004	0.001	0.001	0.002
% R.S.D.	37.556	25.199	9.615	82.367	201.892	9.840	16.922	5.172

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.003	-0.001	-0.011	-0.001	-0.001	-0.003	0.019	-0.001
S.D.	0.001	0.001	0.006	0.000	0.001	0.001	0.008	0.000
% R.S.D.	35.536	105.902	53.165	29.927	130.484	29.178	41.668	48.557

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.034	-0.002	-0.002	-0.015
S.D.	0.015	0.001	0.000	0.013
% R.S.D.	44.015	27.888	8.377	88.654

LABCORE Completed Worklist Report for Worklist# 18561

Analyst: slh **Instrument:** CARB2 **Book#** 25N12A TIC 26N12A TOC

Method: LA342-100 Rev/Mod E-0

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK			0	@TICTOC1 TIC-02	SOLID	1	1.60E+0	1.600	ug/g
1	BLNK			0	@TICTOC1 TOC-02	SOLID	1	2.70E+0	2.700	ug/g
2	STD			0	@TICTOC1 TIC-02	SOLID	6.02E+02	5.81E+2	96.512	% Recovery
2	STD			0	@TICTOC1 TOC-02	SOLID	3.00E+03	2.91E+3	97.000	% Recovery
3	SAMPLE	S97T000983		0	@TICTOC1 TIC-02	SOLID	N/A	1.24E+03	5.000	ug/g
3	SAMPLE	S97T000983		0	@TICTOC1 TOC-02	SOLID	N/A	2.22E+03	40.000	ug/g
4	DUP	S97T000983		0	@TICTOC1 TIC-02	SOLID	1.24E+3	1.95E+3	44.514	RPD
4	DUP	S97T000983		0	@TICTOC1 TOC-02	SOLID	2.22E+3	2.34E+3	5.263	RPD
5	TRIPL	S97T000983		0	@TICTOC1 TIC-02	SOLID	1.24E+3	1.77E+3	35.216	RPD
5	TRIPL	S97T000983		0	@TICTOC1 TOC-02	SOLID	2.22E+3	<4.00E+1		RPD
6	SAMPLE	S97T000984		0	@TICTOC1 TIC-02	SOLID	N/A	1.35E+03	5.000	ug/g
6	SAMPLE	S97T000984		0	@TICTOC1 TOC-02	SOLID	N/A	1.01E+04	40.000	ug/g
7	DUP	S97T000984		0	@TICTOC1 TIC-02	SOLID	1.35E+3	1.34E+3	0.743	RPD
7	DUP	S97T000984		0	@TICTOC1 TOC-02	SOLID	1.01E+4	1.00E+4	0.995	RPD
8	SPK	S97T000984		0	@TICTOC1 TIC-02	SOLID	1.00E+02	1.09E+02	109.000	% Recovery
8	SPK	S97T000984		0	@TICTOC1 TOC-02	SOLID	1.00E+02	9.14E+01	91.400	% Recovery

Final page for worklist# 18561

Analyst Signature Date

Susan Bee 6/17/97
Analyst Signature Date

R W Schroeder 6/18/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18561

Analyst: SLH **Instrument:** CARB2 **Book#** 25N12-A TIC
26N12-A TOC

Method: LA-342-100 Rev/Mod

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S97T000983	0		@TICTOC1	SOLID	97000332	AW-103
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S97T000983	0		@TICTOC1	SOLID		
5	SAMPLE	S97T000984	0		@TICTOC1	SOLID	97000332	AW-103
		Analytes Requested: TIC-02 , TOC-02						
6	DUP	S97T000984	0		@TICTOC1	SOLID		
7	SPK	S97T000984	0		@TICTOC1	SOLID		

Final page for worklist # 18561

S L Hood Boatright
Analyst Signature **Date** 6-12-97

Analyst Signature **Date**

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18561

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

Method: LA-342-100 Rev/Mod _____

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S97T000983	0		@TICTOC1	SOLID	97000332	AW-103
	Analytes Requested: TIC-02 , TOC-02							
4	DUP	S97T000983	0		@TICTOC1	SOLID		
5	TRIPL	S97T000983	0		@TICTOC1	SOLID		
6	SAMPLE	S97T000984	0		@TICTOC1	SOLID	97000332	AW-103
	Analytes Requested: TIC-02 , TOC-02							
7	DUP	S97T000984	0		@TICTOC1	SOLID		
8	SPK	S97T000984	0		@TICTOC1	SOLID		

Final page for worklist # 18561

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

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

			TIC	TOC
Type	Sample Size in g	(SS)	0.1083	0.1083
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	8.7	28.3
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code				
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97002621				
Rerun	µg of Carbon = |C1-C2|			
0				
Sample Prep				
N/A				
Sample #				
BLANK				
Instrument Code				
CARB2				
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/17/97			TIC	TOC
Analysis Time	Method Detection Limit in ug/g		5	40
05:00 PM				
Sample Point	µg of Carbon		1.60E+00	2.70E+00
AW-103				

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	R W Schroeder	Date:	6/18/97

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

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

			TIC	TOC
Type	Sample Size in mL	(SS)	1.0000	0.2000
STD	Dilution Factor	(DF)	1	1
Work List	Final Coulometer Reading in µg	(C1)	588	613.8
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code	Standard Book Number		25N12A	26N12A
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix
LIQUID
Batch Number
97002621
Rerun
0
Sample Prep
N/A
Sample #
STD
Instrument Code
CARB2
Prepared By
SKB
Chemist
RWS
Analyst
SLH
Date Complete
06/17/97
Analysis Date
06/17/97
Analysis Time
05:00 PM
Sample Point
AW-103

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
Method Detection Limit in µg/mL	5	40
QC Actual in µg/mL	6.02E+02	3.00E+03
QC Found in µg/mL	5.81E+02	2.91E+03
Percent Standard Recovery	96.5	97.1

Data Entered By: SKB Date: 06/17/97

Signature of Chemist: Date: 6/18/97

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

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

Type	Sample Size in g	(SS)	TIC	TOC
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	141.5	271.5
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code				
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97002621				
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 #				
S97T000983				
Instrument Code				
CARB2				
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/17/97			TIC	TOC
Analysis Time	Method Detection Limit in ug/g		5	40
05:00 PM				
Sample Point	µg of Carbon/g		1.24E+03	2.22E+03
AW-103				

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: DUP4

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

Type			TIC	TOC
DUP	Sample Size in g	(SS)	0.1256	0.1256
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	252.3	325.4
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code	Known µg of C from Original Sample		1.24E+3	2.22E+3
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97002621				
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 #				
S97T000983				
Instrument Code				
CARB2				
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/17/97			TIC	TOC
Analysis Time	Method Detection Limit in ug/g		5	40
05:00 PM				
Sample Point	µg of Carbon/g		1.95E+03	2.34E+03
AW-103				

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: TRIPL5

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

Type			TIC	TOC
TRIPL	Sample Size in g	(SS)	0.1273	N/A
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	232.2	N/A
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code	Known µg of C from Original Sample		1.24E+3	2.22E+3
@TICTOC1	Duplicate Result		1.95E+3	2.34E+3

Matrix	SOLID
Batch Number	97002621
Rerun	0
Sample Prep	N/A
Sample #	S97T000983
Instrument Code	CARB2
Prepared By	SKB
Chemist	RWS
Analyst	SLH
Date Complete	06/17/97
Analysis Date	06/17/97
Analysis Time	05:00 PM
Sample Point	AW-103

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

NOTE: FOR TOC: The Reported Result is < 40.

		TIC	TOC
Method Detection Limit in ug/g		5	40
µg of Carbon/g	Note: <	1.77E+03	4.00E+01

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM6

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

Type			TIC	TOC
SAMPLE	Sample Size in g	(SS)	0.1026	0.1026
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	145.5	1067.3
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code				
@TICTOC1				

Matrix
SOLID
Batch Number
97002621
Rerun
0
Sample Prep
N/A
Sample #
S97T000984
Instrument Code
CARB2
Prepared By
SKB
Chemist
RWS
Analyst
SLH
Date Complete
06/17/97
Analysis Date
06/17/97
Analysis Time
05:00 PM
Sample Point
AW-103

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	1.35E+03	1.01E+04

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: DUP7

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

Type			TIC	TOC
DUP	Sample Size in g	(SS)	0.1128	0.1128
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	158.3	1162.9
18561	µg of Carbon from Baseline	(C2)	7.1	31
Test Code	Known µg of C from Original Sample		1.35E+3	1.01E+4
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97002621				
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 #				
S97T000984				
Instrument Code				
CARB2				
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/17/97			TIC	TOC
Analysis Time	Method Detection Limit in ug/g		5	40
05:00 PM				
Sample Point	µg of Carbon/g		1.34E+03	1.00E+04
AW-103				

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SPIKE8

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

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1026	0.1026
Work List	Final Coulometer Reading in µg	(C1)	145.5	1067.3
18561	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.0954	0.0954
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	463.7	1266.6
SOLID	Spike Book Number		25N12A	26N12A
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
97002621				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S97T000984				
Instrument Code	**QC Actual in µg/mL = Spike Value (µg/mL)**			
CARB2	**QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100**			
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/17/97				

Analysis Time		TIC	TOC
05:00 PM	QC Actual in µg/mL	6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL	6.57E+02	2.74E+03
AW-103	Percent Spike Recovery	109.1	91.4

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	DW Schroeder	Date:	6/18/97

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1 Date: 06/17/97 Time: 11:30:32

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	10.80	0.00
2	1.01	89.20	87.89
3	1.51	175.30	49.12
4	2.00	317.40	44.77
5	2.50	452.70	29.89
6	3.00	530.50	14.67
7	3.50	565.80	6.24
8	4.00	577.90	2.09
9	4.50	582.30	0.76
10	5.00	583.70	0.24
11	5.50	584.40	0.12
12	6.00	584.90	0.09
13	6.50	585.40	0.09
14	7.00	585.70	0.05
15	7.50	586.00	0.05
16	8.00	586.40	0.07
17	8.50	586.60	0.03
18	9.00	586.90	0.05
19	9.50	587.20	0.05
20	10.00	587.40	0.03
21	10.50	587.70	0.05
22	11.00	588.00	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(588 - 7.148056)(1)/(1000) = +5.809E-01 g/L Carbon
(588 - 7.148056)(1)/(1000)(12) = +4.840E-02 Molar Car

Sample Run By: SL Hood Boatright
SL HOOD 00001

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 808 TO 824.

53 1ml 25N12-A

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1 Date: 06/17/97 Time: 11:45:58

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.20	0.00
2	1.01	6.30	96.83
3	1.51	72.40	91.30
4	2.01	226.50	68.04
5	2.51	416.20	45.58
6	3.00	534.30	22.10
7	3.50	583.50	8.43
8	4.00	599.80	2.72
9	4.50	605.30	0.91
10	5.00	607.40	0.35
11	5.50	608.70	0.21
12	6.00	609.40	0.11
13	6.50	610.30	0.15
14	7.00	610.60	0.05
15	7.50	611.10	0.08
16	8.00	611.60	0.08
17	8.50	612.10	0.08
18	9.00	612.40	0.05
19	9.50	612.80	0.07
20	10.00	613.20	0.07
21	10.50	613.50	0.05
22	11.00	613.80	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(613.8 - 31.01673)(1)/(200) = +2.914E+00 g/L Carbon
(613.8 - 31.01673)(1)/(200)(12) = +2.428E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

.200ml 26N12-A

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

Sample: BASE 1 Date: 06/17/97 Time: 09:29:44

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

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.30	33.33
3	1.51	0.60	50.00
4	2.01	1.20	50.00
5	2.51	2.30	47.83
6	3.00	3.50	34.29
7	3.50	3.90	10.26
8	4.00	4.30	9.30
9	4.50	4.60	6.52
10	5.00	4.80	4.17
11	5.50	5.00	4.00
12	6.00	5.20	3.85
13	6.50	5.40	3.70
14	7.00	5.60	3.57
15	7.50	5.80	3.45
16	8.00	6.00	3.33
17	8.50	6.20	3.23
18	9.00	6.30	1.59
19	9.50	6.60	4.55
20	10.00	6.80	2.94
21	10.50	7.00	2.86
22	11.00	7.10	1.41

BLANK VALUE = 7.1 micrograms carbon
BLANK FACTOR = 7.1 / 10.99786 = +6.5E-01 ug/min Carbon

Sample Run By: _____
SL HOOD 00001

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ____ TO ____

LAD 8/18/97

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

Sample: BASE 1 Date: 06/17/97 Time: 09:46:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 1
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	0.30	66.67
3	1.51	1.20	75.00
4	2.01	5.10	76.47
5	2.50	12.70	59.84
6	3.00	18.70	32.09
7	3.50	22.30	16.14
8	4.00	24.50	8.98
9	4.50	25.70	4.67
10	5.00	26.50	3.02
11	5.50	27.20	2.57
12	6.00	27.80	2.16
13	6.50	28.10	1.07
14	7.00	28.50	1.40
15	7.50	28.90	1.38
16	8.00	29.20	1.03
17	8.50	29.50	1.02
18	9.00	29.80	1.01
19	9.50	30.10	1.00
20	10.00	30.40	0.99
21	10.50	30.60	0.65
22	11.00	31.00	1.29

BLANK VALUE = 31 micrograms carbon
BLANK FACTOR = 31 / 10.99969 = +2.82E+00 ug/min Carbon

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

Sample Run By: _____
SL HOOD 00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1 Date: 06/17/97 Time: 11:59:44

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	1.90	0.00
2	1.01	2.70	29.63
3	1.51	3.30	18.18
4	2.00	3.80	13.16
5	2.50	4.20	9.52
6	3.00	4.60	8.70
7	3.50	4.90	6.12
8	4.00	5.10	3.92
9	4.50	5.40	5.56
10	5.00	5.70	5.26
11	5.50	5.90	3.39
12	6.00	6.20	4.84
13	6.50	6.40	3.13
14	7.00	6.70	4.48
15	7.50	6.90	2.90
16	8.00	7.20	4.17
17	8.50	7.40	2.70
18	9.00	7.70	3.90
19	9.50	7.90	2.53
20	10.00	8.20	3.66
21	10.50	8.50	3.53
22	11.00	8.70	2.30

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(8.7 - 7.148056)(1)/(1) = +1.6E+00 g/L Carbon
(8.7 - 7.148056)(1)/(1)(12) = +1.3E-01 Molar Carbon

Sample Run By: _____
SL HOOD 00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1 Date: 06/17/97 Time: 13:12:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	6.80	89.71
3	1.51	14.10	51.77
4	2.01	18.30	22.95
5	2.50	20.90	12.44
6	3.00	22.10	5.43
7	3.50	22.90	3.49
8	4.00	23.40	2.14
9	4.50	23.90	2.09
10	5.00	24.30	1.65
11	5.50	24.60	1.22
12	6.00	25.10	1.99
13	6.50	25.50	1.57
14	7.00	25.80	1.16
15	7.50	26.20	1.53
16	8.00	26.50	1.13
17	8.50	26.80	1.12
18	9.00	27.10	1.11
19	9.50	27.50	1.45
20	10.00	27.70	0.72
21	10.50	28.00	1.07
22	11.00	28.30	1.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(28.3 - 31.01656)(1)/(1) = < 5.00 E-3 g/L Carbon
(28.3 - 31.01656)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 Date: 06/17/97 Time: 13:30:39

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.51	0.30	0.00
2	1.01	1.10	72.73
3	1.51	9.20	88.04
4	2.01	31.00	70.32
5	2.51	63.70	51.33
6	3.00	93.40	31.80
7	3.50	112.70	17.13
8	4.00	123.40	8.67
9	4.50	129.40	4.64
10	5.00	132.50	2.34
11	5.50	134.30	1.34
12	6.00	135.50	0.89
13	6.50	136.50	0.73
14	7.00	137.20	0.51
15	7.50	138.00	0.58
16	8.00	138.40	0.29
17	8.50	139.10	0.50
18	9.00	139.60	0.36
19	9.50	140.10	0.36
20	10.00	140.70	0.43
21	10.50	141.10	0.28
22	11.00	141.50	0.28

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(141.5 - 7.148611)(1)/(1) = +1.344E+02 g/L Carbon
(141.5 - 7.148611)(1)/(1)(12) = +1.120E+01 Molar Car

Sample Run By: _____
SL HOOD 00001

SS = .10839

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 Date: 06/17/97 Time: 13:44:46

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	26.50	97.36
3	1.51	121.80	78.24
4	2.00	197.70	38.39
5	2.50	235.40	16.02
6	3.00	251.30	6.33
7	3.50	257.70	2.48
8	4.00	260.70	1.15
9	4.50	262.60	0.72
10	5.00	263.90	0.49
11	5.50	265.10	0.45
12	6.00	266.00	0.34
13	6.50	266.90	0.34
14	7.00	267.60	0.26
15	7.50	268.30	0.26
16	8.00	268.90	0.22
17	8.50	269.30	0.15
18	9.00	269.90	0.22
19	9.50	270.30	0.15
20	10.00	270.70	0.15
21	10.50	271.20	0.18
22	11.00	271.50	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(271.5 - 31.01432)(1)/(1) = +2.405E+02 g/L Carbon
(271.5 - 31.01432)(1)/(1)(12) = +2.004E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS .10839

