This document was too large to scan as a single document; therefore, it has been divided into smaller sections.

Section 1 of 2

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Franciska H. Steen
Rust Federal Services of Hanford, Inc., Richland, WA 99352
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HANFORD ANALYTICAL LABORATORY OPERATIONS

TANK 241-TX-104, CORES 230 AND 231, ANALYTICAL RESULTS FOR THE FINAL REPORT

Project Coordinator: Franciska H. Steen

Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

by

222-S Laboratory
Waste Management of Hanford, Inc.
P.O. Box 700
Richland, Washington

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NARRATIVE

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HANFORD ANALYTICAL LABORATORY OPERATIONS

TANK 241-TX-104, CORES 230 AND 231, ANALYTICAL RESULTS FOR THE FINAL REPORT

This document is the analytical laboratory report for tank 241-TX-104 push mode core segments collected between February 18, 1998 and February 23, 1998. The segments were subsampled and analyzed in accordance with the *Tank 241-TX-104 Push Mode Core Sampling and Analysis Plan* (TSAP) (McCain, 1997), the *Data Quality Objective to Support Resolution of the Organic Complexant Safety Issue* (Organic DQO) (Turner, et al., 1995) and the *Safety Screening Data Quality Objective* (DQO) (Dukelow, et al., 1995). The analytical results are included in the data summary table (Table 1).

None of the samples submitted for Differential Scanning Calorimetry (DSC) and Total Alpha Activity (AT) exceeded notification limits as stated in the TSAP (McCain, 1997). The statistical results of the 95% confidence interval on the mean calculations are provided by the Tank Waste Remediation Systems Technical Basis Group in accordance with the Memorandum of Understanding (Schreiber, 1997) and are not considered in this report.

Appearance and Sample Handling

Attachment 1 is a cross reference to relate the tank farm identification numbers to the 222-S Laboratory LabCore/LIMS sample numbers. The subsamples generated in the laboratory for analyses are identified in these diagrams with their sources shown.

Core 230
Three push mode core segments were removed from tank 241-TX-104 riser 9A on February 18, 1998. Segments were received by the 222-S Laboratory on February 19, 1998. Two segments were expected for this core. However, due to poor sample recovery, an additional segment was taken and identified as 2A. Table 2 summarizes the extrusion information.

Core 231
Four push mode core segments were removed from tank 241-TX-104 riser 13A between February 19, 1998 and February 23, 1998. Segments were received by the 222-S Laboratory on February 24, 1998. Two segments were expected for this core. However, due to poor sample recovery, additional segments were taken and identified as 2A and 2B.

The TSAP (McCain, 1997) states the core samples should be transported to the laboratory within three calendar days from the time each segment is removed from the tank, this requirement was not met for the segments from core 231. Table 3 summarizes the extrusion information.

Field Blank
A field blank was provided to the 222-S laboratory with core 230. It underwent the same analysis as the drainable liquid as instructed by the TSAP (McCain, 1997).

Hydrostatic Head Fluid
A sample of the hydrostatic head fluid (HHF) lithium bromide solution was provided with core 230 and was submitted to the laboratory for IC and ICP analyses.

Table 2. Sample Receipt and Extrusion Information for 241-TX-104, Core 230.

Customer Id	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
230-01	1	2/18/98	2/19/98	2/24/98	4.0	168.5-Drainable	132.9-Lower half	The solids were dark brown in color and resembled a salt slurry. The liquid was brown in color and opaque. Collected 120 mL of liquid. No organic layer was observed.
230-02	2	2/18/98	2/19/98	2/24/98	8.0	54.8-Drainable	260.0-Lower half	The solids were gray and white in color and resembled a wet sludge. The liquid was amber in color and opaque. Collected 50 mL of liquid. No organic layer was observed.
230-2A	2A	2/18/98	2/19/98	2/24/98	3.0	0.0	86.5-Lower half	The solids were white in color and resembled a wet sludge.

*Approximate Inches Extruded

Table 3. Sample Receipt and Extrusion Information for 241-TX-104, Core 231.

Customer Id	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
231-01	1	2/19/98	2/24/98	2/27/98	3.0	116.3-Drainable	114.1-Lower half	The solids were black in color and resembled a salt slurry. The liquid was dark brown in color and opaque. Collected 100 mL of liquid. No organic layer was observed.
231-02	2	2/20/98	2/24/98	2/27/98	3.0	97.9-Drainable	67.0-Lower Half	The solids were gray and white in color and resembled a salt slurry. The liquid was dark brown in color and opaque. Collected 75 mL of liquid. No organic layer was observed.
231-2A	2A	2/23/98	2/24/98	2/27/98	2.0	184.1-Drainable 51.1-Liner	47.2-Lower half	The solids were gray and white in color and resembled a salt slurry. The liquid was olive green in color and opaque. Collected 130 mL of liquid. No organic layer was observed.
231-2B	2B	2/23/98	2/24/98	2/27/98	0.0	0.0	0.0	Observed less than 2 mL of liquid. Did not retain.

*Approximate Inches Extruded

Analytical Results Summary

The data summary report (Table 1) compiles the analytical results that satisfy all applicable DQOs.

Inorganic Analyses

Differential Scanning Calorimetry (DSC)

The DSC analyses were performed in duplicate on direct subsamples. The exothermic energy based on dry weight of subsample was calculated for all subsamples. The average of the TGA results for each subsample was used in the dry weight correction for that subsample.

None of the samples submitted for DSC analysis exceeded notification limits as stated in the Safety Screening DQO (Dukelow, et al., 1995). There was no exothermic energy observed in the samples from tank 241-TX-104. Therefore, the calculation for the RPD is indeterminate because of the division by zero. Due to the way the database performs calculations, zero divided by zero is reported as "0.0".

The standard recoveries for this analysis were within the required limits of 80%-120%.

Thermogravimetric Analysis (TGA)

The TGA analyses were performed in duplicate on direct subsamples. Typically TGA results are determined by summing the weight loss steps which occur below 250°C; weight loss steps above this are not used to determine the result. However for tank 241-TX-104 approximately 25% of the thermograms showed weight loss beyond 250°C. The results for five of the twelve subsamples submitted for analysis were the sum of two or more weight loss steps. More information may be obtained by examining the raw data.

The standard recoveries for this analysis were within the required limits of 80%-120%. The RPDs were less than 30% for solids and 20% for liquids.

Bulk Density

Bulk density was performed on the solid subsamples as required by the TSAP (McCain, 1997). The results of the bulk density test ranged from 1.59 g/mL to 2.05 g/mL. The bulk density results were greater than the 1.5 g/mL used to determine the solid total alpha activity notification limit stated in the TSAP (McCain, 1997). Therefore the highest bulk density result of 2.05 g/mL was used to recalculate the solid total alpha notification limit for the tank. There are no quality control (QC) parameters defined for this analysis.

Specific Gravity - SpG

Specific gravity analyses were performed on the liquid subsamples as required by the TSAP (McCain, 1997). The results are provided in Table 1. The standard recoveries were within the laboratory control limits for this analysis and the RPDs were less than 20%.

Ion Chromatography (IC)

The IC analyses were performed on direct subsamples of liquid samples as indicated by a blank in the aliquot class (A#) column in Table 1. The solid subsamples were prepared for analysis by performing a water digest. This is indicated with a "W" in the A# column in Table 1.

The results for the IC analytes are included in Table 1. However, the QC review discussed in this report is limited to bromide (Br). All other analyte results are presented in Appendix A. These results are considered "opportunistic" and do not have customer defined QC parameters. Therefore, any anomalies in those results are not discussed in this report.

The standard recoveries for Br were within the required limits of 80%-120% and the spike recoveries were within the required limits of 75%-125%. The RPDs were less than 20%.

Inductively Coupled Plasma Spectrophotometry (ICP)

The liquid subsamples were prepared for analysis by an acid adjustment of the direct subsample. This is indicated by a "D" in the A# column in Table 1. Solid subsamples were prepared for analysis by performing both an acid digest as indicated by an "A" and a fusion as indicated by an "F"in the A# column in table 1.

The results for the ICP analytes are included in Table 1. However, the QC review discussed in this report is limited to lithium (Li). All other analyte results are presented in Appendix A. These results are considered "opportunistic" and do not have customer defined QC parameters. Therefore, any anomalies in those results are not discussed in this report.

The standard recoveries for Li were within the required limits of 80%-120% and the spike recoveries were within the required limits of 75%-125%. The RPDs were less than 20%.

Total Inorganic/Organic Carbon Persulfate

Total inorganic/organic carbon (TICTOC) analyses by persulfate oxidation/coulometry were performed in duplicate on direct subsamples. These analyses were performed in support of organic complexant safety issues. The total inorganic/organic analyses results are presented in Appendix A and are considered "opportunistic". Therefore, any anomalies in these results are not discussed. The raw data are included in Appendix B for informational purposes only.

Radionuclide Analyses

Total Alpha (AT)

The total alpha (AT) analyses were performed in duplicate on direct subsamples for the liquids as indicated by a blank in the A# column in Table 1. Solid subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion digest is indicated with an "F" in the aliquot class (A#) column in Table 1.

All liquid AT results were below the total alpha activity action limit of 61.5 μCi/mL. All solid AT results were below the total alpha activity limit of 30.00 μCi/g as stated in the TSAP (McCain, 1997).

High RPDs (>20%) were reported for two of the twelve subsamples submitted for analyses. The sample results were near the detection limit which decreased the precision of the analyses. No reruns were requested due to the low alpha activity in the samples. The standard recoveries for this analysis were within the required limits of 70% - 130% and the spike recoveries were within the required range of 75% - 125%.

Procedures

Table 4 lists the analytical procedures used for performing the sample analyses. Abbreviations for analyses are defined in the table notes.

Table 4. Analytical Procedures

Analysis	Sample Portion	Preparation Procedure +	Analysis Procedure
DSC	Solid/Liquid	N/A	LA-514-113 Rev. D-1 LA-514-114 Rev. D-1
TGA	Solid/Liquid	N/A	LA-514-114 Rev. D-1
Bulk Density	Solid	N/A	LA-519-132 Rev. E-0
Sp.G.	Liquid	N/A	LA-510-112 Rev. D-1
IC	Solid Liquid	LA-504-101 Rev. F-0 N/A	LA-533-105 Rev. E-0
ICP	Solid Liquid	LA-505-163 Rev. A-0 N/A	LA-505-161 Rev. C-2
TICTOC (OPPORTUNISTIC)	Solid Liquid	N/A	LA-342-100 Rev. F-1
AT	Solid Liquid	LA-549-141 Rev. F-0 N/A	LA-508-101 Rev. G-0

Abbreviations:

N/A	= not applicable (these are direct samples)
DSC	= differential scanning calorimetry
TGA	= thermogravimetric analysis
Sp.G.	= specific gravity
IC	= ion chromatography
ICP	= inductively coupled plasma
TOC	= total organic carbon
TIC	= total inorganic carbon
AT	= total alpha

References

McCain, D. J., 1997, *Tank 241-TX-104 Push Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-151, Rev. 0, Lockheed Martin Hanford Corporation, Richland, WA 99352.

Dukelow, G. T., J. W. Hunt, H. Babad, and J. E. Meacham, 1995, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, WA 99352.

Turner, D. A., H. Babad, L. L. Buckley, and J. E. Meacham, 1995, *Data Quality Objective to Support Resolution of the Organic Complexant Safety Issue*, WHC-SD-WM-DQO-006, Rev. 2, Westinghouse Hanford Company, Richland, WA 99352.

Schreiber, R. D., 1997, *Fiscal Year 1997 Memorandum of Understanding for the TWRS Characterization Project*, HNF-SD-WM-SD-023, Rev. 0, Lockheed Martin Hanford Corporation, Richland, WA 99352.

Markel, L. P., 1997, *Quality Assurance Plan for the 222-S Laboratories*, HNF-SD-CP-QAPP-016, Rev. 2, Rust Federal Services of Hanford, Inc., Richland, WA 99352.

TX-104 SAMPLE BREAKDOWN

ATTACHMENT 1

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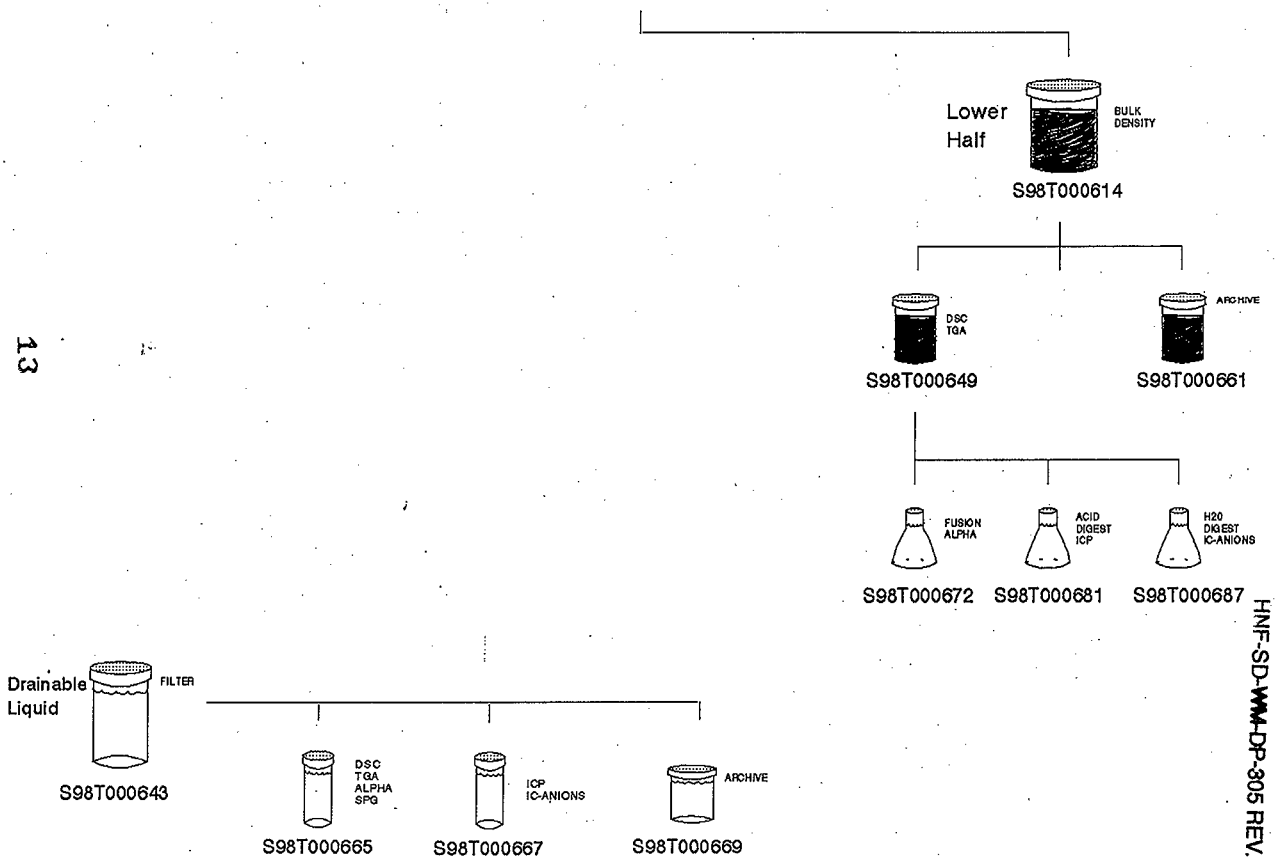
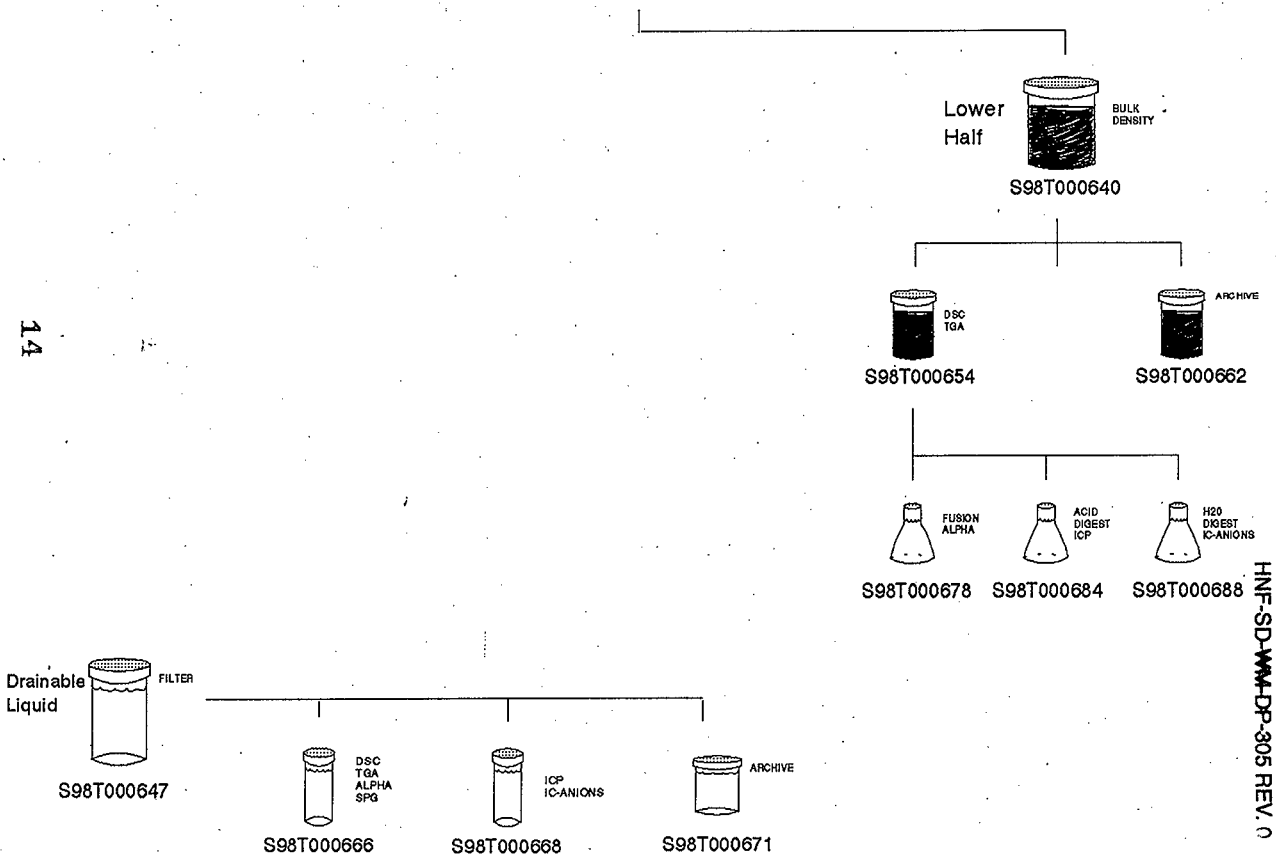
TX-104
Core:230
Seg: 1
S98T000503

Attachment 1



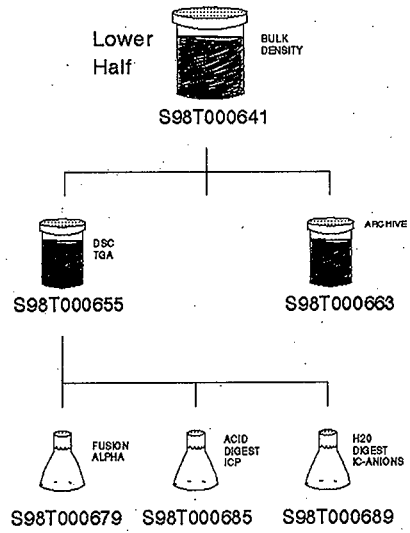
TX-104
Core:230
Seg: 2
S98T000504

Attachment 1



TX-104
Core:230
Seg: 2A
S98T000505

Attachment 1



TX-104
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Seg: FB
S98T000500

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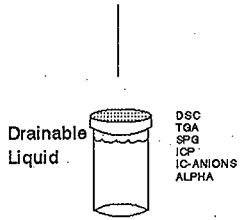
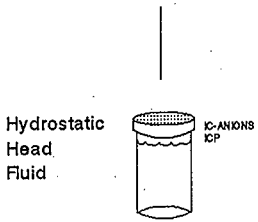


TX-104
Core:230
Seg: LiBr
S98T000501

Attachment 1



TX-104
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Seg: 1
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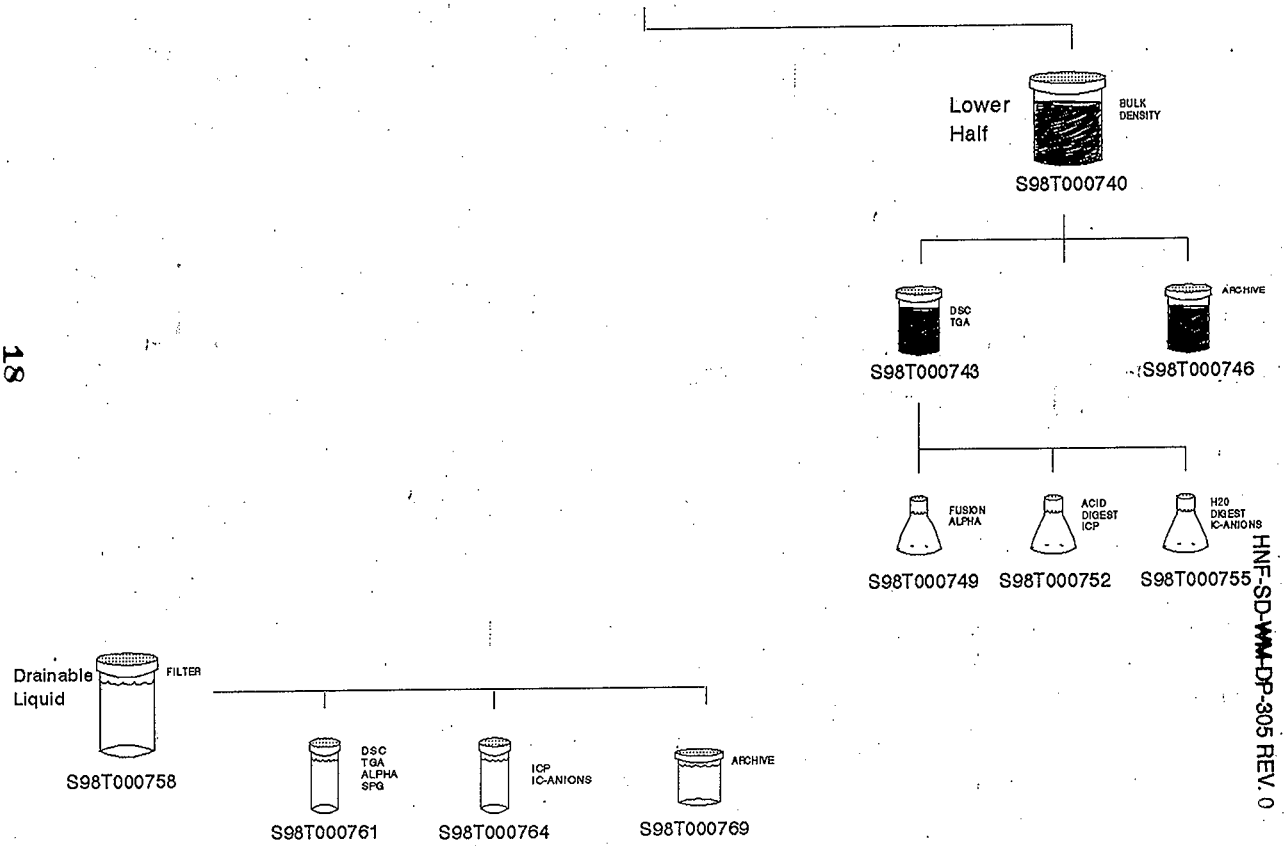

TX-104
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Seg: 2
S98T000600

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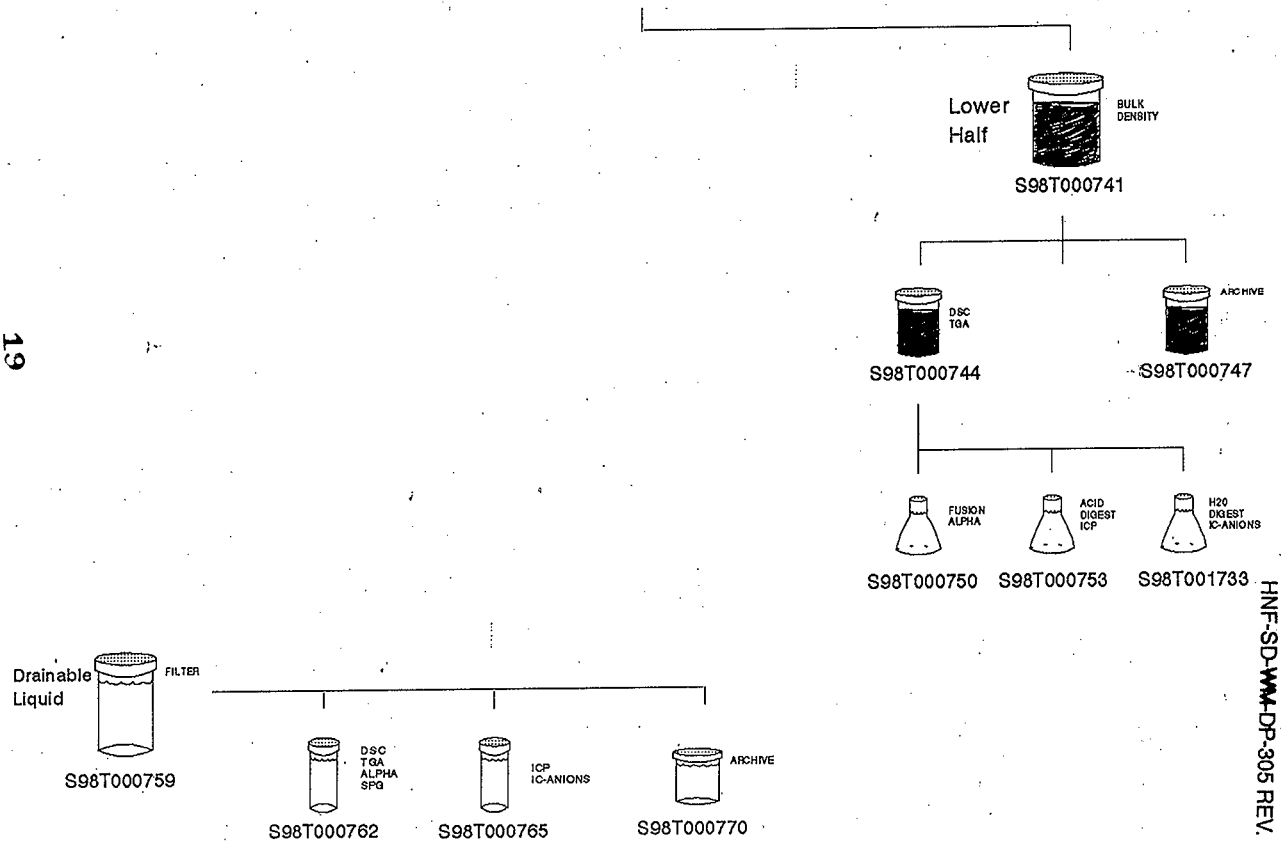

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Seg: 2A
S98T000602

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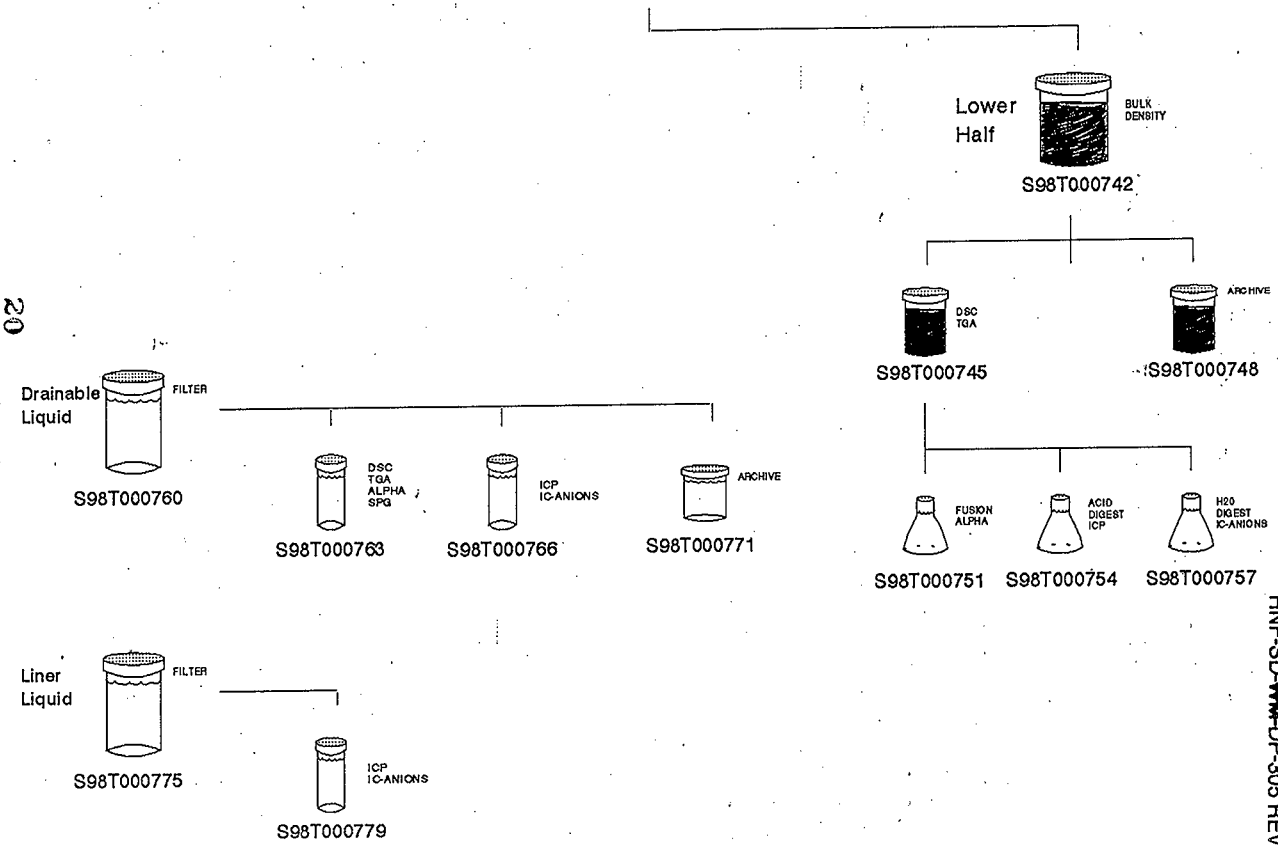

TX-104
Core:231
Seg: 2B
S98T000601

Attachment 1

SAMPLER
EMPTY

SAMPLE DATA SUMMARY

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Table 1. Data Summary Report.
TX-104

CORE NUMBER: 230
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000614			Bulk Density of Sample	g/mL	n/a	n/a	1.650	n/a	n/a	n/a	n/a	5.00e-01	n/a
S98T000649			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000649			DSC Exotherm on Perkin Elmer	Joules/g	97.79	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000649			% Water by TGA on Perkin Elmer	%	99.12	n/a	35.96	41.97	38.97	15.4	n/a	n/a	n/a
S98T000672	F		Alpha of Digested Solid	uCi/g	98.90	<4.19e-03	1.220	6.62e-01	9.41e-01	59.3	90.78	1.20e-02	6.30E+00
S98T000681	A		Lithium -ICP-Acid Digest	ug/g	91.80	<1.00e-02	< 5.940	<6.09e0	n/a	n/a	90.40	5.940	n/a
S98T000687	W		Bromide by Ion Chromatograph	ug/g	98.81	<1.25e-01	<1.03e+03	<1.03e3	n/a	n/a	96.26	1.03e+03	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000665			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000665			DSC Exotherm on Perkin Elmer	Joules/g	97.08	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000665			Specific Gravity	Sp.G.	99.50	n/a	1.398	1.396	1.397	0.14	n/a	1.00e-03	n/a
S98T000665			% Water by TGA on Perkin Elmer	%	99.51	n/a	52.85	53.05	52.95	0.38	n/a	n/a	n/a
S98T000665			Alpha in Liquid Samples	uCi/mL	75.28	<2.73e-07	7.34e-03	7.06e-03	7.20e-03	3.89	79.49	5.00e-03	6.61E+01
S98T000667	D		Lithium-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	93.30	6.010	n/a
S98T000667			Bromide by Ion Chromatograph	ug/mL	106.5	<1.25e-01	<1.28e+03	<1.28e3	n/a	n/a	100.2	1.28e+03	n/a

Table 1. Data Summary Report.
TX-104

CORE NUMBER: 230
SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000640			Bulk Density of Sample	g/mL	n/a	n/a	2.050	n/a	n/a	n/a	n/a	5.00e-01	n/a
S98T000654			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000654			DSC Exotherm on Perkin Elmer	Joules/g	97.43	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000654			% Water by TGA on Perkin Elmer	%	99.51	n/a	41.83	42.06	41.95	0.55	n/a	n/a	n/a
S98T000678		F	Alpha of Digested Solid	uCi/g	98.90	<4.19e-03	3.78e-02	3.68e-02	3.73e-02	2.68	93.09	1.10e-02	4.06E+01
S98T000684		A	Lithium -ICP-Acid Digest	ug/g	91.80	<1.00e-02	< 5.680	<5.53e0	n/a	n/a	98.60	5.670	n/a
S98T000688		W	Bromide by Ion Chromatograph	ug/g	101.0	<1.25e-01	<4.71e+02	<4.67e2	n/a	n/a	98.64	471.2	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000666			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000666			DSC Exotherm on Perkin Elmer	Joules/g	97.40	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000666			Specific Gravity	Sp.G.	99.50	n/a	1.413	1.405	1.409	0.57	n/a	1.00e-03	n/a
S98T000666			% Water by TGA on Perkin Elmer	%	99.31	n/a	51.88	51.85	51.87	0.06	n/a	n/a	n/a
S98T000666			Alpha in Liquid Samples	uCi/mL	75.28	<2.73e-07	4.40e-02	3.01e-02	3.70e-02	37.5	84.56	5.00e-03	2.30E+01
S98T000668		D	Lithium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	94.00	6.010	n/a
S98T000668			Bromide by Ion Chromatograph	ug/mL	95.25	<1.25e-01	<1.28e+03	<1.28e3	n/a	n/a	95.59	1.28e+03	n/a

Table 1. Data Summary Report.
TX-104

CORE NUMBER: 230
SEGMENT #: 2A

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000641			Bulk Density of Sample	g/mL	n/a	n/a	1.890	n/a	n/a	n/a	n/a	5.00e-01	n/a
S98T000655			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000655			DSC Exotherm on Perkin Elmer	Joules/g	97.43	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000655			% Water by TGA on Perkin Elmer	%	99.51	n/a	44.72	41.58	43.15	7.28	n/a	n/a	n/a
S98T000679	F		Alpha of Digested Solid	uCi/g	98.90	<4.19e-03	2.65e-02	3.05e-02	2.85e-02	14.0	n/a	1.20e-02	5.15E+01
S98T000685	A		Lithium -ICP-Acid Digest	ug/g	91.80	<1.00e-02	< 5.520	<5.32e0	n/a	n/a	n/a	5.520	n/a
S98T000689	W		Bromide by Ion Chromatograph	ug/g	101.0	<1.25e-01	<5.15e+02	<5.06e2	n/a	n/a	n/a	514.9	n/a

Table 1. Data Summary Report.
TX-104

CORE NUMBER: 230
SEGMENT #: FIELD BLANK

SEGMENT PORTION: Field Blank

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000500			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000500			DSC Exotherm on Perkin Elmer	Joules/g	97.08	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000500			Specific Gravity	Sp.G.	99.21	n/a	9.86e-01	9.78e-01	9.82e-01	0.81	n/a	1.00e-02	n/a
S98T000500			% Water by TGA on Perkin Elmer	%	99.51	n/a	99.87	99.59	99.73	0.28	n/a	n/a	n/a
S98T000500		D	Lithium-ICP-Acid Dil.	ug/mL	99.20	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500			Bromide by Ion Chromatograph	ug/mL	103.6	<1.25e-01	<1.25e-01	<1.25e-1	n/a	n/a	n/a	1.25e-01	n/a
S98T000500			Alpha in Liquid Samples	uCi/mL	75.28	<2.73e-07	<4.07e-07	3.29e-07	n/a	n/a	n/a	5.29e-07	1.80E+02

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Table 1. Data Summary Report.
TX-104

CORE NUMBER: 230
SEGMENT #: LiBr

SEGMENT PORTION: Hydrostatic Head Fluid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000501		D	Lithium-ICP-Acid Dil.	ug/mL	99.20	<1.00e-02	1.83e+03	1.88e+03	1.86e+03	2.70	n/a	1.00e-01	n/a
S98T000501			Bromide by Ion Chromatograph	ug/mL	103.6	<1.25e-01	2.45e+04	2.46e+04	2.46e+04	0.41	n/a	75.75	n/a

Table 1. Data Summary Report.
TX-104

CORE NUMBER: 231
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000740			Bulk Density of Sample	g/mL	n/a	n/a	1.590	n/a	n/a	n/a	n/a	5.00e-01	n/a
S98T000743			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000743			DSC Exotherm on Perkin Elmer	Joules/g	97.79	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000743			% Water by TGA on Perkin Elmer	%	99.12	n/a	51.54	51.28	51.41	0.51	n/a	n/a	n/a
S98T000749	F		Alpha of Digested Solid	uCi/g	97.80	<6.50e-03	3.95e-01	3.97e-01	3.96e-01	0.51	93.78	1.60e-02	1.10E+01
S98T000752		A	Lithium -ICP-Acid Digest	ug/g	95.00	<1.00e-02	< 5.900	<5.76e0	n/a	n/a	90.20	5.910	n/a
S98T000755		W	Bromide by Ion Chromatograph	ug/g	98.98	<1.25e-01	<9.14e+02	<9.27e2	n/a	n/a	100.5	914.7	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000761			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000761			DSC Exotherm on Perkin Elmer	Joules/g	97.40	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000761			Specific Gravity	Sp.G.	99.50	n/a	1.578	1.572	1.575	0.38	n/a	1.00e-03	n/a
S98T000761			% Water by TGA on Perkin Elmer	%	99.31	n/a	47.84	49.43	48.64	3.27	n/a	n/a	n/a
S98T000761			Alpha in Liquid Samples	uCi/mL	86.26	<1.52e-02	6.890	5.660	6.275	19.6	87.56	2.50e-02	3.60E+00
S98T000764		b	Lithium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	94.90	6.010	n/a
S98T000764			Bromide by Ion Chromatograph	ug/mL	102.9	<1.25e-01	<1.28e+03	<1.28e3	n/a	n/a	98.13	1.28e+03	n/a

Table 1. Data Summary Report.
TX-104

CORE NUMBER: 231
SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000741			Bulk Density of Sample	g/mL	n/a	n/a	1.880	n/a	n/a	n/a	n/a	5.00e-01	n/a
S98T000744			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000744			DSC Exotherm on Perkin Elmer	Joules/g	97.22	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000744			% Water by TGA on Perkin Elmer	%	99.31	n/a	48.93	48.25	48.59	1.40	n/a	n/a	n/a
S98T000750	F		Alpha of Digested Solid	uCi/g	97.80	<6.50e-03	2.50e-01	2.92e-01	2.71e-01	15.5	n/a	8.00e-03	9.42E+00
S98T000753	A		Lithium -ICP-Acid Digest	ug/g	95.00	<1.00e-02	< 5.410	<5.35e0	n/a	n/a	n/a	5.400	n/a
S98T001733	W		Bromide by Ion Chromatograph	ug/g	103.4	<1.25e-01	<1.26e+03	<1.26e3	n/a	n/a	n/a	1.26e+03	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000762			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000762			DSC Exotherm on Perkin Elmer	Joules/g	97.47	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000762			Specific Gravity	Sp.G.	99.50	n/a	1.424	1.441	1.433	1.19	n/a	1.00e-03	n/a
S98T000762			% Water by TGA on Perkin Elmer	%	99.07	n/a	52.80	53.09	52.95	0.55	n/a	n/a	n/a
S98T000762			Alpha in Liquid Samples	uCi/mL	75.28	<2.73e-07	6.20e-03	3.93e-03	5.07e-03	44.8	n/a	5.00e-03	7.43E+01
S98T000765	D-		Lithium-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765			Bromide by Ion Chromatograph	ug/mL	106.5	<1.25e-01	<1.28e+03	<1.28e3	n/a	n/a	n/a	1.28e+03	n/a

Table 1. Data Summary Report.
TX-104

CORE NUMBER: 231
SEGMENT #: 2A

SEGMENT PORTION: Liner Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000779	D		Lithium-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	1.91e+03	1.93e+03	1.92e+03	1.04	n/a	1.00e-01	n/a
S98T000779			Bromide by Ion Chromatograph	ug/mL	102.9	<1.25e-01	2.58e+04	2.89e+04	2.74e+04	11.3	n/a	138.9	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000742			Bulk Density of Sample	g/mL	n/a	n/a	1.810	n/a	n/a	n/a	n/a	5.00e-01	n/a
S98T000745			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000745			DSC Exotherm on Perkin Elmer	Joules/g	97.22	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000745			% Water by TGA on Perkin Elmer	%	98.84	n/a	49.56	48.86	49.21	1.42	n/a	n/a	n/a
S98T000751	F		Alpha of Digested Solid	uCi/g	97.80	<6.50e-03	1.73e-01	1.85e-01	1.79e-01	6.70	94.01	4.00e-03	8.03E+00
S98T000754	A		Lithium -ICP-Acid Digest	ug/g	95.00	<1.00e-02	< 5.890	<5.93e0	n/a	n/a	95.60	5.880	n/a
S98T000757	W		Bromide by Ion Chromatograph	ug/g	98.98	<1.25e-01	<9.17e+02	<9.30e2	n/a	n/a	95.59	917.2	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000763			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000763			DSC Exotherm on Perkin Elmer	Joules/g	97.47	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S98T000763			Specific Gravity	Sp.G.	99.50	n/a	1.406	1.409	1.407	0.21	n/a	1.00e-03	n/a
S98T000763			% Water by TGA on Perkin Elmer	%	99.07	n/a	53.83	52.33	53.08	2.83	n/a	n/a	n/a
S98T000763			Alpha in Liquid Samples	uCi/mL	75.28	<2.73e-07	5.63e-03	4.78e-03	5.20e-03	16.3	n/a	5.00e-03	7.97E+01
S98T000766	D		Lithium-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766			Bromide by Ion Chromatograph	ug/mL	95.25	<1.25e-01	<1.28e+03	1.42e+03	n/a	n/a	n/a	1.28e+03	n/a

CHAIN OF CUSTODY

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CHAIN-OF-CUSTODY RECORD FOR CPO

Sample Number: 230-01	(2) Supervisor/Sampler: M.C. Jones	(9) Seal Intact Upon Release?	☒ Yes ☐ No
Tank: TX-104	(4) Riser: 9A	(5) Cask/Pig Serial No.: C 2011	(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
Shipment Description:	(7) Sampling Data	Y N	(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number: WS-97-00248	- Lithium Bromide	☐ ☒	(12) Laboratory Comments:
B. Cask/Pig Seal Number: 11718	Amount: N/A		
C. Date Sample Collected: 2-18-98	Concentration: N/A		S98T000503
D. Time Sample Collected: 0145	- X-Ray	☐ ☒	
	- Partial Sample	☒ ☐	
	- Retrieved Partial Sample Stroke Length: 7"		

Field Comments:

34

(13) Relinquished By (Sign and PRINT): M.C. Jones	(14) Received By (Sign and PRINT): James C. Hulet / James Hulet	(15) Date/Time: 1350 02-19-98	(16) Receiver Comments
(17) Relinquished By (Sign and PRINT): James C. Hulet / James Hulet	(18) Received By (Sign and PRINT): R.C. Chambers / R.C. Chambers	(19) Date/Time: HB 02-19-98	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-326 (07/97)

HNF-SD-WM-DP-305 REV. 0

CHAIN-OF-CUSTODY RECORD FOR CPO

Sample Number: 230-02

(2) Supervisor/Sampler: M.C. Jones

Tank: TX-104

(4) Riser: 9A

(5) Cask/Pig Serial No.: SN 76

(9) Seal Intact Upon Release? ☒ Yes ☐ No

(10) Seal Intact Upon Receipt? ☒ Yes ☐ No

(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No

Shipment Description:

A. Work Package Number: WS 2-18-98 ~~2W~~-97-00248

B. Cask/Pig Seal Number: 11717

C. Date Sample Collected: 2-18-98

D. Time Sample Collected: 0245

(7) Sampling Date

	Y	N
- Lithium Bromide	☐	☒
Amount	N/A	
Concentration	N/A	
- X-Ray	☐	☒
- Partial Sample	☒	☐
- Retrieved Partial Sample Stroke Length	9"	

(12) Laboratory Comments:

5985000504

Field Comments:

35

HNF-SD-WM-DP-305 REV. 0

(13) Relinquished By (Sign and PRINT) M.C. Jones	(14) Received By (Sign and PRINT) James Pilot Samples Pooley	(15) Date/Time 1353 02-1998	(16) Receiver Comments
(17) Relinquished By (Sign and PRINT) James Pilot Samples Pooley	(18) Received By (Sign and PRINT) R.L. Chambers / R.L. Chambers	(19) Date/Time 1411 02-19-98	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

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BC-6001-326 (07/97)

CHAIN-OF-CUSTODY RECORD FOR CPO

Sample Number: 230-02A

(2) Supervisor/Sampler: M.C. Jones

Tank: TX-104

(4) Riser: 9 A

(5) Cask/Pig Serial No.: 1013-C

(9) Seal Intact Upon Release? ☒ Yes ☐ No

(10) Seal Intact Upon Receipt? ☒ Yes ☐ No

(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No

Shipment Description:

A. Work Package Number: WS-97-00248

B. Cask/Pig Seal Number: 11719

C. Date Sample Collected: 2-18-98

D. Time Sample Collected: 0530

(7) Sampling Data

	Y	N
- Lithium Bromide	☐	☒
Amount	N/A	
Concentration	N/A	
- X-Ray	☐	☒
- Partial Sample	☒	☐
- Retrieved Partial Sample Stroke Length	4"	

(12) Laboratory Comments:

S98T000505

Field Comments:

36

(13) Relinquished By (Sign and PRINT) M.C. Jones	(14) Received By (Sign and PRINT)	(15) Date/Time 1351 02-19-98	(16) Receiver Comments
(17) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT) R.C. Chambers / R.C. Chambers	(19) Date/Time 1410 02-19-98	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-326 (07/97)

HNF-SD-WM-DP-305 REV. 0

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number: Di WATER	(2) Supervisor/Sampler: M.C. Jones	(9) Seal Intact Upon Release? ☒ Yes ☐ No
(3) Tank: TX-104	(4) Riser: 9A	(5) Cask/Pig Serial No.: N/A
		(10) Seal Intact Upon Receipt? ☒ Yes ☐ No

(11) Seal Number AND ~~Cask/Pig SERIAL Number~~ consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No

(6) Shipment Description:

A. Work Package Number: WS-97-00248

B. Cask/Pig Seal Number: 11724

C. Date Sample Collected: 2-18-98

D. Time Sample Collected: 2000

(7) Sampling Data

	Y	N
- Lithium Bromide	☐	☒
Amount	N/A	
Concentration	N/A	
- X-Ray	☐	☒
- Partial Sample	☐	☒
- Retrieved Partial Sample Stroke Length	N/A	

(12) Laboratory Comments:

Group 98000129

S98T000500

(8) Field Comments:

Di WATER, Field Blank

37

HNF-SD-~~WM~~-DP-305 REV. 0

(13) Relinquished By (Sign and PRINT): M.C. Jones	(14) Received By (Sign and PRINT): [illegible]	(15) Date/Time: 0900 02-19-98	(16) Receiver Comments
(17) Relinquished By (Sign and PRINT): [illegible]	(18) Received By (Sign and PRINT): RLC[illegible]/RLChambers	(19) Date/Time: 0030 02-19-98	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-326 (07/97)

CHAIN-OF-CUSTODY RECORD FOR CPO

Sample Number: LiBr	(2) Supervisor/Sampler: Mic Jones	(9) Seal Intact Upon Release?	☒ Yes ☐ No
Tank: X-104	(4) Riser: 9A	(6) Cask/Pig Serial No.: N/A	(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
Shipment Description:	(7) Sampling Data	Y N	(11) Seal Number AND ~~Cask/Pig SERIAL Number~~ consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number: WS-97-00248	- Lithium Bromide	☒ ☐	(12) Laboratory Comments:
B. Cask/Pig Seal Number: 11723	Amount: 100 mL		Group 98000129
C. Date Sample Collected: 2-18-98	Concentration: 0.5		
D. Time Sample Collected: 2000	- X-Ray	☐ ☒	
	- Partial Sample	☐ ☒	
	- Retrieved Partial Sample Stroke Length: N/A		
Field Comments: LiBr Field Blank			S98T000501

(13) Relinquished By (Sign and PRINT)	(14) Received By (Sign and PRINT)	(15) Date/Time	(16) Receiver Comments
Mic Jones	James Anderson	0900 02-19-98	
(17) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
	R Chambers	0930 02-19-98	
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-8001-326 (07/97)

38

HNF-SD-~~WM~~-DP-305 REV. 0

Mar. 2. 1998 2:12PM WHC 222S LAB ROOM 2F BACKSIDE No. 1281 P. 1/2

CHAIN-OF-CUSTODY RECORD FOR CPO

Sample Number: 231-01	(2) Supervisor/Sampler: M.C. Jones M.C. Jones		(9) Seal Intact Upon Release? ☒ Yes ☐ No
Tank: TX-104	(4) Riser: 13A	(6) Cask/Pig Serial No.: 5G	(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
Shipment Description:	(7) Sampling Data	Y N	(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number: WS-97-00249	- Lithium Bromide	☐ ☒	(12) Laboratory Comments:
B. Cask/Pig Seal Number: 11725	Amount: N/A		
C. Date Sample Collected: 2-19-98	Concentration: N/A		
D. Time Sample Collected: 2130	- X-Ray	☐ ☒	S98T000599
	- Partial Sample	☒ ☐	
	- Retrieved Partial Sample Stroke Length: 9.5"		
Field Comments:			

(13) Relinquished By (Sign and PRINT): M.C. Jones M.C. Jones	(14) Received By (Sign and PRINT): Samuel Knight Samuel Knight	(15) Date/Time: 1049 2-24-98	(16) Receiver Comments
(17) Relinquished By (Sign and PRINT): Samuel Knight Samuel Knight	(18) Received By (Sign and PRINT): Jim Knight Jim Knight	(19) Date/Time: 1125 2-24-98	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-326 (07/97)

HNF-SD-WM-DP-305 REV. 0

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number: 231-02

(2) Supervisor/Sampler: M.C. Jones

(3) Tank: 104 TX

(4) Riser: 13A

(5) Cask/Pig Serial No.: C-2015

(9) Seal Intact Upon Release? ☒ Yes ☐ No

(10) Seal Intact Upon Receipt? ☒ Yes ☐ No

(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No

(6) Shipment Description:

A. Work Package Number: WS-97-00249

B. Cask/Pig Seal Number: 11727

C. Date Sample Collected: 2-20-98

D. Time Sample Collected: 1735

(7) Sampling Data

	Y	N
- Lithium Bromide	☐	☒
Amount	N/A	
Concentration	N/A	
- X-Ray	☐	☒
- Partial Sample	☒	☐
- Retrieved Partial Sample Stroke Length	4"	

(12) Laboratory Comments:

S98T000600

(8) Field Comments:

40

HNF-SD-WM-DP-305 REV. 0

(13) Relinquished By (Sign and PRINT)	(14) Received By (Sign and PRINT)	(15) Date/Time	(16) Receiver Comments
M.C. Jones M.C. Jones	James Hatter James Hatter	1040 2-24-98	
(17) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
James Hatter James Hatter	Jim Knight Jim Knight	1120 2-24-98	
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-326 (07/97)

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number: 231-2A

(2) Supervisor/Sampler: Daniel Garza, Dominic Brizo

(3) Tank: 104-TX

(4) Riser: 13A

(5) Cask/Pig Serial No.: 1022-C

(6) Shipment Description:

A. Work Package Number: WS-97-00249

B. Cask/Pig Seal Number: 12218

C. Date Sample Collected: 02/23/98

D. Time Sample Collected: 0950

(7) Sampling Data

	Y	N
- Lithium Bromide	☑	☐
Amount	2 gal.	
Concentration	0.3 m.	
- X-Ray	☐	☑
- Partial Sample	☑	☐
- Retrieved Partial Sample Stroke Length	1 1/4"	

(8) Field Comments:

1. 1.2 R/hr.

(9) Seal Intact Upon Release? ☒ Yes ☐ No

(10) Seal Intact Upon Receipt? ☒ Yes ☐ No

(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No

(12) Laboratory Comments:

598T000602

7-30-97 CB

HNF-SD-WM-DP-305 REV. 0

41

(13) Relinquished By (Sign and PRINT)	(14) Received By (Sign and PRINT)	(15) Date/Time	(17) Receiver Comments
Dominic Brizo	[illegible]	1316 2-24-98	
(17) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
[illegible]	Jim Knight	1320 2-24-98	
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

DISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-326 (07/97)

CHAIN-OF-CUSTODY RECORD FOR CPO

) Sample Number: 231-2B

(2) Supervisor/Sampler: Daniel Gaza, Daniel Davis

(9) Seal Intact Upon Release? ☒ Yes ☐ No

) Tank: 104-TX

(4) Riser: 13A

(5) Cask/Pig Serial No.: SN-64

(10) Seal Intact Upon Receipt? ☒ Yes ☐ No

) Shipment Description:

A. Work Package Number: WS-97-00249

B. Cask/Pig Seal Number: 11704

C. Date Sample Collected: 02/23/98

D. Time Sample Collected: 1405 hrs

(7) Sampling Data

	Y	N
- Lithium Bromide	☑	☐
Amount (1)	2 gal.	
Concentration	0.3 m.	
- X-Ray	☐	☑
- Partial Sample	☑	☐
- Retrieved Partial Sample Stroke Length (2)	1/4"	

(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No

(12) Laboratory Comments:

SN8J000601

) Field Comments:

(1) 2 gal add from previous Seq. 2A

(2) Hit high Down Force

3. 100 mr/hr

HNF-SD-WM-DP-305 REV. 0

730-97 CCB

3) Relinquished By (Sign and PRINT) James Sickels	(14) Received By (Sign and PRINT)	(15) Date/Time 1050 2-24-98	(17) Receiver Comments
7) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time 1125 2-24-98	(20) Receiver Comments
1) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
5) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

ISTRIBUTION: Original - Laboratory Copy - Sampling Operations

BC-6001-328 (07/97)

PHOTOGRAPHS

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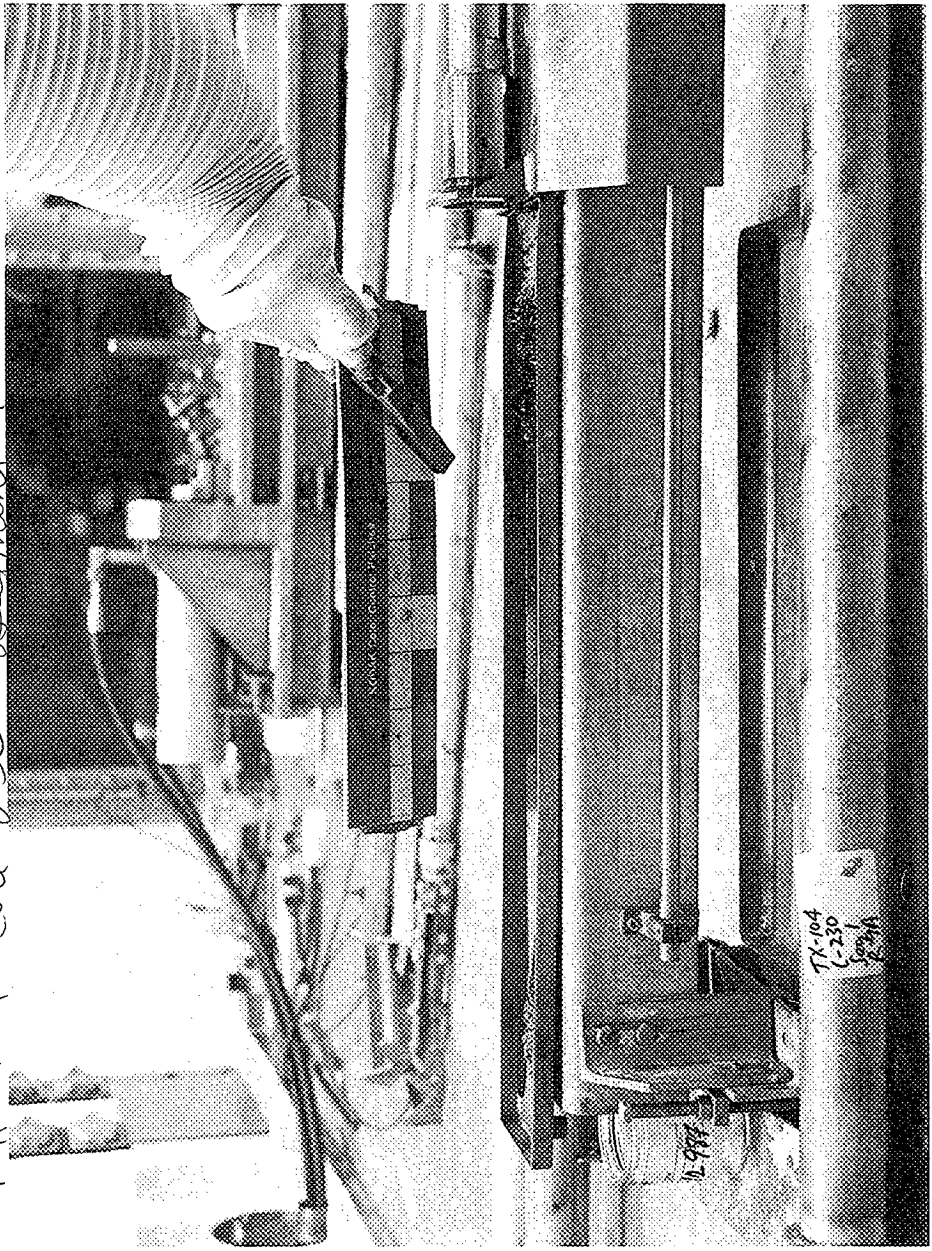
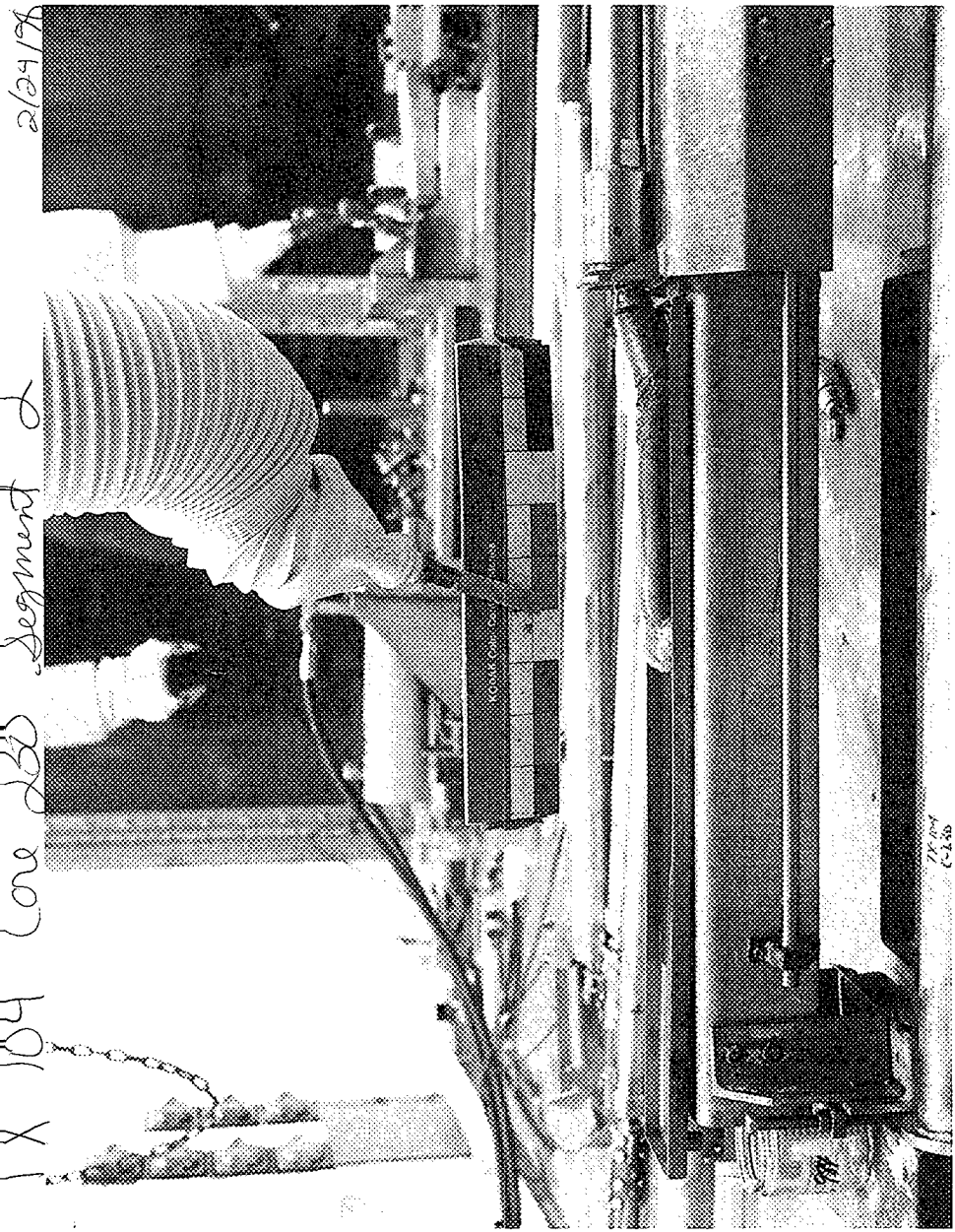
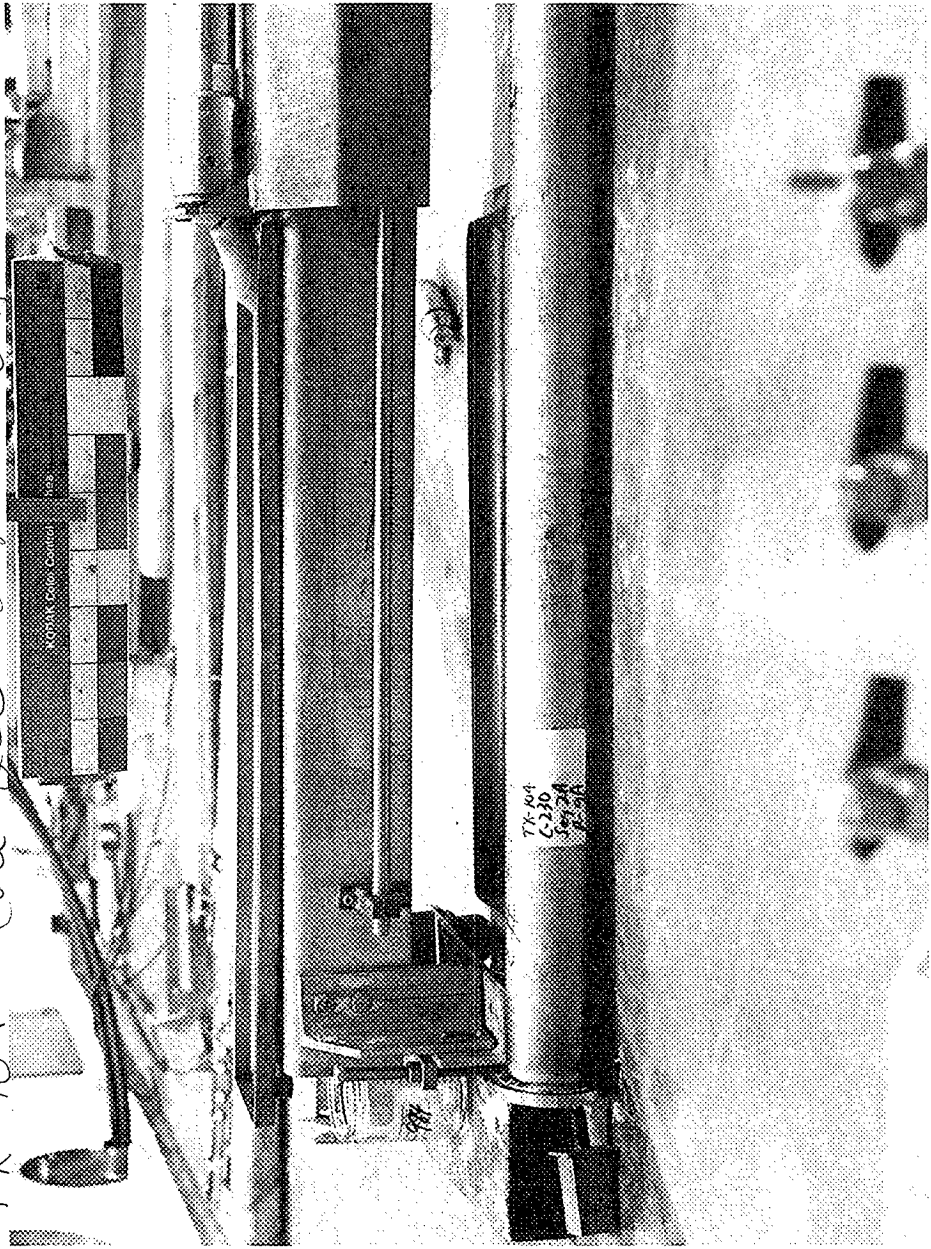
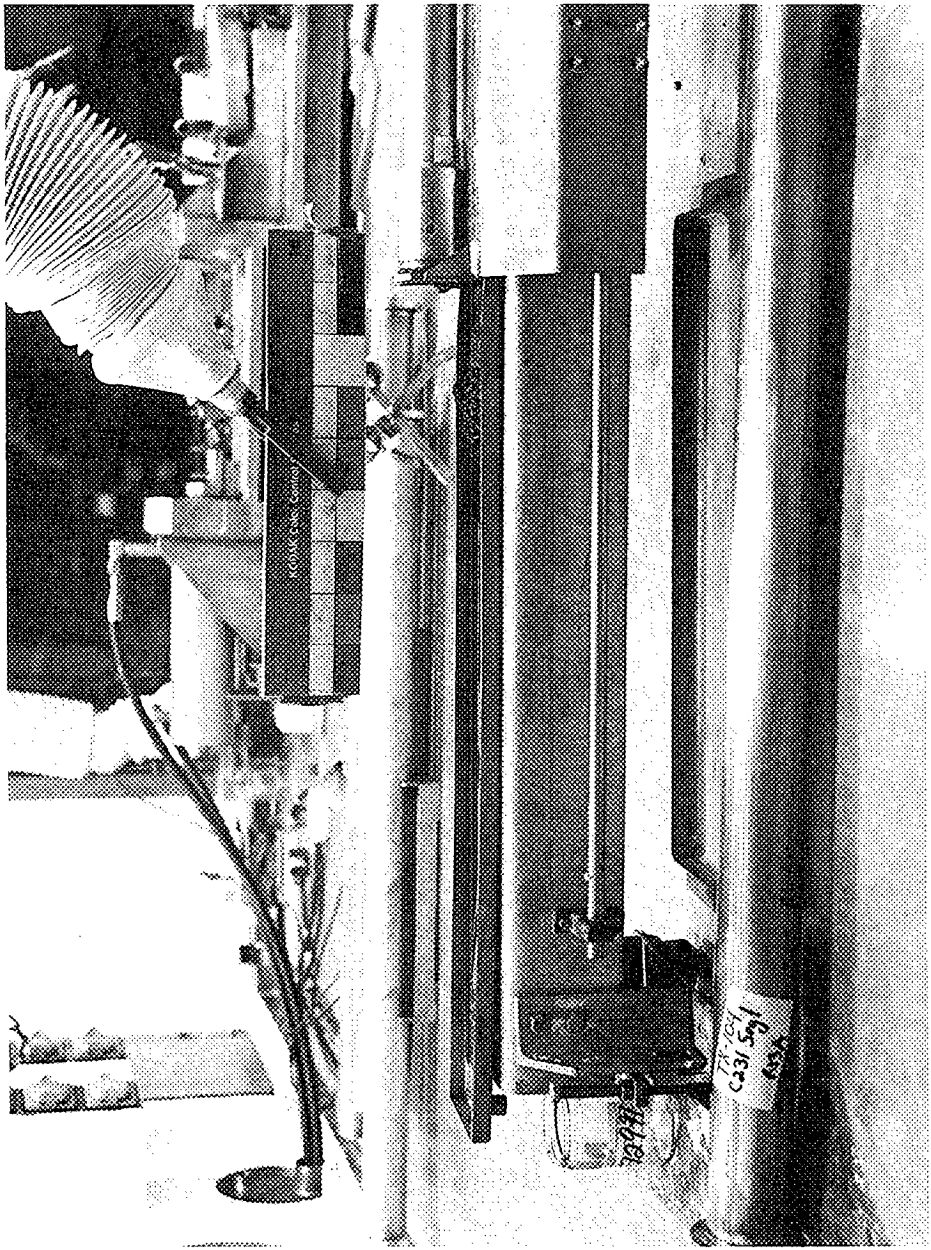


1 X 184 core 230 segment


2/24/94
1X 184 Core 233 Segment 2



TX 104 Core C-230 Segment 2A



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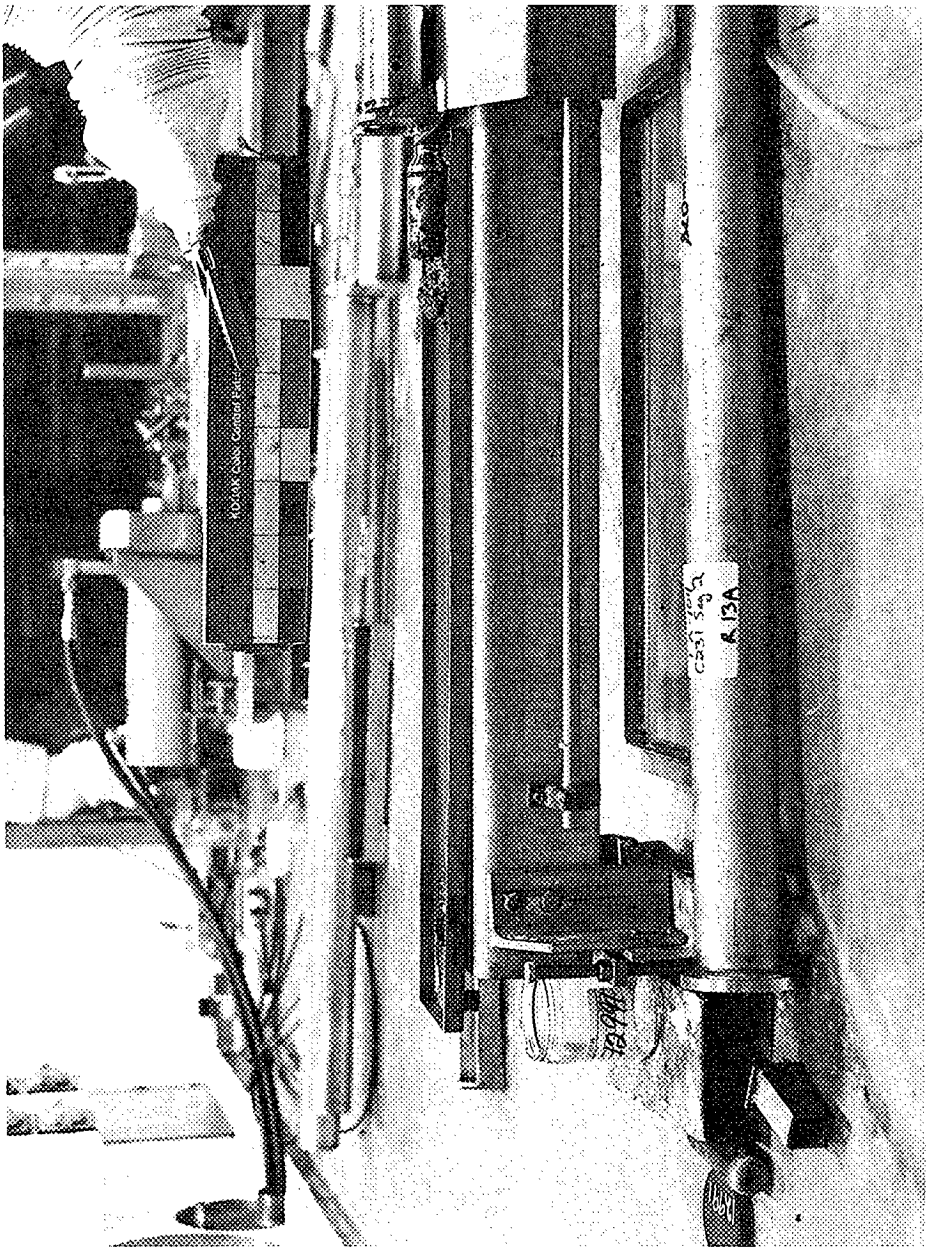
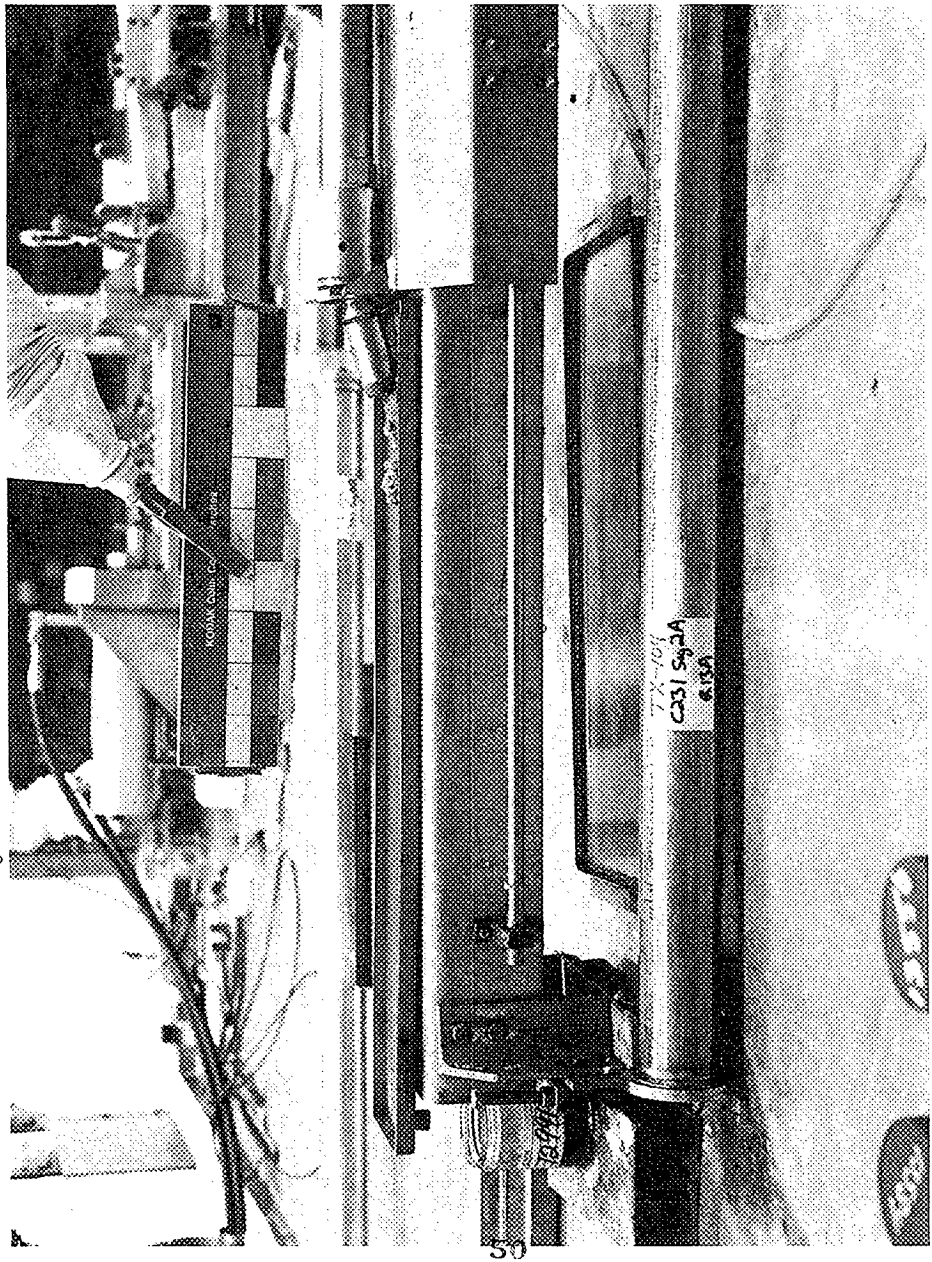
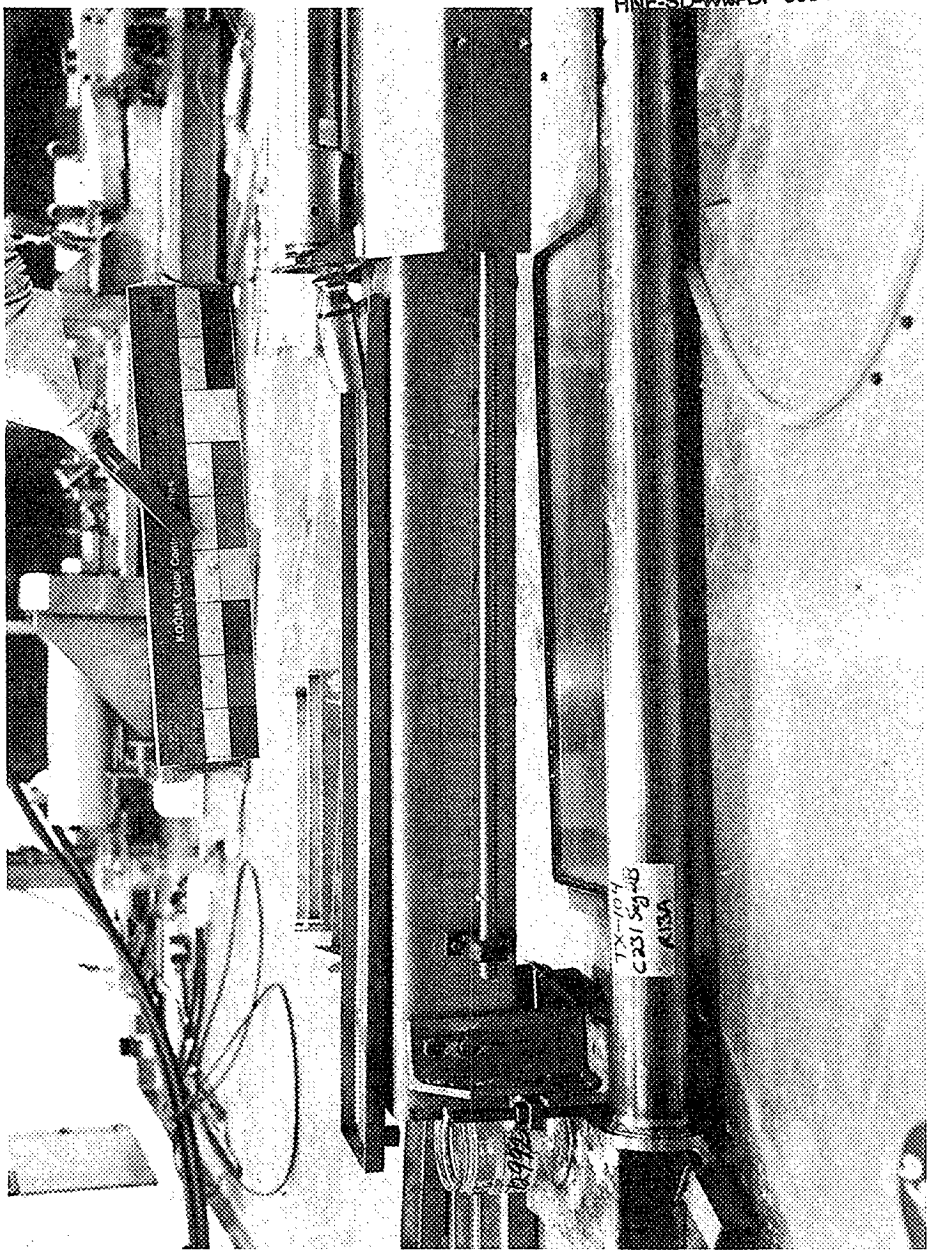


1X-704 Core L31 Seg L R-13A



TX-104 Core 231 Seg 3A R-13A



TX-104 Core 231 Seg 2D A13A

SAMPLE HANDLING

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LABCORE Data Entry Template for Worklist# 22526

Analyst: RA **Instrument:** BA000 _____ **Book #** _____

Method: LO-160-103 Rev/Mod C-0

Worklist Comment: TX-104 CORE 230 SEG #2A RISER 9A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20.00	20.00	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	500.00	500.01	N/A	
98000129	TX-104	3 SAMPLE	S98T000505	0	DLIQVOL1	SOLID	N/A	0		mL
98000129	TX-104	4 SAMPLE	S98T000505	0	DLIQWT01	SOLID	N/A	0		g
98000129	TX-104	5 SAMPLE	S98T000505	0	EST.G/ML	SOLID	N/A	0		g/mL
98000129	TX-104	6 SAMPLE	S98T000505	0	EXTRUD01	SOLID	N/A	Complete		
98000129	TX-104	7 SAMPLE	S98T000505	0	LLIQWT01	SOLID	N/A	NA		g
98000129	TX-104	8 SAMPLE	S98T000505	0	NOTEBOOK	SOLID	N/A	~~SM-97-38~~ 300	3.2.98	N-74
98000129	TX-104	9 SAMPLE	S98T000505	0	SLDVOL01	SOLID	N/A	NA		mL
98000129	TX-104	10 SAMPLE	S98T000505	0	SLDWT-01	SOLID	N/A	86.5		g
98000129	TX-104	11 SAMPLE	S98T000505	0	APPEAR01	SOLID	N/A	Complete		
98000129	TX-104	12 SAMPLE	S98T000505	0	ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22526

RA 2/27/98
Analyst Signature **Date**

RA 2/27/98
Analyst Signature **Date**

changed analysis date
3.2.98

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# 22527

Analyst: RA **Instrument:** BA000 _____ **Book #** _____

Method: LO-160-103 Rev/Mod C-0

Worklist Comment: TX-104 CORE 230 SEG #2 RISER 9A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01				EXTRUD01	SOLID	20.00	20.00	N/A	
		2 INSTCHK02				EXTRUD01	SOLID	500.00	500.03	N/A	
98000129	TX-104	3 SAMPLE	S98T000504	0		DLIQVOL1	SOLID	N/A	50		mL
98000129	TX-104	4 SAMPLE	S98T000504	0		DLIQWT01	SOLID	N/A	54.8		g
98000129	TX-104	5 SAMPLE	S98T000504	0		EST.G/ML	SOLID	N/A	1.09		g/mL
98000129	TX-104	6 SAMPLE	S98T000504	0		EXTRUD01	SOLID	N/A	Complete		
98000129	TX-104	7 SAMPLE	S98T000504	0		LLIQWT01	SOLID	N/A	0		g
98000129	TX-104	8 SAMPLE	S98T000504	0		NOTEBOOK	SOLID	N/A	~~SD-94-385~~ N-3-2-98		N-74
98000129	TX-104	9 SAMPLE	S98T000504	0		SLDVOL01	SOLID	N/A	0		mL
98000129	TX-104	10 SAMPLE	S98T000504	0		SLDWT-01	SOLID	N/A	260		g
98000129	TX-104	11 SAMPLE	S98T000504	0		APPEAR01	SOLID	N/A	Complete		
98000129	TX-104	12 SAMPLE	S98T000504	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22527

RA 2/26/98
Analyst Signature **Date**

RA 2/26/98
Analyst Signature **Date**
changed analysis date
AR 3-2-98

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# 22529

Analyst: RH **Instrument:** BA000 _____ **Book #** _____

Method: LO-160-103 Rev/Mod C-0

Worklist Comment: TX-104 CORE 230 SEG#1 RISER 9A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01				EXTRUD01	SOLID	20.00	20.00	N/A	
		2 INSTCHK02				EXTRUD01	SOLID	500.00	500.02	N/A	
98000129	TX-104	3 SAMPLE	S98T000503	0		DLIQVOL1	SOLID	N/A	120		mL
98000129	TX-104	4 SAMPLE	S98T000503	0		DLIQWT01	SOLID	N/A	168.52		g
98000129	TX-104	5 SAMPLE	S98T000503	0		EST.G/ML	SOLID	N/A	1.40		g/mL
98000129	TX-104	6 SAMPLE	S98T000503	0		EXTRUD01	SOLID	N/A	Complete		
98000129	TX-104	7 SAMPLE	S98T000503	0		LLIQWT01	SOLID	N/A	NA		g
98000129	TX-104	8 SAMPLE	S98T000503	0		NOTEBOOK	SOLID	N/A	N-74 ~~SN-97-390~~		3.2.98
98000129	TX-104	9 SAMPLE	S98T000503	0		SLDVOL01	SOLID	N/A	NA		mL
98000129	TX-104	10 SAMPLE	S98T000503	0		SLDWT-01	SOLID	N/A	132.94		g
98000129	TX-104	11 SAMPLE	S98T000503	0		APPEAR01	SOLID	N/A	Complete		
98000129	TX-104	12 SAMPLE	S98T000503	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22529

RH 2/26/98
Analyst Signature **Date**

RH 2/26/98
Analyst Signature **Date**

3.2.98
Changed analysis date
(PJCD)

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# 22589

Analyst: CL **Instrument:** BA000 _____ **Book #** NA

Method: LO-160-103 Rev/Mod C-0

Worklist Comment: TX-104 CORE 231 SEG#1 RISER 13A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	20.02	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	499.99	N/A	
98000130	TX-104	3	SAMPLE	S98T000599	0		DLIQVOL1	SOLID	N/A	100		mL
98000130	TX-104	4	SAMPLE	S98T000599	0		DLIQWT01	SOLID	N/A	116.3		g
98000130	TX-104	5	SAMPLE	S98T000599	0		EST.G/ML	SOLID	N/A	1.16		g/mL
98000130	TX-104	6	SAMPLE	S98T000599	0		EXTRUD01	SOLID	N/A	complete		
98000130	TX-104	7	SAMPLE	S98T000599	0		LLIQWT01	SOLID	N/A	25		g
98000130	TX-104	8	SAMPLE	S98T000599	0		NOTEBOOK	SOLID	N/A	N-74		
98000130	TX-104	9	SAMPLE	S98T000599	0		SLDVOL01	SOLID	N/A	NA		mL
98000130	TX-104	10	SAMPLE	S98T000599	0		SLDWT-01	SOLID	N/A	114.1		g
98000130	TX-104	11	SAMPLE	S98T000599	0		APPEAR01	SOLID	N/A	complete		
98000130	TX-104	12	SAMPLE	S98T000599	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22589

CL 2-27-98
Analyst Signature **Date**

CL 2-27-98
Analyst Signature **Date**
M 3.2.98

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# 22590

Analyst: CL **Instrument:** BA000 _____ **Book #** NA

Method: LO-160-103 Rev/Mod C-0

Worklist Comment: TX-104 CORE 231 SEG#2 RISER 13A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	20.02	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	500.00	N/A	
98000130	TX-104	3	SAMPLE	S98T000600	0		DLIQVOL1	SOLID	N/A	75		mL
98000130	TX-104	4	SAMPLE	S98T000600	0		DLIQWT01	SOLID	N/A	97.9		g
98000130	TX-104	5	SAMPLE	S98T000600	0		EST.G/ML	SOLID	N/A	1.31		g/mL
98000130	TX-104	6	SAMPLE	S98T000600	0		EXTRUD01	SOLID	N/A	complete		
98000130	TX-104	7	SAMPLE	S98T000600	0		LLIQWT01	SOLID	N/A	0		g
98000130	TX-104	8	SAMPLE	S98T000600	0		NOTEBOOK	SOLID	N/A	N-74		
98000130	TX-104	9	SAMPLE	S98T000600	0		SLDVOL01	SOLID	N/A	NA		mL
98000130	TX-104	10	SAMPLE	S98T000600	0		SLDWT-01	SOLID	N/A	67.0		g
98000130	TX-104	11	SAMPLE	S98T000600	0		APPEAR01	SOLID	N/A	complete		
98000130	TX-104	12	SAMPLE	S98T000600	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22590

CL 2/27/98
Analyst Signature **Date**

CL 2/27/98
Analyst Signature **Date**
M 3-2-98

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# 22591

Analyst: _____ **Instrument:** BA000 _____ **Book #** _____

Method: LO-160-103 Rev/Mod C-D

Worklist Comment: TX-104 CORE 231 SEG #2A RISER 13A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	20.02	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	500.00	N/A	
98000130	TX-104	3	SAMPLE	S98T000602	0		DLIQVOL1	SOLID	N/A	130		mL
98000130	TX-104	4	SAMPLE	S98T000602	0		DLIQWT01	SOLID	N/A	184.1		g
98000130	TX-104	5	SAMPLE	S98T000602	0		EST.G/ML	SOLID	N/A	1.42		g/mL
98000130	TX-104	6	SAMPLE	S98T000602	0		EXTRUD01	SOLID	N/A	complete		
98000130	TX-104	7	SAMPLE	S98T000602	0		LLIQWT01	SOLID	N/A	51.1		g
98000130	TX-104	8	SAMPLE	S98T000602	0		NOTEBOOK	SOLID	N/A	N-74		
98000130	TX-104	9	SAMPLE	S98T000602	0		SLDVOL01	SOLID	N/A	NA		mL
98000130	TX-104	10	SAMPLE	S98T000602	0		SLDWT-01	SOLID	N/A	47.2		g
98000130	TX-104	11	SAMPLE	S98T000602	0		APPEAR01	SOLID	N/A	complete		
98000130	TX-104	12	SAMPLE	S98T000602	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22591

Analyst Signature Date 2/27/98

Analyst Signature Date 2/27/98

3-2-98

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# 22599

Analyst: _____ **Instrument:** BA000 _____ **Book #** _____

Method: LO-160-103 Rev/Mod C-0

Worklist Comment: TX-104 CORE 231 SEG #2B RISER 13A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	20.02	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	500.00	N/A	
98000130	TX-104	3	SAMPLE	S98T000601	0		DLIQVOL1	SOLID	N/A	0		mL
98000130	TX-104	4	SAMPLE	S98T000601	0		DLIQWT01	SOLID	N/A	0		g
98000130	TX-104	5	SAMPLE	S98T000601	0		EST.G/ML	SOLID	N/A	0		g/mL
98000130	TX-104	6	SAMPLE	S98T000601	0		EXTRUD01	SOLID	N/A	Complete		
98000130	TX-104	7	SAMPLE	S98T000601	0		LLIQWT01	SOLID	N/A	0		g
98000130	TX-104	8	SAMPLE	S98T000601	0		NOTEBOOK	SOLID	N/A	N-74		
98000130	TX-104	9	SAMPLE	S98T000601	0		SLDVOL01	SOLID	N/A	NA		mL
98000130	TX-104	10	SAMPLE	S98T000601	0		SLDWT-01	SOLID	N/A	0		g
98000130	TX-104	11	SAMPLE	S98T000601	0		APPEAR01	SOLID	N/A	Complete		
98000130	TX-104	12	SAMPLE	S98T000601	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 22599

6/27/98
Analyst Signature **Date**

6/27/98
Analyst Signature **Date**
3.2.98

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.