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 DUP Date: 06/17/97 Time: 13:58:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.90	73.68
3	1.50	28.20	93.26
4	2.00	79.40	64.48
5	2.50	138.50	42.67
6	3.00	185.60	25.38
7	3.50	214.80	13.59
8	4.00	230.40	6.77
9	4.50	238.30	3.32
10	5.00	242.30	1.65
11	5.50	244.50	0.90
12	6.00	245.90	0.57
13	6.50	247.00	0.45
14	7.00	247.80	0.32
15	7.50	248.50	0.28
16	8.00	249.10	0.24
17	8.50	249.70	0.24
18	9.00	250.20	0.20
19	9.50	250.80	0.24
20	10.00	251.30	0.20
21	10.50	251.80	0.20
22	11.00	252.30	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(252.3 - 7.149246)(1)/(1) = +2.452E+02 g/L Carbon
(252.3 - 7.149246)(1)/(1)(12) = +2.043E+01 Molar Carbon

Sample Run By:
SL HOOD 00001

55 = .12569

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 DUP Date: 06/17/97 Time: 14:12:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	1.01	91.30	95.73
3	1.51	215.90	57.71
4	2.00	273.20	20.97
5	2.50	296.20	7.77
6	3.00	306.10	3.23
7	3.50	310.70	1.48
8	4.00	313.80	0.99
9	4.50	315.80	0.63
10	5.00	317.30	0.47
11	5.50	318.30	0.31
12	6.00	319.50	0.38
13	6.50	320.30	0.25
14	7.00	321.00	0.22
15	7.50	321.80	0.25
16	8.00	322.40	0.19
17	8.50	323.00	0.19
18	9.00	323.60	0.19
19	9.50	324.00	0.12
20	10.00	324.50	0.15
21	10.50	325.00	0.15
22	11.00	325.40	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(325.4 - 31.01673)(1)/(1) = +2.944E+02 g/L Carbon
(325.4 - 31.01673)(1)/(1)(12) = +2.453E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS .12569

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00983 TRP Date: 06/17/97 Time: 16:30:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 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	4.40	86.36
3	1.51	31.10	85.85
4	2.01	79.20	60.73
5	2.50	130.50	39.31
6	3.00	169.70	23.10
7	3.50	194.50	12.75
8	4.00	208.40	6.67
9	4.50	215.60	3.34
10	5.00	219.50	1.78
11	5.50	221.70	0.99
12	6.00	223.50	0.81
13	6.50	225.60	0.93
14	7.00	227.10	0.66
15	7.50	228.00	0.39
16	8.00	228.80	0.35
17	8.50	229.50	0.31
18	9.00	230.20	0.30
19	9.50	230.80	0.26
20	10.00	231.40	0.26
21	10.50	231.80	0.17
22	11.00	232.20	0.17

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(232.2 - 7.149881)(1)/(1) = +2.251E+02 g/L Carbon
(232.2 - 7.149881)(1)/(1)(12) = +1.875E+01 Molar Carb

Sample Run By:
SL HOOD 00001

SS = .12735

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 Date: 06/17/97 Time: 14:28:23

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
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	1.51	15.80	90.51
4	2.00	40.20	60.70
5	2.50	68.20	41.06
6	3.00	93.00	26.67
7	3.50	111.70	16.74
8	4.00	124.00	9.92
9	4.50	130.90	5.27
10	5.00	134.70	2.82
11	5.50	137.10	1.75
12	6.00	138.40	0.94
13	6.50	139.60	0.86
14	7.00	140.40	0.57
15	7.50	141.10	0.50
16	8.00	142.00	0.63
17	8.50	142.60	0.42
18	9.00	143.10	0.35
19	9.50	143.90	0.56
20	10.00	144.20	0.21
21	10.50	144.90	0.48
22	11.00	145.50	0.41

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(145.5 - 7.149246)(1)/(1) = +1.384E+02 g/L Carbon
(145.5 - 7.149246)(1)/(1)(12) = +1.153E+01 Molar Car

Sample Run By: _____
SL HOOD 00001

SS .10203

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 Date: 06/17/97 Time: 14:45:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	40.20	98.51
3	1.51	305.50	86.84
4	2.01	564.40	45.87
5	2.50	751.50	24.90
6	3.00	898.70	16.38
7	3.50	985.60	8.82
8	4.00	1025.80	3.92
9	4.50	1042.70	1.62
10	5.00	1049.70	0.67
11	5.50	1053.80	0.39
12	6.00	1056.90	0.29
13	6.50	1058.30	0.13
14	7.00	1059.90	0.15
15	7.50	1061.10	0.11
16	8.00	1062.50	0.13
17	8.50	1063.60	0.10
18	9.00	1064.40	0.08
19	9.50	1065.30	0.08
20	10.00	1066.00	0.07
21	10.50	1066.70	0.07
22	11.00	1067.30	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(1067.3 - 31.01656)(1)/(1) = +1.0363E+03 g/L Carbon
(1067.3 - 31.01656)(1)/(1)(12) = +8.6357E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

55.7 .1026

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 DUP Date: 06/17/97 Time: 15:01:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 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	1.40	71.43
3	1.51	10.00	86.00
4	2.01	30.90	67.64
5	2.51	63.10	51.03
6	3.01	96.10	34.34
7	3.50	120.50	20.25
8	4.00	135.20	10.87
9	4.50	143.30	5.65
10	5.00	147.10	2.58
11	5.50	149.60	1.67
12	6.00	151.10	0.99
13	6.50	152.20	0.72
14	7.00	153.10	0.59
15	7.50	153.90	0.52
16	8.00	154.70	0.52
17	8.50	155.40	0.45
18	9.00	155.90	0.32
19	9.50	156.70	0.51
20	10.00	157.20	0.32
21	10.50	157.80	0.38
22	11.00	158.30	0.32

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(158.3 - 7.149167)(1)/(1) = +1.512E+02 g/L Carbon
(158.3 - 7.149167)(1)/(1)(12) = +1.260E+01 Molar Carbon

Sample Run By: SL HOOD 00001

55.1128g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 DUP Date: 06/17/97 Time: 15:45:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	47.50	99.16
3	1.51	373.80	87.29
4	2.00	663.70	43.68
5	2.50	864.80	23.25
6	3.00	1012.80	14.61
7	3.50	1091.70	7.23
8	4.00	1126.30	3.07
9	4.50	1140.00	1.20
10	5.00	1146.20	0.54
11	5.50	1150.00	0.33
12	6.00	1152.70	0.23
13	6.50	1154.60	0.16
14	7.00	1156.10	0.13
15	7.50	1157.40	0.11
16	8.00	1158.60	0.10
17	8.50	1159.40	0.07
18	9.00	1160.30	0.08
19	9.50	1161.10	0.07
20	10.00	1161.80	0.06
21	10.50	1162.30	0.04
22	11.00	1162.90	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(1162.9 - 31.01157)(1)/(1) = +1.1319E+03 g/L Carbon
(1162.9 - 31.01157)(1)/(1)(12) = +9.4324E+01 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS .11289

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 SPK Date: 06/17/97 Time: 16:01:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	3.30	90.91
3	1.51	56.00	94.11
4	2.01	159.60	64.91
5	2.50	264.70	39.71
6	3.00	347.10	23.74
7	3.50	400.80	13.40
8	4.00	430.50	6.90
9	4.50	444.60	3.17
10	5.00	450.80	1.38
11	5.50	454.20	0.75
12	6.00	456.10	0.42
13	6.50	457.40	0.28
14	7.00	458.40	0.22
15	7.50	459.20	0.17
16	8.00	459.80	0.13
17	8.50	460.60	0.17
18	9.00	461.30	0.15
19	9.50	462.10	0.17
20	10.00	462.40	0.06
21	10.50	463.00	0.13
22	11.00	463.70	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(463.7 - 7.148571)(1)/(1) = +4.566E+02 g/L Carbon
(463.7 - 7.148571)(1)/(1)(12) = +3.805E+01 Molar Carb

Sample Run By:
SL HOOD 00001

SS = .0954g
+ .500 ml spike 25N12-A

823

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T00984 SPK Date: 06/17/97 Time: 16:15:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.82 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	82.50	99.27
3	1.51	412.00	79.98
4	2.00	684.70	39.83
5	2.50	966.20	29.13
6	3.00	1136.10	14.95
7	3.50	1206.40	5.83
8	4.00	1236.30	2.42
9	4.50	1247.50	0.90
10	5.00	1252.00	0.36
11	5.50	1255.00	0.24
12	6.00	1257.10	0.17
13	6.50	1258.90	0.14
14	7.00	1260.20	0.10
15	7.50	1261.40	0.10
16	8.00	1262.40	0.08
17	8.50	1263.20	0.06
18	9.00	1264.00	0.06
19	9.50	1264.80	0.06
20	10.00	1265.40	0.05
21	10.50	1266.00	0.05
22	11.00	1266.60	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(1266.6 - 31.01363)(1)/(1) = +1.2356E+03 g/L Carbon
(1266.6 - 31.01363)(1)/(1)(12) = +1.0297E+02 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00001

SS = .0954g
+ .100 spike 25NI2-A

LABCORE Completed Worklist Report for Worklist# 18562

Analyst: slh **Instrument:** CARB2 **Book#** 25NB2A TIC 26NB2A TOC

Method: LA-342-106 Rev/Mod E-0

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK		0		@TICTOC1 TIC-02	SOLID	1	3.70E+0	3.700	ug/g
1	BLNK		0		@TICTOC1 TOC-02	SOLID	1	6.40E+0	6.400	ug/g
2	STD		0		@TICTOC1 TIC-02	SOLID	6.02E+02	5.80E+2	96.346	% Recovery
2	STD		0		@TICTOC1 TOC-02	SOLID	3.00E+03	2.78E+3	92.667	% Recovery
3	SAMPLE	S97T001041	0		@TICTOC1 TIC-02	SOLID	N/A	1.53E+03	5.000	ug/g
3	SAMPLE	S97T001041	0		@TICTOC1 TOC-02	SOLID	N/A	8.30E+03	40.000	ug/g
4	DUP	S97T001041	0		@TICTOC1 TIC-02	SOLID	1.53E+3	1.52E+3	0.656	RPD
4	DUP	S97T001041	0		@TICTOC1 TOC-02	SOLID	8.30E+3	8.85E+3	6.414	RPD
5	SPK	S97T001041	0		@TICTOC1 TIC-02	SOLID	1.00E+02	1.01E+02	101.000	% Recovery
5	SPK	S97T001041	0		@TICTOC1 TOC-02	SOLID	1.00E+02	1.20E+02	120.000	% Recovery

Final page for worklist# 18562

Analyst Signature Date

Susan Bu 6/17/97
Analyst Signature Date

RW Schwedy 6/18/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 13:43
A-0004-1

LABCORE Data Entry Template for Worklist# 18562

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

Method: LA-342-100 Rev/Mod _____

Worklist Comment: AW103, @TICTOC1 Std: TIC= 1.0mL, TOC= .200mL skm

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S97T001041	0		@TICTOC1	SOLID	97000333	AW-103
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S97T001041	0		@TICTOC1	SOLID		
5	SPK	S97T001041	0		@TICTOC1	SOLID		

Final page for worklist # 18562

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

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

Type	Work List	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
BLNK	18562	@TICTOC1	SOLID	97002622	0	N/A	BLANK	CARB2	SKB	RWS	SLH	06/17/97	06/16/97	05:30 PM	AW-103

			TIC	TOC
Sample Size in g	(SS)		0.1373	0.1373
Dilution Factor	(DF)		1	1
µg of Carbon in Sample	(C1)		9.4	31
µg of Carbon from Baseline	(C2)		5.7	37.4

µg of Carbon = |C1-C2|

		TIC	TOC
Method Detection Limit in ug/g		5	40
µg of Carbon		3.70E+00	6.40E+00

Data Entered By: SKB Date: 06/17/97

Signature of Chemist: RWS Schmaltz Date: 6/18/97

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

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

Type	Sample Size in mL	(SS)	TIC 1.0000	TOC 0.2000
STD	Dilution Factor	(DF)	1	1
Work List	Final Coulometer Reading in µg	(C1)	586.1	593.2
18562	µg of Carbon from Baseline	(C2)	5.7	37.4
Test Code	Standard Book Number		25N12A	26N12A
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix
LIQUID
Batch Number
97002622
Rerun
0
Sample Prep
N/A
Sample #
STD
Instrument Code
CARB2
Prepared By
SKB
Chemist
RWS
Analyst
SLH
Date Complete
06/17/97
Analysis Date
06/16/97
Analysis Time
05:30 PM
Sample Point
AW-103

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
Method Detection Limit in µg/mL	5	40
QC Actual in µg/mL	6.02E+02	3.00E+03
QC Found in µg/mL	5.80E+02	2.78E+03
Percent Standard Recovery	96.4	92.6

Data Entered By: SKB Date: 06/17/97

Signature of Chemist: RWS Date: 6/18/97

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

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

Type			TIC	TOC
SAMPLE	Sample Size in g	(SS)	0.1373	0.1373
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	216.3	1176.4
18562	µg of Carbon from Baseline	(C2)	5.7	37.4
Test Code				
@TICTOC1				

Matrix
SOLID
Batch Number
97002622
Rerun
0
Sample Prep
N/A
Sample #
S97T001041
Instrument Code
CARB2
Prepared By
SKB
Chemist
RWS
Analyst
SLH
Date Complete
06/17/97
Analysis Date
06/16/97
Analysis Time
05:30 PM
Sample Point
AW-103

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	1.53E+03	8.30E+03

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	R W Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\18562.WB1 06/17/97 19:49:13

WORKBOOK PAGE: DUP4

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

Type			TIC	TOC
DUP	Sample Size in g	(SS)	0.1370	0.1370
	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	214.2	1250.1
18562	µg of Carbon from Baseline	(C2)	5.7	37.4
Test Code	Known µg of C from Original Sample		1.53E+3	8.30E+3
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97002622				
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 #				
S97T001041				
Instrument Code				
CARB2				
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/16/97			TIC	TOC
Analysis Time	Method Detection Limit in ug/g		5	40
05:30 PM				
Sample Point	µg of Carbon/g		1.52E+03	8.85E+03
AW-103				

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\18562.WB1 06/17/97 19:49:11

WORKBOOK PAGE: SPIKE5

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

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1373	0.1373
Work List	Final Coulometer Reading in µg	(C1)	216.3	1176.4
18562	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.1040	0.1040
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	468	1250.6
SOLID	Spike Book Number		25N12A	26N12A
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
97002622				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S97T001041				
Instrument Code	**QC Actual in µg/mL = Spike Value (µg/mL)**			
CARB2	**QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100**			
Prepared By				
SKB				
Chemist				
RWS				
Analyst				
SLH				
Date Complete				
06/17/97				
Analysis Date				
06/16/97				
Analysis Time			TIC	TOC
05:30 PM	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		6.08E+02	3.60E+03
AW-103	Percent Spike Recovery		101.0	119.8

Data Entered By:	SKB	Date:	06/17/97
Signature of Chemist:	RW Schroeder	Date:	6/18/97

SPIKE.WB1 REV 1.1 342100ML

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 06/16/97 Time: 14:11:24

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	6.00	95.00
3	1.51	90.30	93.36
4	2.01	241.80	62.66
5	2.51	370.50	34.74
6	3.00	458.60	19.21
7	3.50	514.70	10.90
8	4.00	547.00	5.90
9	4.50	564.50	3.10
10	5.00	573.40	1.55
11	5.50	577.70	0.74
12	6.00	580.30	0.45
13	6.50	581.70	0.24
14	7.00	582.60	0.15
15	7.50	583.40	0.14
16	8.00	583.90	0.09
17	8.50	584.20	0.05
18	9.00	585.20	0.17
19	9.50	585.20	0.00
20	10.00	585.50	0.05
21	10.50	585.80	0.05
22	11.00	586.10	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(586.1 - 5.719397)(1)/(1000) = +5.804E-01 g/L Carbon
(586.1 - 5.719397)(1)/(1000)(12) = +4.837E-02 Molar Carbon

Sample Run By: SL Hood Boatright
SL HOOD 00002

Inl = 05NI2-A

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 839 TO 843.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 06/16/97 Time: 14:25:33

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.30	0.00
2	1.01	2.10	85.71
3	1.51	61.10	96.56
4	2.01	217.20	71.87
5	2.50	365.40	40.56
6	3.00	463.70	21.20
7	3.50	522.60	11.27
8	4.00	555.40	5.91
9	4.50	571.90	2.89
10	5.00	579.90	1.38
11	5.50	584.20	0.74
12	6.00	586.50	0.39
13	6.50	588.00	0.26
14	7.00	588.80	0.14
15	7.50	589.60	0.14
16	8.00	590.40	0.14
17	8.50	590.90	0.08
18	9.00	591.30	0.07
19	9.50	591.80	0.08
20	10.00	592.10	0.05
21	10.50	592.50	0.07
22	11.00	593.20	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(593.2 - 37.39606)(1)/(200) = +2.779E+00 g/L Carbon
(593.2 - 37.39606)(1)/(200)(12) = +2.316E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL Hood Beatright
SL HOOD 00002

.200 ml = 26012-A

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

Sample: BASE 2 Date: 06/16/97 Time: 13:41:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 2
Blank Value = N/A

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.20	0.00
2	1.01	0.40	50.00
3	1.51	0.90	55.56
4	2.00	1.60	43.75
5	2.50	1.90	15.79
6	3.00	2.20	13.64
7	3.50	2.60	15.38
8	4.00	3.00	13.33
9	4.50	3.30	9.09
10	5.00	3.40	2.94
11	5.50	3.60	5.56
12	6.00	3.90	7.69
13	6.50	4.00	2.50
14	7.00	4.20	4.76
15	7.50	4.50	6.67
16	8.00	4.70	4.26
17	8.50	4.90	4.08
18	9.00	5.00	2.00
19	9.50	5.10	1.96
20	10.00	5.20	1.92
21	10.50	5.60	7.14
22	11.00	5.70	1.75

BLANK VALUE = 5.7 micrograms carbon
BLANK FACTOR = 5.7 / 10.99701 = +5.2E-01 ug/min Carbon

Sample Run By: _____
SL HOOD 00002

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ____ TO ____

LAD 8/18/97

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

Sample: BASE 2 Date: 06/16/97 Time: 13:56:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 2
Blank Value = N/A

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.51	0.00	0.00
2	1.01	0.00	0.00
3	1.50	3.30	100.00
4	2.00	10.00	67.00
5	2.50	16.90	40.83
6	3.00	22.60	25.22
7	3.50	26.60	15.04
8	4.00	29.40	9.52
9	4.50	30.80	4.55
10	5.00	32.50	5.23
11	5.50	33.00	1.52
12	6.00	33.60	1.79
13	6.50	34.00	1.18
14	7.00	34.60	1.73
15	7.50	34.90	0.86
16	8.00	35.40	1.41
17	8.50	35.70	0.84
18	9.00	36.10	1.11
19	9.50	36.30	0.55
20	10.00	36.60	0.82
21	10.50	37.00	1.08
22	11.00	37.40	1.07

BLANK VALUE = 37.4 micrograms carbon
BLANK FACTOR = 37.4 / 10.99799 = +3.40E+00 ug/min Carbon

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

Sample Run By: _____
SL HOOD 00002

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 06/16/97 Time: 14:40:31

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 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	0.70	42.86
3	1.51	1.40	50.00
4	2.00	2.70	48.15
5	2.50	3.50	22.86
6	3.00	4.20	16.67
7	3.50	5.00	16.00
8	4.00	5.10	1.96
9	4.50	5.40	5.56
10	5.00	5.80	6.90
11	5.50	6.00	3.33
12	6.00	6.40	6.25
13	6.50	6.80	5.88
14	7.00	7.10	4.23
15	7.50	7.30	2.74
16	8.00	7.60	3.95
17	8.50	8.00	5.00
18	9.00	8.20	2.44
19	9.50	8.40	2.38
20	10.00	8.90	5.62
21	10.50	9.30	4.30
22	11.00	9.40	1.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(9.4 - 5.719397)(1)/(1) = +3.7E+00 g/L Carbon
(9.4 - 5.719397)(1)/(1)(12) = +3.1E-01 Molar Carbon

Sample Run By: _____
SL HOOD 00002

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 06/16/97 Time: 15:26:20

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	0.80	62.50
3	1.50	4.40	81.82
4	2.00	10.80	59.26
5	2.50	16.00	32.50
6	3.00	19.70	18.78
7	3.50	22.20	11.26
8	4.00	24.30	8.64
9	4.50	25.10	3.19
10	5.00	26.00	3.46
11	5.50	26.60	2.26
12	6.00	27.20	2.21
13	6.50	27.80	2.16
14	7.00	28.40	2.11
15	7.50	28.60	0.70
16	8.00	28.90	1.04
17	8.50	29.20	1.03
18	9.00	30.00	2.67
19	9.50	30.00	0.00
20	10.00	30.20	0.66
21	10.50	30.70	1.63
22	11.00	31.00	0.97

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(31 - 37.38983)(1)/(1) = < 5.00 E-3 g/L Carbon
(31 - 37.38983)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001041 Date: 06/16/97 Time: 15:44:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 ug/minute C

Analyst : SL HOOD
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	3.00	73.33
4	2.00	22.00	86.36
5	2.50	59.20	62.84
6	3.00	100.80	41.27
7	3.50	134.40	25.00
8	4.00	158.00	14.94
9	4.50	175.50	9.97
10	5.00	188.00	6.65
11	5.50	195.30	3.74
12	6.00	200.60	2.64
13	6.50	203.60	1.47
14	7.00	206.40	1.36
15	7.50	208.80	1.15
16	8.00	210.10	0.62
17	8.50	211.40	0.61
18	9.00	212.50	0.52
19	9.50	213.70	0.56
20	10.00	214.60	0.42
21	10.50	215.30	0.33
22	11.00	216.30	0.46

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(216.3 - 5.718984)(1)/(1) = +2.106E+02 g/L Carbon
(216.3 - 5.718984)(1)/(1)(12) = +1.755E+01 Molar Carbon

Sample Run By: SL HOOD 00002

SS .13739

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001041 Date: 06/16/97 Time: 15:58:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 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	1.00	1.40	57.14
3	1.50	40.30	96.53
4	2.00	188.60	78.63
5	2.50	388.80	51.49
6	3.00	604.30	35.66
7	3.50	812.30	25.61
8	4.00	956.90	15.11
9	4.50	1043.50	8.30
10	5.00	1096.90	4.87
11	5.50	1128.30	2.78
12	6.00	1145.30	1.48
13	6.50	1154.60	0.81
14	7.00	1160.40	0.50
15	7.50	1163.90	0.30
16	8.00	1167.10	0.27
17	8.50	1169.10	0.17
18	9.00	1171.00	0.16
19	9.50	1172.60	0.14
20	10.00	1173.90	0.11
21	10.50	1175.10	0.10
22	11.00	1176.40	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1176.4 - 37.39253)(1)/(1) = +1.1390E+03 g/L Carbon
(1176.4 - 37.39253)(1)/(1)(12) = +9.4917E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

86 .13735

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 DUP Date: 06/16/97 Time: 16:11:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .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	1.90	42.11
3	1.51	4.20	54.76
4	2.00	22.20	81.08
5	2.50	59.60	62.75
6	3.00	99.40	40.04
7	3.50	132.30	24.87
8	4.00	154.60	14.42
9	4.50	169.40	8.74
10	5.00	179.60	5.68
11	5.50	188.70	4.82
12	6.00	195.80	3.63
13	6.50	200.70	2.44
14	7.00	203.90	1.57
15	7.50	206.00	1.02
16	8.00	207.70	0.82
17	8.50	209.00	0.62
18	9.00	210.30	0.62
19	9.50	211.50	0.57
20	10.00	212.20	0.33
21	10.50	213.20	0.47
22	11.00	214.20	0.47

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(214.2 - 5.718445)(1)/(1) = +2.085E+02 g/L Carbon
(214.2 - 5.718445)(1)/(1)(12) = +1.737E+01 Molar Carb

Sample Run By: SL HOOD 00002

SS .1370g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 DUP Date: 06/16/97 Time: 16:24:37

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 3.4 ug/minute C % Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.51	0.80	0.00
2	1.01	2.50	68.00
3	1.51	67.80	96.31
4	2.01	259.00	73.82
5	2.50	472.40	45.17
6	3.00	656.20	28.01
7	3.50	839.80	21.86
8	4.00	994.70	15.57
9	4.50	1090.80	8.81
10	5.00	1151.00	5.23
11	5.50	1188.30	3.14
12	6.00	1209.80	1.78
13	6.50	1222.40	1.03
14	7.00	1229.80	0.60
15	7.50	1234.70	0.40
16	8.00	1238.50	0.31
17	8.50	1241.40	0.23
18	9.00	1243.50	0.17
19	9.50	1245.60	0.17
20	10.00	1247.30	0.14
21	10.50	1248.80	0.12
22	11.00	1250.10	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1250.1 - 37.39606)(1)/(1) = +1.2127E+03 g/L Carbon
(1250.1 - 37.39606)(1)/(1)(12) = +1.0106E+02 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS .13709

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 SPK Date: 06/16/97 Time: 17:07:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .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	2.20	45.45
3	1.50	8.50	74.12
4	2.00	61.00	86.07
5	2.50	155.30	60.72
6	3.00	252.20	38.42
7	3.50	329.60	23.48
8	4.00	383.20	13.99
9	4.50	418.40	8.41
10	5.00	438.80	4.65
11	5.50	449.60	2.40
12	6.00	455.20	1.23
13	6.50	458.70	0.76
14	7.00	461.20	0.54
15	7.50	462.10	0.19
16	8.00	463.40	0.28
17	8.50	464.60	0.26
18	9.00	465.10	0.11
19	9.50	465.90	0.17
20	10.00	466.80	0.19
21	10.50	467.70	0.19
22	11.00	468.00	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(468 - 5.717968)(1)/(1) = +4.623E+02 g/L Carbon
(468 - 5.717968)(1)/(1)(12) = +3.852E+01 Molar Carb

Sample Run By: SL HOOD : 00002

SS .1040g
+ .500 ml 25N12-A

L AD 7/28/97

HNF-SD-WM-DP-249, REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01041 SPK Date: 06/16/97 Time: 17:20:57

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.4 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.80	0.00
2	1.01	4.70	82.98
3	1.51	101.50	95.37
4	2.01	307.50	66.99
5	2.50	516.10	40.42
6	3.00	724.50	28.76
7	3.50	916.90	20.98
8	4.00	1046.90	12.42
9	4.50	1123.40	6.81
10	5.00	1172.90	4.22
11	5.50	1203.20	2.52
12	6.00	1219.80	1.36
13	6.50	1228.70	0.72
14	7.00	1234.00	0.43
15	7.50	1237.80	0.31
16	8.00	1240.90	0.25
17	8.50	1243.20	0.19
18	9.00	1245.20	0.16
19	9.50	1246.90	0.14
20	10.00	1248.50	0.13
21	10.50	1249.40	0.07
22	11.00	1250.60	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +3.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1250.6 - 37.38963)(1)/(1) = +1.2132E+03 g/L Carbon
(1250.6 - 37.38963)(1)/(1)(12) = +1.0110E+02 Molar Carb
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS .1040g
+ .200 ml 26N12-A
Spike

LABCORE Completed Worklist Report for Worklist# 19259

Analyst: krm **Instrument:** CARB2 **Book#** 25N12B 26N12B

Method: LA342-100 Rev/Mod E-0

Worklist Comment: AW103 @TICTOC1 *RERUN*

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK		0		@TICTOC1 TIC-02	SOLID	1	4.10E+0	4.100	ug/g
1	BLNK		0		@TICTOC1 TOC-02	SOLID	1	1.70E+0	1.700	ug/g
2	STD		0		@TICTOC1 TIC-02	SOLID	6.02E+02	6.04E+2	100.332	% Recovery
2	STD		0		@TICTOC1 TOC-02	SOLID	3.00E+03	2.94E+3	98.000	% Recovery
3	SAMPLE	S97T000878	0		@TICTOC1 TIC-02	SOLID	N/A	8.92E+02	5.000	ug/g
3	SAMPLE	S97T000878	0		@TICTOC1 TOC-02	SOLID	N/A	2.47E+02	40.000	ug/g
4	DUP	S97T000878	0		@TICTOC1 TIC-02	SOLID	8.92E+2	9.03E+2	1.226	RPD
4	DUP	S97T000878	0		@TICTOC1 TOC-02	SOLID	2.47E+2	1.95E+2	23.529	RPD
5	SPK	S97T000878	0		@TICTOC1 TIC-02	SOLID	1.00E+02	9.78E+01	97.800	% Recovery
5	SPK	S97T000878	0		@TICTOC1 TOC-02	SOLID	1.00E+02	8.25E+01	82.500	% Recovery

Final page for worklist# 19259

Analyst Signature Date

7-21-97
Analyst Signature Date

RW Schroeder 7/22/97
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

07/10/97 15:23
A-0004-1

LABCORE Data Entry Template for Worklist# 19259

Analyst: KRM **Instrument:** CARB2 _____ **Book#** 25412B 26418B

Method: LA-342-100 Rev/Mod _____

Worklist Comment: AW103 @TICTOC1 *RERUN*

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S97T000878	0		@TICTOC1	SOLID	97000332	AW-103
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S97T000878	0		@TICTOC1	SOLID		
5	SPK	S97T000878	0		@TICTOC1	SOLID		

Final page for worklist # 19259

7-20-97

Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

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

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

Sample: BASE2 Date: 07/19/97 Time: 21:32:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE2
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.40	100.00
3	1.00	0.70	42.86
4	1.50	1.20	41.67
5	2.00	1.40	14.29
6	2.50	1.90	26.32
7	3.00	2.40	20.83
8	3.50	2.70	11.11
9	4.00	3.10	12.90
10	4.50	3.60	13.89
11	5.00	3.90	7.69
12	5.50	4.30	9.30
13	6.00	4.80	10.42
14	6.50	5.10	5.88
15	7.00	5.50	7.27
16	7.50	5.80	5.17
17	8.00	6.20	6.45
18	8.50	6.50	4.62
19	9.00	6.80	4.41
20	9.50	7.10	4.23
21	10.00	7.40	4.05
22	10.50	7.80	5.13

BLANK VALUE = 7.8 micrograms carbon
BLANK FACTOR = 7.8 / 10.49719 = +7.4E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 846 TO 862.

Sample Run By: 7-20-97
KR MONTEITH 00000

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

Sample: BASE2 Date: 07/19/97 Time: 21:55:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE2
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.50	100.00
3	1.01	1.10	54.55
4	1.50	1.40	21.43
5	2.00	2.10	33.33
6	2.50	4.10	48.78
7	3.00	7.40	44.59
8	3.50	11.50	35.65
9	4.00	15.80	27.22
10	4.50	19.80	20.20
11	5.00	23.10	14.29
12	5.50	25.00	7.60
13	6.00	26.60	6.02
14	6.50	27.90	4.66
15	7.00	28.60	2.45
16	7.50	29.40	2.72
17	8.00	29.90	1.67
18	8.50	30.50	1.97
19	9.00	30.90	1.29
20	9.50	31.40	1.59
21	10.00	31.70	0.95
22	10.50	32.20	1.55

BLANK VALUE = 32.2 micrograms carbon
BLANK FACTOR = 32.2 / 10.4989 = +3.07E+00 ug/min Carbon

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

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 07/19/97 Time: 22:07:11

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.20	100.00
3	1.00	0.60	66.67
4	1.50	1.00	40.00
5	2.00	7.50	86.67
6	2.50	51.60	85.47
7	3.00	145.50	64.54
8	3.50	261.70	44.40
9	4.00	367.40	28.77
10	4.50	450.30	18.41
11	5.00	509.80	11.67
12	5.50	550.20	7.34
13	6.00	574.60	4.25
14	6.50	588.80	2.41
15	7.00	597.10	1.39
16	7.50	602.10	0.83
17	8.00	605.30	0.53
18	8.50	607.50	0.36
19	9.00	608.80	0.21
20	9.50	609.90	0.18
21	10.00	610.70	0.13
22	10.50	611.40	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(611.4 - 7.768555)(1)/(1000) = +6.036E-01 g/L Carbon
(611.4 - 7.768555)(1)/(1000)(12) = +5.030E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 07/19/97 Time: 22:18:29

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ====	Analysis Time ====	Coulometer ====	% Difference ==
1	0.08	0.00	0.00
2	0.51	0.60	100.00
3	1.01	1.20	50.00
4	1.51	1.60	25.00
5	2.00	14.40	88.89
6	2.50	102.90	86.01
7	3.00	254.80	59.62
8	3.50	392.50	35.08
9	4.00	484.70	19.02
10	4.50	540.70	10.36
11	5.00	574.60	5.90
12	5.50	593.20	3.14
13	6.00	603.10	1.64
14	6.50	606.20	0.51
15	7.00	608.50	0.38
16	7.50	610.40	0.31
17	8.00	612.30	0.31
18	8.50	613.70	0.23
19	9.00	614.90	0.20
20	9.50	616.00	0.18
21	10.00	618.20	0.36
22	10.50	619.40	0.19

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(619.4 - 32.22863)(1)/(200) = +2.936E+00 g/L Carbon
(619.4 - 32.22863)(1)/(200)(12) = +2.447E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 07/19/97 Time: 22:31:35

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.08	0.00	0.00
2	0.51	0.90	100.00
3	1.01	1.40	35.71
4	1.50	2.40	41.67
5	2.00	3.90	38.46
6	2.50	5.00	22.00
7	3.00	5.70	12.28
8	3.50	6.50	12.31
9	4.00	7.00	7.14
10	4.50	7.40	5.41
11	5.00	7.90	6.33
12	5.50	8.30	4.82
13	6.00	8.70	4.60
14	6.50	9.10	4.40
15	7.00	9.40	3.19
16	7.50	9.80	4.08
17	8.00	10.20	3.92
18	8.50	10.50	2.86
19	9.00	10.80	2.78
20	9.50	11.20	3.57
21	10.00	11.50	2.61
22	10.50	11.90	3.36

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(11.9 - 7.768465)(1)/(1) = +4.13E+00 g/L Carbon
(11.9 - 7.768465)(1)/(1)(12) = +3.44E-01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 07/19/97 Time: 22:43:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.00	0.50	100.00
4	1.51	1.00	50.00
5	2.00	4.60	78.26
6	2.50	11.00	58.18
7	3.00	16.10	31.68
8	3.50	19.90	19.10
9	4.00	22.40	11.16
10	4.50	24.10	7.05
11	5.00	25.40	5.12
12	5.50	26.20	3.05
13	6.00	26.80	2.24
14	6.50	27.30	1.83
15	7.00	27.80	1.80
16	7.50	28.30	1.77
17	8.00	28.60	1.05
18	8.50	29.20	2.05
19	9.00	29.40	0.68
20	9.50	29.80	1.34
21	10.03	30.10	1.00
22	10.53	30.50	1.31