SAMPLE PREPARATIONS

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LABCORE Data Entry Template for Worklist# 22570

Analyst: RRO **Instrument:** FUS01 **Book #** NA

Method: LA-549-141 Rev/Mod F-1

Worklist Comment: TX104, FUSION01 skw

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
-		1 BLNK-PREP			FUSION01	SOLID	1	0.250	N/A	g/L
98000129	TX-104	2 SAMPLE .4970g	S98T000672 →	0 F .250L	FUSION01	SOLID	N/A	1.988	X	g/L
98000129	TX-104	3 SAMPLE	S98T000672	0	DOSE-02	SOLID	N/A	27	X	mrad/hour
98000129	TX-104	4 DUP .4971g	S98T000672 →	0 F .250L	FUSION01	SOLID	1.9880	1.9884	N/A	g/L
98000129	TX-104	5 DUP	S98T000672	0	DOSE-02	SOLID	27	12.75	N/A	mrad/hour
98000129	TX-104	6 SAMPLE .5195g	S98T000678 →	0 F .250L	FUSION01	SOLID	N/A	2.0780	X	g/L
98000129	TX-104	7 SAMPLE	S98T000678	0	DOSE-02	SOLID	N/A	7.5	X	mrad/hour
98000129	TX-104	8 DUP .5007g	S98T000678 →	0 F .250L	FUSION01	SOLID	2.0780	2.0028	N/A	g/L
98000129	TX-104	9 DUP	S98T000678	0	DOSE-02	SOLID	7.5	7.5	N/A	mrad/hour
98000129	TX-104	10 SAMPLE .4967g	S98T000679 →	0 F .250L	FUSION01	SOLID	N/A	1.9868	X	g/L
98000129	TX-104	11 SAMPLE	S98T000679	0	DOSE-02	SOLID	N/A	7.5	X	mrad/hour
98000129	TX-104	12 DUP .4923g	S98T000679 →	0 F .250L	FUSION01	SOLID	1.9868	1.9692	N/A	g/L
98000129	TX-104	13 DUP	S98T000679	0	DOSE-02	SOLID	7.5	7.5	N/A	mrad/hour

Final page for worklist # 22570

RRO'Dell 3-18-98
Analyst Signature **Date**

N. E. Wright 3/20/98
Analyst Signature **Date**

Validated 3/20/98 RK Fuller

Data Entry Comments:

Faxed 3/18/98

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.

Parent Sample S98T000649 → S98T000672
S98T000654 → S98T000678
S98T000655 → S98T000679

worklistrpt Version 2.1 05/15/95
03/31/98 14:40

HNF-SD-WM-DP-305 REV. 0

LABCORE Data Entry Template for Worklist# 23243

Analyst: CRJ/AP Training **Instrument:** FUS01 **Book #** N/A

Method: LA-549-141 Rev/Mod G-D

Worklist Comment: FUSION01 FOR TX104 C231 (1LH,2LH,2ALH,) RTS

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				FUSION01	SOLID	1	.250	N/A	g/L
98000130	TX-104	2	SAMPLE	S98T000749 .5390 →.250	0	F	FUSION01	SOLID	N/A	2.156		g/L
98000130	TX-104	3	SAMPLE	S98T000749	0		DOSE-02	SOLID	N/A	18		mrad/hour
98000130	TX-104	4	DUP	S98T000749 .5270 →.250	0	F	FUSION01	SOLID	2.156	2.108	N/A	g/L
98000130	TX-104	5	DUP	S98T000749	0		DOSE-02	SOLID	18	21	N/A	mrad/hour
98000130	TX-104	6	SAMPLE	S98T000750 .5483 →.250	0	F	FUSION01	SOLID	N/A	2.1932		g/L
98000130	TX-104	7	SAMPLE	S98T000750	0		DOSE-02	SOLID	N/A	9		mrad/hour
98000130	TX-104	8	DUP	S98T000750 .5565 →.250	0	F	FUSION01	SOLID	2.1932	2.2260 ~~2.2264~~	N/A	g/L
98000130	TX-104	9	DUP	S98T000750	0		DOSE-02	SOLID	9	9	N/A	mrad/hour
98000130	TX-104	10	SAMPLE	S98T000751 .5006 →.250	0	F	FUSION01	SOLID	N/A	2.0024		g/L
98000130	TX-104	11	SAMPLE	S98T000751	0		DOSE-02	SOLID	N/A	4.5		mrad/hour
98000130	TX-104	12	DUP	S98T000751 .5393 →.250	0	F	FUSION01	SOLID	2.0024	2.1572	N/A	g/L
98000130	TX-104	13	DUP	S98T000751	0		DOSE-02	SOLID	4.5	6	N/A	mrad/hour

Final page for worklist # 23243

C J Jones 4/2/98
Analyst Signature **Date**

R E Wright 4/3/98
Analyst Signature **Date**

S98T000743 → S98T000749
S98T000744 → S98T000750
S98T000745 → S98T000751

Validated 4/3/98 Keith Fuller

Data Entry Comments: added 40 ml ConNitric to all samples

HPT: Rick Miller

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# 22572

Analyst: RM **Instrument:** H2O01 **Book #** NA

Method: LA-504-101 Rev/Mod F-0

Worklist Comment: TX104, H2ODIG01 skw

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	.100	N/A	g/L
98000129	TX-104	2 SAMPLE .49823g	S98T000687 →	0 W 100mL	H2ODIG01	SOLID	N/A	4.982		g/L
98000129	TX-104	3 SAMPLE	S98T000687	0	DOSE-02	SOLID	N/A	4.5		mrad/hour
98000129	TX-104	4 DUP .49539	S98T000687 →	0 W 100mL	H2ODIG01	SOLID	4.982	4.953	N/A	g/L
98000129	TX-104	5 DUP	S98T000687	0	DOSE-02	SOLID	4.5	4.5	N/A	mrad/hour

Final page for worklist # 22572

RM McGown 3/18/98
Analyst Signature **Date**

Teresa My 3/19/98
Analyst Signature **Date**

Validated by WWB 3/19/98

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.

Parent Sample S98T000649 → S98T000687

worklistrpt Version 2.1 05/15/95
02/25/98 11:41

HNF-SD-~~WM~~-DP-305 REV. 0

LABCORE Data Entry Template for Worklist# 22573

Analyst: BLM **Instrument:** H2O01 **Book #** NA

Method: LA-504-101 Rev/Mod F-0

Worklist Comment: TX104, H2ODIG01 skw

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	.100	N/A	g/L
98000129	TX-104	2 SAMPLE .5571g	S98T000688 →	0 W 100mL	H2ODIG01	SOLID	N/A	5.571		g/L
98000129	TX-104	3 SAMPLE	S98T000688	0	DOSE-02	SOLID	N/A	5.25		mrad/hour
98000129	TX-104	4 DUP .5617g	S98T000688 →	0 W 100mL	H2ODIG01	SOLID	5.571	5.617	N/A	g/L
98000129	TX-104	5 DUP	S98T000688	0	DOSE-02	SOLID	5.25	5.25	N/A	mrad/hour
98000129	TX-104	6 SAMPLE .5098g	S98T000689	0 W	H2ODIG01	SOLID	N/A	5.098		g/L
98000129	TX-104	7 SAMPLE ~~.5098g~~ BLM 3/18/98	S98T000689	0	DOSE-02	SOLID	N/A	3.0		mrad/hour
98000129	TX-104	8 DUP .5191g	S98T000689	0 W	H2ODIG01	SOLID	5.098	5.191	N/A	g/L
98000129	TX-104	9 DUP	S98T000689	0	DOSE-02	SOLID	3.0	4.5	N/A	mrad/hour

Final page for worklist # 22573

BL McCann 3/18/98
Analyst Signature **Date**

Fax'd 3/18 BLM

Lilith Fuller 3/23/98
Analyst Signature **Date**

Validated By
Lilith Fuller
3/23/98

Data Entry Comments: Hpt. Bob Clement

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.

Parent Sample S98T000654 → S98T000688
S98T000655 → S98T000689

HNF-SD-~~WM~~-DP-305 REV. 0

worklistrpt Version 2.1 05/15/95
03/31/98 14:44

LABCORE Data Entry Template for Worklist# 23245

Analyst: AP **Instrument:** H2O01 _____ **Book #** —

Method: LA-504-101 Rev/Mod F-0

Worklist Comment: H2ODIG01 FOR TX104 C231 (1LH,2LH,2ALH) RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	.25D	N/A	g/L
98000130	TX-104	2 SAMPLE	S98T000755	0 W	H2ODIG01	SOLID	N/A	5.604		g/L
			.5604 →		.100L					
98000130	TX-104	3 SAMPLE	S98T000755	0	DOSE-02	SOLID	N/A	12		mrad/hour
98000130	TX-104	4 DUP	S98T000755	0 W	H2ODIG01	SOLID	5.604	5.530	N/A	g/L
			.5530 →		.100L					
98000130	TX-104	5 DUP	S98T000755	0	DOSE-02	SOLID	12	12	N/A	mrad/hour
98000130	TX-104	6 SAMPLE	S98T000756	0 W	H2ODIG01	SOLID	N/A	5.641		g/L
			.5641 →		.100L					
98000130	TX-104	7 SAMPLE	S98T000756	0	DOSE-02	SOLID	N/A	<1.5		mrad/hour
98000130	TX-104	8 DUP	S98T000756	0 W	H2ODIG01	SOLID	5.641	5.575	N/A	g/L
			.5575 →		.100L					
98000130	TX-104	9 DUP	S98T000756	0	DOSE-02	SOLID	<1.5	<1.5	N/A	mrad/hour
98000130	TX-104	10 SAMPLE	S98T000757	0 W	H2ODIG01	SOLID	N/A	5.588		g/L
			.5588 →		.100L					
98000130	TX-104	11 SAMPLE	S98T000757	0	DOSE-02	SOLID	N/A	4.5		mrad/hour
98000130	TX-104	12 DUP	S98T000757	0 W	H2ODIG01	SOLID	5.588	5.508	N/A	g/L
			.5508 →		.100L					
98000130	TX-104	13 DUP	S98T000757	0	DOSE-02	SOLID	4.5	4.5	N/A	mrad/hour

Final page for worklist # 23245

Anthony Parente 4-2-98
Analyst Signature **Date**

Tom [illegible] 4/3/98
Analyst Signature **Date**

Data Entry Comments:

Parent		Daughter
S98T000743	→	S98T000755
S98T000744	→	S98T000756
S98T000745	→	S98T000757

HPT Scott Corbaley

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.

Validated 4/3/98 [illegible]

LABCORE Data Entry Template for Worklist# 24316

Analyst: Pam 2 **Instrument:** H2O01 _____ **Book #** N/A

Method: LA-504-101 Rev/Mod F-6

Worklist Comment: TX104, H2ODIG01, S98T000744 -> S98T001733 skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2ODIG01	SOLID	1	.104	N/A	g/L
98000130	TX-104	2	SAMPLE .5052 →	S98T001733	0	W .1001	H2ODIG01	SOLID	N/A	5.052		g/L
98000130	TX-104	3	SAMPLE	S98T001733	0		DOSE-02	SOLID	N/A	3		mrad/hour
98000130	TX-104	4	DUP .5079 →	S98T001733	0	W .1001	H2ODIG01	SOLID	5.052	5.079	N/A	g/L
98000130	TX-104	5	DUP	S98T001733	0		DOSE-02	SOLID	3	3	N/A	mrad/hour

Final page for worklist # 24316

[signature] 6-2-98
Analyst Signature **Date**

Analyst Signature **Date**

Parent S98T000744 → Daughter S98T001733

Validated by HAnastn 6-3-98

Data Entry Comments: HAT- Rick Miller Fixed @ 2100

DATA ENTRY 6-3-98
[signature]

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
02/25/98 11:39

HNF-SD-~~WM-DP~~-305 REV. 0

LABCORE Data Entry Template for Worklist# 22571 -?

Analyst: ADP **Instrument:** ACD01 **Book #** WHC-1A WHC-2 > 2.5mls Each TO 50mls Final

Method: LA-505-163 Rev/Mod B-0 * Volume DF20X

Worklist Comment: TX104, ACIDIG01 skw

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	1	0.050	N/A	g/L
		2 STD-PREP * See note			ACIDIG01	SOLID	20	20	N/A	g/L
98000129	TX-104	3 SAMPLE .2527g → .050mL	S98T000681	0 A	ACIDIG01	SOLID	N/A	5.054		g/L
98000129	TX-104	4 SAMPLE	S98T000681	0	DOSE-02	SOLID	N/A	27		mrad/hour
98000129	TX-104	5 DUP .2464g → .050mL	S98T000681	0 A	ACIDIG01	SOLID	5.054	4.928	N/A	g/L
98000129	TX-104	6 DUP	S98T000681	0	DOSE-02	SOLID	27	21	N/A	mrad/hour
98000129	TX-104	7 SPK .2576g → .050mL	S98T000681	0 A	ACIDIG01 *See note	SOLID	N/A	5.152	N/A	g/L
98000129	TX-104	8 SPK	S98T000681	0	DOSE-02	SOLID	N/A	30	N/A	mrad/hour
98000129	TX-104	9 SAMPLE .2641g → .050mL	S98T000684	0 A	ACIDIG01	SOLID	N/A	5.282		g/L
98000129	TX-104	10 SAMPLE	S98T000684	0	DOSE-02	SOLID	N/A	9		mrad/hour
98000129	TX-104	11 DUP .2711g → .050mL	S98T000684	0 A	ACIDIG01	SOLID	5.282	5.422	N/A	g/L
98000129	TX-104	12 DUP	S98T000684	0	DOSE-02	SOLID	9	12	N/A	mrad/hour
98000129	TX-104	13 SPK .2569g → .050mL	S98T000684	0 A	ACIDIG01 *See note	SOLID	N/A	5.138	N/A	g/L
98000129	TX-104	14 SPK	S98T000684	0	DOSE-02	SOLID	N/A	9	N/A	mrad/hour
98000129	TX-104	15 SAMPLE .2716g → .050mL	S98T000685	0 A	ACIDIG01	SOLID	N/A	5.432		g/L
98000129	TX-104	16 SAMPLE	S98T000685	0	DOSE-02	SOLID	N/A	9		mrad/hour
98000129	TX-104	17 DUP .2818g → .050mL	S98T000685	0 A	ACIDIG01	SOLID	5.432	5.636	N/A	g/L
98000129	TX-104	18 DUP	S98T000685	0	DOSE-02	SOLID	9	9	N/A	mrad/hour

Data Entry Comments: S98T000685 & Dup were Filtered / precepitate in bottom of Beaker & S98T000684 & Dup & Spike, Same Hpt Rick Daughety

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.

Parent Sample S98T000649 → S98T000681
S98T000654 → S98T000684
S98T000655 → S98T000685

LABCORE Data Entry Template for Worklist# 22571

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST-------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 22571

Anthony Parento 3-20-98
Analyst Signature Date

Sylvia Z. Cochrane
Analyst Signature Date

Validated
3/23/98
RK Fuller

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
03/31/98 14:42

HNF-SD-~~WM-DP~~-305 REV. 0

LABCORE Data Entry Template for Worklist# 23244

Analyst: Tam **Instrument:** ACD01 **Book #** WHC-1A, WHC-2A > 2.5 mls each to 50 mls final Volume DF = 20X

Method: LA-505-163 Rev/Mod B-0

Worklist Comment: ACIDIG01 FOR TX104 C231 (1LH,2LH,2ALH) RTS

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				ACIDIG01	SOLID	1	0.050	N/A	g/L
		2	STD-PREP * SEE NOTE				ACIDIG01	SOLID	20	20	N/A	~~g/L~~ DF
98000130	TX-104	3	SAMPLE	S98T000752 .2543 →	0	A	ACIDIG01 0.050L	SOLID	N/A	5.086		g/L
98000130	TX-104	4	SAMPLE	S98T000752	0		DOSE-02	SOLID	N/A	15		mrad/hour
98000130	TX-104	5	DUP	S98T000752 .2606 →	0	A	ACIDIG01 0.050L	SOLID	5.086	5.212	N/A	g/L
98000130	TX-104	6	DUP	S98T000752	0		DOSE-02	SOLID	15	15	N/A	mrad/hour
98000130	TX-104	7	SPK	S98T000752 .2601 →	0	A	ACIDIG01 0.050L * SEE NOTE	SOLID	N/A	5.202	N/A	g/L * SEE NOTE
98000130	TX-104	8	SPK	S98T000752	0		DOSE-02	SOLID	N/A	15	N/A	mrad/hour
98000130	TX-104	9	SAMPLE	S98T000753 .2771 →	0	A	ACIDIG01 0.050L	SOLID	N/A	5.542		g/L
98000130	TX-104	10	SAMPLE	S98T000753	0		DOSE-02	SOLID	N/A	9		mrad/hour
98000130	TX-104	11	DUP	S98T000753 .2806 →	0	A	ACIDIG01 0.050L	SOLID	5.542	5.612	N/A	g/L
98000130	TX-104	12	DUP	S98T000753	0		DOSE-02	SOLID	9	9	N/A	mrad/hour
98000130	TX-104	13	SAMPLE	S98T000754 .2545 →	0	A	ACIDIG01 0.050L	SOLID	N/A	5.09		g/L
98000130	TX-104	14	SAMPLE	S98T000754	0		DOSE-02	SOLID	N/A	3		mrad/hour
98000130	TX-104	15	DUP	S98T000754 .2529 →	0	A	ACIDIG01 0.050L	SOLID	5.09	5.058	N/A	g/L
98000130	TX-104	16	DUP	S98T000754	0		DOSE-02	SOLID	3	4.5	N/A	mrad/hour
98000130	TX-104	17	SPK	S98T000754 .2549 →	0	A	ACIDIG01 0.050L * SEE NOTE	SOLID	N/A	5.098	N/A	g/L * SEE NOTE
98000130	TX-104	18	SPK	S98T000754	0		DOSE-02	SOLID	N/A	6	N/A	mrad/hour

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# 23244

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 23244

Analyst Signature 4-3-98 Date

Analyst Signature uploaded 4-8-98 Date

Parent		Daughter
S98T000743	→	S98T000752
S98T000744	→	S98T000753
S98T000745	→	S98T000754

Validated 4/8/98
JH Band

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.

BULK DENSITY WORKSHEETS

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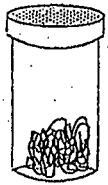
Bulk Density Worksheet

Requestor: Steen

Date: 3-2-98

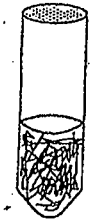
Tank: TX-104
Core: 230
Seg: 1 Lower Half Solids
Auger: D 6/17/98
Sample ID: S98T000614



Start Time:
End Time:
Homogenization Time (Min.):

Jar#: 13615
Jar/Vial Size: 160 mL
Initial Weight: 254.8 g
Final Weight: 130.7 g
Net Weight: 124.1 g

LC 3/3/98

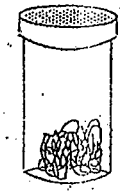


Cone#: 13615
Final Vol: 11.0 mL
Initial Weight: 7.74 g
Final Weight: 25.92 g
Net Weight: 18.18 g
Sample ID: S98T000614

Appearance/Narrative:

1.65 g/cc

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:

6/17/98

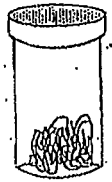
HNF-SD-WM-DP-305 REV. 0

Bulk Density Worksheet

Requestor: Steen

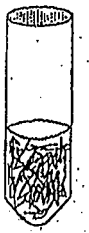
Date: 3-2-98

Tank: TX-104
Core: 230
Seg: 2 2H
Auger: 6/17/98
Sample ID: 598T000640



Start Time: _____
End Time: _____
Homogenization Time (Min.): _____

Jar#: 12983
Jar/Vial Size: 250 mL
Initial Weight: 473.4 g
Final Weight: 292.8 g
Net Weight: 448.6 g

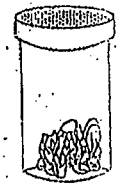


Cone#: 12983
Final Vol: 10.5 mL
Initial Weight: 7.74 g
Final Weight: 29.29 g
Net Weight: 21.55 g
Sample ID: 598T000640

Appearance/Narrative:

2.05 g/cm

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:

03/03/98 15:19 ☎509 373 5047
02/03/98 10:48 ☎509 373 5047
222S HAZMAT UNIT +++ LAB DATA MGMT
222S HAZMAT UNIT +++ EMC 222S/200W
HNF-SD-WM-DP-305 REV. 0
005
005

Bulk Density Worksheet

Date: 3-2-98

Requestor: Steen

Tank: TX-104
Core: 230
Seg: 2A 2H
Auger: —
Sample ID: S98T000641

Start Time: ____
End Time: ____
Homogenization Time (Min.): ____

Jar#: 14036
Jar/Vial Size: 60 mL
Initial Weight: 172.8 g
Final Weight: 136.9 g
Net Weight: 51.6 g

Cone#: 14036
Final Vol: 12.5 mL
Initial Weight: 7.65 g
Final Weight: 31.26 g
Net Weight: 23.61 g
Sample ID: S98T000641

Appearance/Narrative:

1.89 g/m

LC 3/13/98

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-305 REV. 0

Bulk Density Worksheet

Requestor: Steen

Date: 3-3-98

Tank: TX-104
Core: 231
Seg: 1 2 4
Auger: 6/17/98
Sample ID: 598T000740

Start Time:
End Time:
Homogenization Time (Min.):

Jar#: 14034
Jar/Vial Size: 60 mL
Initial Weight: 200.2 g
Final Weight: 165.4 g
Net Weight: 34.8 g

LC 3/3/98

Cone#: 14034
Final Vol: 12.5 mL
Initial Weight: 7.46 g
Final Weight: 27.3 g
Net Weight: ~~14.8~~ g 19.84
Sample ID: 598T000740

Appearance/Narrative: 1.59
~~1.18~~ g/cm

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:

6/17/98

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HNF-SD-WM-DP-305 REV. 0

Bulk Density Worksheet

Requestor: Steen

Date: 3-3-98

Tank: TX-104
Core: 231
Seg: 2 24
Auger:
Sample ID: 598T000741

Start Time:
End Time:
Homogenization Time (Min.): 14032
Jar#: 598T000741
Jar/Vial Size: 60 mL
Initial Weight: 153.7 g
Final Weight: 137.8 g
Net Weight: 15.9 g

Cone#: 14032
Final Vol: 11.0 mL
Initial Weight: 7.76 g
Final Weight: 28.4 g
Net Weight: 20.6 g
Sample ID: 598T000741

Appearance/Narrative:

1.88 g/cm

LC 3/4/98

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:

6/17/98

HNF-SD-WM-DP-305 REV. 0

Bulk Density Worksheet

Requestor: Steen

Date: 3-3-98

Tank: TX-104
Core: 231
Seg: 2A 2 4
Auger:
Sample ID: S98T000742

Start Time:
End Time:
Homogenization Time (Min.):

Jar#: 14021
Jar/Vial Size: 60 mL
Initial Weight: 132.6 g
Final Weight: 116.7 g
Net Weight: 15.9 g

Cone#: 14021
Final Vol: 12.0 mL
Initial Weight: 29.5 g
Final Weight: 7.75 g
Net Weight: 21.7 g
Sample ID: S98T000742

Appearance/Narrative:

1.8 | gls

LC 3/4/98

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:

6/17/98

HNF-SD-WM-DP-305 REV. 0

80

INORGANIC ANALYSIS

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worklistrpt Version 2.1 05/15/95
03/04/98 08:54

LABCORE Data Entry Template for Worklist# 22745

Analyst: JK **Instrument:** DSC0 3 **Book #** 121148

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, DSC-03 Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	LIQUID	28.45	27.62	N/A	Joules/g
98000129	TX-104	2	SAMPLE	S98T000500	0		DSC-03	LIQUID	N/A	0		Joules/g
98000129	TX-104	3	DUP	S98T000500	0		DSC-03	LIQUID	0	0	N/A	Joules/g
98000129	TX-104	4	SAMPLE	S98T000665	0		DSC-03	LIQUID	N/A	0		Joules/g
98000129	TX-104	5	DUP	S98T000665	0		DSC-03	LIQUID	0	0	N/A	Joules/g

Final page for worklist # 22745

Mark Nino 2/30/98
Analyst Signature **Date**

Sue E. Morgan 3-31-98
Analyst Signature **Date**

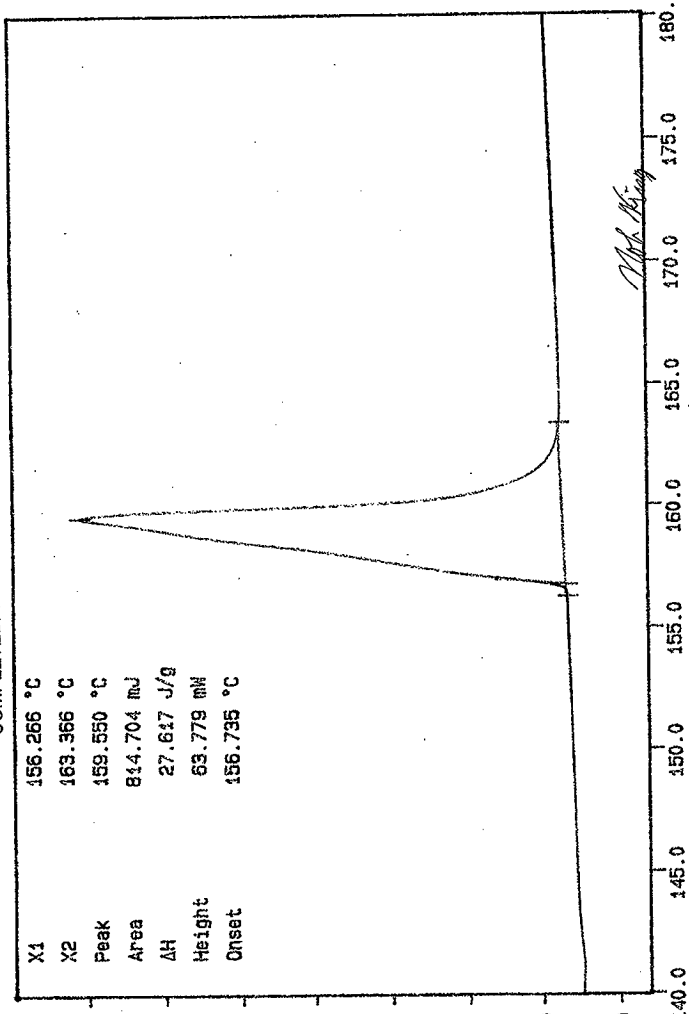
Validated 3/31/98 [illegible] Bachelor

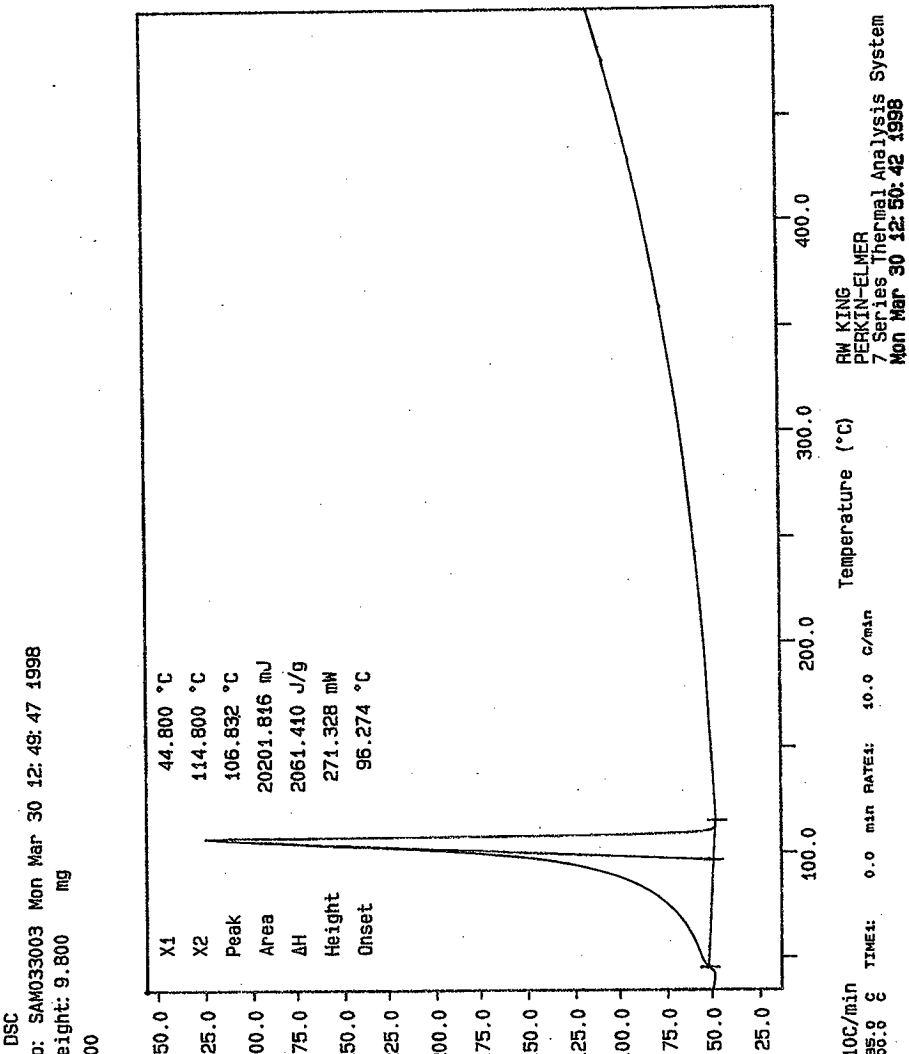
Data Entry Comments:

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.

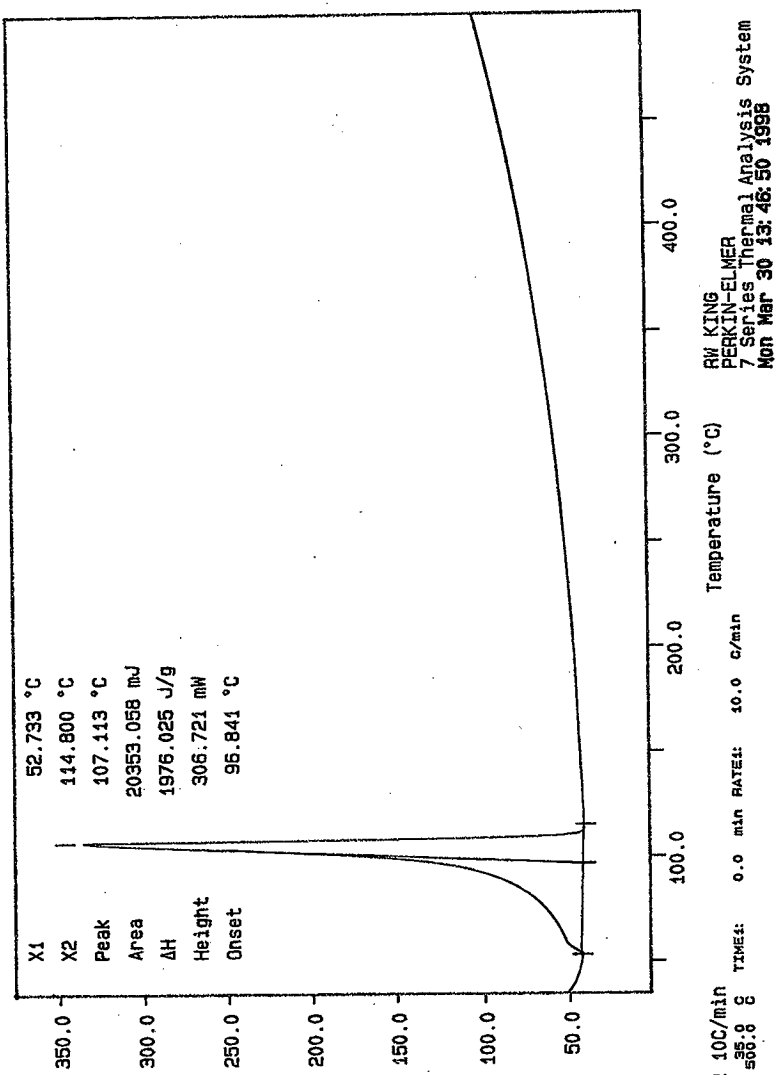
Curve 1: DSC
File info: IND033001 Mon Mar 30 07:37:02 1998
Sample Weight: 29.500 mg
STD 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 84 TO 89

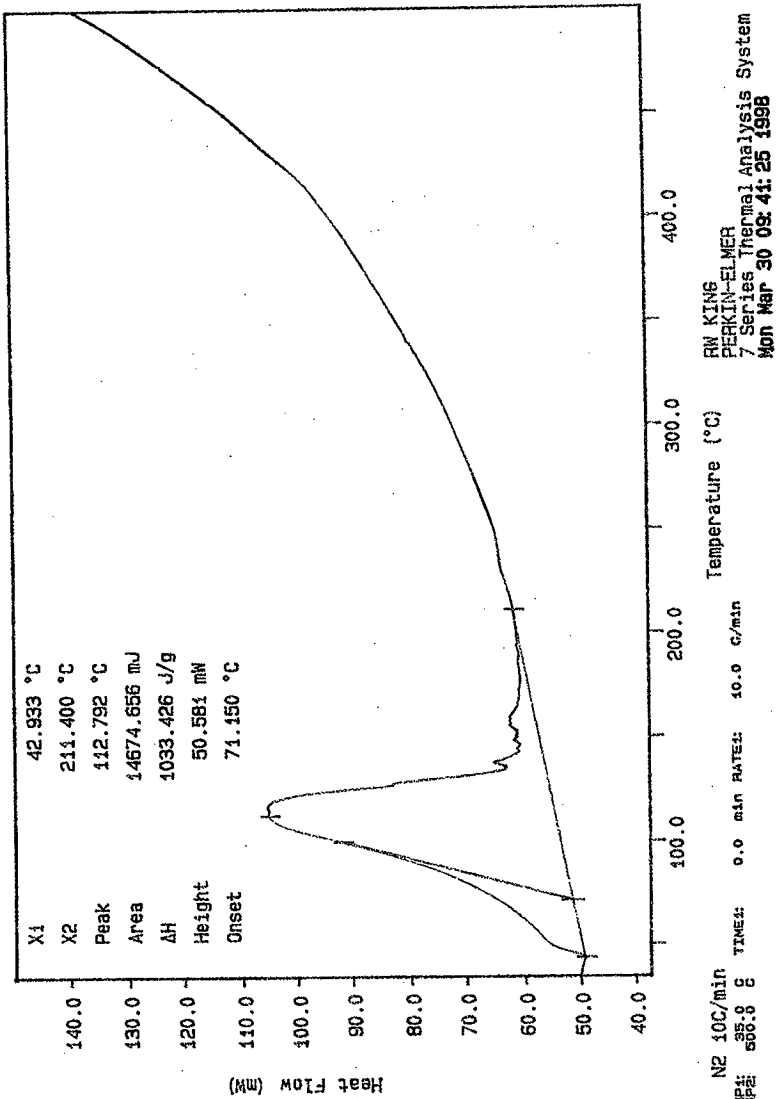


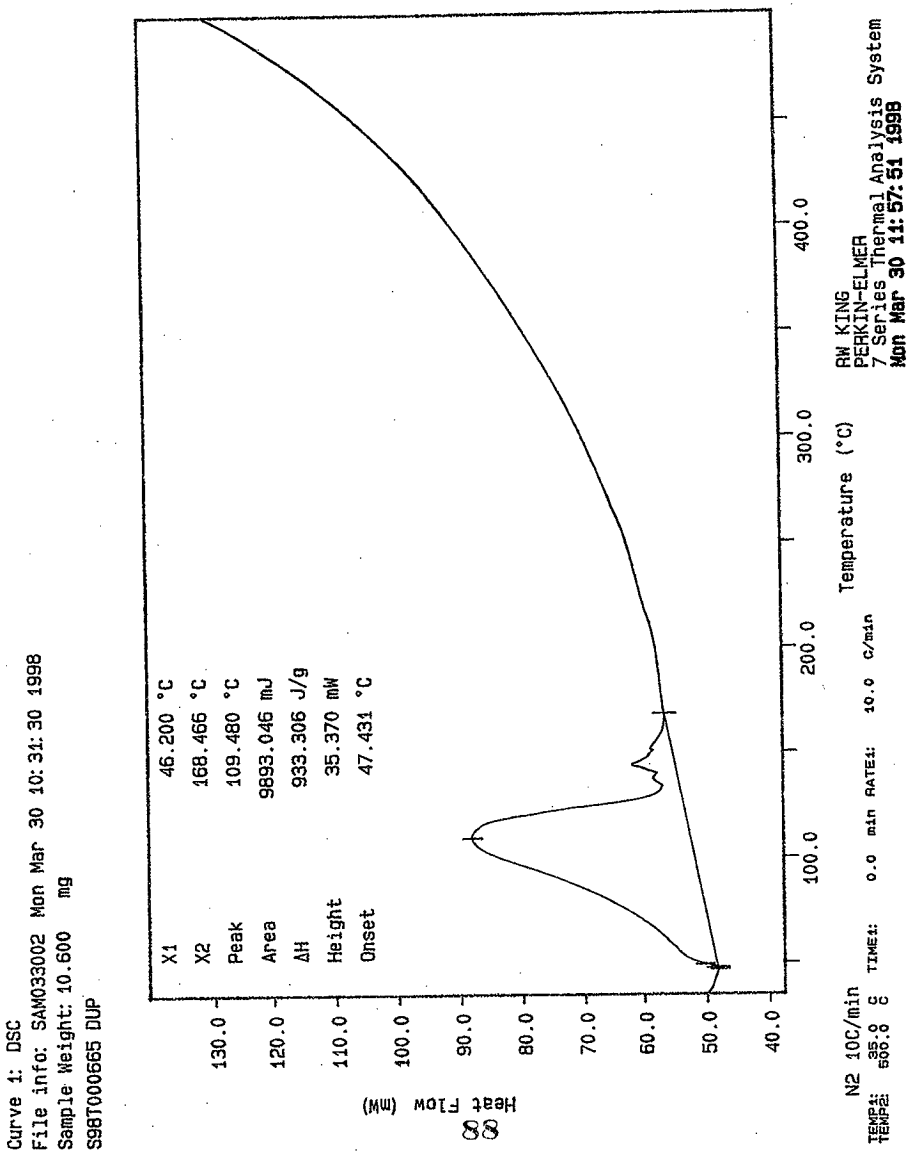

Curve 1: DSC
File info: SAM033003 Mon Mar 30 12:49:47 1998
Sample Weight: 9.800 mg
S98T000500
X1 44.800 °C
X2 114.800 °C
Peak 106.832 °C
Area 20201.816 mJ
ΔH 2061.410 J/g
Height 271.328 mW
Onset 96.274 °C
Heat Flow (mW)
350.0
325.0
300.0
275.0
250.0
225.0
200.0
175.0
150.0
125.0
100.0
75.0
50.0
25.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
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
Mon Mar 30 12:50:42 1998

Curve 1: DSC
File info: SAM033004 Mon Mar 30 13:40:35 1998
Sample Weight: 10.300 mg
S98T000500 DUP



Curve 1: DSC
File info: SAM033001 Mon Mar 30 09:38:20 1998
Sample Weight: 14.200 mg
S98T000665




Curve 1: DSC
File info: SAM033002 Mon Mar 30 10:34:30 1998
Sample Weight: 10.600 mg
S98T000665 DUP
X1 46.200 °C
X2 168.466 °C
Peak 109.480 °C
Area 9893.046 mJ
ΔH 933.306 J/g
Height 35.370 mW
Onset 47.431 °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
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
Mon Mar 30 11:57:51 1998

LABCORE Data Entry Template for Worklist# 22756

Analyst: [illegible] **Instrument:** DSC0 3 **Book #** 12N14-B

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, DSC-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	27.72	N/A	Joules/g
98000129	TX-104	2	SAMPLE	S98T000654	0		DSC-03	SOLID	N/A	0		Joules/g
98000129	TX-104	3	DUP	S98T000654	0		DSC-03	SOLID	0	0	N/A	Joules/g
98000129	TX-104	4	SAMPLE	S98T000655	0		DSC-03	SOLID	N/A	0		Joules/g
98000129	TX-104	5	DUP	S98T000655	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 22756

[illegible] 3/30/98
Analyst Signature **Date**

Sue E. Hogan 3-31-98
Analyst Signature **Date**

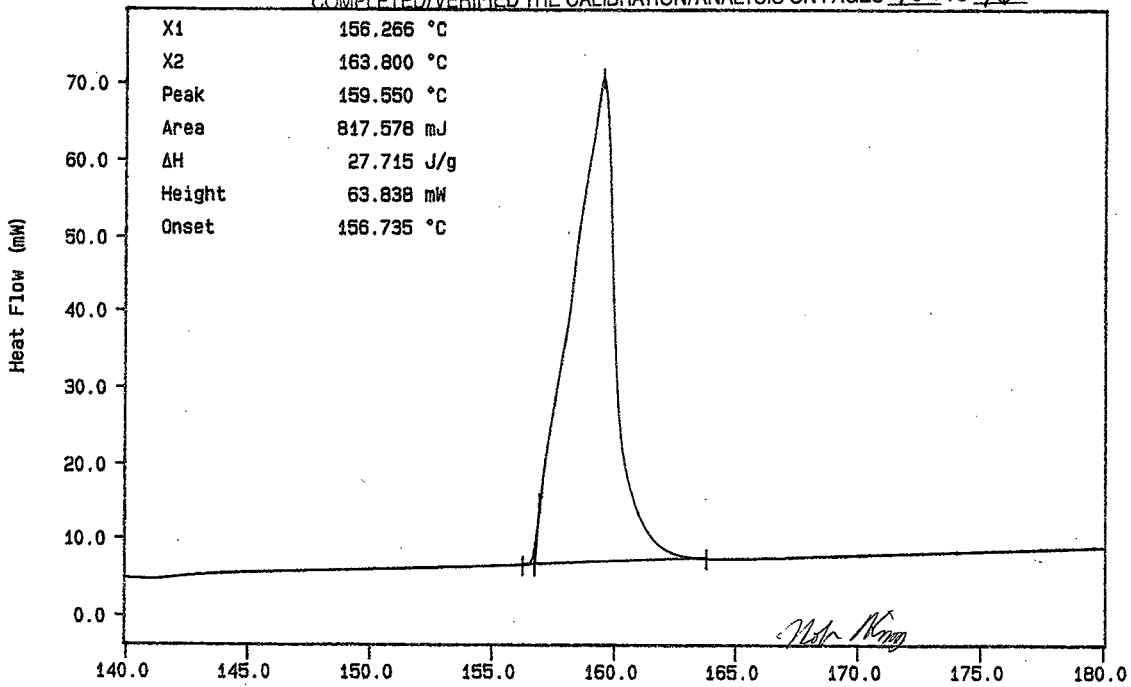
Validated 3/31/98 [illegible]

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: IND033001 Mon Mar 30 07:37:02 1998
Sample Weight: 29.500 mg
STD 12N14-8

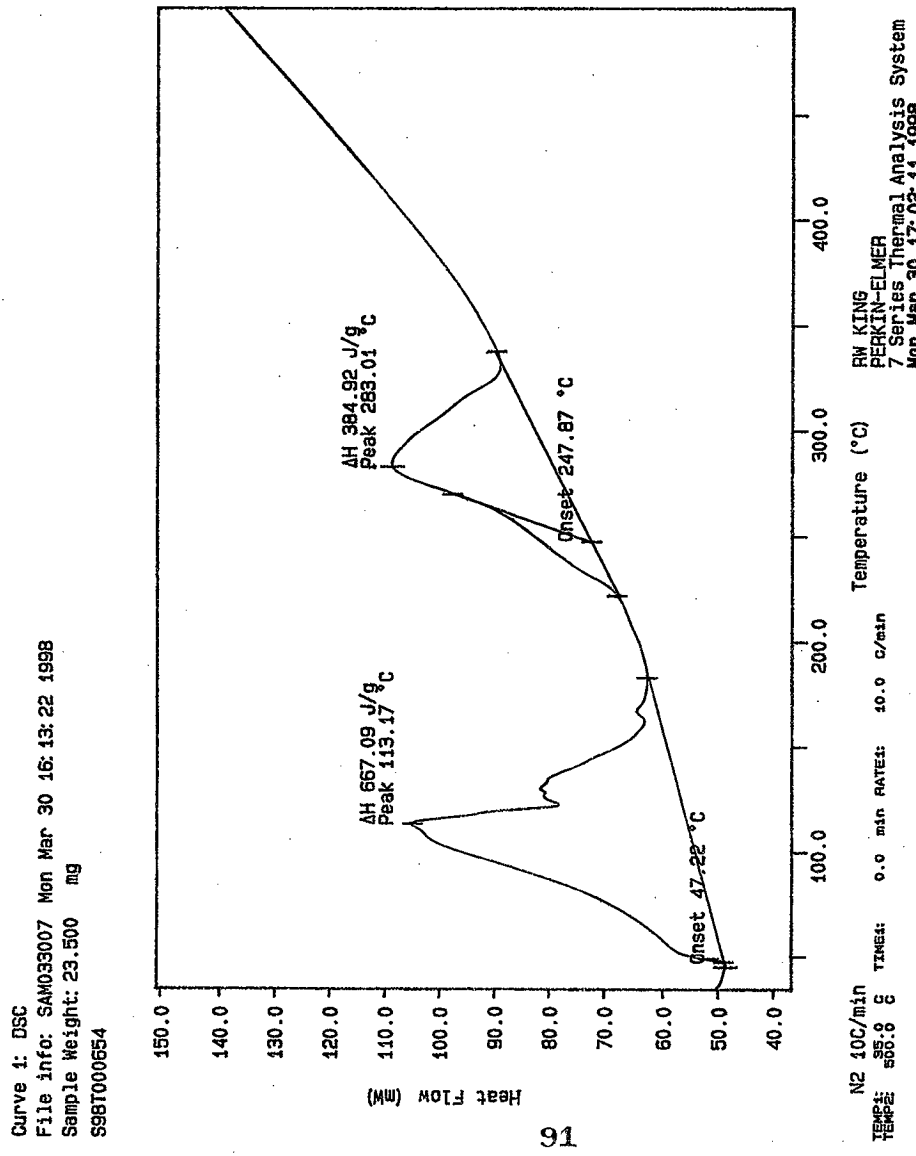
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 90 TO 96.

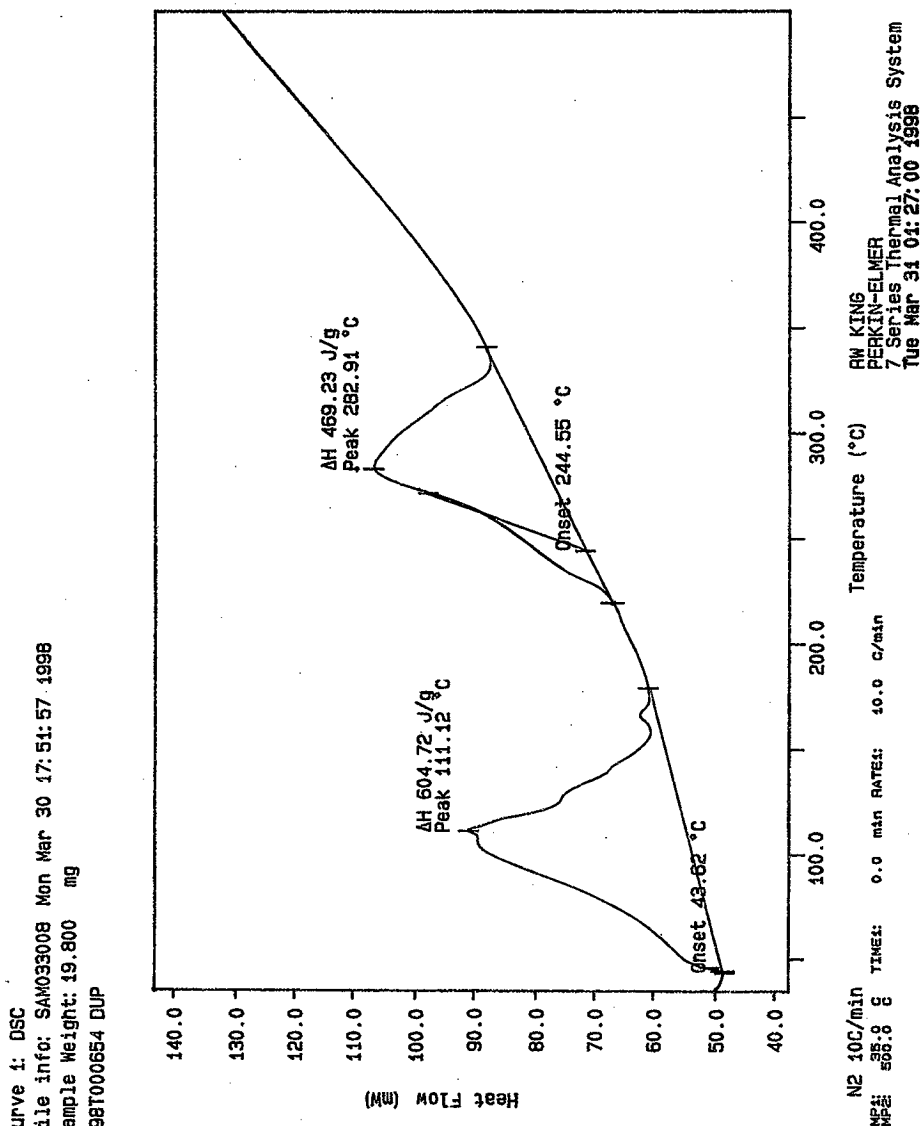


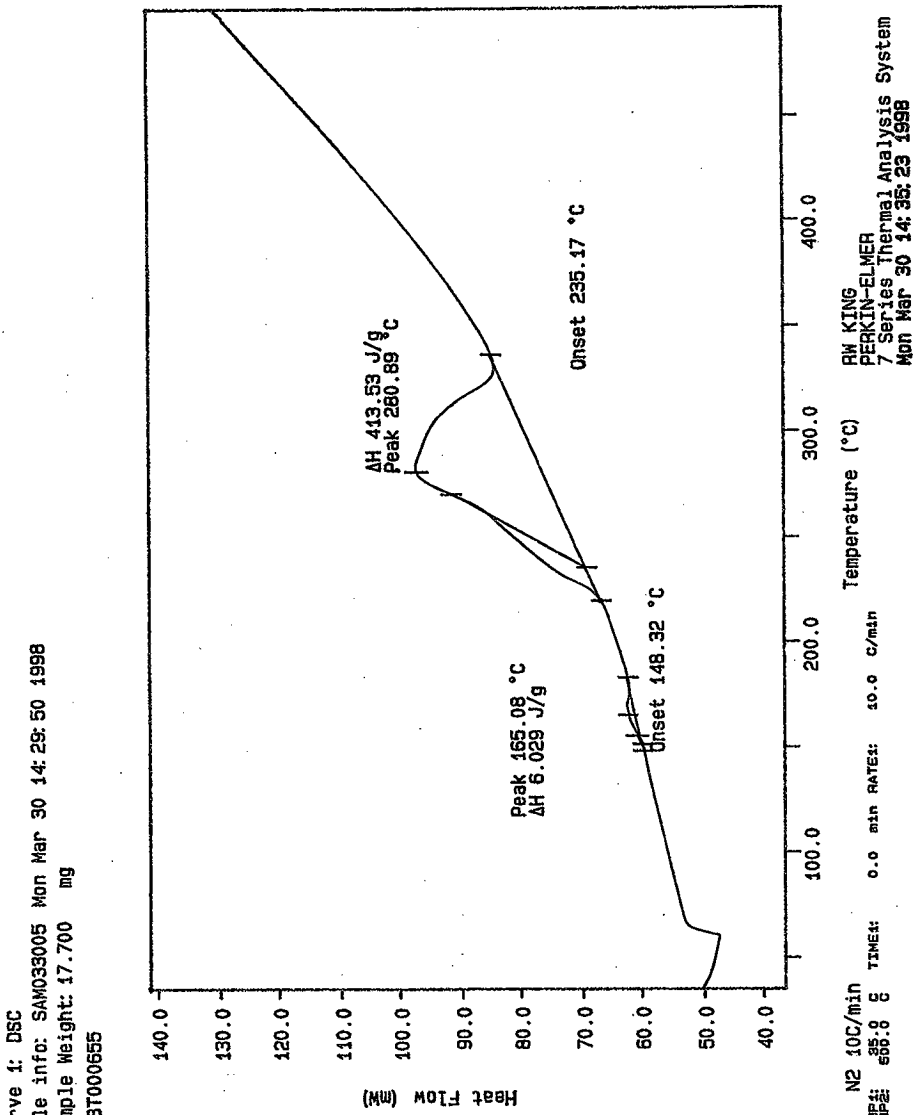
N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

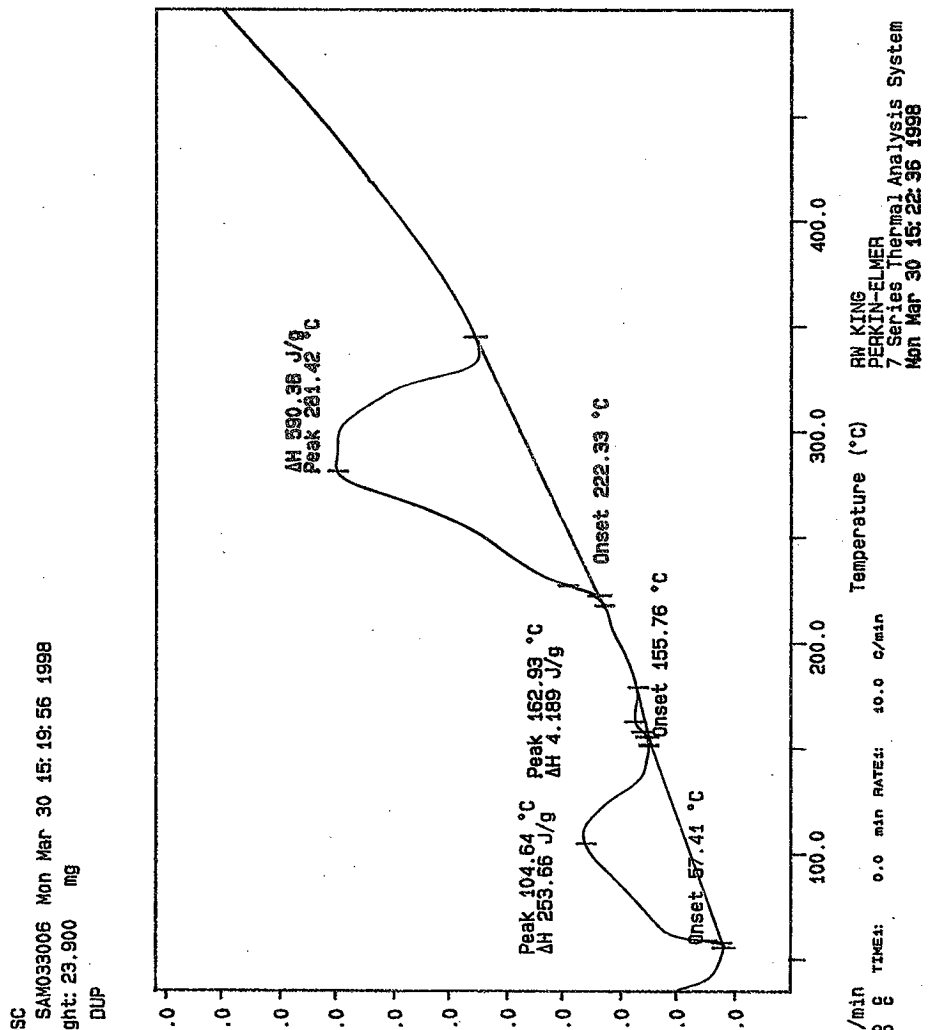
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 14:03:41 1998

HNF-SD-WM-DP-305 REV. 0


Curve 1: DSC
File info: SAM033007 Mon Mar 30 16:13:22 1998
Sample Weight: 23.500 mg
S98T000654
ΔH 384.92 J/g
Peak 283.01 °C
ΔH 667.09 J/g
Peak 113.17 °C
Onset 247.87 °C
Onset 47.22 °C
Heat Flow (mW)
150.0
140.0
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
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
Mon Mar 30 17:02:11 1998


Curve 1: DSC
File info: SAM093008 Mon Mar 30 17:51:57 1998
Sample Weight: 19.800 mg
S98T000654 DUP
ΔH 469.23 J/g
Peak 282.91 °C
Onset 244.55 °C
ΔH 604.72 J/g
Peak 111.12 °C
Onset 43.62 °C
Heat Flow (mW)
140.0
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
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 Mar 31 01:27:00 1998


Curve 1: DSC
File info: SAM033005 Mon Mar 30 14:29:50 1998
Sample Weight: 17.700 mg
S98T000655
ΔH 413.53 J/g
Peak 280.89 °C
Onset 235.17 °C
Peak 165.08 °C
ΔH 6.029 J/g
Onset 148.32 °C
Heat Flow (mW)
140.0
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
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
Mon Mar 30 14:36:23 1998


Curve 1: DSC
File info: SAM033006 Mon Mar 30 15:19:56 1998
Sample Weight: 23.900 mg
S98T000655 DUP
ΔH 590.36 J/g
Peak 281.42 °C
Onset 222.33 °C
Peak 162.93 °C
ΔH 4.189 J/g
Onset 155.76 °C
Peak 104.64 °C
ΔH 253.66 J/g
Onset 57.41 °C
Heat Flow (mW)
140.0
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
TEMP1: 25.0 C
TEMP2: 500.0 C
TIME1: 0.0 min RATE1: 10.0 C/min
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 15:22:36 1998

worklistrpt Version 2.1 05/15/95
03/09/98 10:48

LABCORE Data Entry Template for Worklist# 22817

Analyst: NK **Instrument:** DSC0 3 **Book #** 12N14-B

Method: LA-514-114 Rev/Mod D1

Worklist Comment: TX104, DSC-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	LIQUID	28.45	27.71*	N/A	Joules/g
98000129	TX-104	2	SAMPLE	S98T000666	0		DSC-03	LIQUID	N/A	0		Joules/g
98000129	TX-104	3	DUP	S98T000666	0		DSC-03	LIQUID	0	0	N/A	Joules/g
98000130	TX-104	4	SAMPLE	S98T000761	0		DSC-03	LIQUID	N/A	0		Joules/g
98000130	TX-104	5	DUP	S98T000761	0		DSC-03	LIQUID	0	0	N/A	Joules/g

Final page for worklist # 22817

NK 3/25/98
Analyst Signature **Date**

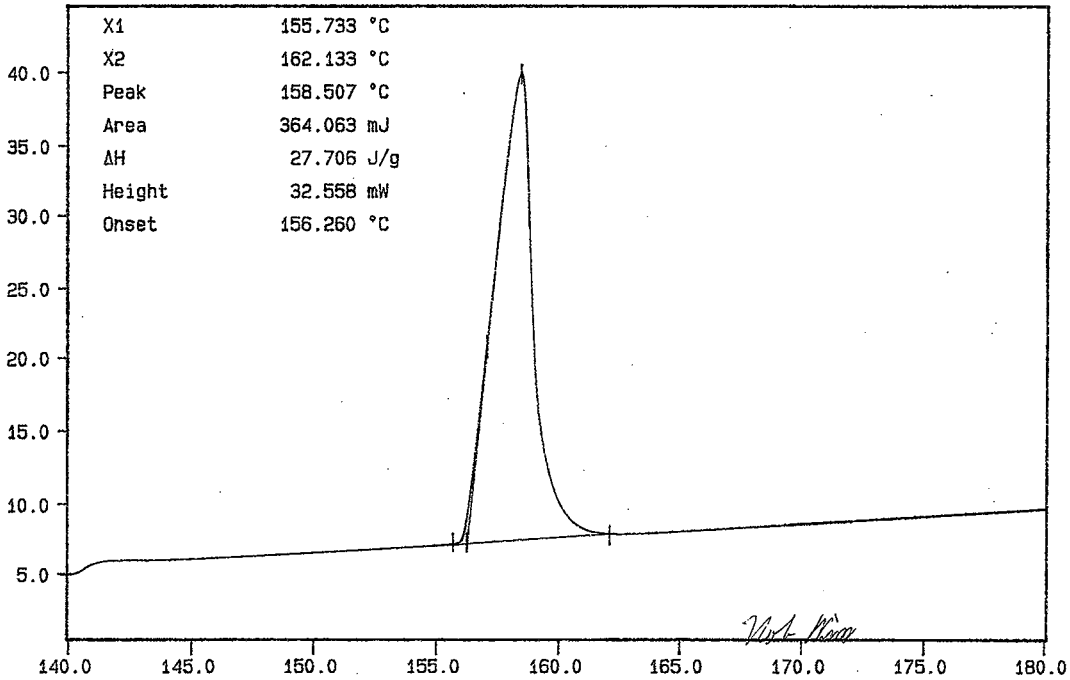
CJ Quinn 3/25/98
Analyst Signature **Date**

Validated 3/26/98 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: DSC
File info: IND032401 Tue Mar 24 19:10:11 1998
Sample Weight: 13.140 mg
STD 12N14-B

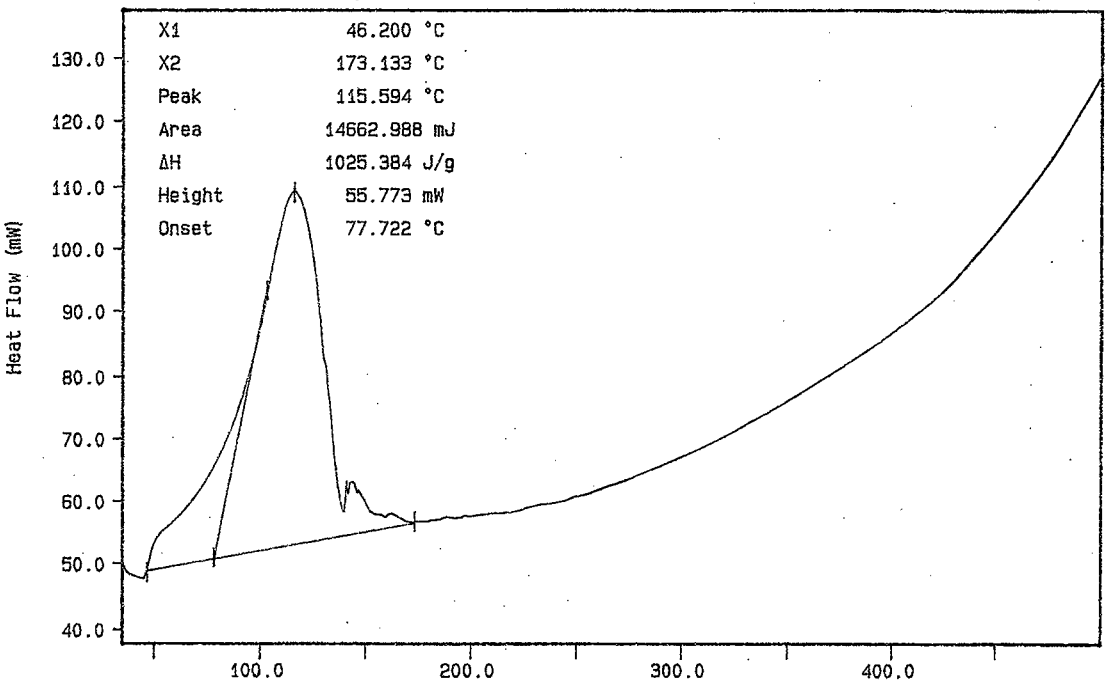


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 25 02:02:09 1998

Curve 1: DSC
File info: SAM032501 Wed Mar 25 01:06:45 1998
Sample Weight: 14.300 mg
S98T000666

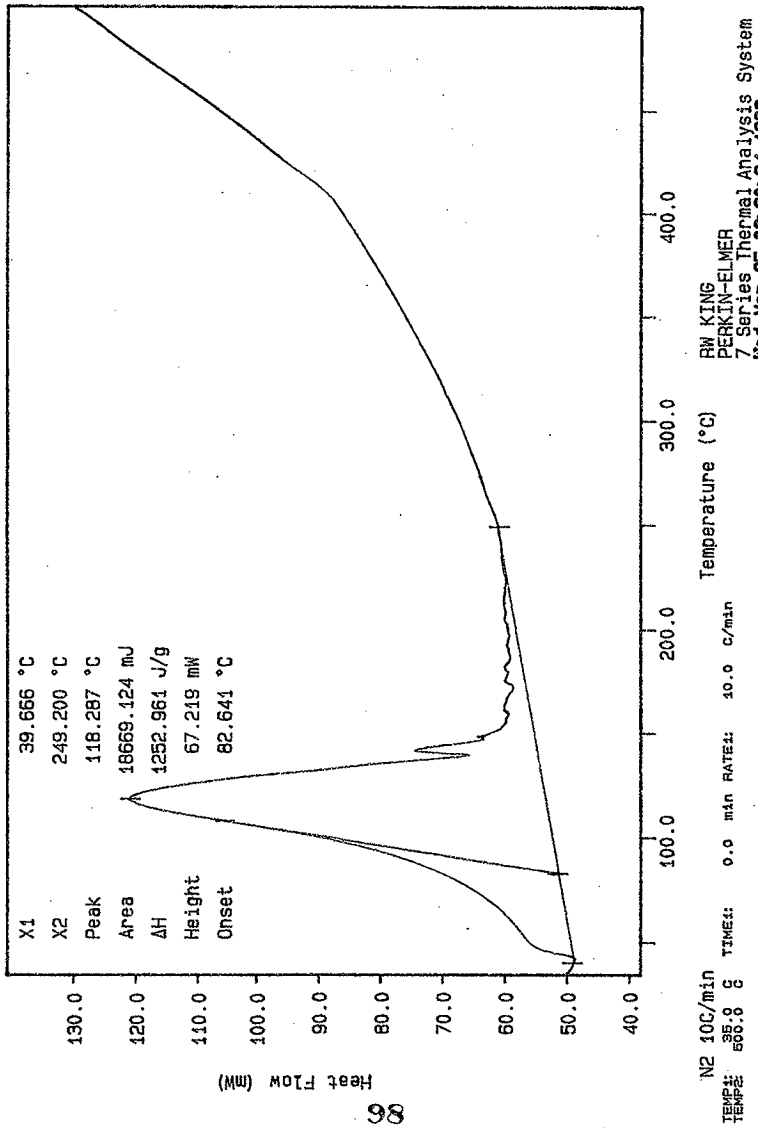
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 97 TO 101



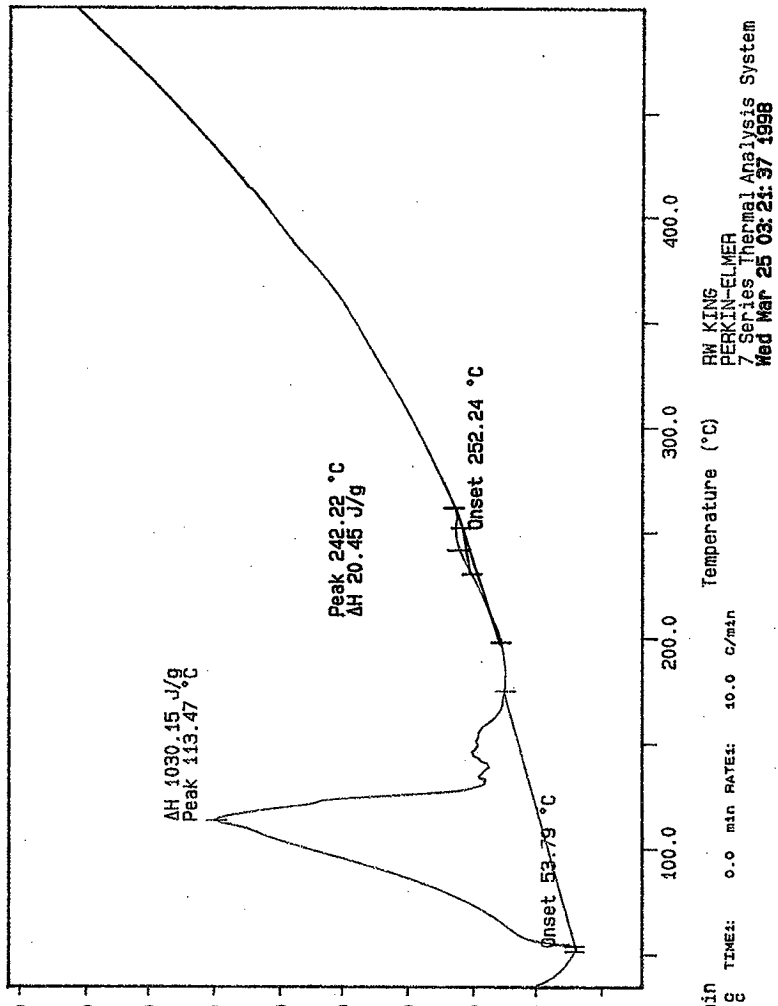
N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 25 01:46:23 1998

Curve 1: DSC
File info: SAM032502 Wed Mar 25 02:30:07 1998
Sample Weight: 14.900 mg
S98T000666 DUP

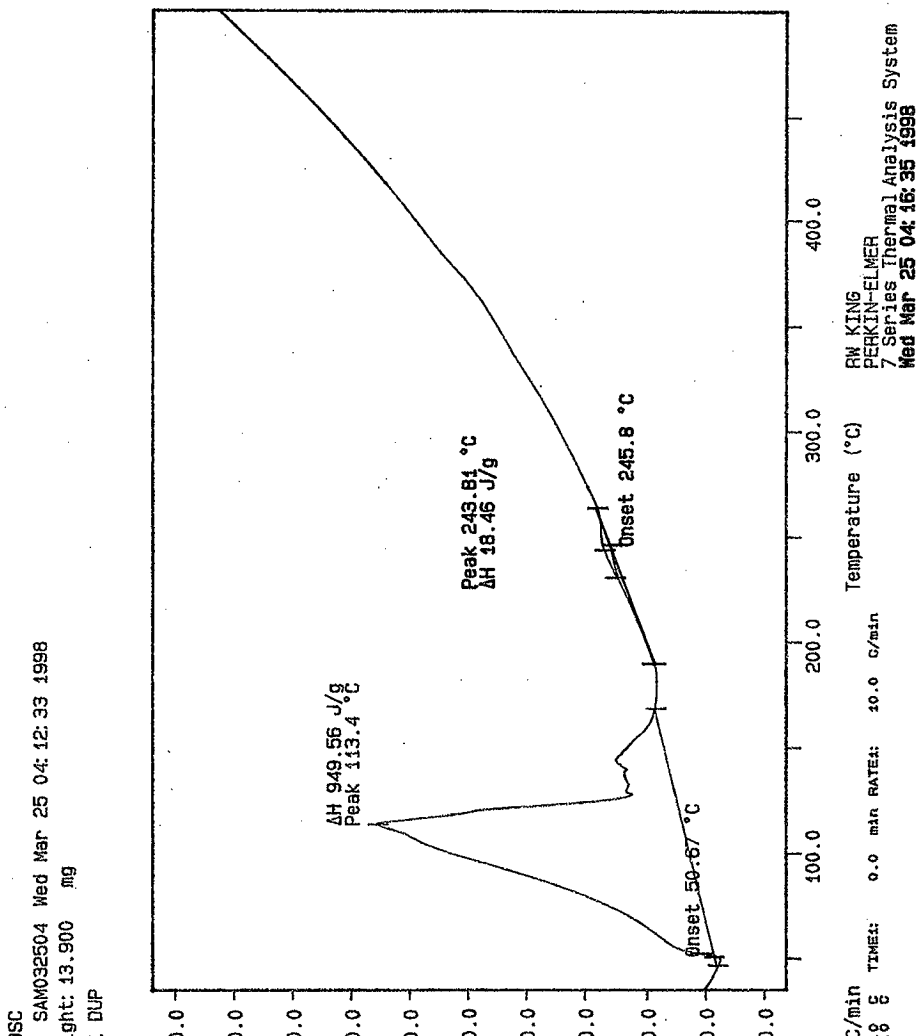


Curve 1: DSC
File info: SAM032503 Wed Mar 25 03:20:47 1998
Sample Weight: 12.500 mg
S98T000761



N2 10C/min
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
Wed Mar 25 03:21:37 1998


Curve 1: DSC
File info: SAM032504 Wed Mar 25 04:12:33 1998
Sample Weight: 13.900 mg
S98T000761 DUP
ΔH 949.56 J/g
Peak 113.4 °C
Peak 243.81 °C
ΔH 18.46 J/g
Onset 245.8 °C
Onset 50.67 °C
Heat Flow (mW)
140.0
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
TEMP1: 35.0 C
TEMP2: 500.0 C
TIME1: 0.0 min RATE1: 10.0 C/min
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 25 04:16:35 1998

worklistrpt Version 2.1 05/15/95
03/09/98 10:50

LABCORE Data Entry Template for Worklist# 22818

Analyst: KBM **Instrument:** DSC0 3 **Book #** 17N148

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, DSC-03, Run under nitrogen. skw

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-03	LIQUID	28.45	27.73	N/A	Joules/g
98000130	TX-104	2 SAMPLE	S98T000762	0		DSC-03	LIQUID	N/A	~~52.80~~ 0	3/31/98	Joules/g
98000130	TX-104	3 DUP	S98T000762	0		DSC-03	LIQUID	~~52.80~~ 0	~~53.09~~ 0	3/31/98 N/A	Joules/g
98000130	TX-104	4 SAMPLE	S98T000763	0		DSC-03	LIQUID	N/A	0		Joules/g
98000130	TX-104	5 DUP	S98T000763	0		DSC-03	LIQUID	0	0	N/A	Joules/g

Final page for worklist # 22818

KBM 3/31/98
Analyst Signature **Date**

Ace E. Hogan 3-31-98
Analyst Signature **Date**

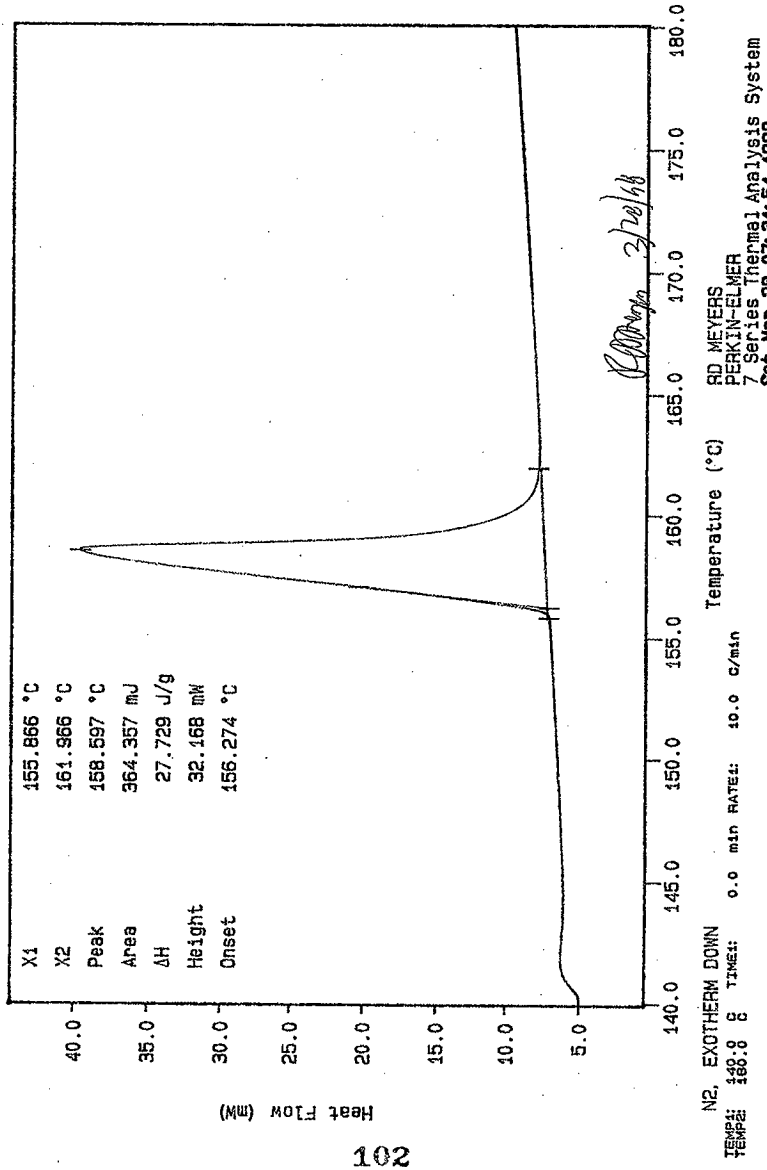
Validated 3/31/98 RBBachelor

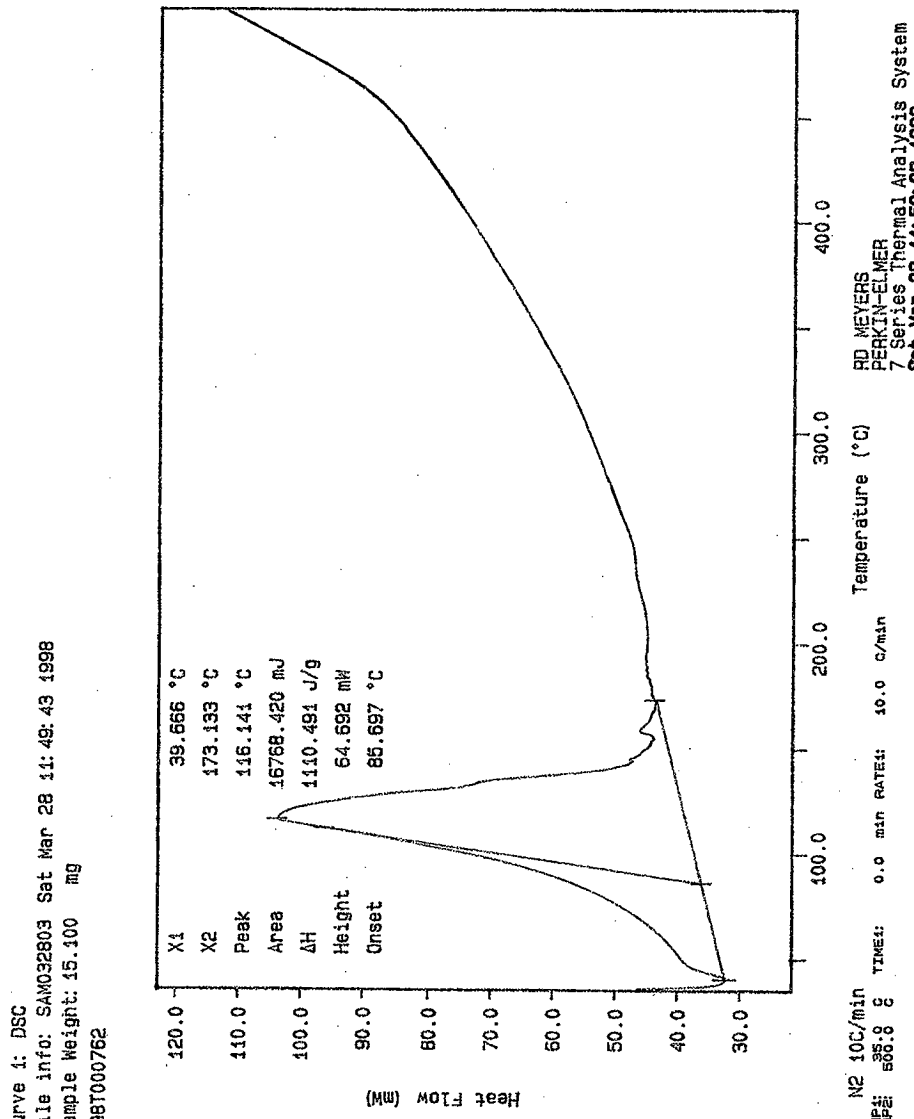
Data Entry Comments:

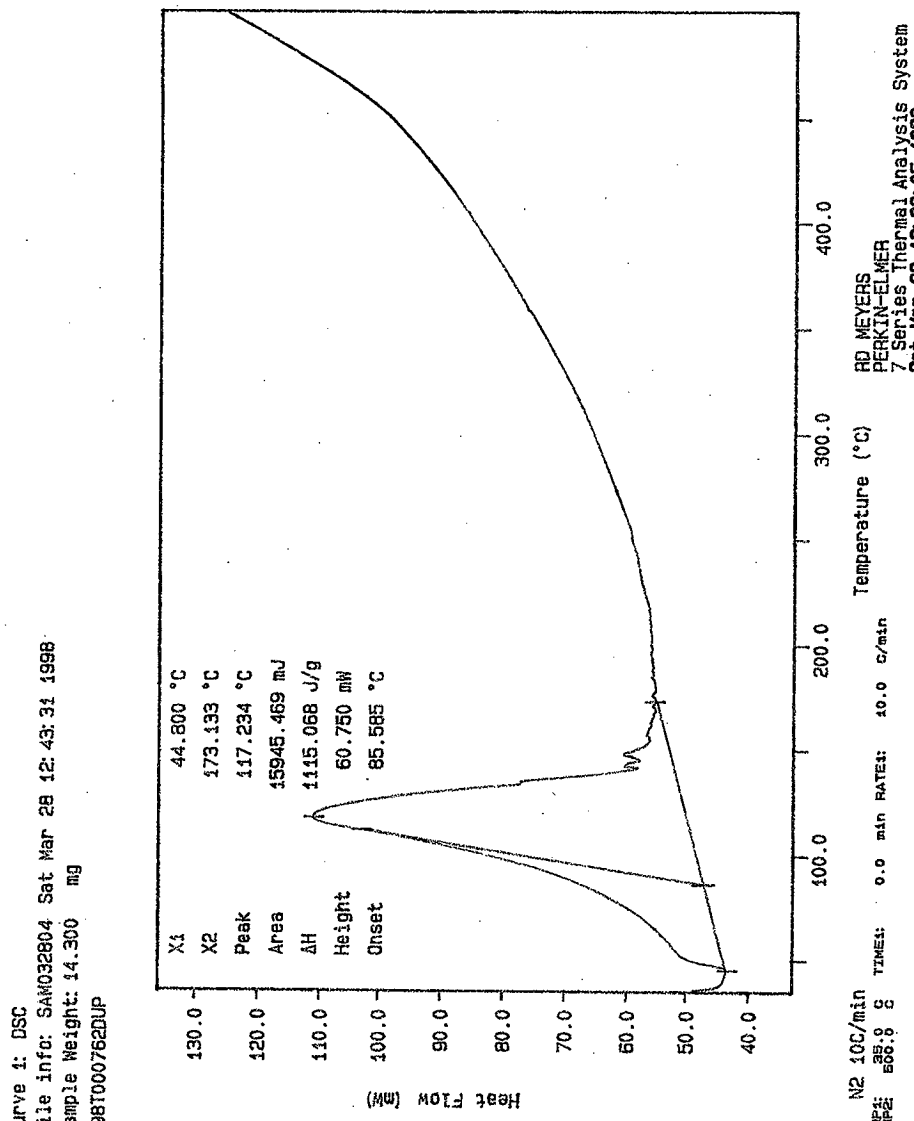
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND032801 Sat Mar 28 07:08:45 1998
Sample Weight: 13.140 mg
STD 12N14-B

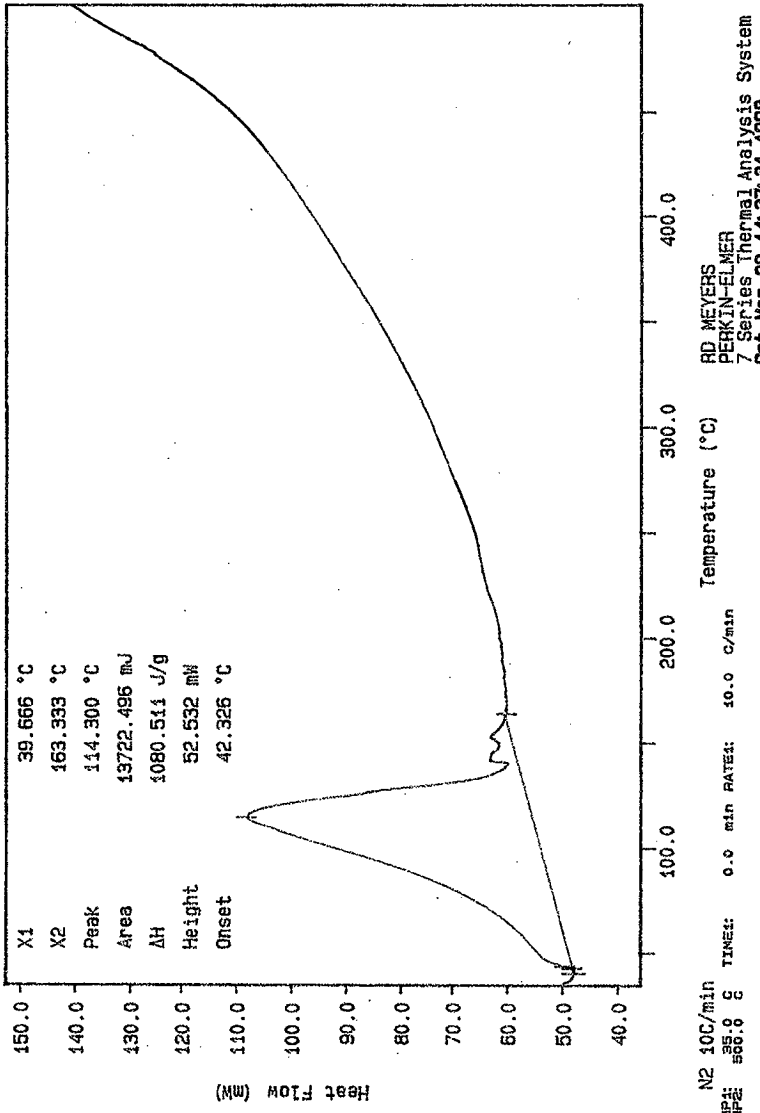
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 102 TO 107.

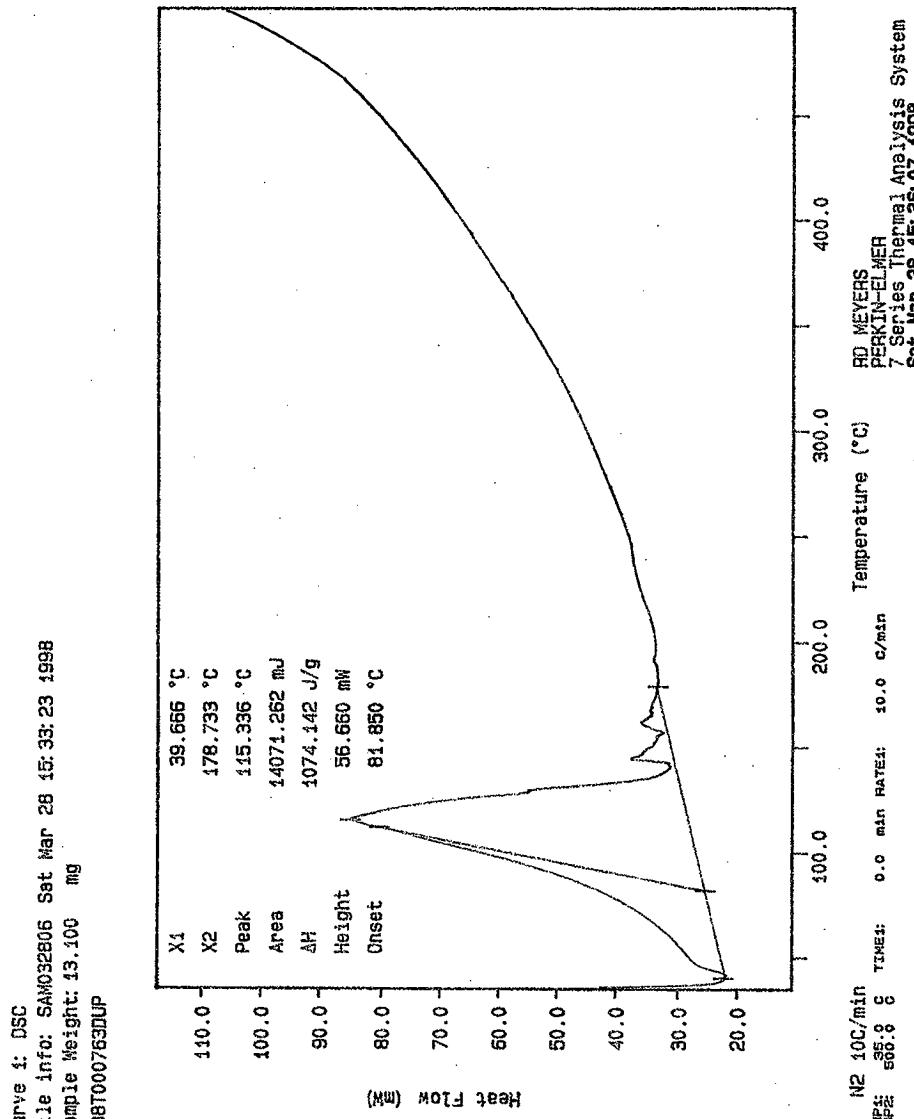



Curve 1: DSC
File info: SAM032803 Sat Mar 28 11:49:43 1998
Sample Weight: 15.100 mg
S98T000762
X1 39.666 °C
X2 173.133 °C
Peak 116.141 °C
Area 16768.420 mJ
ΔH 1110.491 J/g
Height 64.692 mW
Onset 85.697 °C
Heat Flow (mW)
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 35.8 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Mar 28 11:52:28 1998


Curve 1: DSC
File info: SAM032804 Sat Mar 28 12:43:31 1998
Sample Weight: 14.300 mg
S98T000762DUP
X1 44.800 °C
X2 173.133 °C
Peak 117.234 °C
Area 15945.469 mJ
ΔH 1115.068 J/g
Height 60.750 mW
Onset 85.585 °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 100c/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 Mar 28 13:33:05 1998

Curve 1: DSC
File info: SAM032805 Sat Mar 28 14:23:13 1998
Sample Weight: 12.700 mg
S98T000763




Curve 1: DSC
File Info: SAM032806 Sat Mar 28 15:33:23 1998
Sample Weight: 13.100 mg
S98T000763DUP
X1 39.666 °C
X2 178.733 °C
Peak 115.336 °C
Area 14071.262 mJ
ΔH 1074.142 J/g
Height 56.660 mW
Onset 81.850 °C
Heat Flow (mW)
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 35.0 C
TEMP2: 500.0 C
TIME1: 0.0 min RATE1: 10.0 C/min
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Mar 28 15:36:07 1998

worklistrpt Version 2.1 05/15/95
03/09/98 10:52

LABCORE Data Entry Template for Worklist# 22819

Analyst: [illegible] **Instrument:** DSC0 3 **Book #** 12N19B

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, DSC-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	27.82*	N/A	Joules/g
98000129	TX-104	2	SAMPLE	S98T000649	0		DSC-03	SOLID	N/A	0		Joules/g
98000129	TX-104	3	DUP	S98T000649	0		DSC-03	SOLID	0	0	N/A	Joules/g
98000130	TX-104	4	SAMPLE	S98T000743	0		DSC-03	SOLID	N/A	0		Joules/g
98000130	TX-104	5	DUP	S98T000743	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 22819

[illegible] 3/23/98
Analyst Signature **Date**

[illegible] 3/25/98
Analyst Signature **Date**

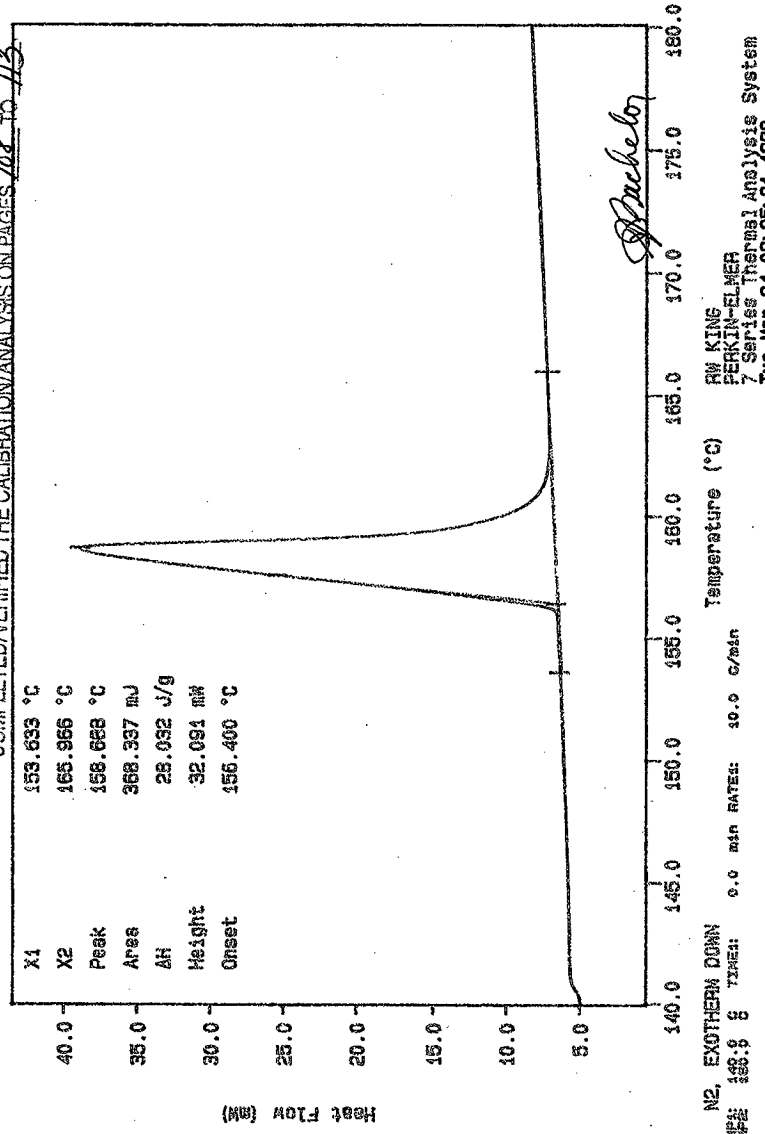
Validated 3/26/98 [illegible]

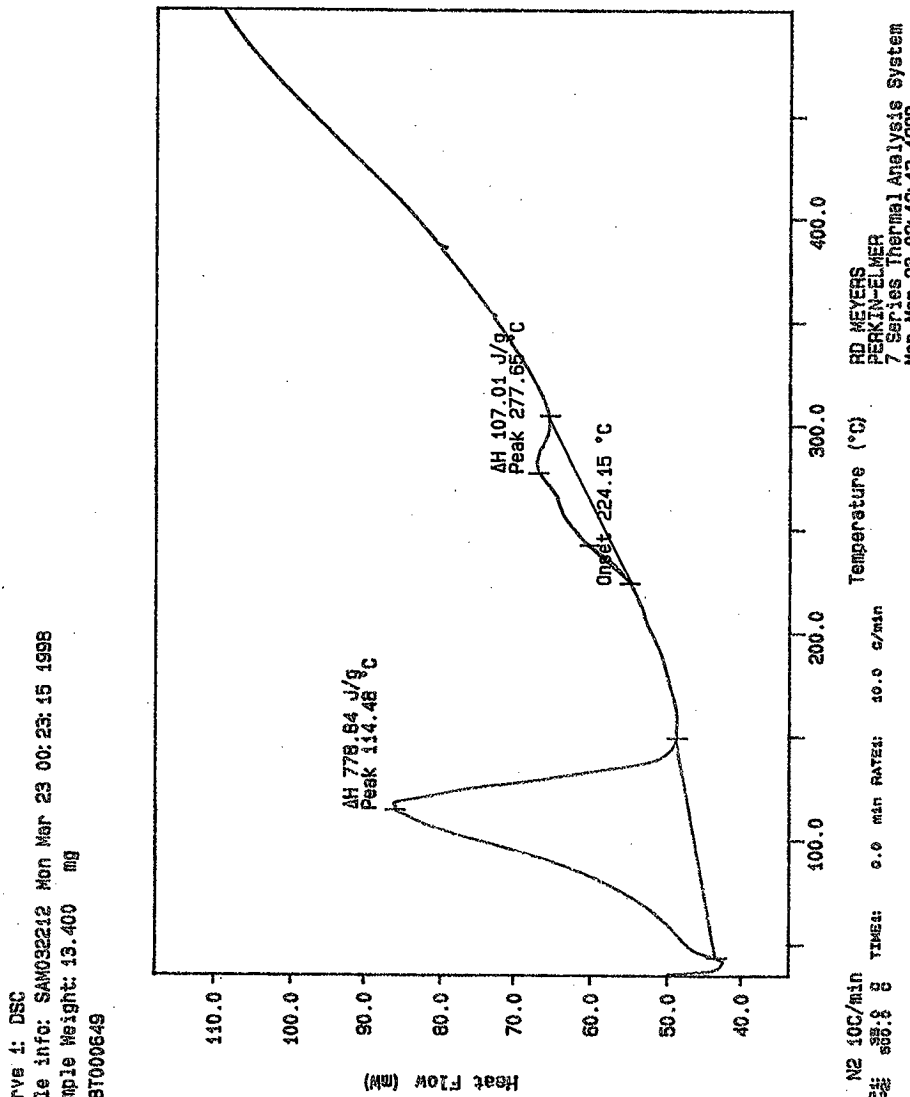
Data Entry Comments:

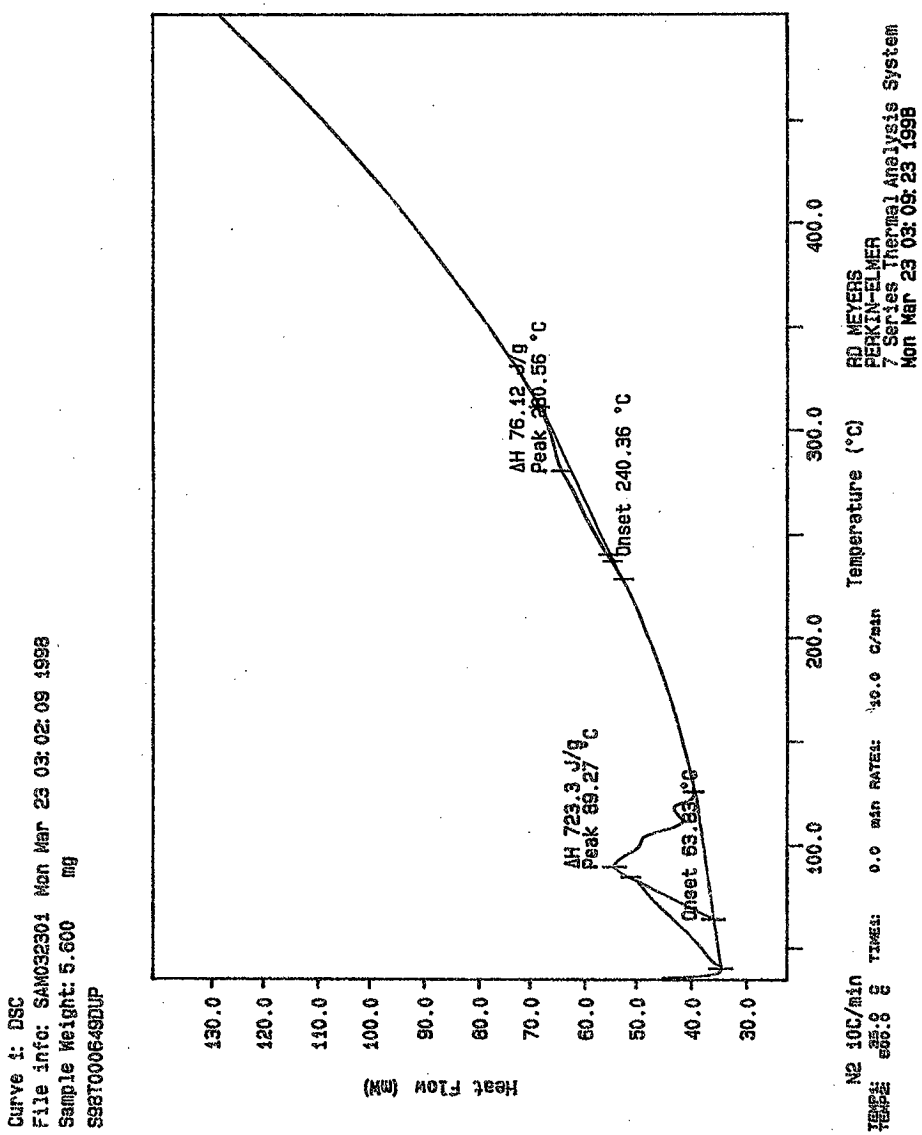
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

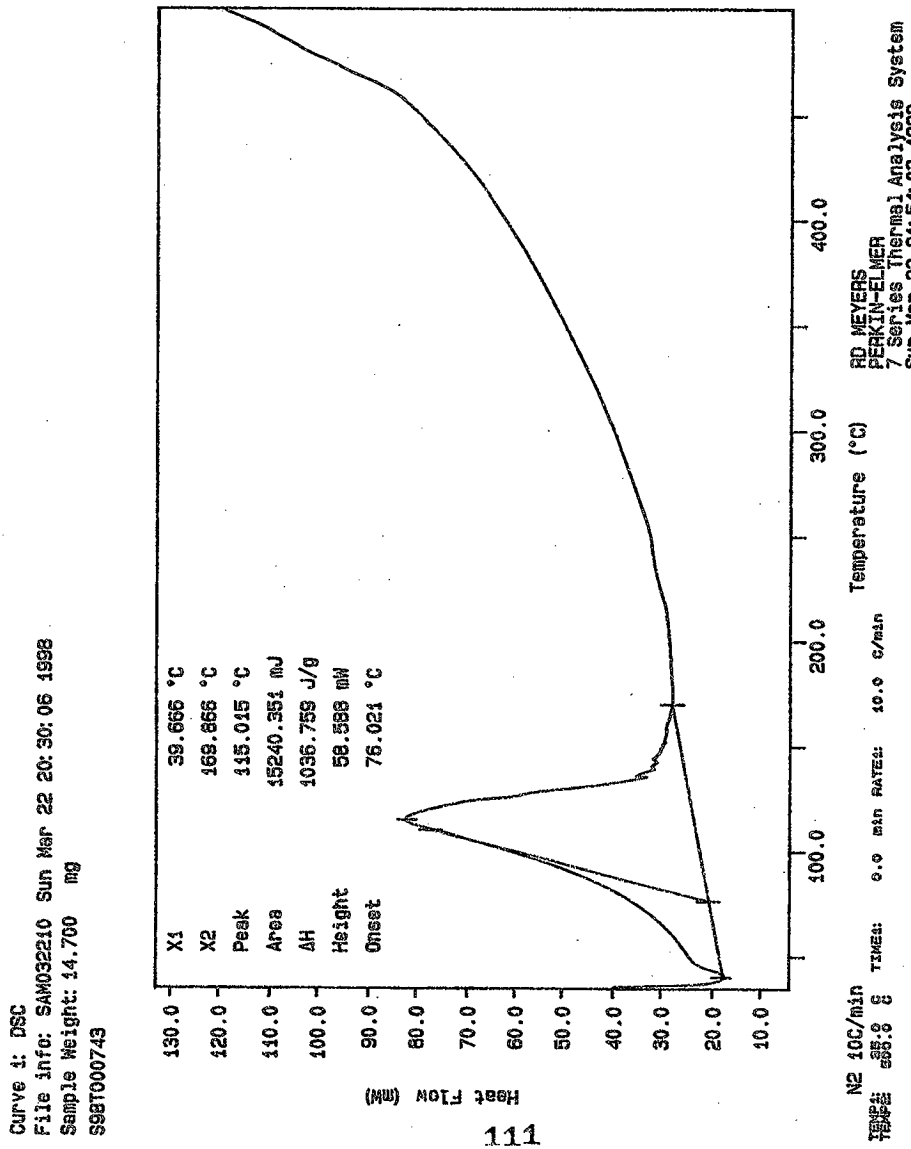
Curve 1: DSC
File info: IND032201 Sun Mar 22 06:09:39 1998
Sample Weight: 13.140 mg
STD 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 108 TO 113

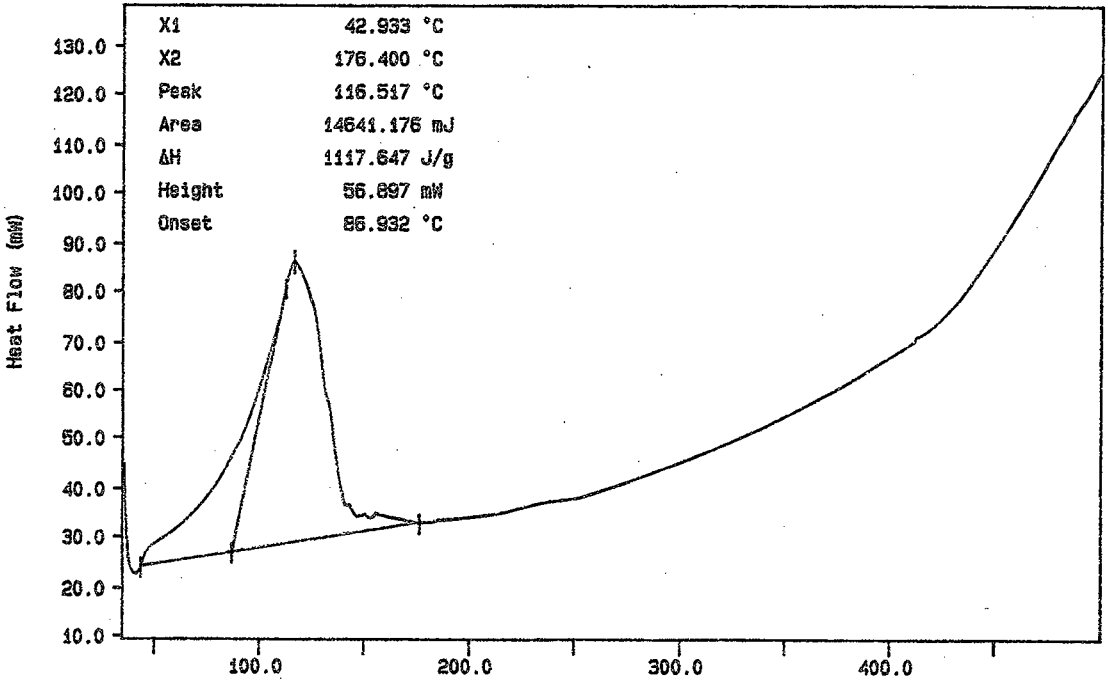



Curve 1: DSC
File info: SAM032212 Mon Mar 23 00:23:15 1998
Sample Weight: 13.400 mg
S98T000649
ΔH 778.84 J/g
Peak 114.48 °C
ΔH 107.01 J/g
Peak 277.65 °C
Onset 224.15 °C
Heat Flow (mW)
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 400.0 C
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 23 02:12:13 1998


Curve 1: DSC
File info: SAM032301 Mon Mar 23 03:02:09 1998
Sample Weight: 5.600 mg
S98T00064SDUP
ΔH 76.12 J/g
Peak 280.56 °C
Onset 240.36 °C
ΔH 723.3 J/g
Peak 89.27 °C
Onset 63.83 °C
Heat Flow (mW)
130.0
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP1: 25.0 C
TEMP2: 600.0 C
TIME1: 0.0 min RATE1: 10.0 C/min
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 23 03:09:23 1998


Curve 1: DSC
File info: SAM032210 Sun Mar 22 20:30:06 1998
Sample Weight: 14.700 mg
S98T000743
X1 39.666 °C
X2 168.868 °C
Peak 115.015 °C
Area 15240.351 mJ
ΔH 1036.759 J/g
Height 58.588 mW
Onset 76.021 °C
Heat Flow (mW)
130.0
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
100.0
200.0
300.0
400.0
Temperature (°C)
N2 10C/min
TEMP: 25.0 C
TEMP: 295.0 C
TIME: 0.0 min RATE: 10.0 C/min
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Mar 22 21:54:03 1998

Curve 1: DSC
File info: SAM032211 Sun Mar 22 22:59:15 1998
Sample Weight: 13.100 mg
S98T000743DUP



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
Sun Mar 22 23:16:13 1998

HNF-SD-WM-DP-305 REV. 0

worklistrpt Version 2.1 05/15/95
03/09/98 10:52

LABCORE Data Entry Template for Worklist# 22820

Analyst: [illegible] **Instrument:** DSC0 3 **Book #** 12014-B

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, DSC-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	28.45	27.66	N/A	Joules/g
98000130	TX-104	2	SAMPLE	S98T000744	0		DSC-03	SOLID	N/A	0		Joules/g
98000130	TX-104	3	DUP	S98T000744	0		DSC-03	SOLID	0	0	N/A	Joules/g
98000130	TX-104	4	SAMPLE	S98T000745	0		DSC-03	SOLID	N/A	0		Joules/g
98000130	TX-104	5	DUP	S98T000745	0		DSC-03	SOLID	0	0	N/A	Joules/g

Final page for worklist # 22820

[illegible] 3/24/98
Analyst Signature **Date**

[illegible] 3/25/98
Analyst Signature **Date**

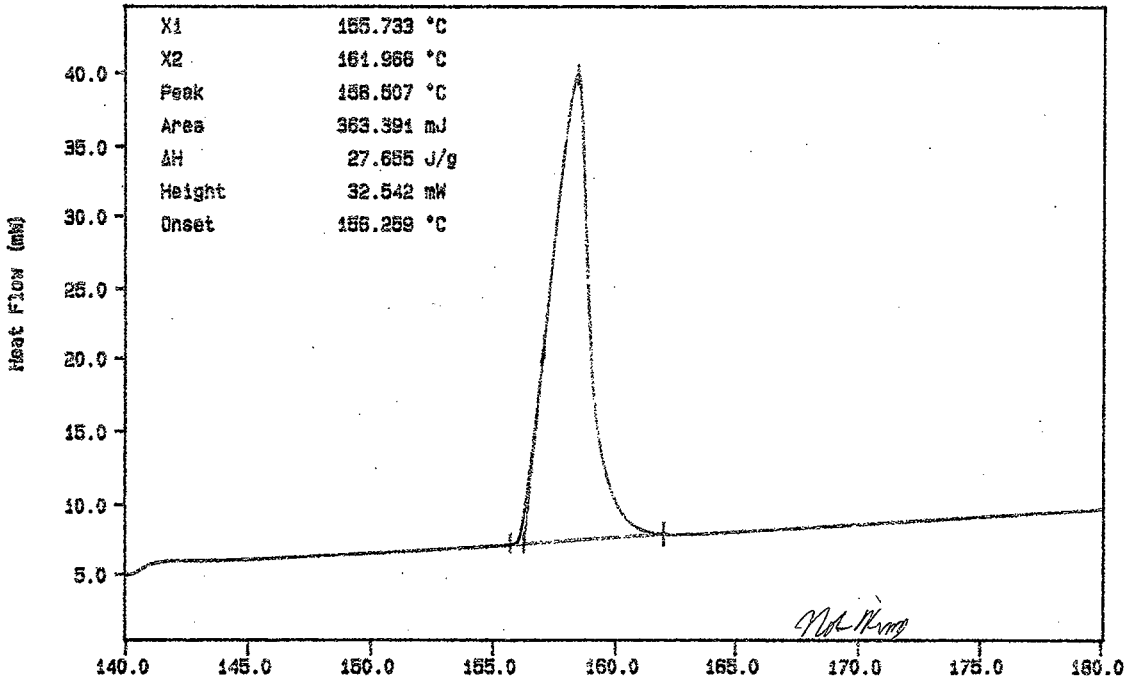
Validated 3/26/98 [illegible]

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: IND052401 Tue Mar 24 19:10:11 1998
Sample Weight: 13.140 mg
STD 12N14-B

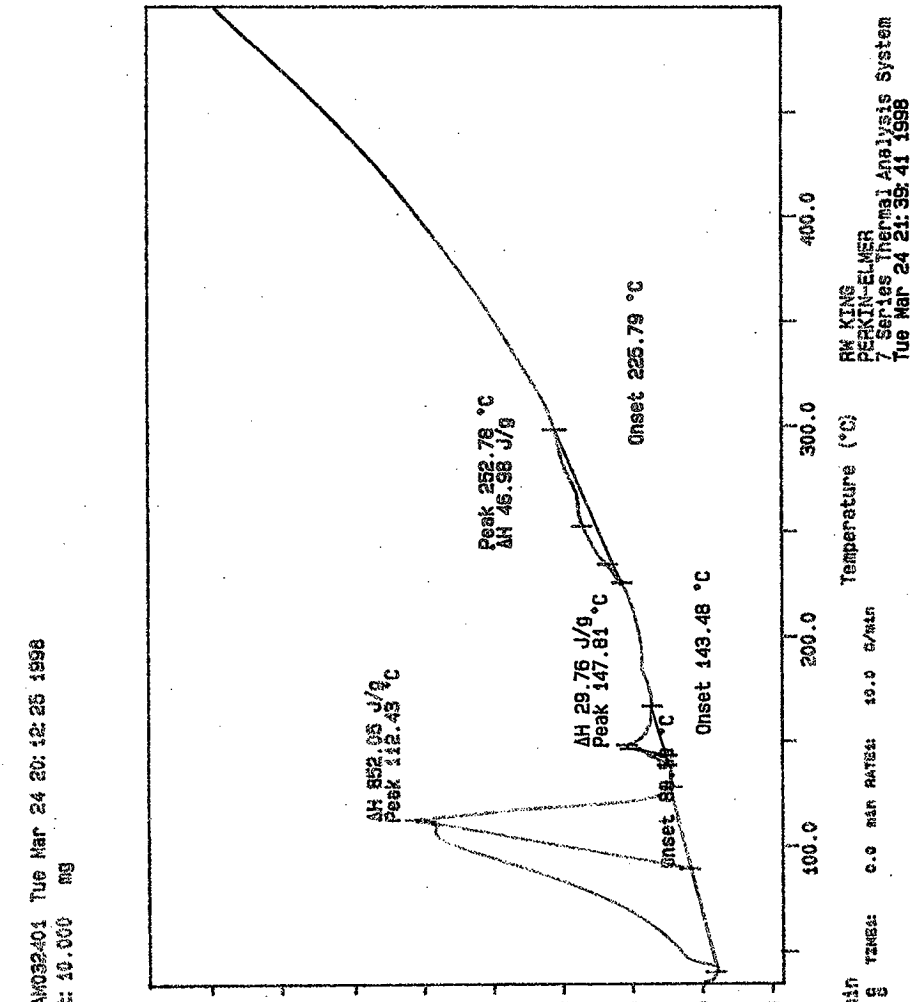
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 114 TO 118.

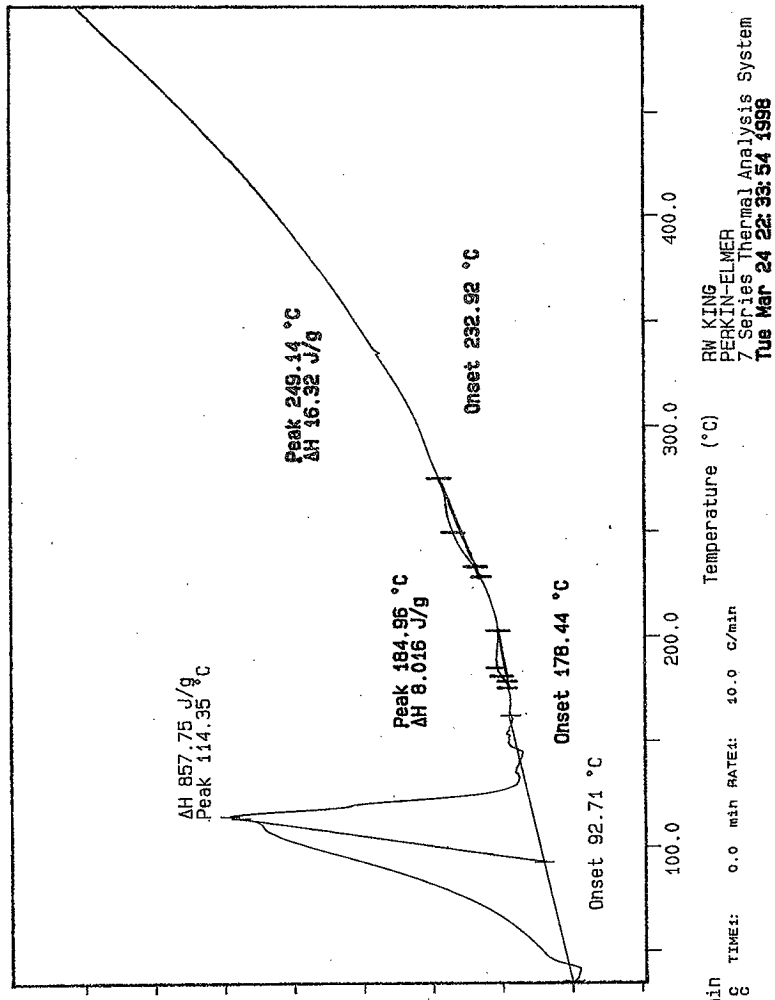


N2, EXOTHERM DOWN
TEMP1: 140.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 180.0 C

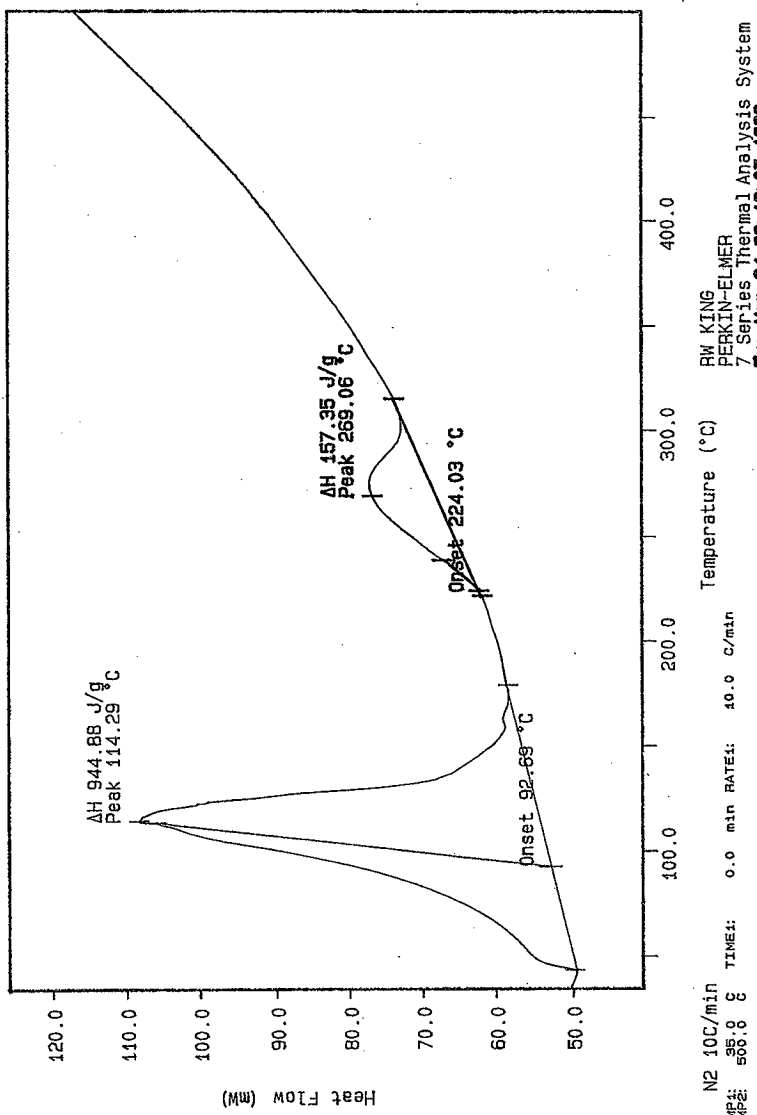
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Mar 24 19:19:28 1998

HNF-SD-WM-DP-305 REV. 0


Curve 1: DSC
File info: SAM032401 Tue Mar 24 20:12:25 1998
Sample Weight: 10.000 mg
S98T000744
ΔH 852.05 J/g
Peak 112.43 °C
ΔH 29.76 J/g
Peak 147.81 °C
Onset 143.48 °C
Peak 252.76 °C
ΔH 46.98 J/g
Onset 225.79 °C
Heat Flow (mW)
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
TEMP: 35.8 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 350.0 C
RM KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Mar 24 21:38:41 1998


Curve 1: DSC
File info: SAM032402 Tue Mar 24 22:14:43 1998
Sample Weight: 11.100 mg
S98T000744 DUP
ΔH 857.75 J/g
Peak 114.35 °C
Peak 184.96 °C
ΔH 8.016 J/g
Onset 178.44 °C
Onset 92.71 °C
Peak 249.14 °C
ΔH 16.32 J/g
Onset 232.92 °C
Heat Flow (mW)
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
TEMP1: 35.0 C
TEMP2: 500.0 C
TIME1: 0.0 min
RATE1: 10.0 C/min
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Mar 24 22:33:54 1998

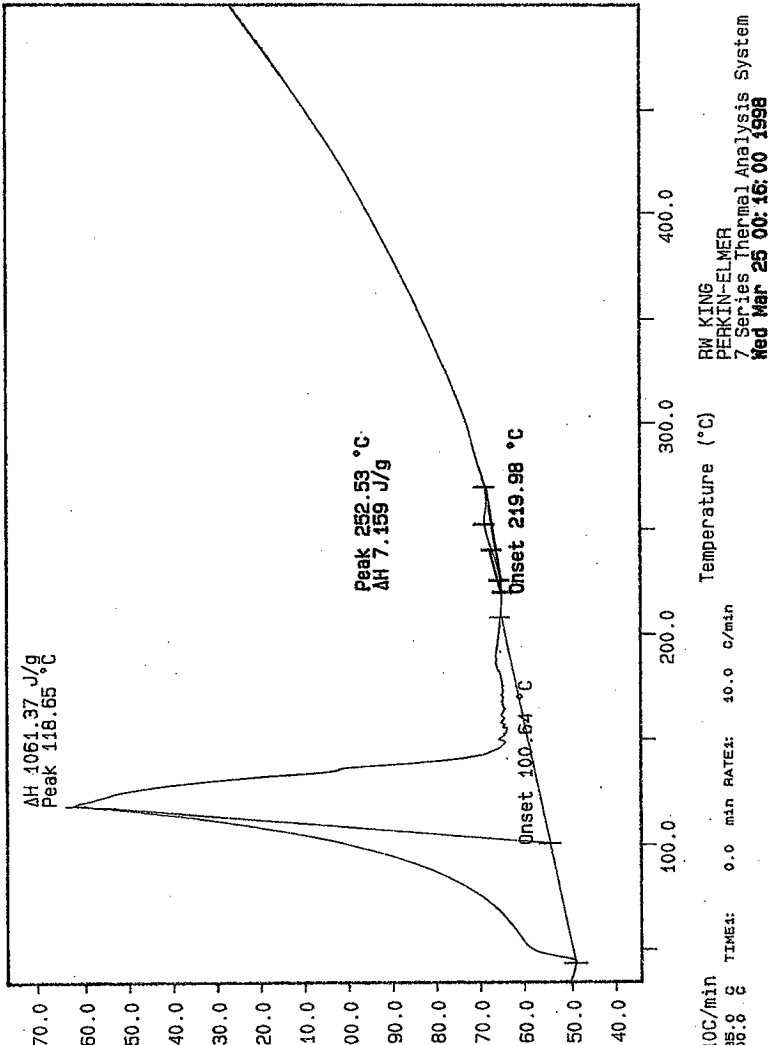
Curve 1: DSC
File info: SAM032403 Tue Mar 24 23:16:08 1998
Sample Weight: 14.900 mg
S98T000745



N2 10C/min
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 Mar 24 23:18:07 1998

Curve 1: DSC
File info: SAM032404 Wed Mar 25 00:14:35 1998
Sample Weight: 23.700 mg
S98T000745 DUP



HNF-SD-WM-DP-305, Rev 0

LABCORE Data Entry Template for Worklist# 23248

Analyst: ppb **Instrument:** DSC0 -2 **Book #** NA

Method: LA-514-113 Rev/Mod D-1

Worklist Comment: TX-104 DSC-02 LIQUID cjo

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
98000129	TX-104	1	SAMPLE	S98T000500	0		DSC-02	LIQUID	N/A	0.0		Joules/g Dry
98000129	TX-104	2	DUP	S98T000500	0		DSC-02	LIQUID	0.0	0.0	N/A	Joules/g Dry
98000129	TX-104	3	SAMPLE	S98T000665	0		DSC-02	LIQUID	N/A	0.0		Joules/g Dry
98000129	TX-104	4	DUP	S98T000665	0		DSC-02	LIQUID	0.0	0.0	N/A	Joules/g Dry
98000129	TX-104	5	SAMPLE	S98T000666	0		DSC-02	LIQUID	N/A	0.0		Joules/g Dry
98000129	TX-104	6	DUP	S98T000666	0		DSC-02	LIQUID	0.0	0.0	N/A	Joules/g Dry
98000130	TX-104	7	SAMPLE	S98T000761	0		DSC-02	LIQUID	N/A	0.0		Joules/g Dry
98000130	TX-104	8	DUP	S98T000761	0		DSC-02	LIQUID	0.0	0.0	N/A	Joules/g Dry
98000130	TX-104	9	SAMPLE	S98T000762	0		DSC-02	LIQUID	N/A	0.0		Joules/g Dry
98000130	TX-104	10	DUP	S98T000762	0		DSC-02	LIQUID	0.0	0.0	N/A	Joules/g Dry
98000130	TX-104	11	SAMPLE	S98T000763	0		DSC-02	LIQUID	N/A	0.0		Joules/g Dry
98000130	TX-104	12	DUP	S98T000763	0		DSC-02	LIQUID	0.0	0.0	N/A	Joules/g Dry

Final page for worklist # 23248

Bachelor 4/2/98
Analyst Signature **Date**

Sue E. Hagan 4-1-98
C. Oman 4/1/98
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.

HNF-SD-WM-DP-305, Rev 0

LABCORE Data Entry Template for Worklist# 23251

Analyst: ppb **Instrument:** DSC0 2 **Book #** NA

Method: LA-514-113 Rev/Mod D-1

Worklist Comment: TX-104 DSC-02 sol cjo

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
98000129	TX-104	1	SAMPLE	S98T000649	0		DSC-02	SOLID	N/A	0.0		Joules/g Dry
98000129	TX-104	2	DUP	S98T000649	0		DSC-02	SOLID	0.0	0.0	N/A	Joules/g Dry
98000129	TX-104	3	SAMPLE	S98T000654	0		DSC-02	SOLID	N/A	0.0		Joules/g Dry
98000129	TX-104	4	DUP	S98T000654	0		DSC-02	SOLID	0.0	0.0	N/A	Joules/g Dry
98000129	TX-104	5	SAMPLE	S98T000655	0		DSC-02	SOLID	N/A	0.0		Joules/g Dry
98000129	TX-104	6	DUP	S98T000655	0		DSC-02	SOLID	0.0	0.0	N/A	Joules/g Dry
98000130	TX-104	7	SAMPLE	S98T000743	0		DSC-02	SOLID	N/A	0.0		Joules/g Dry
98000130	TX-104	8	DUP	S98T000743	0		DSC-02	SOLID	0.0	0.0	N/A	Joules/g Dry
98000130	TX-104	9	SAMPLE	S98T000744	0		DSC-02	SOLID	N/A	0.0		Joules/g Dry
98000130	TX-104	10	DUP	S98T000744	0		DSC-02	SOLID	0.0	0.0	N/A	Joules/g Dry
98000130	TX-104	11	SAMPLE	S98T000745	0		DSC-02	SOLID	N/A	0.0		Joules/g Dry
98000130	TX-104	12	DUP	S98T000745	0		DSC-02	SOLID	0.0	0.0	N/A	Joules/g Dry

Final page for worklist # 23251

Analyst Signature: [signature] Date: 4/2/98

Analyst Signature: Joe E. Hogan [signature] Date: 4-1-98 4/1/98

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
03/04/98 08:45

LABCORE Data Entry Template for Worklist# 22749

Analyst: NM **Instrument:** TGA0 3 **Book #** 10378-4

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03 Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	LIQUID	59.4	59.11 (3/31/98)	N/A	%
98000129	TX-104	2	SAMPLE	S98T000500	0		TGA-03	LIQUID	N/A	99.87		%
98000129	TX-104	3	DUP	S98T000500	0		TGA-03	LIQUID	99.87	99.59	N/A	%
98000129	TX-104	4	SAMPLE	S98T000665	0		TGA-03	LIQUID	N/A	52.85		%
98000129	TX-104	5	DUP	S98T000665	0		TGA-03	LIQUID	52.85	53.05	N/A	%

Final page for worklist # 22749

Mot Nim 3/30/98
Analyst Signature Date

Ave E. Hogan 3-31-98
Analyst Signature Date

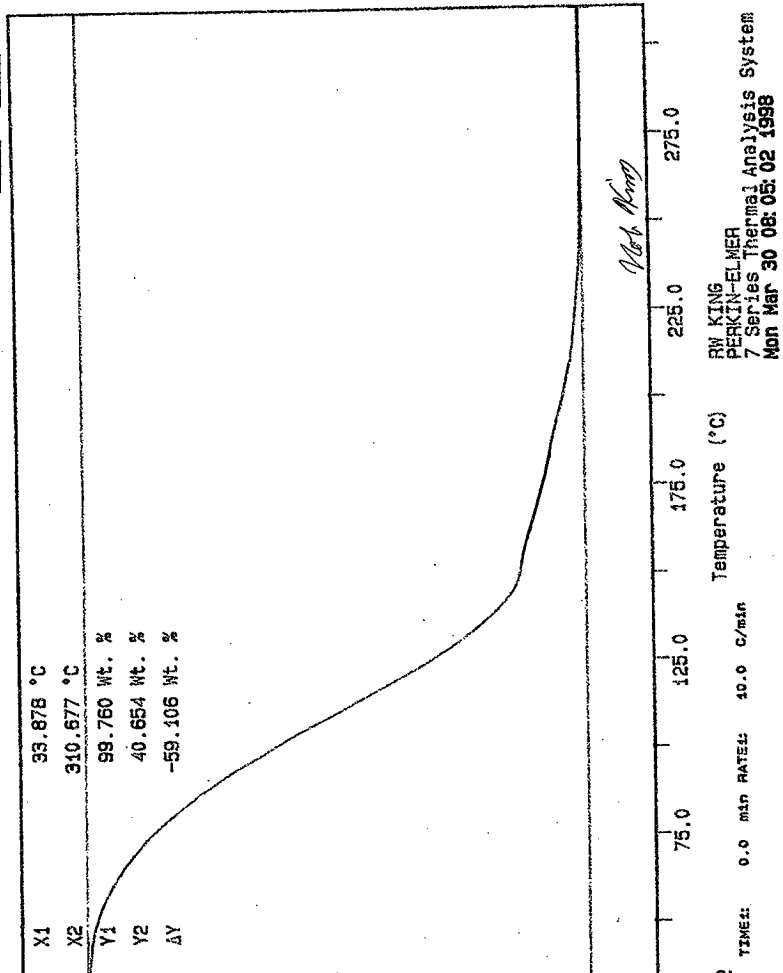
Validated 3/31/98 Bachelor

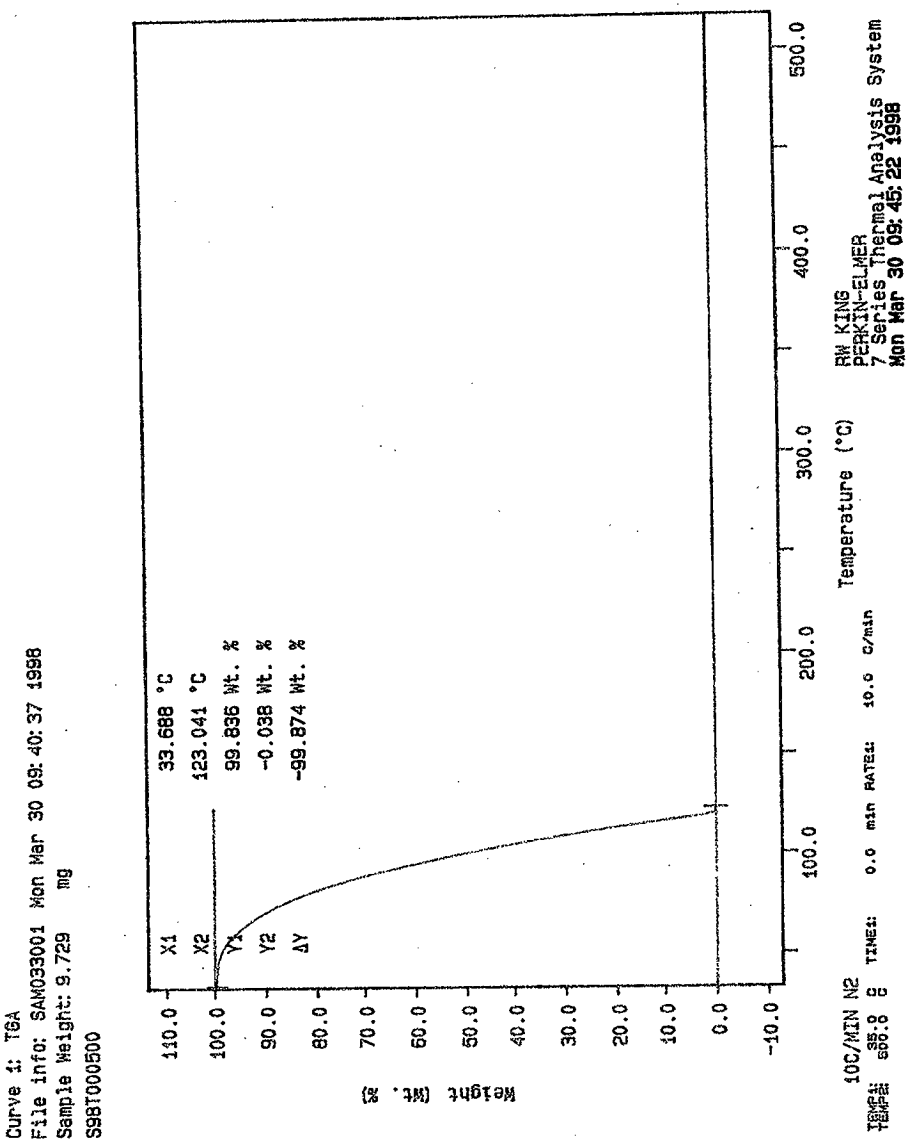
Data Entry Comments:

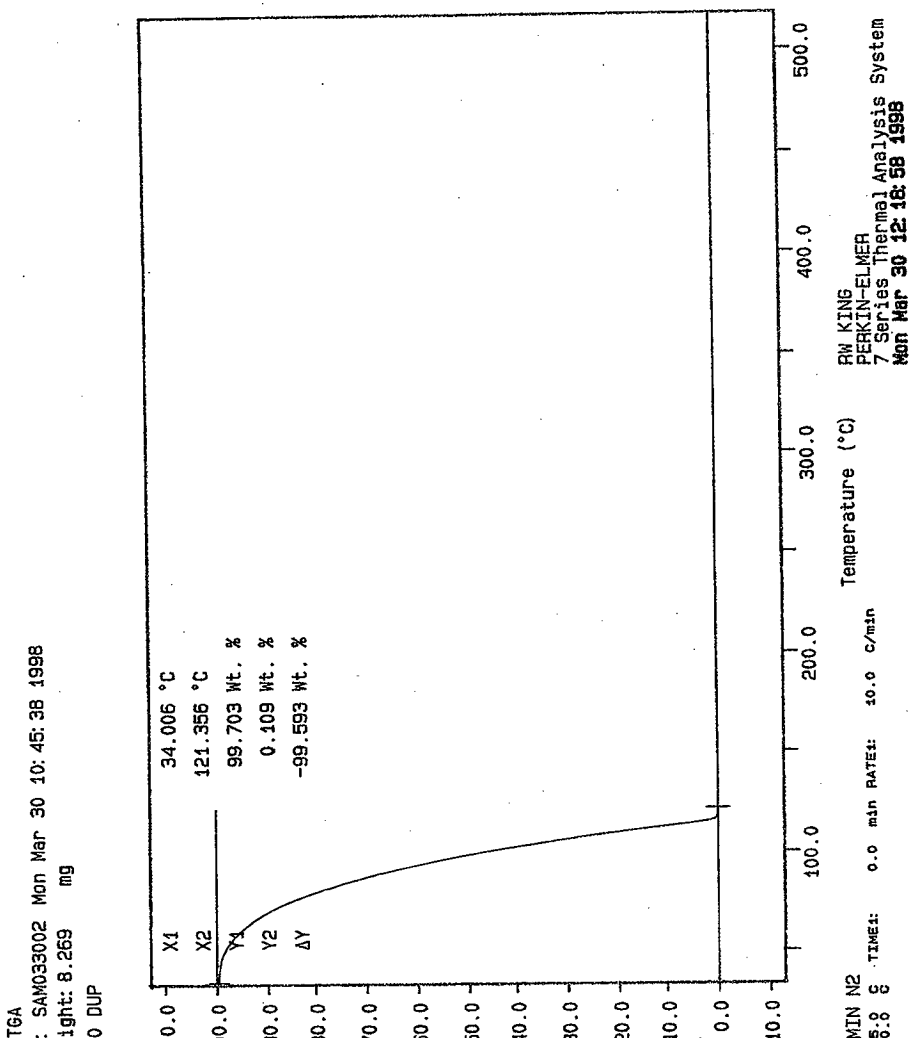
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

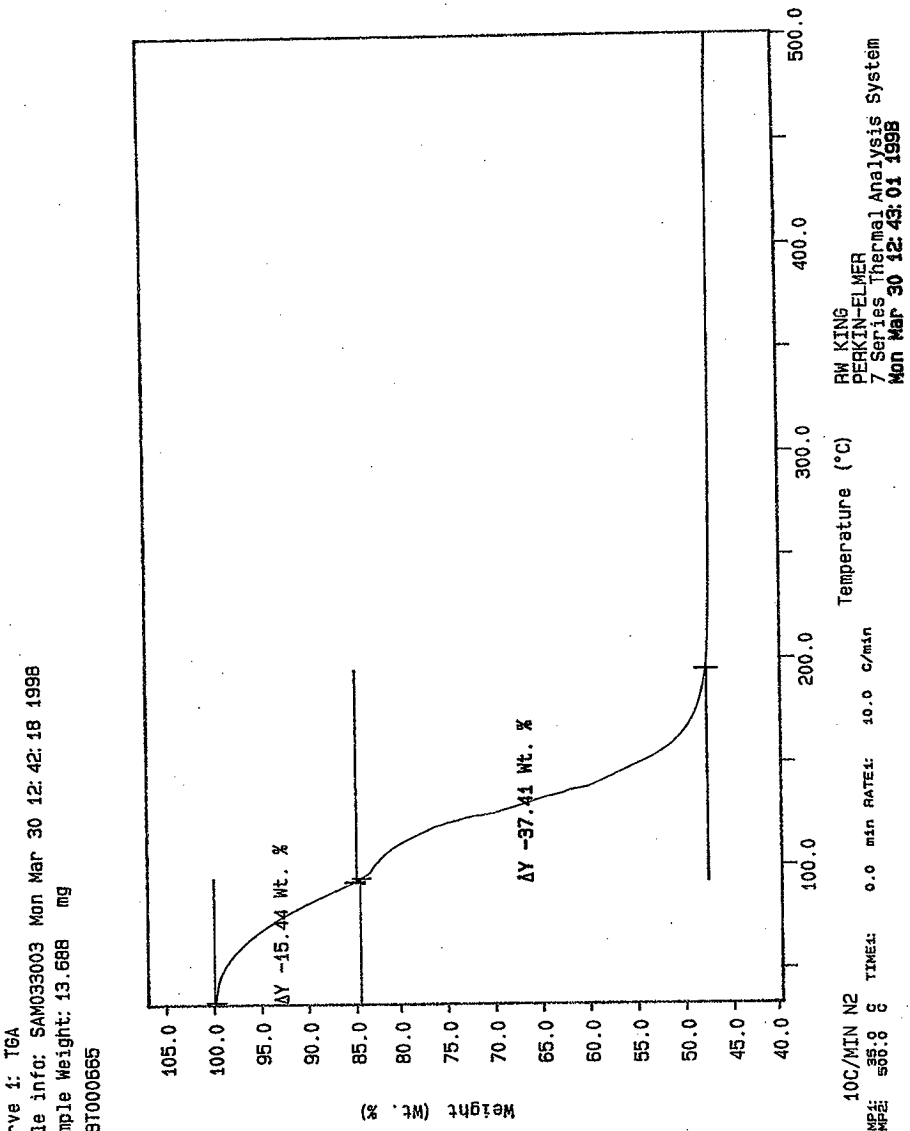
Curve 1: TGA
File info: TER033001 Mon Mar 30 07:48:03 1998
Sample Weight: 12.164 mg
103N8-A STD

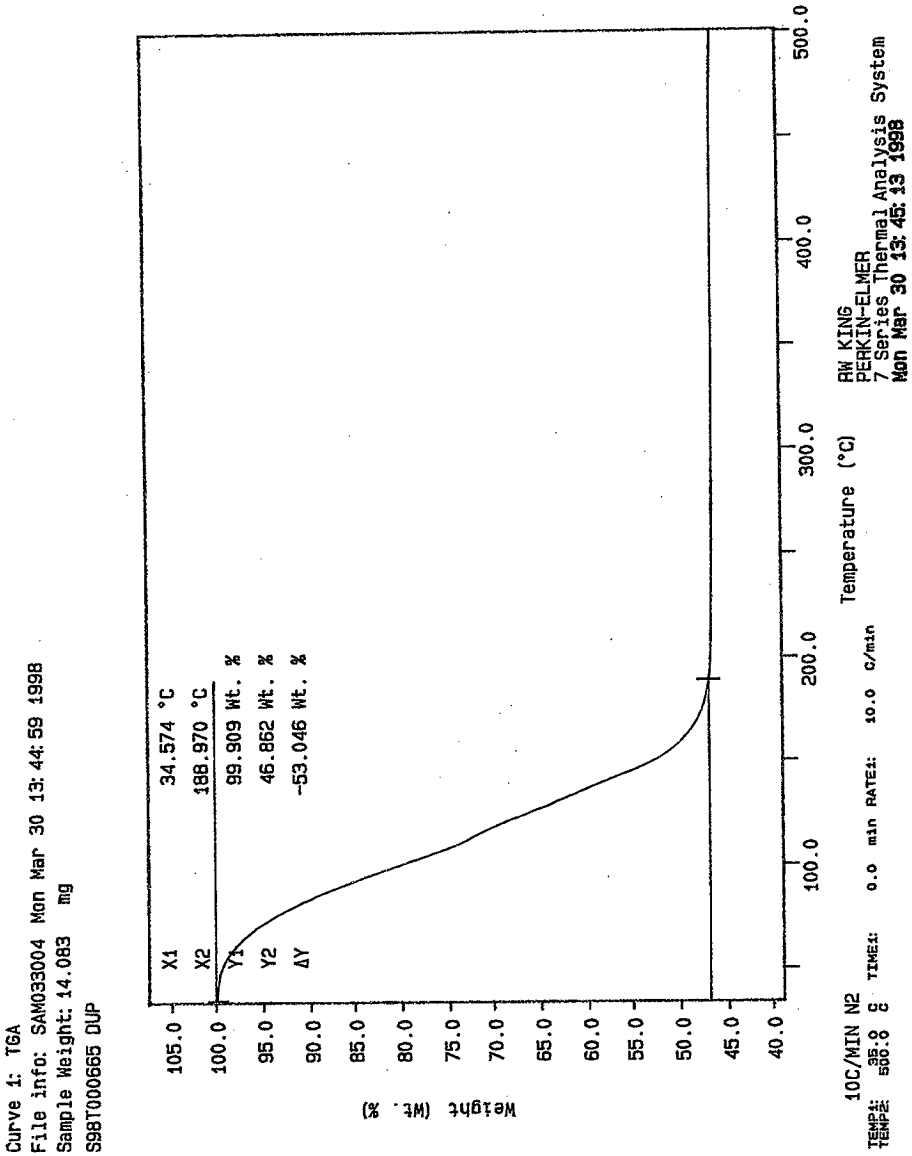
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 122 TO 126.




Curve 1: TGA
File info: SAM033001 Mon Mar 30 09:40:37 1998
Sample Weight: 9.729 mg
S98T000500
X1 33.688 °C
X2 123.041 °C
Y1 99.836 Wt. %
Y2 -0.038 Wt. %
ΔY -99.874 Wt. %
Weight (Wt. %)
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP: 35.0 C 600.0 C TIME: 0.0 min RATE: 10.0 C/min
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 09:45:22 1998


Curve 1: TGA
File info: SAM033002 Mon Mar 30 10:45:38 1998
Sample Weight: 8.269 mg
S98T000500 DUP
X1 34.006 °C
X2 121.356 °C
Y1 99.703 Wt. %
Y2 0.109 Wt. %
ΔY -99.593 Wt. %
Weight (Wt. %)
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
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
Mon Mar 30 12:18:58 1998


Curve 1: TGA
File info: SAM033003 Mon Mar 30 12:42:18 1998
Sample Weight: 13.688 mg
S98T000665
ΔY -15.44 Wt. %
ΔY -37.41 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
40.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP1: 85.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 12:43:01 1998


Curve 1: TGA
File info: SAM033004 Mon Mar 30 13:44:59 1998
Sample Weight: 14.083 mg
S98T000665 DUP
X1 34.574 °C
X2 188.970 °C
Y1 99.909 Wt. %
Y2 46.862 Wt. %
ΔY -53.046 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
40.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C
AW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 13:45:13 1998

LABCORE Data Entry Template for Worklist# 22760

Analyst: DK **Instrument:** TGA0 3 **Book #** 10378-A

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	59.11*	N/A	%
98000129	TX-104	2	SAMPLE	S98T000654	0		TGA-03	SOLID	N/A	41.83		%
98000129	TX-104	3	DUP	S98T000654	0		TGA-03	SOLID	41.83	42.06	N/A	%
98000129	TX-104	4	SAMPLE	S98T000655	0		TGA-03	SOLID	N/A	44.72		%
98000129	TX-104	5	DUP	S98T000655	0		TGA-03	SOLID	44.72	41.58	N/A	%

Final page for worklist # 22760

Analyst Signature 3/30/98 Date

Analyst Signature Jill E. Hogan 3-31-98 Date

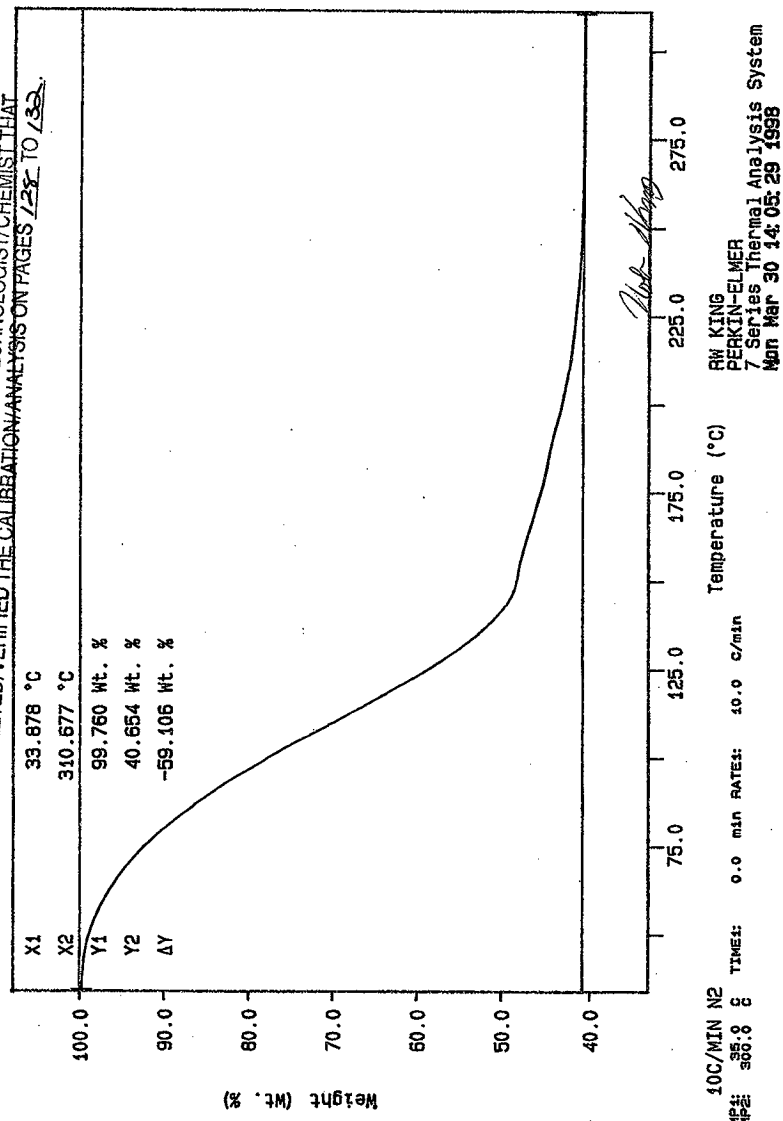
Validated 3/31/98 [illegible] Bachelor

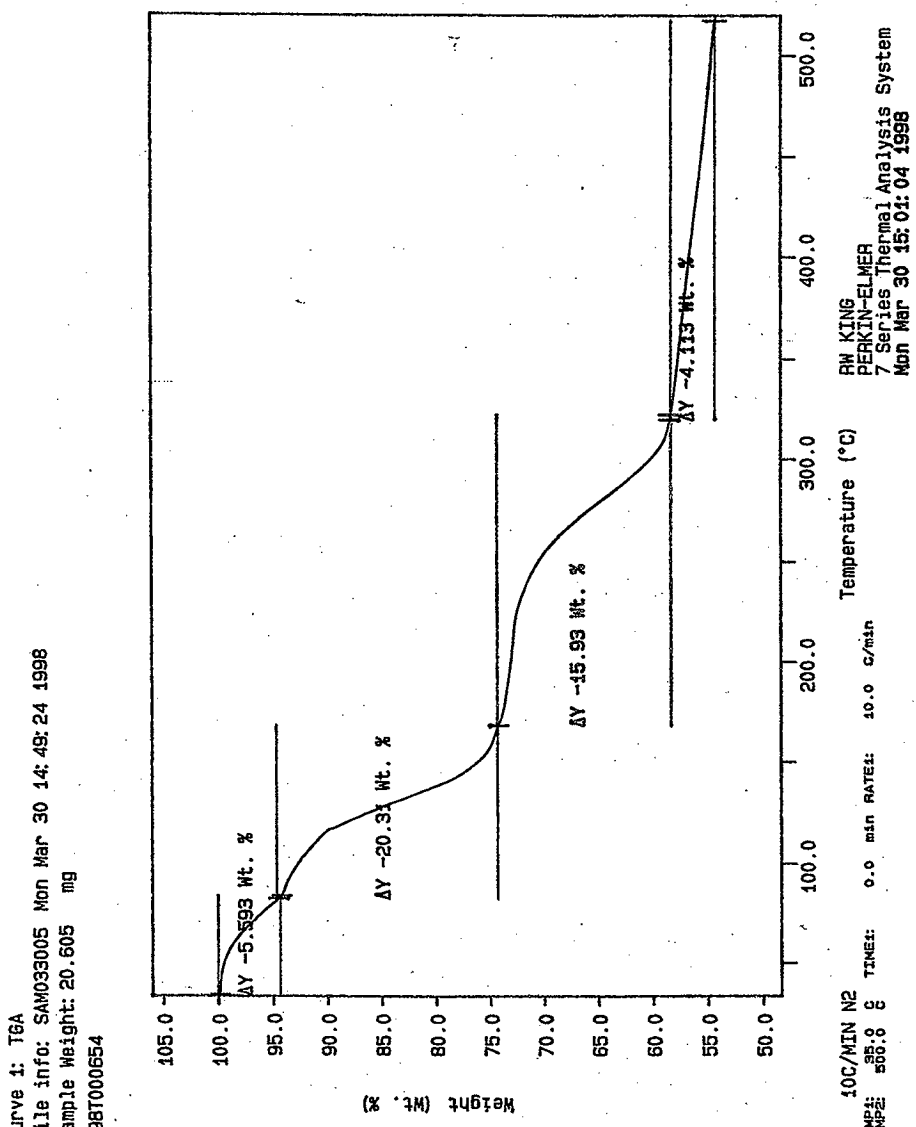
Data Entry Comments:
Weight loss observed above 200°C for both samples. [illegible] 3/31/98

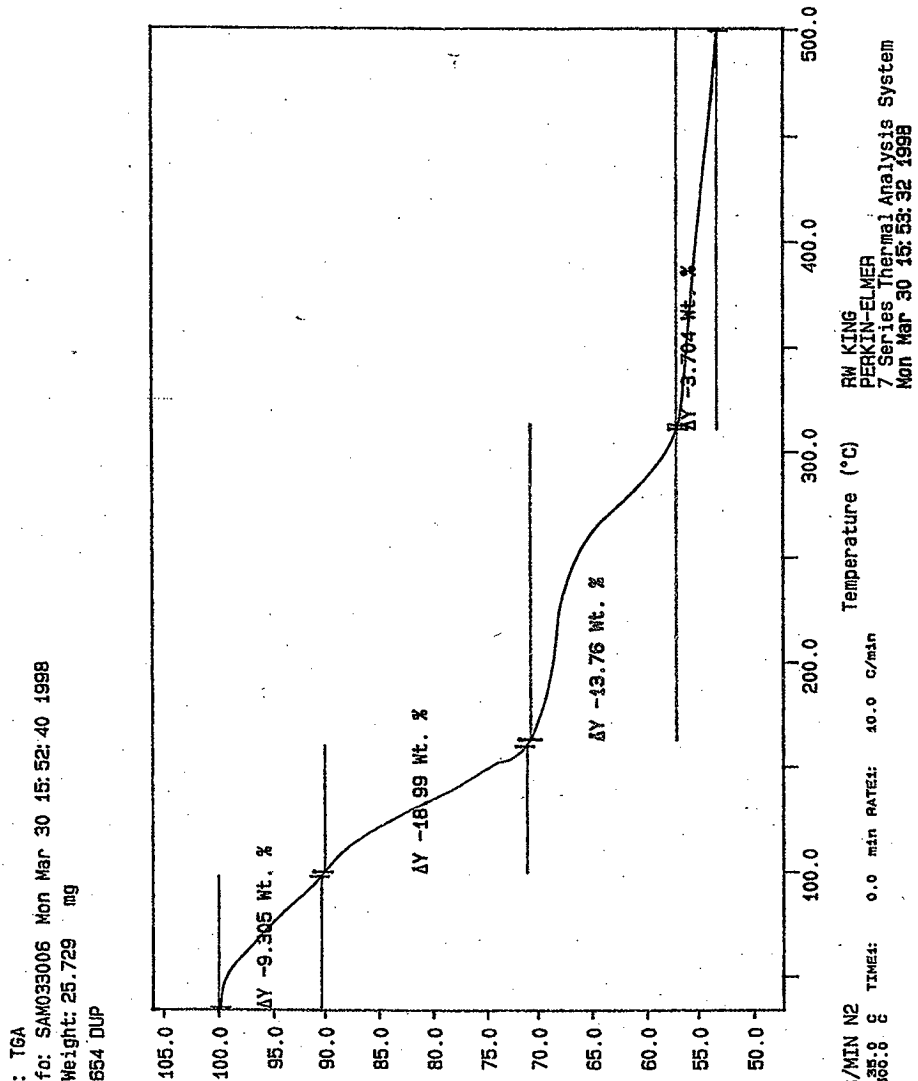
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

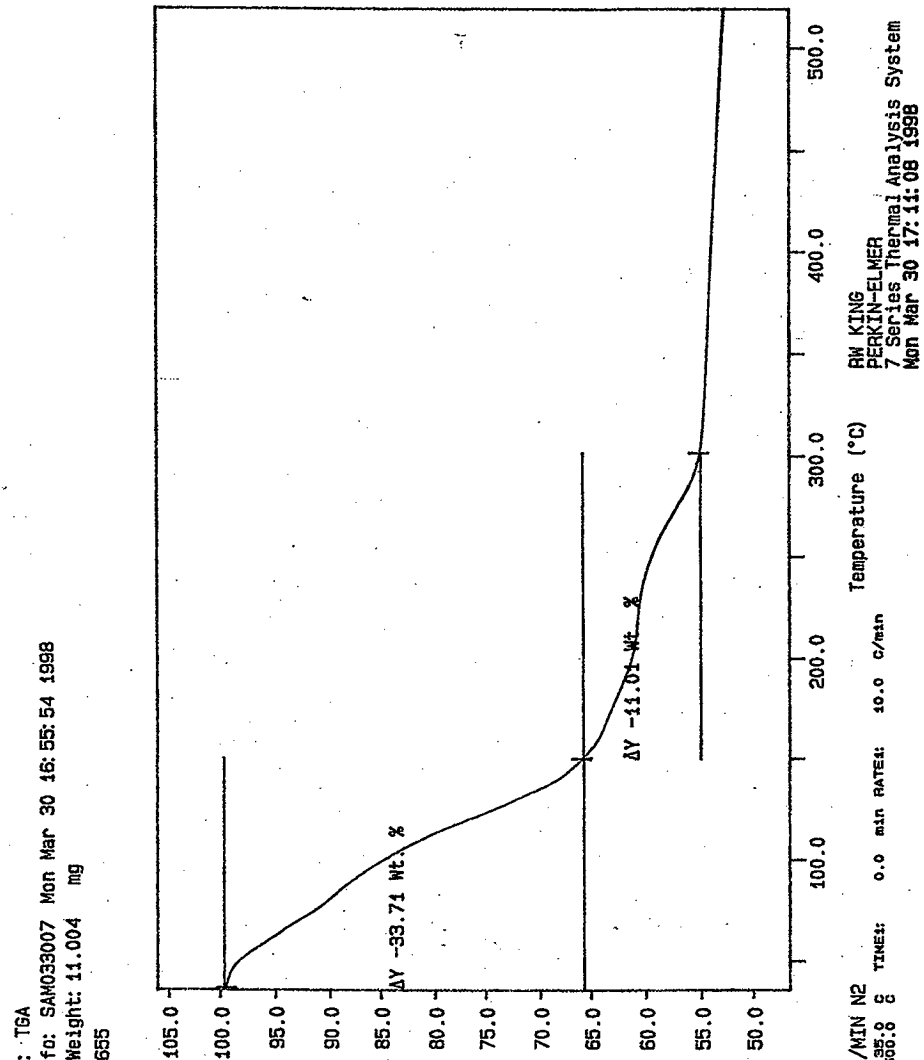
Curve 1: TGA
File info: TER033001 Mon Mar 30 07:48:03 1998
Sample Weight: 12.164 mg
103NB-A STD

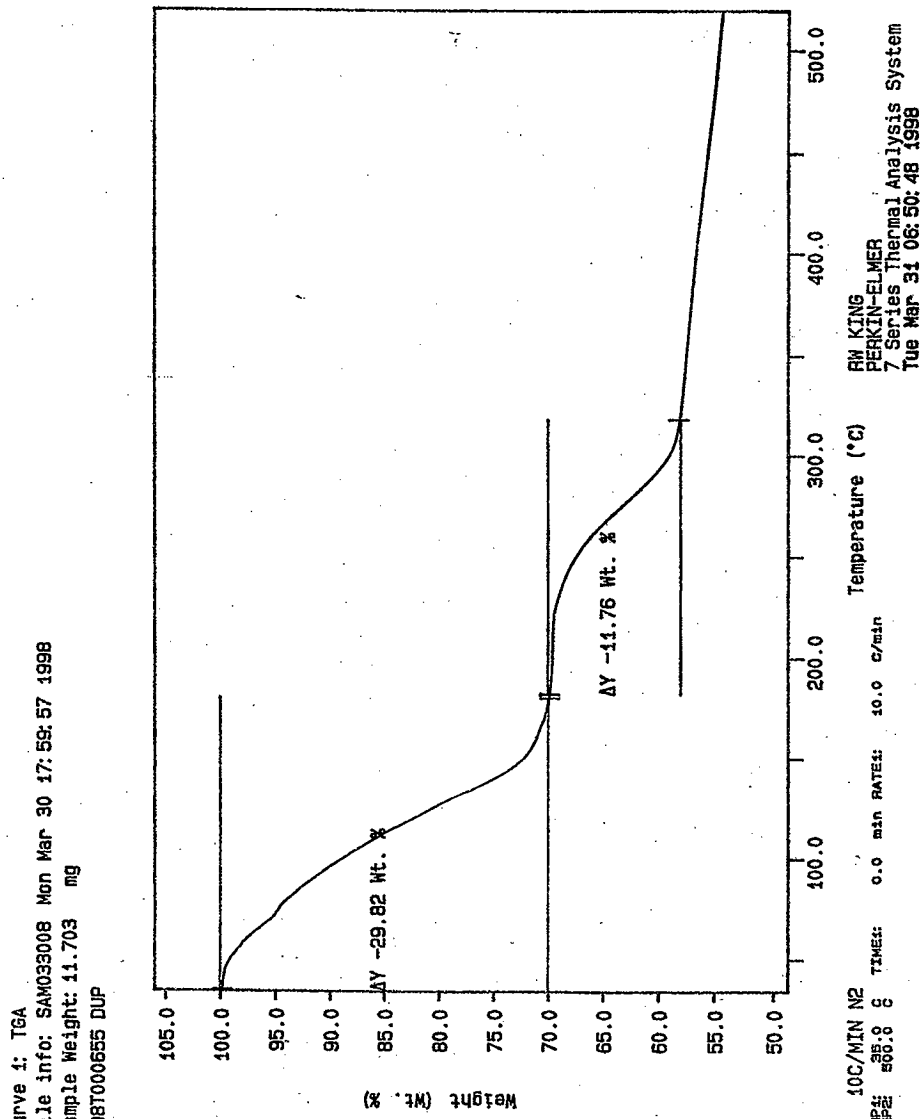
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 128 TO 132.




Curve 1: T6A
File info: SAM033005 Mon Mar 30 14:48:24 1998
Sample Weight: 20.605 mg
S98T000654
ΔY -5.593 Wt. %
ΔY -20.31 Wt. %
ΔY -15.93 Wt. %
ΔY -4.113 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
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 550.0 C
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 15:01:04 1998


Curve 1: TGA
File info: SAM033006 Mon Mar 30 15:52:40 1998
Sample Weight: 25.729 mg
S98T000654 DUP
ΔY -9.305 Wt. %
ΔY -18.99 Wt. %
ΔY -13.76 Wt. %
ΔY -3.704 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
TEMP1: 35.0 C
TEMP2: 500.0 C
TIME1: 0.0 min
RATE1: 10.0 C/min
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 30 15:53:32 1998


Curve 1: TGA
File info: SAM033007 Mon Mar 30 16:55:54 1998
Sample Weight: 11.004 mg
S98T000655
ΔY -33.71 Wt. %
ΔY -11.01 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
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
Mon Mar 30 17:11:08 1998


Curve 1: TGA
File info: SAM033008 Mon Mar 30 17:59:57 1998
Sample Weight: 11.703 mg
S98T000655 DUP
ΔY -29.82 Wt. %
ΔY -11.76 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
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C
RM KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Mar 31 06:50:48 1998

worklistrpt Version 2.1 05/15/95
03/09/98 10:54

LABCORE Data Entry Template for Worklist# 22821

Analyst: NM **Instrument:** TGA0 3 **Book #** 10318-A

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	LIQUID	59.04	58.98 (3/31/98)	N/A	%
98000129	TX-104	2	SAMPLE	S98T000666	0		TGA-03	LIQUID	N/A	51.88		%
98000129	TX-104	3	DUP	S98T000666	0		TGA-03	LIQUID	51.88	51.85	N/A	%
98000130	TX-104	4	SAMPLE	S98T000761	0		TGA-03	LIQUID	N/A	47.84		%
98000130	TX-104	5	DUP	S98T000761	0		TGA-03	LIQUID	47.84	49.43	N/A	%

Final page for worklist # 22821

NM 3/25/98
Analyst Signature **Date**

Sue E. Hogan 3-25-98
Analyst Signature **Date**

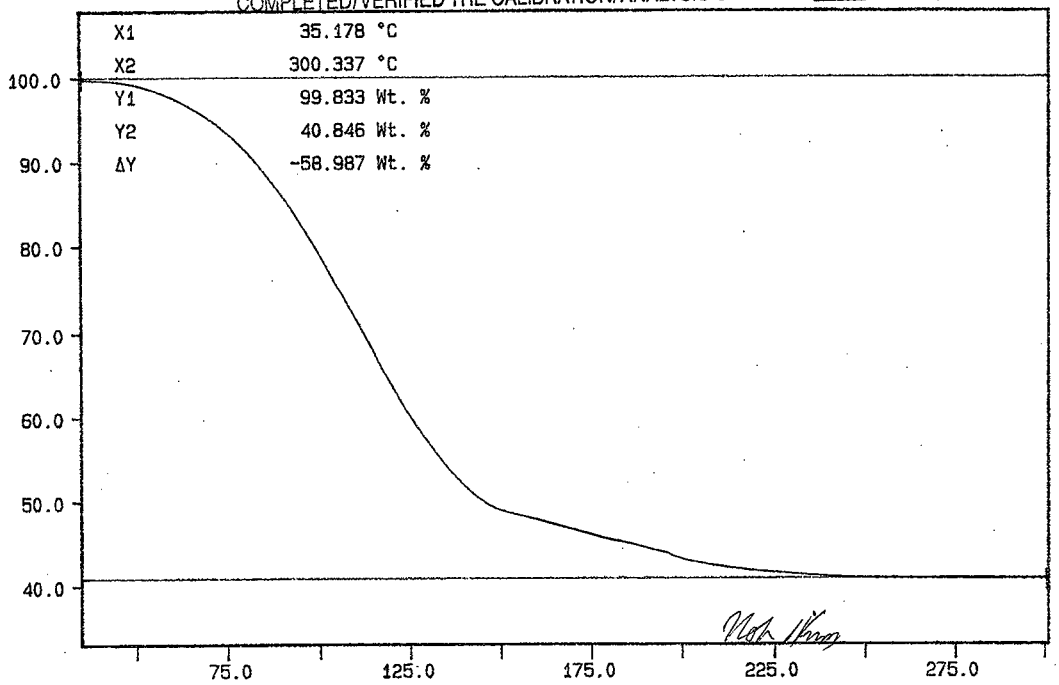
Validated 3/31/98

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: TER032401 Tue Mar 24 19:07:34 1998
Sample Weight: 12.525 mg
103N8-A STD

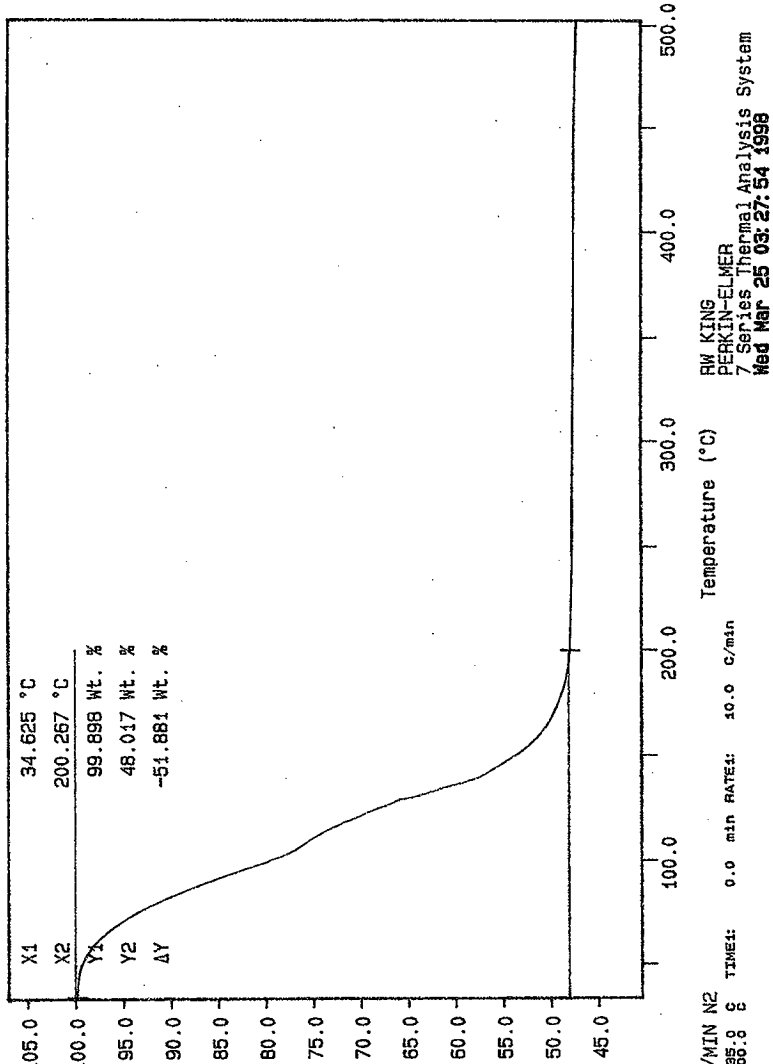
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 134 TO 138.