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(30.5 - 32.33356)(1)/(1) = < 5.00 E-3 g/L Carbon
(30.5 - 32.33356)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878-2 Date: 07/19/97 Time: 22:54:50

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.01	0.40	100.00
4	1.51	0.90	55.56
5	2.00	4.40	79.55
6	2.50	16.30	73.01
7	3.00	36.30	55.10
8	3.50	60.30	39.80
9	4.00	82.50	26.91
10	4.50	99.50	17.09
11	5.00	111.30	10.60
12	5.50	118.80	6.31
13	6.00	124.00	4.19
14	6.50	126.70	2.13
15	7.00	128.70	1.55
16	7.50	129.70	0.77
17	8.00	130.50	0.61
18	8.50	131.10	0.46
19	9.00	131.70	0.46
20	9.50	132.10	0.30
21	10.00	132.50	0.30
22	10.50	132.90	0.30

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(132.9 - 7.769278)(1)/(1) = +1.251E+02 g/L Carbon
(132.9 - 7.769278)(1)/(1)(12) = +1.043E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878-2 Date: 07/19/97 Time: 23:06:02

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.01	0.50	100.00
4	1.51	1.30	61.54
5	2.01	10.50	87.62
6	2.50	26.80	60.82
7	3.00	40.20	33.33
8	3.50	49.00	17.96
9	4.00	54.30	9.76
10	4.50	57.50	5.57
11	5.00	59.80	3.85
12	5.50	61.00	1.97
13	6.00	62.10	1.77
14	6.50	62.90	1.27
15	7.00	63.50	0.94
16	7.50	64.20	1.09
17	8.00	64.70	0.77
18	8.50	65.10	0.61
19	9.00	65.60	0.76
20	9.50	66.00	0.61
21	10.00	66.50	0.75
22	10.50	66.80	0.45

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(66.8 - 32.232)(1)/(1) = +3.46E+01 g/L Carbon
(66.8 - 32.232)(1)/(1)(12) = +2.88E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878DUP-2nd Date: 07/19/97 Time: 23:08:53

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .57 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	5.60	89.29
3	1.51	22.10	74.66
4	2.01	45.10	51.00
5	2.50	65.30	30.93
6	3.00	81.00	19.38
7	3.50	92.40	12.34
8	4.00	100.20	7.78
9	4.50	105.70	5.20
10	5.00	109.00	3.03
11	5.50	111.40	2.15
12	6.00	113.20	1.59
13	6.50	114.60	1.22
14	7.00	115.60	0.87
15	7.50	116.10	0.43
16	8.00	116.50	0.34
17	8.50	117.00	0.43
18	9.00	117.30	0.26
19	9.50	117.50	0.17
20	10.00	117.80	0.25
21	10.50	118.20	0.34
22	11.00	118.50	0.25

USER INPUT BLANK VALUE
BLANK VALUE = 6.269374 micrograms carbon
BLANK FACTOR = 6.269374 / 10.9989 = +5.7E-01 ug/min Carbon

SAMPLE RESULTS:
(118.5 - 6.269444)(1)/(1) = +1.122E+02 g/L Carbon
(118.5 - 6.269444)(1)/(1)(12) = +9.353E+00 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878DUP-2 Date: 07/19/97 Time: 23:20:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
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	1.50	5.60	83.93
4	2.00	16.20	65.43
5	2.50	26.90	39.78
6	3.00	34.70	22.48
7	3.50	40.10	13.47
8	4.00	43.80	8.45
9	4.50	46.20	5.19
10	5.00	48.00	3.75
11	5.50	49.40	2.83
12	6.00	50.50	2.18
13	6.50	51.50	1.94
14	7.00	52.10	1.15
15	7.50	52.70	1.14
16	8.00	53.30	1.13
17	8.50	53.90	1.11
18	9.00	54.50	1.10
19	9.50	54.80	0.55
20	10.00	55.20	0.72
21	10.50	55.70	0.90
22	11.00	56.10	0.71

USER INPUT BLANK VALUE
BLANK VALUE = 33.76663 micrograms carbon
BLANK FACTOR = 33.76663 / 10.9989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(56.1 - 33.76625)(1)/(1) = +2.23E+01 g/L Carbon
(56.1 - 33.76625)(1)/(1)(12) = +1.86E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878SPK-2 Date: 07/19/97 Time: 23:41:11

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.70	100.00
3	1.01	1.30	46.15
4	1.51	2.20	40.91
5	2.00	16.80	86.90
6	2.50	74.00	77.30
7	3.00	159.30	53.55
8	3.50	247.80	35.71
9	4.00	318.70	22.25
10	4.50	371.30	14.17
11	5.00	407.60	8.91
12	5.50	431.40	5.52
13	6.00	446.20	3.32
14	6.50	455.70	2.08
15	7.00	461.70	1.30
16	7.50	465.20	0.75
17	8.00	467.70	0.53
18	8.50	469.20	0.32
19	9.00	470.20	0.21
20	9.50	471.10	0.19
21	10.00	471.80	0.15
22	10.50	472.40	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 7.769187 micrograms carbon
BLANK FACTOR = 7.769187 / 10.4989 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(472.4 - 7.769187)(1)/(1) = +4.646E+02 g/L Carbon
(472.4 - 7.769187)(1)/(1)(12) = +3.872E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T878SPK-2 Date: 07/20/97 Time: 01:36:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.07 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.00	0.00
3	1.01	0.60	100.00
4	1.50	1.80	66.67
5	2.00	34.00	94.71
6	2.50	126.60	73.14
7	3.00	213.30	40.65
8	3.50	267.80	20.35
9	4.00	298.90	10.40
10	4.50	314.50	4.96
11	5.00	322.60	2.51
12	5.50	326.60	1.22
13	6.00	329.20	0.79
14	6.50	330.80	0.48
15	7.00	331.90	0.33
16	7.50	333.20	0.39
17	8.00	333.90	0.21
18	8.50	334.60	0.21
19	9.00	335.30	0.21
20	9.50	335.70	0.12
21	10.00	336.30	0.18
22	10.50	336.90	0.18

USER INPUT BLANK VALUE
BLANK VALUE = 32.23162 micrograms carbon
BLANK FACTOR = 32.23162 / 10.4989 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(336.9 - 32.23162)(1)/(1) = +3.047E+02 g/L Carbon
(336.9 - 32.23162)(1)/(1)(12) = +2.539E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

WORKBOOK PAGE: BLANK1

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

Type	Work List	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
BLNK	19259	@TICTOC1	SOLID	97003368	0	N/A	BLANK	CARB2	RCJ	RWS	KRM	07/21/97	07/20/97	01:00 AM	AW-103

µg of Carbon = |C1-C2|

		TIC	TOC
Sample Size in g	(SS)	0.0000	0.0000
Dilution Factor	(DF)	1	1
µg of Carbon in Sample	(C1)	11.9	30.5
µg of Carbon from Baseline	(C2)	7.8	32.2

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	4.10E+00	1.70E+00

Data Entered By: RCJ Date: 07/21/97

Signature of Chemist: Date: 7/22/97

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

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

Type			TIC	TOC
STD	Sample Size in mL	(SS)	1.0000	0.2000
	Dilution Factor	(DF)	1	1
Work List	Final Coulometer Reading in µg	(C1)	611.4	619.4
19259	µg of Carbon from Baseline	(C2)	7.8	32.2
Test Code	Standard Book Number		25N12B	26N12B
@TICTOC1	Standard Value (µg/ml)		602	3000
Matrix				
LIQUID				
Batch Number				
97003368				
Rerun				
0				
Sample Prep				
N/A				
Sample #				
STANDARD				
Instrument Code				
CARB2				
Prepared By				
RCJ				
Chemist				
RWS				
Analyst				
KRM				
Date Complete				
07/21/97				
Analysis Date				
07/20/97				
Analysis Time				
01:00 AM				
Sample Point				
AW-103				

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
Method Detection Limit in µg/mL	5	40
QC Actual in µg/mL	6.02E+02	3.00E+03
QC Found in µg/mL	6.04E+02	2.94E+03
Percent Standard Recovery	100.3	97.9

Data Entered By: RCJ Date: 07/21/97

Signature of Chemist: RW Schroeder Date: 7/22/97

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

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

Type	Sample Size in g	(SS)	TIC	TOC
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	132.9	66.8
19259	µg of Carbon from Baseline	(C2)	7.6	32.2
Test Code				
@TICTOC1				
Matrix				
SOLID				
Batch Number				
97003368				
Rerun				
0				
Sample Prep				
N/A				
Sample #				
S97T000878				
Instrument Code				
CARB2				
Prepared By				
RCJ				
Chemist				
RWS				
Analyst				
KRM				
Date Complete				
07/21/97				
Analysis Date				
07/20/97				
Analysis Time				
01:00 AM				
Sample Point				
AW-103				

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	8.92E+02	2.47E+02

Data Entered By:	RCJ	Date:	07/21/97
Signature of Chemist:	RWS Schroeder	Date:	7/22/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: DUP4

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

Type	Work List	Test Code	Matrix	Batch Number	Rerun	Sample Prep	Sample #	Instrument Code	Prepared By	Chemist	Analyst	Date Complete	Analysis Date	Analysis Time	Sample Point
DUP	19259	@TICTOC1	SOLID	97003368	0	N/A	S97T000878	CARB2	RCJ	RWS	KRM	07/21/97	07/20/97	01:00 AM	AW-103

		TIC	TOC
Sample Size in g	(SS)	0.1226	0.1226
Dilution Factor	(DF)	1	1
µg of Carbon in Sample	(C1)	118.5	56.1
µg of Carbon from Baseline	(C2)	7.8	32.2
Known µg of C from Original Sample		8.92E+2	2.47E+2

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	9.03E+02	1.95E+02

Data Entered By:	RCJ	Date:	07/21/97
Signature of Chemist:	RW Edmonds	Date:	7/22/97

SAMPLE.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SPIKE5

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

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1402	0.1402
Work List	Final Coulometer Reading in µg	(C1)	132.9	66.8
19259	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.1877	0.1877
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	472.4	336.9
SOLID	Spike Book Number		25N12B	26N12B
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
97003368				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 10**			
S97T000878				
Instrument Code	**QC Actual in µg/mL = Spike Value (µg/mL)**			
CARB2	**QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100**			
Prepared By				
RCJ				
Chemist				
RWS				
Analyst				
KRM				
Date Complete				
07/21/97				
Analysis Date				
07/20/97				
Analysis Time			TIC	TOC
01:00 AM	**QC Actual in µg/mL**		6.02E+02	3.00E+03
Sample Point	**QC Found in µg/mL**		5.89E+02	2.47E+03
AW-103	**Percent Spike Recovery**		97.8	82.5

Data Entered By:	RCJ	Date:	07/21/97
Signature of Chemist:	RWSchroeder	Date:	7/22/97

SPIKE.WB1 REV 1.1 342100ML

RADIOCHEMICAL ANALYSIS

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LABCORE Completed Worklist Report for Worklist# 18397

Analyst: slh **Instrument:** AB15 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcl

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.60E-4	80.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.72E+00	3.720	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	<4.15E-3		uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.03E+02	303.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	5.56E+00	5.560	BLNK/BKG
4	SAMPLE	S97T001001	0	F	@ALPHA01 ALPHA01	SOLID	N/A	5.69E-01	4.17e-003	uCi/g
4	SAMPLE	S97T001001	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	6.42E+00		% Ct. Error
5	DUP	S97T001001	0	F	@ALPHA01 ALPHA01	SOLID	5.69E-1	5.43E-1	4.676	RPD
5	DUP	S97T001001	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	6.43E+00	6.430	% Ct. Erro
6	SAMPLE	S97T001002	0	F	@ALPHA01 ALPHA01	SOLID	N/A	9.11E-02	8.28e-003	uCi/g
6	SAMPLE	S97T001002	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	2.30E+01		% Ct. Error
7	DUP	S97T001002	0	F	@ALPHA01 ALPHA01	SOLID	9.11E-2	8.90E-2	2.332	RPD
7	DUP	S97T001002	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	2.35E+01	23.500	% Ct. Erro
8	SPK	S97T001002	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.45E-02	93.156	% Recovery

Final page for worklist# 18397

Analyst Signature **Date**

Analyst Signature **Date**

6/3/97
Reviewer Signature **Date**

The BLNK value is insignificant compared to the sample results.

6/3/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18397

Analyst: SLH **Instrument:** AB00 15 **Book#** 79 B56

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcl

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	S97T001001	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S97T001001	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001002	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S97T001002	0	F	@ALPHA01	SOLID		
8	SPK	S97T001002	0	F	@ALPHA01	SOLID		

Final page for worklist # 18397

Sandra Ethred Boatright
Analyst Signature Date 6-1-97

Susie E. Hogan 6-2-97
Analyst Signature Date 6/2/97
C.J. Opinion 6/2/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		15	15
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2779	2971
18397	COUNT TIME in MINUTES	(CT)	30	30
A Total B?	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		92.603	99.003
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002444	Concentration in µCi/L	=	1.54E-01	
Rerun #	Replicate Concentration in µCi/L	=	1.65E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5977E-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)
WL18397	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
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SEH	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/01/97	
Analysis Time	
10:45 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.60E-04	
			3.97E-07 µCi/mL
RELATIVE COUNTING ERROR	=	3.7%	

Analyst:	SEH	Date: 02-Jun-97
Signature of Chemist:	SLF	Date: 6/3/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	2
18397	COUNT TIME in MINUTES	(CT)	30	30
AT or TBY	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0948	2.0948
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.237	0.130

Batch Number			
97002444	Blank Concentration in µCi/g		4.15E-03
Rerun	Replicate Concentration in µCi/g	<	2.28E-03
0	Maximum Concentration in µCi/g	<	4.1451E-03

Sample Prep: N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: WL18397

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code: WB26872

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: SEH

Chemist: SLF

ALPHA TOTAL in µCi/g (Maximum)	=	< 4.15E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rs.			4.17E-03 µCi/g
RELATIVE COUNTING ERROR		303.4%	

Analyst: SLH

Date Complete: 06/02/97

Analysis Date: 06/01/97

Analysis Time: 10:45 PM

Sample Point: AW-103

Analyst:	SLH		Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type:	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	1017	934
18397	COUNT TIME in MINUTES	(CT)	30	30
AT or LB ?:	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0948	2.0948
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		33.870	31.103

Batch Number:		
97002444	Blank Concentration in µCi/g	5.93E-01
Rerun:	Replicate Concentration in µCi/g	5.45E-01
0	Average Concentration in µCi/g	5.6899E-01

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001001

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB26872

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:
SEH

Chemist:
SLF

ALPHA TOTAL in µCi/g (Average)	=	5.69E-01	DETECTION LEVEL
			4.17E-03 µCi/g
RELATIVE COUNTING ERROR		6.4%	

Analyst:
SLH

Date Complete:
06/02/97

Analysis Date:
06/01/97

Analysis Time:
10:45 PM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst:	SLH	Date: 02-Jun-97
Signature of Chemist:	SLF	Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

SLF 6/3/97

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type:	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	15	15
Work List:	GROSS COUNTS	(GC)	2	2
18397	COUNT TIME in MINUTES	(CT)	931	941
AT or AT Bz:	BACKGROUND in cpm	(BKG)	30	30
AT	SAMPLE SIZE in mL	(SS)	0.03	0.03
Test Code:	DILUTION FACTOR	(DF)	0.500	0.500
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	11	11
Matrix:	EFFICIENCY FACTOR	(EFF)	2.1076	2.1076
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.2701	0.2701
Batch Number:			31.003	31.337

97002444	Blank Concentration in µCi/g	5.40E-01
Rerun:	Replicate Concentration in µCi/g	5.46E-01
0	Average Concentration in µCi/g	5.4262E-01

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001001

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB26872

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:
SEH

Chemist:
SLF

ALPHA TOTAL in µCi/g (Average) =	5.43E-01	DETECTION LEVEL
		4.15E-03 µCi/g
RELATIVE COUNTING ERROR	6.4%	

Analyst:
SLH

Date Completed:
06/02/97

Analysis Date:
06/01/97

Analysis Time:
10:45 PM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst:	SLH		Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	84	75
18397	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1108	2.1108
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.770	2.470

Batch Number		
97002444	Blank Concentration in µCi/g	9.63E-02
Rerun	Replicate Concentration in µCi/g	8.59E-02
0	Average Concentration in µCi/g	9.1081E-02

Sample Prep
FUSION01
Sample #
S97T001002
Instrument Code
WB26872
Prepared By
SEH
Chemist
SLF
Analyst
SLH
Date Complete
06/02/97
Analysis Date
06/01/97
Analysis Time
10:45 PM
Sample Point
AW-103

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) =	9.11E-02	
		8.28E-03
RELATIVE COUNTING ERROR	23.0%	µCi/g

{/ system;exit}yes~

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	15	15
Work List	GROSS COUNTS	(GC)	2	2
18397	COUNT TIME in MINUTES	(CT)	72	80
AT or TB?	BACKGROUND in cpm	(BKG)	30	30
AT	SAMPLE SIZE in mL	(SS)	0.03	0.03
Test Code	DILUTION FACTOR	(DF)	0.250	0.250
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	11	11
Matrix	EFFICIENCY FACTOR	(EFF)	2.0648	2.0648
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.2701	0.2701
Batch Number			2.370	2.637
97002444	Blank Concentration in µCi/g		8.42E-02	
Rerun	Replicate Concentration in µCi/g		9.37E-02	
0	Average Concentration in µCi/g		8.8964E-02	

Sample Prep: FUSION01

Sample #: S97T001002

Instrument Code: WB26872

Prepared By: SEH

Chemist: SLF

Analyst: SLH

Date Complete: 06/02/97

Analysis Date: 06/01/97

Analysis Time: 10:45 PM

Sample Point: AW-103

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)	=	8.90E-02	
RELATIVE COUNTING ERROR		23.5%	8.47E-03 µCi/g

{/ system;exit}yes~

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

			SPIKE	REPLICATE
Type:	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List:	TOTAL COUNTS	(TC)	40588	47601
18397	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)	0.250	0.250
Test Code:	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1108	2.1108
Matrix:	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number:	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002444	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
Rerun:	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
0	SAMPLE + SPIKE µCi/g	(S+S)	4.70E+01	5.52E+01
Sample Prep:	AVERAGE or MAXIMUM µCi/g in SAMPLE		9.1081E-02	
FUSION01				
Sample #:				
S97T001002	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code:	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB26872	QC ACTUAL = SVal			
Prepared By:	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist:				
SLF				
Analyst:				
SLH				
Date Complete:				
06/02/97				
Analysis Date:				
06/01/97	QC ACTUAL	=	2.63E-02	
Analysis Time:	QC FOUND	=	2.45E-02	
10:45 PM	AVG. PERCENT SPIKE RECOVERY	=	93.1%	
Sample Point:				
AW-103				

Analyst:	SEH	Date: 02-Jun-97
Signature of Chemist:	SLF	Date: 6/3/97

SPIKE.WB1 Rev. 1.0 508101ML

The RPD for the SPK + SPK/Dup is slightly elevated. This is due to the solids on the mount causing an inconsistent geometry. No rerun requested.