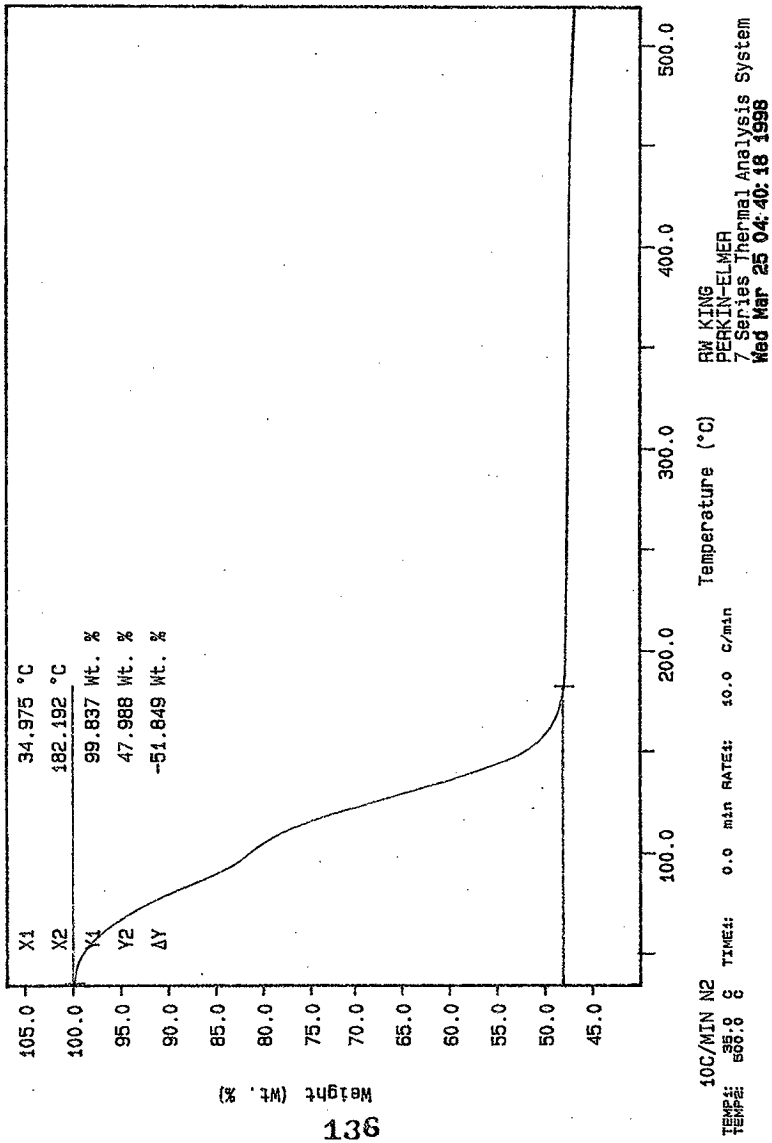
10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

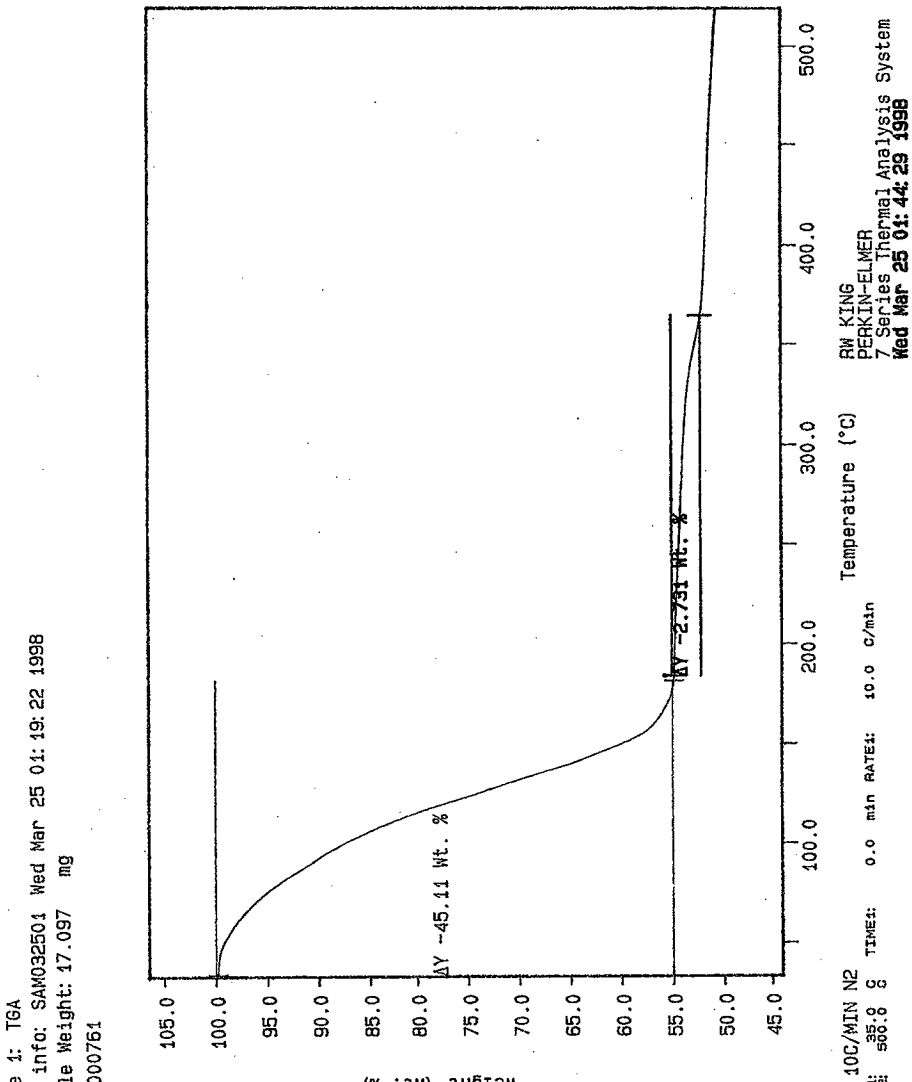
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 25 02:03:55 1998

Curve 1: TGA
File info: SAM032503 Wed Mar 25 03:27:32 1998
Sample Weight: 12.023 mg
S98T000666

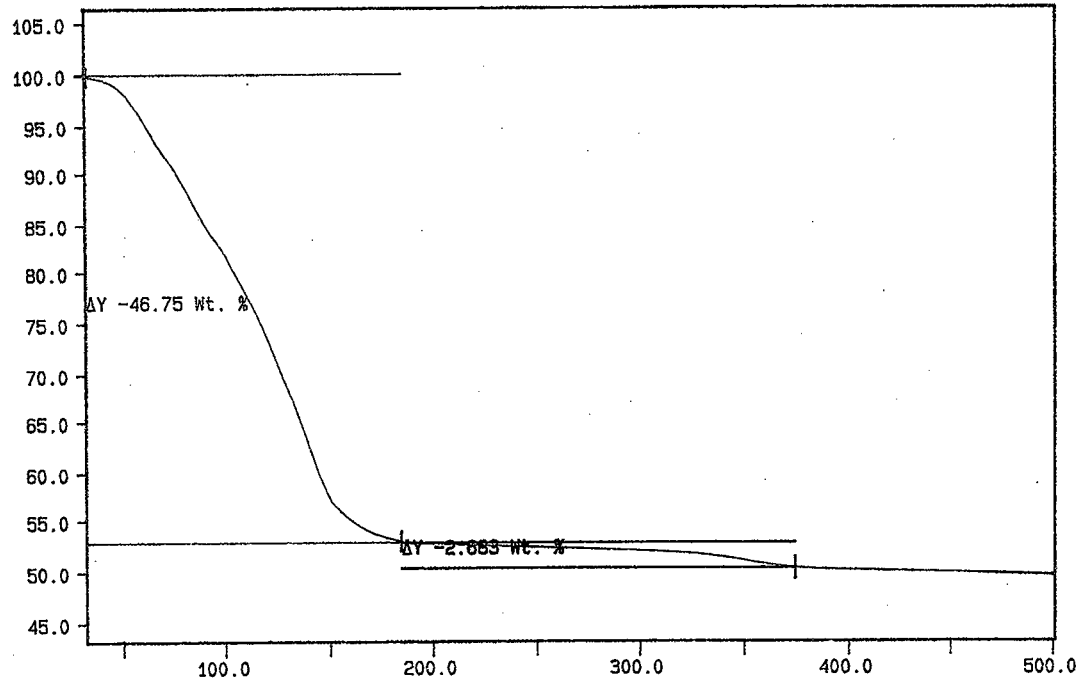


Curve 1: TGA
File info: SAM032504 Wed Mar 25 04:32:03 1998
Sample Weight: 11.947 mg
S98T000666 DUP




Curve 1: TGA
File info: SAM032501 Wed Mar 25 01:19:22 1998
Sample Weight: 17.097 mg
S98T000761
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
Weight (Wt. %)
ΔY -45.11 Wt. %
ΔY -2.731 Wt. %
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP1: 35.0 C
TEMP2: 500.0 C
TIME1: 0.0 min
RATE1: 10.0 C/min
RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 25 01:44:29 1998

Curve 1: TGA
File info: SAM032502 Wed Mar 25 02:24:36 1998
Sample Weight: 16.316 mg
S98T000761 DUP



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
Wed Mar 25 02:25:13 1998

LABCORE Data Entry Template for Worklist# 22822

Analyst: [illegible] **Instrument:** TGA0 3 **Book #** 103N9A

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	LIQUID	59.4	58.85	N/A	%
98000130	TX-104	2	SAMPLE	S98T000762	0		TGA-03	LIQUID	N/A	52.80		%
98000130	TX-104	3	DUP	S98T000762	0		TGA-03	LIQUID	52.80	53.09	N/A	%
98000130	TX-104	4	SAMPLE	S98T000763	0		TGA-03	LIQUID	N/A	53.83		%
98000130	TX-104	5	DUP	S98T000763	0		TGA-03	LIQUID	53.83	52.33	N/A	%

Final page for worklist # 22822

[illegible] 3/25/98
Analyst Signature **Date**

Validated 3/31/98 [illegible] Bachelor

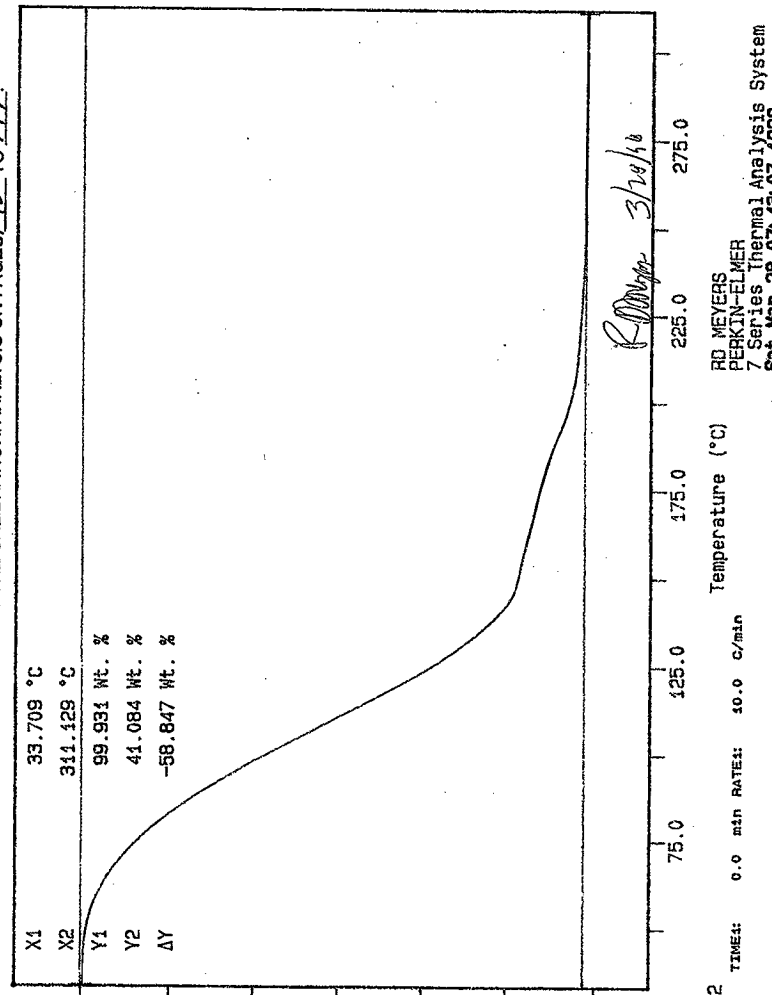
[illegible] E. Hogan 3-31-98
Analyst Signature **Date**

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.

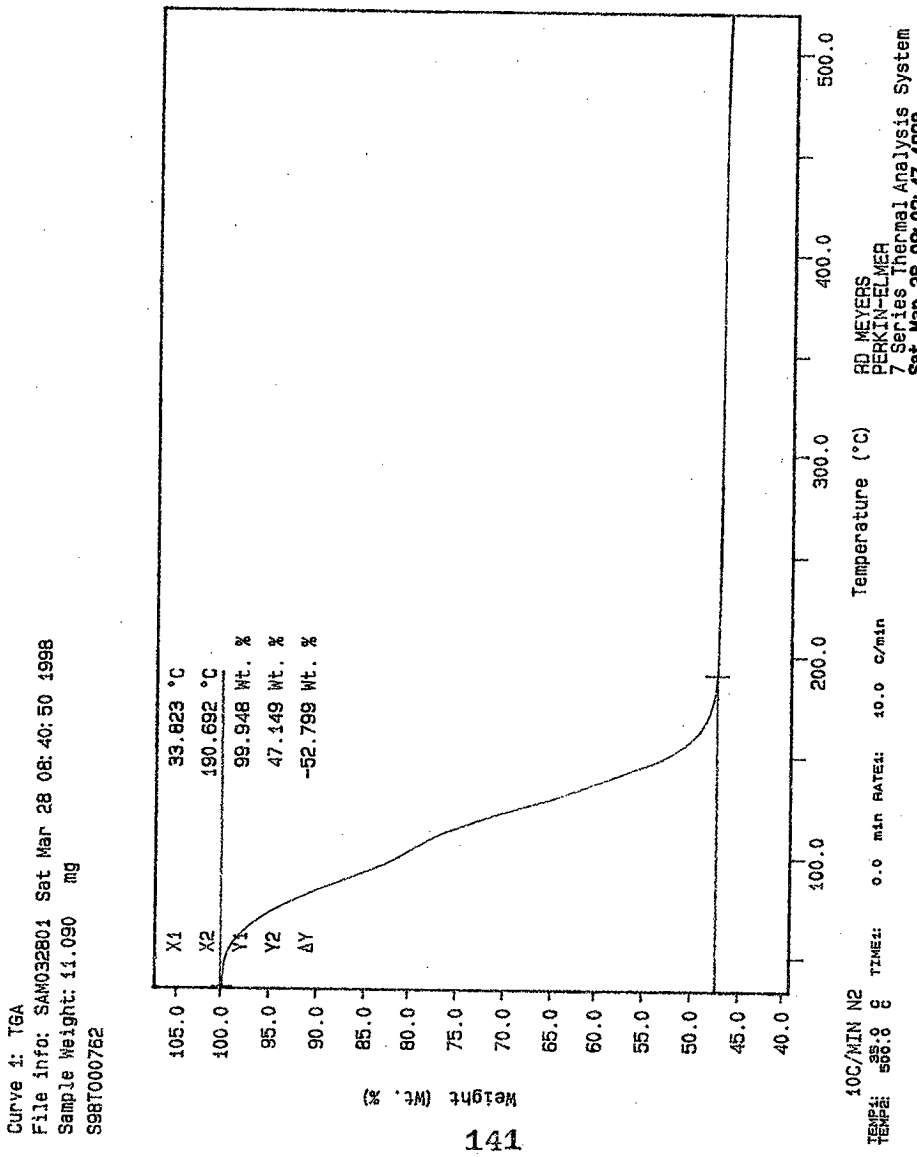
Curve 1: TGA
File info: TER032801 Sat Mar 28 07:39:13 1998
Sample Weight: 11.807 mg
103NB-A STD

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 140 TO 144.

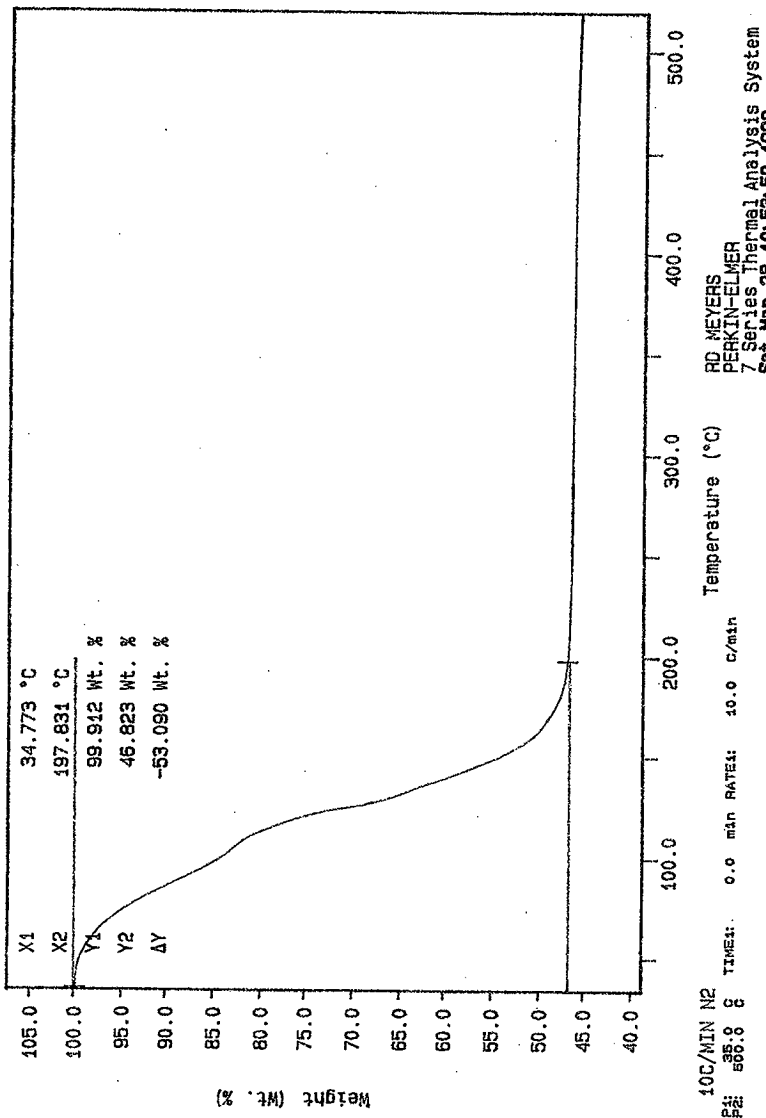


10C/MIN N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

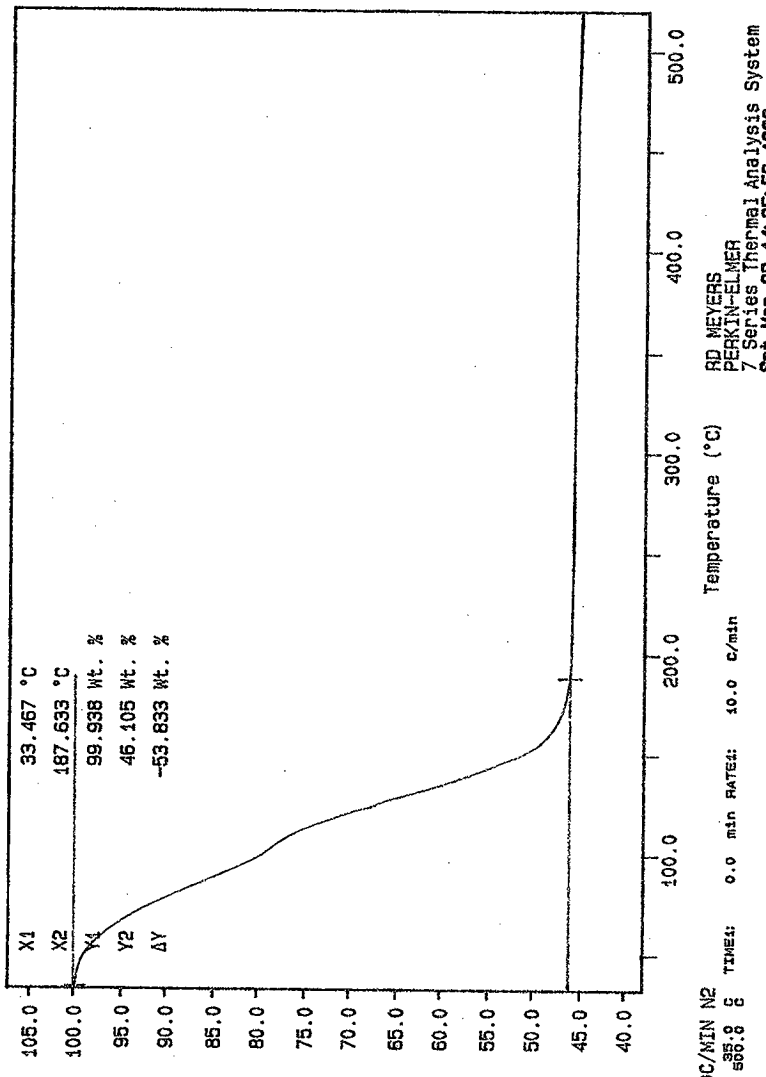
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Mar 28 07:43:07 1998

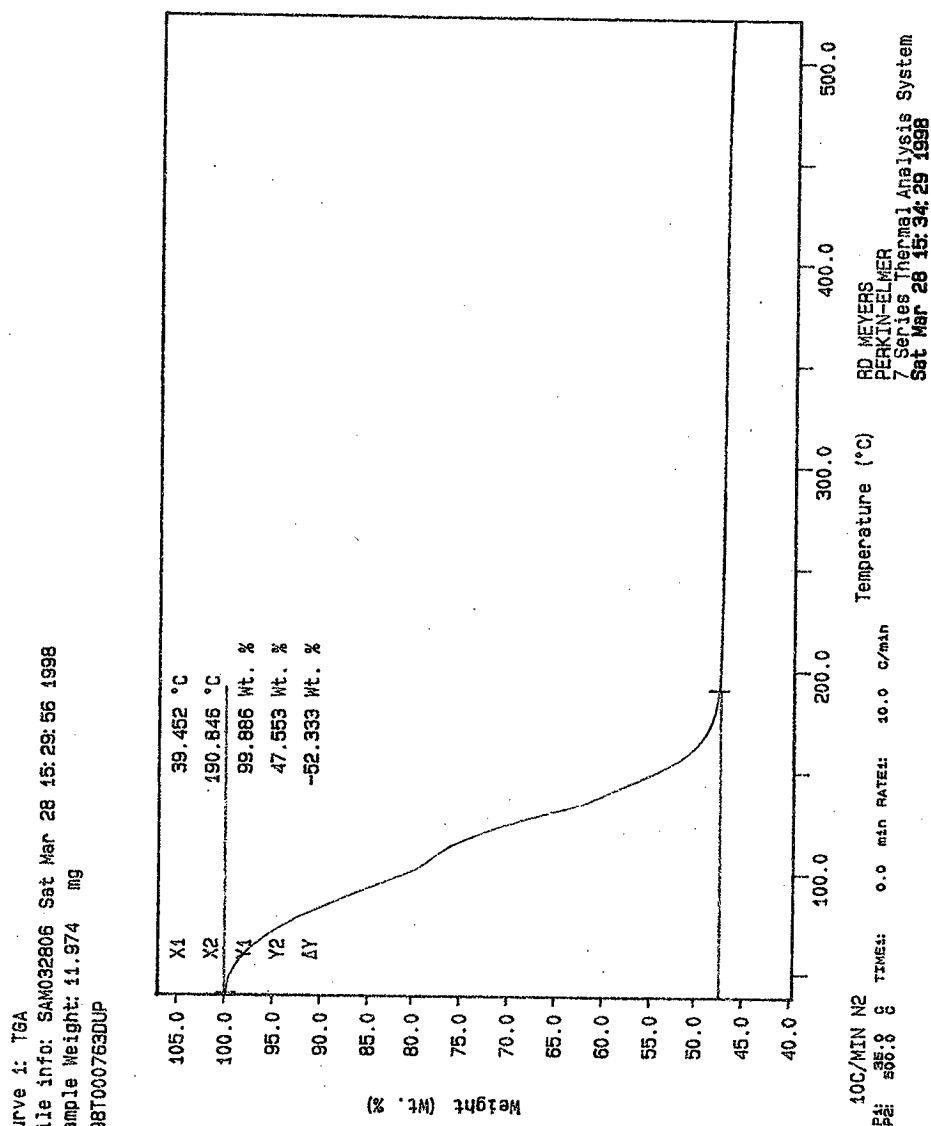

Curve 1: TGA
File info: SAM032801 Sat Mar 28 08:40:50 1998
Sample Weight: 11.090 mg
S98T000762
X1 33.823 °C
X2 190.692 °C
Y1 99.948 Wt. %
Y2 47.149 Wt. %
ΔY -52.799 Wt. %
Weight (Wt. %)
105.0
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
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 Mar 28 09:02:47 1998

Curve 1: TGA
File info: SAM032802 Sat Mar 28 10:03:30 1998
Sample Weight: 13.459 mg
S98T000762DUP



Curve 1: TGA
File info: SAM032805 Sat Mar 28 14:27:14 1998
Sample Weight: 12.249 mg
SS8T000763




Curve 1: TGA
File info: SAM032806 Sat Mar 28 15:29:56 1998
Sample Weight: 11.974 mg
S98T000763DUP
X1 39.452 °C
X2 190.846 °C
Y1 99.886 Wt. %
Y2 47.553 Wt. %
ΔY -52.333 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
40.0
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
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 Mar 28 15:34:29 1998

LABCORE Data Entry Template for Worklist# 22823

Analyst: RDM **Instrument:** TGA0 3 **Book #** 103N8A

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03, Run under nitrogen. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.04	58.88* (3/31/98)	N/A	%
98000129	TX-104	2	SAMPLE	S98T000649	0		TGA-03	SOLID	N/A	35.96		%
98000129	TX-104	3	DUP	S98T000649	0		TGA-03	SOLID	35.96	41.97	N/A	%
98000130	TX-104	4	SAMPLE	S98T000743	0		TGA-03	SOLID	N/A	51.54		%
98000130	TX-104	5	DUP	S98T000743	0		TGA-03	SOLID	51.54	51.28	N/A	%

Final page for worklist # 22823

RDMoore 3/23/98
Analyst Signature **Date**

C.J. Quinn 3/25/98
Analyst Signature **Date**

Validated 3/31/98 RJ Machelor

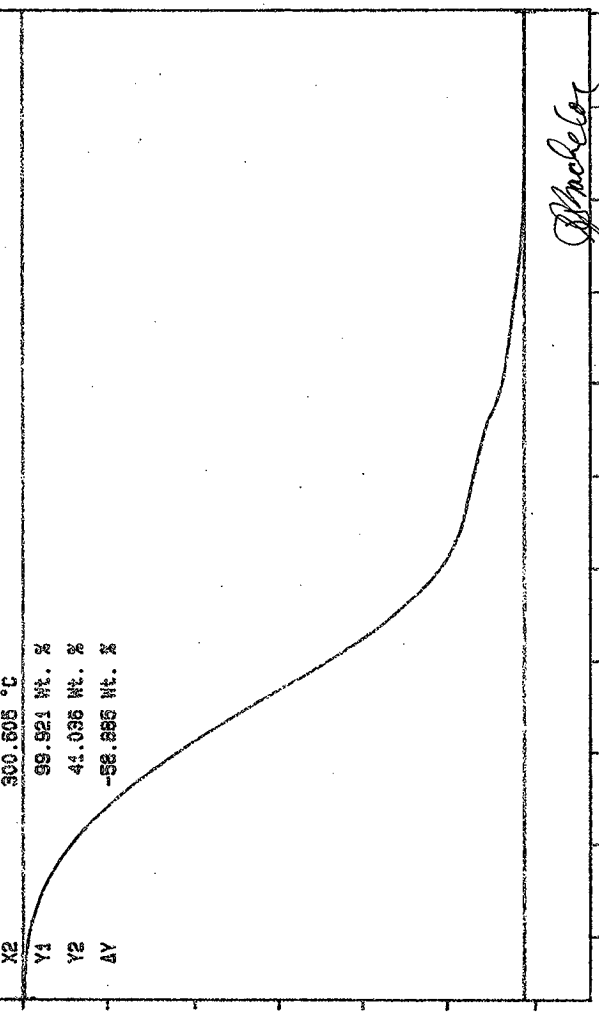
Data Entry Comments:
Weight loss observed above 200°C for S98T000649. 3/24/98

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 146 TO 150.

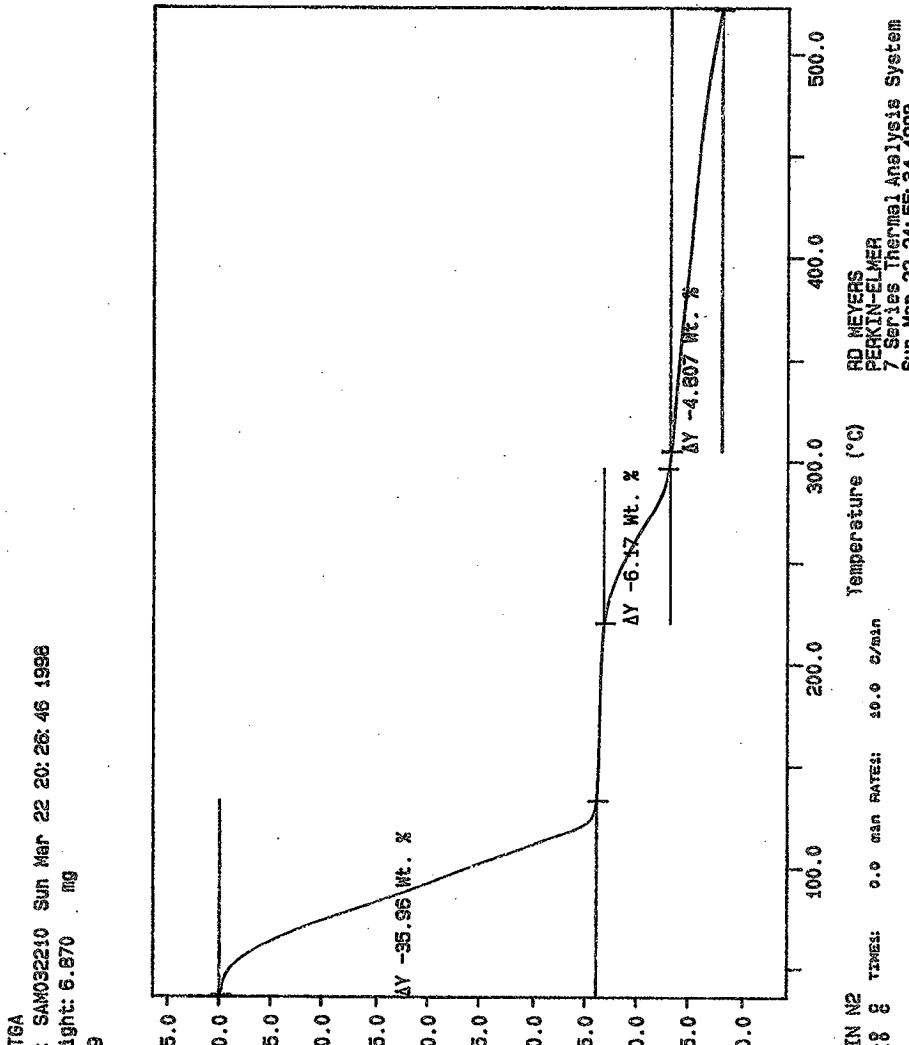
Curve 1: TGA
File Info: TER032201 Sun Mar 22 06:27:40 1998
Sample Weight: 16.966 mg
103NB-A STD

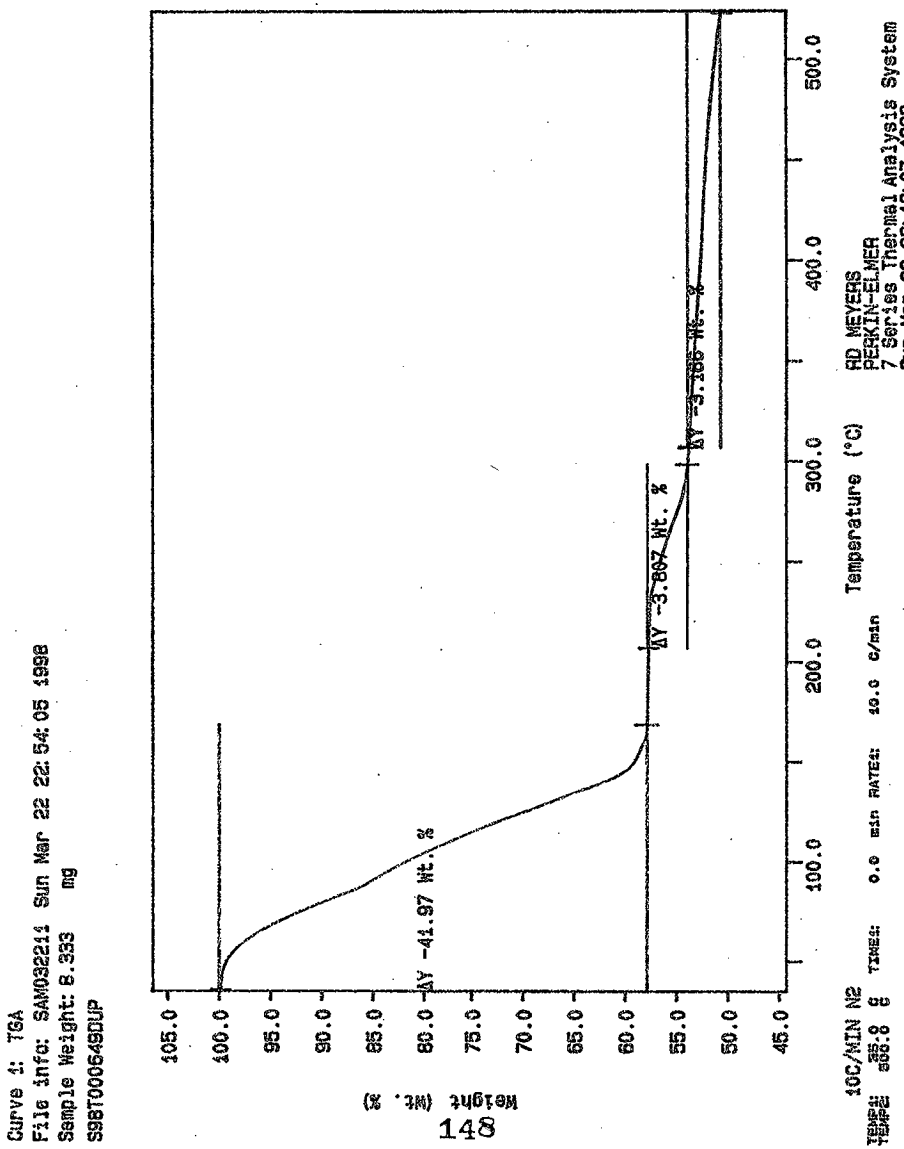
X1	33.368 °C	
X2	300.605 °C	
Y1	99.921 Wt. %	
Y2	41.036 Wt. %	
ΔY	-58.885 Wt. %	

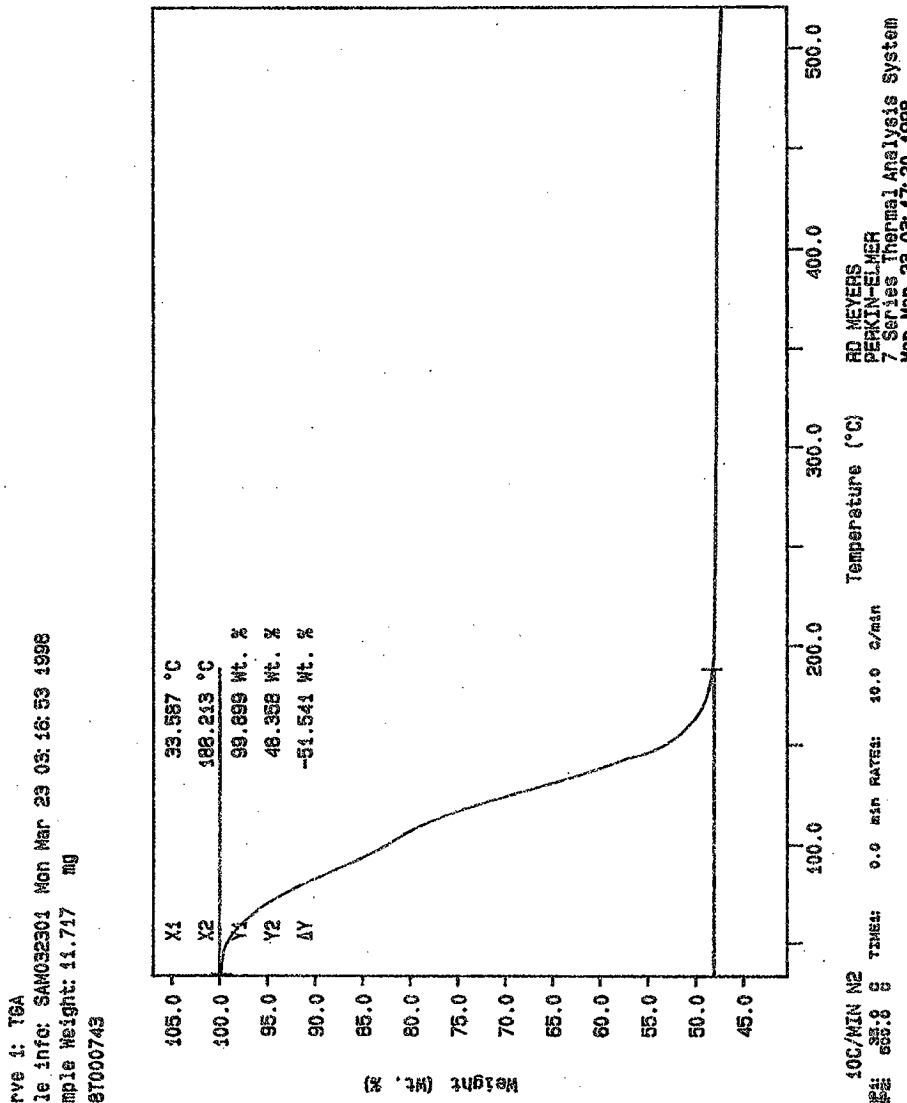


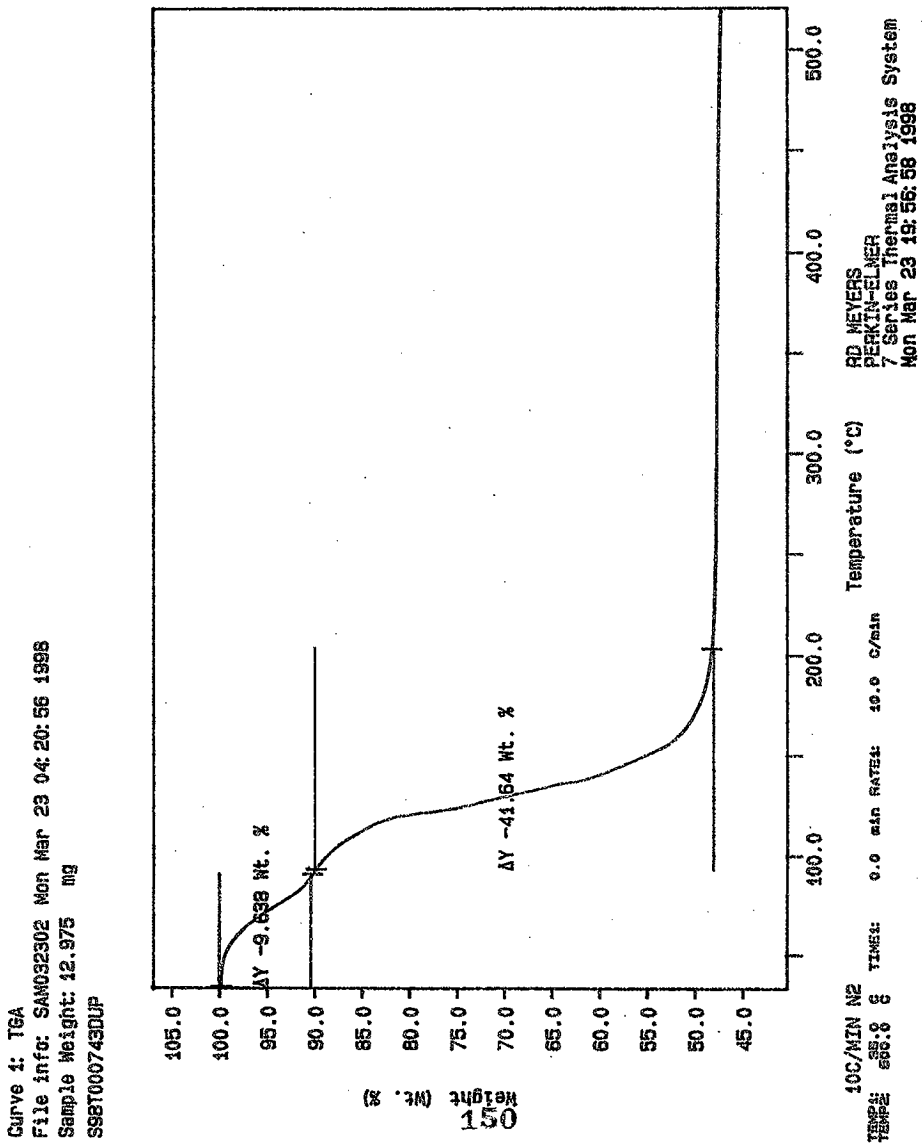
10C/MIN N2
TEMP: 35.0 C
TEMP: 595.0 C
TIME: 0.0 min RATE: 10.0 C/min

RM KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Mar 24 09:23:45 1998


Curve 1: TGA
File info: SAM032210 Sun Mar 22 20:26:46 1998
Sample Weight: 6.870 mg
S98T000649
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
ΔY -35.96 Wt. %
ΔY -6.17 Wt. %
ΔY -4.807 Wt. %
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP: 35.8 C
TEMP2: 850.8 C
TIME2: 0.0 min RATE2: 10.0 C/min
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Mar 22 21:55:34 1998


Curve 1: TGA
File info: SAM032214 Sun Mar 22 22:54:05 1998
Sample Weight: 8.333 mg
S98T000649DUP
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
Weight (Wt. %)
ΔY -41.97 Wt. %
ΔY -3.867 Wt. %
ΔY -9.166 Wt. %
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP1: 25.0 C
TEMP2: 600.0 C
TIME1: 0.0 min
RATE1: 10.0 C/min
AD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Mar 22 23:18:07 1998


Curve 1: TGA
File info: SAM032301 Mon Mar 23 03:16:53 1998
Sample Weight: 11.717 mg
S98T000743
X1 33.587 °C
X2 188.213 °C
Y1 99.899 Wt. %
Y2 48.358 Wt. %
ΔY -51.541 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
Weight (Wt. %)
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP1: 33.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 23 03:17:20 1998


Curve 1: TGA
File info: SAM032302 Mon Mar 23 04:20:56 1998
Sample Weight: 12.975 mg
S98T000743DUP
ΔY -9.638 Wt. %
ΔY -41.64 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
Weight (Wt. %)
100.0
200.0
300.0
400.0
500.0
Temperature (°C)
10C/MIN N2
TEMP1: 88.0 C
TEMP2: 800.0 C
TIME1: 0.0 min RATE1: 10.0 C/min
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Mar 23 19:56:58 1998

worklistrpt Version 2.1 05/15/95
03/09/98 10:56

LABCORE Data Entry Template for Worklist# 22824

Analyst: NK **Instrument:** TGA0 3 **Book #** 103178-A

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03, Run under nitrogen. skw

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	59.04	58.99 3/31/98	N/A	%
98000130	TX-104	2 SAMPLE	S98T000744	0		TGA-03	SOLID	N/A	48.93		%
98000130	TX-104	3 DUP	S98T000744	0		TGA-03	SOLID	48.93	48.25	N/A	%
98000130	TX-104	4 SAMPLE	S98T000745	0		TGA-03	SOLID	N/A	23.39		%
98000130	TX-104	5 DUP	S98T000745	0		TGA-03	SOLID	23.39	49.65	N/A	%

Final page for worklist # 22824

Noh Kim 3/24/98
Analyst Signature **Date**

G. Quinn 3/25/98
Analyst Signature **Date**

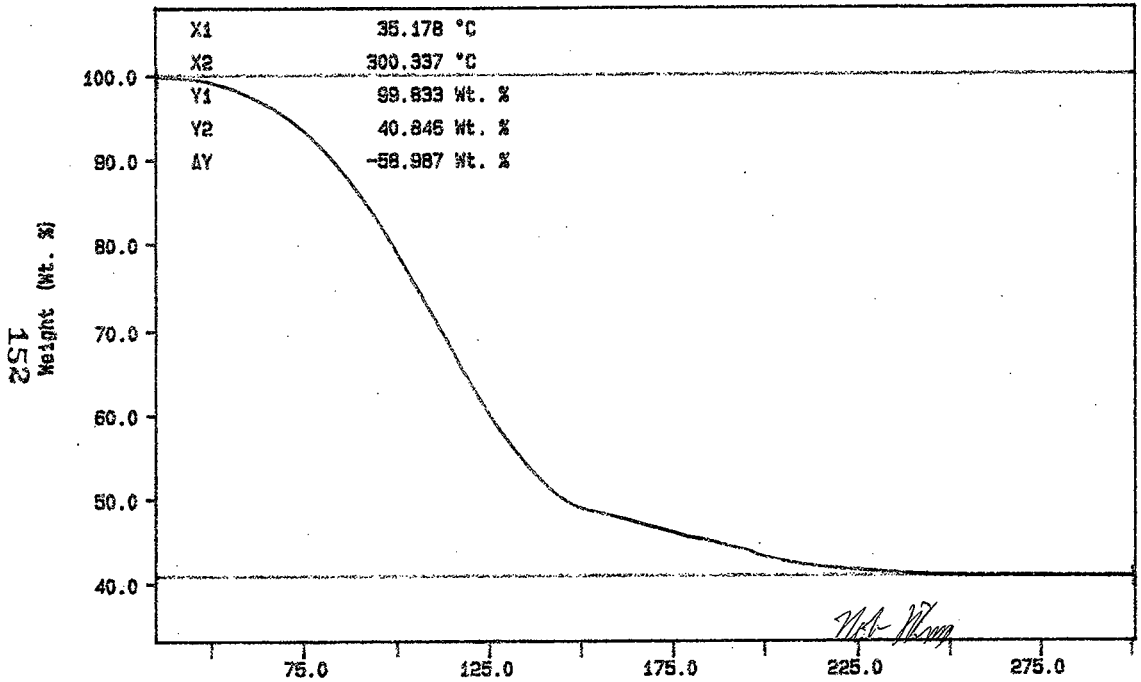
Rejected/Validated 3/31/98 Bachelor

Data Entry Comments:
High RPD S98T000745 due to unknown causes. Rerun requested. 3/25/98

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: TER092401 Tue Mar 24 19:07:34 1998
Sample Weight: 12.525 mg
103N8-A STD

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 152 TO 154.



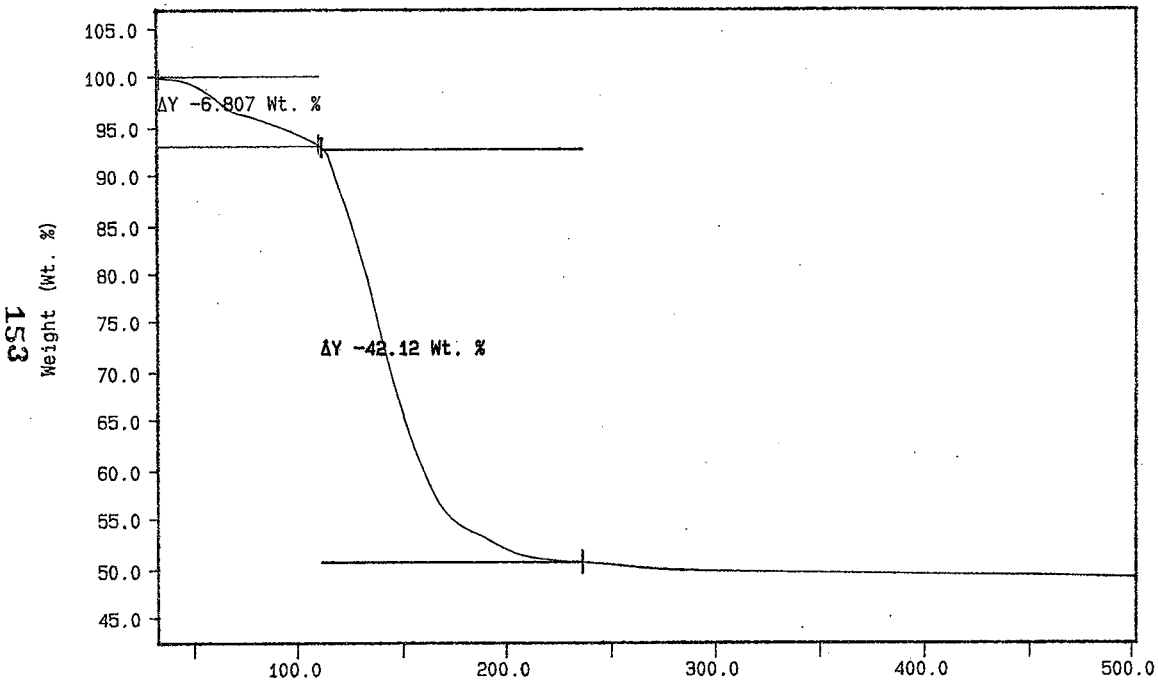
10C/MIN N2
TEMP1: 35.9 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 300.0 C

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Mar 24 19:07:48 1998

152

HAF-SD-MM-DP-305, Rev 0

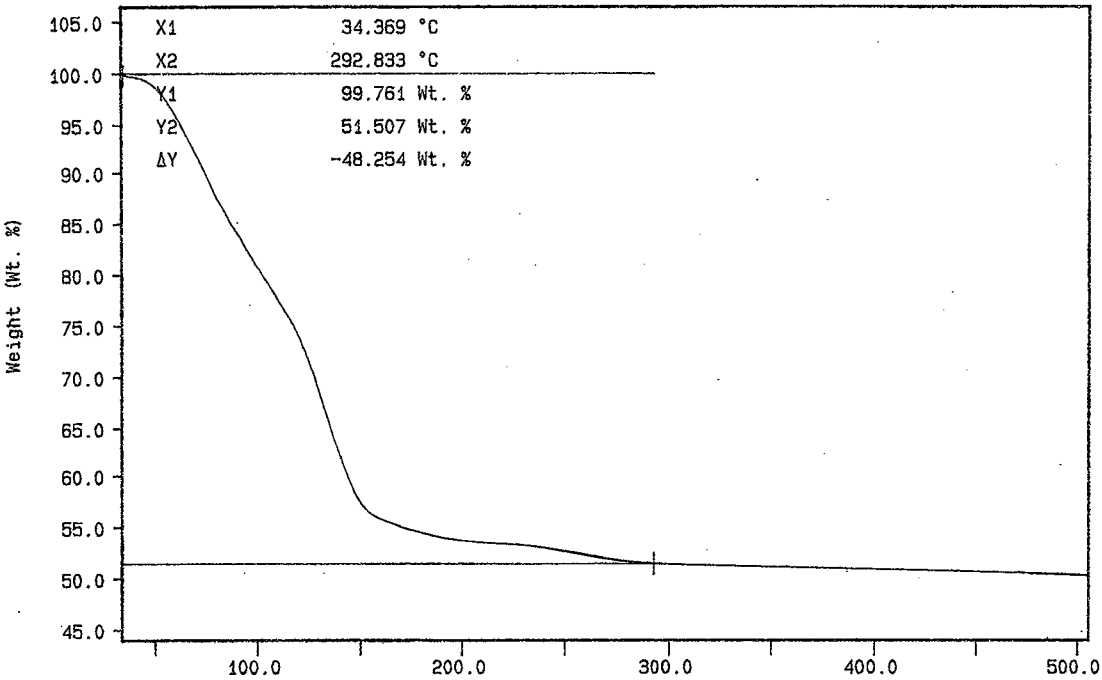
Curve 1: TGA
File info: SAM032403 Tue Mar 24 23:10:07 1998
Sample Weight: 30.208 mg
S98T000744



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 Mar 24 23:21:12 1998

Curve 1: TGA
File info: SAM032404 Wed Mar 25 00:14:32 1998
Sample Weight: 13.192 mg
S98T000744 DUP



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
Wed Mar 25 00:21:05 1998

LABCORE Data Entry Template for Worklist# 23285

Analyst: NK **Instrument:** TGA0 3 **Book #** 10318-4

Method: LA-514-114 Rev/Mod D-1

Worklist Comment: TX104, TGA-03, Run under nitrogen. Rerun due to high RPD skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.4	58.71	N/A	%
98000130	TX-104	2	SAMPLE	S98T000745	0		TGA-03	SOLID	N/A	49.56		%
98000130	TX-104	3	DUP	S98T000745	0		TGA-03	SOLID	49.56	~~35.6~~ 48.86	N/A 4/7/98	%

Final page for worklist # 23285

Nd-Nkm 4/6/98
Analyst Signature Date

Sue E. Hogan 4-7-98
Analyst Signature Date

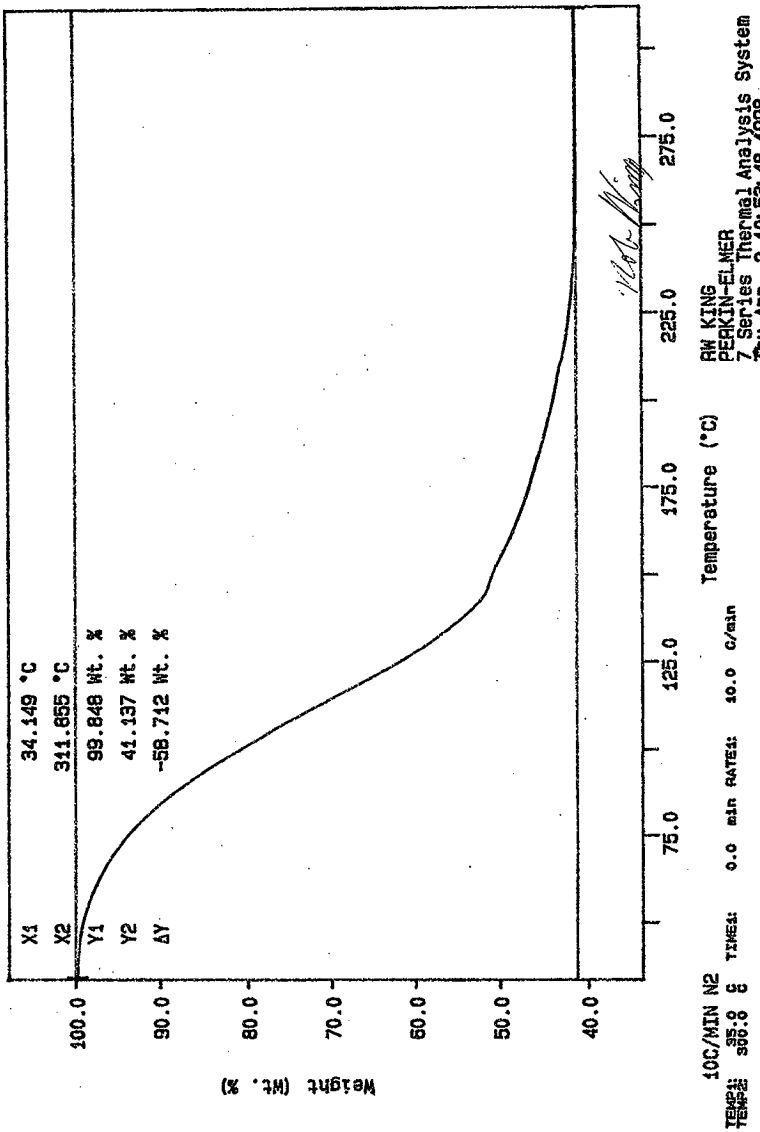
Validated 4/7/98 Bachelor

Data Entry Comments:
~~Reproducible high RPD due to sample inhomogeneities~~ 4/7/98

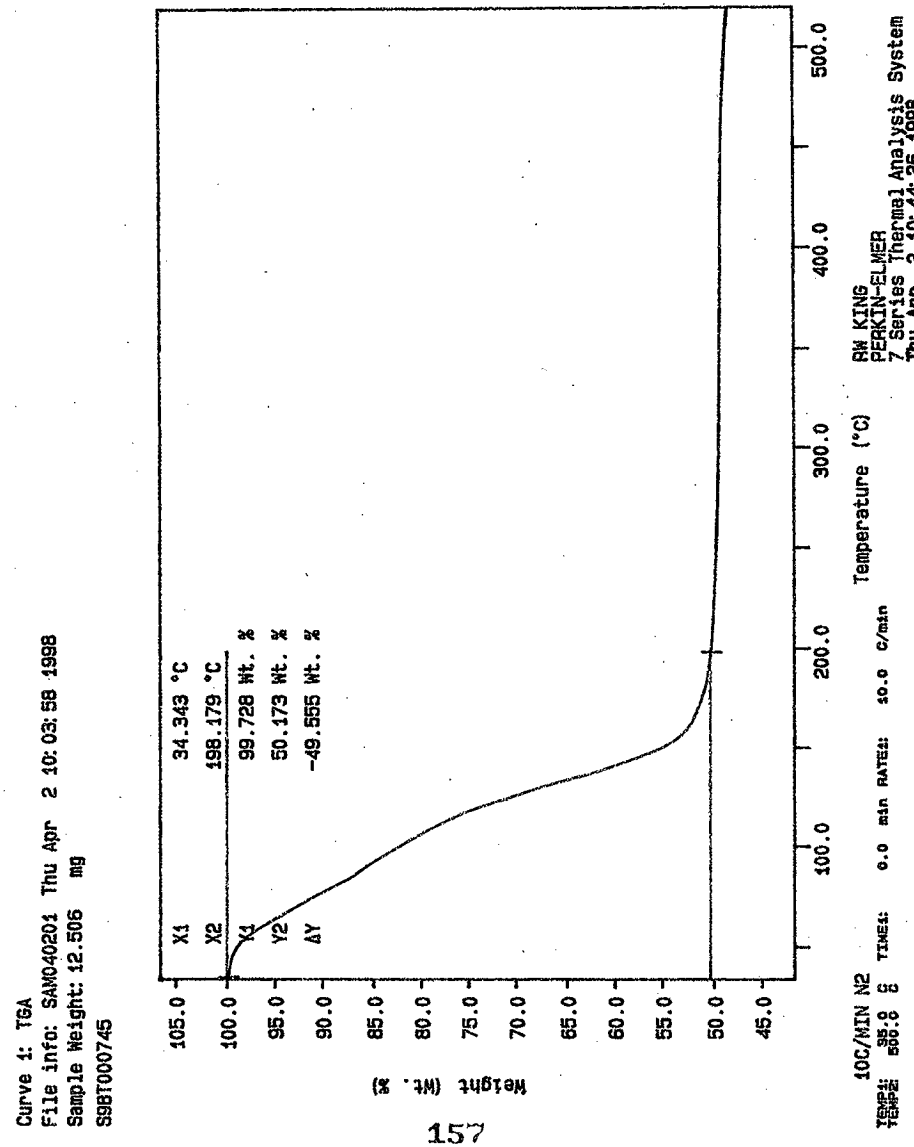
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
File info: TER040201 Thu Apr 2 07:26:59 1998
Sample Weight: 13.105 mg
103N8-A STD

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 157 TO 158

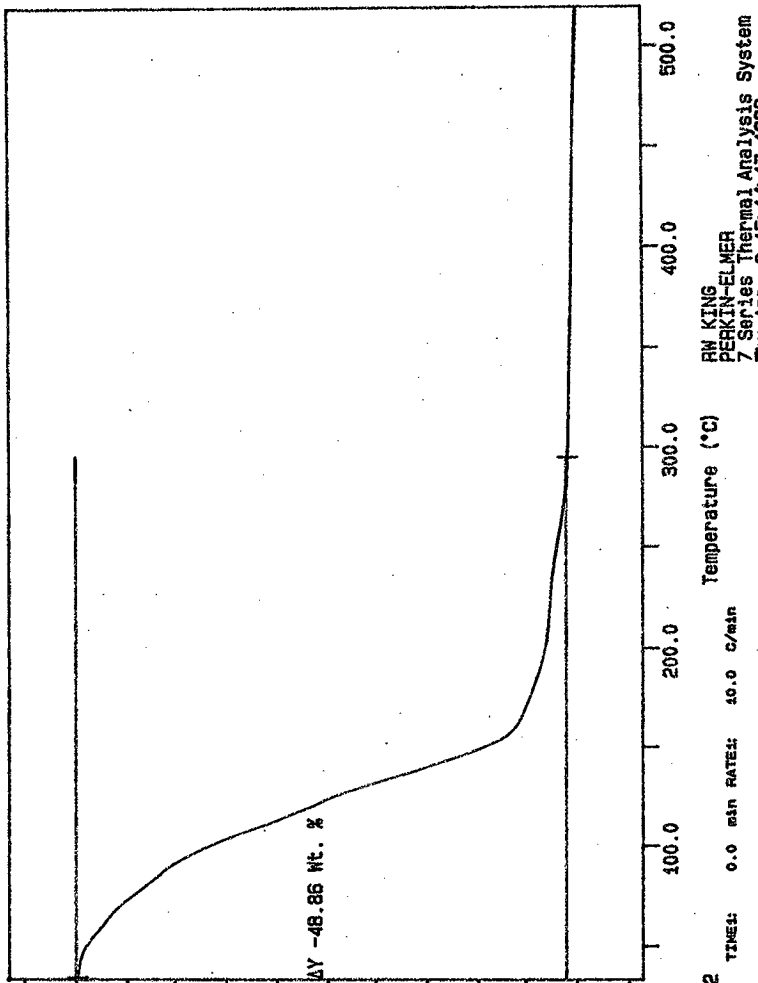


HNF-SD-WM-DP-305, Rev. 0



HNF-SD-WM-DP-305, Rev 0

Curve 1: TGA
File info: SAM040203 Thu Apr 2 14:45:23 1998
Sample Weight: 18.355 mg
S98T000745 ~~TRIP~~ DUP 4/7/98



worklistrpt Version 2.1 05/15/95
03/09/98 11:10

LABCORE Data Entry Template for Worklist# 22839

Analyst: RM **Instrument:** BA001 **Book #** 134N16C

Method: LA-510-112 Rev/Mod D-1

Worklist Comment: TX104, SPG-01, Use a cal. pipette. skw

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				SPG-01	LIQUID	1.378	1.367	N/A	Sp.G.
98000129	TX-104	2	SAMPLE	S98T000500	0		SPG-01	LIQUID	N/A	0.986	0.010	Sp.G.
98000129	TX-104	3	DUP	S98T000500	0		SPG-01	LIQUID	0.986	0.978	N/A	Sp.G.

Final page for worklist # 22839

RM 4/2/98
Analyst Signature **Date**

Dave K Wollam 4/2/98
Analyst Signature **Date**

Approved RW Schroeder 4/2/98

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		STD	REPLICATE
STD	Gross Weight (W2)	1.9343	1.9186
Work List	Tare Weight (W1)	1.8314	1.8160
22839	Weight of Solution (W2-W1)	0.1029	0.1026
Test Code	Volume of Solution µL	75.1400	75.1400
SPG-01	Specific Gravity	1.3694	1.3655
Matrix	Specific Gravity (Average)	1.3674	
LIQUID			
Sample #			
STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
rdm	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
04/02/98	v RESULT v		
Time	Specific Gravity Average =	1.367	

Data Entry by: Donna K Wollam Date: 04/02/98

Approved by: RW Schroeder Date: 4/2/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

		SAM	REPLICATE
Type			
SAM	Gross Weight (W2)	1.9236	
Work List	Tare Weight (W1)	1.8495	
22839	Weight of Solution (W2-W1)	0.0741	0
Test Code	Volume of Solution µL	75.1400	
SPG-01	Specific Gravity	0.9862	NA
Matrix			
LIQUID			
Sample #			
S98T000500			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
rdm	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
04/02/98	v RESULT v		
Time	Specific Gravity =	0.986	

Data Entry by: Dennis K Wollam Date: 04/02/98

Approved by: RW Schroeder Date: 4/2/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.9394	
Work List	Tare Weight (W1)	1.8659	
22839	Weight of Solution (W2-W1)	0.0735	0
Test Code	Volume of Solution µL	75.1400	
SPG-01	Specific Gravity	0.9782	NA
Matrix			
LIQUID			
Sample #			
S98T000500			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
rdm	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
04/02/98	v RESULT v		
Time	Specific Gravity =	0.978	

Data Entry by: Daniel Wollam Date: 04/02/98

Approved by: RW Schroeder Date: 4/2/98

Form 510112L1 Rev. 1.1

LABCORE Completed Worklist Report for Worklist# 23794

Analyst: jro **Instrument:** BA001 **Book#** 134N16C

Method: LAS10-112 Rev/Mod E-0

Worklist Comment: TX104, SPG-01, Use a cal. pipette. skm

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD			0	SPG-01	LIQUID	1.3779	1.371	99.499	% Recovery
2	SAMPLE	S98T000665		0	SPG-01	LIQUID	N/A	1.398	1.00e-003	Sp.G.
3	DUP	S98T000665		0	SPG-01	LIQUID	1.398	1.396	0.143	RPD
4	SAMPLE	S98T000666		0	SPG-01	LIQUID	N/A	1.413	1.00e-003	Sp.G.
5	DUP	S98T000666		0	SPG-01	LIQUID	1.413	1.405	0.568	RPD
6	SAMPLE	S98T000761		0	SPG-01	LIQUID	N/A	1.578	1.00e-003	Sp.G.
7	DUP	S98T000761		0	SPG-01	LIQUID	1.578	1.572	0.381	RPD
8	SAMPLE	S98T000762		0	SPG-01	LIQUID	N/A	1.424	1.00e-003	Sp.G.
9	DUP	S98T000762		0	SPG-01	LIQUID	1.424	1.441	1.187	RPD
10	SAMPLE	S98T000763		0	SPG-01	LIQUID	N/A	1.406	1.00e-003	Sp.G.
11	DUP	S98T000763		0	SPG-01	LIQUID	1.406	1.409	0.213	RPD

Final page for worklist# 23794

Analyst Signature Date

Sue Hogan 5-22-98
Analyst Signature Date

Machelor 5/28/98
Reviewer Signature Date

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

worklistrpt Version 2.1 05/15/95
05/04/98 10:22

LABCORE Data Entry Template for Worklist# 23794

Analyst: TRO **Instrument:** BA001 **Book #** 134/116C

Method: LA-510-112 Rev/Mod E-0

Worklist Comment: TX104, SPG-01, Use a cal. pipette. skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				SPG-01	LIQUID			N/A	Sp.G.
98000129	TX-104	2	SAMPLE	S98T000665	0		SPG-01	LIQUID	N/A			Sp.G.
98000129	TX-104	3	DUP	S98T000665	0		SPG-01	LIQUID			N/A	Sp.G.
98000129	TX-104	4	SAMPLE	S98T000666	0		SPG-01	LIQUID	N/A			Sp.G.
98000129	TX-104	5	DUP	S98T000666	0		SPG-01	LIQUID			N/A	Sp.G.
98000130	TX-104	6	SAMPLE	S98T000761	0		SPG-01	LIQUID	N/A			Sp.G.
98000130	TX-104	7	DUP	S98T000761	0		SPG-01	LIQUID			N/A	Sp.G.
98000130	TX-104	8	SAMPLE	S98T000762	0		SPG-01	LIQUID	N/A			Sp.G.
98000130	TX-104	9	DUP	S98T000762	0		SPG-01	LIQUID			N/A	Sp.G.
98000130	TX-104	10	SAMPLE	S98T000763	0		SPG-01	LIQUID	N/A			Sp.G.
98000130	TX-104	11	DUP	S98T000763	0		SPG-01	LIQUID			N/A	Sp.G.

Final page for worklist # 23794

5-20-98
Analyst Signature **Date**

5/21/98
Analyst Signature **Date**
Sue Hogan 5-22-98

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		STD	REPLICATE
STD	Gross Weight (W2)	1.2733	1.1506
Work List	Tare Weight (W1)	1.1363	1.0135
23794	Weight of Solution (W2-W1)	0.137	0.1371
Test Code	Volume of Solution µL	100.0000	100.0000
SPG-01	Specific Gravity	1.3700	1.3710
Matrix	Specific Gravity (Average)	1.3705	
LIQUID			
Sample #			
WL23794-STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
05/20/98	v RESULT v		
Time	Specific Gravity Average =	1.371	
12:00 PM			

Data Entry by:		Date:	05/21/98
Approved by:	R Bachelor	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAM	REPLICATE
SAM	Gross Weight (W2)	1.5383	0.0000
Work List	Tare Weight (W1)	1.3985	0.0000
23794	Weight of Solution (W2-W1)	0.1398	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.3980	NA
Matrix			
LIQUID			
Sample #			
S98T000665			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
05/20/98	v RESULT v		
Time	Specific Gravity =	1.398	
12:00 PM			

Data Entry by:		Date:	05/21/98
Approved by:	RBMachelor	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.5111	0.0000
Work List	Tare Weight (W1)	1.3715	0.0000
23794	Weight of Solution (W2-W1)	0.1396	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.3960	NA
Matrix			
LIQUID			
Sample #			
S98T000665			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
05/20/98	v RESULT v		
Time	Specific Gravity =	1.396	
12:00 PM			

Data Entry by:		Date:	05/21/98
Approved by:	B Bachelor	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAM	REPLICATE
SAM	Gross Weight (W2)	1.5268	0.0000
Work List	Tare Weight (W1)	1.3855	0.0000
23794	Weight of Solution (W2-W1)	0.1413	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.4130	NA
Matrix			
LIQUID			
Sample #			
S98T000666			
Instrument Code			
BA001			
Analyst			
JRO			
Date			
05/20/98			
Time			
12:00 PM			

Gross Weight (W2) = Wt. of vial + cap + cotton + solution
Tare Weight (W1) = Wt. of vial + cap + cotton

Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]

v RESULT v

Specific Gravity =	1.413

Data Entry by:		Date:	05/21/98
Approved by:	R Machelo	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

		DUP	REPLICATE
Type: DUP	Gross Weight (W2)	1.4965	0.0000
Work List: 23794	Tare Weight (W1)	1.3560	0.0000
Test Code: SPG-01	Weight of Solution (W2-W1)	0.1405	0
Matrix: LIQUID	Volume of Solution µL	100.0000	0.0000
Sample #: S98T000666	Specific Gravity	1.4050	NA
Instrument Code: BA001			
Analyst: JRO			
Date: 05/20/98			
Time: 12:00 PM			

Gross Weight (W2) = Wt. of vial + cap + cotton + solution
Tare Weight (W1) = Wt. of vial + cap + cotton

Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]

v RESULT v

Specific Gravity = 1.405

Data Entry by: Date: 05/21/98

Approved by: Michelon Date: 5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAM	REPLICATE
SAM	Gross Weight (W2)	1.4966	0.0000
Work List	Tare Weight (W1)	1.3388	0.0000
23794	Weight of Solution (W2-W1)	0.1578	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.5780	NA
Matrix			
LIQUID			
Sample #			
S98T000761			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
05/20/98	v RESULT v		
Time	Specific Gravity =	1.578	
12:00 PM			

Data Entry by:		Date:	05/21/98
Approved by:	R Machelor	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

		DUP	REPLICATE
Type: DUP	Gross Weight (W2)	1.6799	0.0000
Work List: 23794	Tare Weight (W1)	1.5227	0.0000
	Weight of Solution (W2-W1)	0.1572	0
Test Code: SPG-01	Volume of Solution µL	100.0000	0.0000
	Specific Gravity	1.5720	NA
Matrix: LIQUID			
Sample #: S98T000761			
Instrument Code: BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst: JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date: 05/20/98	v RESULT v		
Time: 12:00 PM	Specific Gravity =	1.572	

Data Entry by:		Date:	05/21/98
Approved by: RB Machelor		Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

		SAM	REPLICATE
Type: SAM	Gross Weight (W2)	1.4972	0.0000
Work List: 23794	Tare Weight (W1)	1.3548	0.0000
Test Code: SPG-01	Weight of Solution (W2-W1)	0.1424	0
Matrix: LIQUID	Volume of Solution µL	100.0000	0.0000
Sample #: S98T000762	Specific Gravity	1.4240	NA
Instrument Code: BA001			
Analyst: JRO			
Date: 05/20/98			
Time: 12:00 PM			

Gross Weight (W2) = Wt. of vial + cap + cotton + solution
Tare Weight (W1) = Wt. of vial + cap + cotton

Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]

v RESULT v

Specific Gravity =	1.424

Data Entry by:		Date:	05/21/98
Approved by:		Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.5202	0.0000
Work List	Tare Weight (W1)	1.3761	0.0000
23794	Weight of Solution (W2-W1)	0.1441	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.4410	NA
Matrix			
LIQUID			
Sample #			
S98T000762			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
05/20/98	v RESULT v		
Time	Specific Gravity =	1.441	
12:00 PM			

Data Entry by:		Date:	05/21/98
Approved by:	B Machelor	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

Type		SAM	REPLICATE
SAM	Gross Weight (W2)	1.5170	0.0000
Work List	Tare Weight (W1)	1.3764	0.0000
23794	Weight of Solution (W2-W1)	0.1406	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.4060	NA
Matrix			
LIQUID			
Sample #			
S98T000763			
Instrument Code			
BA001			
Analyst			
JRO			
Date			
05/20/98			
Time			
12:00 PM			

Gross Weight (W2) = Wt. of vial + cap + cotton + solution
Tare Weight (W1) = Wt. of vial + cap + cotton

Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]

v RESULT v

Specific Gravity = 1.406

Data Entry by:		Date:	05/21/98
Approved by:	[signature]	Date:	5/28/98

Form 510112L1 Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (D-1)

		DUP	REPLICATE
Type			
DUP	Gross Weight (W2)	1.5000	0.0000
Work List	Tare Weight (W1)	1.3591	0.0000
23794	Weight of Solution (W2-W1)	0.1409	0
Test Code	Volume of Solution µL	100.0000	0.0000
SPG-01	Specific Gravity	1.4090	NA
Matrix			
LIQUID			
Sample #			
S98T000763			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JRO	Specific Gravity = [(W2-W1) * 1000 µL/mL] / [Vol. of Solution µL * 1.000 g/mL]		
Date			
05/20/98	v RESULT v		
Time	Specific Gravity =	1.409	
12:00 PM			

Data Entry by:		Date:	05/21/98
Approved by:	B Machelor	Date:	5/28/98

LABCORE Completed Worklist Report for Worklist# 22502

Analyst: vlm **Instrument:** IC01 **Book#** 1291208

Method: IA-533-105 Rev/Mod E-0

Worklist Comment: TX104, @IC-01, QC for Br only skw

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		2.40e-02	0.024	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		1.48e-01	0.148	ug/mL
1	CCB		0	@IC-QC	PO4	QC	1		<1.20e-1		ug/mL
1	CCB		0	@IC-QC	SO4	QC	1		2.49e-01	0.249	ug/mL
1	CCB		0	@IC-QC	OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0	@IC-QC	F	QC	5.9e1		6.15e+01	104.237	% Recovery
2	CCV		0	@IC-QC	CL	QC	8.0e1		8.40e+01	105.000	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.43e2		5.57e+02	102.578	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e2		6.10e+02	103.565	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e2		5.94e+02	100.000	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e2		5.42e+02	99.450	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e2		6.48e+02	102.532	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.30e2		5.36e+02	101.132	% Recovery
3	SAMPLE	S98T000500	0	@IC-01	F-02	LIQUID	N/A	<	1.200e-02	1.20e-002	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	CL-02	LIQUID	N/A		2.800e-02	1.70e-002	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	NO2-02	LIQUID	N/A	<	1.080e-01	0.108	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	BR-02	LIQUID	N/A	<	1.250e-01	0.125	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	NO3-02	LIQUID	N/A		2.190e-01	0.139	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	PO4-02	LIQUID	N/A	<	1.200e-01	0.120	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	SO4-02	LIQUID	N/A		1.780e-01	0.138	ug/mL
3	SAMPLE	S98T000500	0	@IC-01	OXALATE2	LIQUID	N/A	<	1.050e-01	0.105	ug/mL
4	DUP	S98T000500	0	@IC-01	F-02	LIQUID	<1.20e-2		<1.20e-2		RPD
4	DUP	S98T000500	0	@IC-01	CL-02	LIQUID	2.80e-02		3.40e-02	19.355	RPD
4	DUP	S98T000500	0	@IC-01	NO2-02	LIQUID	<1.08e-1		<1.08e-1		RPD
4	DUP	S98T000500	0	@IC-01	BR-02	LIQUID	<1.25e-1		<1.25e-1		RPD
4	DUP	S98T000500	0	@IC-01	NO3-02	LIQUID	2.19e-01		2.23e-01	1.810	RPD
4	DUP	S98T000500	0	@IC-01	PO4-02	LIQUID	<1.20e-1		<1.20e-1		RPD
4	DUP	S98T000500	0	@IC-01	SO4-02	LIQUID	1.78e-01		3.44e-01	63.602	RPD
4	DUP	S98T000500	0	@IC-01	OXALATE2	LIQUID	<1.05e-1		<1.05e-1		RPD
5	SAMPLE	S98T000501	0	@IC-01	F-02	LIQUID	N/A	<	7.272e+00	7.272	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	CL-02	LIQUID	N/A		1.278e+01	10.300	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	NO2-02	LIQUID	N/A	<	6.545e+01	65.450	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	BR-02	LIQUID	N/A		2.453e+04	75.750	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	NO3-02	LIQUID	N/A	<	8.423e+01	84.230	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	PO4-02	LIQUID	N/A	<	7.272e+01	72.720	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	SO4-02	LIQUID	N/A		1.057e+02	83.630	ug/mL
5	SAMPLE	S98T000501	0	@IC-01	OXALATE2	LIQUID	N/A	<	6.363e+01	63.630	ug/mL
6	DUP	S98T000501	0	@IC-01	F-02	LIQUID	<7.27e0		<7.27e0		RPD

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

LABCORE Completed Worklist Report for Worklist# 22502

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	DUP	S98T000501	0	@IC-01	CL-02	LIQUID	1.28e+01	1.45e+01	12.454	RPD
6	DUP	S98T000501	0	@IC-01	NO2-02	LIQUID	<6.55e1	<6.54e1		RPD
6	DUP	S98T000501	0	@IC-01	BR-02	LIQUID	2.45e+04	2.46e+04	0.407	RPD
6	DUP	S98T000501	0	@IC-01	NO3-02	LIQUID	<8.42e1	<8.42e1		RPD
6	DUP	S98T000501	0	@IC-01	PO4-02	LIQUID	<7.27e1	<7.27e1		RPD
6	DUP	S98T000501	0	@IC-01	SO4-02	LIQUID	1.06e+02	1.50e+02	34.375	RPD
6	DUP	S98T000501	0	@IC-01	OXALATE2	LIQUID	<6.36e1	<6.36e1		RPD

Final page for worklist# 22502

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

Jann M. Lugt 4/23/98

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

LABCORE Data Entry Template for Worklist# 22502

Analyst: VLM **Instrument:** IC0 IC01 **Book#** 129N20B

Method: LA-533-105 Rev/Mod E-0

Worklist Comment: TX104, @IC-01 skw QC for Br only skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S98T000500	0		@IC-01	LIQUID	98000129	TX-104
		Analytes Requested:			BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
4	DUP	S98T000500	0		@IC-01	LIQUID		
5	SAMPLE	S98T000501	0		@IC-01	LIQUID	98000129	TX-104
		Analytes Requested:			BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
6	DUP	S98T000501	0		@IC-01	LIQUID		

Final page for worklist # 22502

Valerie L Massie 04-17-98
Analyst Signature **Date**

uploaded 4-21-98
Joh Worell
22502APR.CSV

Validated 4/21/98 JM Fuge

Analyst Signature **Date**

Data Entry Comments:

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

Data Reprocessed On 04/21/1998 10:10:00

Sample Name: CCB Date: 04/17/1998 10:57:00
Data File : F:\DATA\98041731.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : Jan Jones Column: AG4A/AS4A anion column

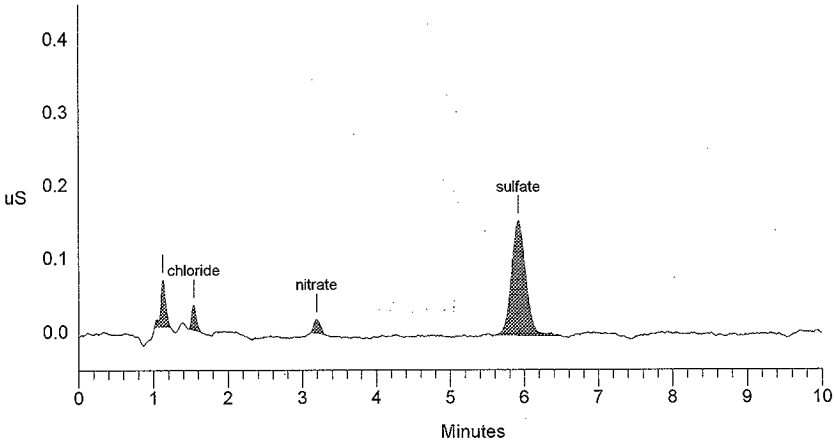
for VLM 4/23/98

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	1.13		0.000	64	316	1	
2	1.54	chloride	0.024	35	150	1	0.00
3	3.19	nitrate	0.148	19	117	1	0.10
4	5.92	sulfate	0.249	156	2121	1	0.91
		Totals	0.421	274	2704		

File: 98041731.D01 Sample: CCB



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 179 TO 184.