6/3/97

LABCORE Completed RadChem Report for Worklist#: 18399

Analyst: slh **Instrument:** AB20 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01 SOLID	2.00E-04	1.61E-4	80.500	% Recovery
1	STD		0		@ALPHA01	ALPHA01E SOLID	1.00	3.39E+00	3.390	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01	ALPHA01 SOLID	1	<1.12E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG		0		@ALPHA01	ALPHA01 SOLID	1.00E+00	8.97E-01	0.897	BLNK/BKG
4	SAMPLE	S97T001061	0	F	@ALPHA01	ALPHA01 SOLID	N/A	4.87E-01	282.0e-005	uCi/g
4	SAMPLE	S97T001061	0	F	@ALPHA01	ALPHA01E SOLID	N/A	4.37E+00	0.0e+000	% Ct. Error
5	DUP	S97T001061	0	F	@ALPHA01	ALPHA01 SOLID	4.87E-1	5.28E-1	8.079 RPD	
5	DUP	S97T001061	0	F	@ALPHA01	ALPHA01E SOLID	1.00	4.36E+00	4.360	% Ct. Erro
6	SPK	S97T001061	0	F	@ALPHA01	ALPHA01 SOLID	2.63E-02	2.07E-02	78.707	% Recovery

Final page for worklist# 18399

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/3/97 Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/01/97 11:05
A-0004-1

LABCORE Data Entry Template for Worklist# 18399

Analyst: SLH **Instrument:** AB00 20 **Book#** 79856

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: AW-103 AT. USE 1ML ENVCRB STD .1ML SPK lcm

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	S97T001061	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001061	0	F	@ALPHA01	SOLID		
6	SPK	S97T001061	0	F	@ALPHA01	SOLID		

Final page for worklist # 18399

Sandra L Hood Boatright
Analyst Signature Date
6-2-97

C.L. Quinn 6/2/97
Analyst Signature Date
Sylvia L Chiang 6/2/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		20	20
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18399	GROSS COUNTS	(GC)	3464	3352
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		115.337	111.603
97002446	Standard Value in µCi/mL		2.00E-04	
Rerun	Concentration in µCi/L	=	1.64E-01	
0	Replicate Concentration in µCi/L	=	1.58E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.6109E-01	

N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)
WL18399	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
WC16101	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/02/97	
Analysis Time	
04:50 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.61E-04	
			5.65E-07 µCi/mL
RELATIVE COUNTING ERROR	=	3.4%	

Analyst:		CJO	Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		20	20
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3	4
18399	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)	2.0028	2.0028
Matrix	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.154	0.158

Batch Number			
97002446	Blank Concentration in µCi/g	<	1.09E-03
Rerun	Replicate Concentration in µCi/g	<	1.12E-03
0	Maximum Concentration in µCi/g	<	1.1194E-03

Sample Prep
N/A

Sample #
WL18399

Instrument Code
WC16101

Prepared By
CJO

Chemist
SLF

Analyst
SLH

Date Complete
06/02/97

Analysis Date
06/02/97

Analysis Time
04:50 AM

Sample Point
AW-103

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)	=	< 1.12E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				2.82E-03 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2108	2021
18399	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)	2.0028	2.0028
Matrix	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		70.137	67.237

Batch Number		
97002446	Blank Concentration in µCi/g	4.97E-01
Rerun	Replicate Concentration in µCi/g	4.77E-01
0	Average Concentration in µCi/g	4.8687E-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)
S97T001061	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WC16101	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/02/97	
Analysis Time	
04:50 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	4.87E-01	
RELATIVE COUNTING ERROR		4.4%	2.82E-03 µCi/g

Analyst: SLH Date: 02-Jun-97

Signature of Chemist: SLF Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		20	20
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2429	2028
18399	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)	1.9924	1.9924
Matrix	EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		80.837	67.470

Batch Number		
97002446	Blank Concentration in µCi/g	5.76E-01
Rerun	Replicate Concentration in µCi/g	4.81E-01
0	Average Concentration in µCi/g	5.2836E-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)
S97T001061	
Instrument Code	Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
WC16101	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
CJO	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/02/97	
Analysis Date	
06/02/97	
Analysis Time	
04:50 AM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g (Average)	=	5.28E-01	DETECTION LEVEL
			2.83E-03 µCi/g
RELATIVE COUNTING ERROR		4.4%	

Analyst:		SLH	Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

SAMPLE.WB1 Rev. 1.0 508101ML

The RPD for the dup + Dup/REP is slightly elevated. This is likely due to inconsistent geometry which can occur during drying. No rerun requested.

6/3/97

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type			SPIKE	REPLICATE
SPK	DETECTOR NUMBER		20	20
Work List	DISH SIZE 1 , 2 , or 5	(MS)	2	2
18399	TOTAL COUNTS	(TC)	45598	45896
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.13	0.13
Test Code	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
@ALPHA01	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0028	2.0028
SOLID	SPIKE VOLUME in mL	(SVol)	0.100	0.100
Batch Number	SPIKE DILUTION FACTOR	(SDF)	1	1
97002446	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
Rerun	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
0	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.3173	0.3173
Sample Prep	SAMPLE + SPIKE µCi/g	(S+S)	1.08E+01	1.08E+01
FUSION01	AVERAGE or MAXIMUM µCi/g in SAMPLE		4.8687E-01	
Sample #				
S97T001061	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WC16101	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				
SLH				
Date Complete				
06/02/97				
Analysis Date				
06/02/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	2.07E-02	
04:50 AM	AVG. PERCENT SPIKE RECOVERY	=	78.6%	
Sample Point				
AW-103				

Analyst:		CJO	Date: 02-Jun-97
Signature of Chemist:		SLF	Date: 6/3/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18425

Analyst: smf **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std= 1.0mL, Spk= 0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	LIQUID	2.00E-04	1.52E-4	76.000	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	LIQUID	1.00	3.78E+00	3.780	% Ct. Erro
2	BLNK		0		@ALPHA01 ALPHA01	LIQUID	1	<9.04E-4		uCi/mL
2	BLNK		0		@ALPHA01 ALPHA01E	LIQUID	1.00	1.80E+02	180.000	uCi/mL
3	BLNK/BKG		0		@ALPHA01 ALPHA01	LIQUID	1.00E+00	3.33E+00	3.330	BLNK/BKG
4	SAMPLE	S97T001079	0		@ALPHA01 ALPHA01	LIQUID	N/A <	7.41E-04	118.0e-005	uCi/mL
4	SAMPLE	S97T001079	0		@ALPHA01 ALPHA01E	LIQUID	N/A	2.55E+02	0.0e+000	% Ct. Error
5	DUP	S97T001079	0		@ALPHA01 ALPHA01	LIQUID	<7.41E-4	<9.04E-4		RPD
5	DUP	S97T001079	0		@ALPHA01 ALPHA01E	LIQUID	1.00	1.80E+02	180.000	% Ct. Erro
6	SPK	S97T001079	0		@ALPHA01 ALPHA01	LIQUID	2.63E-02	2.18E-02	82.890	% Recovery

Final page for worklist# 18425

Analyst Signature **Date** **Analyst Signature** **Date**

6/5/97

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18425

Analyst: SMF **Instrument:** AB00 14 **Book#** 79B56

Method: LA-508-101 Rev/Mod C-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std= 1.0mL, Spk= 0.1mL 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	S97T001079	0		@ALPHA01	LIQUID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001079	0		@ALPHA01	LIQUID		
6	SPK	S97T001079	0		@ALPHA01	LIQUID		

Final page for worklist # 18425

Susie M. Sulton 6-4-97
Analyst Signature **Date**

Lee E. Hogan 6-5-97
Analyst Signature **Date**

MB 6/5/97

Data Entry Comments: A Spk # 131B43, .100 ml

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		14	14
	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2759	2698
18425	COUNT TIME in MINUTES	(CT)	30	30
A Ton TBY	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		91.897	89.863
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002473	Concentration in µCi/L	=	1.54E-01	
Rerun	Replicate Concentration in µCi/L	=	1.50E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5207E-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)
WL18425	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	
SEH	
Chemist	
SLF	
Analyst	
SMF	
Date Complete	
06/05/97	
Analysis Date	
06/04/97	
Analysis Time	
03:00 AM	
Sample Point	
AW-103	

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.52E-04	DETECTION LEVEL	
RELATIVE COUNTING ERROR	=	3.8%	5.29E-07	µCi/mL

Analyst:		SEH	Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/5/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

Type			BLNK	REPLICATE
BLNK	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18425	GROSS COUNTS	(GC)	9	5
A Tor TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.230	0.243
97002473				

97002473	Blank Concentration in µCi/L		8.55E-01
Rerun	Replicate Concentration in µCi/L	<	9.04E-01
0	Maximum Concentration in µCi/L	<	9.0430E-01

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)
WL18425	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	
SEH	
Chemist	
SLF	
Analyst	
SMF	
Date Complete	
06/05/97	
Analysis Date	
06/04/97	
Analysis Time	
03:00 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum)	=	< 9.04E-04	
LESS THAN Value was Determined from Rs.			1.18E-03 µCi/mL
RELATIVE COUNTING ERROR		180.1%	

Analyst:	SMF	Date: 05-Jun-97	
Signature of Chemist:	SLF	Date: 6/5/97	

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18425	GROSS COUNTS	(GC)	7	4
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.163	0.199
97002473	Blank Concentration in µCi/L		6.07E-01	
Rerun	Replicate Concentration in µCi/L	<	7.41E-01	
0	Maximum Concentration in µCi/L	<	7.4054E-01	

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)
S97T001079	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	
SEH	
Chemist	
SLF	
Analyst	
SMF	
Date Complete	
06/05/97	
Analysis Date	
06/04/97	
Analysis Time	
03:00 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum)	=	< 7.41E-04	
LESS THAN Value was Determined from Rs.			1.18E-03 µCi/mL
RELATIVE COUNTING ERROR		254.8%	

{/ system;exit}yes~

Analyst:		SMF	Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/5/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) LIQUIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18425	GROSS COUNTS	(GC)	6	5
AT or LB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.130	0.243

97002473	Blank Concentration in µCi/L		4.83E-01
Rerun	Replicate Concentration in µCi/L	<	9.04E-01
0	Maximum Concentration in µCi/L	<	9.0430E-01

Sample Prep: N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: S97T001079

ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)

ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L

Instrument Code: WB27807

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: SEH

Chemist: SLF

ALPHA TOTAL in µCi/mL	(Maximum)	=	< 9.04E-04	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				1.18E-03 µCi/mL
RELATIVE COUNTING ERROR			180.1%	

Analyst: SMF

Date Completed: 06/05/97

Analysis Date: 06/04/97

Analysis Time: 03:00 AM

Sample Point: AW-103

{/ system;exit}yes~

Analyst:	SMF	Date:	05-Jun-97
Signature of Chemist:	SLF	Date:	6/5/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type				SPIKE	REPLICATE
SPK	DISH SIZE 1 , 2 , or 5		(MS)	2	2
Work List	TOTAL COUNTS		(TC)	39617	38476
18425	COUNT TIME in MINUTES		(CT)	30	30
A or TB?	BACKGROUND in cpm		(BKG)	0.07	0.07
AT	SAMPLE VOLUME in mL	(Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	1111	1111
@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)	131B43	131B43
97002473	SPIKE VALUE in µCi/mL		(SVal)	2.6292E-02	2.6292E-02
Rerun #	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2692	0.2692
0	SAMPLE + SPIKE µCi/mL		(S+S)	4.91E+00	4.77E+00
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE		<	7.4054E-04	
N/A					
Sample #					
S97T001079	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))))				
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100				
Chemist					
SLF					
Analyst					
SMF					
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.				
06/05/97					
Analysis Date					
06/04/97	QC ACTUAL		=	2.63E-02	
Analysis Time	QC FOUND		=	2.18E-02	
03:00 AM	AVG. PERCENT SPIKE RECOVERY		=	82.8%	
Sample Point					
AW-103					

Analyst:		SEH	Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/5/97

SPIKE.WB1 Rev. 1.0 508101ML

worklistdata Version 1.0 05/15/96
06/06/97 08:54

LABCORE Completed Worklist Report for Worklist# 18446

Analyst: smf **Instrument:** AB15 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: For 1059 use .1 mL for 1060 use 1-10-.5 mL. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.64E-4	82.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.73E+00	3.730	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	1.59E-3	0.002	uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	1.21E+02	121.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	3.81E+00	3.810	BLNK/BKG
4	SAMPLE	S97T001059	0	F	@ALPHA01 ALPHA01	SOLID	N/A	4.56E-02	2.55e-003	uCi/g
4	SAMPLE	S97T001059	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	1.60E+01		% Ct. Error
5	DUP	S97T001059	0	F	@ALPHA01 ALPHA01	SOLID	4.56E-2	5.80E-2	23.938	RPD
5	DUP	S97T001059	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.43E+01	14.300	% Ct. Erro
6	SAMPLE	S97T001060	0	F	@ALPHA01 ALPHA01	SOLID	N/A	7.21E-01	5.61e-003	uCi/g
6	SAMPLE	S97T001060	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	5.65E+00		% Ct. Error
7	DUP	S97T001060	0	F	@ALPHA01 ALPHA01	SOLID	7.21E-1	7.92E-1	9.385	RPD
7	DUP	S97T001060	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	5.72E+00	5.720	% Ct. Erro
8	SPK	S97T001060	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	1.71E-02	65.019	% Recovery

Final page for worklist# 18446

Analyst Signature **Date**

Analyst Signature **Date**

6/10/97

Reviewer Signature **Date**

The RPD is acceptable due to low alpha activity. The SPK recovery is consistent with the 1st run. No further reruns requested (SPK recovery low due to matrix interference).

6/10/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/03/97 11:49
A-0004-1

LABCORE Data Entry Template for Worklist# 18446

Analyst: SMF **Instrument:** AB00 15 **Book#** 79/356

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: For 1059 use .1 mL for 1060 use 1-10-.5 mL. 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	S97T001059	0	F	@ALPHA01	SOLID	97000333	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S97T001059	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001060	0	F	@ALPHA01	SOLID	97000333	AW-103
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S97T001060	0	F	@ALPHA01	SOLID		
8	SPK	S97T001060	0	F	@ALPHA01	SOLID		

Final page for worklist # 18446

Susie M. Dalton 6-5-97
Analyst Signature **Date**

Susie E. Hogan 6-6-97
Analyst Signature **Date**

C.J. Quinn 6/6/97

Data Entry Comments: A Spike # 131B43, .100ml

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18446	GROSS COUNTS	(GC)	2769	3146
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		92.230	104.797
97002493	Standard Value in µCi/mL		2.00E-04	
Rerun	Concentration in µCi/L	=	1.54E-01	
0	Replicate Concentration in µCi/L	=	1.75E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.6429E-01	

N/A

Sample #

WL18446

Instrument Code

WB26872

Prepared By

SEH

Chemist

SLF

Analyst

SMF

Date Complete

06/05/97

Analysis Date

06/05/97

Analysis Time

10:00 PM

Sample Point

AW-103

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	=	1.64E-04	
RELATIVE COUNTING ERROR	=	3.7%	5.27E-07 µCi/mL

Analyst: SEH Date: 05-Jun-97

Signature of Chemist: SLF Date:

STANDARD.WB1 Rev. 1.0 508101ML

The RPD for the STD + STD/REP is slightly elevated however sample data for this run are consistent with the 1st run (considering the decreased sample size). No rerun requested.

6/10/97

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

			BLNK-PREP	REPLICATE
Prep Type	DETECTOR NUMBER		15	15
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	7
18446	COUNT TIME in MINUTES	(CT)	30	30
AT or TBP	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)	2.0692	2.0692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.230	0.163

Batch Number		
97002493	Blank Concentration in µCi/g	1.85E-03
Rerun	Replicate Concentration in µCi/g	1.32E-03
0	Average Concentration in µCi/g	1.5851E-03

Sample Prep
N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
WL18446

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB26872

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
SEH

Chemist
SLF

Analyst	ALPHA TOTAL in µCi/g (Average)	=	1.59E-03	DETECTION LEVEL
SMF				2.55E-03 µCi/g
Date Complete	RELATIVE COUNTING ERROR		120.7%	
06/05/97				

Analysis Date
06/05/97

Analysis Time
10:00 PM

Sample Point
AW-103

Analyst:	SMF		Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type:	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	156	188
18446	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?:	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)	2.0692	2.0692
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		5.130	6.197

Batch Number:		
97002493	Blank Concentration in µCi/g	4.13E-02
Rerun:	Replicate Concentration in µCi/g	4.99E-02
1	Average Concentration in µCi/g	4.5645E-02

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001059

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB26872

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:
SEH

Chemist:
SLF

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	4.56E-02	
Analyst:			
SMF			2.55E-03
Date Complete:			
06/05/97	RELATIVE COUNTING ERROR	16.0%	µCi/g

Analysis Date:
06/05/97

Analysis Time:
10:00 PM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst:	SMF		Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type		DUP	REPLICATE
DUP	DETECTOR NUMBER	15	15
WorkList	DISH SIZE (1 , 2 , or 5) (MS)	2	2
18446	GROSS COUNTS (GC)	195	239
AT or LB?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL (SS)	0.100	0.100
@ALPHA01	DILUTION FACTOR (DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0612	2.0612
SOLID	EFFICIENCY FACTOR (EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	6.430	7.897
97002493			
Rerun	Blank Concentration in µCi/g	5.20E-02	
1	Replicate Concentration in µCi/g	6.39E-02	
Sample Prep	Average Concentration in µCi/g	5.7959E-02	
FUSION01			
Sample #			
S97T001059			
Instrument Code			
WB26872			
Prepared By			
SEH			
Chemist			
SLF			
Analyst			
SMF			
Date Complete			
06/05/97			
Analysis Date			
06/05/97			
Analysis Time			
10:00 PM			
Sample Point			
AW-103			

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) =	5.80E-02	
RELATIVE COUNTING ERROR	14.3%	2.56E-03 µCi/g

{/ system;exit}yes~

Analyst: SMF Date: 05-Jun-97

Signature of Chemist: SLF Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18446	GROSS COUNTS	(GC)	1210	1232
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.068	2.068
SOLID	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		40.263	40.997

Batch Number		
97002493	Blank Concentration in µCi/g	7.14E-01
Rerun	Replicate Concentration in µCi/g	7.27E-01
1	Average Concentration in µCi/g	7.2084E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001060

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB26872

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average) =	7.21E-01	DETECTION LEVEL
		5.61E-03
RELATIVE COUNTING ERROR	5.6%	µCi/g

Analyst
SMF

Date Complete
06/05/97

Analysis Date
06/05/97

Analysis Time
10:00 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst:	SMF	Date:	05-Jun-97
Signature of Chemist:	SLF	Date:	6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		15	15
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18446	GROSS COUNTS	(GC)	1180	1403
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.992	1.992
SOLID	EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		39.263	46.697

97002493	Blank Concentration in µCi/g	7.23E-01
Rerun	Replicate Concentration in µCi/g	8.60E-01
1	Average Concentration in µCi/g	7.9163E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001060

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB26872

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
SEH

Chemist
SLF

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	7.92E-01	
RELATIVE COUNTING ERROR		5.7%	5.82E-03 µCi/g

Analyst
SMF

Date Complete
06/05/97

Analysis Date
06/05/97

Analysis Time
10:00 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst: SMF Date: 05-Jun-97

Signature of Chemist: SLF Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type	DETECTOR NUMBER		SPIKE	REPLICATE
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	34973	28930
18446	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)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.068	2.068
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002493	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2701	0.2701
1	SAMPLE + SPIKE µCi/g	(S+S)	2.07E+01	1.71E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		7.2084E-01	
FUSION01				

Sample #
S97T001060
Instrument Code
WB26872
Prepared By
SEH
Chemist
SLF
Analyst
SMF
Date Complete
06/05/97
Analysis Date
06/05/97
Analysis Time
10:00 PM
Sample Point
AW-103

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	=	2.63E-02
QC FOUND	=	1.71E-02
AVG. PERCENT SPIKE RECOVERY	=	65.0%

Analyst:	SEH		Date: 05-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed Worklist Report for Worklist# 18447

Analyst: knt **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: For 999 use .1 mL, for 1000 use 1-10-.5 mL. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.80E-4	90.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.46E+00	3.460	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	2.47E-3	0.002	uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	1.21E+02	121.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	5.24E+00	5.240	BLNK/BKG
4	SAMPLE	S97T000999	0	F	@ALPHA01 ALPHA01	SOLID	N/A	2.03E-01	2.63e-003	uCi/g
4	SAMPLE	S97T000999	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	7.37E+00		% Ct. Error
5	DUP	S97T000999	0	F	@ALPHA01 ALPHA01	SOLID	2.03E-1	1.84E-1	9.819	RPD
5	DUP	S97T000999	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.70E+00	7.700	% Ct. Erro
6	SAMPLE	S97T001000	0	F	@ALPHA01 ALPHA01	SOLID	N/A	4.00E-01	5.75e-003	uCi/g
6	SAMPLE	S97T001000	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	7.78E+00		% Ct. Error
7	DUP	S97T001000	0	F	@ALPHA01 ALPHA01	SOLID	4.00E-1	4.10E-1	2.469	RPD
7	DUP	S97T001000	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.66E+00	7.660	% Ct. Erro
8	SPK	S97T001000	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	1.93E-02	73.384	% Recovery

Final page for worklist# 18447

Analyst Signature **Date**

Analyst Signature **Date**

6/10/97
Reviewer Signature **Date**

The BLNK value is acceptable.
SPK recovery is low due to sample matrix interference (decreasing sample size from 1st run increased SPK recovery ~ 20%). No further reruns requested - decreasing sample size further would have a negative impact on sample results.

6/10/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18447

Analyst: KNT **Instrument:** AB00 14 **Book#** 79856

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: For 999 use .1 mL, for 1000 use 1-10-.5 mL. 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	S97T000999	0	F	@ALPHA01	SOLID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T000999	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001000	0	F	@ALPHA01	SOLID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S97T001000	0	F	@ALPHA01	SOLID		
8	SPK	S97T001000	0	F	@ALPHA01	SOLID		

Final page for worklist # 18447

Kim Thomas 6-5-97
Analyst Signature **Date**

Sue E. Hogan 6-6-97
Analyst Signature **Date**

C.J. Quinn 6/6/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		14	14
Work List #	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18447	GROSS COUNTS	(GC)	3258	3210
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.530	106.930
97002494	Standard Value in µCi/mL		2.00E-04	
Rerun #	Concentration in µCi/L	=	1.82E-01	
0	Replicate Concentration in µCi/L	=	1.79E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.8026E-01	
N/A				
Sample #				
WL18447				
Instrument Code				
WB27807				
Prepared By				
SEH				
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
06/06/97				
Analysis Date				
06/05/97				
Analysis Time				
05:30 PM				
Sample Point				
AW-103				

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	=	1.80E-04	
RELATIVE COUNTING ERROR	=	3.5%	5.29E-07 µCi/mL

Analyst:	SEH	Date: 06-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) 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)	15	7
18447	COUNT TIME in MINUTES	(CT)	30	30
AT or LB7	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)	2.0088	2.0088
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.430	0.163
Batch Number				
97002494	Blank Concentration in µCi/g		3.58E-03	
Rerun	Replicate Concentration in µCi/g		1.36E-03	
0	Average Concentration in µCi/g		2.4712E-03	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
WL18447	
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	
SEH	
Chemist	
SLF	
Analyst	
KNT	
Date Complete	
06/06/97	
Analysis Date	
06/05/97	
Analysis Time	
05:30 PM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g (Average)	=	2.47E-03	DETECTION LEVEL	
RELATIVE COUNTING ERROR		120.7%	2.63E-03	µCi/g

Analyst:	KNT	Date:	06-Jun-97
Signature of Chemist:	SLF	Date:	6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	713	757
18447	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)	2.0088	2.0088
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		23.697	25.163

Batch Number		
97002494	Blank Concentration in µCi/g	1.97E-01
Rerun	Replicate Concentration in µCi/g	2.10E-01
1	Average Concentration in µCi/g	2.0350E-01

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Sample #: S97T000999

Instrument Code: WB27807

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: SEH

Chemist: SLF

ALPHA TOTAL in µCi/g (Average) =	2.03E-01	DETECTION LEVEL
		2.63E-03
RELATIVE COUNTING ERROR	7.4%	µCi/g

Analyst: KNT

Date Complete: 06/06/97

Analysis Date: 06/05/97

Analysis Time: 05:30 PM

Sample Point: AW-103

{/ system;exit}yes~

Analyst:	KNT		Date: 06-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18447	GROSS COUNTS	(GC)	696	655
AT or LB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.100	0.100
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0376	2.0376
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		23.130	21.763
97002494				
Rerun	Blank Concentration in µCi/g		1.90E-01	
1	Replicate Concentration in µCi/g		1.79E-01	
Sample Prep	Average Concentration in µCi/g		1.8433E-01	
FUSION01				
Sample #				
S97T000999				
Instrument Code				
WB27807				
Prepared By				
SEH				
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
06/06/97				
Analysis Date				
06/05/97				
Analysis Time				
05:30 PM				
Sample Point				
AW-103				

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)	=	1.84E-01	
			2.60E-03 µCi/g
RELATIVE COUNTING ERROR		7.7%	

{/ system;exit}yes~

Analyst:	KNT	Date: 06-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

Type #	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List #	GROSS COUNTS	(GC)	681	641
18447	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0236	2.0236
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		22.630	21.297

Batch Number		
97002494	Blank Concentration in µCi/g	4.12E-01
Rerun #	Replicate Concentration in µCi/g	3.87E-01
1	Average Concentration in µCi/g	3.9955E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001000

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	4.00E-01	DETECTION LEVEL
			5.75E-03
RELATIVE COUNTING ERROR		7.8%	µCi/g

Analyst
KNT

Date Complete
06/06/97

Analysis Date
06/05/97

Analysis Time
05:30 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst: KNT Date: 06-Jun-97

Signature of Chemist: SLF Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18447	GROSS COUNTS	(GC)	695	661
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.07	0.07
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0244	2.0244
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE		23.097	21.963

97002494	Blank Concentration in µCi/g	4.20E-01
Rerun	Replicate Concentration in µCi/g	3.99E-01
1	Average Concentration in µCi/g	4.0969E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001000

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	4.10E-01	DETECTION LEVEL
			5.75E-03
RELATIVE COUNTING ERROR		7.7%	µCi/g

Analyst
KNT

Date Complete
06/06/97

Analysis Date
06/05/97

Analysis Time
05:30 PM

Sample Point
AW-103

{/ system;exit}yes~

Analyst:	KNT	Date: 06-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	38557	31864
18447	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)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0236	2.0236
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002494	SPIKE VALUE in µCi/mL	(SVal)	2.6292E-02	2.6292E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
1	SAMPLE + SPIKE µCi/g	(S+S)	2.34E+01	1.93E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		3.9955E-01	
FUSION01				
Sample #				
S97T001000	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27807	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
KNT				
Date Complete				
06/06/97				
Analysis Date				
06/05/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	1.93E-02	
05:30 PM	AVG. PERCENT SPIKE RECOVERY	=	73.3%	
Sample Point				
AW-103				

Analyst:		SEH	Date: 06-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18547

Analyst: rag **Instrument:** AB18 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	2.00E-04		1.42E-4	71.000	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00		3.85E+00	3.850	% Ct. Erro
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1		<1.42E-4		uCi/mL
2	BLNK		0	@ALPHA01	ALPHA01E	LIQUID	1.00		5.00E+02	500.000	uCi/mL
3	BLNK/BKG		0	@ALPHA01	ALPHA01	LIQUID	1.00E+00		1.00E+00	1.000	BLNK/BKG
4	SAMPLE	S97T000881	0	@ALPHA01	ALPHA01	LIQUID	N/A	<	8.58E-05	229.0e-006	uCi/mL
4	SAMPLE	S97T000881	0	@ALPHA01	ALPHA01E	LIQUID	N/A		5.00E+02	0.0e+000	% Ct. Error
5	DUP	S97T000881	0	@ALPHA01	ALPHA01	LIQUID	<8.58E-5		<1.96E-4		RPD
5	DUP	S97T000881	0	@ALPHA01	ALPHA01E	LIQUID	1.00		5.00E+02	500.000	% Ct. Erro
6	SPK	S97T000881	0	@ALPHA01	ALPHA01	LIQUID	2.63E-02		2.36E-02	89.734	% Recovery
7	SAMPLE	S97T000882	0	@ALPHA01	ALPHA01	LIQUID	N/A	<	1.14E-04	229.0e-006	uCi/mL
7	SAMPLE	S97T000882	0	@ALPHA01	ALPHA01E	LIQUID	N/A		5.00E+02	0.0e+000	% Ct. Error
8	DUP	S97T000882	0	@ALPHA01	ALPHA01	LIQUID	<1.14E-4		<1.14E-4		RPD
8	DUP	S97T000882	0	@ALPHA01	ALPHA01E	LIQUID	1.00		5.00E+02	500.000	% Ct. Erro

Final page for worklist# 18547

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature 6/10/97 **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18547

Analyst: RJG **Instrument:** AB00 18 **Book#** 79B56

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL 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	S97T000881	0		@ALPHA01	LIQUID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T000881	0		@ALPHA01	LIQUID		
6	SPK	S97T000881	0		@ALPHA01	LIQUID		
7	SAMPLE	S97T000882	0		@ALPHA01	LIQUID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
8	DUP	S97T000882	0		@ALPHA01	LIQUID		

Final page for worklist # 18547

Raelynn Green 06-09-97
Analyst Signature **Date**

Sharon L Walker 6.10.97
Analyst Signature **Date**
Stephen E Cohrane 6-10-97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		13	13
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2598	2799
18547	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		86.500	93.200
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002602	Concentration in µCi/L	=	1.36E-01	
Rerun	Replicate Concentration in µCi/L	=	1.47E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.4166E-01	
Sample Prep				
N/A				
Sample #				
WL18547				
Instrument Code				
WB27810				
Prepared By				
SLH2				
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/10/97				
Analysis Date				
06/09/97				
Analysis Time				
03:00 PM				
Sample Point				
AW-103				

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	
RELATIVE COUNTING ERROR	=	3.9%	5.68E-07 µCi/mL

Analyst:	SLH2		Date: 10-Jun-97
Signature of Chemist:	SLF		Date: 6/10/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

Type	BLNK
Work List	18547
AT or TB ?	AT
Test Code	@ALPHA01
Matrix	LIQUID
Batch Number	97002602
Rerun	0
Sample Prep	N/A
Sample #	WL18547
Instrument Code	WB27810
Prepared By	SLH2
Chemist	SLF
Analyst	RAG
Date Complete	06/10/97
Analysis Date	06/09/97
Analysis Time	03:00 PM
Sample Point	AW-103

		BLNK	REPLICATE
DETECTOR NUMBER		13	13
DISH SIZE (1 , 2 , or 5)	(MS)	2	2
GROSS COUNTS	(GC)	1	5
COUNT TIME in MINUTES	(CT)	30	30
BACKGROUND in cpm	(BKG)	0.1	0.1
SAMPLE SIZE in mL	(SS)	0.250	0.250
DILUTION FACTOR	(DF)	101	101
DIGEST DILUTION FACTOR	(DDF)	1	1
EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.222

Blank Concentration in µCi/L	<	8.58E-02
Replicate Concentration in µCi/L	<	1.42E-01
Maximum Concentration in µCi/L	<	1.4155E-01

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)	=	< 1.42E-04	
LESS Than Value was Determined from Lc.			2.29E-04 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		13	13
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18547	GROSS COUNTS	(GC)	3	2
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.135

97002602	Blank Concentration in µCi/L	< 8.58E-02
Rerun	Replicate Concentration in µCi/L	< 8.58E-02
0	Maximum Concentration in µCi/L	< 8.5814E-02

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)
S97T000881	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
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
03:00 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum)	=	< 8.58E-05	
LESS Than Value was Determined from Lc.			2.29E-04 µCi/mL
RELATIVE COUNTING ERROR		500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) LIQUIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		13	13
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18547	GROSS COUNTS	(GC)	7	4
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.307	0.179
97002602	Blank Concentration in µCi/L	<	1.96E-01	
Rerun	Replicate Concentration in µCi/L	<	1.14E-01	
0	Maximum Concentration in µCi/L	<	1.9571E-01	
Sample Prep				
N/A				
Sample #				
S97T000881				
Instrument Code				
WB27810				
Prepared By				
SLH2				
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/10/97				
Analysis Date				
06/09/97				
Analysis Time				
03:00 PM				
Sample Point				
AW-103				

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) =	< 1.96E-04	
LESS THAN Value was Determined from Rmax.		2.29E-04 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type			SPIKE	REPLICATE
SPK	DETECTOR NUMBER		13	13
	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51471	38430
18547	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)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@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)	131B43	131B43
97002602	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
0	SAMPLE + SPIKE µCi/mL	(S+S)	1.09E+00	8.16E-01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	8.5814E-05	
N/A				

Sample #
S97T000881
Instrument Code
WB27810
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/10/97
Analysis Date
06/09/97
Analysis Time
03:00 PM
Sample Point
AW-103

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	=	2.63E-02
QC FOUND	=	2.36E-02
AVG. PERCENT SPIKE RECOVERY	=	89.8%

Analyst:		SLH2	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SPIKE.WB1 Rev. 1.0 508101ML

The RPD for the SPK + SPK/Dup is out of limits, however the low alpha levels in the sample make a rerun unwarranted.