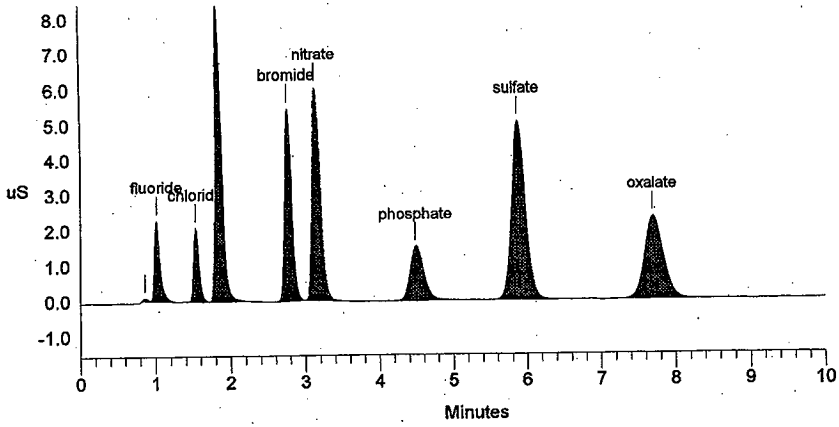
Sample Name: CCV 129N20-B Date: 04/17/1998 11:14:03
Data File : C:\DX\DATA\98041731.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst : Valerie Massey Column: AG4A/AS4A anion column
04-17-98

alibration	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	0.85		0.000	86	385	2	
2	1.01	fluoride	61.490	2283	11571	2	0.33
3	1.53	chloride	83.973	2089	10485	1	-0.87
4	1.83	nitrite	556.777	8407	48902	1	-2.14
5	2.76	bromide	609.984	5476	35371	1	1.72
6	3.13	nitrate	593.817	6038	45117	1	2.40
7	4.48	phosphate	541.769	1527	20094	1	0.00
8	5.87	sulfate	647.883	5082	65160	1	0.00
9	7.68	oxalate	536.255	2331	40795	1	0.70
		Totals	3631.948	33319	277881		

File: 98041731.D02 Sample: CCV 129N20-B



HNF-SD-WM-DP-305 REV. 0

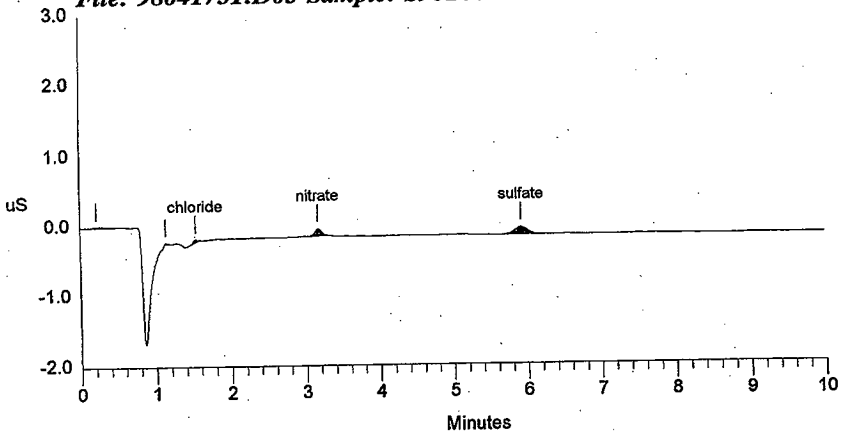
Sample Name: S98T000500 Date: 04/17/1998 11:29:57
Data File : C:\DX\DATA\98041731.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Column: AG4A/AS4A anion column
Analyst : Valeria Magoni
04-17-98

alibration	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	0.22		0.000	16	122	1	
3	1.53	chloride	0.028	43	194	1	-0.43
4	3.17	nitrate	0.219	103	669	1	3.70
5	5.92	sulfate	0.178	107	1405	1	0.91
		Totals	0.424	269	2389		

File: 98041731.D03 Sample: S98T000500



HNF-SD-WM-DP-305 REV. 0

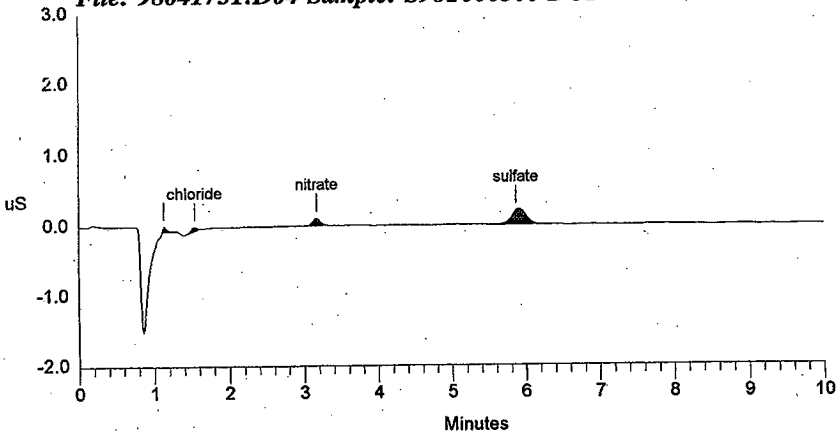
Sample Name: S98T000500 DUP
Date: 04/17/1998 11:42:16
Data File : C:\DX\DATA\98041731.D04
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4
Detector:CDM-1
Analyst : Valerie Moore Column: AG4A/AS4A anion column
04-17-98

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	1.13		0.000	63	190	1	
2	1.54	chloride	0.034	52	270	1	0.00
3	3.17	nitrate	0.223	102	698	1	3.70
4	5.87	sulfate	0.344	198	3082	1	0.00
		Totals	0.600	415	4239		

File: 98041731.D04 Sample: S98T000500 DUP



HNF-SD-WM-DP-305 REV. 0

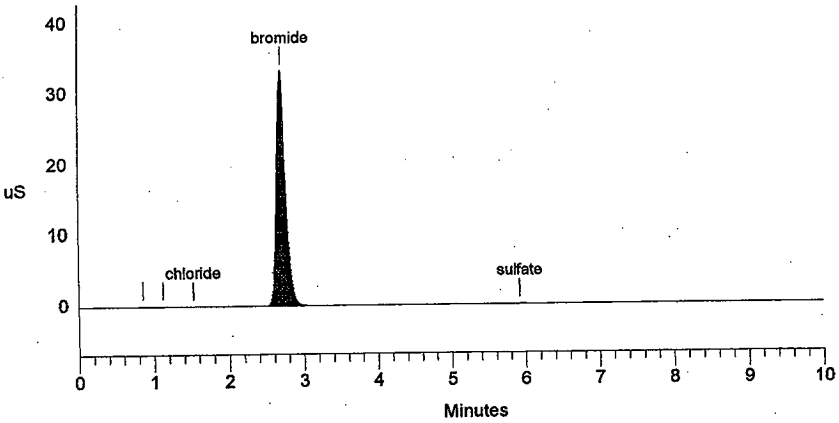
Sample Name: S98T000501 Date: 04/17/1998 14:16:36
Data File : C:\DX\DATA\98041731.D12
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:CDM-1
Analyst : Valerie Massey Column: AG4A/AS4A anion column
04-17-98

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	606	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	0.85		0.000	71	372	1	
2	1.12		0.000	68	310	1	
3	1.52	chloride	12.782	24	109	1	-1.30
4	2.70	bromide	24526.714	33227	272734	1	-0.49
5	5.92	sulfate	105.722	59	1374	1	0.91
		Totals	24645.218	33449	274899		

File: 98041731.D12 Sample: S98T000501



SS = .100 ml – 10.0 ml – 2.0 ml – 10 ml = 606 DF

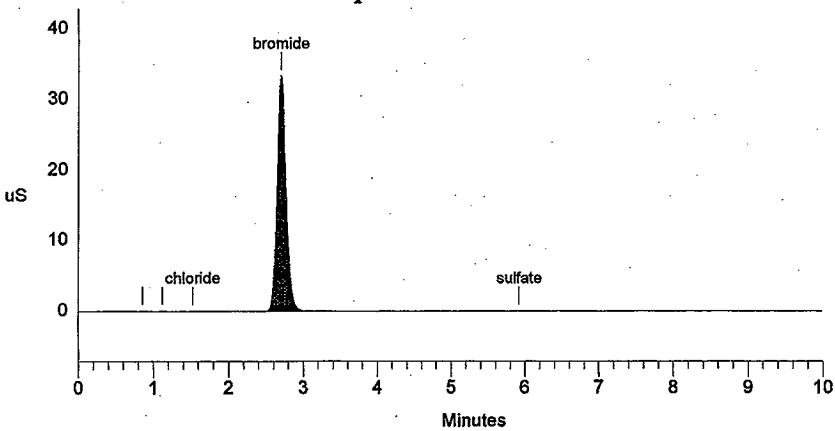
Sample Name: S98T000501 DUP Date: 04/17/1998 14:28:15
Data File : C:\DX\DATA\98041731.D13
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Valerie Massey Column: AG4A/AS4A anion column
04-17-98

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	606	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	0.85		0.000	67	332	1	
2	1.12		0.000	62	274	1	
3	1.52	chloride	14.536	31	146	1	-1.30
4	2.69	bromide	24593.350	33224	273604	1	-0.74
5	5.92	sulfate	150.454	86	2117	1	0.91
		Totals	24758.340	33469	276473		

File: 98041731.D13 Sample: S98T000501 DUP



SS= .100ml — 10.0ml — 2.0ml — 10.0ml = 606 DF

03/09/98 13:46
A-0004-I

LABCORE Data Entry Template for Worklist# 22859

Analyst: Lal **Instrument:** IC0 1 **Book#** 129N20A

Method: LA-533-105 Rev/Mod EO

Worklist Comment: ~~AX~~101 (P), @IC-01 skw TX104 SKM 6/18/98

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S98T000667	0		@IC-01	LIQUID	98000129	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
4	DUP	S98T000667	0		@IC-01	LIQUID		
5	SPK	S98T000667	0		@IC-01	LIQUID		
6	SAMPLE	S98T000765	0		@IC-01	LIQUID	98000130	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
7	DUP	S98T000765	0		@IC-01	LIQUID		

Final page for worklist # 22859

Lorena Mi 3/24/98
Analyst Signature Date

Analyst Signature Date

uplbaded 3-25-98
JL Worrell
22859MAR.CSV

Validated 3/25/98

Data Entry Comments:

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

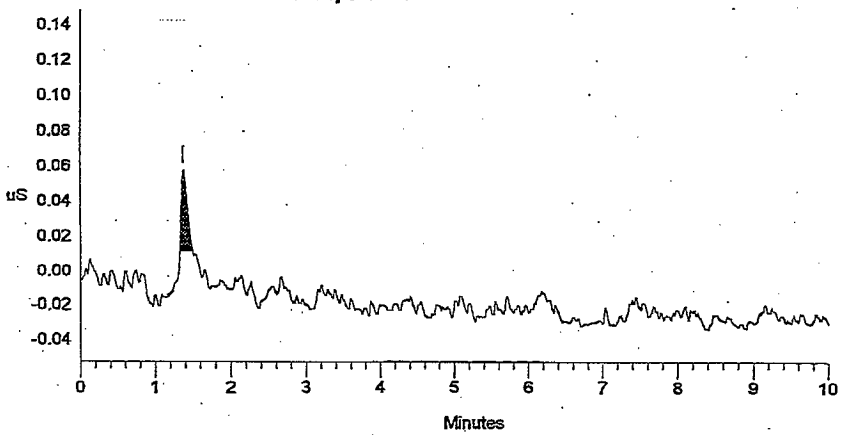
Sample Name: CCB Date: 03/24/1998 13:24:21
Data File : C:\DX\DATA\98032401.D10
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:CDM-1
Analyst : Teresa Mc Column: AG4A/AS4A anion column

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	1.37		0.000	46	239	1	
		Totals	0.000	46	239		

File: 98032401.D10 Sample: CCB



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ~~996~~ 186 TO ~~1002~~ 192 LAD 6/18/98

HNF-SD-~~WM-DP-305~~ 305 REV. 0

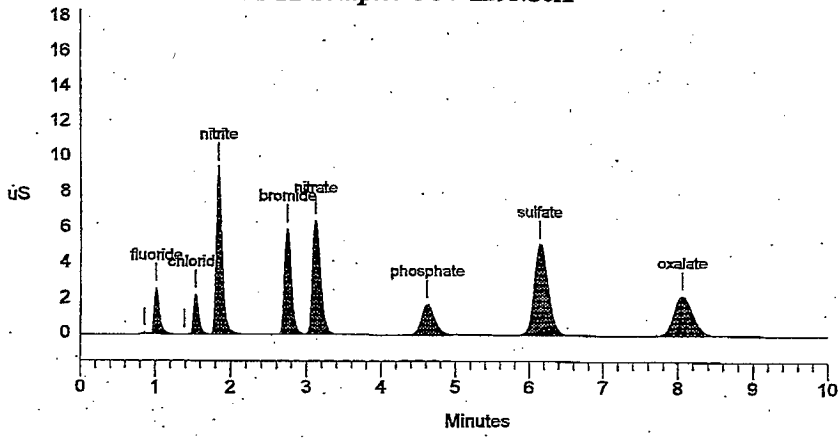
Sample Name: CCV 129N20A
Data File : C:\DX\DATA\98032401.D11
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 11
Analyst : Teresa Mu
Date: 03/24/1998 13:40:50
Detector:CDM-1
Column: AG4A/AS4A anion column

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	0.85		0.000	88	404	2	
2	1.01	fluoride	64.192	2611	12098	2	0.33
3	1.39		0.000	15	66	1	
4	1.53	chloride	83.302	2245	10398	1	-0.43
5	1.84	nitrite	569.663	9458	50070	1	-1.43
6	2.74	bromide	627.345	5990	36422	1	0.98
7	3.11	nitrate	620.834	6426	47246	1	-2.40
8	4.61	phosphate	578.757	1751	21525	1	2.98
9	6.13	sulfate	678.126	5156	68269	1	4.55
10	8.05	oxalate	533.958	2298	40616	1	5.59
		Totals	3756.178	36038	287113		

File: 98032401.D11 Sample: CCV 129N20A



HNF-SD-~~WM-DP-305~~ 305 REV. 0 ~~HNF-SD-WM-DP-300 REV 0~~ SKM 6/11/98

Data Reprocessed On 03/24/1998 14:02:12

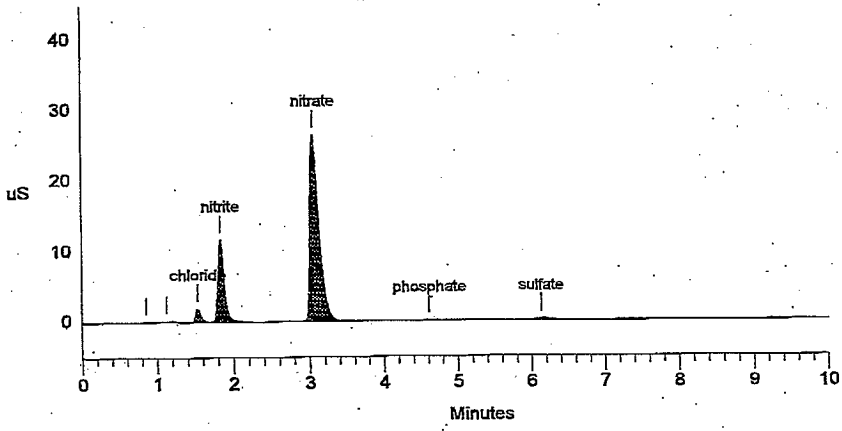
Sample Name: S98T000667 Date: 03/24/1998 13:58:19
Data File : C:\DX\DATA\98032401.D12
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:CDM-1
Analyst : Reese Mil Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	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	0.85		0.000	155	789	1	
2	1.13		0.000	118	345	1	
3	1.53	chloride	7668.347	1989	9450	1	-0.43
4	1.83	nitrite	72831.196	11689	63804	1	-1.79
5	3.05	nitrate	270401.832	26521	217800	1	0.11
6	4.61	phosphate	4724.912	102	1240	1	2.98
7	6.13	sulfate	4472.777	276	4035	1	4.55
		Totals	360099.063	40851	297461		

File: 98032401.D12 Sample: S98T000667



Data Reprocessed On 03/25/1998 07:44:40

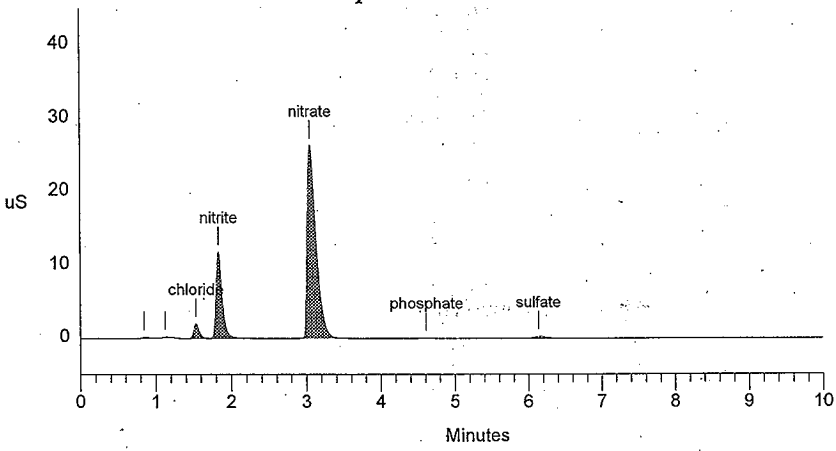
Sample Name: S98T000667 DUP Date: 03/24/1998 14:16:41
Data File : F:\DATA\98032401.D13
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	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	0.85		0.000	155	785	1	
2	1.13		0.000	122	353	1	
3	1.53	chloride	7925.937	2005	9777	1	-0.43
4	1.83	nitrite	74722.403	11793	65504	1	-1.79
5	3.05	nitrate	272192.102	26282	219351	1	0.11
6	4.61	phosphate	4670.304	102	1220	1	2.98
7	6.13	sulfate	4552.677	289	4114	1	4.55
		Totals	364063.423	40748	301104		

File: 98032401.D13 Sample: S98T000667 DUP



Data Reprocessed On 03/25/1998 07:45:13

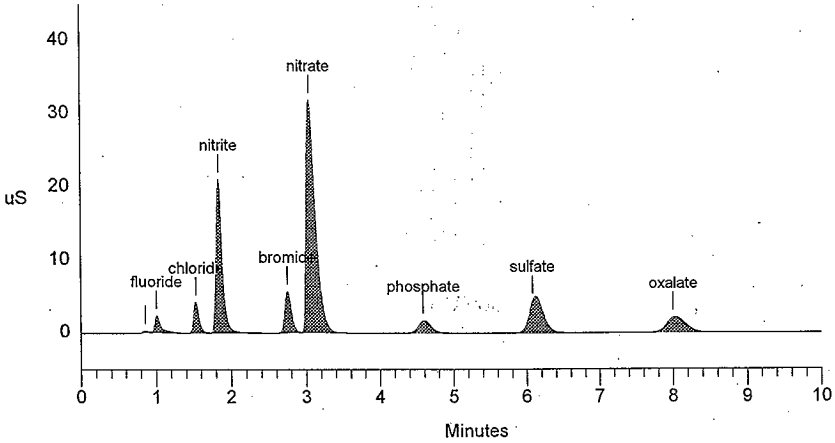
Sample Name: S98T000667 SPK Date: 03/24/1998 15:01:47
Data File : F:\DATA\98032401.D14
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 14 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.85		0.000	220	1004	2	
2	1.01	fluoride	6959.284	2288	13018	2	-0.33
3	1.53	chloride	16568.221	4241	20966	1	-0.43
4	1.84	nitrite	132999.831	21063	118118	1	-1.43
5	2.75	bromide	59552.838	5659	34140	1	1.23
6	3.05	nitrate	334840.885	31854	274651	1	-0.11
7	4.59	phosphate	57834.878	1727	21288	1	2.38
8	6.08	sulfate	65898.240	4435	65630	1	3.64
9	8.00	oxalate	51079.869	2106	38408	1	4.90
		Totals	725734.047	73592	587223		

File: 98032401.D14 Sample: S98T000667 SPK



Data Reprocessed On 03/25/1998 07:45:53 ~~HNF-SD-WM-DP-300 REV. 0~~ SKM 6/18/98

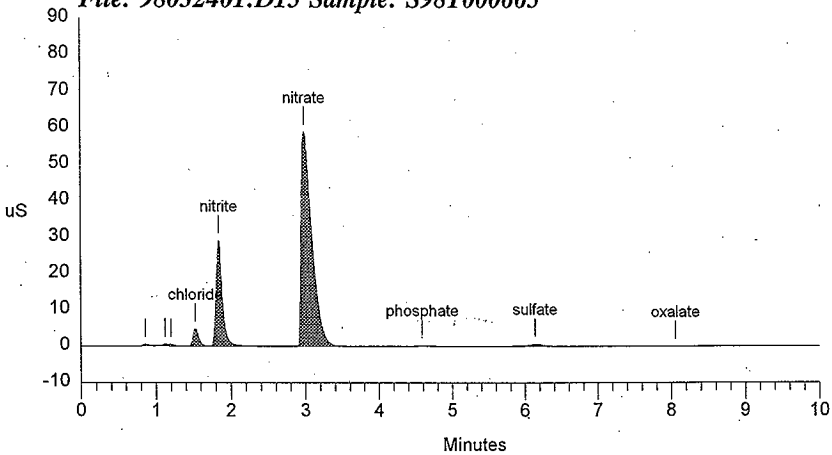
Sample Name: S98T000665 Date: 03/24/1998 15:13:54
Data File : F:\DATA\98032401.D15
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 15 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	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	0.85		0.000	386	2116	2	
2	1.12		0.000	636	3370	2	
3	1.20		0.000	531	2631	2	
4	1.53	chloride	19646.258	4776	25049	1	-0.87
5	1.84	nitrite	186551.001	29019	166852	1	-1.43
6	2.99	nitrate	648316.087	58910	589495	1	-0.11
7	4.59	phosphate	11481.152	293	3756	1	2.38
8	6.13	sulfate	11519.059	646	11013	1	4.55
9	8.05	oxalate	1869.557	25	450	1	5.59
		Totals	879383.114	95222	804731		

File: 98032401.D15 Sample: S98T000665



Data Reprocessed On 03/25/1998 07:46:22

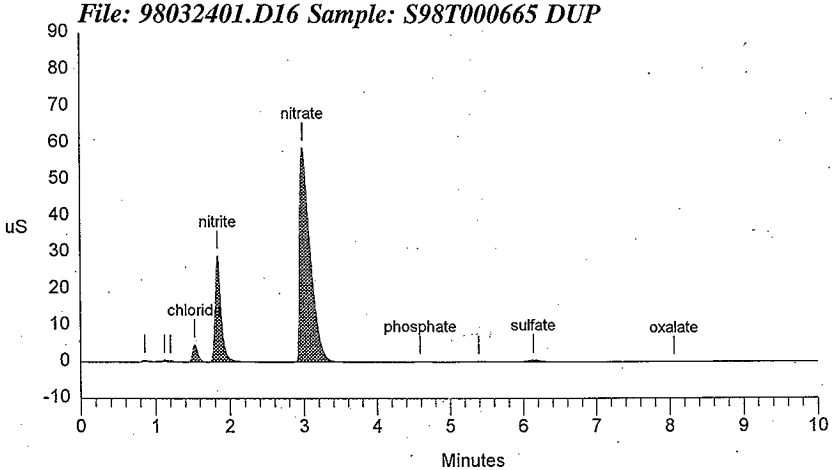
Sample Name: S98T000665 DUP Date: 03/24/1998 15:26:25
Data File : F:\DATA\98032401.D16
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 16 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.85		0.000	406	2319	2	
2	1.12		0.000	644	3462	2	
3	1.20		0.000	528	2553	2	
4	1.53	chloride	18961.555	4809	24136	1	-0.87
5	1.84	nitrite	181503.905	29120	162243	1	-1.43
6	2.99	nitrate	646244.708	58796	587141	1	-0.11
7	4.59	phosphate	10400.343	281	3353	1	2.38
8	5.39		0.000	166	4916	1	
9	6.13	sulfate	7851.988	575	7378	1	4.55
10	8.05	oxalate	1870.077	28	450	1	5.59
		Totals	866832.576	95354	797951		

File: 98032401.D16 Sample: S98T000665 DUP



LABCORE Completed Worklist Report for Worklist# 22860

Analyst: adp **Instrument:** IC02 **Book#** 129N20P

Method: LA-533-105 Rev/Mod E-0
TX 104 SKM 4/18/94

Worklist Comment: ~~AX101~~ (P), @IC-01 skw

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		5.91e-01	0.591	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	5.9e1		5.80e+01	98.305	% Recovery
2	CCV		0	@IC-QC	CL	QC	8.0e1		8.11e+01	101.375	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.42e2		5.01e+02	92.435	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e2		5.61e+02	95.246	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e2		5.60e+02	94.276	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e2		5.21e+02	95.596	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e2		5.99e+02	94.778	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.34e2		5.36e+02	100.375	% Recovery
3	SAMPLE	S98T000668	0	@IC-01	F-02	LIQUID	N/A	<	1.224e+02	122.400	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	CL-02	LIQUID	N/A		7.768e+03	173.400	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	NO2-02	LIQUID	N/A		7.237e+04	1102.000	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	BR-02	LIQUID	N/A	<	1.275e+03	1275.000	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	NO3-02	LIQUID	N/A		2.817e+05	1418.000	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	PO4-02	LIQUID	N/A		4.246e+03	1224.000	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	SO4-02	LIQUID	N/A		1.650e+03	1408.000	ug/mL
3	SAMPLE	S98T000668	0	@IC-01	OXALATE2	LIQUID	N/A	<	1.071e+03	1071.000	ug/mL
4	DUP	S98T000668	0	@IC-01	F-02	LIQUID	<1.22e2		2.60e+02		RPD
4	DUP	S98T000668	0	@IC-01	CL-02	LIQUID	7.77e+03		7.80e+03	0.385	RPD
4	DUP	S98T000668	0	@IC-01	NO2-02	LIQUID	7.24e+04		7.27e+04	0.414	RPD
4	DUP	S98T000668	0	@IC-01	BR-02	LIQUID	<1.28e3		<1.28e3		RPD
4	DUP	S98T000668	0	@IC-01	NO3-02	LIQUID	2.82e+05		2.83e+05	0.354	RPD
4	DUP	S98T000668	0	@IC-01	PO4-02	LIQUID	4.25e+03		3.38e+03	22.805	RPD
4	DUP	S98T000668	0	@IC-01	SO4-02	LIQUID	1.65e+03		<1.41e3		RPD
4	DUP	S98T000668	0	@IC-01	OXALATE2	LIQUID	<1.07e3		<1.07e3		RPD
5	SPK	S98T000668	0	@IC-01	F-02	LIQUID	5.9e1		5.46e+01	92.542	% Recovery
5	SPK	S98T000668	0	@IC-01	CL-02	LIQUID	8.0e1		1.02e+02	127.500	% Recovery
5	SPK	S98T000668	0	@IC-01	NO2-02	LIQUID	5.42e2		5.79e+02	106.827	% Recovery
5	SPK	S98T000668	0	@IC-01	BR-02	LIQUID	5.89e2		5.63e+02	95.586	% Recovery
5	SPK	S98T000668	0	@IC-01	NO3-02	LIQUID	5.94e2		5.86e+02	98.653	% Recovery
5	SPK	S98T000668	0	@IC-01	PO4-02	LIQUID	5.45e2		5.17e+02	94.862	% Recovery
5	SPK	S98T000668	0	@IC-01	SO4-02	LIQUID	6.32e2		5.96e+02	94.304	% Recovery
5	SPK	S98T000668	0	@IC-01	OXALATE2	LIQUID	5.34e2		5.30e+02	99.251	% Recovery
6	SAMPLE	S98T000766	0	@IC-01	F-02	LIQUID	N/A	<	1.224e+02	122.400	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 22860

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	SAMPLE	S98T000766	0	@IC-01	CL-02	LIQUID	N/A	7.747e+03	173.400	ug/mL
6	SAMPLE	S98T000766	0	@IC-01	NO2-02	LIQUID	N/A	7.180e+04	1102.000	ug/mL
6	SAMPLE	S98T000766	0	@IC-01	BR-02	LIQUID	N/A <	1.275e+03	1275.000	ug/mL
6	SAMPLE	S98T000766	0	@IC-01	NO3-02	LIQUID	N/A	2.877e+05	1418.000	ug/mL
6	SAMPLE	S98T000766	0	@IC-01	PO4-02	LIQUID	N/A	4.329e+03	1224.000	ug/mL
6	SAMPLE	S98T000766	0	@IC-01	SO4-02	LIQUID	N/A	1.904e+03	1408.000	ug/mL
6	SAMPLE	S98T000766	0	@IC-01	OXALATE2	LIQUID	N/A <	1.071e+03	1071.000	ug/mL
7	DUP	S98T000766	0	@IC-01	F-02	LIQUID	<1.22e2	<1.22e2		RPD
7	DUP	S98T000766	0	@IC-01	CL-02	LIQUID	7.75e+03	7.97e+03	2.799	RPD
7	DUP	S98T000766	0	@IC-01	NO2-02	LIQUID	7.18e+04	7.51e+04	4.493	RPD
7	DUP	S98T000766	0	@IC-01	BR-02	LIQUID	<1.28e3	1.42e+03		RPD
7	DUP	S98T000766	0	@IC-01	NO3-02	LIQUID	2.88e+05	2.89e+05	0.347	RPD
7	DUP	S98T000766	0	@IC-01	PO4-02	LIQUID	4.33e+03	4.16e+03	4.005	RPD
7	DUP	S98T000766	0	@IC-01	SO4-02	LIQUID	1.90e+03	4.62e+03	83.436	RPD
7	DUP	S98T000766	0	@IC-01	OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD

Final page for worklist# 22860

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

Joan M. Fuge 4/24/98
Reviewer Signature **Date**

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

04/08/98 15:51
A-0004-1

LABCORE Data Entry Template for Worklist# 22860

Analyst: ADP Instrument: IC0 2 Book# 129N20-D

Method: LA-533-105 Rev/Mod ED

Worklist Comment: ~~AX101~~ TX 104 (P), @IC-01 skw SKM 4/18/98

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S98T000668	0		@IC-01	LIQUID	98000129	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
4	DUP	S98T000668	0		@IC-01	LIQUID		
5	SPK	S98T000668	0		@IC-01	LIQUID		
6	SAMPLE	S98T000766	0		@IC-01	LIQUID	98000130	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
7	DUP	S98T000766	0		@IC-01	LIQUID		

Final page for worklist # 22860

Anthony Purnell 4-23-98
Analyst Signature Date

Analyst Signature Date

uploaded 4-24-98
John Worell
22860APR.CSV
Validated 4/24/98 JMLye

Data Entry Comments:

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

Sample Name: BLANK
Data File : C:\DX\DATA\98042341.D12
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 12
Analyst Jason Freyder

Date: 04/23/1998 13:57:18
Detector: CDM-1
Column: AG4A/AS4A anion column

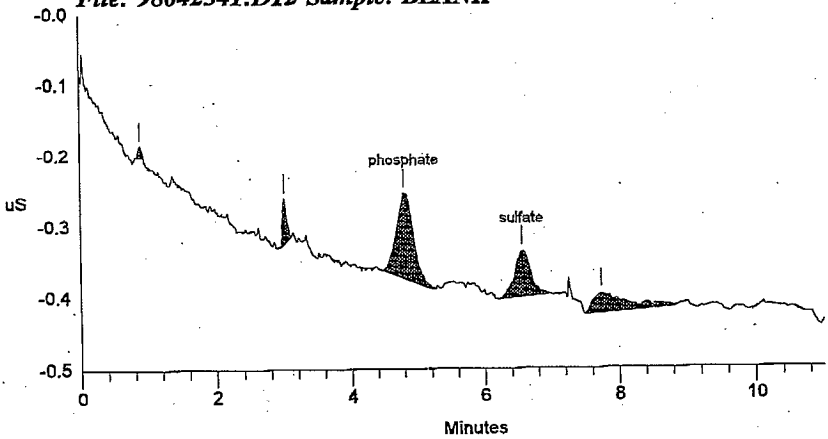
ADP 4/30/98

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3300	5Hz	0.00	11.00		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	17	63	1	
2	3.00		0.000	64	275	1	
3	4.80	phosphate	0.591	120	2120	1	-1.10
4	6.56	sulfate	-0.020	64	1070	1	2.50
5	7.73		0.000	27	975	1	
		Totals	0.571	291	4502		

File: 98042341.D12 Sample: BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ~~1006~~ TO ~~1012~~ 196 TO 202 LAD 6/18/98

Sample Name: 129N20-D STD
Data File : C:\DX\DATA\98042341.D13
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 13
Analyst :

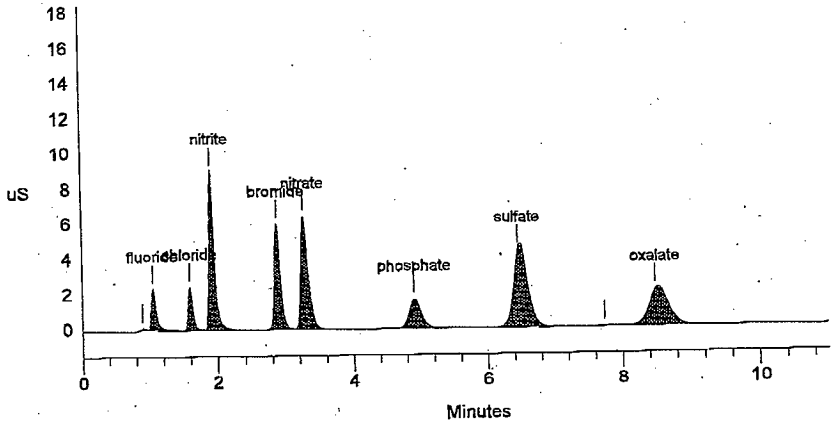
Date: 04/23/1998 14:10:40
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3300	5Hz	0.00	11.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml		Height	Area	Bl. Code	%Delta
1	0.89		0.000		86	384	2	
2	1.05	fluoride	58.006	98.32	2304	11323	2	0.64
3	1.59	chloride	81.091	101.36	2424	11181	1	0.84
4	1.91	nitrite	501.455	92.35	8979	47822	1	-1.03
5	2.87	bromide	560.673	95.19	6010	36373	1	0.82
6	3.27	nitrate	559.657	94.22	6438	47112	1	0.20
7	4.91	phosphate	520.648	95.53	1679	21165	1	1.10
8	6.45	sulfate	598.685	94.73	4409	67855	1	0.83
9	7.73		0.000		27	331	1	
10	8.48	oxalate	535.699	100.32	4071	43045	1	1.92
		Totals	3415.914		34426	286591		

File: 98042341.D13 Sample: 129N20-D STD



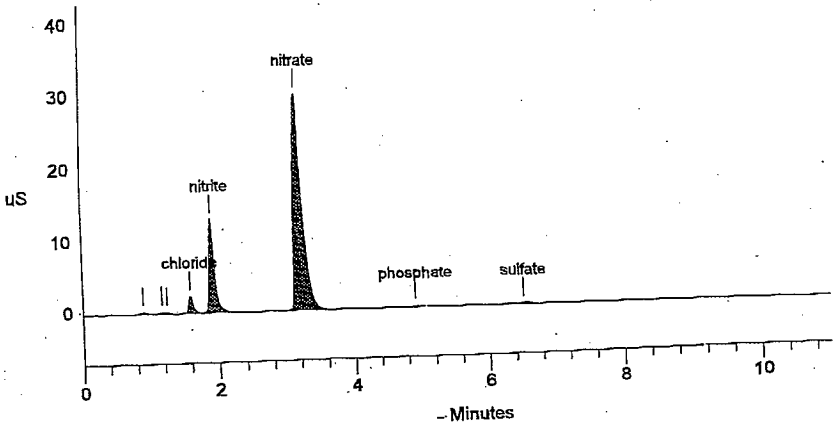
Sample Name: S98T000668 SAM Date: 04/23/1998 14:32:33
Data File : C:\DX\DATA\98042341.D14
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 14 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	3300	5Hz	0.00	11.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	174	952	1	
2	1.17		0.000	235	934	2	
3	1.25		0.000	203	852	2	
4	1.59	chloride	7767.584	2311	10600	1	0.42
5	1.91	nitrite	72372.891	12980	68996	1	-1.38
6	3.16	nitrate	281720.666	30461	257195	1	-3.07
7	4.91	phosphate	4245.597	111	1403	1	1.10
8	6.51	sulfate	1649.585	187	3074	1	1.67
		Totals	367756.324	46661	344007		

File: 98042341.D14 Sample: S98T000668 SAM



SS .100-10 — .100-10

Sample Name: S98T000668 DUP
Data File : C:\DX\DATA\98042341.D15
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 15
Analyst :

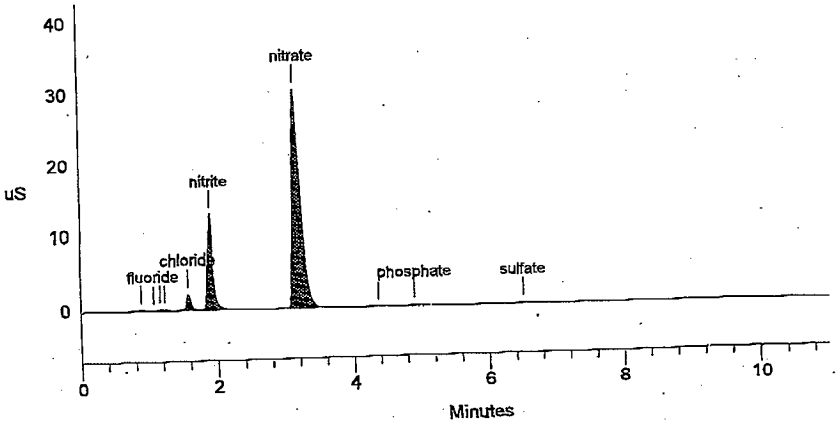
Date: 04/23/1998 14:47:12
Detector:CDM-1
Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10201	3300	5Hz	0.00	11.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	173	1011	2	
2	1.07	fluoride	259.791	61	257	2	3.21
3	1.17		0.000	268	1109	2	
4	1.24		0.000	213	946	2	
5	1.58	chloride	7796.564	2338	10640	1	0.00
6	1.90	nitrite	72699.103	13221	69315	1	-1.72
7	3.15	nitrate	283230.078	30757	258719	1	-3.48
8	4.37		0.000	33	694	1	
9	4.91	phosphate	3379.119	95	1055	1	1.10
10	6.51	sulfate	1368.574	192	2770	1	1.67
		Totals	368733.229	47351	346517		

File: 98042341.D15 Sample: S98T000668 DUP



SS .100-10 – .100-10

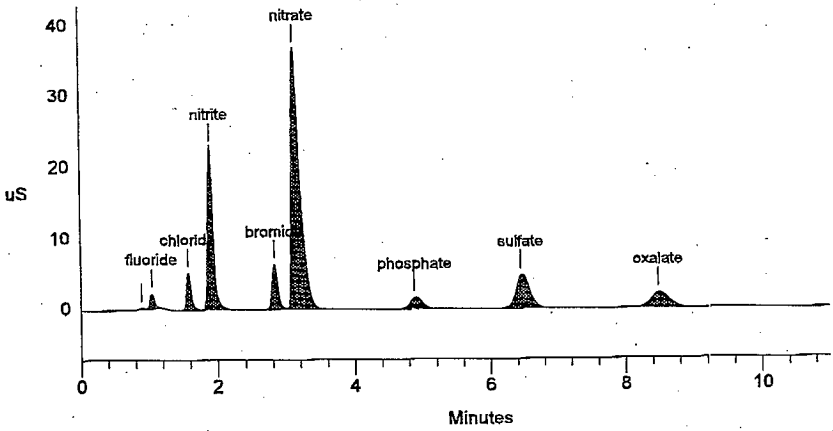
Sample Name: S98T000668 SPK
Date: 04/23/1998 15:05:21
Data File : C:\DX\DATA\98042341.D16
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 16
Detector:CDM-1
Analyst :
Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10201	3300	5Hz	0.00	11.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	200	841	1	
2	1.04	fluoride	5516.064	2233	10639	1	0.00
3	1.57	chloride	18100.878	5270	25105	1	-0.42
4	1.90	nitrite	130906.516	22789	126626	1	-1.72
5	2.83	bromide	56854.066	6363	36525	1	-0.82
6	3.12	nitrate	340898.613	36740	318396	1	-4.29
7	4.88	phosphate	56429.150	1733	22765	1	0.55
8	6.45	sulfate	61844.609	4795	69400	1	0.83
9	8.48	oxalate	53543.843	2216	42590	1	1.92
		Totals	724093.739	82338	652885		

File: 98042341.D16 Sample: S98T000668 SPK



SS.100-10-.100-10
SPK # 129N20-D

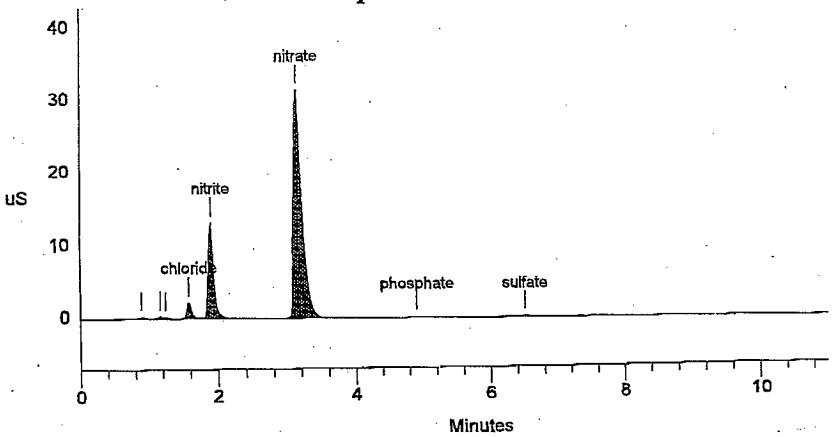
Sample Name: S98T000766 SAM Date: 04/23/1998 15:22:54
Data File : C:\DX\DATA\98042341.D17
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 17 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	3300	5Hz	0.00	11.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	160	886	2	
2	1.16		0.000	267	1268	2	
3	1.24		0.000	224	1002	2	
4	1.58	chloride	7746.684	2294	10572	1	0.00
5	1.90	nitrite	71796.942	13253	68433	1	-1.72
6	3.13	nitrate	287696.053	31738	263241	1	-3.89
7	4.91	phosphate	4329.408	107	1437	1	1.10
8	6.51	sulfate	1904.138	197	3350	1	1.67
		Totals	373473.224	48239	350188		

File: 98042341.D17 Sample: S98T000766 SAM



SS - 100-10 - 100-10

Sample Name: S98T000766 DUP
Data File : C:\DX\DATA\98042341.D18
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 18
Analyst :

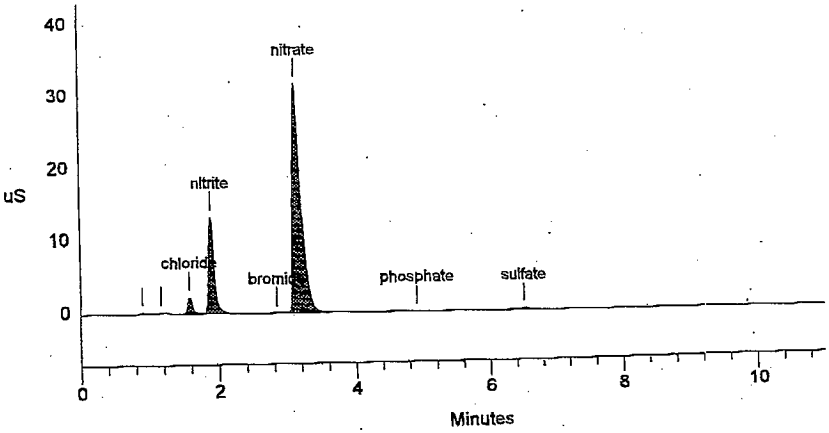
Date: 04/23/1998 15:35:29
Detector:CDM-1
Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10201	3300	5Hz	0.00	11.00	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	172	902	1	
2	1.16		0.000	158	455	1	
3	1.57	chloride	7968.411	2309	10876	1	-0.42
4	1.89	nitrite	75064.254	13361	71627	1	-2.07
5	2.84	bromide	1419.537	14	72	1	-0.35
6	3.13	nitrate	288672.551	31796	264232	1	-4.09
7	4.91	phosphate	4157.555	110	1368	1	1.10
8	6.51	sulfate	4619.157	272	6292	1	1.67
		Totals	381901.464	48192	355823		

File: 98042341.D18 Sample: S98T000766 DUP



SS .100-10 – .100-10

LABCORE Completed Worklist Report for Worklist# 22887

Analyst: adp **Instrument:** IC01 **Book#** B7N20B

Method: 1A-553-105 Rev/Mod E-0

Worklist Comment: TX104, @IC-01 skw

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		<1.18e-1		ug/mL
1	CCB		0	@IC-QC	OXALATE2	QC	1		<1.05e-1		ug/mL
2	CCV		0	@IC-QC	F	QC	5.90e1		5.78e+01	97.966	% Recovery
2	CCV		0	@IC-QC	CL	QC	8.00e1		7.57e+01	94.625	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.42e2		5.06e+02	93.358	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e2		6.06e+02	102.886	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e2		5.85e+02	98.485	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e2		5.23e+02	95.963	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e2		6.39e+02	101.108	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.31e2		5.16e+02	97.175	% Recovery
3	SAMPLE	S98T000764	0	@IC-01	F-02	LIQUID	N/A	<	1.224e+02	122.400	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	CL-02	LIQUID	N/A		7.114e+03	173.400	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	NO2-02	LIQUID	N/A		6.684e+04	1102.000	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	BR-02	LIQUID	N/A	<	1.275e+03	1275.000	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	NO3-02	LIQUID	N/A		2.851e+05	1418.000	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	PO4-02	LIQUID	N/A		4.518e+03	1224.000	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	SO4-02	LIQUID	N/A		2.288e+03	1408.000	ug/mL
3	SAMPLE	S98T000764	0	@IC-01	OXALATE2	LIQUID	N/A	<	1.071e+03	1071.000	ug/mL
4	DUP	S98T000764	0	@IC-01	F-02	LIQUID	<1.22e2		<1.22e2		RPD
4	DUP	S98T000764	0	@IC-01	CL-02	LIQUID	7.11e+03		7.14e+03	0.421	RPD
4	DUP	S98T000764	0	@IC-01	NO2-02	LIQUID	6.68e+04		6.69e+04	0.150	RPD
4	DUP	S98T000764	0	@IC-01	BR-02	LIQUID	<1.28e3		<1.28e3		RPD
4	DUP	S98T000764	0	@IC-01	NO3-02	LIQUID	2.85e+05		2.83e+05	0.704	RPD
4	DUP	S98T000764	0	@IC-01	PO4-02	LIQUID	4.52e+03		4.73e+03	4.541	RPD
4	DUP	S98T000764	0	@IC-01	SO4-02	LIQUID	2.29e+03		2.59e+03	12.295	RPD
4	DUP	S98T000764	0	@IC-01	OXALATE2	LIQUID	<1.07e3		<1.07e3		RPD
5	SPK	S98T000764	0	@IC-01	F-02	LIQUID	5.90e1		5.29e+01	89.661	% Recovery
5	SPK	S98T000764	0	@IC-01	CL-02	LIQUID	8.00e1		8.33e+01	104.125	% Recovery
5	SPK	S98T000764	0	@IC-01	NO2-02	LIQUID	5.42e2		5.65e+02	104.244	% Recovery
5	SPK	S98T000764	0	@IC-01	BR-02	LIQUID	5.89e2		5.78e+02	98.132	% Recovery
5	SPK	S98T000764	0	@IC-01	NO3-02	LIQUID	5.94e2		5.91e+02	99.495	% Recovery
5	SPK	S98T000764	0	@IC-01	PO4-02	LIQUID	5.45e2		5.02e+02	92.110	% Recovery
5	SPK	S98T000764	0	@IC-01	SO4-02	LIQUID	6.32e2		6.67e+02	105.538	% Recovery
5	SPK	S98T000764	0	@IC-01	OXALATE2	LIQUID	5.31e2		5.22e+02	98.305	% Recovery
6	SAMPLE	S98T000779	0	@IC-01	F-02	LIQUID	N/A	<	1.333e+01	13.330	ug/mL

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

HNF-SD-WM-DP-305, Rev 0

LABCORE Completed Worklist Report for Worklist# 22887

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S98T000779	0	@IC-01	CL-02	LIQUID	N/A		3.606e+01	18.890	ug/mL
6	SAMPLE	S98T000779	0	@IC-01	NO2-02	LIQUID	N/A		4.498e+02	120.000	ug/mL
6	SAMPLE	S98T000779	0	@IC-01	BR-02	LIQUID	N/A		2.585e+04	138.900	ug/mL
6	SAMPLE	S98T000779	0	@IC-01	NO3-02	LIQUID	N/A		1.581e+03	154.400	ug/mL
6	SAMPLE	S98T000779	0	@IC-01	PO4-02	LIQUID	N/A	<	1.333e+02	133.300	ug/mL
6	SAMPLE	S98T000779	0	@IC-01	SO4-02	LIQUID	N/A	<	1.533e+02	153.300	ug/mL
6	SAMPLE	S98T000779	0	@IC-01	OXALATE2	LIQUID	N/A	<	1.167e+02	116.700	ug/mL
7	DUP	S98T000779	0	@IC-01	F-02	LIQUID	<1.33e1		1.94e+01		RPD
7	DUP	S98T000779	0	@IC-01	CL-02	LIQUID	3.61e+01		4.84e+01	29.112	RPD
7	DUP	S98T000779	0	@IC-01	NO2-02	LIQUID	4.50e+02		4.82e+02	6.867	RPD
7	DUP	S98T000779	0	@IC-01	BR-02	LIQUID	2.58e+04		2.89e+04	11.335	RPD
7	DUP	S98T000779	0	@IC-01	NO3-02	LIQUID	1.58e+03		1.67e+03	5.538	RPD
7	DUP	S98T000779	0	@IC-01	PO4-02	LIQUID	<1.33e2		<1.33e2		RPD
7	DUP	S98T000779	0	@IC-01	SO4-02	LIQUID	<1.53e2		<1.53e2		RPD
7	DUP	S98T000779	0	@IC-01	OXALATE2	LIQUID	<1.17e2		<1.17e2		RPD

Final page for worklist# 22887

Analyst Signature Date

Analyst Signature Date

Jann M. Luye 5/26/98
Reviewer Signature Date

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

HNF-SD-WM-DP-305, Rev 0

LABCORE Data Entry Template for Worklist# 22887

Analyst: ADP **Instrument:** IC0 1 **Book#** 137N208

Method: LA-533-105 Rev/Mod E0

Worklist Comment: TX104, @IC-01 skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S98T000764	0		@IC-01	LIQUID	98000130	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
4	DUP	S98T000764	0		@IC-01	LIQUID		
5	SPK	S98T000764	0		@IC-01	LIQUID		
6	SAMPLE	S98T000779	0		@IC-01	LIQUID	98000130	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
7	DUP	S98T000779	0		@IC-01	LIQUID		

Final page for worklist # 22887

Anthony Pacuntes 5-21-98
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 5-22-98
John Worrell
22887MAY.CSV
Validated 5/26/98 MLSuge

Data Entry Comments:

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

~~HNF-SD-WM-DP-305, Rev 0~~
Initial 7-7-98

A-0010-IC DATA FILE/WORKLIST RESOLUTION 22-May-98

Worklist#: 22887

		Seq	Type	Sample #
-	=>	1	CCB	
	=>	2	CCV	
	=>	3	SAMPLE	S98T000764
	=>	4	DUP	S98T000764
	=>	5	SPK	S98T000764
	=>	6	SAMPLE	S98T000779
	=>	7	DUP	S98T000779
+				

Data File: 22887MAY.CSV

		Seq#	Data File	Sample Name	Dilution
-		1	98051521.d16	BLANK	1.00
		2	98051521.d17	137N20-B	101.00
		3	98051521.d18	S98T00764 SAM	10201.00
		4	98051521.d19	S98T00764 DUP	10201.00
		5	98051521.d20	S98T00764 SPK	10201.00
		6	98051521.d22	S98T00779 SAM	1111.00
		7	98051521.d25	S98T000779 DUP	1111.00
+					

Save(F4) Abort(Shift-F3) ListFiles(Shift-F1) UploadFile(F8)

HNF-SD-WM-DP-305 REV. 0

~~HNF-SD-WM-DP-305, Rev 0~~ MEZ 7-98

Date: 05/21/1998 13:38:39

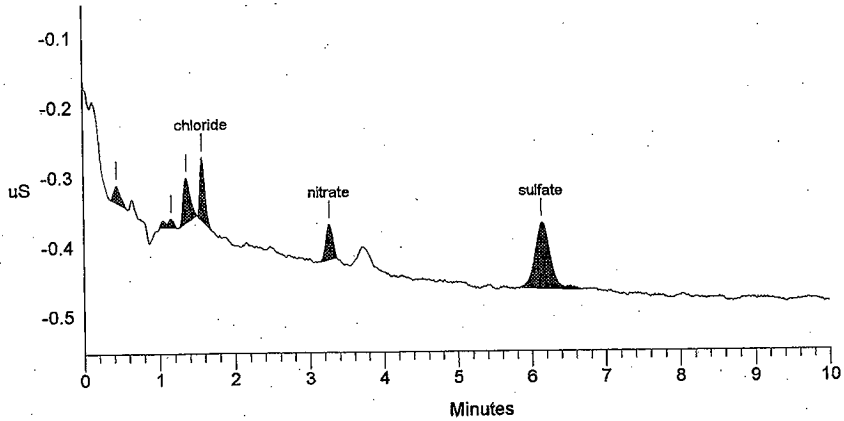
Sample Name: BLANK
Data File : C:\DX\DATA\98051521.D16
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 16 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.44		0.000	24	153	1	
2	1.16		0.000	12	96	1	
3	1.37		0.000	63	407	1	
4	1.57	chloride	0.015	91	403	1	-0.42
5	3.27	nitrate	0.083	49	306	1	-1.90
6	6.13	sulfate	0.008	93	1323	1	-6.50
		Totals	0.106	332	2687		

File: 98051521.D16 Sample: BLANK



SS 1

~~HNF-SD-WM-DP-305, Rev 0~~
MJE 7-7-98

Data Reprocessed On 05/22/1998 08:11:36

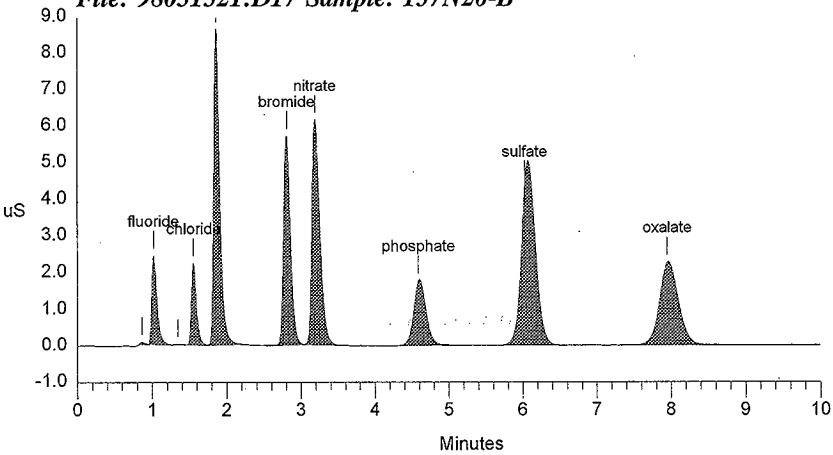
Sample Name: 137N20-B Date: 05/21/1998 14:01:01
Data File : F:\DATA\98051521.D17
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 17 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.86		0.000	64	268	2	
2	1.02	fluoride	57.798	2427	11773	2	0.00
3	1.35		0.000	23	136	1	
4	1.55	chloride	75.655	2227	10262	1	-1.69
5	1.86	nitrite	505.840	8633	47542	1	-2.62
6	2.81	bromide	606.097	5703	36158	1	-3.88
7	3.19	nitrate	584.738	6133	45289	1	-0.10
8	4.59	phosphate	522.696	1780	21104	1	-6.01
9	6.03	sulfate	638.961	4349	65687	1	-8.13
10	7.95	oxalate	516.310	2267	40340	1	-8.02
		Totals	3508.095	33605	278559		

File: 98051521.D17 Sample: 137N20-B



HNF-SD-WM-DP-305, Rev 0 MTG 7/7/98

Data Reprocessed On 05/22/1998 08:16:21

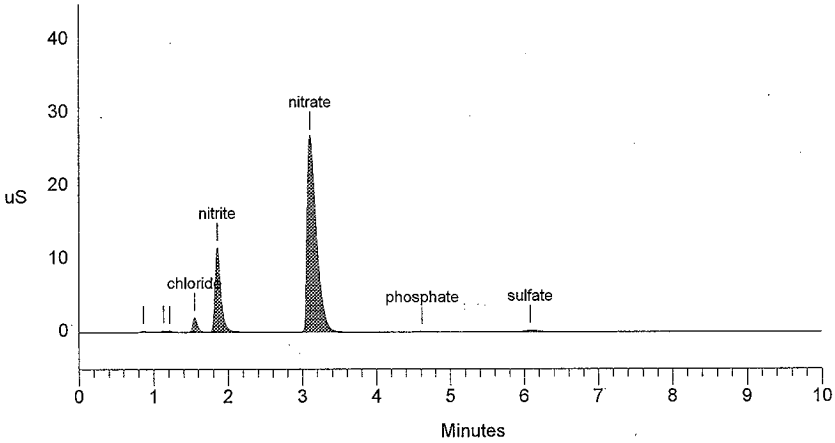
Sample Name: S98T00764 SAM Date: 05/21/1998 14:14:26
Data File : F:\DATA\98051521.D18
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 18 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.86		0.000	159	877	2	
2	1.13		0.000	236	1176	2	
3	1.21		0.000	185	866	2	
4	1.55	chloride	7114.411	2015	9560	1	-2.11
5	1.85	nitrite	66843.891	11533	62538	1	-2.97
6	3.10	nitrate	285123.735	26788	234724	1	8.77
7	4.61	phosphate	4517.587	123	1400	1	-5.46
8	6.08	sulfate	2287.520	255	3492	1	-7.32
		Totals	365887.143	41294	314633		

File: 98051521.D18 Sample: S98T00764 SAM



~~HNF-SD-WM-DP-305, Rev 0~~ MA 7-7-98

Data Reprocessed On 05/22/1998 08:17:19

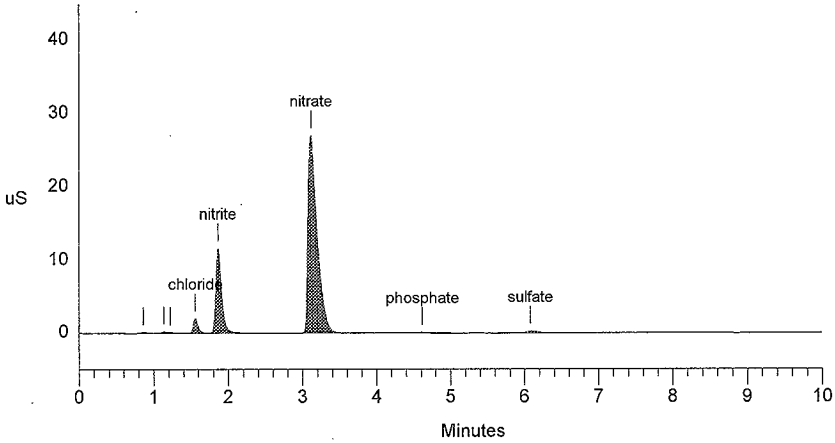
Sample Name: S98T00764 DUP	Date: 05/21/1998 14:32:24
Data File : F:\DATA\98051521.D19	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 19	Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	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	0.85		0.000	159	901	2	
2	1.13		0.000	231	1168	2	
3	1.22		0.000	172	777	2	
4	1.55	chloride	7142.497	2056	9597	1	-1.69
5	1.86	nitrite	66920.158	11661	62611	1	-2.62
6	3.11	nitrate	283383.695	27058	233160	1	9.24
7	4.61	phosphate	4725.928	124	1484	1	-5.46
8	6.08	sulfate	2588.397	258	3787	1	-7.32
		Totals	364760.675	41720	313485		

File: 98051521.D19 Sample: S98T00764 DUP



Data Reprocessed On 05/22/1998 08:12:41 mtt 7-7-98

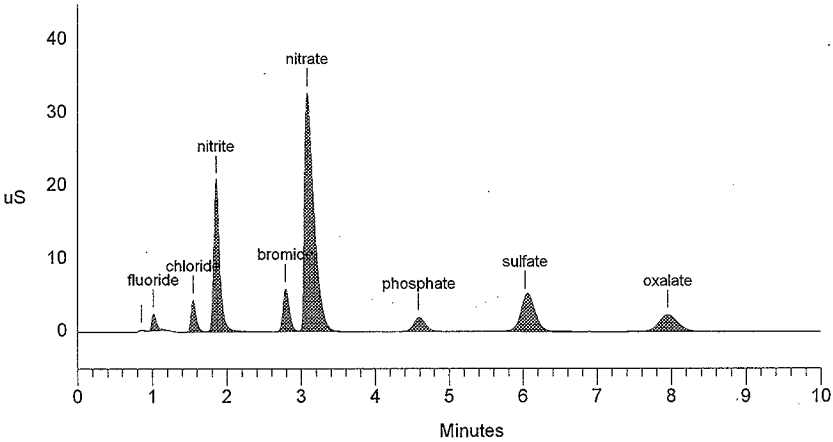
Sample Name: S98T00764 SPK	Date: 05/21/1998 14:44:35
Data File : F:\DATA\98051521.D20	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 20	Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10201	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	0.85		0.000	201	837	1	
2	1.01	fluoride	5339.666	2307	10743	1	-0.65
3	1.55	chloride	15526.464	4379	20928	1	-2.11
4	1.85	nitrite	123900.668	20776	116858	1	-2.97
5	2.79	bromide	58345.317	5842	34407	1	-4.57
6	3.08	nitrate	344779.741	32645	289530	1	0.00
7	4.59	phosphate	55197.718	1937	22099	1	-6.01
8	6.03	sulfate	69674.180	4900	70917	1	-8.13
9	7.95	oxalate	52745.117	2301	40810	1	-8.02
		Totals	725508.872	75288	607129		

File: 98051521.D20 Sample: S98T00764 SPK



HNF-SD-WM-DP-305 REV. 0 ~~HNF-SD-WM-DP-305, Rev 0~~ MEZ 7-7-98

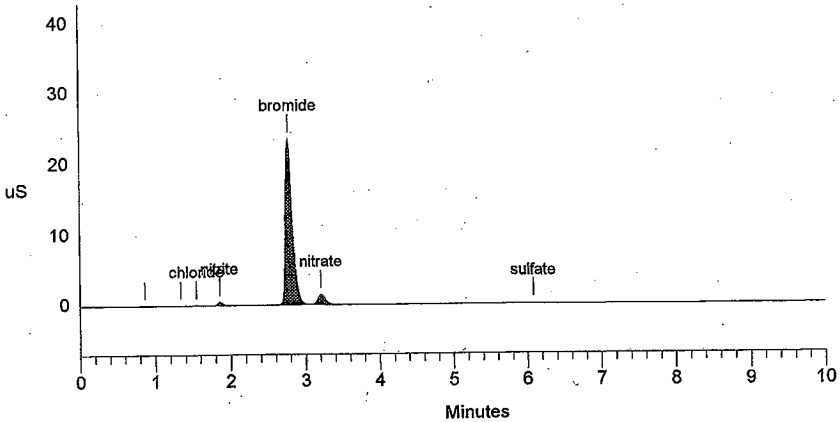
Sample Name: S98T00779 SAM Date: 05/21/1998 15:12:59
Data File : C:\DX\DATA\98051521.D22
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 22 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1111	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	0.86		0.000	34	172	1	
2	1.34		0.000	33	192	1	
3	1.55	chloride	36.065	137	630	1	-2.11
4	1.85	nitrite	449.787	537	2848	1	-2.97
5	2.77	bromide	25848.293	23502	150212	1	-5.02
6	3.21	nitrate	1581.412	1476	10751	1	-3.70
7	6.08	sulfate	32.446	114	1537	1	-7.32
		Totals	27948.004	25833	166342		

File: 98051521.D22 Sample: S98T00779 SAM



SS 100-10-1-10

HNF-SD-WM-DP-305 REV. 0

~~HNF-SD-WM-DP-305, Rev 0~~ MEZ 7-7-98

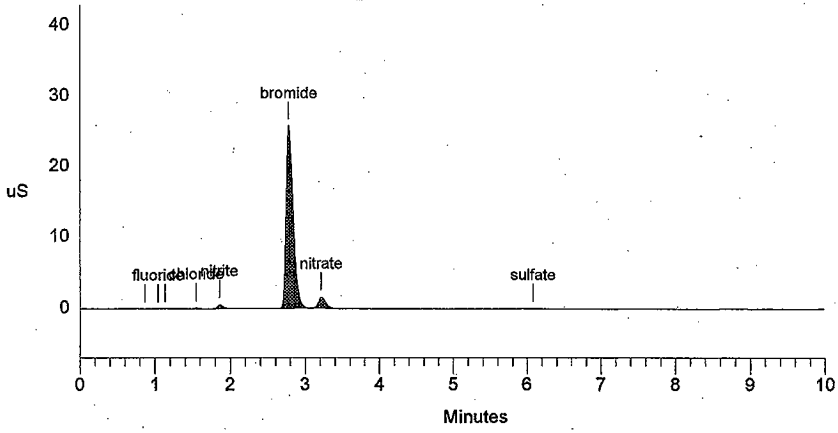
Sample Name: S98T000779 DUP Date: 05/21/1998 15:57:13
Data File : C:\DX\DATA\98051521.D25
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 25 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1111	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	0.87		0.000	25	128	2	
2	1.04	fluoride	19.360	36	170	2	1.96
3	1.13		0.000	88	463	2	
4	1.55	chloride	48.372	161	777	1	-2.11
5	1.85	nitrite	481.934	570	3129	1	-2.97
6	2.77	bromide	28875.210	25808	169594	1	-5.02
7	3.21	nitrate	1666.787	1587	11352	1	-3.50
8	6.08	sulfate	-62.008	56	686	1	-7.32
		Totals	31029.655	28331	186299		

File: 98051521.D25 Sample: S98T000779 DUP



LABCORE Completed Worklist Report for Worklist# 23158

Analyst: glm2 **Instrument:** IC01 **Book#** 129N 201

Method: LA-533-105 Rev/Mod E-0

Worklist Comment: @IC-01 FOR ~~AX101~~ TX-104 RTS
RDE 6/8/98

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		3.16e-01	0.316	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		1.52e-01	0.152	ug/mL
2	CCV			0	@IC-QC	F	QC	5.9e1		5.60e+01	94.915	% Recovery
2	CCV			0	@IC-QC	CL	QC	8.0e1		7.55e+01	94.375	% Recovery
2	CCV			0	@IC-QC	NO2	QC	5.42e2		4.87e+02	89.852	% Recovery
2	CCV			0	@IC-QC	BR	QC	5.89e2		5.95e+02	101.019	% Recovery
2	CCV			0	@IC-QC	NO3	QC	5.94e2		6.08e+02	102.357	% Recovery
2	CCV			0	@IC-QC	PO4	QC	5.45e2		5.20e+02	95.413	% Recovery
2	CCV			0	@IC-QC	SO4	QC	6.32e2		6.41e+02	101.424	% Recovery
2	CCV			0	@IC-QC	OXALATE2	QC	5.34e2		5.28e+02	98.876	% 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	S98T000688	0	W	@IC-01	F-02	SOLID	N/A		2.100e+02	45.230	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	CL-02	SOLID	N/A		1.535e+03	64.090	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	NO2-02	SOLID	N/A		1.459e+04	407.200	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	BR-02	SOLID	N/A	<	4.712e+02	471.200	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	NO3-02	SOLID	N/A		1.181e+05	523.900	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	PO4-02	SOLID	N/A		4.384e+03	452.300	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	SO4-02	SOLID	N/A	<	5.202e+02	520.200	ug/g
4	SAMPLE	S98T000688	0	W	@IC-01	OXALATE2	SOLID	N/A		6.550e+02	395.900	ug/g
5	DUP	S98T000688	0	W	@IC-01	F-02	SOLID	2.10e+02		1.75e+02	18.182	RPD
5	DUP	S98T000688	0	W	@IC-01	CL-02	SOLID	1.54e+03		1.39e+03	10.239	RPD
5	DUP	S98T000688	0	W	@IC-01	NO2-02	SOLID	1.46e+04		1.32e+04	10.072	RPD
5	DUP	S98T000688	0	W	@IC-01	BR-02	SOLID	<4.71e2		<4.67e2		RPD
5	DUP	S98T000688	0	W	@IC-01	NO3-02	SOLID	1.18e+05		1.12e+05	5.217	RPD
5	DUP	S98T000688	0	W	@IC-01	PO4-02	SOLID	4.38e+03		3.98e+03	9.569	RPD
5	DUP	S98T000688	0	W	@IC-01	SO4-02	SOLID	<5.20e2		<5.16e2		RPD
5	DUP	S98T000688	0	W	@IC-01	OXALATE2	SOLID	6.55e+02		4.90e+02	28.821	RPD
6	SPK	S98T000688	0	W	@IC-01	F-02	SOLID	5.9e1		5.99e+01	101.525	% Recovery

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

LABCORE Completed Worklist Report for Worklist# 23158

Seq	Type	Sample#	R	A		Test	Matrix	Actual		Found	DL or Yield	Unit
6	SPK	S98T000688	0	W	@IC-01	CL-02	SOLID	8.0e1		7.60e+01	95.000	% Recovery
6	SPK	S98T000688	0	W	@IC-01	NO2-02	SOLID	5.42e2		4.79e+02	88.376	% Recovery
6	SPK	S98T000688	0	W	@IC-01	BR-02	SOLID	5.89e2		5.81e+02	98.642	% Recovery
6	SPK	S98T000688	0	W	@IC-01	NO3-02	SOLID	5.94e2		4.14e+02	69.697	% Recovery
6	SPK	S98T000688	0	W	@IC-01	PO4-02	SOLID	5.45e2		4.65e+02	85.321	% Recovery
6	SPK	S98T000688	0	W	@IC-01	SO4-02	SOLID	6.32e2		6.44e+02	101.899	% Recovery
6	SPK	S98T000688	0	W	@IC-01	OXALATE2	SOLID	5.34e2		5.09e+02	95.318	% Recovery
7	SAMPLE	S98T000689	0	W	@IC-01	F-02	SOLID	N/A		5.532e+01	49.430	ug/g
7	SAMPLE	S98T000689	0	W	@IC-01	CL-02	SOLID	N/A		1.265e+03	70.030	ug/g
7	SAMPLE	S98T000689	0	W	@IC-01	NO2-02	SOLID	N/A		1.240e+04	444.800	ug/g
7	SAMPLE	S98T000689	0	W	@IC-01	BR-02	SOLID	N/A	<	5.149e+02	514.900	ug/g
7	SAMPLE	S98T000689	0	W	@IC-01	PO4-02	SOLID	N/A		1.571e+03	494.300	ug/g
7	SAMPLE	S98T000689	0	W	@IC-01	SO4-02	SOLID	N/A	<	5.685e+02	568.500	ug/g
7	SAMPLE	S98T000689	0	W	@IC-01	OXALATE2	SOLID	N/A		4.637e+02	432.600	ug/g
8	DUP	S98T000689	0	W	@IC-01	F-02	SOLID	5.53e+01		6.55e+01	16.887	RPD
8	DUP	S98T000689	0	W	@IC-01	CL-02	SOLID	1.26e+03		1.41e+03	11.236	RPD
8	DUP	S98T000689	0	W	@IC-01	NO2-02	SOLID	1.24e+04		1.37e+04	9.962	RPD
8	DUP	S98T000689	0	W	@IC-01	BR-02	SOLID	<5.15e2		<5.06e2		RPD
8	DUP	S98T000689	0	W	@IC-01	NO3-02	SOLID	1.87e+05		8.73e+04	72.694	RPD
8	DUP	S98T000689	0	W	@IC-01	PO4-02	SOLID	1.57e+03		1.50e+03	4.560	RPD
8	DUP	S98T000689	0	W	@IC-01	SO4-02	SOLID	<5.68e2		7.06e+02		RPD
8	DUP	S98T000689	0	W	@IC-01	OXALATE2	SOLID	4.64e+02		<4.25e2		RPD

Final page for worklist# 23158

Analyst Signature Date

Analyst Signature Date

Janice M. Lupe 5/5/98
Reviewer Signature Date

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

failed 5/4/98 ~~HNF-SD-WM-DP-305 REV. 0~~ ~~HNF-SD-WM-DP-300 REV. 0~~ LAD 5/4/98

LABCORE Data Entry Template for Worklist# 23158

Analyst: GLM **Instrument:** IC0 1 **Book#** 129N20-D

Method: LA-533-105 Rev/Mod E0 HNF-SD-~~WM-DP~~-305 REV. 0

Worklist Comment: @IC-01 FOR ~~AX101~~ TX104 gmz 5/4/98 RTS

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	S98T000688	0	W	@IC-01	SOLID	98000129	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
5	DUP	S98T000688	0	W	@IC-01	SOLID		
6	SPK	S98T000688	0	W	@IC-01	SOLID		
7	SAMPLE	S98T000689	0	W	@IC-01	SOLID	98000129	TX-104
	Analytes Requested:				BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
8	DUP	S98T000689	0	W	@IC-01	SOLID		

Final page for worklist # 23158

GM Calmat 5/4/98
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 5-4-98
John Worell

689 Rejected for NO3. Rest Validated
JM Fuge

Data Entry Comments: #688 Black specks in sample
Tech says this runs in replicate because the sample + dup RPDs are way off, especially for NO3 on 689

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

HNF-SD-WM-DP-305 REV. 0 ~~HNF-SD-WM-DP-300 REV. 0~~

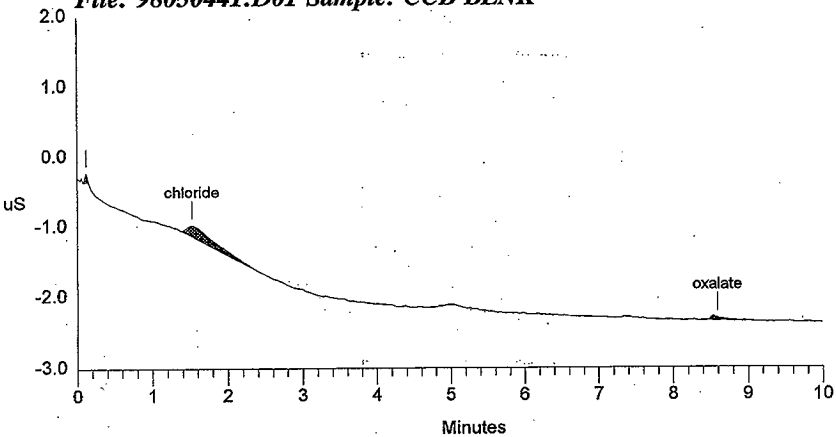
Sample Name: CCB BLNK Date: 05/04/1998 07:06:14
Data File : C:\DX\DATA\98050441.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.12		0.000	132	303	1	
2	1.52	chloride	0.316	152	4415	1	-3.80
3	8.59	oxalate	0.152	41	750	1	-0.62
		Totals	0.468	324	5468		

File: 98050441.D01 Sample: CCB BLNK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 217 TO 224

HNF-SD-~~WM-DP-305~~ REV. 0 ~~HNF-SD-WM-DP-300 REV. 0~~ LAD 6/8/98

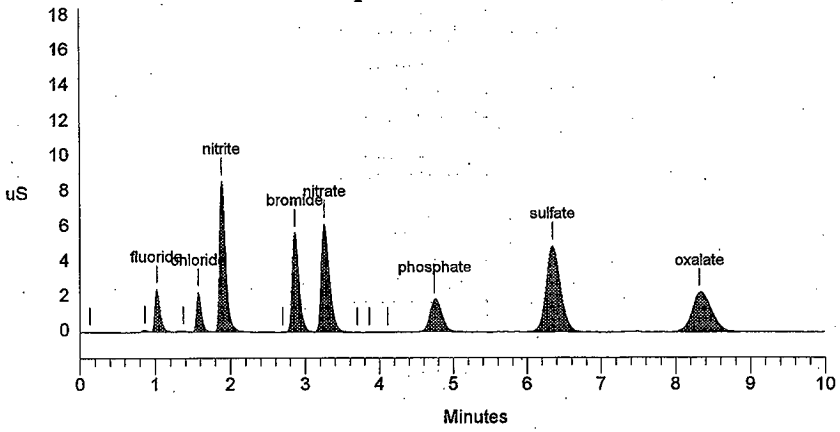
Sample Name: CCV 129N20-D Date: 05/04/1998 07:19:22
Data File : C:\DX\DATA\98050441.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst : [illegible] 5/4/98 Column: AG4A/AS4A anion column

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	0.13		0.000		55	197	1	
2	0.86		0.000		97	436	2	
3	1.02	fluoride	55.954	94.83	2422	11388	2	0.00
4	1.37		0.000		69	536	1	
5	1.57	chloride	75.490	94.36	2258	10240	1	-0.42
6	1.89	nitrite	486.939	89.41	8558	45725	1	-1.22
7	2.69		0.000		24	57	1	
8	2.86	bromide	594.696	100.96	5654	35455	1	-2.05
9	3.26	nitrate	607.972	102.35	6155	47131	1	-2.10
10	3.70		0.000		24	75	1	
11	3.86		0.000		26	132	1	
12	4.11		0.000		19	72	1	
13	4.75	phosphate	519.600	95.33	1842	20975	1	-2.73
14	6.35	sulfate	641.300	101.47	4915	65927	1	-3.25
15	8.32	oxalate	528.207	98.91	2237	41285	1	-3.70
		Totals	3510.159		34357	279630		

File: 98050441.D02 Sample: CCV 129N20-D



HNF-SD-WM-DP-305 REV. 0 ~~HNF-SD-WM-DP-300 REV. 0~~ LAD 6/8/98

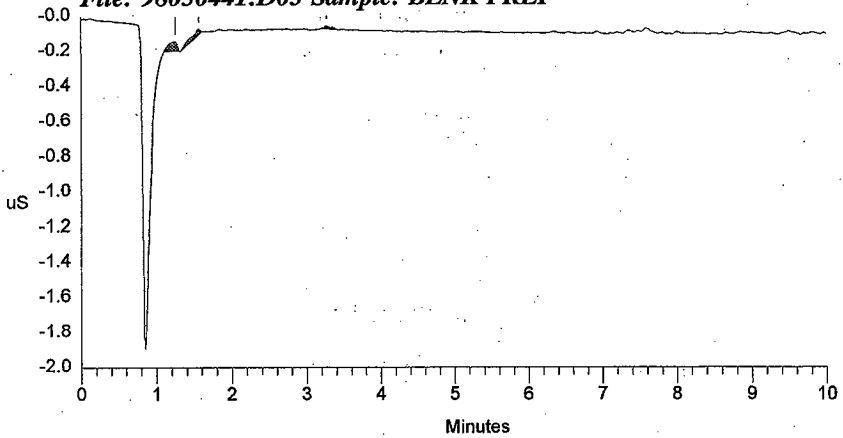
Sample Name: BLNK PREP Date: 05/04/1998 09:28:06
Data File : C:\DX\DATA\98050441.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	1.25		0.000	57	454	1	
2	1.56	chloride	0.013	35	370	1	-1.27
3	3.27	nitrate	0.057	16	106	1	-1.70
		Totals	0.070	108	930		

File: 98050441.D03 Sample: BLNK PREP



Data Reprocessed On 05/04/1998 13:04:23

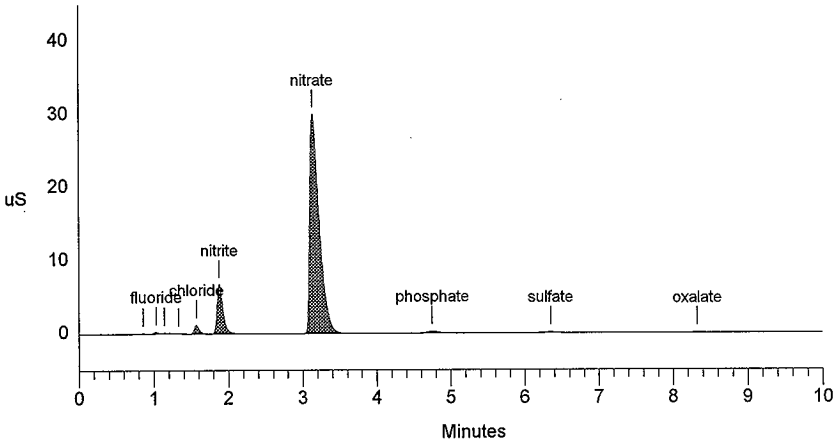
Sample Name: S98T000688 Date: 05/04/1998 10:34:18
Data File : F:\DATA\98050441.D09
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	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	0.85		0.000	74	332	1	
2	1.03	fluoride	1.170	222	963	2	0.65
3	1.14		0.000	69	220	2	
4	1.33		0.000	33	182	1	
5	1.57	chloride	8.549	1212	5636	1	-0.84
6	1.87	nitrite	81.282	6642	36495	1	-1.92
7	3.13	nitrate	657.804	29941	266049	1	0.11
8	4.75	phosphate	24.425	295	4367	1	-2.73
9	6.35	sulfate	2.664	181	2516	1	-3.25
10	8.32	oxalate	3.649	53	926	1	-3.70
		Totals	779.544	38723	317686		

File: 98050441.D09 Sample: S98T000688



LAD 6/9/98

~~HNF-SD-WM-DP-300 REV. 0~~

HNF-SD-WM-DP-305 REV. 0

Data Reprocessed On 05/04/1998 10:26:29

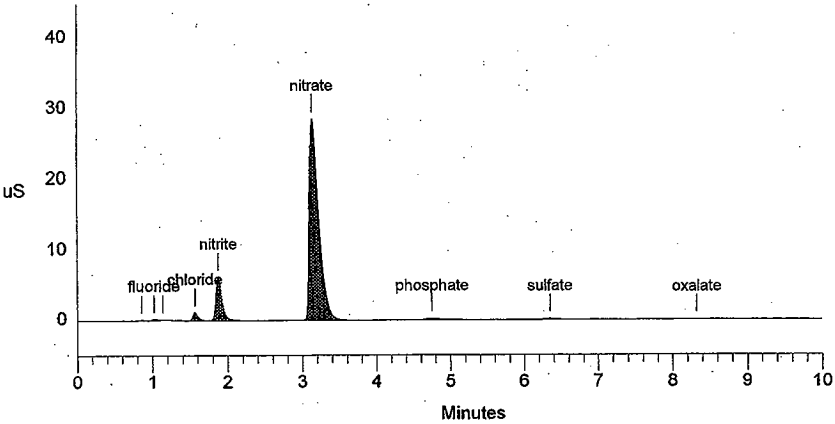
Sample Name: S98T000688 DUP Date: 05/04/1998 10:20:31
Data File : C:\DX\DATA\98050441.D07
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	0.85		0.000	70	310	1	
2	1.02	fluoride	0.984	185	779	2	0.00
3	1.14		0.000	65	188	2	
4	1.56	chloride	7.827	1126	5174	1	-1.27
5	1.87	nitrite	74.252	6171	33245	1	-1.92
6	3.13	nitrate	628.982	28546	253211	1	0.11
7	4.75	phosphate	22.358	241	3961	1	-2.73
8	6.35	sulfate	1.644	147	2029	1	-3.25
9	8.32	oxalate	2.753	29	587	1	-3.70
		Totals	738.799	36579	299484		

File: 98050441.D07 Sample: S98T000688 DUP



HNF-SD-WM-DP-305 REV. 0 ~~HNF-SD-WM-DP-300 REV. 0~~ LAD 6/8/98

Data Reprocessed On 05/04/1998 10:59:47

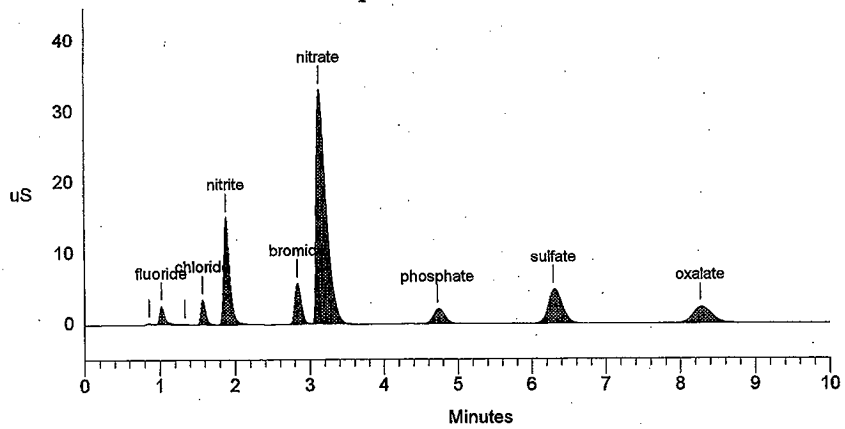
Sample Name: S98T000688 SPK Date: 05/04/1998 10:48:39
Data File : C:\DX\DATA\98050441.D10
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	0.85		0.000	139	679	2	
2	1.02	fluoride	13.149	2507	12913	3	0.00
3	1.33		0.000	47	281	4	
4	1.57	chloride	23.746	3447	15491	1	-0.84
5	1.88	nitrite	177.164	15119	80830	1	-1.57
6	2.83	bromide	116.176	5749	33243	1	-2.97
7	3.13	nitrate	740.516	33025	303634	1	-0.11
8	4.72	phosphate	117.462	1991	22869	1	-3.28
9	6.29	sulfate	128.832	4753	63703	1	-4.07
10	8.27	oxalate	105.498	2204	39631	1	-4.32
		Totals	1422.542	68981	573276		

File: 98050441.D10 Sample: S98T000688 SPK



Data Reprocessed On 05/04/1998 13:08:43

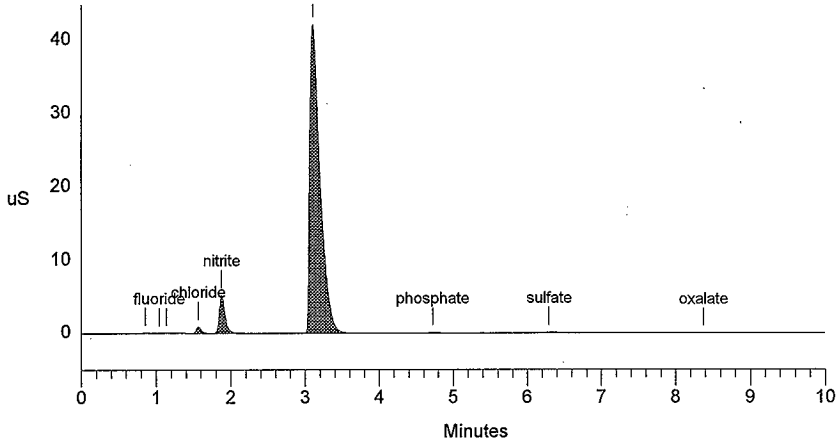
Sample Name: S98T000689 Date: 05/04/1998 11:27:19
Data File : F:\DATA\98050441.D13
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	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	0.85		0.000	94	448	1	
2	1.04	fluoride	0.282	25	87	1	1.96
3	1.14		0.000	49	142	1	
4	1.56	chloride	6.447	930	4293	1	-1.27
5	1.87	nitrite	63.206	5266	28138	1	-1.92
6	3.10	nitrate	954.915	42184	406902	1	0.00
7	4.72	phosphate	8.009	89	1147	1	-3.28
8	6.29	sulfate	0.922	125	1685	1	-4.07
9	8.37	oxalate	2.364	19	440	1	-3.09
		Totals	1036.145	48782	443281		

File: 98050441.D13 Sample: S98T000689



HNF-SD-WM-DP-305 REV. 0 305 LAD 6/8/98 ~~HNF-SD-WM-DP-300 REV. 0~~

Data Reprocessed On 05/04/1998 11:20:16

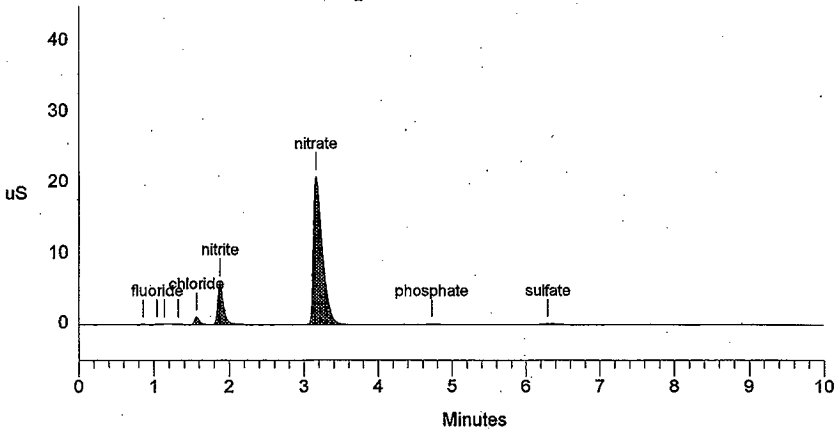
Sample Name: S98T000689 DUP Date: 05/04/1998 11:15:25
Data File : C:\DX\DATA\98050441.D12
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	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	0.85		0.000	41	197	1	
2	1.04	fluoride	0.340	38	144	1	1.96
3	1.14		0.000	67	205	1	
4	1.32		0.000	29	158	1	
5	1.56	chloride	7.338	1048	4861	1	-1.27
6	1.87	nitrite	71.049	5926	31764	1	-1.92
7	3.16	nitrate	453.189	20923	177551	1	0.00
8	4.72	phosphate	7.799	96	1106	1	-3.28
9	6.29	sulfate	3.664	166	2993	1	-4.07
		Totals	543.378	28333	218979		

File: 98050441.D12 Sample: S98T000689 DUP



LABCORE Completed Worklist Report for Worklist# 23342

Analyst: ehc **Instrument:** IC02 **Book#** 137N20B

Method: LA-533-705 Rev/Mod E-0

Worklist Comment: TX-104 IC lad

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		1.69e-01	0.169	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	5.90e1		5.96e+01	101.017	% Recovery
2	CCV		0		@IC-QC	CL	QC	8.00e1		8.08e+01	101.000	% Recovery
2	CCV		0		@IC-QC	NO2	QC	5.42e2		5.22e+02	96.310	% Recovery
2	CCV		0		@IC-QC	BR	QC	5.89e2		5.83e+02	98.981	% Recovery
2	CCV		0		@IC-QC	NO3	QC	5.94e2		5.90e+02	99.327	% Recovery
2	CCV		0		@IC-QC	PO4	QC	5.45e2		5.59e+02	102.569	% Recovery
2	CCV		0		@IC-QC	SO4	QC	6.32e2		6.28e+02	99.367	% Recovery
2	CCV		0		@IC-QC	OXALATE2	QC	5.31e2		5.31e+02	100.000	% 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		1.42e-01	0.142	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	S98T000755	0	W	@IC-01	F-02	SOLID	N/A		1.156e+02	87.780	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	CL-02	SOLID	N/A		5.396e+03	124.400	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	NO2-02	SOLID	N/A		5.036e+04	790.100	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	BR-02	SOLID	N/A	<	9.145e+02	914.700	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	NO3-02	SOLID	N/A		2.089e+05	1017.000	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	PO4-02	SOLID	N/A		3.426e+03	877.800	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	SO4-02	SOLID	N/A		1.382e+03	1010.000	ug/g
4	SAMPLE	S98T000755	0	W	@IC-01	OXALATE2	SOLID	N/A		3.458e+03	768.300	ug/g
5	DUP	S98T000755	0	W	@IC-01	F-02	SOLID	1.16e+02		<8.90e1		RPD
5	DUP	S98T000755	0	W	@IC-01	CL-02	SOLID	5.40e+03		5.21e+03	3.582	RPD
5	DUP	S98T000755	0	W	@IC-01	NO2-02	SOLID	5.04e+04		4.88e+04	3.226	RPD
5	DUP	S98T000755	0	W	@IC-01	BR-02	SOLID	<9.14e2		<9.27e2		RPD
5	DUP	S98T000755	0	W	@IC-01	NO3-02	SOLID	2.09e+05		2.01e+05	3.902	RPD
5	DUP	S98T000755	0	W	@IC-01	PO4-02	SOLID	3.43e+03		3.70e+03	7.574	RPD
5	DUP	S98T000755	0	W	@IC-01	SO4-02	SOLID	1.38e+03		1.38e+03	0.000	RPD
5	DUP	S98T000755	0	W	@IC-01	OXALATE2	SOLID	3.46e+03		4.06e+03	15.957	RPD
6	SPK	S98T000755	0	W	@IC-01	F-02	SOLID	5.90e1		5.65e+01	95.763	% Recovery

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

LABCORE Completed Worklist Report for Worklist# 23342

Seq	Type	Sample#	R	A		Test	Matrix	Actual		Found	DL or Yield	Unit
6	SPK	S98T000755	0	W	@IC-01	CL-02	SOLID	8.00e1		8.41e+01	105.125	% Recovery
6	SPK	S98T000755	0	W	@IC-01	NO2-02	SOLID	5.42e2		5.73e+02	105.720	% Recovery
6	SPK	S98T000755	0	W	@IC-01	BR-02	SOLID	5.89e2		5.92e+02	100.509	% Recovery
6	SPK	S98T000755	0	W	@IC-01	NO3-02	SOLID	5.94e2		6.32e+02	106.397	% Recovery
6	SPK	S98T000755	0	W	@IC-01	PO4-02	SOLID	5.45e2		5.54e+02	101.651	% Recovery
6	SPK	S98T000755	0	W	@IC-01	SO4-02	SOLID	6.32e2		6.38e+02	100.949	% Recovery
6	SPK	S98T000755	0	W	@IC-01	OXALATE2	SOLID	5.31e2		5.59e+02	105.273	% Recovery
7	SAMPLE	S98T000756	0	W	@IC-01	CL-02	SOLID	N/A		1.639e+03	123.600	ug/g
7	SAMPLE	S98T000756	0	W	@IC-01	NO2-02	SOLID	N/A		1.473e+04	785.100	ug/g
7	SAMPLE	S98T000756	0	W	@IC-01	BR-02	SOLID	N/A	<	9.085e+02	908.600	ug/g
7	SAMPLE	S98T000756	0	W	@IC-01	NO3-02	SOLID	N/A		1.819e+05	1010.000	ug/g
7	SAMPLE	S98T000756	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.003e+03	1003.000	ug/g
8	DUP	S98T000756	0	W	@IC-01	F-02	SOLID	4.07e+03		7.17e+03	55.160	RPD
8	DUP	S98T000756	0	W	@IC-01	CL-02	SOLID	1.64e+03		1.37e+03	17.940	RPD
8	DUP	S98T000756	0	W	@IC-01	NO2-02	SOLID	1.47e+04		1.25e+04	16.176	RPD
8	DUP	S98T000756	0	W	@IC-01	BR-02	SOLID	<9.08e2		<9.19e2		RPD
8	DUP	S98T000756	0	W	@IC-01	NO3-02	SOLID	1.82e+05		1.69e+05	7.407	RPD
8	DUP	S98T000756	0	W	@IC-01	PO4-02	SOLID	3.84e+04		6.97e+04	57.909	RPD
8	DUP	S98T000756	0	W	@IC-01	SO4-02	SOLID	<1.00e3		<1.01e3		RPD
8	DUP	S98T000756	0	W	@IC-01	OXALATE2	SOLID	7.30e+03		5.65e+03	25.483	RPD
9	SAMPLE	S98T000757	0	W	@IC-01	F-02	SOLID	N/A		2.568e+03	88.030	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	CL-02	SOLID	N/A		1.055e+03	124.700	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	NO2-02	SOLID	N/A		9.736e+03	792.500	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	BR-02	SOLID	N/A	<	9.171e+02	917.200	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	NO3-02	SOLID	N/A		4.099e+05	1020.000	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	PO4-02	SOLID	N/A		2.443e+04	880.300	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.013e+03	1013.000	ug/g
9	SAMPLE	S98T000757	0	W	@IC-01	OXALATE2	SOLID	N/A		1.084e+03	770.400	ug/g
10	DUP	S98T000757	0	W	@IC-01	F-02	SOLID	2.57e+03		3.01e+03	15.771	RPD
10	DUP	S98T000757	0	W	@IC-01	CL-02	SOLID	1.06e+03		1.42e+03	29.032	RPD
10	DUP	S98T000757	0	W	@IC-01	NO2-02	SOLID	9.74e+03		1.11e+04	13.052	RPD
10	DUP	S98T000757	0	W	@IC-01	BR-02	SOLID	<9.17e2		<9.30e2		RPD
10	DUP	S98T000757	0	W	@IC-01	NO3-02	SOLID	4.10e+05		3.79e+05	7.858	RPD
10	DUP	S98T000757	0	W	@IC-01	PO4-02	SOLID	2.44e+04		2.82e+04	14.449	RPD
10	DUP	S98T000757	0	W	@IC-01	SO4-02	SOLID	<1.01e3		<1.03e3		RPD
10	DUP	S98T000757	0	W	@IC-01	OXALATE2	SOLID	1.08e+03		1.28e+03	16.949	RPD
11	SPK	S98T000757	0	W	@IC-01	F-02	SOLID	5.90e1		6.25e+01	105.932	% Recovery
11	SPK	S98T000757	0	W	@IC-01	CL-02	SOLID	8.00e1		8.06e+01	100.750	% Recovery
11	SPK	S98T000757	0	W	@IC-01	NO2-02	SOLID	5.42e2		5.33e+02	98.339	% Recovery
11	SPK	S98T000757	0	W	@IC-01	BR-02	SOLID	5.89e2		5.63e+02	95.586	% Recovery
11	SPK	S98T000757	0	W	@IC-01	NO3-02	SOLID	5.94e2		4.83e+02	81.313	% Recovery
11	SPK	S98T000757	0	W	@IC-01	PO4-02	SOLID	5.45e2		5.60e+02	102.752	% Recovery
11	SPK	S98T000757	0	W	@IC-01	SO4-02	SOLID	6.32e2		6.20e+02	98.101	% Recovery
11	SPK	S98T000757	0	W	@IC-01	OXALATE2	SOLID	5.31e2		5.48e+02	103.202	% Recovery

Final page for worklist# 23342

Jason M. Fuyi 5/22/98

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

LABCORE Data Entry Template for Worklist# 23342

Analyst: CH. C **Instrument:** IC0 2 **Book#** 137N20-B

Method: LA-533-105 Rev/Mod E-0

Worklist Comment: TX-104 IC lad

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	S98T000755	0	W	@IC-01	SOLID	98000130	TX-104
		Analytes Requested:			BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
5	DUP	S98T000755	0	W	@IC-01	SOLID		
6	SPK	S98T000755	0	W	@IC-01	SOLID		
7	SAMPLE	S98T000756	0	W	@IC-01	SOLID	98000130	TX-104
		Analytes Requested:			BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
8	DUP	S98T000756	0	W	@IC-01	SOLID		
9	SAMPLE	S98T000757	0	W	@IC-01	SOLID	98000130	TX-104
		Analytes Requested:			BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
10	DUP	S98T000757	0	W	@IC-01	SOLID		
11	SPK	S98T000757	0	W	@IC-01	SOLID		

Final page for worklist # 23342

CH. Colm 5-21-98
Analyst Signature **Date**

uploaded 5-21-98
John Worrell
23342MAY.CSV

Rejected F, PO_4 & Oxalate on 756, put out for rerun.