6/10/97

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1) LIQUIDS

Type			SAMPLE	REPLICATE
SAMPLE	DETECTOR NUMBER		13	13
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18547	GROSS COUNTS	(GC)	3	4
AT or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST DILUTION FACTOR	(DDF)	1	1
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.135	0.179

97002602	Blank Concentration in µCi/L	<	8.58E-02
Rerun	Replicate Concentration in µCi/L	<	1.14E-01
0	Maximum Concentration in µCi/L	<	1.1392E-01

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)
S97T000882	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
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
03:00 PM	
Sample Point	
AW-103	

		DETECTION LEVEL
ALPHA TOTAL in µCi/mL (Maximum) =	< 1.14E-04	
LESS Than Value was Determined from Lc.		
RELATIVE COUNTING ERROR	500.0%	2.29E-04 µCi/mL

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1) LIQUIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	4
18547	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2857	0.2857
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.167	0.179

Batch Number			
97002602	Blank Concentration in µCi/L		1.06E-01
Rerun	Replicate Concentration in µCi/L	<	1.14E-01
0	Maximum Concentration in µCi/L	<	1.1392E-01

Sample Prep
N/A
Sample #
S97T000882
Instrument Code
WB27810
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/10/97
Analysis Date
06/09/97
Analysis Time
03:00 PM
Sample Point
AW-103

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) =	< 1.14E-04	DETECTION LEVEL
LESS THAN Value was Determined from Rs.		2.29E-04 µCi/mL
RELATIVE COUNTING ERROR	500.0%	

Analyst:	RAG	Date: 10-Jun-97
Signature of Chemist:	SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed Worklist Report for Worklist# 18548

Analyst: rag **Instrument:** AB16 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01 SOLID	2.00E-04	1.86E-4	93.000	% Recovery
1	STD		0		@ALPHA01	ALPHA01E SOLID	1.00	3.44E+00	3.440	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01	ALPHA01 SOLID	1	<1.87E-2		uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG		0		@ALPHA01	ALPHA01 SOLID	1.00E+00	1.50E+00	1.500	BLNK/BKG
4	SAMPLE	S97T000888	0	F	@ALPHA01	ALPHA01 SOLID	N/A	1.40E-01	3.03e-002	uCi/g
4	SAMPLE	S97T000888	0	F	@ALPHA01	ALPHA01E SOLID	N/A	3.15E+01		% Ct. Error
5	DUP	S97T000888	0	F	@ALPHA01	ALPHA01 SOLID	1.40E-1	1.49E-1	6.228	RPD
5	DUP	S97T000888	0	F	@ALPHA01	ALPHA01E SOLID	1.00	2.97E+01	29.700	% Ct. Erro
6	SPK	S97T000888	0	F	@ALPHA01	ALPHA01 SOLID	2.63E-02	2.90E-02	110.266	% Recovery
7	SAMPLE	S97T000890	0	F	@ALPHA01	ALPHA01 SOLID	N/A	1.03E+00	3.03e-002	uCi/g
7	SAMPLE	S97T000890	0	F	@ALPHA01	ALPHA01E SOLID	N/A	1.04E+01		% Ct. Error
8	DUP	S97T000890	0	F	@ALPHA01	ALPHA01 SOLID	1.03E+0	1.17E+0	12.727	RPD
8	DUP	S97T000890	0	F	@ALPHA01	ALPHA01E SOLID	1.00	9.80E+00	9.800	% Ct. Erro

Final page for worklist# 18548

Analyst Signature **Date**

Analyst Signature **Date**

6/11/97

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 18548

Analyst: RS **Instrument:** AB00 #16 **Book#** 19856

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

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	S97T000888	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested:	ALPHA01 , ALPHA01E						
5	DUP	S97T000888	0	F	@ALPHA01	SOLID		
6	SPK	S97T000888	0	F	@ALPHA01	SOLID		
7	SAMPLE	S97T000890	0	F	@ALPHA01	SOLID	97000332	AW-103
	Analytes Requested:	ALPHA01 , ALPHA01E						
8	DUP	S97T000890	0	F	@ALPHA01	SOLID		

Final page for worklist # 18548

Rae Ann Green 06-09-97
Analyst Signature **Date**

Analyst Signature **Date** 6/10/97

C. J. Green 6/10/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

Type	DETECTOR NUMBER		STANDARD	REPLICATE
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3258	3379
18548	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.500	112.533
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002603	Concentration in µCi/L	=	1.82E-01	
Rerun	Replicate Concentration in µCi/L	=	1.89E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.8555E-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)
WL18548	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
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Prepared By	
MCB	
Chemist ID	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
12:00 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.86E-04	
RELATIVE COUNTING ERROR	=	3.4%	6.05E-07 µCi/mL

Analyst: MCB Date: 10-Jun-97

Signature of Chemist: SLF Date: 6/11/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type			BLNK-PREP	REPLICATE
BLNK-PREP	DETECTOR NUMBER		16	16
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18548	GROSS COUNTS	(GC)	4	5
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.018	2.018
SOLID	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.179	0.222
97002603	Blank Concentration in µCi/g	<	1.50E-02	
Rerun	Replicate Concentration in µCi/g	<	1.87E-02	
0	Maximum Concentration in µCi/g	<	1.8674E-02	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
WL18548	
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	
MCB	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/10/97	
Analysis Date	
06/09/97	
Analysis Time	
12:00 PM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g	(Maximum)	=	< 1.87E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.				3.03E-02 µCi/g
RELATIVE COUNTING ERROR			500.0%	

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	47	59
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.018	2.018
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.467	1.867

Batch Number		
97002603	Blank Concentration in µCi/g	1.23E-01
Rerun	Replicate Concentration in µCi/g	1.57E-01
0	Average Concentration in µCi/g	1.4005E-01

Sample Prep: FUSION01

Sample #: S97T000888

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

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)	=	1.40E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		31.5%	3.03E-02 µCi/g

Analyst: RAG Date: 10-Jun-97

Signature of Chemist: SLF Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	60	52
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.015	2.015
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.900	1.633

Batch Number		
97002603	Blank Concentration in µCi/g	1.60E-01
Rerun	Replicate Concentration in µCi/g	1.37E-01
0	Average Concentration in µCi/g	1.4867E-01

Sample Prep: FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #: S97T000888

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: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

		DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average) =	1.49E-01	
RELATIVE COUNTING ERROR	29.7%	3.03E-02 µCi/g

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE			SPIKE	REPLICATE
Type	DETECTOR NUMBER		16	16
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	51646	52025
18548	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)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.018	2.018
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002603	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
0	SAMPLE + SPIKE µCi/g	(S+S)	1.45E+02	1.46E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.4005E-01	
FUSION01				
Sample #				
S97T000888	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))))			
MCB	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/10/97				
Analysis Date				
06/09/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	2.90E-02	
12:00 PM	AVG. PERCENT SPIKE RECOVERY	=	110.2%	
Sample Point				
AW-103				

Analyst:		MCB	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	367	376
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.016	2.016
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		12.133	12.433

Batch Number		
97002603	Blank Concentration in µCi/g	1.02E+00
Rerun	Replicate Concentration in µCi/g	1.05E+00
0	Average Concentration in µCi/g	1.0332E+00

Sample Prep: FUSION01

Sample #: S97T000890

Instrument Code: WB27806

Prepared By: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

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)	=	1.03E+00	
RELATIVE COUNTING ERROR		10.4%	3.03E-02 µCi/g

Analyst:	RAG		Date: 10-Jun-97
Signature of Chemist:	SLF		Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	434	409
18548	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)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.023	2.023
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		14.367	13.533

Batch Number		
97002603	Blank Concentration in µCi/g	1.20E+00
Rerun	Replicate Concentration in µCi/g	1.13E+00
0	Average Concentration in µCi/g	1.1693E+00

Sample Prep: FUSION01

Sample #: S97T000890

Instrument Code: WB27805

Prepared By: MCB

Chemist: SLF

Analyst: RAG

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 12:00 PM

Sample Point: AW-103

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)	=	1.17E+00	DETECTION LEVEL
RELATIVE COUNTING ERROR		9.8%	3.02E-02 µCi/g

Analyst:		RAG	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18549

Analyst: rag **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL sk

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.77E-4	88.500	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.53E+00	3.530	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	<4.11E-2		uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	2.50E+00	2.500	BLNK/BKG
4	SAMPLE	S97T000998	0	F	@ALPHA01 ALPHA01	SOLID	N/A	6.49E-01	635.0e-004	uCi/g
4	SAMPLE	S97T000998	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	2.09E+01	0.0e+000	% Ct. Error
5	DUP	S97T000998	0	F	@ALPHA01 ALPHA01	SOLID	6.49E-1	7.31E-1	11.884 RPD	
5	DUP	S97T000998	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.84E+01	18.400	% Ct. Erro
6	SPK	S97T000998	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.71E-02	103.042	% Recovery

Final page for worklist# 18549

Analyst Signature **Date**

Analyst Signature **Date**

6/11/97

Reviewer Signature **Date**

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 08:40
A-0004-1

LABCORE Data Entry Template for Worklist# 18549

Analyst: RV2 **Instrument:** AB00 14 **Book#** 19856

Method: LA-508-101 Rev/Mod F-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL sk

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	S97T000998	0	F	@ALPHA01	SOLID	97000332	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T000998	0	F	@ALPHA01	SOLID		
6	SPK	S97T000998	0	F	@ALPHA01	SOLID		

Final page for worklist # 18549

Rae Ann Green 06-10-97
Analyst Signature Date

Sharon L Holbert 6-11-97
Analyst Signature Date

Sue E. Hogan 6-11-97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

Type	DETECTOR NUMBER		STANDARD	REPLICATE
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3264	3089
18549	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		108.700	102.867
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002604	Concentration in µCi/L	=	1.82E-01	
Rerun	Replicate Concentration in µCi/L	=	1.72E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.7701E-01	
Sample Prep				
N/A				
Sample #				
WL18549				
Instrument Code				
WB27807				
Prepared By				
SLH2				
Chemist				
SLF				
Analyst				
RAG				
Date Complete				
06/11/97				
Analysis Date				
06/10/97				
Analysis Time				
02:00 PM				
Sample Point				
AW-103				

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	=	1.77E-04	
RELATIVE COUNTING ERROR	=	3.5%	6.03E-07 µCi/mL

Analyst:	SLH2	Date:	11-Jun-97
Signature of Chemist:	SLF	Date:	6/11/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type			BLNK-PREP	REPLICATE
BLNK-PREP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18549	GROSS COUNTS	(GC)	5	10
A1 or TB ?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	0.500	0.500
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.918	1.918
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.222	0.233
97002604	Blank Concentration in µCi/g	<	3.92E-02	
Rerun	Replicate Concentration in µCi/g		4.11E-02	
0	Maximum Concentration in µCi/g	<	4.1120E-02	

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
WL18549	
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	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/11/97	
Analysis Date	
06/10/97	
Analysis Time	
02:00 PM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Maximum)	=	< 4.11E-02	
LESS THAN Value was Determined from Rmax.			6.35E-02 µCi/g
RELATIVE COUNTING ERROR		500.0%	

Analyst:	RAG		Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	130	97
18549	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.918	1.918
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.233	3.133

Batch Number		
97002604	Blank Concentration in µCi/g	7.46E-01
Rerun	Replicate Concentration in µCi/g	5.52E-01
0	Average Concentration in µCi/g	6.4911E-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)
S97T000998	
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	
SLH2	
Chemist	
SLF	
Analyst	
RAG	
Date Complete	
06/11/97	
Analysis Date	
06/10/97	
Analysis Time	
02:00 PM	
Sample Point	
AW-103	

ALPHA TOTAL in µCi/g (Average)	=	6.49E-01	DETECTION LEVEL
			6.35E-02 µCi/g
RELATIVE COUNTING ERROR		20.9%	

Analyst:		RAG	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		DUP	REPLICATE
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	129	122
18549	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.889	1.889
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.200	3.967
Batch Number				
97002604	Blank Concentration in µCi/g		7.52E-01	
Rerun	Replicate Concentration in µCi/g		7.10E-01	
0	Average Concentration in µCi/g		7.3064E-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)			
S97T000998				
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				
SLH2				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average)	=	7.31E-01	DETECTION LEVEL
Analyst				
RAG				
Date Complete				6.44E-02 µCi/g
06/11/97	RELATIVE COUNTING ERROR		18.4%	
Analysis Date				
06/10/97				
Analysis Time				
02:00 PM				
Sample Point				
AW-103				

Analyst:		RAG	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type	DETECTOR NUMBER		SPIKE	REPLICATE
SPK	DISH SIZE 1 , 2 , or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	48999	48456
18549	COUNT TIME in MINUTES	(CT)	30	30
AT or TS ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.918	1.918
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
97002604	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
0	SAMPLE + SPIKE µCi/g	(S+S)	2.88E+02	2.85E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		6.4911E-01	
FUSION01				

Sample #
S97T000998
Instrument Code
WB27807
Prepared By
SLH2
Chemist
SLF
Analyst
RAG
Date Complete
06/11/97
Analysis Date
06/10/97
Analysis Time
02:00 PM
Sample Point
AW-103

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	=	2.63E-02
QC FOUND	=	2.71E-02
AVG. PERCENT SPIKE RECOVERY	=	103.1%

Analyst:		SLH2	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 18550

Analyst: scl **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.72E-4	86.000	% Recovery
1	STD			0	@ALPHA01 ALPHA01E	SOLID	1.00	3.57E+00	3.570	% Ct. Erro
2	BLNK-PREP			0	@ALPHA01 ALPHA01	SOLID	1	<2.40E-3		uCi/g
2	BLNK-PREP			0	@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG			0	@ALPHA01 ALPHA01	SOLID	1.00E+00	1.50E+00	1.500	BLNK/BKG
4	SAMPLE	S97T001062	0	F	@ALPHA01 ALPHA01	SOLID	N/A	2.55E-01	327.0e-005	uCi/g
4	SAMPLE	S97T001062	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	6.87E+00	0.0e+000	% Ct. Error
5	DUP	S97T001062	0	F	@ALPHA01 ALPHA01	SOLID	2.55E-1	1.89E-1	29.730 RPD	
5	DUP	S97T001062	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	8.25E+00	8.250	% Ct. Erro
6	SAMPLE	S97T001063	0	F	@ALPHA01 ALPHA01	SOLID	N/A	4.96E-01	639.0e-005	uCi/g
6	SAMPLE	S97T001063	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	7.07E+00	0.0e+000	% Ct. Error
7	DUP	S97T001063	0	F	@ALPHA01 ALPHA01	SOLID	4.96E-1	4.45E-1	10.840 RPD	
7	DUP	S97T001063	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.45E+00	7.450	% Ct. Erro

Final page for worklist# 18550

Analyst Signature Date

Analyst Signature Date

Reviewer Signature 6/10/97 Date

The RPD for 1062 is out of limits. Sample will be reran.

6/10/97

Sample# S97T001062 rerun on worklist #18592 fs 7/10/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 08:42
A-0004-1

LABCORE Data Entry Template for Worklist# 18550

Analyst: SL **Instrument:** AB00 #14 **Book#** 19056

Method: LA-508-101 Rev/Mod G-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL skm

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	S97T001062	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001062	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001063	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S97T001063	0	F	@ALPHA01	SOLID		

Final page for worklist # 18550

Sue Lai 6-9-97
Analyst Signature Date

Sharon L Hall 6-10-97
Analyst Signature Date

Sue E. Hogan 6-10-97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

Type			STANDARD	REPLICATE
STD	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18550	GROSS COUNTS	(GC)	3139	3025
A1or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.1	0.1
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	1	1
Matrix	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		104.533	100.733
97002605	Standard Value in µCi/mL		2.00E-04	
Rerun	Concentration in µCi/L	=	1.75E-01	
0	Replicate Concentration in µCi/L	=	1.69E-01	
Sample Prep	AVERAGE CONCENTRATION in µCi/L	=	1.7174E-01	
N/A				
Sample #				
WL18550				
Instrument Code				
WB27807				
Prepared By				
SLH2				
Chemist				
SLF	ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.72E-04	DETECTION LEVEL
Analyst				
SCL				6.03E-07 µCi/mL
Date Complete	RELATIVE COUNTING ERROR	=	3.6%	
06/10/97				
Analysis Date				
06/09/97				
Analysis Time				
03:20 PM				
Sample Point				
AW-103				

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.

Analyst:	SLH2	Date: 10-Jun-97	
Signature of Chemist:	SLF	Date: 6/10/97	

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	6	3
18550	COUNT TIME in MINUTES	(CT)	30	30
Aliquot By	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.06	4.06
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.265	0.135

Batch Number			
97002605	Blank Concentration in µCi/g	<	2.40E-03
Rerun	Replicate Concentration in µCi/g	<	1.22E-03
0	Maximum Concentration in µCi/g	<	2.4028E-03

Sample Prep: N/A

Sample #: WL18550

Instrument Code: WB27807

Prepared By: SLH2

Chemist: SLF

Analyst: SCL

Date Complete: 06/10/97

Analysis Date: 06/09/97

Analysis Time: 03:20 PM

Sample Point: AW-103

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) =	< 2.40E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		3.27E-03 µCi/g
RELATIVE COUNTING ERROR	500.0%	

Analyst:	SCL		Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	904	778
18550	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.148	4.148
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		30.033	25.833

Batch Number		
97002605	Blank Concentration in µCi/g	5.33E-01
Rerun	Replicate Concentration in µCi/g	4.59E-01
0	Average Concentration in µCi/g	4.9580E-01

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001063

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SLH2

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	4.96E-01	DETECTION LEVEL
			6.39E-03
RELATIVE COUNTING ERROR		7.1%	µCi/g

Analyst
SCL

Date Complete
06/10/97

Analysis Date
06/09/97

Analysis Time
03:20 PM

Sample Point
AW-103

Analyst:		SCL	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

			DUP	REPLICATE
Type:	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	789	701
18550	COUNT TIME in MINUTES	(CT)	30	30
A Tor TB :	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.09	4.09
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		26.200	23.267

Batch Number:	
97002605	Blank Concentration in µCi/g 4.72E-01
Rerun:	Replicate Concentration in µCi/g 4.19E-01
0	Average Concentration in µCi/g 4.4523E-01

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Sample #:
S97T001063

Instrument Code:
WB27807

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:
SLH2

Chemist:
SLF

			DETECTION LEVEL
ALPHA TOTAL µCi/g (Average)	=	4.45E-01	
			6.48E-03 µCi/g
RELATIVE COUNTING ERROR		7.5%	

Analyst:
SCL

Date Complete:
06/10/97

Analysis Date:
06/09/97

Analysis Time:
03:20 PM

Sample Point:
AW-103

Analyst:		SCL	Date: 10-Jun-97
Signature of Chemist:		SLF	Date: 6/10/97

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed Worklist Report for Worklist# 18551

Analyst: adp **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	SOLID	2.00E-04	1.71E-4	85.500	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	SOLID	1.00	3.58E+00	3.580	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01 ALPHA01	SOLID	1	<3.49E-3		uCi/g
2	BLNK-PREP		0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG		0		@ALPHA01 ALPHA01	SOLID	1.00E+00	8.33E-01	0.833	BLNK/BKG
4	SAMPLE	S97T001064	0	F	@ALPHA01 ALPHA01	SOLID	N/A	7.13E-02	8.63e-003	uCi/g
4	SAMPLE	S97T001064	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	1.97E+01		% Ct. Error
5	DUP	S97T001064	0	F	@ALPHA01 ALPHA01	SOLID	7.13E-2	7.13E-2	0.000	RPD
5	DUP	S97T001064	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.92E+01	19.200	% Ct. Erro
6	SAMPLE	S97T001065	0	F	@ALPHA01 ALPHA01	SOLID	N/A	8.32E-02	1.96e-002	uCi/g
6	SAMPLE	S97T001065	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	3.09E+01		% Ct. Error
7	DUP	S97T001065	0	F	@ALPHA01 ALPHA01	SOLID	8.32E-2	1.19E-1	35.410	RPD
7	DUP	S97T001065	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	2.29E+01	22.900	% Ct. Erro
8	SPK	S97T001065	0	F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.24E-02	85.171	% Recovery

Final page for worklist# 18551

Analyst Signature **Date**

Analyst Signature **Date**

6/16/97
Reviewer Signature **Date**

For 1065
The RPD^ is acceptable due to the low sample activity level.

6/16/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/09/97 08:44
A-0004-1

LABCORE Data Entry Template for Worklist# 18551

Analyst: ADP **Instrument:** AB00 14 **Book#** 79B56

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: AW103, @ALPHA01 S.S. by Ludlum. Std=1.0mL, Spk=0.1mL skm

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	S97T001064	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001064	0	F	@ALPHA01	SOLID		
6	SAMPLE	S97T001065	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
7	DUP	S97T001065	0	F	@ALPHA01	SOLID		
8	SPK	S97T001065	0	F	@ALPHA01	SOLID		

Final page for worklist # 18551

Analyst Signature 6-12-97 Date

Analyst Signature 6-13-97 Date

C.J. Spaeth 6/13/97

Data Entry Comments: SPIKE 131B43

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

			STANDARD	REPLICATE
Type: STD	DETECTOR NUMBER		14	14
	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List: 18551	GROSS COUNTS	(GC)	3126	3008
	COUNT TIME in MINUTES	(CT)	30	30
A Typ: B Typ: AT	BACKGROUND in cpm	(BKG)	0.2	0.2
	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code: @ALPHA01	DILUTION FACTOR	(DF)	1	1
	STANDARD BOOK NUMBER	(Std BN)	79B56	79B56
Matrix: LIQUID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		104.000	100.067
Batch Number: 97002606	Standard Value in µCi/mL		2.00E-04	
	Concentration in µCi/L	=	1.74E-01	
Rerun: 0	Replicate Concentration in µCi/L	=	1.67E-01	
	AVERAGE CONCENTRATION in µCi/L	=	1.7073E-01	

Sample Prep: N/A

Sample #: WL18551

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: ADP

Date Complete: 06/13/97

Analysis Date: 06/12/97

Analysis Time: 05:15 AM

Sample Point: AW-103

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	=	1.71E-04	
RELATIVE COUNTING ERROR	=	3.6%	7.89E-07 µCi/mL

Analyst:	SEH	Date: 13-Jun-97
Signature of Chemist:	SLF	Date: 6/16/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) 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)	5	5
18551	COUNT TIME in MINUTES	(CT)	30	30
AT or LB:	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.025	4.025
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.191	0.191

Batch Number:			
97002606	Blank Concentration in µCi/g	<	3.49E-03
Rerun:	Replicate Concentration in µCi/g	<	3.49E-03
0	Maximum Concentration in µCi/g	<	3.4851E-03

Sample Prep:
N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
WL18551

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB27807

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:
SEH

Chemist:
SLF

	ALPHA TOTAL in µCi/g (Maximum)	=	< 3.49E-03	DETECTION LEVEL
Analyst:				
ADP	LESS Than Value was Determined from Lc.			8.63E-03 µCi/g
Date Complete:	RELATIVE COUNTING ERROR		500.0%	
06/13/97				

Analysis Date:
06/12/97

Analysis Time:
05:15 AM

Sample Point:
AW-103

Analyst:	ADP	Date:	13-Jun-97
Signature of Chemist:	SLF	Date:	6/16/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type:	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	130	116
18551	COUNT TIME in MINUTES	(CT)	30	30
AT or I Br:	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code:	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.025	4.025
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		4.133	3.667

Batch Number:		
97002606	Blank Concentration in µCi/g	7.56E-02
Rerun:	Replicate Concentration in µCi/g	6.71E-02
0	Average Concentration in µCi/g	7.1338E-02

Sample Prep:
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #:
S97T001064

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code:
WB27807

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:
SEH

Chemist:
SLF

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	7.13E-02	
			8.63E-03 µCi/g
RELATIVE COUNTING ERROR		19.7%	

Analyst:
ADP

Date Complete:
06/13/97

Analysis Date:
06/12/97

Analysis Time:
05:15 AM

Sample Point:
AW-103

{/ system;exit}yes~

Analyst: ADP Date: 13-Jun-97

Signature of Chemist: SLF Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

Type:			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List:	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18551	GROSS COUNTS	(GC)	121	125
A for, By:	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.2	0.2
Test Code:	SAMPLE SIZE in mL	(SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR	(DF)	11	11
Matrix:	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.026	4.026
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number:	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		3.833	3.967
97002606				

Rerun:		
0	Blank Concentration in µCi/g	7.01E-02
	Replicate Concentration in µCi/g	7.25E-02
	Average Concentration in µCi/g	7.1321E-02

Sample Prep:
FUSION01

Sample #:
S97T001064

Instrument Code:
WB27807

Prepared By:
SEH

Chemist:
SLF

Analyst:
ADP

Date Complete:
06/13/97

Analysis Date:
06/12/97

Analysis Time:
05:15 AM

Sample Point:
AW-103

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)	=	7.13E-02	
			8.63E-03 µCi/g
RELATIVE COUNTING ERROR		19.2%	

{/ system;exit}yes~

Analyst: ADP Date: 13-Jun-97

Signature of Chemist: SLF Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	56	76
18551	COUNT TIME in MINUTES	(CT)	30	30
A Tor TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
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)	4.065	4.065
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.667	2.333

Batch Number		
97002606	Blank Concentration in µCi/g	6.93E-02
Rerun ?	Replicate Concentration in µCi/g	9.70E-02
0	Average Concentration in µCi/g	8.3150E-02

Sample Prep
FUSION01

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
S97T001065

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

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
SEH

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	8.32E-02	DETECTION LEVEL
			1.96E-02 µCi/g
RELATIVE COUNTING ERROR		30.9%	

Analyst
ADP

Date Complete
06/13/97

Analysis Date
06/12/97

Analysis Time
05:15 AM

Sample Point
AW-103

{/ system;exit}yes~

Analyst:	ADP		Date: 13-Jun-97
Signature of Chemist:		SLF	Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1) SOLIDS

Type			DUP	REPLICATE
DUP	DETECTOR NUMBER		14	14
Work List	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
18551	GROSS COUNTS	(GC)	92	90
AT or TB?	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.2	0.2
Test Code	SAMPLE SIZE in mL	(SS)	1.000	1.000
@ALPHA01	DILUTION FACTOR	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.034	4.034
SOLID	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.867	2.800
97002606	Blank Concentration in µCi/g		1.20E-01	
Rerun	Replicate Concentration in µCi/g		1.17E-01	
0	Average Concentration in µCi/g		1.1870E-01	

Sample Prep: FUSION01

Sample #: S97T001065

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: ADP

Date Complete: 06/13/97

Analysis Date: 06/12/97

Analysis Time: 05:15 AM

Sample Point: AW-103

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) =	1.19E-01	
		1.98E-02 µCi/g
RELATIVE COUNTING ERROR	22.9%	

{/ system;exit}yes~

Analyst:		ADP	Date: 13-Jun-97
Signature of Chemist:		SLF	Date: 6/16/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

Type			SPIKE	REPLICATE
SPK	DETECTOR NUMBER		14	14
Work List	DISH SIZE 1, 2, or 5	(MS)	2	2
18551	TOTAL COUNTS	(TC)	41211	39413
Anor/Tr	COUNT TIME in MINUTES	(CT)	30	30
AT	BACKGROUND in cpm	(BKG)	0.2	0.2
Test Code	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	1.000	1.000
@ALPHA01	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	101	101
Matrix	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.065	4.065
SOLID	SPIKE VOLUME in mL	(SVol)	0.100	0.100
Batch Number	SPIKE DILUTION FACTOR	(SDF)	1	1
97002606	SPIKE BOOK NUMBER	(Spk BN)	131B43	131B43
Rerun	SPIKE VALUE in µCi/mL	(SVal)	2.6291E-02	2.6291E-02
0	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
Sample Prep	SAMPLE + SPIKE µCi/g	(S+S)	5.71E+01	5.46E+01
FUSION01	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.3150E-02	
Sample #				
S97T001065	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
WB27807	QC ACTUAL = SVal			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
ADP				
Date Complete				
06/13/97				
Analysis Date				
06/12/97	QC ACTUAL	=	2.63E-02	
Analysis Time	QC FOUND	=	2.24E-02	
05:15 AM	AVG. PERCENT SPIKE RECOVERY	=	85.4%	
Sample Point				
AW-103				

Analyst: SEH Date: 13-Jun-97

Signature of Chemist: SLF Date: 6/16/97

SPIKE.WB1 Rev. 1.0 508101ML

worklistrad Version 1.0 05/09/96
06/11/97 08:54

LABCORE Completed RadChem Report for Worklist#: 18592

Analyst: slh **Instrument:** AB14 **Book#** _____

Method: _____ Rev/Mod _____

Worklist Comment: Use 1-10-.5 sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01	ALPHA01 SOLID	2.00E-04	1.67E-4	83.500	% Recovery
1	STD		0		@ALPHA01	ALPHA01E SOLID	1.00	3.59E+00	3.590	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01	ALPHA01 SOLID	1	3.20E-3	32.000e-004	uCi/g
2	BLNK-PREP		0		@ALPHA01	ALPHA01E SOLID	1.00	8.24E+01	82.400	uCi/g
3	BLNK/BKG		0		@ALPHA01	ALPHA01 SOLID	1.00E+00	1.28E+01	12.800	BLNK/BKG
4	SAMPLE	S97T001062	0	F	@ALPHA01	ALPHA01 SOLID	N/A	2.58E-01	216.0e-005	uCi/g
4	SAMPLE	S97T001062	0	F	@ALPHA01	ALPHA01E SOLID	N/A	6.84E+00	0.0e+000	% Ct. Error
5	DUP	S97T001062	0	F	@ALPHA01	ALPHA01 SOLID	2.58E-1	1.94E-1	28.319	RPD
5	DUP	S97T001062	0	F	@ALPHA01	ALPHA01E SOLID	1.00	8.21E+00	8.210	% Ct. Erro

Final page for worklist# 18592

Analyst Signature **Date** **Analyst Signature** **Date**

Reviewer Signature 6/11/97 **Date**

The BLNK value is insignificant compared to the sample results. The RPD is consistent with the 1st run indicating inhomogeneity between the sample and the Dup. No rerun requested.

6/11/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

06/10/97 15:09
A-0004-1

LABCORE Data Entry Template for Worklist# 18592

Analyst: SLH **Instrument:** AB00 14 **Book#** 79856

Method: LA-508-101 Rev/Mod 6-0

Worklist Comment: Use 1-10-.5 sample size. 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	S97T001062	0	F	@ALPHA01	SOLID	97000333	AW-103
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S97T001062	0	F	@ALPHA01	SOLID		

Final page for worklist # 18592

Sandra Lloyd Boatright
Analyst Signature **Date**
6-10-97

Analyst Signature **Date**
6/11/97
Sylvia L Cochran 6/11/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) **LA-508-113 (B-0) STANDARD**

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		14	14
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3013	2977
18592	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		100.403	99.203
Batch Number	Standard Value in µCi/mL		2.00E-04	
97002655	Concentration in µCi/L	=	1.68E-01	
Rerun	Replicate Concentration in µCi/L	=	1.66E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.6700E-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)
WL18592	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	
MCB	
Chemist	
SLF	
Analyst	
SLH	
Date Complete	
06/11/97	
Analysis Date	
06/11/97	
Analysis Time	
12:15 AM	
Sample Point	
AW-103	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.67E-04	
RELATIVE COUNTING ERROR	=	3.6%	3.99E-07 µCi/mL

Analyst:		MCB	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	15
18592	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.06	4.06
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.237	0.470

Batch Number		
97002655	Blank Concentration in µCi/g	2.15E-03
Rerun	Replicate Concentration in µCi/g	4.26E-03
0	Average Concentration in µCi/g	3.2037E-03

Sample Prep
N/A

Rs (Sample Count Rate) = (TC / CT) - BKG

Sample #
WL18592

ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)

Instrument Code
WB27807

Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100

Prepared By
MCB

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Chemist
SLF

ALPHA TOTAL in µCi/g (Average)	=	3.20E-03	DETECTION LEVEL
			2.16E-03 µCi/g
RELATIVE COUNTING ERROR		82.4%	

Analyst
SLH

Date Complete
06/11/97

Analysis Date
06/11/97

Analysis Time
12:15 AM

Sample Point
AW-103

Analyst:	SLH		Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

Type	DETECTOR NUMBER		SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	823	885
18592	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.06	4.06
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		27.403	29.470
Batch Number				
97002655	Blank Concentration in µCi/g		2.48E-01	
Rerun	Replicate Concentration in µCi/g		2.67E-01	
1	Average Concentration in µCi/g		2.5784E-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)			
S97T001062				
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				
MCB				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average)	=	2.58E-01	DETECTION LEVEL
Analyst				
SLH				2.16E-03 µCi/g
Date Complete	RELATIVE COUNTING ERROR		6.8%	
06/11/97				
Analysis Date				
06/11/97				
Analysis Time				
12:15 AM				
Sample Point				
AW-103				

Analyst:	SLH		Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	745	573
18592	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	4.153	4.153
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		24.803	19.070
Batch Number				
97002655	Blank Concentration in µCi/g		2.20E-01	
Rerun	Replicate Concentration in µCi/g		1.69E-01	
1	Average Concentration in µCi/g		1.9445E-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)			
S97T001062				
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				
MCB				
Chemist				
SLF	ALPHA TOTAL in µCi/g (Average)	=	1.94E-01	DETECTION LEVEL
Analyst				
SLH				2.11E-03 µCi/g
Date Complete				
06/11/97	RELATIVE COUNTING ERROR		8.2%	
Analysis Date				
06/11/97				
Analysis Time				
12:15 AM				
Sample Point				
AW-103				

Analyst:		SLH	Date: 11-Jun-97
Signature of Chemist:		SLF	Date: 6/11/97

SAMPLE.WB1 Rev. 1.0 508101ML

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	Production Planning & Control	Date: 08/19/97
Project Title/Work Order **HNF-SD-WM-DP-249**, Rev. 0 "Tank 241-AW-103, Cores 193 and 194 Analytical Results for the Final Report"		EDT NO.: EDT-620418 ECN NO.: N/A

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LTIC	T6-03		X
SGN Eurisys Services Corp.			
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