Analyst Signature **Date**

Rest Validated. JMJ 5/21/98

Data Entry Comments:

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

Sample Name: 137N20-B STD
Data File : C:\DX\DATA\98052141.D02
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 2
Analyst : [illegible]

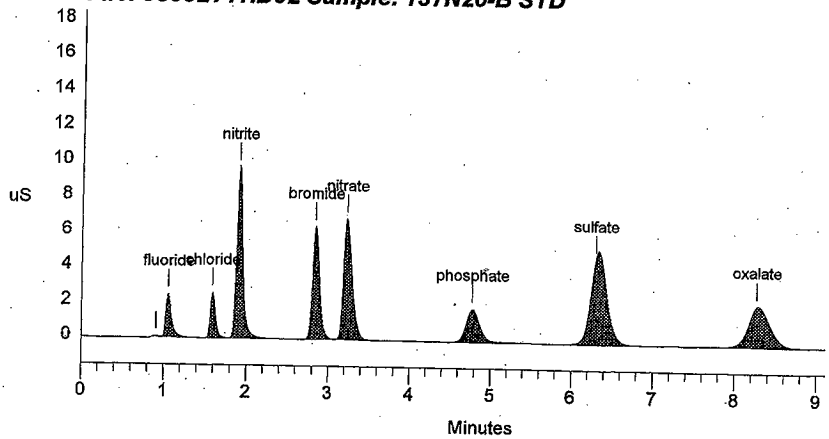
Date: 05/21/1998 08:44:30
Detector:CDM-1
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	2735	5Hz	0.00	9.11		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	63	284	2	
2	1.05	fluoride	59.647	2438	11654	2	1.28
3	1.59	chloride	80.804	2561	11141	1	0.42
4	1.90	nitrite	521.912	9711	49831	1	-1.72
5	2.83	bromide	583.079	6402	37892	1	-0.58
6	3.22	nitrate	589.818	6867	49756	1	-1.23
7	4.77	phosphate	558.609	1903	22761	1	-1.65
8	6.29	sulfate	627.829	4830	71157	1	-1.67
9	8.27	oxalate	531.339	2333	42688	1	-0.64
		Totals	3553.037	37108	297165		

File: 98052141.D02 Sample: 137N20-B STD



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 228 TO 238

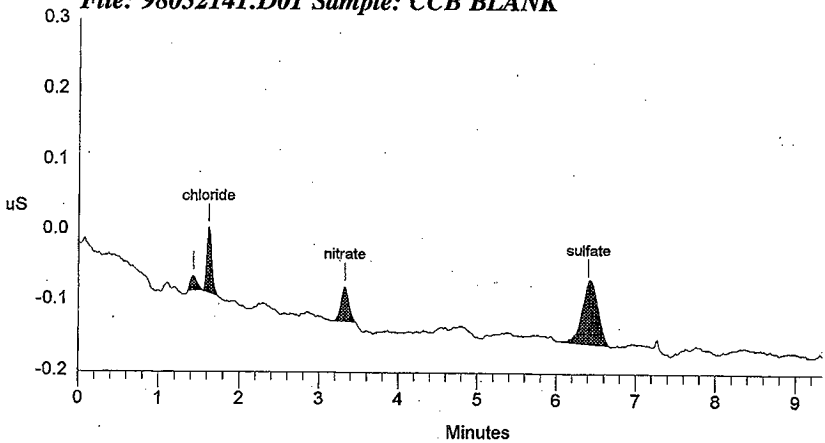
```
Sample Name: CCB BLANK                          Date: 05/21/1998 08:33:27
Data File  : C:\DX\DATA\98052141.D01
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 1                        Detector:CDM-1
Analyst    :                Column: AG4A/AS4A anion column
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2803	5Hz	0.00	9.34	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.43		0.000	20	109	1	
2	1.61	chloride	0.021	91	378	1	2.11
3	3.32	nitrate	0.169	49	328	1	1.84
4	6.40	sulfate	-0.007	86	1208	1	0.00
		Totals	0.182	245	2023		

File: 98052141.D01 Sample: CCB BLANK



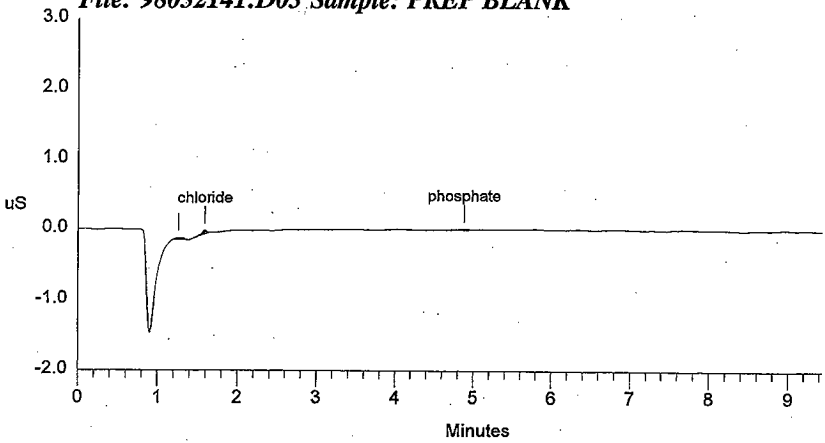
```
==============================================================================
| Sample Name: PREP BLANK                    Date: 05/21/1998 08:54:44        |
| Data File  : C:\DX\DATA\98052141.D03                                        |
| Method     : C:\DX\METHOD\ANIONS.MET                                        |
| 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	2832	5Hz	0.00	9.44		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.26		0.000	29	228	1	
2	1.59	chloride	0.014	53	287	1	0.42
3	4.88	phosphate	0.142	15	278	1	0.55
		Totals	0.156	97	792		

File: 98052141.D03 Sample: PREP BLANK



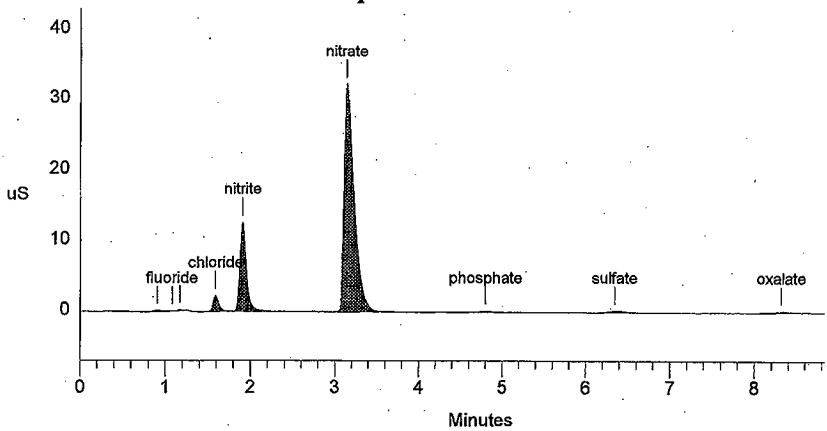
Sample Name: S98T000755 Date: 05/21/1998 09:40:52
Data File : C:\DX\DATA\98052141.D04
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	2652	5Hz	0.00	8.84	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	103	501	1	
2	1.08	fluoride	0.648	21	64	1	3.85
3	1.17		0.000	147	421	1	
4	1.59	chloride	30.239	2218	10266	1	0.42
5	1.91	nitrite	282.213	12566	66889	1	-1.38
6	3.14	nitrate	1170.777	32119	266896	1	-3.68
7	4.80	phosphate	19.197	137	1616	1	-1.10
8	6.35	sulfate	7.744	237	3374	1	-0.83
9	8.32	oxalate	19.379	199	3475	1	0.00
		Totals	1530.196	47747	353503		

File: 98052141.D04 Sample: S98T000755



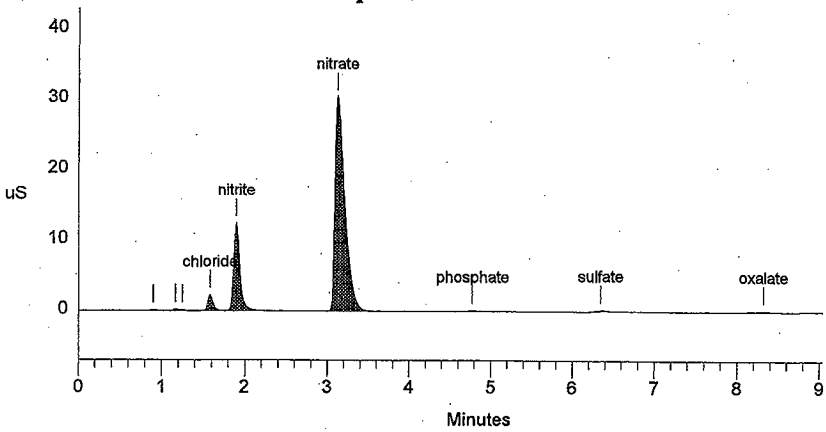
Sample Name: S98T000755 DUP Date: 05/21/1998 09:52:44
Data File : C:\DX\DATA\98052141.D05
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	2715	5Hz	0.00	9.05	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	107	571	2	
2	1.17		0.000	250	1199	2	
3	1.25		0.000	186	786	2	
4	1.58	chloride	28.823	2218	9782	1	0.00
5	1.89	nitrite	269.857	12346	63887	1	-2.07
6	3.12	nitrate	1111.639	30288	252017	1	-4.29
7	4.77	phosphate	20.435	134	1740	1	-1.65
8	6.35	sulfate	7.632	262	3344	1	-0.83
9	8.32	oxalate	22.444	226	4083	1	0.00
		Totals	1460.828	46016	337410		

File: 98052141.D05 Sample: S98T000755 DUP



Data Reprocessed On 05/21/1998 15:10:33

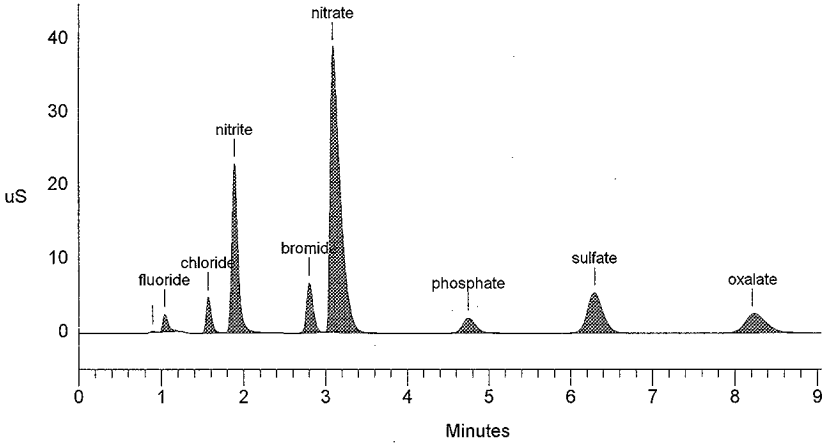
Sample Name: S98T000755 SPK Date: 05/21/1998 10:02:36
Data File : E:\DATA\98052141.D06
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	2717	5Hz	0.00	9.05		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	139	561	1	
2	1.04	fluoride	23.251	2334	11176	1	0.00
3	1.57	chloride	63.883	4825	21953	1	-0.84
4	1.89	nitrite	511.313	22949	122968	1	-2.41
5	2.80	bromide	236.860	6738	37919	1	-1.75
6	3.09	nitrate	1423.649	38885	332592	1	-0.11
7	4.75	phosphate	240.736	2040	24212	1	-2.20
8	6.29	sulfate	262.824	5475	73383	1	-1.67
9	8.21	oxalate	242.872	2562	48165	1	-1.28
		Totals	3005.388	85947	672929		

File: 98052141.D06 Sample: S98T000755 SPK



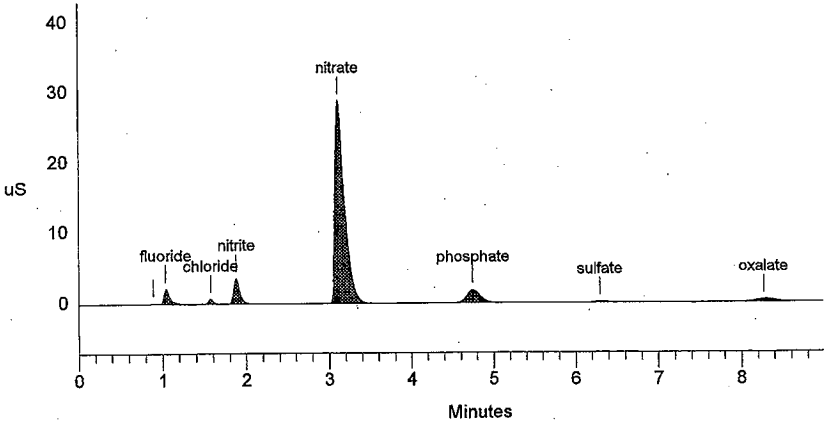
Sample Name: S98T000756 Date: 05/21/1998 10:12:21
Data File : C:\DX\DATA\98052141.D07
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 7 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	2697	5Hz	0.00	8.99	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	81	366	2	
2	1.04	fluoride	22.977	2132	11040	2	0.00
3	1.57	chloride	9.243	709	3174	1	-0.42
4	1.88	nitrite	83.091	3624	18798	1	-2.76
5	3.11	nitrate	1026.189	28787	230817	1	-4.70
6	4.75	phosphate	216.721	1849	21720	1	-2.20
7	6.29	sulfate	3.601	152	2259	1	-1.67
8	8.27	oxalate	41.149	402	7795	1	-0.64
		Totals	1402.971	37737	295969		

File: 98052141.D07 Sample: S98T000756



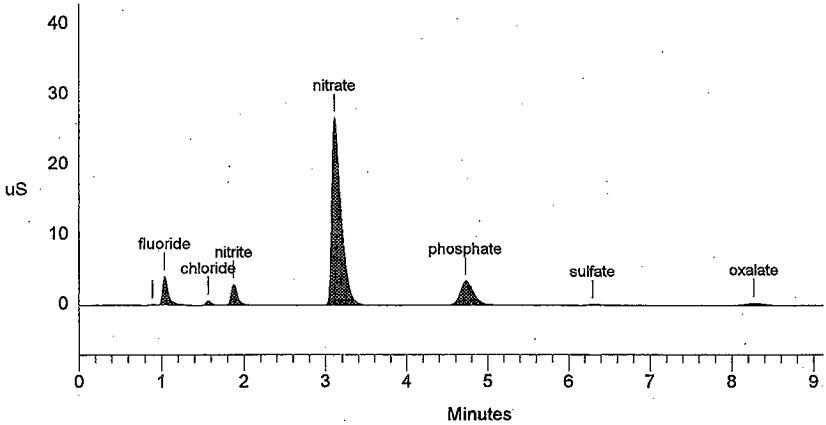
Sample Name: S98T000756 DUP Date: 05/21/1998 10:22:14
Data File : C:\DX\DATA\98052141.D08
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	2737	5Hz	0.00	9.12		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	70	289	2	
2	1.04	fluoride	39.974	4040	19563	2	0.00
3	1.57	chloride	7.663	578	2646	1	-0.84
4	1.87	nitrite	69.485	2909	15534	1	-3.10
5	3.11	nitrate	940.738	26602	209955	1	-4.70
6	4.72	phosphate	388.588	3366	39796	1	-2.75
7	6.29	sulfate	3.144	147	2136	1	-1.67
8	8.27	oxalate	31.509	329	5881	1	-0.64
		Totals	1481.101	38041	295800		

File: 98052141.D08 Sample: S98T000756 DUP



Data Reprocessed On 05/21/1998 15:11:13

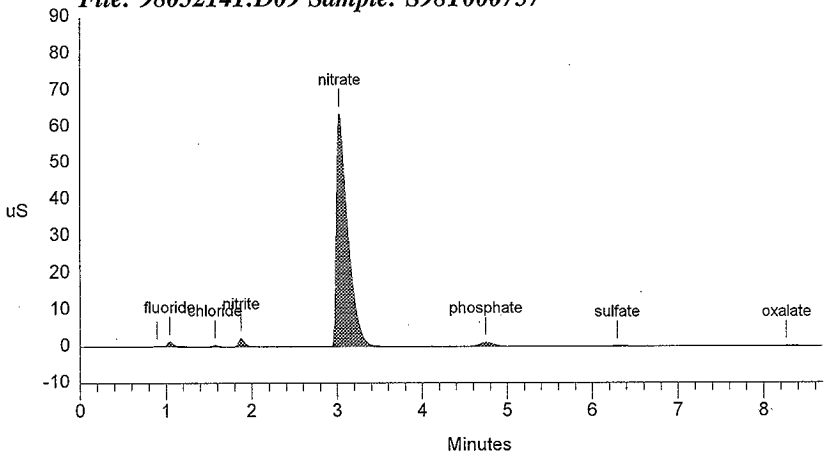
Sample Name: S98T000757 Date: 05/21/1998 10:31:41
Data File : E:\DATA\98052141.D09
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	41	2608	5Hz	0.00	8.69	50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	109	519	2	
2	1.04	fluoride	14.348	1313	6769	2	0.00
3	1.57	chloride	5.898	462	2058	1	-0.84
4	1.87	nitrite	54.406	2303	11919	1	-3.10
5	3.03	nitrate	2290.332	63524	591784	1	-0.11
6	4.75	phosphate	136.495	1142	13472	1	-2.20
7	6.29	sulfate	0.978	108	1553	1	-1.67
8	8.27	oxalate	6.057	63	836	1	-0.64
		Totals	2508.514	69023	628910		

File: 98052141.D09 Sample: S98T000757



Data Reprocessed On 05/21/1998 15:11:45

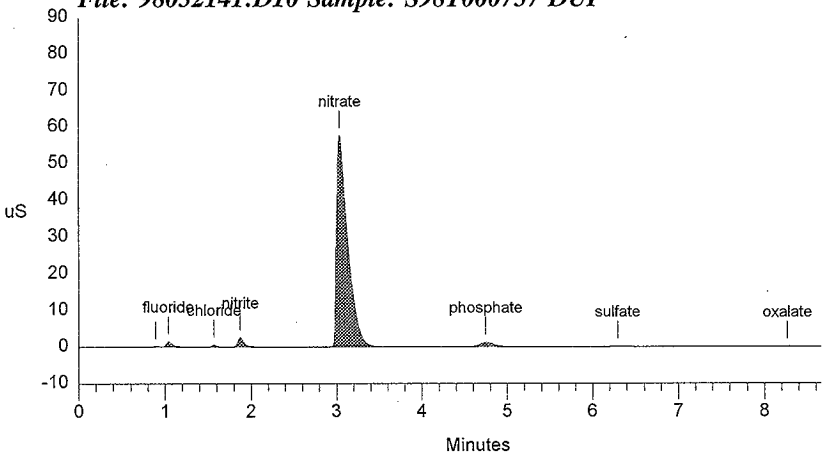
Sample Name: S98T000757 DUP	Date: 05/21/1998 10:43:08
Data File : E:\DATA\98052141.D10	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 10	Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	2600	5Hz	0.00	8.66		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	92	404	2	
2	1.04	fluoride	16.565	1492	7863	2	0.00
3	1.57	chloride	7.802	603	2693	1	-0.84
4	1.87	nitrite	61.227	2614	13553	1	-3.10
5	3.03	nitrate	2087.424	57606	525132	1	0.11
6	4.75	phosphate	155.235	1298	15388	1	-2.20
7	6.29	sulfate	3.588	156	2255	1	-1.67
8	8.27	oxalate	7.038	70	1030	1	-0.64
		Totals	2338.880	63930	568319		

File: 98052141.D10 Sample: S98T000757 DUP



Data Reprocessed On 05/21/1998 15:12:24

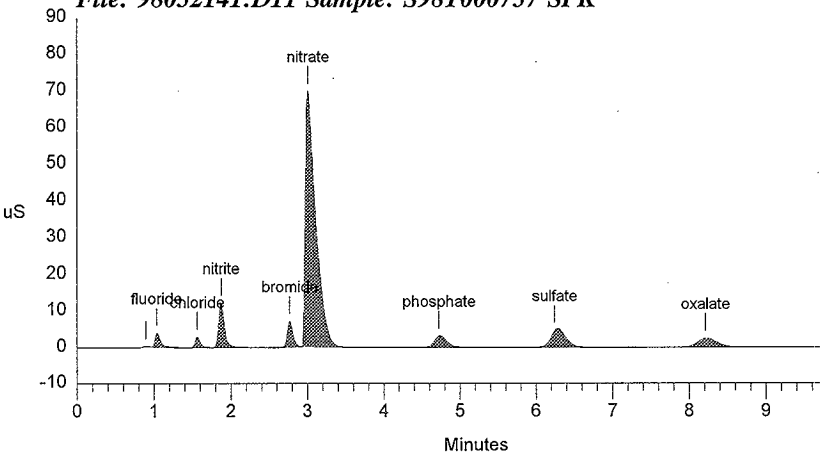
Sample Name: S98T000757 SPK Date: 05/21/1998 10:53:37
Data File : E:\DATA\98052141.D11
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 11 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	2911	5Hz	0.00	9.70		50

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	165	762	2	
2	1.03	fluoride	39.358	3802	19251	2	-0.64
3	1.56	chloride	38.143	2853	12974	1	-1.27
4	1.87	nitrite	267.660	12149	63354	1	-3.10
5	2.77	bromide	225.380	7026	36003	1	-2.92
6	3.01	nitrate	2483.433	69728	659907	1	-0.11
7	4.72	phosphate	360.500	3089	36803	1	-2.75
8	6.24	sulfate	248.153	4564	69284	1	-2.50
9	8.21	oxalate	225.329	2439	44629	1	-1.28
		Totals	3887.957	105817	942968		

File: 98052141.D11 Sample: S98T000757 SPK



LABCORE Completed Worklist Report for Worklist# 23653

Analyst: glm2 **Instrument:** IC01 **Book#** 129N20.P

Method: WA533-105 Rev/Mod E-0

Worklist Comment: TX104, @IC-01 skw

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	5.9e1		5.62e+01	95.254	% Recovery
2	CCV		0		@IC-QC	CL	QC	8.0e1		7.71e+01	96.375	% Recovery
2	CCV		0		@IC-QC	NO2	QC	5.42e2		4.97e+02	91.697	% Recovery
2	CCV		0		@IC-QC	BR	QC	5.89e2		5.82e+02	98.812	% Recovery
2	CCV		0		@IC-QC	NO3	QC	5.94e2		5.79e+02	97.475	% Recovery
2	CCV		0		@IC-QC	PO4	QC	5.45e2		5.15e+02	94.495	% Recovery
2	CCV		0		@IC-QC	SO4	QC	6.32e2		6.27e+02	99.209	% Recovery
2	CCV		0		@IC-QC	OXALATE2	QC	5.34e2		5.09e+02	95.318	% 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	S98T000687	0	W	@IC-01	F-02	SOLID	N/A		3.057e+03	98.770	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	CL-02	SOLID	N/A		1.315e+03	139.900	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	NO2-02	SOLID	N/A		1.352e+04	888.900	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	BR-02	SOLID	N/A	<	1.029e+03	1029.000	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	NO3-02	SOLID	N/A		3.824e+05	1144.000	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	PO4-02	SOLID	N/A		2.907e+04	987.700	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	SO4-02	SOLID	N/A	<	1.136e+03	1136.000	ug/g
4	SAMPLE	S98T000687	0	W	@IC-01	OXALATE2	SOLID	N/A		5.319e+03	864.300	ug/g
5	DUP	S98T000687	0	W	@IC-01	F-02	SOLID	3.06e+03		4.38e+03	35.484	RPD
5	DUP	S98T000687	0	W	@IC-01	CL-02	SOLID	1.32e+03		1.43e+03	8.000	RPD
5	DUP	S98T000687	0	W	@IC-01	NO2-02	SOLID	1.35e+04		1.47e+04	8.511	RPD
5	DUP	S98T000687	0	W	@IC-01	BR-02	SOLID	<1.03e3		<1.03e3		RPD
5	DUP	S98T000687	0	W	@IC-01	NO3-02	SOLID	3.82e+05		3.81e+05	0.262	RPD
5	DUP	S98T000687	0	W	@IC-01	PO4-02	SOLID	2.91e+04		4.29e+04	38.333	RPD
5	DUP	S98T000687	0	W	@IC-01	SO4-02	SOLID	<1.14e3		<1.14e3		RPD
5	DUP	S98T000687	0	W	@IC-01	OXALATE2	SOLID	5.32e+03		6.12e+03	13.986	RPD
6	SPK	S98T000687	0	W	@IC-01	F-02	SOLID	5.9e1		5.86e+01	99.322	% Recovery

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

LABCORE Completed Worklist Report for Worklist# 23653

Seq	Type	Sample#	R	A		Test	Matrix	Actual	Found	DL or Yield	Unit
6	SPK	S98T000687	0	W	@IC-01	CL-02	SOLID	8.0e1	7.66e+01	95.750	% Recovery
6	SPK	S98T000687	0	W	@IC-01	NO2-02	SOLID	5.42e2	4.95e+02	91.328	% Recovery
6	SPK	S98T000687	0	W	@IC-01	BR-02	SOLID	5.89e2	5.67e+02	96.265	% Recovery
6	SPK	S98T000687	0	W	@IC-01	NO3-02	SOLID	5.94e2	6.59e+02	110.943	% Recovery
6	SPK	S98T000687	0	W	@IC-01	PO4-02	SOLID	5.45e2	5.60e+02	102.752	% Recovery
6	SPK	S98T000687	0	W	@IC-01	SO4-02	SOLID	6.32e2	6.35e+02	100.475	% Recovery
6	SPK	S98T000687	0	W	@IC-01	OXALATE2	SOLID	5.34e2	5.16e+02	96.629	% Recovery

Final page for worklist# 23653

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

James M. Fuge 5/4/98
Reviewer Signature **Date**

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

LABCORE Data Entry Template for Worklist# 23653

Analyst: GLM **Instrument:** IC0 1 **Book#** 129N20-D

Method: LA-533-105 **Rev/Mod** E-0

Worklist Comment: TX104, @IC-01 skw

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	S98T000687	0	W	@IC-01	SOLID	98000129	TX-104
		Analytes Requested:			BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02			
5	DUP	S98T000687	0	W	@IC-01	SOLID		
6	SPK	S98T000687	0	W	@IC-01	SOLID		

Final page for worklist # 23653

GLM Colmenero 5/1/98
Analyst Signature Date

Analyst Signature Date

uploaded 5-1-98
JK Worell
23653MAY.CSV
Bromide → Nitrate label corrected & re uploaded 5/4/98 GMF
Validated 5/4/98 GM Lye

Data Entry Comments:

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

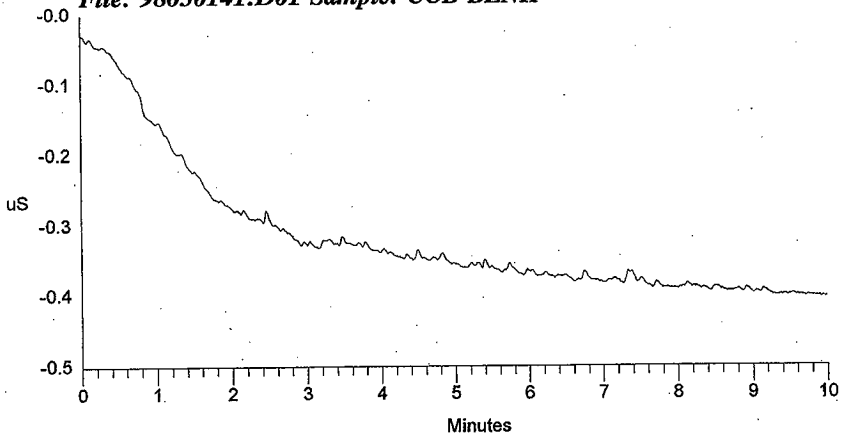
Sample Name: CCB BLNK Date: 05/01/1998 06:58:27
Data File : C:\DX\DATA\98050141.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : BM Calvert 5/1/98 Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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: 98050141.D01 Sample: CCB BLNK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 242 TO 247.

HNF-SD-WM-DP-305 REV. 0

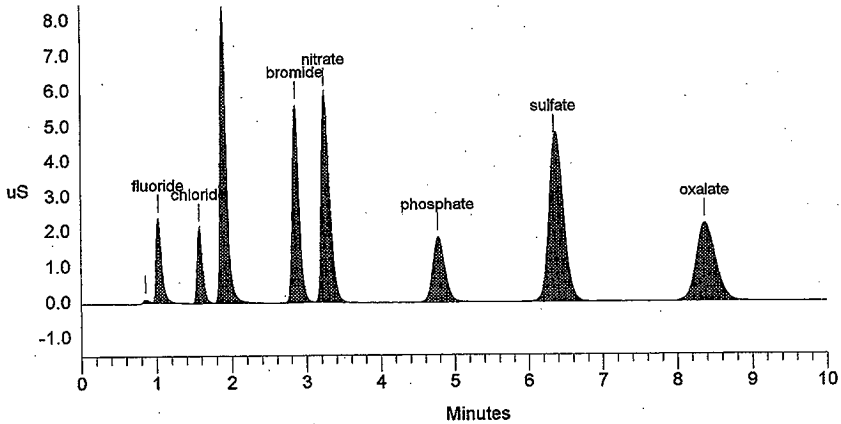
Sample Name: CCV 129N20-D Date: 05/01/1998 07:09:43
Data File : C:\DX\DATA\98050141.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst : HBM Calvert 5/11/98 Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.85		0.000	79	371	2	
2	1.03	fluoride	56.236	2382	11447	2	0.65
3	1.57	chloride	77.125	2141	10460	1	-0.84
4	1.89	nitrite	496.611	8327	46655	1	-1.22
5	2.85	bromide	582.013	5597	34674	1	-2.28
6	3.24	nitrate	578.824	5950	44821	1	-2.70
7	4.77	phosphate	514.769	1832	20773	1	-2.19
8	6.35	sulfate	627.075	4615	64468	1	-3.25
9	8.37	oxalate	508.807	2207	39743	1	-3.09
		Totals	3441.462	33129	273412		

File: 98050141.D02 Sample: CCV 129N20-D



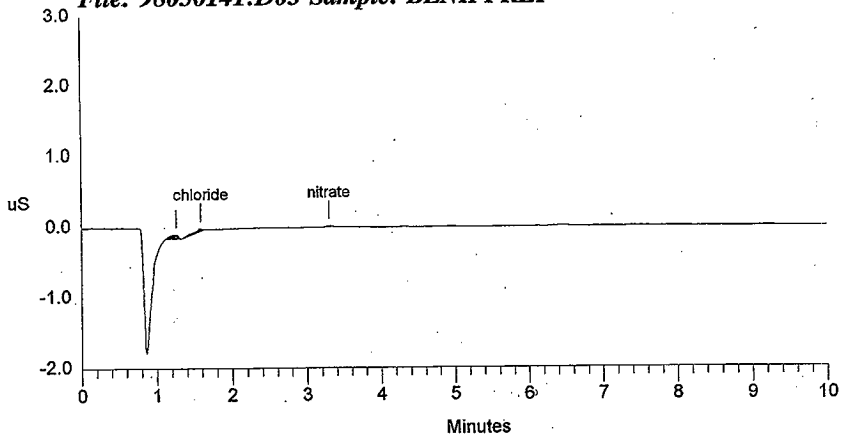
Sample Name: BLNK PREP
Date: 05/01/1998 07:21:33
Data File : C:\DX\DATA\98050141.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3
Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

alibration	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	1.26		0.000	55	417	1	
2	1.59	chloride	0.010	36	334	1	0.42
3	3.30	nitrate	0.054	15	75	1	-0.90
		Totals	0.064	106	826		

File: 98050141.D03 Sample: BLNK PREP



Data Reprocessed On 05/04/1998 08:37:50

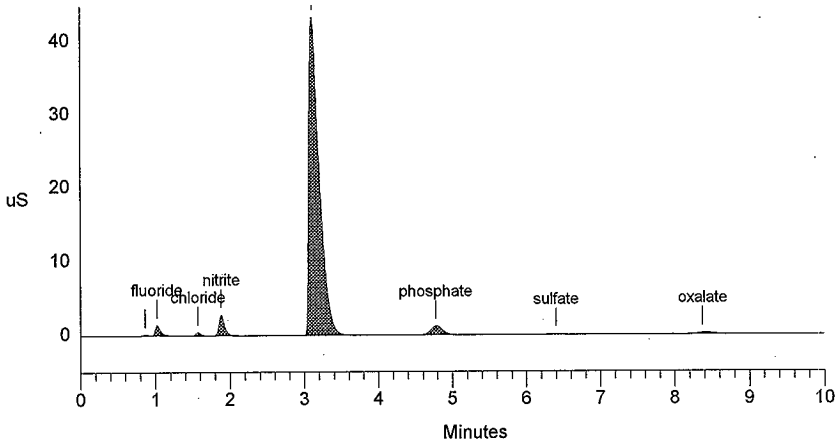
Sample Name: S98T00867 Date: 05/01/1998 07:38:07
Data File : F:\DATA\98050141.D04
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.86		0.000	129	627	2	
2	1.02	fluoride	15.229	1429	7547	2	0.00
3	1.57	chloride	6.551	484	2324	1	-0.84
4	1.88	nitrite	67.349	2808	14865	1	-1.57
5	3.11	nitrate	1904.998	43288	417438	1	-0.11
6	4.77	phosphate	144.808	1233	14206	1	-2.19
7	6.40	sulfate	0.114	96	1273	1	-2.44
8	8.37	oxalate	26.500	247	4679	1	-3.09
		Totals	2165.549	49713	462959		

File: 98050141.D04 Sample: S98T00867



Data Reprocessed On 05/01/1998 08:27:42

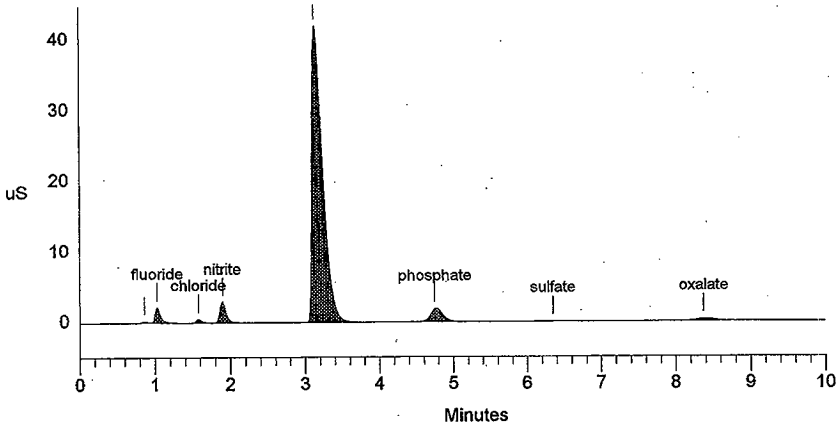
Sample Name: S98T00867 DUP Date: 05/01/1998 08:18:01
Data File : C:\DX\DATA\98050141.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.86		0.000	137	653	2	
2	1.03	fluoride	21.697	2103	10864	2	0.65
3	1.57	chloride	7.079	513	2496	1	-0.42
4	1.89	nitrite	72.993	2837	16201	1	-0.87
5	3.13	nitrate	1885.377	41945	412339	1	0.11
6	4.75	phosphate	212.378	1774	21124	1	-2.73
7	6.35	sulfate	-1.799	53	806	1	-3.25
8	8.37	oxalate	30.293	301	5414	1	-3.09
		Totals	2228.019	49663	469897		

File: 98050141.D05 Sample: S98T00867 DUP



Data Reprocessed On 05/01/1998 14:00:26

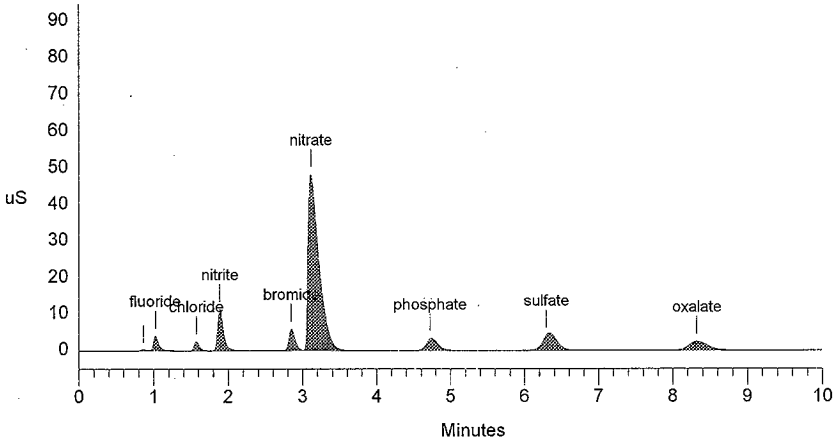
Sample Name: S98T00867 SPK	Date: 05/01/1998 08:33:28
Data File : F:\DATA\98050141.D06	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 6	Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column	

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	0.86		0.000	209	996	2	
2	1.02	fluoride	38.671	4034	19663	2	0.00
3	1.57	chloride	37.179	2569	12415	1	-0.84
4	1.89	nitrite	265.264	11406	61734	1	-1.22
5	2.85	bromide	226.912	5890	33257	1	-2.51
6	3.11	nitrate	2168.699	48233	488394	1	0.11
7	4.72	phosphate	368.673	3209	37365	1	-3.28
8	6.29	sulfate	254.001	4222	64328	1	-4.07
9	8.32	oxalate	232.868	2482	44899	1	-3.70
		Totals	3592.266	82253	763051		

File: 98050141.D06 Sample: S98T00867 SPK



LABCORE Completed Worklist Report for Worklist# 23857

Analyst: adp **Instrument:** IC01 **Book#** 137N20A

Method: WA-5533-105 Rev/Mod E-0

Worklist Comment: TX104, @IC-01 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	5.9e1	5.70e+01	96.610	% Recovery
2	CCV		0	@IC-QC	CL	QC	8.0e1	7.69e+01	96.125	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.42e2	5.05e+02	93.173	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e2	5.98e+02	101.528	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e2	5.91e+02	99.495	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e2	5.24e+02	96.147	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e2	6.39e+02	101.108	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.32e2	5.06e+02	95.113	% 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	2.00e-02	0.020	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	S98T000689	0 W	@IC-01	NO3-02	SOLID	N/A	1.901e+05	1118.000	ug/g
5	DUP	S98T000689	0 W	@IC-01	F-02	SOLID	?	<9.48e1		RPD
5	DUP	S98T000689	0 W	@IC-01	CL-02	SOLID	?	1.67e+03		RPD
5	DUP	S98T000689	0 W	@IC-01	NO2-02	SOLID	?	1.53e+04		RPD
5	DUP	S98T000689	0 W	@IC-01	BR-02	SOLID	?	<9.87e2		RPD
5	DUP	S98T000689	0 W	@IC-01	NO3-02	SOLID	1.90e+05	9.46e+04	67.041	RPD
5	DUP	S98T000689	0 W	@IC-01	PO4-02	SOLID	?	1.91e+03		RPD
5	DUP	S98T000689	0 W	@IC-01	SO4-02	SOLID	?	1.28e+03		RPD
5	DUP	S98T000689	0 W	@IC-01	OXALATE2	SOLID	?	<8.29e2		RPD

Final page for worklist# 23857

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

Jason M. Luger 5/11/98

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

LABCORE Data Entry Template for Worklist# 23857

Analyst: ADP **Instrument:** IC0 1 **Book#** 137N20-A

Method: LA-533-105 **Rev/Mod** E0

Worklist Comment: TX104, @IC-01 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	S98T000689	0	W	@IC-01	SOLID	98000129	TX-104
		Analytes Requested: NO3-02						
5	DUP	S98T000689	0	W	@IC-01	SOLID		

Final page for worklist # 23857

Anthony Turinsky 5-7-98
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 5-8-98
John Wowell
23857MAY.CSV

Validated 5/8/98 JM Fey

Data Entry Comments:

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

Sample Name: BLANK Date: 05/07/1998 09:33:12
Data File : C:\DX\DATA\98050651.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector:CDM-1
Analyst Column: AG4A/AS4A anion column

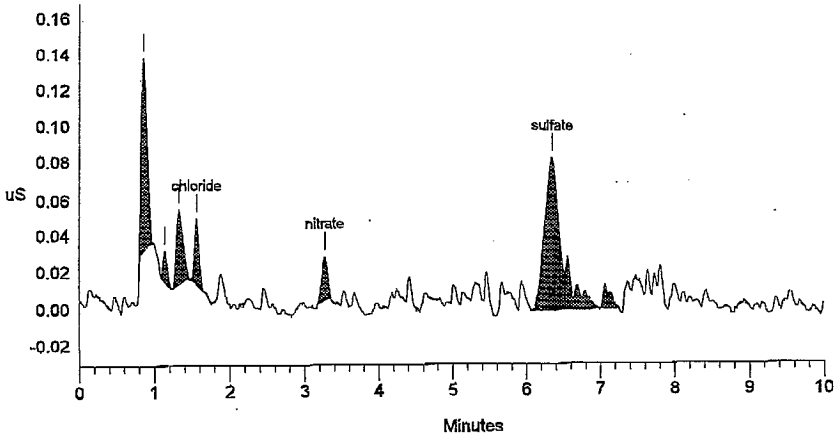
for ADP 5/12/98

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.85		0.000	107	549	1	
2	1.14		0.000	16	67	1	
3	1.33		0.000	41	251	1	
4	1.56	chloride	-0.004	36	150	1	-1.27
5	3.27	nitrate	0.060	24	126	1	-1.70
6	6.35	sulfate	0.022	85	1464	1	-3.25
		Totals	0.078	308	2606		

File: 98050651.D02 Sample: BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 250 TO 254.

HNF-SD-WM-DP-305 REV. 0

Sample Name: 137N20-A STD Date: 05/07/1998 09:53:40
Data File : C:\DX\DATA\98050651.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

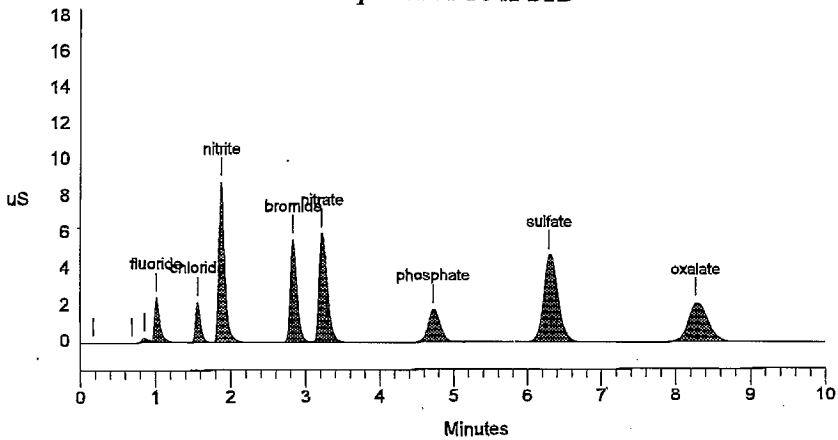
5-7-98

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	0.17		0.000	14	75	1	
3	0.85		0.000	197	1001	2	
4	1.01	fluoride	56.975	2391	11601	2	-0.65
5	1.56	chloride	76.938	2232	10435	1	-1.27
6	1.87	nitrite	505.224	8801	47483	1	-1.92
7	2.83	bromide	597.670	5681	35638	1	-2.97
8	3.22	nitrate	590.709	6001	45762	1	-3.30
9	4.72	phosphate	524.442	1821	21177	1	-3.28
10	6.29	sulfate	638.559	4847	65646	1	-4.07
11	8.27	oxalate	506.482	2165	39559	1	-4.32
		Totals	3496.999	34150	278377		

File: 98050651.D03 Sample: 137N20-A STD



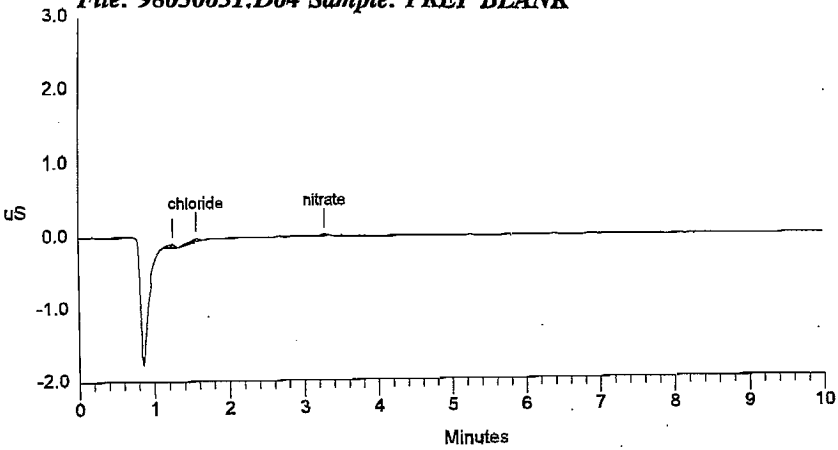
Sample Name: PREP BLANK Date: 05/07/1998 10:05:28
Data File : C:\DX\DATA\98050651.D04
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	1.26		0.000	51	373	1	
2	1.57	chloride	0.020	51	470	1	-0.84
3	3.29	nitrate	0.063	27	150	1	-1.30
		Totals	0.084	130	994		

File: 98050651.D04 Sample: PREP BLANK



Data Reprocessed On 05/08/1998 08:24:31

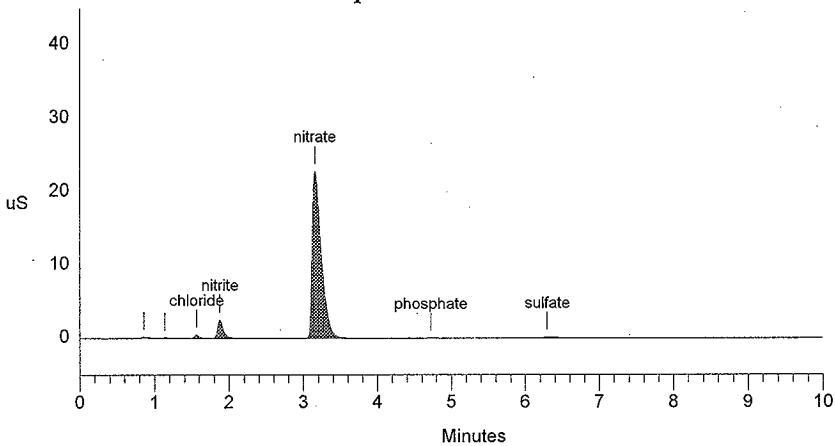
Sample Name: S98T000689 SAM Date: 05/07/1998 10:23:06
Data File : F:\DATA\98050651.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.85		0.000	162	882	1	
2	1.14		0.000	57	179	1	
3	1.56	chloride	6.713	513	2377	1	-1.27
4	1.87	nitrite	62.848	2557	13799	1	-1.92
5	3.15	nitrate	968.982	22842	195712	1	0.11
6	4.72	phosphate	9.817	47	564	1	-3.28
7	6.29	sulfate	3.739	133	2158	1	-4.07
		Totals	1052.098	26311	215670		

File: 98050651.D05 Sample: S98T000689 SAM



HNF-SD-WM-DP-305 REV. 0

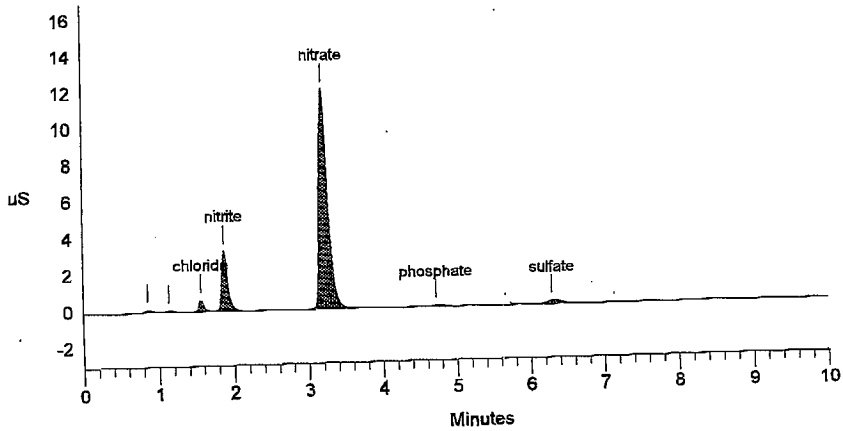
Sample Name: S98T000689 DUP Date: 05/07/1998 11:04:56
Data File : C:\DX\DATA\98050651.D08
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.85		0.000	145	760	1	
2	1.14		0.000	88	431	1	
3	1.56	chloride	8.660	647	3011	1	-1.27
4	1.87	nitrite	79.212	3336	17674	1	-1.92
5	3.20	nitrate	491.287	12203	95707	1	-3.90
6	4.72	phosphate	9.898	51	572	1	-3.28
7	6.29	sulfate	6.662	185	2873	1	-4.07
		Totals	595.718	16655	121026		

File: 98050651.D08 Sample: S98T000689 DUP



SS .250-10

LABCORE Completed Worklist Report for Worklist# 24417

Analyst: adp **Instrument:** IC01 **Book#** 137N20B

Method: IA-533-105 Rev/Mod E-0

Worklist Comment: TX104, @IC-01 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	5.90e1	6.07e+01	102.881	% Recovery
2	CCV		0	@IC-QC	CL	QC	8.00e1	7.95e+01	99.375	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.42e2	5.40e+02	99.631	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e2	6.09e+02	103.396	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e2	5.88e+02	98.990	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e2	5.54e+02	101.651	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e2	6.51e+02	103.006	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.31e2	5.33e+02	100.377	% 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	<1.08e-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	1.72e-01	0.172	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	S98T001733	0	W @IC-01	CL-02	SOLID	N/A	1.205e+03	171.600	ug/g
4	SAMPLE	S98T001733	0	W @IC-01	NO2-02	SOLID	N/A	1.072e+04	1090.000	ug/g
4	SAMPLE	S98T001733	0	W @IC-01	BR-02	SOLID	N/A <	1.262e+03	1262.000	ug/g
4	SAMPLE	S98T001733	0	W @IC-01	SO4-02	SOLID	N/A <	1.393e+03	1393.000	ug/g
5	DUP	S98T001733	0	W @IC-01	F-02	SOLID	5.28e+03	2.59e+03	68.361	RPD
5	DUP	S98T001733	0	W @IC-01	CL-02	SOLID	1.20e+03	1.10e+03	8.696	RPD
5	DUP	S98T001733	0	W @IC-01	NO2-02	SOLID	1.07e+04	9.88e+03	7.969	RPD
5	DUP	S98T001733	0	W @IC-01	BR-02	SOLID	<1.26e3	<1.26e3		RPD
5	DUP	S98T001733	0	W @IC-01	NO3-02	SOLID	2.87e+05	4.02e+05	33.382	RPD
5	DUP	S98T001733	0	W @IC-01	PO4-02	SOLID	5.12e+04	2.54e+04	67.363	RPD
5	DUP	S98T001733	0	W @IC-01	SO4-02	SOLID	<1.39e3	<1.39e3		RPD
5	DUP	S98T001733	0	W @IC-01	OXALATE2	SOLID	5.78e+03	4.55e+03	23.814	RPD

Final page for worklist# 24417

Jana M. Fuge 6/8/98

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

LABCORE Data Entry Template for Worklist# 24417

Analyst: ADP **Instrument:** IC0 / **Book#** 137N20-B

Method: LA-533-105 Rev/Mod E0

Worklist Comment: TX104, @IC-01 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	S98T001733	0	W	@IC-01	SOLID	98000130	TX-104
		Analytes Requested:			BR-02, CL-02, F-02, NO2-02, NO3-02, OXALATE2, PO4-02, SO4-02			
5	DUP	S98T001733	0	W	@IC-01	SOLID		

Final page for worklist # 24417

Anthony Parunto 6-5-98
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-8-98
John Wavell
24417JUN.CSV

F, NO_3, PO_4, Oxalate were rejected for high RPD's.
Root Validated. 6/8/98 JMLy

Data Entry Comments:

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

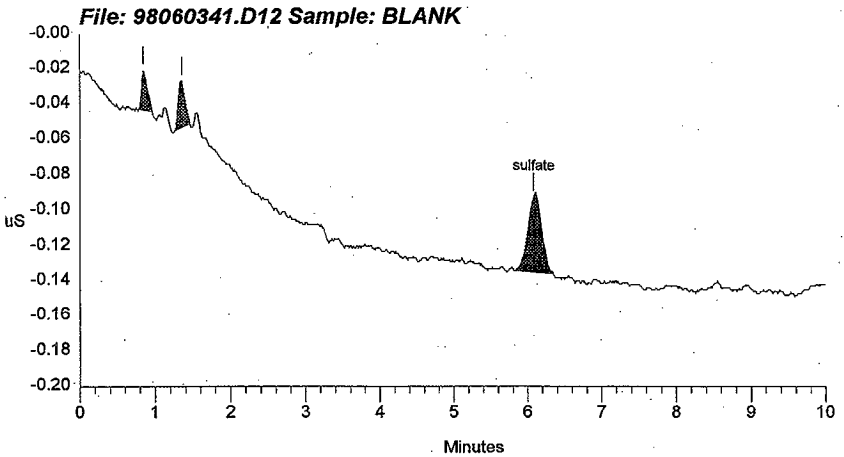
HNF-SD-~~WM-DP-305~~ 305 REV. 0

Sample Name: BLANK Date: 06/05/1998 13:36:32
Data File : C:\DX\DATA\98060341.D12
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:CDM-1
Analyst : JMFox for aDP 6/8/98 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	0.85		0.000	22	120	1	
2	1.35		0.000	26	162	1	
3	6.08	sulfate	-0.026	42	571	1	0.83
		Totals	-0.026	91	852		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 257 TO 262.

SS1

HNF-SD-~~WM-DP-805~~ 305 REV. 0

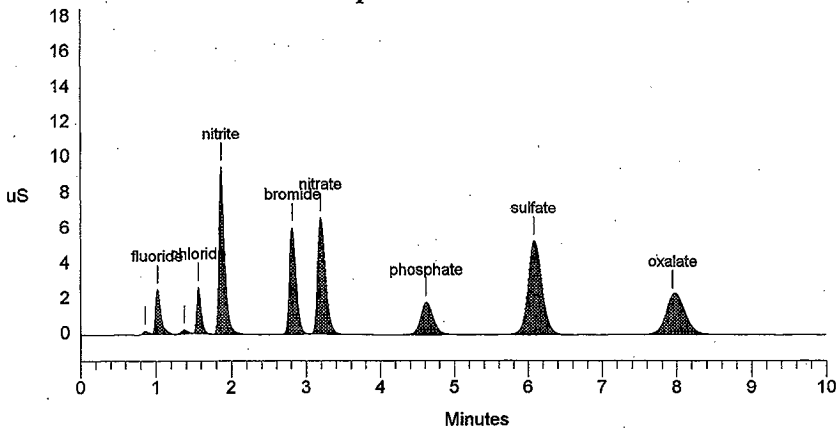
Sample Name: 137N20-B Date: 06/05/1998 13:53:48
Data File : C:\DX\DATA\98060341.D13
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Jenni Frye for ADP 6/8/98 Column: AG4A/AS4A anion column

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	0.85		0.000	161	726	2	
2	1.02	fluoride	60.656 104.50	2523	12586	2	0.99
3	1.38		0.000	207	1158	1	
4	1.56	chloride	79.473 99.34	2631	10750	1	1.74
5	1.87	nitrite	540.107 99.65	9437	48163	1	1.45
6	2.81	bromide	608.858 103.37	6060	37805	1	1.56
7	3.19	nitrate	587.850 98.96	6609	47997	1	1.38
8	4.61	phosphate	553.661 101.60	1812	22093	1	0.51
9	6.08	sulfate	651.217 103.04	5313	69470	1	0.83
10	7.95	oxalate	533.449 100.46	2280	42147	1	0.72
		Totals	3615.272	37034	292895		

File: 98060341.D13 Sample: 137N20-B



SS.100-10

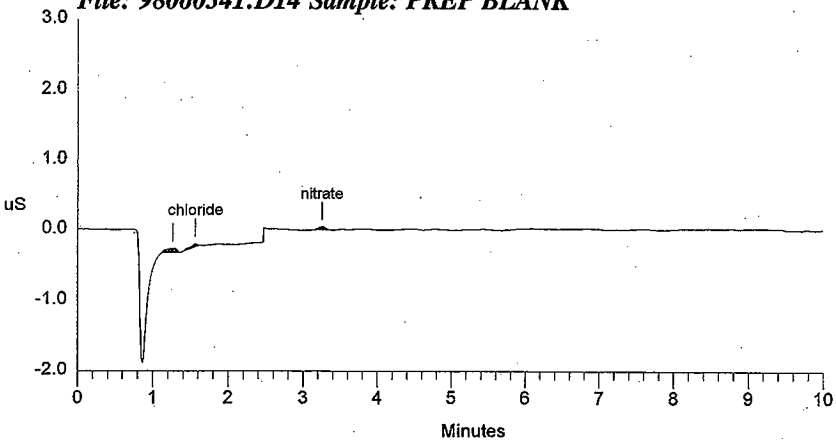
Sample Name: PREP BLANK Date: 06/05/1998 14:07:00
Data File : C:\DX\DATA\98060341.D14
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 14 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	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	1.27		0.000	56	552	1	
2	1.56	chloride	0.026	50	352	1	1.74
3	3.25	nitrate	0.172	44	282	1	3.28
		Totals	0.199	150	1186		

File: 98060341.D14 Sample: PREP BLANK



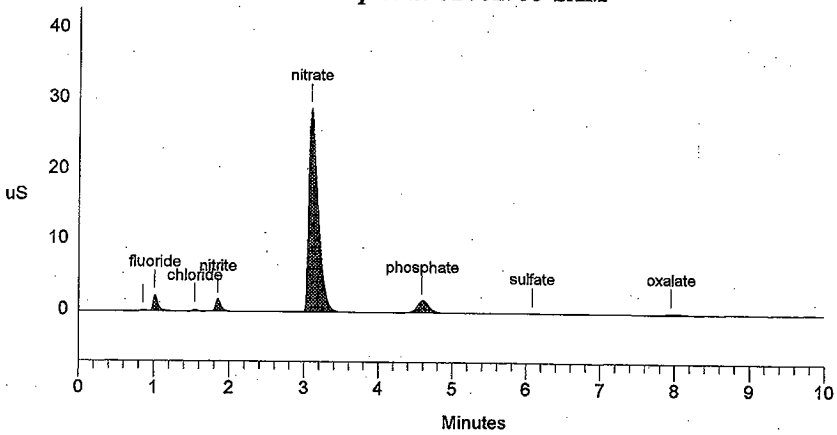
Sample Name: S98T001733 SAM
Date: 06/05/1998 14:38:38
Data File : C:\DX\DATA\98060341.D16
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 16 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.85		0.000	122	560	2	
2	1.01	fluoride	26.663	2204	10915	2	0.33
3	1.54	chloride	6.086	340	1616	1	0.43
4	1.85	nitrite	54.179	1710	8992	1	0.36
5	3.09	nitrate	1449.890	28798	248663	1	-2.01
6	4.59	phosphate	258.631	1663	20384	1	-0.07
7	6.08	sulfate	1.959	88	1249	1	0.83
8	7.95	oxalate	29.225	217	4356	1	0.72
		Totals	1826.634	35142	296734		

File: 98060341.D16 Sample: S98T001733 SAM



SS .206-10

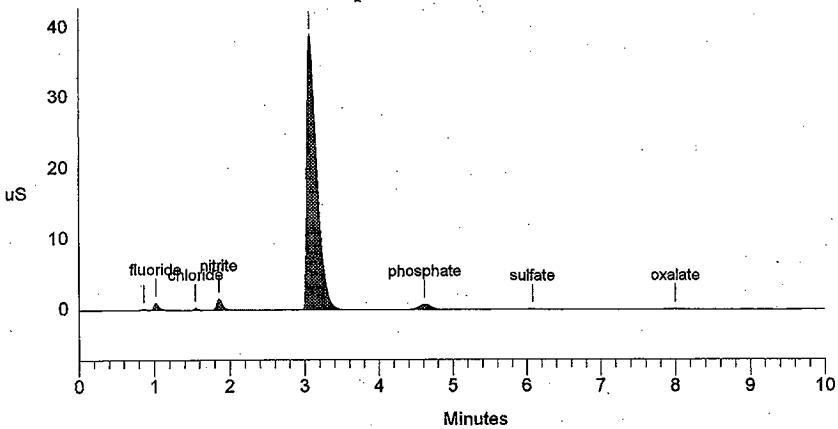
Sample Name: S98T001733 DUP Date: 06/05/1998 14:50:08
Data File : C:\DX\DATA\98060341.D17
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 17 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.86		0.000	136	681	2	
2	1.02	fluoride	13.139	991	5223	2	0.99
3	1.55	chloride	5.598	308	1487	1	0.87
4	1.85	nitrite	50.168	1567	8274	1	0.72
5	3.07	nitrate	2039.266	38904	358144	1	-2.65
6	4.61	phosphate	128.829	767	9875	1	0.51
7	6.08	sulfate	5.210	95	1917	1	0.83
8	8.00	oxalate	23.101	176	3397	1	1.39
		Totals	2265.310	42944	388997		

File: 98060341.D17 Sample: S98T001733 DUP



SS .200-10

LABCORE Completed Worklist Report for Worklist# 24511

Analyst: adp **Instrument:** IC01 **Book#** 137N20C

Method: 14-533-105 Rev/Mod E-0

Worklist Comment: TX104,@IC-01,RERUN#1 for high RPD. Use 51 DF.tdm

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	5.9e1	6.03e+01	102.203	% Recovery
2	CCV		0	@IC-QC	CL	QC	8.0e1	7.96e+01	99.500	% Recovery
2	CCV		0	@IC-QC	NO2	QC	5.43e2	5.58e+02	102.762	% Recovery
2	CCV		0	@IC-QC	BR	QC	5.89e2	5.88e+02	99.830	% Recovery
2	CCV		0	@IC-QC	NO3	QC	5.94e2	5.77e+02	97.138	% Recovery
2	CCV		0	@IC-QC	PO4	QC	5.45e2	5.46e+02	100.183	% Recovery
2	CCV		0	@IC-QC	SO4	QC	6.32e2	6.35e+02	100.475	% Recovery
2	CCV		0	@IC-QC	OXALATE2	QC	5.32e2	5.28e+02	99.248	% 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	S98T001733	0 W	@IC-01	F-02	SOLID	N/A	1.847e+03	121.100	ug/g
4	SAMPLE	S98T001733	0 W	@IC-01	NO3-02	SOLID	N/A	4.027e+05	1403.000	ug/g
4	SAMPLE	S98T001733	0 W	@IC-01	PO4-02	SOLID	N/A	2.371e+04	1211.000	ug/g
4	SAMPLE	S98T001733	0 W	@IC-01	OXALATE2	SOLID	N/A	4.225e+03	1060.000	ug/g
5	DUP	S98T001733	0 W	@IC-01	F-02	SOLID	1.85e+03	5.45e+03	98.630	RPD
5	DUP	S98T001733	0 W	@IC-01	CL-02	SOLID	?	1.25e+03		RPD
5	DUP	S98T001733	0 W	@IC-01	NO2-02	SOLID	?	1.13e+04		RPD
5	DUP	S98T001733	0 W	@IC-01	BR-02	SOLID	?	<1.26e3		RPD
5	DUP	S98T001733	0 W	@IC-01	NO3-02	SOLID	4.03e+05	2.84e+05	34.643	RPD
5	DUP	S98T001733	0 W	@IC-01	PO4-02	SOLID	2.37e+04	5.06e+04	72.409	RPD
5	DUP	S98T001733	0 W	@IC-01	SO4-02	SOLID	?	1.61e+03		RPD
5	DUP	S98T001733	0 W	@IC-01	OXALATE2	SOLID	4.22e+03	5.00e+03	16.920	RPD

Final page for worklist# 24511

Jann M. Leye 6/10/98

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

06/09/98 13:45
A-0004-1

LABCORE Data Entry Template for Worklist# 24511

Analyst: ADP **Instrument:** IC0 1 **Book#** 137N20-C

Method: LA-533-105 Rev/Mod E-0

Worklist Comment: TX104,@IC-01,RERUN#1 for high RPD. Use 51 DF.tdm

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	S98T001733	0	W	@IC-01	SOLID	98000130	TX-104
		Analytes Requested:			F-02	, NO3-02	, OXALATE2,	PO4-02
5	DUP	S98T001733	0	W	@IC-01	SOLID		

Final page for worklist # 24511

Anthony Pierantoni 6-9-98
Analyst Signature **Date**

Analyst Signature **Date**

uploaded 6-10-98
John Worrell
24511JUN.CSV

Still high RPD. Sample is non homogenious. This was a re prep as well. Jerry Lyle

Data Entry Comments:

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

A-0010-IC DATA FILE/WORKLIST RESOLUTION 10-Jun-98

Worklist#: 24511

	Seq	Type	Sample #
=>	1	CCB	
=>	2	CCV	
=>	3	BLNK-PREP	
=>	4	SAMPLE	S98T001733
=>	5	DUP	S98T001733

Data File: 24511JUN.CSV

Seq#	Data File	Sample Name	Dilution
1	98060971.d01	BLANK	1.00
2	98060971.d03	137N20-C	101.00
3	98060971.d04	PREP BLANK	1.00
4	98060971.d05	S98T001733 SAM	51.00
5	98060971.d06	S98T001733 DUP	51.00

Save(F4) Abort(Shift-F3) ListFiles(Shift-F1) UploadFile(F8)

Sample Name: 137N20-C Date: 06/09/1998 19:36:16
Data File : C:\DX\DATA\98060971.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector:CDM-1
Analyst : Anthony Hurnt Column: AG4A/AS4A anion column

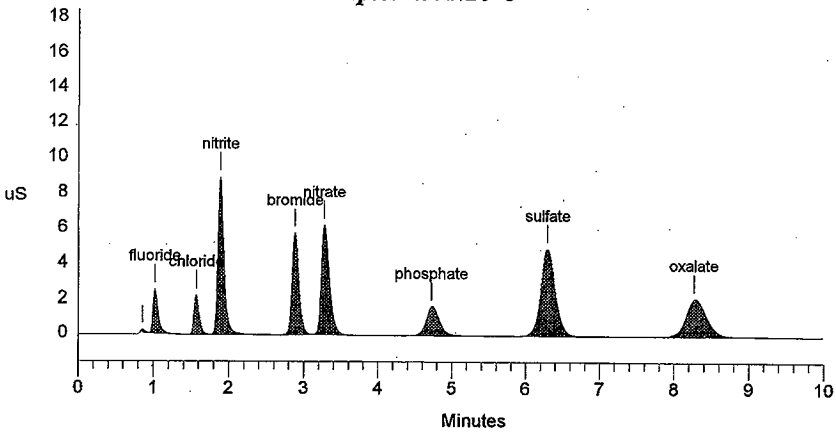
6-9-98

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	0.85		0.000	200	901	2	
2	1.02	fluoride	60.251 102.12	2533	12500	2	0.99
3	1.57	chloride	79.637 99.55	2278	10772	1	2.17
4	1.89	nitrite	557.830 102.73	8955	49772	1	2.54
5	2.88	bromide	587.892 99.82	5767	36462	1	3.97
6	3.27	nitrate	577.053 97.15	6228	47086	1	3.92
7	4.72	phosphate	546.123 100.21	1682	21782	1	2.83
8	6.29	sulfate	634.816 100.45	4961	67716	1	4.37
9	8.27	oxalate	528.278 99.30	2177	41734	1	4.77
		Totals	3571.880	34782	288724		

File: 98060971.D03 Sample: 137N20-C



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 265 TO 269.

SS.100-10

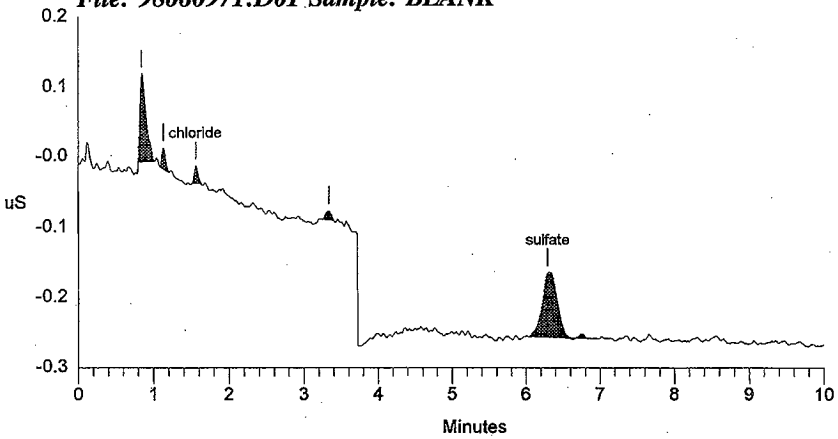
Sample Name: BLANK Date: 06/09/1998 18:53:02
Data File : C:\DX\DATA\98060971.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.85		0.000	125	703	1	
2	1.13		0.000	30	102	1	
3	1.56	chloride	0.006	25	87	1	1.74
4	3.34		0.000	13	66	1	
5	6.29	sulfate	0.045	92	1321	1	4.37
		Totals	0.052	284	2279		

File: 98060971.D01 Sample: BLANK



SS1

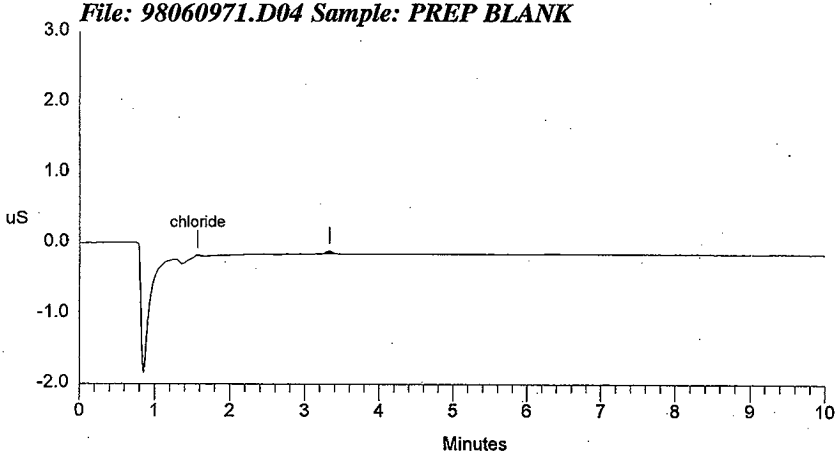
```
==============================================================================
 Sample Name: PREP BLANK                          Date: 06/09/1998 19:51:40
 Data File  : C:\DX\DATA\98060971.D04
 Method     : C:\DX\METHOD\KIT.MET
 ACI Address: 1  System: 1  Inject#: 4                        Detector:CDM-1
 Analyst    :                 Column: AG4A/AS4A anion column
==============================================================================
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	1.57	chloride	0.005	22	70	1	2.17
2	3.33		0.000	43	260	1	
		Totals	0.005	65	330		

File: 98060971.D04 Sample: PREP BLANK



SS1

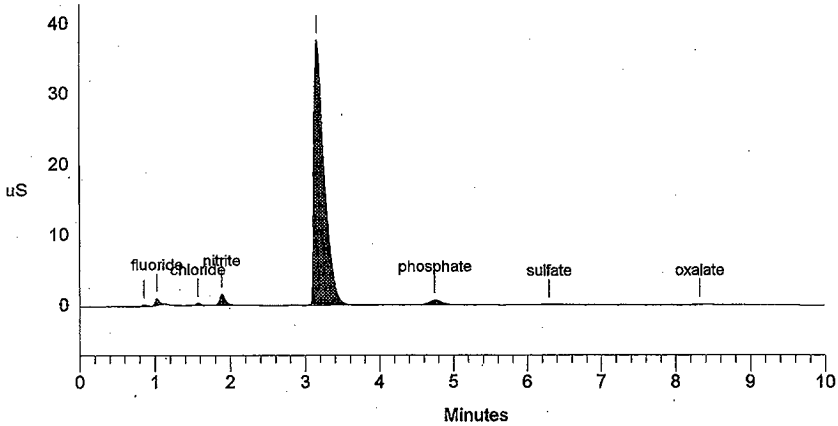
Sample Name: S98T001733 SAM Date: 06/09/1998 20:06:15
Data File : C:\DX\DATA\98060971.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.85		0.000	183	797	1	
2	1.03	fluoride	9.330	950	3623	1	1.65
3	1.57	chloride	5.858	319	1556	1	2.17
4	1.89	nitrite	51.342	1559	8484	1	2.54
5	3.16	nitrate	2034.230	37699	357186	1	0.32
6	4.75	phosphate	119.796	714	9149	1	3.41
7	6.29	sulfate	7.778	156	2445	1	4.37
8	8.32	oxalate	21.344	164	3121	1	5.45
		Totals	2249.679	41744	386361		

File: 98060971.D05 Sample: S98T001733 SAM



SS.200-1D

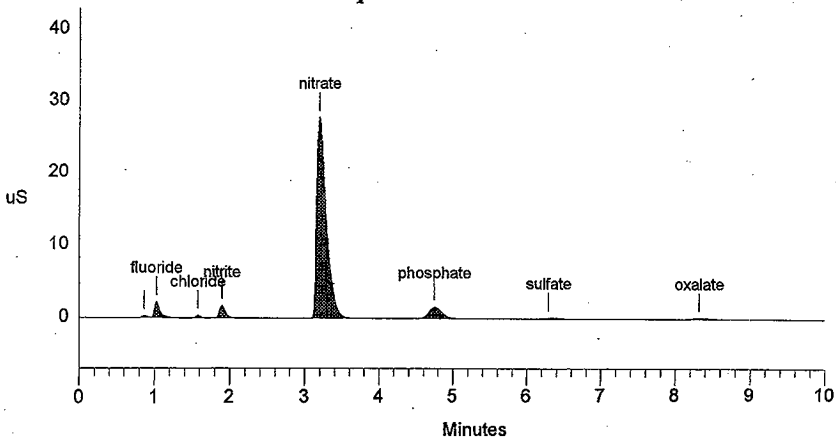
Sample Name: S98T001733 DUP Date: 06/09/1998 20:17:33
Data File : C:\DX\DATA\98060971.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column

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	0.86		0.000	221	1057	2	
2	1.03	fluoride	27.676	2176	11342	2	1.65
3	1.57	chloride	6.330	347	1681	1	2.61
4	1.89	nitrite	57.376	1711	9563	1	2.90
5	3.19	nitrate	1442.114	27864	247253	1	1.38
6	4.75	phosphate	257.061	1605	20256	1	3.41
7	6.29	sulfate	8.190	152	2530	1	4.37
8	8.32	oxalate	25.391	203	3755	1	5.45
		Totals	1824.139	34280	297437		

File: 98060971.D06 Sample: S98T001733 DUP



SS.200-10

LABCORE Data Entry Template for Worklist# 22992

Analyst: K Sato **Instrument:** ICP01 2 K 3-30-98 **Book#** 71B48Q

Method: LA-505-~~151~~/161 Rev/Mod C-2

K 3-30-98

Worklist Comment: ICP TX-104 (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	SAMPLE	S98T000500	0	D	@ICP-D01	LIQUID	98000129	TX-104
	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					
7	DUP	S98T000500	0	D	@ICP-D01	LIQUID		
8	SAMPLE	S98T000501	0	D	@ICP-D01	LIQUID	98000129	TX-104
	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					
9	DUP	S98T000501	0	D	@ICP-D01	LIQUID		
10	ICSA				@ICP-QC	QC		
11	ICSAB				@ICP-QC	QC		
12	CCV				@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 22992

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
13	CCB				@ICP-QC	QC		

Final page for worklist # 22992

DK [illegible] 03-30-98
Analyst Signature Date

Reviewed + Validated by:
[illegible] 3/31/98
Analyst Signature Date

598T000500 , direct , DF 1
598T000500_D direct 1

598T000501 , 1-9 , DF 10
598T000501_D 1-9 10

Data Entry Comments:

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

Analysis Report Summary Mon 03-30-98 02:04:52 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	980330D	ICP2	03/30/98	13:20	DKS	Q	CONC
2	ICB	980330D	ICP2	03/30/98	13:23	DKS	Q	CONC
3	LLS	980330D	ICP2	03/30/98	13:26	DKS	Q	CONC
4	ICSA	980330D	ICP2	03/30/98	13:29	DKS	Q	CONC
5	ICSAB	980330D	ICP2	03/30/98	13:32	DKS	Q	CONC
6	S98T000500	980330D	ICP2	03/30/98	13:35	DKS	S	CONC
7	S98T000500_D	980330D	ICP2	03/30/98	13:38	DKS	S	CONC
8	S98T000501	980330D	ICP2	03/30/98	13:41	DKS	S	CONC
9	S98T000501_D	980330D	ICP2	03/30/98	13:44	DKS	S	CONC
10	ICSA	980330D	ICP2	03/30/98	13:51	DKS	Q	CONC
11	ICSAB	980330D	ICP2	03/30/98	13:54	DKS	Q	CONC
12	CCV	980330D	ICP2	03/30/98	13:57	DKS	Q	CONC
13	CCB	980330D	ICP2	03/30/98	14:01	DKS	Q	CONC

DK [illegible]
03-30-98
Worklist # 22992

TX-104
S98T000500
S98T000501

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 222 TO 225.

Analysis Report Averages Mon 03-30-98 02:04:52 PM page 2

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.8911	4.8832	5.0284	4.9735	4.9605	5.0006
2	ICB	.00132	.00827	.00412	.00373	.00009	.00016
3	LLS	.02017	.09508	.19961	.09521	.09929	.01046
4	ICSA	.00114	241.22	-.01920	-.00738	.00213	.00024
5	ICSAB	.94089	238.36	.00196	-.00908	.46050	.47075
6	S98T000500	.00031	.00301	.00226	-.00040	.00014	.00020
7	S98T000500_D	-.00160	-.00140	-.00255	-.00165	.00004	.00016
8	S98T000501	.00671	.07768	.06163	-.01246	.06695	.00081
9	S98T000501_D	.00902	.09512	.16137	-.01248	.06913	.00121
10	ICSA	.00309	240.60	-.02582	-.00876	.00225	.00032
11	ICSAB	.93729	236.73	-.01124	-.00421	.45699	.46906
12	CCV	4.8731	4.8049	4.9639	4.8932	4.8531	4.9118
13	CCB	.00109	.00785	-.00011	-.00083	.00006	.00016

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.9471	4.9828	4.9272	5.0020	5.0115	4.7737
2	ICB	.01533	.00268	.00197	.00792	.00167	-.00016
3	LLS	.24131	.23069	.00987	.19834	.04146	.01951
4	ICSA	.03117	255.71	.00394	.00000	.00207	-.01692
5	ICSAB	.02959	252.17	.91927	.00483	.45911	.43667
6	S98T000500	.01319	.16193	.00172	.00199	.00138	.00093
7	S98T000500_D	.02680	.10809	-.00006	-.00182	.00159	.00005
8	S98T000501	.01446	.87991	.00983	.07379	.02847	.00051
9	S98T000501_D	.13068	.89462	.01395	.13349	.00835	.00245
10	ICSA	.01479	253.84	.00453	.00969	.00447	-.01504
11	ICSAB	.01616	251.57	.91386	.01145	.45765	.43701
12	CCV	4.8762	5.0181	4.8827	4.8968	4.9866	4.7511
13	CCB	.03626	.00270	.00179	.00603	.00167	.00033

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.7558	.00720	4.8206	4.9050	4.9784	4.9553
2	ICB	-.00020	-.00024	.00014	.00883	.00075	.00021
3	LLS	.01631	.00028	.09676	.42565	.10087	.02162
4	ICSA	-.01112	.01412	91.513	.01098	-.00485	.00348
5	ICSAB	.45017	.01981	90.331	.08410	-.00382	.94990
6	S98T000500	-.00028	.00167	-.00164	.16766	.00072	.00126
7	S98T000500_D	-.00063	.00137	-.00252	-.18443	-.00057	.00147
8	S98T000501	.01253	.01181	-.00701	1.1766	.00810	1832.1
9	S98T000501_D	.01666	.00201	.02874	.85414	.01309	1879.5
10	ICSA	-.00901	.01683	91.171	.10710	-.00312	.00253
11	ICSAB	.44840	.01905	89.988	.06379	-.00369	.93702
12	CCV	4.6439	.00821	4.7651	4.6566	4.8698	4.7728
13	CCB	-.00009	.00035	.00062	.09586	.00069	.00042

Analysis Report Averages Mon 03-30-98 02:04:52 PM page 3

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.0863	4.8189	4.9904	5.0773	4.8360	4.7979
2	ICB	.00249	-.00002	.00025	.00822	.00199	.00239
3	LLS	.19183	.01921	.09918	.19775	.19583	.04330
4	ICSA	253.31	-.00710	-.01252	189.96	.00103	-.00379
5	ICSAB	249.96	.43243	-.01542	190.42	.00204	.90508
6	S98T000500	.04159	.00039	-.00050	.82281	.00247	.00495
7	S98T000500_D	.02702	.00036	-.00064	.79239	.00210	.00209
8	S98T000501	.13375	.00374	.15155	5.2012	.02639	-.00193
9	S98T000501_D	.17560	.00055	.13548	5.5271	-.00301	.07252
10	ICSA	252.28	-.00734	-.01546	190.39	.00340	-.00862
11	ICSAB	248.21	.43023	-.01357	188.86	.00349	.88857
12	CCV	4.9742	4.7907	4.9499	4.9478	4.7191	4.8004
13	CCB	.00872	.00007	-.00026	.01180	.00073	.00577

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.9677	4.8125	4.9014	4.7703	4.6515	4.8055
2	ICB	.00388	.00696	.00748	.00467	.01289	.00166
3	LLS	.39358	.20529	.20431	.10096	.20883	Q.14472
4	ICSA	.00995	.02276	-.00090	.00014	.00847	-.00575
5	ICSAB	.01509	.98434	-.01092	.00967	.01484	-.00670
6	S98T000500	.00131	.00653	.00606	.00651	.01791	.66799
7	S98T000500_D	-.00034	.00744	-.01522	-.00104	.02297	.64928
8	S98T000501	.08124	.09157	1.5945	.05539	.44456	2.4532
9	S98T000501_D	.06069	.07900	1.5699	.07754	.19032	2.4673
10	ICSA	.00271	.02923	-.00688	.00164	.01530	-.00933
11	ICSAB	-.00096	.96717	-.00964	.00223	.02166	-.00689
12	CCV	4.9140	4.8177	4.8606	4.7154	4.6120	4.7847
13	CCB	.00657	.01009	-.00315	.00469	.01547	.00093

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.8632	5.0580	.23925	4.8812	4.7222	9.6659
2	ICB	-.00425	.00008	.00866	.00045	-.00879	-.01385
3	LLS	.19985	.02043	.00121	.01911	.40167	.47882
4	ICSA	-.01227	-.00261	.01805	.00049	-.05508	-.05025
5	ICSAB	-.01553	-.00252	.01677	.00133	-.02776	-.06948
6	S98T000500	.01098	.00037	.00199	.00020	.00204	.05400
7	S98T000500_D	.01141	.00033	-.00159	-.00043	-.02513	.04749
8	S98T000501	.09630	.01227	.02622	-.00200	-.18200	.30011
9	S98T000501_D	.00216	.01145	.06399	.00027	.02946	-.05179
10	ICSA	-.01941	-.00258	.02195	.00114	-.02682	-.08499
11	ICSAB	-.01748	-.00254	.02682	.00158	-.02214	-.08293
12	CCV	4.7365	4.9514	.23252	4.7948	4.7046	9.4201
13	CCB	.00098	.00008	.00877	.00045	-.01547	.00324

Analysis Report Averages Mon 03-30-98 02:04:52 PM page 4

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.0252	.00710	4.9224	4.9273
2	ICB	.00000	.00000	-.00009	-.00093
3	LLS	.09962	.00042	.02033	.02014
4	ICSA	.00213	.00785	-.00349	-.00352
5	ICSAB	.45783	.00755	.89974	-.00430
6	S98T000500	.00263	.00076	.00007	.00129
7	S98T000500_D	.00281	.00068	-.00017	.00156
8	S98T000501	.02978	.00614	-1.1854	.01576
9	S98T000501_D	.01260	.00002	-1.2131	-.00168
10	ICSA	-.00021	.00732	-.00352	-.00554
11	ICSAB	.45495	.00740	.89568	-.00561
12	CCV	4.9744	.00767	4.9260	4.8556
13	CCB	.00045	.00023	.00025	-.00065

DK Lad
03-30-98

03/17/98 12:09 File #: 9804270.TXT HNF-SD-WM-DP-305 REV. 0 Page: 1
A-0004-1

LABCORE Data Entry Template for Worklist# 22993

Analyst: JK Scio **Instrument:** ICP01 2 JK 4-27-98 **Book#** 71B48B

Method: LA-505-~~151~~/161 Rev/Mod C-2
JK 4-27-98

Worklist Comment: ICP TX-104 (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	S98T000667	0	D	@ICP-D01	LIQUID		
7	SAMPLE	S98T000667	0	D	@ICP-D01	LIQUID	98000129	TX-104
	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	S98T000667	0	D	@ICP-D01	LIQUID		
9	SPK (1ppm) Sample & Spike Qt (10ppm) JK 4-27-98	S98T000667	0	D	@ICP-D01	LIQUID		
10	CCV				@ICP-QC	QC		
11	CCB				@ICP-QC	QC		
12	SAMPLE	S98T000765	0	D	@ICP-D01	LIQUID	98000130	TX-104
	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						

Data Entry Comments: uploaded 4-28-98 Jak Wanell

Validated by H Anastis 4-29-98

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

LABCORE Data Entry Template for Worklist# 22993

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
13	DUP	S98T000765	0	D	@ICP-D01	LIQUID		
14	SAMPLE	S98T000766	0	D	@ICP-D01	LIQUID	98000130	TX-104
	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			
15	DUP	S98T000766	0	D	@ICP-D01	LIQUID		
16	SAMPLE	S98T000779	0	D	@ICP-D01	LIQUID	98000130	TX-104
	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	S98T000779	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 # 22993

Analyst Signature	Date		Analyst Signature	Date
JK Lee	04-27-98			
5987000667_L , .025-15-2-8 ,	3F 3005		5987000765 , .025-15 ,	DF 601
5987000667 , .025-15	601		5987000765_D , .025-15 ,	601
5987000667_D , .025-15	601		5987000766 , .025-15	601
5987000667_Q , .025-15	601 , .025 ml Scmp/c + 3 ml STT5 + 12 ml HNO3		5987000766_D , .025-15	601
5987000667_X , .025-15-1-9	6010		5987000779 , 1-9	10
5987000667_QX , .025-15-1-9	6010 , 1 ml Scmp/c + 1 ml acid xwk 284-35 + 7 ml HNO3		5987000779_D , 1-9	10

Data Entry Comments:

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

Analysis Report Summary Mon 04-27-98 12:23:23 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	980427A	ICP2	04/27/98	09:31	DKS	Q	CONC
2	ICB	980427A	ICP2	04/27/98	09:35	DKS	Q	CONC
3	LLS	980427A	ICP2	04/27/98	09:38	DKS	Q	CONC
4	ICSA	980427A	ICP2	04/27/98	09:41	DKS	Q	CONC
5	ICSAB	980427A	ICP2	04/27/98	09:44	DKS	Q	CONC
6	S98T000667_L	980427A	ICP2	04/27/98	09:48	DKS	S	CONC
7	S98T000667	980427A	ICP2	04/27/98	09:51	DKS	S	CONC
8	S98T000667_D	980427A	ICP2	04/27/98	09:55	DKS	S	CONC
9	S98T000667	980427A	ICP2	04/27/98	09:59	DKS	S	CONC
10	S98T000667_X	980427A	ICP2	04/27/98	10:07	DKS	S	CONC
11	S98T000667_AX	980427A	ICP2	04/27/98	10:11	DKS	S	CONC
12	CCV	980427A	ICP2	04/27/98	11:34	DKS	Q	CONC
13	CCB	980427A	ICP2	04/27/98	11:38	DKS	Q	CONC
14	S98T000765	980427A	ICP2	04/27/98	11:41	DKS	S	CONC
15	S98T000765_D	980427A	ICP2	04/27/98	11:46	DKS	S	CONC
16	S98T000766	980427A	ICP2	04/27/98	11:50	DKS	S	CONC
17	S98T000766_D	980427A	ICP2	04/27/98	11:54	DKS	S	CONC
18	S98T000779	980427A	ICP2	04/27/98	11:58	DKS	S	CONC
19	S98T000779_D	980427A	ICP2	04/27/98	12:02	DKS	S	CONC
20	ICSA	980427A	ICP2	04/27/98	12:10	DKS	Q	CONC
21	ICSAB	980427A	ICP2	04/27/98	12:13	DKS	Q	CONC
22	CCV 1	980427A	ICP2	04/27/98	12:16	DKS	Q	CONC
23	CCB 1	980427A	ICP2	04/27/98	12:20	DKS	Q	CONC

DK Lato
04-27-98
Work list # 22993

TX-104
S98T000667
S98T000765
S98T000779

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 278 TO 282

Analysis Report Averages Mon 04-27-98 12:23:23 PM page 2

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.9173	4.8435	5.0274	4.9256	4.8891	4.9649
2	ICB	.00121	-.00121	.00265	.00682	.00007	.00008
3	LLS	.02045	.09635	.19770	.10670	.09914	.01057
4	ICSA	.00275	244.58	-.04481	-.00408	.00216	.00016
5	ICSAB	.94989	244.08	-.00783	-.00279	.47067	.48065
6	S98T000667_L	11.099	3419.9	-24.841	46.147	-.55213	.50141
7	S98T000667	14.663	3303.3	-6.7468	45.645	-.06936	.02870
8	S98T000667_D	14.231	3288.3	-13.853	47.954	-.04907	.10091
9	S98T000667	567.68	3823.2	628.10	623.15	569.94	590.22
10	S98T000667_X	9.5951	3382.5	3.5165	58.943	-.70150	.75016
11	S98T000667_AX	57566.	61717.	60175.	59835.	60781.	59845.
12	CCV	4.8423	4.7536	4.9785	4.8058	4.7767	4.8973
13	CCB	-.00072	.00240	-.00011	-.00128	-.00013	.00036
14	S98T000765	14.473	2847.4	-6.8508	45.137	-.04494	.19966
15	S98T000765_D	14.261	2888.3	-10.386	47.701	-.04628	.19967
16	S98T000766	14.301	2899.6	-2.4702	47.698	-.04799	.19893
17	S98T000766_D	15.252	3030.9	-6.8509	47.698	-.03078	.22409
18	S98T000779	.09012	8.5471	-10.779	3.5583	.00090	.00290
19	S98T000779_D	.10598	8.7676	-10.677	3.6655	.00656	.00289
20	ICSA	.00203	240.73	-.01228	-.00649	.00209	.00061
21	ICSAB	.94389	242.39	-.00138	-.00208	.46671	.48163
22	CCV_1	4.8731	4.7854	5.0227	4.8391	4.8279	4.9358
23	CCB_1	-.00097	.00059	-.00155	.00042	-.00007	.00032

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.8907	4.9236	4.9812	4.9395	5.0788	4.8089
2	ICB	.00823	.00213	-.00019	.00521	.00021	-.00014
3	LLS	.18570	.22382	.00922	.19584	.04109	.01983
4	ICSA	.02202	253.30	.00228	.00233	-.00043	-.00374
5	ICSAB	.01381	254.77	.94474	-.00571	.46849	.46080
6	S98T000667_L	-13.879	10.185	-2.3334	-45.301	-4.1682	3839.2
7	S98T000667	-8.0695	75.538	-.02189	-5.1038	1.4566	3716.4
8	S98T000667_D	3.5383	4.4223	-.12914	-4.1135	1.4582	3707.4
9	S98T000667	560.35	603.64	590.27	579.34	602.99	4221.1
10	S98T000667_X	164.25	-9.7797	-4.8921	-64.993	-3.9027	3835.0
11	S98T000667_AX	60296.	60298.	59409.	60264.	59225.	63311.
12	CCV	4.8157	4.9306	4.9080	4.8169	5.0144	4.7565
13	CCB	.01004	-.00140	-.00028	-.00617	.00074	.00102
14	S98T000765	-5.7856	5.4818	.11970	-4.9064	-.63285	3169.1
15	S98T000765_D	.23588	8.0543	-.26088	-7.0602	-.44245	3212.3
16	S98T000766	-6.0095	6.4192	-.00218	-2.9467	.69763	3247.8
17	S98T000766_D	5.8916	10.525	-.03656	-4.3302	.88589	3397.1
18	S98T000779	-.16699	.37505	-.05171	.04514	.03584	6.1194
19	S98T000779_D	-.22985	.37051	-.03810	.11332	.03043	6.2763
20	ICSA	-.01817	252.93	.00245	.00194	.00219	-.00338
21	ICSAB	-.00160	254.97	.93077	-.00149	.46237	.45685
22	CCV_1	4.8875	4.9848	4.9166	4.8706	5.0372	4.7811
23	CCB_1	-.01023	-.00227	-.00044	-.01015	.00000	-.00102

Analysis Report Averages Mon 04-27-98 12:23:23 PM page 3

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.6906	.00645	4.8187	4.9426	4.9105	4.8460
2	ICB	-.00001	.00024	.00022	.12128	.00128	.00000
3	LLS	.01671	-.00013	.09777	.51763	.10036	.02009
4	ICSA	.00066	.02005	92.930	-.08013	-.00435	.00191
5	ICSAB	.47118	.01913	93.055	.08174	-.00575	.97001
6	S98T000667_L	-11.448	-2.5774	-.96742	2271.5	-4.4520	-3.0342
7	S98T000667	-8.0384	-.40064	.23254	3111.8	-.46807	-.47333
8	S98T000667_D	-7.8494	-.40347	.38378	3138.5	-.73392	-.33907
9	S98T000667	546.99	.41413	572.40	3619.0	581.89	568.80
10	S98T000667_X	-4.5586	-5.6367	-5.6328	2742.6	-7.9107	-2.0144
11	S98T000667_AX	56660.	72.726	57508.	64913.	60228.	59733.
12	CCV	4.5911	.00612	4.7685	5.0420	4.7988	4.6772
13	CCB	.00072	-.00013	-.00019	.15991	-.00005	.00112
14	S98T000765	-7.2497	-.25669	.47062	2608.4	-.22752	-.00165
15	S98T000765_D	-7.3435	-.43526	.24746	2788.4	-.57203	.13343
16	S98T000766	-7.4460	-.52587	.61081	2911.4	-.18312	2.3624
17	S98T000766_D	-7.6350	-.62725	.37782	2954.3	-.47929	2.3626
18	S98T000779	.04933	-.00551	.07654	21.419	-.00999	1906.4
19	S98T000779_D	.05790	-.01250	1.6396	21.764	.00885	1931.3
20	ICSA	.00225	.01481	92.172	.14796	-.00570	.00236
21	ICSAB	.46785	.01587	92.637	-.10301	-.00537	.95990
22	CCV_1	4.6315	.00694	4.7871	4.8626	4.8524	4.7587
23	CCB_1	-.00091	-.00046	-.00045	-.23532	-.00014	.00022

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.0005	4.8679	4.8952	5.0429	4.7918	4.8891
2	ICB	.00481	.00008	.00054	-.01355	-.00059	.00010
3	LLS	.19792	.01926	.09898	.18709	.19659	.04100
4	ICSA	256.66	-.00778	-.01337	197.31	-.00116	-.01398
5	ICSAB	255.89	.44281	-.01401	195.93	-.00178	.92746
6	S98T000667_L	-17.140	-.71034	68.200	218570.	-13.866	1.5717
7	S98T000667	-6.1897	.01723	67.093	207640.	-.70926	1.5646
8	S98T000667_D	-5.7740	-.02182	67.832	205760.	-.38387	.41649
9	S98T000667	582.06	564.21	651.23	203520.	567.11	581.03
10	S98T000667_X	-52.271	-1.6577	58.362	218690.	-1.8236	5.4522
11	S98T000667_AX	62040.	59347.	59407.	275960.	58795.	59301.
12	CCV	4.9311	4.7815	4.8323	4.8711	4.6610	4.8123
13	CCB	-.00314	.00013	.00107	-.02635	.00246	.00221
14	S98T000765	-1.0785	.30364	61.992	198860.	-3.0237	2.6386
15	S98T000765_D	-3.3148	.13601	61.910	202050.	-2.6304	-.05876
16	S98T000766	-6.4827	.22153	64.019	206710.	-2.3814	.53666
17	S98T000766_D	-4.2617	.16924	66.373	217110.	-2.5324	-.66214
18	S98T000779	-.04540	.01342	.57171	1251.9	-.04762	.03716
19	S98T000779_D	.08471	.03687	.55533	1272.9	-.02415	.06516
20	ICSA	253.43	-.00754	-.01596	193.51	-.00080	-.00696
21	ICSAB	254.69	.43938	-.01200	194.43	-.00289	.91075
22	CCV_1	4.9596	4.8095	4.8519	4.9407	4.7003	4.8430
23	CCB_1	-.00988	.00000	-.00013	-.03462	-.00294	-.00476

Na

$$\frac{\left(\frac{275960}{6010}\right) - \left(\frac{218690}{6010}\right)}{10} = 95.3\%$$

Analysis Report Averages Mon 04-27-98 12:23:23 PM page 4

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.8806	4.8684	4.9377	4.9497	4.6584	5.1376
2	ICB	.00190	-.00063	-.00367	.00385	-.00389	.01024
3	LLS	.39999	.20374	.18373	.09794	.18398	Q.23669
4	ICSA	.01293	.01372	-.00779	.00066	.00124	-.00624
5	ICSAB	-.00178	.97375	-.00175	.00187	.00081	-.00699
6	S98T000667_L	1114.6	-35.629	1482.0	3.1149	11.845	51.804
7	S98T000667	1150.4	-6.0033	1506.6	2.7805	28.361	44.806
8	S98T000667_D	1143.7	-6.2859	1496.2	3.2600	33.624	46.100
9	S98T000667	1721.7	573.36	2062.4	597.84	647.99	677.03
10	S98T000667_X	1186.2	-44.333	1470.9	10.576	-21.699	82.054
11	S98T000667_AX	60276.	59872.	59514.	60148.	58511.	60917.
12	CCV	4.8319	4.8455	4.8551	4.8800	4.6003	5.0497
13	CCB	.01055	.00114	-.00181	.00317	.01609	.00360
14	S98T000765	1161.8	-8.6874	1364.2	4.6696	39.487	86.457
15	S98T000765_D	1192.8	-8.9010	1408.0	3.7612	41.842	76.226
16	S98T000766	1239.8	-7.0983	1411.0	6.1867	45.008	64.415
17	S98T000766_D	1280.7	-13.060	1481.0	2.1007	48.980	60.681
18	S98T000779	12.003	-.18962	20.279	.01842	.80270	13.107
19	S98T000779_D	12.066	-.17268	20.382	.04207	.69460	13.340
20	ICSA	.00398	.02226	-.00262	.00634	.01578	-.00727
21	ICSAB	.01860	.96105	-.02534	.00719	.01406	-.00794
22	CCV_1	4.8570	4.8393	4.8727	4.9092	4.6224	5.0814
23	CCB_1	.01333	-.01108	-.00353	-.00365	.02213	.00656

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.7377	4.9826	.19913	Q4.4791	4.7192	9.5433
2	ICB	.00177	.00004	.00541	.00023	-.01134	-.00044
3	LLS	.19404	.02024	.00571	.01889	.38593	.46249
4	ICSA	-.02479	-.00266	.02066	-.00017	-.08879	.00577
5	ICSAB	-.02424	-.00276	.01524	.00065	-.07137	.01021
6	S98T000667_L	-29.818	-.38571	-11.384	-1.9680	-69.599	-92.349
7	S98T000667	-5.6849	.04888	-.98441	.62527	-11.580	10.582
8	S98T000667_D	-5.7098	-.00241	-2.9282	.35301	-4.4346	25.689
9	S98T000667	556.03	590.12	22.746	533.29	557.17	1162.2
10	S98T000667_X	-62.202	-.76759	-24.924	-3.9317	-1.4906	-216.23
11	S98T000667_AX	58531.	60019.	2454.8	59765.	58998.	114260.
12	CCV	4.6491	4.8867	.20746	Q4.3942	4.6723	9.3401
13	CCB	.00185	.00008	-.00060	.00000	-.02506	.00432
14	S98T000765	-2.9110	.04956	.41788	-.14696	-11.591	30.718
15	S98T000765_D	-3.8182	.02327	-1.7364	-.02775	-12.325	30.395
16	S98T000766	-4.9789	-.00249	-2.5988	.09814	-4.8002	25.854
17	S98T000766_D	-7.0971	-.02858	-1.1152	.10237	-4.0663	22.528
18	S98T000779	-.07277	.00085	.04134	-.01278	-.35543	-.00094
19	S98T000779_D	-.13865	.00044	.12351	-.00602	-.36300	-.24760
20	ICSA	-.02419	-.00269	.02632	.00072	-.05212	-.03416
21	ICSAB	-.02312	-.00272	.01569	.00025	-.06299	-.02664
22	CCV_1	4.7075	4.9365	.20301	Q4.4331	4.7584	9.4337
23	CCB_1	-.00350	.00004	.00277	-.00084	-.02410	-.01201

Analysis Report Averages Mon 04-27-98 12:23:23 PM page 5

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.0550	.00707	5.0765	4.9700
2	ICB	-.00017	.00007	.00000	-.00071
3	LLS	.09897	.00003	.02009	.01868
4	ICSA	-.00255	.00689	-.00373	-.00641
5	ICSAB	.46683	.00712	.92202	-.00553
6	S98T000667_L	-4.8035	-1.6097	.62255	-4.6080
7	S98T000667	.68003	-.28717	1.3568	-.52693
8	S98T000667_D	.36370	-.29359	.74185	-.39456
9	S98T000667	601.85	.68387	607.86	589.77
10	S98T000667_X	-10.424	-2.2637	-.90851	-7.1604
11	S98T000667_AX	59107.	85.709	55659.	59075.
12	CCV	4.9846	.00731	5.0181	4.8752
13	CCB	.00031	.00031	.00038	-.00027
14	S98T000765	1.0416	-.06016	2.0520	-.08894
15	S98T000765_D	.94959	-.15425	2.0100	-.29708
16	S98T000766	.56386	-.34077	2.2712	-.41494
17	S98T000766_D	.46490	-.38647	2.4250	-.70611
18	S98T000779	.01548	-.00313	-1.2610	-.00624
19	S98T000779_D	-.00421	-.00694	-1.2163	-.02444
20	ICSA	-.00149	.00699	-.00387	-.00674
21	ICSAB	.46508	.00706	.91624	-.00612
22	CCV_1	5.0185	.00735	5.0348	4.9103
23	CCB_1	-.00080	.00000	.00041	-.00110

04-27-98

File #: 980428B.TXT

04/28/98 07:41
A-0004-1

LABCORE Data Entry Template for Worklist# 22994

Analyst: DK Sato **Instrument:** ICP01 2 4-28-98 **Book#** 71B48B

Method: LA-505-~~151~~/161 Rev/Mod C-2 4-28-98

Worklist Comment: ICP TX-104 (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	S98T000668	0	D	@ICP-D01	LIQUID		
7	SAMPLE	S98T000668	0	D	@ICP-D01	LIQUID	98000129	TX-104
		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	S98T000668	0	D	@ICP-D01	LIQUID		
9	SPK (1ppm) Sample & Spike (10ppm)	S98T000668	0	D	@ICP-D01	LIQUID		
10	CCV 4-28-98				@ICP-QC	QC		
11	CCB				@ICP-QC	QC		
12	SERDIL	S98T000764	0	D	@ICP-D01	LIQUID		
13	SAMPLE	S98T000764	0	D	@ICP-D01	LIQUID	98000130	TX-104
		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 ,			

Data Entry Comments: uploaded 4-29-98 Validated by:

Joe Wanell Sal M. Parra

4/30/98

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

04/28/98 07:41
A-0004-1

LABCORE Data Entry Template for Worklist# 22994

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			
4	DUP	S98T000764	0	D	@ICP-D01	LIQUID		
5	SPK (1ppm) sample x spike qx (1a ppm) JK 4-28-98	S98T000764	0	D	@ICP-D01	LIQUID		
6	ICSA				@ICP-QC	QC		
7	ICSAB				@ICP-QC	QC		
8	CCV				@ICP-QC	QC		
9	CCB				@ICP-QC	QC		

Final page for worklist # 22994

JK 04-28-98

Analyst Signature	Date			Analyst Signature	Date
5987000668_L	.025-10-2-8	JF	3005		
5987000668	.025-10		601		
5987000668_D	.025-10		601		
5987000668_a	.025-10		601	.025 ml sample + 3 ml SSTS + 12 ml HNO3	
5987000668_X	.025-10-1-9		6010		
5987000668_QX	.025-10-1-9		6010	1 ml sample + 1 ml each Xwhc 284 + 35 + 7 ml HNO3	
5987000764_L	.025-10-2-8	JF	3005		
5987000764	.025-10		601		
5987000764_D	.025-10		601		
5987000764_a	.025-10		601	.025 ml sample + 3 ml SSTS + 12 ml HNO3	
5987000764_X	.025-10-1-9		6010		
5987000764_QX	.025-10-1-9		6010	1 ml sample + 1 ml each Xwhc 284 + 35 + 7 ml HNO3	

Data Entry Comments:

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

Analysis Report Summary Tue 04-28-98 01:35:41 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	980428B	ICP2	04/28/98	11:28	DKS	Q	CONC
2	ICB	980428B	ICP2	04/28/98	11:31	DKS	Q	CONC
3	LLS	980428B	ICP2	04/28/98	11:36	DKS	Q	CONC
4	ICSA	980428B	ICP2	04/28/98	11:39	DKS	Q	CONC
5	ICSAB	980428B	ICP2	04/28/98	11:42	DKS	Q	CONC
6	S98T000668_L	980428B	ICP2	04/28/98	11:46	DKS	S	CONC
7	S98T000668	980428B	ICP2	04/28/98	11:49	DKS	S	CONC
8	S98T000668_D	980428B	ICP2	04/28/98	11:53	DKS	S	CONC
9	S98T000668_A	980428B	ICP2	04/28/98	11:56	DKS	S	CONC
10	S98T000668_X	980428B	ICP2	04/28/98	12:04	DKS	S	CONC
11	S98T000668_AX	980428B	ICP2	04/28/98	12:08	DKS	S	CONC
12	CCV	980428B	ICP2	04/28/98	12:35	DKS	Q	CONC
13	CCB	980428B	ICP2	04/28/98	12:38	DKS	Q	CONC
14	S98T000764_L	980428B	ICP2	04/28/98	12:42	DKS	S	CONC
15	S98T000764	980428B	ICP2	04/28/98	12:45	DKS	S	CONC
16	S98T000764_D	980428B	ICP2	04/28/98	12:48	DKS	S	CONC
17	S98T000764_A	980428B	ICP2	04/28/98	12:55	DKS	S	CONC
18	S98T000764_X	980428B	ICP2	04/28/98	13:02	DKS	S	CONC
19	S98T000764_AX	980428B	ICP2	04/28/98	13:06	DKS	S	CONC
20	ICSA	980428B	ICP2	04/28/98	13:22	DKS	Q	CONC
21	ICSAB	980428B	ICP2	04/28/98	13:25	DKS	Q	CONC
22	CCV_1	980428B	ICP2	04/28/98	13:29	DKS	Q	CONC
23	CCB_1	980428B	ICP2	04/28/98	13:32	DKS	Q	CONC

DK Sato
04-28-98
Worklist # 22994

TX-104
S98T000668
S98T000764

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 285 TO 289.

Analysis Report Averages Tue 04-28-98 01:35:41 PM page 2

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.9205	4.9486	5.1250	4.9926	5.0188	5.1033
2	ICB	.00173	.00568	.00407	.00439	.00003	.00012
3	LLS	.02178	.10672	.18939	.10216	.09983	.01090
4	ICSA	.00425	242.45	-.05393	-.00489	.00228	.00041
5	ICSAB	.95301	246.29	.02891	-.00941	.47510	.48815
6	S98T000668_L	16.427	3323.1	-13.242	60.854	.28691	.89070
7	S98T000668_	14.763	3224.1	-23.390	48.955	.14632	.15479
8	S98T000668_D	14.608	3036.7	-9.2731	51.332	.02497	.12805
9	S98T000668_A	540.08	3628.5	603.62	622.30	564.26	588.06
10	S98T000668_X	23.459	3220.7	6.2297	71.483	.30188	1.5186
11	S98T000668_AX	55660.	61323.	60000.	59527.	59812.	59389.
12	CCV	4.9451	4.9451	5.1536	5.0053	5.0338	5.1071
13	CCB	.00295	.01296	-.00107	.00307	.00006	.00037
14	S98T000764_L	24.083	3844.9	-19.528	60.983	2.1857	1.0075
15	S98T000764_	15.946	3759.2	-16.437	58.621	1.8908	.22251
16	S98T000764_D	15.178	3607.2	-19.215	54.116	1.7658	.22022
17	S98T000764_A	543.72	4588.8	624.23	638.66	572.08	592.70
18	S98T000764_X	25.015	3785.3	-9.6506	74.214	2.3064	2.2694
19	S98T000764_AX	56776.	60944.	59139.	58393.	58714.	58702.
20	ICSA	.00427	242.70	-.02104	-.00449	.00224	.00054
21	ICSAB	.95305	242.85	-.02784	-.00578	.47085	.48347
22	CCV_1	4.9408	4.9331	5.1426	4.9890	5.0224	5.0784
23	CCB_1	-.00038	.00719	.00232	.00395	.00000	.00042

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.9829	4.9008	5.0000	5.0967	5.1011	4.8314
2	ICB	.00836	.00388	-.00025	.00674	.00064	-.00009
3	LLS	.21544	.22470	.01099	.20962	.03969	.01881
4	ICSA	.01764	253.35	.00355	.01780	.00032	-.00241
5	ICSAB	-.00705	255.34	.94481	.00741	.46750	.46232
6	S98T000668_L	65.810	25.481	1.6812	7.9457	-3.9511	3640.5
7	S98T000668_	23.659	21.590	-.09688	1.8440	-.06143	3561.3
8	S98T000668_D	15.686	13.032	-.46266	2.8932	.92673	3442.8
9	S98T000668_A	590.08	600.98	582.42	586.98	595.82	4009.8
10	S98T000668_X	158.62	39.802	.41994	6.5243	5.3327	3606.9
11	S98T000668_AX	59830.	60408.	59000.	59747.	59167.	63012.
12	CCV	4.9376	4.9811	5.0136	5.0871	5.1291	4.8502
13	CCB	.02768	.00519	.00018	.00636	-.00066	-.00050
14	S98T000764_L	102.40	46.069	.98729	18.389	6.5346	4244.9
15	S98T000764_	45.590	25.590	1.1379	2.6137	1.0802	4173.9
16	S98T000764_D	44.143	24.072	.96530	3.4546	1.8723	4005.9
17	S98T000764_A	635.44	620.66	585.12	599.82	599.33	4983.3
18	S98T000764_X	140.32	62.451	2.1020	40.801	13.756	4267.2
19	S98T000764_AX	59389.	60064.	58563.	58608.	58512.	63171.
20	ICSA	.04562	253.24	.00303	.01707	.00324	-.00168
21	ICSAB	-.00485	254.67	.93584	.01043	.46796	.46081
22	CCV_1	4.9493	5.0139	4.9955	5.0631	5.1195	4.8448
23	CCB_1	.02360	.00115	-.00001	-.00310	-.00077	-.00068

Post-spk 668

Cr $\frac{\left(\frac{63012}{6010}\right) - \left(\frac{3606.9}{6010}\right)}{10} = 98.8\%$

Al $\frac{\left(\frac{61323}{6010}\right) - \left(\frac{3220.7}{6010}\right)}{10} = 96.7$

Post-spk 764

Cr $\frac{\left(\frac{63171}{6010}\right) - \left(\frac{4267.2}{6010}\right)}{10} = 98.0\%$

Al $\frac{\left(\frac{60944}{6010}\right) - \left(\frac{3785.3}{6010}\right)}{10} = 95.1\%$

Analysis Report Averages Tue 04-28-98 01:35:41 PM page 3

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.8352	.00416	4.8772	4.8064	5.0687	5.0100
2	ICB	-.00017	-.00016	.00106	-.20933	.00116	.00046
3	LLS	.01700	-.00041	.09853	Q.34976	.10312	.02093
4	ICSA	.00172	.00519	92.708	.33695	-.00249	.00383
5	ICSAB	.47558	.00825	93.654	.09492	-.00458	.98317
6	S98T000668_L	-8.9728	-1.3161	23.432	3136.2	.33017	.35259
7	S98T000668_	-7.5207	-.20948	20.648	2807.1	.30641	.20803
8	S98T000668_D	-7.3023	.22852	.24524	2760.0	.52145	.69646
9	S98T000668_A	544.46	.38708	565.14	3371.4	580.60	564.73
10	S98T000668_X	-3.0764	5.1689	17.558	2797.4	2.3573	8.3789
11	S98T000668_AX	55945.	63.687	57219.	59927.	59542.	58694.
12	CCV	4.8278	.00468	4.9001	4.6798	5.0579	5.0046
13	CCB	.00011	-.00055	.00070	.05205	.00143	-.00034
14	S98T000764_L	-5.5414	-1.6714	327.53	2840.9	4.5354	1.7409
15	S98T000764_	-9.0451	.13368	325.20	2703.3	2.0239	.61885
16	S98T000764_D	-8.4224	.25504	288.38	2671.5	1.7892	.82653
17	S98T000764_A	544.59	.41430	1043.6	3348.9	585.76	570.52
18	S98T000764_X	-5.6685	-1.0668	329.13	2951.1	11.713	4.1851
19	S98T000764_AX	54677.	68.486	56973.	58892.	58335.	57095.
20	ICSA	.00199	.00669	92.641	.27970	-.00247	.00349
21	ICSAB	.46826	.00640	92.693	.15937	-.00447	.97444
22	CCV_1	4.7994	.00554	4.8795	4.9080	5.0295	5.0145
23	CCB_1	-.00004	-.00098	.00017	-.19875	-.00053	.00035

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.1143	4.8971	4.9455	5.1481	4.9229	4.9013
2	ICB	.00811	.00006	-.00084	-.00349	.00122	.00586
3	LLS	.21118	.01924	.09744	.21870	.19289	.04753
4	ICSA	255.71	-.00734	-.01288	193.66	.00110	-.00203
5	ICSAB	259.24	.44614	-.01536	197.32	-.00066	.93374
6	S98T000668_L	16.482	6.9222	61.354	210640.	-12.098	9.9131
7	S98T000668_	1.4930	7.1686	63.963	202640.	-1.4278	1.9076
8	S98T000668_D	2.2535	.19570	61.555	194200.	-.27242	.71611
9	S98T000668_A	589.50	558.26	641.83	196620.	561.69	572.76
10	S98T000668_X	7.1860	9.6168	65.268	203700.	10.443	15.324
11	S98T000668_AX	61856.	59306.	59145.	264470.	57661.	58992.
12	CCV	5.1472	4.9143	4.9540	5.1415	4.8977	4.9258
13	CCB	.00548	.00003	-.00208	-.01316	-.00281	.00505
14	S98T000764_L	27.200	140.73	66.431	220470.	11.247	33.546
15	S98T000764_	11.129	140.69	62.793	211140.	6.2934	6.2446
16	S98T000764_D	12.811	126.55	61.064	202630.	6.2310	6.8459
17	S98T000764_A	614.09	770.53	640.56	207060.	571.49	572.56
18	S98T000764_X	69.719	139.83	61.892	217690.	10.577	32.607
19	S98T000764_AX	60966.	58885.	58483.	268730.	56321.	58517.
20	ICSA	255.82	-.00734	-.01332	193.92	.00122	.00268
21	ICSAB	255.95	.44294	-.01786	194.43	-.00041	.91721
22	CCV_1	5.1123	4.9072	4.9343	5.1176	4.8630	4.8802
23	CCB_1	-.00205	-.00010	-.00014	-.00387	-.00375	.00329

Post-Spk ~~668~~ 764

$$Na = \frac{\left(\frac{268730}{6010}\right) - \left(\frac{217690}{6010}\right)}{10} \times 100 = 84.9\%$$

Post-Spk ~~764~~ 668

$$Na = \frac{\left(\frac{264470}{6010}\right) - \left(\frac{203700}{6010}\right)}{10} \times 100 = 101.1\%$$

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.9648	4.8808	4.9377	4.9864	4.7314	5.0591
2	ICB	.02369	-.00692	-.00425	-.00390	.03842	.00060
3	LLS	.39514	.18884	.18587	.10075	.23787	Q.22343
4	ICSA	.02055	.03014	-.01158	-.00105	.02721	-.00765
5	ICSAB	.02953	.99200	-.00413	.01137	.01821	-.01002
6	S98T000668_L	1270.3	-22.592	1436.5	7.7866	89.406	111.82
7	S98T000668_	1227.3	-9.1191	1442.3	7.5100	36.332	116.46
8	S98T000668_D	1224.3	-5.3472	1389.1	8.7792	63.415	59.832
9	S98T000668_A	1805.5	564.44	1957.7	594.83	675.06	676.21
10	S98T000668_X	1318.5	21.928	1342.9	34.941	333.46	154.46
11	S98T000668_AX	59922.	59983.	59418.	59911.	58119.	60536.
12	CCV	4.9484	4.8832	4.9779	4.9923	4.7135	5.0832
13	CCB	.01729	-.00961	-.00671	.00349	.03167	-.00174
14	S98T000764_L	1307.7	31.017	1439.5	11.549	125.75	87.909
15	S98T000764_	1260.3	18.239	1431.5	7.4376	44.712	91.067
16	S98T000764_D	1245.3	29.053	1365.9	11.902	67.852	78.108
17	S98T000764_A	1847.6	611.67	1938.0	591.21	675.58	703.43
18	S98T000764_X	1389.1	15.167	1394.2	1.7683	243.87	134.34
19	S98T000764_AX	59257.	59499.	59093.	59298.	57541.	59552.
20	ICSA	.03130	.02997	-.00695	-.00963	.04763	-.00783
21	ICSAB	.02533	.99261	-.01658	-.00096	.05934	-.00461
22	CCV_1	4.9628	4.8894	4.9941	4.9903	4.7566	5.0851
23	CCB_1	.01533	-.00654	-.00632	.00391	.04188	-.00257

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.9329	5.1247	.19198	4.5934	4.8454	9.9065
2	ICB	-.00266	.00004	.00505	.00046	-.01076	-.01344
3	LLS	.19357	.02041	.01286	.01972	.40178	.46273
4	ICSA	-.00920	-.00245	.02092	.00180	-.05349	.05940
5	ICSAB	-.01693	-.00252	.01610	.00575	-.04612	.03608
6	S98T000668_L	-18.608	-.13125	17.761	-1.2595	-39.953	-50.962
7	S98T000668_	-.25336	.10406	.42897	.77892	-5.2217	34.721
8	S98T000668_D	2.7258	.12913	-.82042	.89831	12.823	59.747
9	S98T000668_A	561.42	584.85	23.377	529.94	567.97	1182.2
10	S98T000668_X	62.635	1.0490	19.285	5.3026	28.011	323.10
11	S98T000668_AX	57841.	59097.	2260.7	59494.	58382.	113150.
12	CCV	4.9325	5.1147	.19760	4.6014	4.8566	9.8720
13	CCB	-.00449	.00000	.00762	-.00062	-.02972	-.02125
14	S98T000764_L	-9.9909	1.0636	30.404	3.9990	58.325	154.19
15	S98T000764_	3.2376	1.2490	6.3545	1.3841	-2.9466	201.27
16	S98T000764_D	3.7420	1.2993	6.5872	1.3647	4.4601	242.44
17	S98T000764_A	566.27	588.57	36.578	536.88	575.46	1465.0
18	S98T000764_X	.79749	1.3250	50.388	1.3941	44.794	242.22
19	S98T000764_AX	56693.	57899.	2280.0	58563.	57803.	110660.
20	ICSA	-.01428	-.00244	.02191	.00159	-.04380	.01549
21	ICSAB	-.01034	-.00249	.01159	.00133	.01562	.03307
22	CCV_1	4.9018	5.0906	.19707	4.5713	4.7878	9.8343
23	CCB_1	-.00663	-.00008	.00156	-.00065	-.00977	-.02841

Analysis Report Averages Tue 04-28-98 01:35:41 PM page 5

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.1270	.00668	5.0243	5.0722
2	ICB	.00017	.00016	.00027	-.00036
3	LLS	.10011	.00050	.01970	.01876
4	ICSA	.00184	.00812	-.00392	-.00377
5	ICSAB	.47342	.00750	.92269	-.00452
6	S98T000668_L	-1.5545	-.21388	4.9430	-1.2834
7	S98T000668_	1.9690	.22079	3.0722	.66040
8	S98T000668_D	2.4398	.35148	2.5962	.91973
9	S98T000668_A	598.21	1.0522	598.68	585.49
10	S98T000668_X	14.434	5.9870	5.1286	11.496
11	S98T000668_AX	59022.	90.413	55829.	58756.
12	CCV	5.1403	.00693	5.0573	5.0778
13	CCB	-.00115	-.00006	.00057	-.00085
14	S98T000764_L	-1.0213	1.3478	6.6734	4.2182
15	S98T000764_	2.4992	1.5633	3.6102	6.9095
16	S98T000764_D	2.7382	1.5929	3.1092	6.4791
17	S98T000764_A	598.98	2.7693	600.36	596.61
18	S98T000764_X	1.2978	2.7237	7.5739	3.6037
19	S98T000764_AX	58228.	92.887	55465.	57758.
20	ICSA	.00092	.00767	-.00364	-.00443
21	ICSAB	.47132	.00790	.91858	-.00318
22	CCV_1	5.1290	.00734	5.0666	5.0577
23	CCB_1	-.00163	-.00022	.00083	-.00102

DK
04.28.98

File #: 980402LE.TXT

LABCORE Data Entry Template for Worklist# 23145

Analyst: JK 5/4/0 **Instrument:** ICP01-2 JK 4-22-98 **Book#** 71848B

Method: LA-505-~~151~~/161 Rev/Mod C-2
JK 4-22-98

Worklist Comment: ICP TX-104 (SOLID ACID DIGEST)

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	PREPSTDTJA				@ICP-A01	SOLID		
7	PREPBLKTJA				@ICP-A01	SOLID		
8	SERDIL	S98T000681	0	A	@ICP-A01	SOLID		
9	SAMPLE	S98T000681	0	A	@ICP-A01	SOLID	98000129	TX-104
	Analytes Requested:	AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
10	DUP	S98T000681	0	A	@ICP-A01	SOLID		
11	SPK-PREDIG	S98T000681	0	A	@ICP-A01	SOLID		
12	CCV				@ICP-QC	QC		
13	CCB				@ICP-QC	QC		
14	SERDIL	S98T000684	0	A	@ICP-A01	SOLID		
15	SAMPLE	S98T000684	0	A	@ICP-A01	SOLID	98000129	TX-104
	Analytes Requested:	AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 ,						

Sample/Spike QK (10ppm) JK 4-22-98

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 23145

S	Type	Sample#	R	A	Test	Matrix	Group#	Project			
					BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01	
					CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01	
					MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01	
					P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01	
					SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01	
					ZN-A-01	ZR-A-01					
16	DUP	S98T000684	0	A	@ICP-A01	SOLID					
17	SPK-PREDIG	S98T000684	0	A	@ICP-A01	SOLID					
18	SAMPLE	S98T000685	0	A	@ICP-A01	SOLID	98000129 TX-104				
		Analytes Requested:			AG-A-01	AL-A-01	AS-A-01	B-A-01	BA-A-01		
					BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01	
					CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01	
					MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01	
					P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01	
					SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01	
					ZN-A-01	ZR-A-01					
19	DUP	S98T000685	0	A	@ICP-A01	SOLID					
20	ICSA				@ICP-QC	QC					
21	ICSAB				@ICP-QC	QC					
22	CCV				@ICP-QC	QC					
23	CCB				@ICP-QC	QC					

Sample X
Spike QX (10ppm) JK 4-22-98

Final page for worklist # 23145

JK Sato 04-22-98
Analyst Signature **Date**

Prepstd17Q	direct	DF	1
Prepstd18Q	direct		1
S98T000681_L	3-6-2-8	DF	15
S98T000681	3-6		3
S98T000681_D	3-6		3
S98T000681_S	3-6		3
S98T000681_X	3-6-1-9		30
S98T000681_QX	3-6-1-9		30, Inl sample + Inl each Xwork 28+35 + 7ml HNO3

Reviewed + Validated by:
Saul A. Parry 4/24/98
Analyst Signature **Date**

S98T000684_L	3-6-2-8	DF	15
S98T000684	3-6		3
S98T000684_D	3-6		3
S98T000684_S	3-6		3
S98T000684_X	3-6-1-9		30
S98T000684_QX	3-6-1-9		30, Inl sample + Inl each Xwork 28+35 + 7ml HNO3
S98T000685	3-6	DF	3
S98T000685	3-6		3

Data Entry Comments:

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

Analysis Report Summary

HNF-SD-WM-DP-305 REV. 0

Wed 04-22-98 08:55:52 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	980422E	ICP2	04/22/98	18:38	DKS	Q	CONC
2	ICB	980422E	ICP2	04/22/98	18:42	DKS	Q	CONC
3	LLS	980422E	ICP2	04/22/98	18:45	DKS	Q	CONC
4	ICSA	980422E	ICP2	04/22/98	18:47	DKS	Q	CONC
5	ICSAB	980422E	ICP2	04/22/98	18:50	DKS	Q	CONC
6	PREPSTDTJA	980422E	ICP2	04/22/98	18:54	DKS	Q	CONC
7	PREPBLKTJA	980422E	ICP2	04/22/98	18:57	DKS	Q	CONC
8	S98T000681_L	980422E	ICP2	04/22/98	19:01	DKS	S	CONC
9	S98T000681	980422E	ICP2	04/22/98	19:04	DKS	S	CONC
10	S98T000681_D	980422E	ICP2	04/22/98	19:08	DKS	S	CONC
11	S98T000681_S	980422E	ICP2	04/22/98	19:11	DKS	S	CONC
12	S98T000681_X	980422E	ICP2	04/22/98	19:17	DKS	S	CONC
13	S98T000681_AX	980422E	ICP2	04/22/98	19:20	DKS	S	CONC
14	CCV	980422E	ICP2	04/22/98	19:47	DKS	Q	CONC
15	CCB	980422E	ICP2	04/22/98	19:50	DKS	Q	CONC
16	S98T000684_L	980422E	ICP2	04/22/98	19:53	DKS	S	CONC
17	S98T000684	980422E	ICP2	04/22/98	19:57	DKS	S	CONC
18	S98T000684_D	980422E	ICP2	04/22/98	20:01	DKS	S	CONC
19	S98T000684_S	980422E	ICP2	04/22/98	20:04	DKS	S	CONC
20	S98T000684_X	980422E	ICP2	04/22/98	20:10	DKS	S	CONC
21	S98T000684_AX	980422E	ICP2	04/22/98	20:13	DKS	S	CONC
22	S98T000685	980422E	ICP2	04/22/98	20:34	DKS	S	CONC
23	S98T000685_D	980422E	ICP2	04/22/98	20:38	DKS	S	CONC
24	ICSA	980422E	ICP2	04/22/98	20:43	DKS	Q	CONC
25	ICSAB	980422E	ICP2	04/22/98	20:46	DKS	Q	CONC
26	CCV_1	980422E	ICP2	04/22/98	20:49	DKS	Q	CONC
27	CCB_1	980422E	ICP2	04/22/98	20:52	DKS	Q	CONC

DK Lab
04-22-98
Worklist # 23145

TX-104
S98T000681
S98T000684
S98T000685

S98T000684

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 292 TO 297.

$$Al = 1017.7 \frac{ug}{ml} \times \frac{1}{5.282 \frac{g}{L} \times \frac{1L}{1000 ml}} = 1.93e+5 \frac{ug}{g}$$

Pre dig Spike:

$$Cr = \frac{10.725 - 5.8508}{5} \times 100 = 97.5\%$$

Post Spike:

$$Al = \frac{\left(\frac{1364.2}{30}\right) - \left(\frac{1079.5}{30}\right)}{10} \times 100 = 94.9\%$$

$$Na = \frac{\left(\frac{299.21}{30}\right) - (0)}{10} \times 100 = 99.7\%$$

$$P = \frac{\left(\frac{307.75}{30}\right) - \left(\frac{8.30}{30}\right)}{10} \times 100 = 99.8\%$$

S98T000681

$$Al = 179.50 \frac{ug}{ml} \times \frac{1}{5.054 \frac{g}{L} \times \frac{1L}{1000ml}} = 3.55e+4 \frac{ug}{g}$$

Pre dig Spike:

$$Cd = \frac{5.6953 - 0.75154}{5} \times 100 = 98.9\%$$

Post Spike:

$$Al = \frac{\left(\frac{478.34}{30}\right) - \left(\frac{191.52}{30}\right)}{10} \times 100 = 95.6\%$$

$$Cr = \frac{\left(\frac{315.8}{30}\right) - \left(\frac{22.248}{30}\right)}{10} \times 100 = 97.9\%$$

$$Fe = \frac{\left(\frac{298.92}{30}\right) - \left(\frac{16.957}{30}\right)}{10} \times 100 = 94.0\%$$

$$Mn = \frac{\left(\frac{303.21}{30}\right) - \left(\frac{9.8283}{30}\right)}{10} \times 100 = 97.8\%$$

$$Na = \frac{\left(\frac{1243.0}{30}\right) - \left(\frac{993.89}{30}\right)}{10} \times 100 = 103.0\%$$

$$P = \frac{\left(\frac{333.31}{30}\right) - \left(\frac{43.196}{30}\right)}{10} \times 100 = 96.7\%$$

$$U = \frac{\left(\frac{573.70}{30}\right) - \left(\frac{19.671}{30}\right)}{20} \times 100 = 92.3\%$$

$$Zr = \frac{\left(\frac{290.59}{30}\right) - 0}{10} \times 100 = 96.9\%$$

~~HNF-SD-WM-DP-305, Rev 0~~ mtt 7-7-98

HNF-SD-WM-DP-305 REV. 0

Analysis Report Averages Wed 04-22-98 08:55:52 PM page 2

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.9475	4.8866	5.0810	4.9205	4.8572	5.0094
2	ICB	.00126	.01427	.00097	.00217	.00014	.00033
3	LLS	.02093	.12029	.20171	.10036	.09751	.01062
4	ICSA	.00280	240.25	.02004	-.00909	.00219	.00046
5	ICSAB	.95331	241.16	.00812	-.00895	.45643	.47796
6	PREPSTDTJA	.87040	4.5263	4.4130	4.8803	4.5261	4.8434
7	PREPBLKTJA	.00027	Q.14999	-.01256	Q.74045	.00122	.00000
8	S98T000681_L	.07259	192.64	-.00247	.68068	.07556	.00346
9	S98T000681	.08624	179.50	.02809	.61993	.07114	.00202
10	S98T000681_D	.07774	164.74	.03725	.78460	.06323	.00211
11	S98T000681_S	1.0175	257.21	4.8508	5.3855	4.5941	4.8263
12	S98T000681_X	.06878	191.52	.42011	.66131	.07599	.00408
13	S98T000681_AX	259.92	478.34	295.47	291.83	292.33	293.40
14	CCV	4.9559	4.9451	5.1109	4.9921	4.9708	5.0620
15	CCB	-.00012	.01971	-.00824	.00596	.00021	.00034
16	S98T000684_L	-.04043	1055.2	-.17111	.59217	.04615	.00194
17	S98T000684	.00743	1017.7	.03589	.62797	.04644	.00064
18	S98T000684_D	.00992	1084.5	-.10219	.79590	.04970	.00090
19	S98T000684_S	.95862	1029.6	4.7629	5.4490	4.8704	5.1618
20	S98T000684_X	-.10207	1079.5	.05601	.55052	.05193	.00783
21	S98T000684_AX	245.72	1364.2	303.58	305.40	310.26	304.37
22	S98T000685	.01397	941.18	.00690	.49708	.03667	.00104
23	S98T000685_D	.01376	1102.5	-.12589	.82777	.04886	.00130
24	ICSA	.00502	254.71	-.04052	-.00804	.00209	.00056
25	ICSAB	.97375	250.17	-.03099	-.01341	.47969	.49225
26	CCV_1	5.0240	5.0162	5.1539	5.0788	5.0622	5.1185
27	CCB_1	.00087	.00976	.00130	.00136	.00005	.00021

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.9100	4.9585	4.9921	4.9874	5.1018	4.8292
2	ICB	-.00408	.00533	.00149	.00830	-.00009	.00169
3	LLS	.19525	.21807	.01139	.20814	.03768	.02023
4	ICSA	.01754	252.79	.00431	.00744	-.00057	-.00200
5	ICSAB	.00278	254.90	.94109	.01186	.46872	.45930
6	PREPSTDTJA	4.3152	4.7066	4.3597	4.6426	4.3898	4.4098
7	PREPBLKTJA	.00481	Q.77678	.00015	.00659	-.00244	.00281
8	S98T000681_L	2.1796	.72891	.05814	.02824	-.01476	22.354
9	S98T000681	1.9843	.75154	.04452	.11873	.01026	20.822
10	S98T000681_D	1.6532	1.0180	.03948	.07624	.00605	19.187
11	S98T000681_S	6.8755	5.6953	4.7428	4.7912	4.6406	30.582
12	S98T000681_X	1.5998	.69364	.09309	.07436	-.01931	22.248
13	S98T000681_AX	299.67	298.46	293.08	294.95	292.14	315.80
14	CCV	4.9454	4.9222	5.0021	5.0779	5.1038	4.8235
15	CCB	.00316	.00825	.00198	.01099	.00056	-.00004
16	S98T000684_L	-.05003	2.6608	-.00676	-.07932	-.00008	6.1265
17	S98T000684	.02530	2.6319	.00219	-.03777	-.00167	5.8508
18	S98T000684_D	-.01302	2.0732	.00499	-.01577	-.00174	6.3497
19	S98T000684_S	4.7012	6.8952	4.7547	4.9717	4.6694	10.725
20	S98T000684_X	.16786	2.6246	.00552	-.11857	.01611	6.1956
21	S98T000684_AX	304.62	301.98	299.26	311.51	297.67	306.45
22	S98T000685	-.04148	1.7721	.00214	-.03943	-.00617	5.8699

HNF-SD-WM-DP-305 REV. 0

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
23	S98T000685_D	.06752	1.8590	.00608	.00870	.00635	6.3253
24	ICSA	-.00507	253.31	.00391	-.00308	-.00014	-.00235
25	ICSAB	-.03708	253.67	.94853	.00126	.47334	.46423
26	CCV_1	4.9875	4.9355	5.0194	5.1705	5.1316	4.8611
27	CCB_1	-.01620	.00214	.00058	-.00114	.00076	-.00048

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.7117	.00655	4.8354	4.8773	4.9391	4.9067
2	ICB	.00100	.00076	.00066	.15179	.00084	.00044
3	LLS	.01760	.00037	.09864	.37524	.10116	.02070
4	ICSA	.00195	.00732	91.694	.16667	-.00353	.00334
5	ICSAB	.46181	.00780	92.147	.14976	-.00368	.94664
6	PREPSTDTJA	4.2916	.00562	4.3512	4.5163	4.6367	4.5878
7	PREPBLKTJA	Q.02109	.00031	Q.13810	.01407	-.00004	-.00044
8	S98T000681_L	-.06482	.02084	17.004	1.0391	.03280	.02908
9	S98T000681	-.06487	.00450	15.832	2.9782	.04305	.01246
10	S98T000681_D	-.06284	.00697	14.435	2.9944	.03749	.01321
11	S98T000681_S	4.2755	.00844	25.083	8.1899	4.7616	4.5203
12	S98T000681_X	-.06549	.04553	16.957	.36775	.03546	.05578
13	S98T000681_AX	275.38	.38541	298.92	291.43	293.95	292.17
14	CCV	4.8157	.00291	4.8555	4.9570	5.0407	5.0601
15	CCB	-.00029	.00000	.00175	.20146	.00281	.00036
16	S98T000684_L	.08942	.00108	.95249	-.03378	-.00923	-.00184
17	S98T000684	.08193	.00640	.93752	3.4080	-.00308	.00292
18	S98T000684_D	.08484	.00196	1.0704	3.3725	.00040	-.00331
19	S98T000684_S	4.7673	.00424	5.2928	8.3709	5.1141	4.9273
20	S98T000684_X	.12240	-.04554	.96462	13.536	.00333	-.04034
21	S98T000684_AX	291.92	.17680	291.03	315.19	311.88	312.83
22	S98T000685	.07033	.00090	.67720	3.4262	-.00500	-.00036
23	S98T000685_D	.09515	.00173	27.622	4.9306	.00529	.00110
24	ICSA	.00203	.00424	94.894	.40952	-.00494	.00073
25	ICSAB	.48652	.00038	93.879	.44931	-.00361	1.0110
26	CCV_1	4.9222	.00267	4.8802	5.0311	5.1369	5.1680
27	CCB_1	.00101	-.00158	.00083	.22433	.00078	-.00134

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.0456	4.8734	4.9041	5.1892	4.8254	4.8945
2	ICB	.00693	.00035	.00434	-.01769	.00196	.00039
3	LLS	.20577	.01946	.10019	.19232	.19575	.04134
4	ICSA	251.50	-.00669	-.01638	190.35	.00114	-.00595
5	ICSAB	252.28	.44150	-.01676	190.01	.00070	.91217
6	PREPSTDTJA	4.4409	4.3978	4.5069	5.6852	4.5480	4.4331
7	PREPBLKTJA	.08062	.00161	.00181	Q2.4039	-.00355	.00419
8	S98T000681_L	2.1768	9.8699	.05478	943.63	.08840	.03467
9	S98T000681	2.1128	9.2802	.06247	870.16	.10875	.09395
10	S98T000681_D	1.8987	6.3821	.06329	834.90	.10098	.07410
11	S98T000681_S	7.4464	11.747	4.7953	785.82	4.6895	4.8340
12	S98T000681_X	2.2984	9.8283	-.00139	933.89	.11736	.15561
13	S98T000681_AX	306.75	303.21	292.16	1243.0	286.74	293.06
14	CCV	5.1032	4.8963	4.9313	5.2222	4.9213	4.8969

HNF-SD-WM-DP-305 REV. 0

Analysis Report Averages Wed 04-22-98 08:55:52 PM page 4

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
15	CCB	.01257	.00025	.00374	-.02662	.00151	.00267
16	S98T000684_L	.01839	.19289	.10371	359.48	.01324	.06299
17	S98T000684	.12915	.18472	.08477	340.89	.01186	.01573
18	S98T000684_D	.14088	.24108	.07433	328.26	.00728	.00287
19	S98T000684_S	4.9450	4.8123	4.8419	311.08	4.9984	4.7881
20	S98T000684_X	.07534	.18682	.02917	372.51	.07609	.00704
21	S98T000684_AX	317.93	300.05	299.21	678.67	305.65	299.31
22	S98T000685	.10246	.13423	.07857	346.50	-.00978	.00099
23	S98T000685_D	.12105	.30188	.07598	310.56	.02396	.02998
24	ICSA	266.89	-.00859	-.01741	208.06	.00369	-.00900
25	ICSAB	262.25	.44666	-.01779	201.73	.00764	.93360
26	CCV_1	5.1508	4.9183	4.9638	5.3164	5.0416	4.9248
27	CCB_1	.00490	-.00036	.00328	.01387	.00073	.00378

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.9451	4.8936	4.9854	4.9391	4.6863	5.1510
2	ICB	.00519	.00367	-.00100	.01180	.01021	.00246
3	LLS	.39319	.20523	.21272	.11330	.19595	Q.19849
4	ICSA	.00748	.02297	.00406	.00627	-.00089	-.00067
5	ICSAB	.00933	.97910	-.00067	.01654	.00581	-.00131
6	PREPSTDTJA	4.3759	4.1813	4.4199	4.3229	4.2147	6.5073
7	PREPBLKTJA	.12366	-.00563	Q.14275	.01452	.01163	Q.85481
8	S98T000681_L	42.981	1.0059	1.5811	.08865	.46759	1.4759
9	S98T000681	39.939	.93459	1.4388	.05972	.20941	1.2747
10	S98T000681_D	39.244	.81304	1.5456	.04483	.21558	1.1720
11	S98T000681_S	63.379	5.7200	6.6268	4.7307	4.6591	6.6729
12	S98T000681_X	43.196	.89757	1.3423	.47310	.75682	1.8067
13	S98T000681_AX	333.31	297.07	288.99	295.07	287.16	298.08
14	CCV	4.9964	4.8962	4.9857	4.9693	4.7078	5.1280
15	CCB	-.00074	.00813	.00036	.00146	.01200	.00623
16	S98T000684_L	8.3164	.14302	1.8695	-.29356	.90117	.77643
17	S98T000684	8.1040	.11094	1.7386	-.03821	.69664	.72207
18	S98T000684_D	6.6910	.09136	1.8221	-.01519	.66055	.96792
19	S98T000684_S	11.165	4.6071	6.5914	4.7373	5.2401	5.3794
20	S98T000684_X	8.3000	.00508	2.1979	-.08794	.46201	.72987
21	S98T000684_AX	307.75	300.56	295.38	301.94	296.96	304.53
22	S98T000685	4.2572	.03503	1.8704	.03788	.62013	1.1947
23	S98T000685_D	8.3630	.19299	1.9353	-.03347	.64991	1.2023
24	ICSA	-.02070	.02139	.00537	.00240	-.02363	-.01051
25	ICSAB	-.00102	1.0023	-.00493	.00325	.00476	-.00451
26	CCV_1	5.0209	4.8960	5.0443	5.0065	4.7730	5.1829
27	CCB_1	-.01010	.00238	-.00198	.00163	-.01201	-.00074

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.7933	5.0068	.21749	4.5004	4.7310	9.6120
2	ICB	.00771	.00008	.00772	.00045	.01750	.03529
3	LLS	.19754	.02016	.01221	.01982	.41831	.49437
4	ICSA	-.01125	-.00249	.01196	.00092	-.00037	-.04518
5	ICSAB	-.00740	-.00252	.01556	.00094	.00364	-.05273
6	PREPSTDTJA	4.5021	4.6816	.18981	4.2040	4.1782	8.9218

365 Rev 7-7-98 ~~HNF-SD-WM-DP-365, Rev 0~~

Analysis Report Averages Wed 04-22-98 08:55:52 PM page 5

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
7	PREPBLKTJA	-.00958	.00084	.00160	.00217	.00991	-.01777
8	S98T000681_L	.21260	.02195	.30361	.04720	-.14019	18.727
9	S98T000681	.07238	.01909	.37064	.04236	-.02440	16.841
10	S98T000681_D	.08672	.01711	.30425	.03898	.07918	15.367
11	S98T000681_S	4.6091	4.7522	.66997	4.3174	4.4755	32.157
12	S98T000681_X	.50609	.02712	.35769	.03759	-.07500	19.671
13	S98T000681_AX	285.16	291.81	13.109	293.75	286.81	573.70
14	CCV	4.8914	5.0977	.15140	4.5664	4.7927	9.8439
15	CCB	.00101	.00004	.00897	-.00065	.00811	.01286
16	S98T000684_L	-.06595	.01397	-.15227	.00954	-.24181	.12178
17	S98T000684	-.01606	.01481	-.07645	.00640	-.02461	.26081
18	S98T000684_D	-.06303	.01470	-.05713	.00854	-.01875	.10676
19	S98T000684_S	4.9383	5.1331	.10235	4.4467	4.4408	9.6022
20	S98T000684_X	-.51745	.00709	-.18952	-.00060	-.26442	-1.7005
21	S98T000684_AX	304.75	309.39	9.3479	303.57	296.75	591.39
22	S98T000685	-.07083	.01909	-.05968	.00245	-.02075	-.09422
23	S98T000685_D	-.05011	.02077	-.04003	.00798	-.03056	.02559
24	ICSA	-.03898	-.00248	-.00236	.00060	-.01035	.02282
25	ICSAB	-.02371	-.00245	.00032	.00108	-.03184	.04068
26	CCV_1	4.9872	5.2084	.15235	4.6320	4.7773	10.040
27	CCB_1	-.01428	-.00023	.00477	-.00043	-.01364	-.05333

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.0806	.00751	5.0980	4.9972
2	ICB	.00142	.00037	.00044	.00063
3	LLS	.10082	.00041	.02061	.01884
4	ICSA	.00242	.00770	-.00351	-.00273
5	ICSAB	.46857	.00793	.92547	-.00254
6	PREPSTDTJA	4.5554	.00584	4.0593	4.6544
7	PREPBLKTJA	-.00136	-.00061	Q.09939	.00174
8	S98T000681_L	.13538	.03083	.13986	.34579
9	S98T000681	.09104	.02129	.13004	.29937
10	S98T000681_D	.09315	.02074	.13651	.27927
11	S98T000681_S	4.8185	.03194	4.5875	3.4069
12	S98T000681_X	.19654	.04572	.13898	.37823
13	S98T000681_AX	290.69	.47334	276.51	290.59
14	CCV	5.1093	.00624	5.0600	5.0625
15	CCB	.00029	.00000	.00113	-.00002
16	S98T000684_L	-.01591	-.00475	.12229	.01601
17	S98T000684	.00717	-.00011	.11828	.02110
18	S98T000684_D	-.00043	-.00263	.09655	.01887
19	S98T000684_S	4.8312	.00367	4.5156	5.1442
20	S98T000684_X	-.12216	-.03220	.13067	-.04347
21	S98T000684_AX	299.46	.39540	278.33	304.53
22	S98T000685	-.00624	-.00325	.11827	.00840
23	S98T000685_D	.00030	-.00236	.14541	.02249
24	ICSA	-.00442	.00586	-.00418	-.00672
25	ICSAB	.47400	.00656	.92741	-.00470
26	CCV_1	5.1636	.00600	5.0828	5.1359
27	CCB_1	-.00340	-.00107	.00019	-.00260

DK Lsd
04-22-98

File #: 980427B.TXT

04/21/98 10:19
A-0004-1

HNF-SD-WM-DP-305 REV. 0

LABCORE Data Entry Template for Worklist# 23606

Analyst: JK Soto **Instrument:** ICP01 JK 4-27-98 **Book#** 71B48B

Method: LA-505-~~151~~/161 Rev/Mod C-2
JK 4-27-98

Worklist Comment: ICP TX-104 (SOLID ACID DIGEST)

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	PREPSTDTJA				@ICP-A01	SOLID		
7	PREPBLKTJA				@ICP-A01	SOLID		
8	SERDIL	S98T000752	0	A	@ICP-A01	SOLID		
9	SAMPLE	S98T000752	0	A	@ICP-A01	SOLID	98000130	TX-104

Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01

0	DUP	S98T000752	0	A	@ICP-A01	SOLID		
1	SPK-PREDIG	S98T000752	0	A	@ICP-A01	SOLID		
	Sample K Spike CX (10ppm) JK 4-27-98							
2	CCV				@ICP-QC	QC		
3	CCB				@ICP-QC	QC		
4	SAMPLE	S98T000753	0	A	@ICP-A01	SOLID	98000130	TX-104

Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 ,

Data Entry Comments:
uploaded 4-29-98
JL Worrell

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

LABCORE Data Entry Template for Worklist# 23606

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01			
15	DUP	S98T000753	0	A	@ICP-A01	SOLID		
16	SERDIL	S98T000754	0	A	@ICP-A01	SOLID		
17	SAMPLE	S98T000754	0	A	@ICP-A01	SOLID	98000130	TX-104
	Analytes Requested:				AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01			
18	DUP	S98T000754	0	A	@ICP-A01	SOLID		
19	SPK-PREDIG	S98T000754	0	A	@ICP-A01	SOLID		
20	ICSA	Spike QX (10ppm) 4-27-98			@ICP-QC	QC		
21	ICSAB				@ICP-QC	QC		
22	CCV				@ICP-QC	QC		
23	CCB				@ICP-QC	QC		

Final page for worklist # 23606

Analyst Signature	Date
JK	04-27-98
Prep#1 TIQ , direct , DF 1	
Prep#1K TIQ , direct 1	
S98T000753_L , 3-6-1-8 , DF 15	
S98T000752 3-6 3	
S98T000752_D 3-6 3	
S98T000752_S 3-6 3	
S98T000752_X 3-6-1-9 30	
S98T000752_QX 3-6-1-9 30 , 1/2 sample + 1/2 each xw HCl 28+35 + 7/2 HNO3	
S98T000753 , 3-6 , DF 3	
S98T000753_D 3-6 3	

Analyst Signature	Date
S98T000754_L , 3-6-1-8 , DF 15	
S98T000754 3-6 3	
S98T000754_D 3-6 3	
S98T000754_S 3-6 3	
S98T000754_X 3-6-1-9 30	
S98T000754_QX 3-6-1-9 30 , 1/2 sample + 1/2 each xw HCl 28+35 + 7/2 HNO3	

Data Entry Comments:

Validated by:
Saul R. Parry
4/29/98

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

HNF-SD-~~WM-DP-305~~ 305 REV. 0

Analysis Report Summary Mon 04-27-98 02:55:11 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	980427B	ICP2	04/27/98	12:26	DKS	Q	CONC
~~2~~	~~ICB~~	~~980427B~~	~~ICP2~~	~~04/27/98~~	~~12:30~~	~~DKS~~	~~Q~~	~~CONC~~
3	ICB	980427B	ICP2	04/27/98	12:41	DKS	Q	CONC
4	LLS	980427B	ICP2	04/27/98	12:44	DKS	Q	CONC
5	ICSA	980427B	ICP2	04/27/98	12:47	DKS	Q	CONC
6	ICSAB	980427B	ICP2	04/27/98	12:50	DKS	Q	CONC
7	PREPSTDTJA	980427B	ICP2	04/27/98	12:54	DKS	Q	CONC
8	PREPBLKTJA	980427B	ICP2	04/27/98	12:57	DKS	Q	CONC
9	S98T000752_L	980427B	ICP2	04/27/98	13:01	DKS	S	CONC
10	S98T000752	980427B	ICP2	04/27/98	13:05	DKS	S	CONC
11	S98T000752_D	980427B	ICP2	04/27/98	13:08	DKS	S	CONC
12	S98T000752_S	980427B	ICP2	04/27/98	13:13	DKS	S	CONC
13	S98T000752_X	980427B	ICP2	04/27/98	13:20	DKS	S	CONC
14	S98T000752_AX	980427B	ICP2	04/27/98	13:23	DKS	S	CONC
15	CCV	980427B	ICP2	04/27/98	13:39	DKS	Q	CONC
16	CCB	980427B	ICP2	04/27/98	13:42	DKS	Q	CONC
17	S98T000753	980427B	ICP2	04/27/98	13:45	DKS	S	CONC
18	S98T000753_D	980427B	ICP2	04/27/98	13:48	DKS	S	CONC
19	S98T000754_L	980427B	ICP2	04/27/98	13:52	DKS	S	CONC
20	S98T000754	980427B	ICP2	04/27/98	13:55	DKS	S	CONC
21	S98T000754_D	980427B	ICP2	04/27/98	13:59	DKS	S	CONC
22	S98T000754_S	980427B	ICP2	04/27/98	14:03	DKS	S	CONC
23	S98T000754_X	980427B	ICP2	04/27/98	14:10	DKS	S	CONC
24	S98T000754_AX	980427B	ICP2	04/27/98	14:14	DKS	S	CONC
25	ICSA	980427B	ICP2	04/27/98	14:36	DKS	Q	CONC
26	ICSAB	980427B	ICP2	04/27/98	14:39	DKS	Q	CONC
27	CCV_1	980427B	ICP2	04/27/98	14:42	DKS	Q	CONC
28	CCB_1	980427B	ICP2	04/27/98	14:52	DKS	Q	CONC

[illegible] 4-27-98

[illegible]
04.27.98
Work list # 23606

TX-104
S98T000752
S98T000753
S98T000754

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 300 TO 309.

Analysis Report Averages Mon 04-27-98 02:55:11 PM page 2

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.8488	4.7862	5.0154	4.8540	4.8517	4.9517
~~2~~	~~ICB~~	~~-.00268~~	~~-.00456~~	~~.00072~~	~~.00213~~	~~-.00024~~	~~.00041~~
3	ICB	.00072	.00747	-.00301	.00042	.00002	-.00008
4	LLS	.02217	.10717	.20195	.10062	.09671	.01029
5	ICSA	.00306	239.81	.00201	-.00519	.00226	.00020
6	ICSAB	.94448	240.07	-.02223	-.00519	.45701	.47469
7	PREPSTDTJA	.93577	4.8446	4.7040	5.2015	4.7096	5.1191
8	PREPBLKTJA	.00139	Q.15291	.01077	Q.51025	.00161	.00032
9	S98T000752_L	.06480	21.930	-.06520	.39530	.02076	.00110
10	S98T000752	.05663	21.140	-.03774	.39016	.01990	.00096
11	S98T000752_D	.05674	23.388	-.05460	.68581	.02341	.00068
12	S98T000752_S	.99306	26.337	4.7253	5.4683	4.5074	4.7955
13	S98T000752_X	.10541	21.476	.07201	.41469	.02524	.00107
14	S98T000752_AX	236.14	310.25	296.84	293.54	294.98	296.12
15	CCV	4.9556	4.9129	5.0768	4.9533	4.9320	5.0328
16	CCB	Q.03703	.01003	-.00105	.00128	.00005	.00012
17	S98T000753	.14204	518.77	-.00816	.23577	.08564	.00151
18	S98T000753_D	.09243	462.12	-.00659	.23191	.07815	.00140
19	S98T000754_L	.10908	198.50	.02908	.20852	.03691	.00126
20	S98T000754	.08717	193.91	.10387	.23427	.03469	.00065
21	S98T000754_D	.07443	326.77	.04461	.43148	.06302	.00081
22	S98T000754_S	1.0016	390.09	4.9842	4.8888	4.7593	5.0198
23	S98T000754_X	.13847	203.84	.15797	.23406	.03730	.00130
24	S98T000754_AX	237.02	493.14	301.00	299.61	301.83	300.28
25	ICSA	.02279	243.84	-.01005	-.01320	.00216	.00012
26	ICSAB	.95614	243.43	-.02183	-.01107	.46431	.47981
27	CCV 1	4.9570	4.9272	5.1049	4.9846	4.9629	5.0573
28	CCB_1	.00580	.00569	.00575	-.00258	-.00005	.00008

4-27-98

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.8903	4.9578	4.9179	4.8792	5.0276	4.7681
~~2~~	~~ICB~~	~~-.00802~~	~~-.00711~~	~~.00098~~	~~-.02128~~	~~-.00265~~	~~-.00153~~
3	ICB	-.02797	.00298	.00091	-.00167	.00158	.00074
4	LLS	.20122	.22738	.01140	.20492	.04089	.01993
5	ICSA	.01735	250.33	.00457	.01026	.00157	-.00214
6	ICSAB	.00610	251.08	.93344	.00636	.46480	.45489
7	PREPSTDTJA	4.6420	5.5747	4.7360	4.8138	4.6815	4.6479
8	PREPBLKTJA	-.00276	Q.80929	.00147	.00820	.00209	.00534
9	S98T000752_L	.58208	1.4023	.01858	.02597	-.00296	18.741
10	S98T000752	.35277	1.3992	.01437	.04657	.00908	18.137
11	S98T000752_D	.40906	1.1392	.01588	.04113	.01013	19.416
12	S98T000752_S	4.9543	5.8777	4.7823	4.7211	4.6688	23.187
13	S98T000752_X	.86114	1.7584	.06253	.37795	.04532	18.465
14	S98T000752_AX	299.07	299.44	295.79	296.92	291.87	314.11
15	CCV	4.9023	4.9196	4.9959	5.0281	5.1014	4.8192
16	CCB	-.02379	.00299	.00144	.00323	.00105	.00051
17	S98T000753	.28479	3.2226	.02609	.02853	.00692	11.849
18	S98T000753_D	.18093	3.4757	.02148	.01673	.01054	10.977
19	S98T000754_L	.38754	1.2799	.02700	.07879	.00107	5.7567
20	S98T000754	.15442	1.1844	.01098	-.00278	.00182	5.5299
21	S98T000754_D	.19086	1.7278	.01436	.01498	.00462	7.1353

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nalysis Report Averages Mon 04-27-98 02:55:11 PM page 3

#:	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
22	S98T000754_S	4.7925	6.3512	4.8249	4.8519	4.7021	13.106
23	S98T000754_X	.50145	1.3190	.03836	.12586	.01797	5.7911
24	S98T000754_AX	301.77	300.94	298.34	302.90	296.06	304.87
25	ICSA	-.00274	249.95	.00436	-.00296	.00017	-.00315
26	ICSAB	-.00060	250.95	.93659	.00534	.46501	.45679
27	CCV_1	4.9180	4.9391	5.0104	5.0488	5.1174	4.8356
28	CCB_1	.01236	.00270	.00090	-.00170	.00040	.00065

#:	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.6503	.00595	4.7920	4.8879	4.8657	4.7625
~~2~~	~~ICB~~	~~-.00071~~	~~-.00091~~	~~-.00164~~	~~Q-.58770~~	~~-.00294~~	~~-.00056~~
3	ICB	.00082	-.00047	.00010	-.06279	.00120	-.00068
4	LLS	.01707	-.00031	.09810	Q.31204	.10181	.01940
5	ICSA	.00264	.01749	91.793	.24439	-.00246	.00228
6	ICSAB	.46177	.02018	91.844	.03144	-.00337	.95097
7	PREPSTDTJA	4.5543	.00616	4.6171	4.7020	4.8063	4.7547
8	PREPBLKTJA	.00708	-.00013	.04805	-.03191	.00201	-.00045
9	S98T000752_L	-.02535	-.01530	4.0987	6.8937	.03026	-.01727
10	S98T000752	-.03933	-.00040	3.9676	9.6688	.02165	-.00015
11	S98T000752_D	-.00658	.00012	4.5828	9.5208	.02192	.00083
12	S98T000752_S	4.3664	.00842	8.6955	14.549	4.6726	4.5110
13	S98T000752_X	-.00748	.01404	4.0393	15.051	.08828	.01353
14	S98T000752_AX	276.19	.35395	288.68	305.88	296.16	292.82
15	CCV	4.7821	.00503	4.8537	4.8058	4.9975	4.9882
16	CCB	.00086	-.00075	.00083	-.05413	.00092	-.00056
17	S98T000753	.04695	.00138	33.707	3.8120	.01996	-.00038
18	S98T000753_D	.04159	.00250	9.5325	3.7712	.01760	-.00072
19	S98T000754_L	.05027	-.00623	5.9437	1.1818	.02259	-.00513
20	S98T000754	.03337	-.00158	5.7159	1.3242	.00481	.00239
21	S98T000754_D	.05033	-.00030	8.9248	2.0607	.00894	.00136
22	S98T000754_S	4.6373	.00514	12.333	7.6253	4.9129	4.7758
23	S98T000754_X	.06179	-.04282	6.1170	1.9146	.04715	-.03419
24	S98T000754_AX	282.98	.34836	294.16	301.35	302.34	300.77
25	ICSA	.00144	.02223	92.293	-.20178	-.00427	.00183
26	ICSAB	.47089	.02193	92.286	-.11083	-.00322	.97142
27	CCV_1	4.8090	.00529	4.8646	4.8883	5.0321	5.0310
28	CCB_1	.00072	-.00078	.00000	-.25237	.00014	-.00056

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#:	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.9550	4.8014	4.8488	4.9471	4.7115	4.8280
~~2~~	~~ICB~~	~~-.01477~~	~~-.00015~~	~~.00026~~	~~-.04251~~	~~-.00717~~	~~.00061~~
3	ICB	.00506	-.00012	.00119	.02386	.00387	.00070
4	LLS	.21521	.01886	.09923	.21073	.19619	.03770
5	ICSA	251.99	-.00739	-.01414	192.18	.00491	-.01112
6	ICSAB	251.83	.43821	-.01424	191.88	.00164	.91488
7	PREPSTDTJA	4.8506	4.6586	4.6847	6.3965	4.6898	4.7889
8	PREPBLKTJA	.08178	.00112	.00118	Q1.1543	.00420	.00141
9	S98T000752_L	.46828	1.5043	.20307	760.29	.06589	.06554
10	S98T000752	.37069	1.4667	.21029	727.83	.05222	.02417
11	S98T000752_D	.40448	1.7059	.21670	738.81	.07211	.04302

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
12	S98T000752_S	5.1114	6.1252	4.9061	727.66	4.5947	4.7934
13	S98T000752_X	.87474	1.4871	.22986	728.80	.15812	.01996
14	S98T000752_AX	307.08	296.39	292.37	1036.0	288.40	294.78
15	CCV	5.0838	4.8711	4.9216	5.1642	4.8821	4.8612
16	CCB	.01110	-.00010	-.00070	.01324	.00230	-.00370
17	S98T000753	.78591	2.3302	.06958	693.69	.05582	.06776
18	S98T000753_D	.83451	2.3113	.07561	763.67	.06638	.06057
19	S98T000754_L	.55559	.70411	.00998	997.00	.05272	.04206
20	S98T000754	.34425	.68008	.03748	969.87	.02410	.02491
21	S98T000754_D	.52493	1.0957	.04722	828.14	.02448	.01653
22	S98T000754_S	5.2874	5.7693	4.8637	783.44	4.7964	4.8088
23	S98T000754_X	.68111	.70542	.03959	1035.0	.10307	-.05983
24	S98T000754_AX	312.51	298.85	297.20	1319.7	295.45	298.48
25	ICSA	255.92	-.00791	-.01740	196.62	.00112	.00144
26	ICSAB	255.59	.43820	-.01615	195.39	.00378	.90818
27	CCV 1	5.0899	4.8827	4.9461	5.1854	4.9107	4.9124
28	CCB_1	.00340	-.00032	-.00125	.00680	.00291	.00131

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.8177	4.8262	4.8526	4.9016	4.6190	5.0587
~~2~~	~~ICB~~	~~.00868~~	~~-.01982~~	~~-.00433~~	~~-.00390~~	~~.02016~~	~~.00150~~
3	ICB	-.00529	-.00428	-.00709	.00178	.00275	.00383
4	LLS	.40301	.20185	.19021	.10031	.19604	Q.22964
5	ICSA	.00072	.02819	.01053	.00861	.00099	-.00819
6	ICSAB	.01075	.99132	-.02318	.00612	.01096	-.00773
7	PREPSTDTJA	Q3.3874	4.5794	4.8215	4.6880	4.4830	1.7168
8	PREPBLKTJA	.02344	.01010	Q.12520	.00128	.00811	Q.45996
9	S98T000752_L	4.6053	.21362	4.9231	.03224	-.00811	.62292
10	S98T000752	4.4176	.28303	4.9247	.02043	.06506	.58657
11	S98T000752_D	4.6032	.37430	5.0286	.02681	.05698	.58368
12	S98T000752_S	7.6069	4.9753	9.8014	4.6578	4.5269	2.0875
13	S98T000752_X	4.6346	.44313	4.5935	.11041	.31486	.85433
14	S98T000752_AX	297.73	298.34	292.46	294.79	290.10	296.65
15	CCV	4.9769	4.8716	4.9625	4.9544	4.6876	5.1427
16	CCB	-.00037	.00505	-.00669	.00222	.02083	-.00481
17	S98T000753	52.731	.31925	1.9783	.00583	.32578	3.0116
18	S98T000753_D	69.238	.28870	1.8072	.00750	.30447	3.9643
19	S98T000754_L	32.403	.09391	.76159	-.03964	.34732	2.1421
20	S98T000754	31.915	.08706	.83855	.00889	.13697	2.1574
21	S98T000754_D	49.288	.15099	1.1147	-.00179	.21383	3.2015
22	S98T000754_S	37.687	4.7473	6.3282	4.4807	4.8557	3.7922
23	S98T000754_X	33.436	.20068	.16126	.08035	.35701	2.3339
24	S98T000754_AX	330.36	300.26	292.77	299.14	292.96	303.21
25	ICSA	-.00020	.01675	-.00874	.00435	.00433	-.01749
26	ICSAB	.01619	.97605	-.01636	.00881	.01641	-.01518
27	CCV 1	4.9811	4.8752	4.9903	4.9723	4.7326	5.1554
28	CCB_1	.00368	-.00244	-.00869	.00019	.02028	-.00799

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.7255	4.9458	.21566	Q4.4582	4.7055	9.4669
~~2~~	~~ICB~~	~~-.00841~~	~~-.00008~~	~~-.00367~~	~~-.00172~~	~~-.01150~~	~~-.03176~~
3	ICB	-.00613	-.00004	.00816	.00068	.00129	-.03071
4	LLS	.18717	.01995	.01779	.01961	.40796	.44489
5	ICSA	-.02307	-.00264	.03293	.00138	-.00998	-.00755
6	ICSAB	-.01863	-.00262	.02914	.00137	-.02078	-.00970
7	PREPSTDTJA	4.6349	4.8551	.18710	4.3377	4.5037	9.1232
8	PREPBLKTJA	-.01665	.00111	.01151	.00154	.00356	-.05278
9	S98T000752_L	-.17774	.00890	.22966	.00900	.04371	2.4313
10	S98T000752_	-.01405	.00978	.11572	.00856	.07275	2.9239
11	S98T000752_D	-.01065	.01118	.12352	.01152	.02843	3.4955
12	S98T000752_S	4.5005	4.6932	.30314	4.2392	4.4605	11.943
13	S98T000752_X	.13959	.01536	.45235	.00664	.34948	3.3360
14	S98T000752_AX	287.65	294.16	12.762	291.82	290.06	559.82
15	CCV	4.8389	5.0643	.21780	4.5403	4.7907	9.7533
16	CCB	-.00798	-.00008	.01266	-.00016	-.00056	-.03427
17	S98T000753	-.04861	.01841	.05416	.49975	-.00442	.85804
18	S98T000753_D	-.04069	.01894	.04788	.42269	-.02562	.75328
19	S98T000754_L	-.09007	.00848	.14639	.24475	.09484	-.10062
20	S98T000754_	-.03577	.00767	.02200	.23524	.01365	.12770
21	S98T000754_D	-.04349	.01014	.03941	.27835	-.05805	.14815
22	S98T000754_S	4.7394	4.9419	.19568	4.5992	4.4914	9.4243
23	S98T000754_X	-.50860	.00403	.38415	.23940	.08662	-1.6582
24	S98T000754_AX	293.83	300.76	12.778	299.26	294.77	571.06
25	ICSA	-.02824	-.00263	.02858	.00029	-.02065	-.02660
26	ICSAB	-.02843	-.00266	.02933	.00158	-.00037	-.02419
27	CCV_1	4.8849	5.0991	.22914	4.5635	4.8132	9.7807
28	CCB_1	-.01158	-.00008	.01016	-.00017	-.00148	-.04088

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.0160	.00710	5.0035	4.9185
~~2~~	~~ICB~~	~~-.00205~~	~~-.00037~~	~~.00024~~	~~-.00152~~
3	ICB	-.00177	-.00030	.00029	-.00181
4	LLS	.09814	-.00003	.01982	.01700
5	ICSA	-.00073	.00698	-.00367	-.00686
6	ICSAB	.46229	.00690	.91831	-.00609
7	PREPSTDTJA	4.7700	.00600	4.4518	Q2.7168
8	PREPBLKTJA	-.00292	-.00099	Q.06252	-.00082
9	S98T000752_L	-.02582	.00131	.09856	.03639
10	S98T000752_	.00361	.00934	.10118	.07024
11	S98T000752_D	.00537	.01191	1.8469	.08565
12	S98T000752_S	4.7301	.01844	4.6205	2.4785
13	S98T000752_X	.03587	.01504	.11298	.06497
14	S98T000752_AX	290.28	.44174	275.85	290.03
15	CCV	5.0893	.00635	5.0643	5.0316
16	CCB	-.00193	-.00053	.00027	-.00245
17	S98T000753	.12405	.01139	.09749	.04740
18	S98T000753_D	.12596	.01167	.06788	.04430
19	S98T000754_L	.04509	-.00230	.06122	.00281
20	S98T000754_	.06028	.00229	.05986	.01739
21	S98T000754_D	.11703	.00369	.07614	.01963

#	Sample Name	V	Y	Zn	Zr		
22	S98T000754_S	4.8976	.01010	4.5902	.24041		
23	S98T000754_X	-.02904	-.02986	.06684	-.07346		
24	S98T000754_AX	295.89	.43226	278.87	296.61		
25	IGSA	-.00247	.00651	-.00503	-.00747		
26	IGSAB	.46464	.00659	.91601	-.00734		
27	GCV_1	5.1152	.00642	5.0647	5.0582		
28	GCB_1	-.00257	-.00076	.00040	-.00256		

DK
04-27-98

5987000754

$$Al = 193.91 \frac{ug}{ml} \times \frac{1}{5.09 \frac{g}{L} + \frac{1L}{1000 ml}} = 3.81e+4 \frac{ug}{g}$$

Pre-dig Spk

$$Cu = \frac{4.6373 - 0}{5} \times 100 = 92.7\%$$

Post Spike:

$$Na = \frac{\left(\frac{1319.7}{30}\right) - \left(\frac{1035.0}{30}\right)}{10} \times 100 = 94.9\%$$

$$Al = \frac{\left(\frac{493.14}{30}\right) - \left(\frac{203.84}{30}\right)}{10} \times 100 = 96.4\%$$

$$Cr = \frac{\left(\frac{304.87}{30}\right) - \left(\frac{5.7941}{30}\right)}{10} \times 100 = 99.7\%$$

$$Fe = \frac{\left(\frac{294.16}{30}\right) - \left(\frac{6.1170}{30}\right)}{10} \times 100 = 96.0\%$$

$$K = \frac{\left(\frac{301.35}{30}\right) - 0}{10} \times 100 = 100.5\%$$

$$Si = \frac{\left(\frac{303.21}{30}\right) - 0}{10} \times 100 = 101.1\%$$

$$Zr = \frac{\left(\frac{296.61}{30}\right) - 0}{10} \times 100 = 98.9\%$$

$$Al = 21.140 \frac{ug}{g} \times \frac{1}{5.086 \frac{g}{L} \times \frac{1L}{1000 ml}} = 4.16e+3 \frac{ug}{g}$$

Pre-dig Spk

$$Al = \frac{26.337 - 21.140}{5} \times 100 = 103.9\%$$

Post Spike:

$$Na = \frac{\left(\frac{1036.0}{30}\right) - \left(\frac{728.80}{30}\right)}{10} \times 100 = 102.4\%$$

$$P = \frac{\left(\frac{292.46}{30}\right) - \left(\frac{4.5935}{30}\right)}{10} \times 100 = 96.0\%$$

$$Si = \frac{\left(\frac{296.65}{30}\right) - 0}{10} \times 100 = 98.9\%$$

$$Zr = \frac{\left(\frac{290.03}{30}\right) - 0}{10} \times 100 = 96.7\%$$

RADIOCHEMICAL ANALYSIS

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worklistdata Version 1.0 05/15/96
03/12/98 11:03

LABCORE Completed Worklist Report for Worklist# 22865

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

Method: _____ Rev/Mod _____

Worklist Comment: TX104, @ALPHA01, S.S. by Ludlum. STD: 1.0mL, SPK: 0.1mL skw

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.82E-04	1.37E-4	75.275	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	4.13E+00	4.130	% Ct. Erro
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<2.73E-7		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	2.14E+00	2.140	BLNK/BKG
4	SAMPLE	S98T000500	0	@ALPHA01	ALPHA01	LIQUID	N/A <	4.07E-07	5.29e-007	uCi/mL
4	SAMPLE	S98T000500	0	@ALPHA01	ALPHA01E	LIQUID	N/A	1.80E+02		% Ct. Error
5	DUP	S98T000500	0	@ALPHA01	ALPHA01	LIQUID	<4.07E-7	3.29E-7		RPD
5	DUP	S98T000500	0	@ALPHA01	ALPHA01E	LIQUID	1.00	1.21E+02	121.000	% Ct. Erro
6	SAMPLE	S98T000665	0	@ALPHA01	ALPHA01	LIQUID	N/A	7.34E-03	5.40e-003	uCi/mL
6	SAMPLE	S98T000665	0	@ALPHA01	ALPHA01E	LIQUID	N/A	6.61E+01		% Ct. Error
7	DUP	S98T000665	0	@ALPHA01	ALPHA01	LIQUID	7.34E-3	7.06E-3	3.889	RPD
7	DUP	S98T000665	0	@ALPHA01	ALPHA01E	LIQUID	1.00	6.99E+01	69.900	% Ct. Erro
8	SPK	S98T000665	0	@ALPHA01	ALPHA01	LIQUID	4.34E-02	3.45E-02	79.493	% Recovery
9	SAMPLE	S98T000666	0	@ALPHA01	ALPHA01	LIQUID	N/A	4.40E-02	5.40e-003	uCi/mL
9	SAMPLE	S98T000666	0	@ALPHA01	ALPHA01E	LIQUID	N/A	2.30E+01		% Ct. Error
10	DUP	S98T000666	0	@ALPHA01	ALPHA01	LIQUID	4.40E-2	3.01E-2	37.517	RPD
10	DUP	S98T000666	0	@ALPHA01	ALPHA01E	LIQUID	1.00	3.10E+01	31.000	% Ct. Erro
11	SPK	S98T000666	0	@ALPHA01	ALPHA01	LIQUID	4.34E-02	3.67E-02	84.562	% Recovery
12	SAMPLE	S98T000761	0	@ALPHA01	ALPHA01	LIQUID	N/A	3.66E+00	5.40e-003	uCi/mL
12	SAMPLE	S98T000761	0	@ALPHA01	ALPHA01E	LIQUID	N/A	2.48E+00		% Ct. Error
13	DUP	S98T000761	0	@ALPHA01	ALPHA01	LIQUID	3.66E+0	6.74E+0	59.231	RPD
13	DUP	S98T000761	0	@ALPHA01	ALPHA01E	LIQUID	1.00	1.81E+00	1.810	% Ct. Erro
14	SPK	S98T000761	0	@ALPHA01	ALPHA01	LIQUID	4.34E-02	3.50E-02	80.645	% Recovery
15	SAMPLE	S98T000762	0	@ALPHA01	ALPHA01	LIQUID	N/A	6.20E-03	5.40e-003	uCi/mL
15	SAMPLE	S98T000762	0	@ALPHA01	ALPHA01E	LIQUID	N/A	7.43E+01		% Ct. Error
16	DUP	S98T000762	0	@ALPHA01	ALPHA01	LIQUID	6.20E-3	3.93E-3	44.817	RPD
16	DUP	S98T000762	0	@ALPHA01	ALPHA01E	LIQUID	1.00	9.46E+01	94.600	% Ct. Erro
17	SAMPLE	S98T000763	0	@ALPHA01	ALPHA01	LIQUID	N/A	5.63E-03	5.40e-003	uCi/mL
17	SAMPLE	S98T000763	0	@ALPHA01	ALPHA01E	LIQUID	N/A	7.97E+01		% Ct. Error
18	DUP	S98T000763	0	@ALPHA01	ALPHA01	LIQUID	5.63E-3	4.78E-3	16.330	RPD
18	DUP	S98T000763	0	@ALPHA01	ALPHA01E	LIQUID	1.00	1.21E+02	121.000	% Ct. Erro

Final page for worklist# 22865

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

S A Cattes 12 March 98

Sample 70761 will be rerun. Samples 70666 and 70762 have high counting uncertainty and will not be rerun. SAC

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

LABCORE Completed Worklist Report for Worklist# 22865

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
					Reviewer Signature		Date			

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

LABCORE Data Entry Template for Worklist# 22865

Analyst: CRS **Instrument:** AB00 14 **Book#** 12B57

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

Worklist Comment: TX104, @ALPHA01, S.S. by Ludlum. STD: 1.0mL, SPK: 0.1mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S98T000500	0		@ALPHA01	LIQUID	98000129	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S98T000500	0		@ALPHA01	LIQUID		
6	SAMPLE	S98T000665	0		@ALPHA01	LIQUID	98000129	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
7	DUP	S98T000665	0		@ALPHA01	LIQUID		
8	SPK	S98T000665	0		@ALPHA01	LIQUID		
9	SAMPLE	S98T000666	0		@ALPHA01	LIQUID	98000129	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
10	DUP	S98T000666	0		@ALPHA01	LIQUID		
11	SPK	S98T000666	0		@ALPHA01	LIQUID		
12	SAMPLE	S98T000761	0		@ALPHA01	LIQUID	98000130	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
13	DUP	S98T000761	0		@ALPHA01	LIQUID		
14	SPK	S98T000761	0		@ALPHA01	LIQUID		
15	SAMPLE	S98T000762	0		@ALPHA01	LIQUID	98000130	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
16	DUP	S98T000762	0		@ALPHA01	LIQUID		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 22865

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
17	SAMPLE	S98T000763	0		@ALPHA01	LIQUID	98000130	TX-104
		Analytes Requested: ALPHA01 , ALPHA01E						
18	DUP	S98T000763	0		@ALPHA01	LIQUID		

Final page for worklist # 22865

C Johnson 3/11/98
Analyst Signature Date

Sue Hogan 3-12-98
Analyst Signature Date

C.J. Quinn 3/12/98

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (G-0) **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)	2638	2263
22865	COUNT TIME in MINUTES	(CT)	30	30
Analyzed By	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)	12B57	12B57
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		87.863	75.363
Batch Number	Standard Value in µCi/mL		1.82E-04	
98001224	Concentration in µCi/L	=	1.47E-01	
Rerun	Replicate Concentration in µCi/L	=	1.26E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.3656E-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)
WL22865	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	
CRJ	
Date Complete	
03/12/98	
Analysis Date	
03/11/98	
Analysis Time	
01:15 PM	
Sample Point	
TX-104	

			DETECTION LEVEL
ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.37E-04	
RELATIVE COUNTING ERROR	=	4.1%	5.29E-07 µCi/mL

Analyst:	SEH		Date: 12-Mar-98
Signature of Chemist:		SLF	Date: 12 Mar 98

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (G-0) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		14	14
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	7	2
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.163	0.113

Batch Number			
98001224	Blank Concentration in µCi/L		2.73E-04
Rerun	Replicate Concentration in µCi/L	<	1.89E-04
0	Maximum Concentration in µCi/L	<	2.7330E-04

Sample Prep: N/A

Sample #: WL22865

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: CRJ

Date Complete: 03/12/98

Analysis Date: 03/11/98

Analysis Time: 01:15 PM

Sample Point: TX-104

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)	=	< 2.73E-07	5.29E-07 µCi/mL
LESS THAN Value was Determined from Rs.			
RELATIVE COUNTING ERROR		500.0%	

Analyst:	CRJ		Date: 12-Mar-98
Signature of Chemist:		SLF	Date: 12 Mar 98

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (G-0) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	5	7
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.243	0.163

Blank Concentration in µCi/L	<	4.07E-04
Replicate Concentration in µCi/L		2.73E-04
Maximum Concentration in µCi/L	<	4.0698E-04

Batch Number: 98001224
Rerun: 0
Sample Prep: N/A
Sample # : S98T000500
Instrument Code: WB27807
Prepared By: SEH
Chemist: SLF
Analyst: CRJ
Date Complete: 03/12/98
Analysis Date: 03/11/98
Analysis Time: 01:15 PM
Sample Point: TX-104

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) =	< 4.07E-07	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		5.29E-07 µCi/mL
RELATIVE COUNTING ERROR	180.1%	

{/ system;exit}yes~

Analyst:	CRJ		Date: 12-Mar-98
Signature of Chemist:	S A Carter	SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (G-0) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	7
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.230	0.163

Batch Number	
98001224	Blank Concentration in µCi/L 3.85E-04
Rerun	Replicate Concentration in µCi/L 2.73E-04
0	Average Concentration in µCi/L 3.2908E-04
Sample Prep	
N/A	
Sample #	
S98T000500	
Instrument Code	
WB27807	
Prepared By	
SEH	
Chemist	
SLF	
Analyst	
CRJ	
Date Complete	
03/12/98	
Analysis Date	
03/11/98	
Analysis Time	
01:15 PM	
Sample Point	
TX-104	

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 (Average)	=	3.29E-07	5.29E-07 µCi/mL
RELATIVE COUNTING ERROR		120.7%	

{/ system;exit}yes~

Analyst:	CRJ		Date: 12-Mar-98
Signature of Chemist:		SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM6

AT : LA-508-101 (G-0) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	16	14
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.463	0.397

Blank Concentration in µCi/L	7.91E+00
Replicate Concentration in µCi/L	6.77E+00
Average Concentration in µCi/L	7.3398E+00

Batch Number: 98001224
Rerun: 0
Sample Prep: N/A
Sample # : S98T000665
Instrument Code: WB27807
Prepared By: SEH
Chemist: SLF
Analyst: CRJ
Date Complete: 03/12/98
Analysis Date: 03/11/98
Analysis Time: 01:15 PM
Sample Point: TX-104

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Average) =	7.34E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	66.1%	5.40E-03 µCi/mL

(/ system;exit)yes~

Analyst:		CRJ	Date: 12-Mar-98
Signature of Chemist:	SA Catto	SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (G-0) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	13	16
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.363	0.463

Batch Number	
98001224	Blank Concentration in µCi/L 6.20E+00
Rerun #	Replicate Concentration in µCi/L 7.91E+00
0	Average Concentration in µCi/L 7.0553E+00

Sample Prep: N/A

Sample #: S98T000665

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: CRJ

Date Complete: 03/12/98

Analysis Date: 03/11/98

Analysis Time: 01:15 PM

Sample Point: TX-104

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 (Average) =	7.06E-03	5.40E-03 µCi/mL
RELATIVE COUNTING ERROR	69.9%	

{/ system;exit}yes~

Analyst:		CRJ	Date: 12-Mar-98
Signature of Chemist:	S A Cotti	SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK8

AT : LA-508-101 (G-0) 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)	60371	63370
22865	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)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR	(Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR		(DDF)	1	1
Matrix	SPIKE VOLUME in mL		(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR		(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER		(Spk BN)	146B43	146B43
98001224	SPIKE VALUE in µCi/mL		(SVal)	4.3392E-02	4.3392E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2692	0.2692
0	SAMPLE + SPIKE µCi/mL		(S+S)	3.43E+01	3.61E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE			7.3398E-03	
N/A					
Sample #					
S98T000665	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					
CRJ					
Date Complete					
03/12/98					
Analysis Date					
03/11/98	QC ACTUAL		=	4.34E-02	
Analysis Time	QC FOUND		=	3.45E-02	
01:15 PM	AVG. PERCENT SPIKE RECOVERY		=	79.5%	
Sample Point					
TX-104					

Analyst:		SEH	Date: 12-Mar-98
Signature of Chemist:	M A Carter	SLF	Date: 12/18/98

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (G-0) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	80	79
22865	COUNT TIME in MINUTES	(CT)	30	30
A1 or 1 B ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.597	2.563

Batch Number		
98001224	Blank Concentration in µCi/L	4.43E+01
Rerun	Replicate Concentration in µCi/L	4.38E+01
0	Average Concentration in µCi/L	4.4039E+01

Sample Prep: N/A

Sample #: S98T000666

Instrument Code: WB27807

Prepared By: SEH

Chemist: SLF

Analyst: CRJ

Date Complete: 03/12/98

Analysis Date: 03/11/98

Analysis Time: 01:15 PM

Sample Point: TX-104

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

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

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

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

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

ALPHA TOTAL in µCi/mL (Average)	=	4.40E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		23.0%	5.40E-03 µCi/mL

{/ system;exit}yes~

Analyst:		CRJ	Date: 12-Mar-98
Signature of Chemist:	SL Cattle	SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP10

AT : LA-508-101 (G-0) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	64	46
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.063	1.463

Blank Concentration in µCi/L	3.52E+01
Replicate Concentration in µCi/L	2.50E+01
Average Concentration in µCi/L	3.0099E+01

Batch Number: 98001224
Rerun: 0
Sample Prep: N/A
Sample # : S98T000666
Instrument Code: WB27807
Prepared By: SEH
Chemist: SLF
Analyst: CRJ
Date Complete: 03/12/98
Analysis Date: 03/11/98
Analysis Time: 01:15 PM
Sample Point: TX-104

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL	(Average)	=	3.01E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR			31.0%	5.40E-03 µCi/mL

{/ system;exit}yes~

Analyst:		CRJ	Date: 12-Mar-98
Signature of Chemist:		SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK11

AT : LA-508-101 (G-0) 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)	67461	64359
22865	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)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	146B43	146B43
98001224	SPIKE VALUE in µCi/mL	(SVal)	4.3392E-02	4.3392E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
0	SAMPLE + SPIKE µCi/mL	(S+S)	3.84E+01	3.66E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE		4.4039E-02	
N/A				
Sample #				
S98T000666	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				
CRJ				
Date Complete				
03/12/98				
Analysis Date				
03/11/98	QC ACTUAL	=	4.34E-02	
Analysis Time	QC FOUND	=	3.67E-02	
01:15 PM	AVG. PERCENT SPIKE RECOVERY	=	84.6%	
Sample Point				
TX-104				

Analyst:		SEH	Date: 12-Mar-98
Signature of Chemist:	SLCotts	SLF	Date: 12-Mar-98

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM15

AT : LA-508-101 (G-0) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	12	14
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.330	0.397

Blank Concentration in µCi/L	5.63E+00
Replicate Concentration in µCi/L	6.77E+00
Average Concentration in µCi/L	6.2018E+00

Batch Number: 98001224
Rerun: 0
Sample Prep: N/A
Sample #: S98T000762
Instrument Code: WB27807
Prepared By: SEH
Chemist: SLF
Analyst: CRJ
Date Complete: 03/12/98
Analysis Date: 03/11/98
Analysis Time: 01:15 PM
Sample Point: TX-104

Rs (Sample Count Rate) = (TC / CT) - BKG
ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Relative Counting Error = [|(The Square Root of TC + BKG * CT) / (TC - BKG * CT)|] * 1.96 * 100
Detection Levels and Less Than Values are determined from Procedure LA-508-002.

ALPHA TOTAL in µCi/mL (Average)	=	6.20E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR		74.3%	5.40E-03 µCi/mL

{/ system;exit}yes~

Analyst:	CRJ		Date: 12-Mar-98
Signature of Chemist:		SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP16

AT : LA-508-101 (G-0) LIQUIDS

			DUP	REPLICATE
Type:	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List:	GROSS COUNTS	(GC)	9	9
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code:	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix:	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.230	0.230

Batch Number:	
98001224	Blank Concentration in µCi/L 3.93E+00
Rerun:	Replicate Concentration in µCi/L 3.93E+00
0	Average Concentration in µCi/L 3.9259E+00
Sample Prep:	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
S98T000762	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	ALPHA TOTAL in µCi/mL (Average) = 3.93E-03
Analyst:	
CRJ	
Date Complete:	
03/12/98	RELATIVE COUNTING ERROR 94.6%
Analysis Date:	
03/11/98	
Analysis Time:	
01:15 PM	
Sample Point:	
TX-104	

DETECTION LEVEL: 5.40E-03 µCi/mL

{/ system;exit}yes~

Analyst:	CRJ	Date: 12-Mar-98	
Signature of Chemist:	SLF	Date: 12 Mar 98	

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM17

AT : LA-508-101 (G-0) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	11	13
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.297	0.363

Batch Number	
98001224	Blank Concentration in µCi/L 5.06E+00
Rerun	Replicate Concentration in µCi/L 6.20E+00
0	Average Concentration in µCi/L 5.6329E+00
Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/µCi)
S98T000763	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	ALPHA TOTAL in µCi/mL (Average) = 5.63E-03
Analyst	
CRJ	
Date Complete	
03/12/98	RELATIVE COUNTING ERROR 79.7%
Analysis Date	
03/11/98	
Analysis Time	
01:15 PM	
Sample Point	
TX-104	

DETECTION LEVEL
5.40E-03 µCi/mL

{/ system;exit}yes~

Analyst:		CRJ	Date: 12-Mar-98
Signature of Chemist:	SA Carter	SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP18

AT : LA-508-101 (G-0) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	7	14
22865	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.163	0.397

Batch Number	
98001224	Blank Concentration in µCi/L 2.79E+00
Rerun	Replicate Concentration in µCi/L 6.77E+00
0	Average Concentration in µCi/L 4.7794E+00
Sample Prep	
N/A	
Sample #	
S98T000763	
Instrument Code	
WB27807	
Prepared By	
SEH	
Chemist	
SLF	
Analyst	
CRJ	
Date Complete	
03/12/98	
Analysis Date	
03/11/98	
Analysis Time	
01:15 PM	
Sample Point	
TX-104	

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

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

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

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

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

ALPHA TOTAL in µCi/mL (Average) =	4.78E-03	DETECTION LEVEL
RELATIVE COUNTING ERROR	120.7%	5.40E-03 µCi/mL

{/ system;exit}yes~

Analyst:	CRJ		Date: 12-Mar-98
Signature of Chemist: S Catto		SLF	Date: 12 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 22924

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

Method: _____ Rev/Mod _____

Worklist Comment: TX104, @ALPHA01, S.S. = 0.1- 10.- 0.1- 10.- 0.250 skw

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	LIQUID	1.82E-04	1.57E-4	86.264	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	LIQUID	1.00	3.71E+00	3.710	% Ct. Erro
2	BLNK		0	@ALPHA01	ALPHA01	LIQUID	1	<1.52E-2		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	1.67E+00	1.670	BLNK/BKG
4	SAMPLE	S98T000761	0	@ALPHA01	ALPHA01	LIQUID	N/A	6.89E+00	246.0e-004	uCi/mL
4	SAMPLE	S98T000761	0	@ALPHA01	ALPHA01E	LIQUID	N/A	3.60E+00	0.0e+000	% Ct. Error
5	DUP	S98T000761	0	@ALPHA01	ALPHA01	LIQUID	6.89E+0	5.66E+0	19.602	RPD
5	DUP	S98T000761	0	@ALPHA01	ALPHA01E	LIQUID	1.00	3.96E+00	3.960	% Ct. Erro
6	SPK	S98T000761	0	@ALPHA01	ALPHA01	LIQUID	4.34E-02	3.80E-02	87.558	% Recovery

Final page for worklist# 22924

Analyst Signature _____ Date _____ Analyst Signature _____ Date _____

Reviewer Signature 17 Mar 98 Date

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

LABCORE Data Entry Template for Worklist# 22924

Analyst: CRS **Instrument:** AB00 15 **Book#** 12B57

Method: LA-508-101 Rev/Mod G-Ø

Worklist Comment: TX104, @ALPHA01, S.S. = 0.1- 10.- 0.1- 10.- 0.250 skw Make new dilutions. SKW

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	LIQUID		
2	BLNK				@ALPHA01	LIQUID		
3	BLNK/BKG				@ALPHA01	LIQUID		
4	SAMPLE	S98T000761	0		@ALPHA01	LIQUID	98000130	TX-104
		Analytes Requested:			ALPHA01 , ALPHA01E			
5	DUP	S98T000761	0		@ALPHA01	LIQUID		
6	SPK	S98T000761	0		@ALPHA01	LIQUID		

Final page for worklist # 22924

Johnson 3/13/98
Analyst Signature **Date**

McBrien 3/17/98
Analyst Signature **Date**

Sylvia Z Cabrera 3/17/98

Data Entry Comments:

Sample resembles mud. Hard to get a representative sample for both.

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (G-0) **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)	2842	2796
22924	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)	12B57	12B57
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		94.633	93.100
Batch Number	Standard Value in µCi/mL		1.82E-04	
98001290	Concentration in µCi/L	=	1.58E-01	
Rerun	Replicate Concentration in µCi/L	=	1.56E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.5689E-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)
WL22924-STD	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	
MCB	
Chemist	
SAC	ALPHA TOTAL CONCENTRATION in µCi/mL = 1.57E-04
Analyst	
CRJ	
Date Complete	
03/17/98	RELATIVE COUNTING ERROR = 3.7%
Analysis Date	
03/13/98	
Analysis Time	
09:59 AM	
Sample Point	
TX-104	

DETECTION LEVEL
6.02E-07 µCi/mL

Analyst:		MCB	Date: 17-Mar-98
Signature of Chemist:		SAC	Date: 17 Mar 98

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (G-0) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLNK	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	5	5
22924	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)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.222	0.222

Batch Number			
98001290	Blank Concentration in µCi/L	<	1.52E+01
Rerun	Replicate Concentration in µCi/L	<	1.52E+01
0	Maximum Concentration in µCi/L	<	1.5156E+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)
WL22924-BLNK	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	
MCB	
Chemist	
SAC	
Analyst	
CRJ	
Date Complete	
03/17/98	
Analysis Date	
03/13/98	
Analysis Time	
09:59 AM	
Sample Point	
TX-104	

ALPHA TOTAL in µCi/mL (Maximum)	=	< 1.52E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			
RELATIVE COUNTING ERROR		500.0%	2.46E-02 µCi/mL

Analyst:	CRJ		Date: 17-Mar-98
Signature of Chemist:		SAC	Date: 17 Mar 98

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (G-0) LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2973	3098
22924	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)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		99.000	103.167

Batch Number		
98001290	Blank Concentration in µCi/L	6.75E+03
Rerun	Replicate Concentration in µCi/L	7.04E+03
0	Average Concentration in µCi/L	6.8940E+03

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)
S98T000761	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	
MCB	
Chemist	
SAC	
Analyst	
CRJ	
Date Complete	
03/17/98	
Analysis Date	
03/13/98	
Analysis Time	
09:59 AM	
Sample Point	
TX-104	

ALPHA TOTAL in µCi/mL (Average)	=	6.89E+00	DETECTION LEVEL
RELATIVE COUNTING ERROR		3.6%	2.46E-02 µCi/mL

Analyst:	CRJ		Date: 17-Mar-98
Signature of Chemist:		SAC	Date: 17 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (G-0) LIQUIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2455	2531
22924	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)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		81.733	84.267

Batch Number	
98001290	Blank Concentration in µCi/L 5.57E+03
Rerun	Replicate Concentration in µCi/L 5.75E+03
0	Average Concentration in µCi/L 5.6607E+03
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)
S98T000761	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	
MCB	
Chemist	
SAC	ALPHA TOTAL in µCi/mL (Average) = 5.66E+00
Analyst	
CRJ	
Date Complete	
03/17/98	RELATIVE COUNTING ERROR 4.0%
Analysis Date	
03/13/98	
Analysis Time	
09:59 AM	
Sample Point	
TX-104	

DETECTION LEVEL
2.46E-02 µCi/mL

Analyst:		CRJ	Date: 17-Mar-98
Signature of Chemist:		SAC	Date: 17Mar98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (G-0) 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)	73456	68935
22924	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)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	146B43	146B43
98001290	SPIKE VALUE in µCi/mL	(SVal)	4.3391E-02	4.3391E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
0	SAMPLE + SPIKE µCi/mL	(S+S)	1.67E+02	1.57E+02
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE		6.8940E+00	
N/A				
Sample #				
S98T000761				
Instrument Code				
WB26872				
Prepared By				
MCB				
Chemist				
SAC				
Analyst				
CRJ				
Date Complete				
03/17/98				
Analysis Date				
03/13/98				
Analysis Time				
09:59 AM				
Sample Point				
TX-104				

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

QC ACTUAL	=	4.34E-02
QC FOUND	=	3.80E-02
AVG. PERCENT SPIKE RECOVERY	=	87.5%

Analyst:	MCB	Date: 17-Mar-98
Signature of Chemist:	SAC	Date: 17 Mar 98

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 23133

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

Method: _____ Rev/Mod _____

Worklist Comment: RERUN OF 23078 @ALPHA01 AX101 (SS=1-10-.25) RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	@ALPHA01	ALPHA01	SOLID	1.82E-04	1.80E-4	98.901	% Recovery
1	STD		0	@ALPHA01	ALPHA01E	SOLID	1.00	3.50E+00	3.500	% Ct. Erro
2	BLNK-PREP		0	@ALPHA01	ALPHA01	SOLID	1	<4.19E-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	4.76E-01	0.476	BLNK/BKG
4	SAMPLE	S98T000672	0 F	@ALPHA01	ALPHA01	SOLID	N/A	1.22E+00	117.0e-004	uCi/g
4	SAMPLE	S98T000672	0 F	@ALPHA01	ALPHA01E	SOLID	N/A	6.30E+00	0.0e+000	% Ct. Error
5	DUP	S98T000672	0 F	@ALPHA01	ALPHA01	SOLID	1.22E+0	6.62E-1	59.299	RPD
5	DUP	S98T000672	0 F	@ALPHA01	ALPHA01E	SOLID	1.00	8.61E+00	8.610	% Ct. Erro
6	SPK	S98T000672	0 F	@ALPHA01	ALPHA01	SOLID	4.34E-02	3.94E-02	90.783	% Recovery
7	SAMPLE	S98T000678	0 F	@ALPHA01	ALPHA01	SOLID	N/A	3.78E-02	112.0e-004	uCi/g
7	SAMPLE	S98T000678	0 F	@ALPHA01	ALPHA01E	SOLID	N/A	4.06E+01	0.0e+000	% Ct. Error
8	DUP	S98T000678	0 F	@ALPHA01	ALPHA01	SOLID	3.78E-2	3.68E-2	2.681	RPD
8	DUP	S98T000678	0 F	@ALPHA01	ALPHA01E	SOLID	1.00	3.90E+01	39.000	% Ct. Erro
9	SPK	S98T000678	0 F	@ALPHA01	ALPHA01	SOLID	4.34E-02	4.04E-02	93.088	% Recovery
10	SAMPLE	S98T000679	0 F	@ALPHA01	ALPHA01	SOLID	N/A	2.65E-02	118.0e-004	uCi/g
10	SAMPLE	S98T000679	0 F	@ALPHA01	ALPHA01E	SOLID	N/A	5.15E+01	0.0e+000	% Ct. Error
11	DUP	S98T000679	0 F	@ALPHA01	ALPHA01	SOLID	2.65E-2	3.05E-2	14.035	RPD
11	DUP	S98T000679	0 F	@ALPHA01	ALPHA01E	SOLID	1.00	4.70E+01	47.000	% Ct. Erro

Final page for worklist# 23133

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

Reviewer Signature 27 Mar 98 **Date**

Results accepted. Previous results and dose rates indicate a large variation between sample T0672 and its duplicate. No rerun will be requested. sc

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

LABCORE Data Entry Template for Worklist# 23133

Analyst: CRJ **Instrument:** AB00 #16 **Book#** 12B57

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

OUT FOR RERUN

Worklist Comment: RERUN OF 23078 @ALPHA01 ~~AX101~~ TX-104 THB 3/23/98 (SS=1-10-.25) RTS

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	S98T000672	0	F	@ALPHA01	SOLID	98000129	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
5	DUP	S98T000672	0	F	@ALPHA01	SOLID		
6	SPK	S98T000672	0	F	@ALPHA01	SOLID		
7	SAMPLE	S98T000678	0	F	@ALPHA01	SOLID	98000129	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
8	DUP	S98T000678	0	F	@ALPHA01	SOLID		
9	SPK	S98T000678	0	F	@ALPHA01	SOLID		
10	SAMPLE	S98T000679	0	F	@ALPHA01	SOLID	98000129	TX-104
	Analytes Requested: ALPHA01 , ALPHA01E							
11	DUP	S98T000679	0	F	@ALPHA01	SOLID		

Final page for worklist # 23133

3/26/98
3/25/98 3/26/98

Analyst Signature **Date**

3/27/98

Analyst Signature **Date**

Lynda L Cohram 3/27/98

Data Entry Comments:

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

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

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		16	16
STD	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3142	3284
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	12B57	12B57
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		104.663	109.397
Batch Number	Standard Value in µCi/mL		1.82E-04	
98001502	Concentration in µCi/L	=	1.76E-01	
Rerun	Replicate Concentration in µCi/L	=	1.84E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.7969E-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)
WL23133-STD	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	
SAC	ALPHA TOTAL CONCENTRATION in µCi/mL = 1.80E-04
Analyst	
CRJ	
Date Complete	
03/27/98	RELATIVE COUNTING ERROR = 3.5%
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

DETECTION LEVEL
5.31E-07 µCi/mL

Analyst:		MCB	Date: 27-Mar-98
Signature of Chemist:	S A Catts	SAC	Date: 27 Mar 98

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (G-0) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		16	16
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	1	1
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.988	1.988
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.113	0.113

Batch Number			
98001502	Blank Concentration in µCi/g	<	4.19E-03
Rerun	Replicate Concentration in µCi/g	<	4.19E-03
0	Maximum Concentration in µCi/g	<	4.1884E-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)
WL23133-BLNK	
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	
SAC	
Analyst	
CRJ	
Date Complete	
03/27/98	
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

ALPHA TOTAL in µCi/g	(Maximum)	=	< 4.19E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				
RELATIVE COUNTING ERROR			500.0%	1.17E-02 µCi/g

Analyst:	CRJ		Date: 27-Mar-98
Signature of Chemist:		SAC	Date: 27 Mar 98

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (G-0) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	974	1003
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.988	1.988
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		32.397	33.363

Batch Number	
98001502	Blank Concentration in µCi/g 1.20E+00
Rerun	Replicate Concentration in µCi/g 1.24E+00
1	Average Concentration in µCi/g 1.2218E+00
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)
S98T000672	
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	
SAC	ALPHA TOTAL in µCi/g (Average) = 1.22E+00
Analyst	
CRJ	
Date Complete	
03/27/98	RELATIVE COUNTING ERROR 6.3%
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

DETECTION LEVEL
1.17E-02 µCi/g

Analyst:		CRJ	Date: 27-Mar-98
Signature of Chemist:		SAC	Date: 27 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

AT : LA-508-101 (G-0) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	549	525
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9884	1.9884
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		18.230	17.430

Batch Number	
98001502	Blank Concentration in µCi/g 6.77E-01
Rerun	Replicate Concentration in µCi/g 6.48E-01
1	Average Concentration in µCi/g 6.6241E-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)
S98T000672	
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	
SAC	ALPHA TOTAL in µCi/g (Average) = 6.62E-01
Analyst	
CRJ	
Date Complete	
03/27/98	RELATIVE COUNTING ERROR 8.6%
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

DETECTION LEVEL
1.17E-02 µCi/g

Analyst:		CRJ	Date: 27-Mar-98
Signature of Chemist:		SAC	Date: 27 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

AT : LA-508-101 (G-0) 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)	71468	71338
23133	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)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.988	1.988
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	146B43	146B43
98001502	SPIKE VALUE in µCi/mL	(SVal)	4.3389E-02	4.3389E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
1	SAMPLE + SPIKE µCi/g	(S+S)	8.85E+01	8.84E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.2218E+00	
FUSION01				
Sample #				
S98T000672				
Instrument Code				
WB27806				
Prepared By				
MCB				
Chemist				
SAC				
Analyst				
CRJ				
Date Complete				
03/27/98				
Analysis Date				
03/26/98	QC ACTUAL	=	4.34E-02	
Analysis Time	QC FOUND	=	3.94E-02	
03:40 PM	AVG. PERCENT SPIKE RECOVERY	=	90.8%	
Sample Point				
TX-104				

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

Analyst:	MCB		Date: 27-Mar-98
Signature of Chemist:	SACatto	SAC	Date: 27 Mar 98

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (G-0) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	29	39
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.078	2.078
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.897	1.230

Blank Concentration in µCi/g	3.19E-02
Replicate Concentration in µCi/g	4.37E-02
Average Concentration in µCi/g	3.7801E-02

Batch Number	
98001502	
Rerun	
1	
Sample Prep	
FUSION01	
Sample #	
S98T000678	
Instrument Code	
WB27806	
Prepared By	
MCB	
Chemist	
SAC	
Analyst	
CRJ	
Date Complete	
03/27/98	
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

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

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

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

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

ALPHA TOTAL in µCi/g (Average)	=	3.78E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		40.6%	1.12E-02 µCi/g

Analyst:	CRJ		Date: 27-Mar-98
Signature of Chemist:		SAC	Date: 27/Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (G-0) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	33	31
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0028	2.0028
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.030	0.963

Batch Number	
98001502	Blank Concentration in µCi/g 3.80E-02
Rerun	Replicate Concentration in µCi/g 3.55E-02
1	Average Concentration in µCi/g 3.6761E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S98T000678	
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	
SAC	ALPHA TOTAL in µCi/g (Average) = 3.68E-02
Analyst	
CRJ	
Date Complete	
03/27/98	RELATIVE COUNTING ERROR 39.0%
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

DETECTION LEVEL
1.17E-02 µCi/g

Analyst:	CRJ		Date: 27-Mar-98
Signature of Chemist:		SAC	Date: 27 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SPK9

AT : LA-508-101 (G-0) 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)	73581	70922
23133	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)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.078	2.078
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	146B43	146B43
98001502	SPIKE VALUE in µCi/mL	(SVal)	4.3389E-02	4.3389E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
1	SAMPLE + SPIKE µCi/g	(S+S)	8.72E+01	8.40E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		3.7801E-02	
FUSION01				
Sample #				
S98T000678	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				
SAC				
Analyst				
CRJ				
Date Complete				
03/27/98				
Analysis Date				
03/26/98	QC ACTUAL	=	4.34E-02	
Analysis Time	QC FOUND	=	4.04E-02	
03:40 PM	AVG. PERCENT SPIKE RECOVERY	=	93.1%	
Sample Point				
TX-104				

Analyst:		MCB	Date: 27-Mar-98
Signature of Chemist:	[signature]	SAC	Date: 27Mar 98

SPIKE.WB1 Rev. 1.0 508101ML

AT : LA-508-101 (G-0) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	20	27
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9868	1.9868
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.597	0.830

Batch Number	
98001502	Blank Concentration in µCi/g 2.22E-02
Rerun	Replicate Concentration in µCi/g 3.09E-02
1	Average Concentration in µCi/g 2.6523E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S98T000679	
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	
SAC	ALPHA TOTAL in µCi/g (Average) = 2.65E-02
Analyst	
CRJ	
Date Complete	
03/27/98	RELATIVE COUNTING ERROR 51.5%
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

DETECTION LEVEL
1.18E-02 µCi/g

Analyst:		CRJ	Date: 27-Mar-98
Signature of Chemist:	S A Catts	SAC	Date: 27 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: DUP11

AT : LA-508-101 (G-0) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	23	30
23133	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.07	0.07
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.9692	1.9692
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.697	0.930

Batch Number	
98001502	Blank Concentration in µCi/g 2.61E-02
Rerun	Replicate Concentration in µCi/g 3.49E-02
1	Average Concentration in µCi/g 3.0511E-02
Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S98T000679	
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	
SAC	ALPHA TOTAL in µCi/g (Average) = 3.05E-02
Analyst	
CRJ	
Date Complete	
03/27/98	RELATIVE COUNTING ERROR 47.0%
Analysis Date	
03/26/98	
Analysis Time	
03:40 PM	
Sample Point	
TX-104	

DETECTION LEVEL
1.19E-02 µCi/g

Analyst:	CRJ		Date: 27-Mar-98
Signature of Chemist:		SAC	Date: 27 Mar 98

SAMPLE.WB1 Rev. 1.0 508101ML

LABCORE Completed RadChem Report for Worklist#: 23333

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

Method: _____ Rev/Mod _____

Worklist Comment: TX-104 ALPHA lad

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@ALPHA01 ALPHA01	SOLID	1.82E-04	1.78E-4	97.802	% Recovery
1	STD		0		@ALPHA01 ALPHA01E	SOLID	1.00	3.49E+00	3.490	% Ct. Erro
2	BLNK-PREP		0		@ALPHA01 ALPHA01	SOLID	1	<6.50E-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	7.50E-01	0.750	BLNK/BKG
4	SAMPLE	S98T000749	0	F	@ALPHA01 ALPHA01	SOLID	N/A	3.95E-01	161.0e-004	uCi/g
4	SAMPLE	S98T000749	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	1.10E+01	0.0e+000	% Ct. Error
5	DUP	S98T000749	0	F	@ALPHA01 ALPHA01	SOLID	3.95E-1	3.97E-1	0.505	RPD
5	DUP	S98T000749	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	1.13E+01	11.300	% Ct. Erro
6	SPK	S98T000749	0	F	@ALPHA01 ALPHA01	SOLID	4.34E-02	4.07E-02	93.779	% Recovery
7	SAMPLE	S98T000750	0	F	@ALPHA01 ALPHA01	SOLID	N/A	2.50E-01	791.0e-005	uCi/g
7	SAMPLE	S98T000750	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	9.42E+00	0.0e+000	% Ct. Error
8	DUP	S98T000750	0	F	@ALPHA01 ALPHA01	SOLID	2.50E-1	2.92E-1	15.498	RPD
8	DUP	S98T000750	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	8.84E+00	8.840	% Ct. Erro
9	SAMPLE	S98T000751	0	F	@ALPHA01 ALPHA01	SOLID	N/A	1.73E-01	394.0e-005	uCi/g
9	SAMPLE	S98T000751	0	F	@ALPHA01 ALPHA01E	SOLID	N/A	8.03E+00	0.0e+000	% Ct. Error
10	DUP	S98T000751	0	F	@ALPHA01 ALPHA01	SOLID	1.73E-1	1.85E-1	6.704	RPD
10	DUP	S98T000751	0	F	@ALPHA01 ALPHA01E	SOLID	1.00	7.42E+00	7.420	% Ct. Erro
11	SPK	S98T000751	0	F	@ALPHA01 ALPHA01	SOLID	4.34E-02	4.08E-02	94.009	% Recovery

Final page for worklist# 23333

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

S A Cathey 7 April 98

Reviewer Signature **Date**

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

LABCORE Data Entry Template for Worklist# 23333

Analyst: CRS **Instrument:** AB00 15 **Book#** 12B57

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

Worklist Comment: TX-104 ALPHA lad

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	S98T000749	0	F	@ALPHA01	SOLID	98000130	TX-104
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S98T000749	0	F	@ALPHA01	SOLID		
6	SPK	S98T000749	0	F	@ALPHA01	SOLID		
7	SAMPLE	S98T000750	0	F	@ALPHA01	SOLID	98000130	TX-104
		Analytes Requested: ALPHA01 , ALPHA01E						
8	DUP	S98T000750	0	F	@ALPHA01	SOLID		
9	SAMPLE	S98T000751	0	F	@ALPHA01	SOLID	98000130	TX-104
		Analytes Requested: ALPHA01 , ALPHA01E						
10	DUP	S98T000751	0	F	@ALPHA01	SOLID		
11	SPK	S98T000751	0	F	@ALPHA01	SOLID		

Final page for worklist # 23333

4/6/98
Analyst Signature Date

4/7/98
Analyst Signature Date
Sylvia L Chuang 4/7/98

Data Entry Comments:

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (G-0) **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)	3170	3244
23333	COUNT TIME in MINUTES	(CT)	30	30
A Tor T B ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	12B57	12B57
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		105.467	107.933
Batch Number	Standard Value in µCi/mL		1.82E-04	
98001718	Concentration in µCi/L	=	1.76E-01	
Rerun	Replicate Concentration in µCi/L	=	1.80E-01	
0	AVERAGE CONCENTRATION in µCi/L	=	1.7834E-01	

Sample Prep: N/A

Sample #: WL23333-STD

Instrument Code: WB26872

Prepared By: GLL

Chemist: SLF

Analyst: CRJ

Date Complete: 04/07/98

Analysis Date: 04/06/98

Analysis Time: 02:30 PM

Sample Point: TX-104

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

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

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

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

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

ALPHA TOTAL CONCENTRATION in µCi/mL	=	1.78E-04	DETECTION LEVEL	
RELATIVE COUNTING ERROR	=	3.5%	7.88E-07 µCi/mL	

Analyst:	GLL		Date: 07-Apr-98
Signature of Chemist: SLF Cattow	SLF		Date: 7 Apr 98

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (G-0) SOLIDS

			BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER		15	15
BLNK-PREP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	4	5
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	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)	2.156	2.156
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.191	0.191

Batch Number			
98001718	Blank Concentration in µCi/g	<	6.50E-03
Rerun	Replicate Concentration in µCi/g	<	6.50E-03
0	Maximum Concentration in µCi/g	<	6.4990E-03

Sample Prep
N/A

Sample #
WL23333-BLK

Instrument Code
WB26872

Prepared By
GLL

Chemist
SLF

Analyst
CRJ

Date Complete
04/07/98

Analysis Date
04/06/98

Analysis Time
02:30 PM

Sample Point
TX-104

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)	=	< 6.50E-03		DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.61E-02 µCi/g
RELATIVE COUNTING ERROR		500.0%		

Analyst:	CRJ		Date: 07-Apr-98
Signature of Chemist:		SLF	Date: 7 Apr 98

BLANK.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (G-0) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	333	373
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	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)	2.156	2.156
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		10.900	12.233

Batch Number	
98001718	Blank Concentration in µCi/g 3.72E-01
Rerun	Replicate Concentration in µCi/g 4.17E-01
0	Average Concentration in µCi/g 3.9455E-01

Sample Prep: FUSION01

Sample #: S98T000749

Instrument Code: WB26872

Prepared By: GLL

Chemist: SLF

Analyst: CRJ

Date Complete: 04/07/98

Analysis Date: 04/06/98

Analysis Time: 02:30 PM

Sample Point: TX-104

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

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

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

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

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	3.95E-01	
RELATIVE COUNTING ERROR		11.0%	1.61E-02 µCi/g

Analyst:	CRJ		Date: 07-Apr-98
Signature of Chemist:		SLF	Date: 7 Apr 98

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (G-0) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	319	375
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	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)	2.108	2.108
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		10.433	12.300

Blank Concentration in µCi/g	3.64E-01
Replicate Concentration in µCi/g	4.29E-01
Average Concentration in µCi/g	3.9656E-01

Batch Number: 98001718
Rerun: 0
Sample Prep: FUSION01
Sample # : S98T000749
Instrument Code: WB26872
Prepared By: GLL
Chemist: SLF
Analyst: CRJ
Date Complete: 04/07/98
Analysis Date: 04/06/98
Analysis Time: 02:30 PM
Sample Point: TX-104

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

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

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

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

ALPHA TOTAL in µCi/g (Average)	=	3.97E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		11.3%	1.65E-02 µCi/g

Analyst:	CRJ	Date: 07-Apr-98	
Signature of Chemist:	SLF	Date: 7Apr98	

SAMPLE.WB1 Rev. 1. 508101ML

AT : LA-508-101 (G-0) 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)	72468	74331
23333	COUNT TIME in MINUTES		(CT)	30	30
AT or TB ?	BACKGROUND in cpm		(BKG)	0.2	0.2
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)	2.156	2.156
Matrix	SPIKE VOLUME in mL		(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR		(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER		(Spk BN)	146B43	146B43
98001718	SPIKE VALUE in µCi/mL		(SVal)	4.3387E-02	4.3387E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR		(EFF)	0.2695	0.2695
0	SAMPLE + SPIKE µCi/g		(S+S)	8.24E+01	8.45E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE			3.9455E-01	
FUSION01					
Sample #					
S98T000749	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))))				
GLL	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100				
Chemist					
SLF					
Analyst					
CRJ					
Date Complete					
04/07/98					
Analysis Date					
04/06/98	QC ACTUAL		=	4.34E-02	
Analysis Time	QC FOUND		=	4.07E-02	
02:30 PM	AVG. PERCENT SPIKE RECOVERY		=	93.8%	
Sample Point					
TX-104					

Analyst:		GLL	Date: 07-Apr-98
Signature of Chemist:	S C Watts	SLF	Date: 7 Apr 98

SPIKE.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: SAM7

AT : LA-508-101 (G-0) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	455	451
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.2	0.2
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)	2.1932	2.1932
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		14.967	14.833

Blank Concentration in µCi/g	2.51E-01
Replicate Concentration in µCi/g	2.49E-01
Average Concentration in µCi/g	2.4982E-01

Batch Number	98001718
Rerun	0
Sample Prep	FUSION01
Sample #	S98T000750
Instrument Code	WB26872
Prepared By	GLL
Chemist	SLF
Analyst	CRJ
Date Complete	04/07/98
Analysis Date	04/06/98
Analysis Time	02:30 PM
Sample Point	TX-104

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

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

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

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

			DETECTION LEVEL
ALPHA TOTAL in µCi/g (Average)	=	2.50E-01	7.91E-03 µCi/g
RELATIVE COUNTING ERROR		9.4%	

Analyst:	CRJ	Date: 07-Apr-98	
Signature of Chemist:	SLF	Date: 7 Apr 98	

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (G-0) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	563	509
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or LB?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.226	2.226
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		18.567	16.767

Blank Concentration in µCi/g	3.07E-01
Replicate Concentration in µCi/g	2.77E-01
Average Concentration in µCi/g	2.9184E-01

Batch Number	
98001718	
Rerun	
0	
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)
S98T000750	
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	
GLL	
Chemist	
SLF	
Analyst	
CRJ	
Date Complete	
04/07/98	
Analysis Date	
04/06/98	
Analysis Time	
02:30 PM	
Sample Point	
TX-104	

ALPHA TOTAL in µCi/g (Average)	=	2.92E-01	DETECTION LEVEL
RELATIVE COUNTING ERROR		8.8%	7.79E-03 µCi/g

Analyst:	CRJ	Date: 07-Apr-98
Signature of Chemist:	SLF	Date: 7 Apr 98

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: SAM9

AT : LA-508-101 (G-0) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		15	15
SAMPLE	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	614	641
23333	COUNT TIME in MINUTES	(CT)	30	30
A1 or I B?	BACKGROUND in cpm	(BKG)	0.2	0.2
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)	2.0024	2.0024
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		20.267	21.167

Blank Concentration in µCi/g	1.69E-01
Replicate Concentration in µCi/g	1.77E-01
Average Concentration in µCi/g	1.7292E-01

Batch Number	
98001718	
Rerun	
0	
Sample Prep	
FUSION01	
Sample #	
S98T000751	
Instrument Code	
WB26872	
Prepared By	
GLL	
Chemist	
SLF	
Analyst	
CRJ	
Date Complete	
04/07/98	
Analysis Date	
04/06/98	
Analysis Time	
02:30 PM	
Sample Point	
TX-104	

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)	=	1.73E-01	
RELATIVE COUNTING ERROR		8.0%	3.94E-03 µCi/g

Analyst:	CRJ	Date: 07-Apr-98	
Signature of Chemist:	SLC Catto	SLF	Date: 29 Apr 98

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: DUP10

AT : LA-508-101 (G-0) SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1 , 2 , or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	730	716
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or LB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1572	2.1572
Matrix	EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		24.133	23.667

Batch Number	
98001718	Blank Concentration in µCi/g 1.87E-01
Rerun	Replicate Concentration in µCi/g 1.83E-01
0	Average Concentration in µCi/g 1.8518E-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)
S98T000751	
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	
GLL	
Chemist	
SLF	ALPHA TOTAL in µCi/g (Average) = 1.85E-01
Analyst	
CRJ	
Date Complete	
04/07/98	RELATIVE COUNTING ERROR 7.4%
Analysis Date	
04/06/98	
Analysis Time	
02:30 PM	
Sample Point	
TX-104	

DETECTION LEVEL
3.65E-03 µCi/g

Analyst:		CRJ	Date: 07-Apr-98
Signature of Chemist:	SA Patte	SLF	Date: 7 Apr 98

SAMPLE.WB1 Rev. 1. 508101ML

WORKBOOK PAGE: SPK11

AT : LA-508-101 (G-0) 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)	75609	72044
23333	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE VOLUME in mL (Spiked Vial)	(SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial)	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0024	2.0024
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER	(Spk BN)	146B43	146B43
98001718	SPIKE VALUE in µCi/mL	(SVal)	4.3387E-02	4.3387E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR	(EFF)	0.2695	0.2695
0	SAMPLE + SPIKE µCi/g	(S+S)	2.10E+01	2.00E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		1.7292E-01	
FUSION01				
Sample #				
S98T000751	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))))			
GLL	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
Chemist				
SLF				
Analyst				
CRJ				
Date Complete				
04/07/98				
Analysis Date				
04/06/98	QC ACTUAL	=	4.34E-02	
Analysis Time	QC FOUND	=	4.08E-02	
02:30 PM	AVG. PERCENT SPIKE RECOVERY	=	94.0%	
Sample Point				
TX-104				

Analyst:		GLL	Date: 07-Apr-98
Signature of Chemist:	S A Cotts	SLF	Date: 29 Apr 98

SPIKE.WB1 Rev. 1.0 508101ML

This document was too large to scan as a single document; therefore, it has been divided into smaller sections.

Section 2 of 2

Document Information			
Document #	SD-WM-DP-305	**Revision**	0
Title	TANK 241TX104 CORES 230 & 231 ANALYTICAL RESULTS FOR THE FINAL REPORT		
Date	07/07/98		
Originator	STEEN FH	**Originator Co.**	RFSH
Recipient		**Recipient Co.**	
References	EDT-623160		
Keywords			
Projects	TFARM		
Other Information			

OPPORTUNISTIC ANALYSIS

APPENDIX A

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 230
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000649			TIC by Acid/Coulometry	ug/g	94.68	3.500	6.52e+03	7.29e+03	6.90e+03	11.2	108.1	5.000	n/a
S98T000649			TOC by Persulfate/Coulometry	ug/g	92.67	4.900	2.54e+03	2.75e+03	2.64e+03	7.94	104.0	40.00	n/a
S98T000681		A	Silver -ICP-Acid Digest	ug/g	87.00	<1.00e-02	17.10	15.80	16.45	7.90	93.10	5.940	n/a
S98T000681		A	Aluminium -ICP-Acid Digest	ug/g	90.60	1.50e-01	3.55e+04	3.34e+04	3.44e+04	6.10	1.55e+03	29.70	n/a
S98T000681		A	Arsenic -ICP-Acid Digest	ug/g	88.20	<1.00e-01	< 59.40	<6.09e1	n/a	n/a	97.00	59.40	n/a
S98T000681		A	Boron -ICP-Acid Digest	ug/g	97.60	7.40e-01	1.23e+02	159.0	141.0	25.5	95.40	29.70	n/a
S98T000681		A	Barium -ICP-Acid Digest	ug/g	90.60	<5.00e-02	< 29.70	<3.04e1	n/a	n/a	91.80	29.70	n/a
S98T000681		A	Beryllium -ICP-Acid Digest	ug/g	96.80	<5.00e-03	< 2.970	<3.04e0	n/a	n/a	96.60	2.970	n/a
S98T000681		A	Bismuth -ICP-Acid Digest	ug/g	86.40	<1.00e-01	3.93e+02	335.0	364.0	15.9	97.80	59.40	n/a
S98T000681		A	Calcium -ICP-Acid Digest	ug/g	94.20	7.77e-01	1.49e+02	207.0	178.0	32.6	98.80	59.40	n/a
S98T000681		A	Cadmium -ICP-Acid Digest	ug/g	87.20	<5.00e-03	8.810	8.010	8.410	9.51	94.00	2.970	n/a
S98T000681		A	Cerium -ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 59.40	<6.09e1	n/a	n/a	95.80	59.40	n/a
S98T000681		A	Cobalt -ICP-Acid Digest	ug/g	87.80	<2.00e-02	< 11.90	<1.22e1	n/a	n/a	92.80	11.90	n/a
S98T000681		A	Chromium -ICP-Acid Digest	ug/g	88.20	<1.00e-02	4.12e+03	3.89e+03	4.00e+03	5.74	195.2	5.940	n/a
S98T000681		A	Copper -ICP-Acid Digest	ug/g	85.80	2.10e-02	< 5.940	<6.09e0	n/a	n/a	85.60	5.940	n/a
S98T000681		A	Iron -ICP-Acid Digest	ug/g	87.00	1.38e-01	3.13e+03	2.93e+03	3.03e+03	6.60	185.0	29.70	n/a
S98T000681		A	Potassium -ICP-Acid Digest	ug/g	90.40	<5.00e-01	5.89e+02	608.0	598.5	3.17	104.2	297.0	n/a
S98T000681		A	Lanthanum -ICP-Acid Digest	ug/g	92.80	<5.00e-02	< 29.70	<3.04e1	n/a	n/a	95.20	29.70	n/a
S98T000681		A	Magnesium -ICP-Acid Digest	ug/g	88.80	<1.00e-01	4.18e+02	385.0	401.5	8.22	106.6	59.40	n/a
S98T000681		A	Manganese -ICP-Acid Digest	ug/g	88.00	<1.00e-02	1.84e+03	1.30e+03	1.57e+03	34.4	49.40	5.940	n/a
S98T000681		A	Molybdenum -ICP-Acid Digest	ug/g	90.20	<5.00e-02	< 29.70	<3.04e1	n/a	n/a	96.00	29.70	n/a
S98T000681		A	Sodium -ICP-Acid Digest	ug/g	113.8	2.400	1.72e+05	1.69e+05	1.70e+05	1.76	-1.690e3	59.40	n/a
S98T000681		A	Neodymium -ICP-Acid Digest	ug/g	91.00	<1.00e-01	< 59.40	<6.09e1	n/a	n/a	93.80	59.40	n/a
S98T000681		A	Nickel -ICP-Acid Digest	ug/g	88.60	<2.00e-02	18.60	15.00	16.80	21.4	94.80	11.90	n/a
S98T000681		A	Phosphorus -ICP-Acid Digest.	ug/g	87.60	<2.00e-01	7.90e+03	7.96e+03	7.93e+03	0.76	468.0	119.0	n/a
S98T000681		A	Lead -ICP-Acid Digest	ug/g	83.60	<1.00e-01	1.85e+02	165.0	175.0	11.4	95.80	59.40	n/a
S98T000681		A	Sulfur -ICP-Acid Digest	ug/g	88.40	1.43e-01	2.85e+02	314.0	299.5	9.68	103.8	59.40	n/a
S98T000681		A	Antimony -ICP-Acid Digest	ug/g	86.40	<6.00e-02	< 35.60	<3.65e1	n/a	n/a	94.60	35.70	n/a
S98T000681		A	Selenium -ICP-Acid Digest	ug/g	84.20	<1.00e-01	< 59.40	<6.09e1	n/a	n/a	93.20	59.40	n/a
S98T000681		A	Silicon -ICP-Acid Digest	ug/g	130.2	8.55e-01	2.52e+02	238.0	245.0	5.71	108.0	29.70	n/a
S98T000681		A	Samarium -ICP-Acid Digest	ug/g	90.00	<1.00e-01	< 59.40	<6.09e1	n/a	n/a	92.20	59.40	n/a
S98T000681		A	Strontium -ICP-Acid Digest	ug/g	93.60	<1.00e-02	< 5.940	<6.09e0	n/a	n/a	95.00	5.940	n/a
S98T000681		A	Titanium-ICP-Acid Digest	ug/g	84.00	<1.00e-02	8.380	7.910	8.145	5.77	85.40	5.940	n/a
S98T000681		A	Thallium -ICP-Acid Digest	ug/g	83.60	<2.00e-01	<1.19e+02	<1.22e2	n/a	n/a	89.60	119.0	n/a
S98T000681		A	Uranium -ICP-Acid Digest	ug/g	89.20	<5.00e-01	3.33e+03	3.12e+03	3.22e+03	6.51	153.0	297.0	n/a
S98T000681		A	Vanadium -ICP-Acid Digest	ug/g	91.20	<5.00e-02	< 29.70	<3.04e1	n/a	n/a	96.40	29.70	n/a
S98T000681		A	Zinc -ICP-Acid Digest	ug/g	81.20	9.90e-02	25.70	27.70	26.70	7.49	89.20	5.940	n/a
S98T000681		A	Zirconium -ICP-Acid Digest	ug/g	93.00	<1.00e-02	59.20	56.70	57.95	4.31	62.20	5.940	n/a
S98T000687		W	Fluoride-IC-Dionex 4000/4500	ug/g	95.25	<1.20e-02	3.06e+03	4.38e+03	3.72e+03	35.5	99.32	98.77	n/a
S98T000687		W	Chloride-IC-Dionex 4000/4500	ug/g	96.38	<1.70e-02	1.32e+03	1.43e+03	1.37e+03	8.00	95.75	139.9	n/a
S98T000687		W	Nitrite-IC - Dionex 4000/4500	ug/g	91.70	<1.08e-01	1.35e+04	1.47e+04	1.41e+04	8.51	91.33	888.9	n/a
S98T000687		W	Nitrate by IC-Dionex 4000/4500	ug/g	97.47	<1.39e-01	3.82e+05	3.81e+05	3.82e+05	0.26	110.9	1.14e+03	n/a
S98T000687		W	Phosphate-IC-Dionex 4000/4500	ug/g	94.50	<1.20e-01	2.91e+04	4.29e+04	3.60e+04	38.3	102.8	987.7	n/a
S98T000687		W	Sulfate by IC-Dionex 4000/4500	ug/g	99.21	<1.38e-01	<1.14e+03	<1.14e3	n/a	n/a	100.5	1.14e+03	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000687		W	Oxalate-IC-Dionex 4000/4500	ug/g	95.32	<1.05e-01	5.32e+03	6.12e+03	5.72e+03	14.0	96.63	864.3	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000665			TIC by Acid/Coulometry	ug/mL	92.53	9.00e-01	1.21e+04	1.12e+04	1.16e+04	7.73	n/a	5.000	n/a
S98T000665			TOC by Persulfate/Coulometry	ug/mL	92.33	1.800	1.37e+03	1.36e+03	1.36e+03	0.73	n/a	40.00	n/a
S98T000667		D	Silver-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	14.70	14.20	14.45	3.46	90.70	6.010	n/a
S98T000667		D	Aluminium-ICP-Acid Dil.	ug/mL	96.80	<5.00e-02	3.30e+03	3.29e+03	3.30e+03	0.30	85.30	30.10	n/a
S98T000667		D	Arsenic-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	103.0	60.10	n/a
S98T000667		D	Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	45.60	48.00	46.80	5.13	94.70	30.10	n/a
S98T000667		D	Barium-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	93.50	30.10	n/a
S98T000667		D	Beryllium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	96.80	3.000	n/a
S98T000667		D	Bismuth-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	91.90	60.10	n/a
S98T000667		D	Calcium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	75.50	<6.01e1	n/a	n/a	86.60	60.10	n/a
S98T000667		D	Cadmium-ICP-Acid Dil.	ug/mL	99.60	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	96.80	3.000	n/a
S98T000667		D	Cerium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	95.00	60.10	n/a
S98T000667		D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	98.90	12.00	n/a
S98T000667		D	Chromium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-02	3.72e+03	3.71e+03	3.72e+03	0.27	82.80	6.010	n/a
S98T000667		D	Copper-ICP-Acid Dil.	ug/mL	93.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	89.70	6.010	n/a
S98T000667		D	Iron-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	93.90	30.10	n/a
S98T000667		D	Potassium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-01	3.11e+03	3.14e+03	3.12e+03	0.96	83.20	300.0	n/a
S98T000667		D	Lanthanum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	95.40	30.10	n/a
S98T000667		D	Magnesium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	95.50	60.10	n/a
S98T000667		D	Manganese-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	92.50	6.010	n/a
S98T000667		D	Molybdenum-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	67.10	67.80	67.45	1.04	95.80	30.10	n/a
S98T000667		D	Sodium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-01	2.08e+05	2.06e+05	2.07e+05	0.97	-6.760e2	60.10	n/a
S98T000667		D	Neodymium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	93.00	60.10	n/a
S98T000667		D	Nickel-ICP-Acid Dil.	ug/mL	97.80	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	95.30	12.00	n/a
S98T000667		D	Phosphorus-ICP-Acid Dil.	ug/mL	97.60	<2.00e-01	1.15e+03	1.14e+03	1.14e+03	0.87	93.70	120.0	n/a
S98T000667		D	Lead-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	94.00	60.10	n/a
S98T000667		D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	1.51e+03	1.50e+03	1.50e+03	0.66	91.10	60.10	n/a
S98T000667		D	Antimony-ICP-Acid Dil.	ug/mL	99.00	<6.00e-02	< 36.10	<3.61e1	n/a	n/a	98.00	36.10	n/a
S98T000667		D	Selenium-ICP-Acid Dil.	ug/mL	93.20	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	106.0	60.10	n/a
S98T000667		D	Silicon-ICP-Acid Dil.	ug/mL	102.8	<5.00e-02	44.80	46.10	45.45	2.86	104.0	30.10	n/a
S98T000667		D	Samarium-ICP-Acid Dil.	ug/mL	94.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	91.20	60.10	n/a
S98T000667		D	Strontium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	96.80	6.010	n/a
S98T000667		D	Titanium-ICP-Acid Dil.	ug/mL	89.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	87.50	6.010	n/a
S98T000667		D	Thallium-ICP-Acid Dil.	ug/mL	94.40	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	91.40	120.0	n/a
S98T000667		D	Uranium-ICP-Acid Dil.	ug/mL	95.40	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	95.50	300.0	n/a
S98T000667		D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	98.70	30.10	n/a
S98T000667		D	Zinc-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	99.70	6.010	n/a
S98T000667		D	Zirconium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	96.70	6.010	n/a
S98T000667			Fluoride-IC-Dionex 4000/4500	ug/mL	108.8	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	116.8	122.4	n/a
S98T000667			Chloride-IC-Dionex 4000/4500	ug/mL	104.1	<1.70e-02	7.67e+03	7.93e+03	7.80e+03	3.33	110.1	173.4	n/a
S98T000667			Nitrite-IC - Dionex 4000/4500	ug/mL	105.2	<1.08e-01	7.28e+04	7.47e+04	7.38e+04	2.58	110.0	1.10e+03	n/a
S98T000667			Nitrate by IC-Dionex 4000/4500	ug/mL	104.5	<1.39e-01	2.70e+05	2.72e+05	2.71e+05	0.74	107.4	1.42e+03	n/a
S98T000667			Phosphate-IC-Dionex 4000/4500	ug/mL	106.2	<1.20e-01	4.72e+03	4.67e+03	4.70e+03	1.06	96.51	1.22e+03	n/a
S98T000667			Sulfate by IC-Dionex 4000/4500	ug/mL	107.3	<1.38e-01	4.47e+03	4.55e+03	4.51e+03	1.77	96.20	1.41e+03	n/a
S98T000667			Oxalate-IC-Dionex 4000/450	ug/mL	100.2	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	94.93	1.07e+03	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 230
SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000654			TIC by Acid/Coulometry	ug/g	99.00	4.700	2.54e+03	2.56e+03	2.55e+03	0.78	131.0	5.000	n/a
S98T000654			TOC by Persulfate/Coulometry	ug/g	85.67	12.30	3.15e+02	413.0	364.0	26.9	99.60	40.00	n/a
S98T000684		A	Silver -ICP-Acid Digest	ug/g	87.00	<1.00e-02	< 5.680	<5.53e0	n/a	n/a	95.90	5.670	n/a
S98T000684		A	Aluminium -ICP-Acid Digest	ug/g	90.60	1.50e-01	1.93e+05	2.00e+05	1.96e+05	3.56	240.0	28.40	n/a
S98T000684		A	Arsenic -ICP-Acid Digest	ug/g	88.20	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	95.20	56.70	n/a
S98T000684		A	Boron -ICP-Acid Digest	ug/g	97.60	7.40e-01	1.19e+02	147.0	133.0	21.1	96.40	28.40	n/a
S98T000684		A	Barium -ICP-Acid Digest	ug/g	90.60	<5.00e-02	< 28.40	<2.77e1	n/a	n/a	97.40	28.40	n/a
S98T000684		A	Beryllium -ICP-Acid Digest	ug/g	96.80	<5.00e-03	< 2.840	<2.77e0	n/a	n/a	103.2	2.840	n/a
S98T000684		A	Bismuth -ICP-Acid Digest	ug/g	86.40	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	94.00	56.70	n/a
S98T000684		A	Calcium -ICP-Acid Digest	ug/g	94.20	7.77e-01	4.98e+02	382.0	440.0	26.4	85.20	56.70	n/a
S98T000684		A	Cadmium -ICP-Acid Digest	ug/g	87.20	<5.00e-03	< 2.840	<2.77e0	n/a	n/a	95.00	2.840	n/a
S98T000684		A	Cerium -ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	99.40	56.70	n/a
S98T000684		A	Cobalt -ICP-Acid Digest	ug/g	87.80	<2.00e-02	< 11.40	<1.11e1	n/a	n/a	93.40	11.40	n/a
S98T000684		A	Chromium -ICP-Acid Digest	ug/g	88.20	<1.00e-02	1.11e+03	1.17e+03	1.14e+03	5.26	97.40	5.670	n/a
S98T000684		A	Copper -ICP-Acid Digest	ug/g	85.80	2.10e-02	15.50	15.60	15.55	0.64	93.80	5.670	n/a
S98T000684		A	Iron -ICP-Acid Digest	ug/g	87.00	1.38e-01	1.77e+02	197.0	187.0	10.7	87.20	28.40	n/a
S98T000684		A	Potassium -ICP-Acid Digest	ug/g	90.40	<5.00e-01	6.45e+02	622.0	633.5	3.63	99.20	284.0	n/a
S98T000684		A	Lanthanum -ICP-Acid Digest	ug/g	92.80	<5.00e-02	< 28.40	<2.77e1	n/a	n/a	102.2	28.40	n/a
S98T000684		A	Magnesium -ICP-Acid Digest	ug/g	88.80	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	99.00	56.70	n/a
S98T000684		A	Manganese -ICP-Acid Digest	ug/g	88.00	<1.00e-02	35.00	44.50	39.75	23.9	92.60	5.670	n/a
S98T000684		A	Molybdenum -ICP-Acid Digest	ug/g	90.20	<5.00e-02	< 28.40	<2.77e1	n/a	n/a	96.80	28.40	n/a
S98T000684		A	Sodium -ICP-Acid Digest	ug/g	113.8	2.400	6.45e+04	6.05e+04	6.25e+04	6.40	-5.960e2	56.70	n/a
S98T000684		A	Neodymium -ICP-Acid Digest	ug/g	91.00	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	100.0	56.70	n/a
S98T000684		A	Nickel -ICP-Acid Digest	ug/g	88.60	<2.00e-02	< 11.40	<1.11e1	n/a	n/a	95.80	11.40	n/a
S98T000684		A	Phosphorus -ICP-Acid Digest	ug/g	87.60	<2.00e-01	1.53e+03	1.23e+03	1.38e+03	21.7	61.20	114.0	n/a
S98T000684		A	Lead -ICP-Acid Digest	ug/g	83.60	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	92.20	56.70	n/a
S98T000684		A	Sulfur -ICP-Acid Digest	ug/g	88.40	1.43e-01	3.29e+02	336.0	332.5	2.11	97.00	56.70	n/a
S98T000684		A	Antimony -ICP-Acid Digest	ug/g	86.40	<6.00e-02	< 34.10	<3.32e1	n/a	n/a	94.80	34.20	n/a
S98T000684		A	Selenium -ICP-Acid Digest	ug/g	84.20	<1.00e-01	1.32e+02	122.0	127.0	7.87	90.80	56.70	n/a
S98T000684		A	Silicon -ICP-Acid Digest	ug/g	130.2	8.55e-01	1.37e+02	179.0	158.0	26.6	93.20	28.40	n/a
S98T000684		A	Samarium -ICP-Acid Digest	ug/g	90.00	<1.00e-01	< 56.80	<5.53e1	n/a	n/a	98.80	56.70	n/a
S98T000684		A	Strontium -ICP-Acid Digest	ug/g	93.60	<1.00e-02	< 5.680	<5.53e0	n/a	n/a	102.6	5.670	n/a
S98T000684		A	Titanium-ICP-Acid Digest	ug/g	84.00	<1.00e-02	< 5.680	<5.53e0	n/a	n/a	89.00	5.670	n/a
S98T000684		A	Thallium -ICP-Acid Digest	ug/g	83.60	<2.00e-01	<1.14e+02	<1.11e2	n/a	n/a	88.80	114.0	n/a
S98T000684		A	Uranium -ICP-Acid Digest	ug/g	89.20	<5.00e-01	<2.84e+02	<2.77e2	n/a	n/a	96.00	284.0	n/a
S98T000684		A	Vanadium -ICP-Acid Digest	ug/g	91.20	<5.00e-02	< 28.40	<2.77e1	n/a	n/a	96.60	28.40	n/a
S98T000684		A	Zinc -ICP-Acid Digest	ug/g	81.20	9.90e-02	22.40	17.80	20.10	22.9	88.00	5.670	n/a
S98T000684		A	Zirconium -ICP-Acid Digest	ug/g	93.00	<1.00e-02	< 5.680	<5.53e0	n/a	n/a	102.8	5.670	n/a
S98T000688		W	Fluoride-IC-Dionex 4000/4500	ug/g	94.92	<1.20e-02	2.10e+02	175.0	192.5	18.2	101.5	45.23	n/a
S98T000688		W	Chloride-IC-Dionex 4000/4500	ug/g	94.38	<1.70e-02	1.54e+03	1.39e+03	1.46e+03	10.2	95.00	64.09	n/a
S98T000688		W	Nitrite-IC - Dionex 4000/4500	ug/g	89.85	<1.08e-01	1.46e+04	1.32e+04	1.39e+04	10.1	88.38	407.2	n/a
S98T000688		W	Nitrate by IC-Dionex 4000/4500	ug/g	102.4	<1.39e-01	1.18e+05	1.12e+05	1.15e+05	5.22	69.70	523.9	n/a
S98T000688		W	Phosphate-IC-Dionex 4000/4500	ug/g	95.41	<1.20e-01	4.38e+03	3.98e+03	4.18e+03	9.57	85.32	452.3	n/a
S98T000688		W	Sulfate by IC-Dionex 4000/4500	ug/g	101.4	<1.38e-01	<5.20e+02	<5.16e2	n/a	n/a	101.9	520.2	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000688		W	Oxalate-IC-Dionex 4000/4500	ug/g	98.88	<1.05e-01	6.55e+02	490.0	572.5	28.8	95.32	395.9	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000666			TIC by Acid/Coulometry	ug/mL	95.35	2.00e-01	1.28e+04	1.21e+04	1.24e+04	5.62	88.10	5.000	n/a
S98T000666			TOC by Persulfate/Coulometry	ug/mL	92.33	1.700	1.40e+03	1.38e+03	1.39e+03	1.44	90.30	40.00	n/a
S98T000668		D	Silver-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	14.80	14.60	14.70	1.36	87.40	6.010	n/a
S98T000668		D	Aluminium-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	3.22e+03	3.04e+03	3.13e+03	5.75	67.30	30.10	n/a
S98T000668		D	Arsenic-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	100.0	60.10	n/a
S98T000668		D	Boron-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	49.00	51.30	50.15	4.59	95.40	30.10	n/a
S98T000668		D	Barium-ICP-Acid Dil.	ug/mL	100.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	93.90	30.10	n/a
S98T000668		D	Beryllium-ICP-Acid Dil.	ug/mL	102.0	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	97.90	3.000	n/a
S98T000668		D	Bismuth-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	98.20	60.10	n/a
S98T000668		D	Calcium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	100.0	60.10	n/a
S98T000668		D	Cadmium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	96.90	3.000	n/a
S98T000668		D	Cerium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	97.70	60.10	n/a
S98T000668		D	Cobalt-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	99.10	12.00	n/a
S98T000668		D	Chromium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	3.56e+03	3.44e+03	3.50e+03	3.43	74.60	6.010	n/a
S98T000668		D	Copper-ICP-Acid Dil.	ug/mL	96.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	90.60	6.010	n/a
S98T000668		D	Iron-ICP-Acid Dil.	ug/mL	97.60	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	94.00	30.10	n/a
S98T000668		D	Potassium-ICP-Acid Dil.	ug/mL	96.20	<5.00e-01	2.81e+03	2.76e+03	2.78e+03	1.80	93.90	300.0	n/a
S98T000668		D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	96.60	30.10	n/a
S98T000668		D	Magnesium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	98.10	60.10	n/a
S98T000668		D	Manganese-ICP-Acid Dil.	ug/mL	98.00	<1.00e-02	7.170	<6.01e0	n/a	n/a	91.70	6.010	n/a
S98T000668		D	Molybdenum-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	64.00	61.60	62.80	3.82	96.20	30.10	n/a
S98T000668		D	Sodium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	2.03e+05	1.94e+05	1.98e+05	4.53	-1.000e3	60.10	n/a
S98T000668		D	Neodymium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	93.50	60.10	n/a
S98T000668		D	Nickel-ICP-Acid Dil.	ug/mL	98.00	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	95.30	12.00	n/a
S98T000668		D	Phosphorus-ICP-Acid Dil.	ug/mL	99.20	<2.00e-01	1.23e+03	1.22e+03	1.22e+03	0.82	96.20	120.0	n/a
S98T000668		D	Lead-ICP-Acid Dil.	ug/mL	97.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	93.90	60.10	n/a
S98T000668		D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	1.44e+03	1.39e+03	1.42e+03	3.53	85.80	60.10	n/a
S98T000668		D	Antimony-ICP-Acid Dil.	ug/mL	99.80	<6.00e-02	< 36.10	<3.61e1	n/a	n/a	99.00	36.10	n/a
S98T000668		D	Selenium-ICP-Acid Dil.	ug/mL	94.60	<1.00e-01	< 60.10	63.40	n/a	n/a	112.0	60.10	n/a
S98T000668		D	Silicon-ICP-Acid Dil.	ug/mL	101.2	<5.00e-02	1.16e+02	59.80	87.90	63.9	93.10	30.10	n/a
S98T000668		D	Samarium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	93.40	60.10	n/a
S98T000668		D	Strontium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	97.30	6.010	n/a
S98T000668		D	Titanium-ICP-Acid Dil.	ug/mL	91.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000668		D	Thallium-ICP-Acid Dil.	ug/mL	97.00	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	94.50	120.0	n/a
S98T000668		D	Uranium-ICP-Acid Dil.	ug/mL	99.10	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	98.50	300.0	n/a
S98T000668		D	Vanadium-ICP-Acid Dil.	ug/mL	102.6	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	99.50	30.10	n/a
S98T000668		D	Zinc-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	99.60	6.010	n/a
S98T000668		D	Zirconium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	97.40	6.010	n/a
S98T000668			Fluoride-IC-Dionex 4000/4500	ug/mL	98.31	<1.20e-02	<1.22e+02	260.0	n/a	n/a	92.54	122.4	n/a
S98T000668			Chloride-IC-Dionex 4000/4500	ug/mL	101.4	<1.70e-02	7.77e+03	7.80e+03	7.78e+03	0.39	127.5	173.4	n/a
S98T000668			Nitrite-IC - Dionex 4000/4500	ug/mL	92.44	<1.08e-01	7.24e+04	7.27e+04	7.25e+04	0.41	106.8	1.10e+03	n/a
S98T000668			Nitrate by IC-Dionex 4000/4500	ug/mL	94.28	<1.39e-01	2.82e+05	2.83e+05	2.82e+05	0.35	98.65	1.42e+03	n/a
S98T000668			Phosphate-IC-Dionex 4000/4500	ug/mL	95.60	5.91e-01	4.25e+03	3.38e+03	3.81e+03	22.8	94.86	1.22e+03	n/a
S98T000668			Sulfate by IC-Dionex 4000/4500	ug/mL	94.78	<1.38e-01	1.65e+03	<1.41e3	n/a	n/a	94.30	1.41e+03	n/a
S98T000668			Oxalate-IC-Dionex 4000/450	ug/mL	100.4	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	99.25	1.07e+03	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 230
SEGMENT #: 2A

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000655			TIC by Acid/Coulometry	ug/g	99.00	4.700	2.79e+03	2.74e+03	2.76e+03	1.81	n/a	5.000	n/a
S98T000655			TOC by Persulfate/Coulometry	ug/g	85.67	12.30	4.26e+02	421.0	423.5	1.18	n/a	40.00	n/a
S98T000685		A	Silver -ICP-Acid Digest	ug/g	87.00	<1.00e-02	< 5.520	<5.32e0	n/a	n/a	n/a	5.520	n/a
S98T000685		A	Aluminium -ICP-Acid Digest	ug/g	90.60	1.50e-01	1.73e+05	1.96e+05	1.84e+05	12.5	n/a	27.60	n/a
S98T000685		A	Arsenic -ICP-Acid Digest	ug/g	88.20	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Boron -ICP-Acid Digest	ug/g	97.60	7.40e-01	91.50	147.0	119.2	46.5	n/a	27.60	n/a
S98T000685		A	Barium -ICP-Acid Digest	ug/g	90.60	<5.00e-02	< 27.60	<2.66e1	n/a	n/a	n/a	27.60	n/a
S98T000685		A	Beryllium -ICP-Acid Digest	ug/g	96.80	<5.00e-03	< 2.760	<2.66e0	n/a	n/a	n/a	2.760	n/a
S98T000685		A	Bismuth -ICP-Acid Digest	ug/g	86.40	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Calcium -ICP-Acid Digest	ug/g	94.20	7.77e-01	3.26e+02	330.0	328.0	1.22	n/a	55.20	n/a
S98T000685		A	Cadmium -ICP-Acid Digest	ug/g	87.20	<5.00e-03	< 2.760	<2.66e0	n/a	n/a	n/a	2.760	n/a
S98T000685		A	Cerium -ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Cobalt -ICP-Acid Digest	ug/g	87.80	<2.00e-02	< 11.00	<1.06e1	n/a	n/a	n/a	11.00	n/a
S98T000685		A	Chromium -ICP-Acid Digest	ug/g	88.20	<1.00e-02	1.08e+03	1.12e+03	1.10e+03	3.64	n/a	5.520	n/a
S98T000685		A	Copper -ICP-Acid Digest	ug/g	85.80	2.10e-02	12.90	16.90	14.90	26.8	n/a	5.520	n/a
S98T000685		A	Iron -ICP-Acid Digest	ug/g	87.00	1.38e-01	1.25e+02	4.90e+03	2.51e+03	190	n/a	27.60	n/a
S98T000685		A	Potassium -ICP-Acid Digest	ug/g	90.40	<5.00e-01	6.31e+02	875.0	753.0	32.4	n/a	276.0	n/a
S98T000685		A	Lanthanum -ICP-Acid Digest	ug/g	92.80	<5.00e-02	< 27.60	<2.66e1	n/a	n/a	n/a	27.60	n/a
S98T000685		A	Magnesium -ICP-Acid Digest	ug/g	88.80	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Manganese -ICP-Acid Digest	ug/g	88.00	<1.00e-02	24.70	53.60	39.15	73.8	n/a	5.520	n/a
S98T000685		A	Molybdenum -ICP-Acid Digest	ug/g	90.20	<5.00e-02	< 27.60	<2.66e1	n/a	n/a	n/a	27.60	n/a
S98T000685		A	Sodium -ICP-Acid Digest	ug/g	113.8	2.400	6.38e+04	5.51e+04	5.94e+04	14.6	n/a	55.20	n/a
S98T000685		A	Neodymium -ICP-Acid Digest	ug/g	91.00	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Nickel -ICP-Acid Digest	ug/g	88.60	<2.00e-02	< 11.00	<1.06e1	n/a	n/a	n/a	11.00	n/a
S98T000685		A	Phosphorus -ICP-Acid Digest	ug/g	87.60	<2.00e-01	7.84e+02	1.48e+03	1.13e+03	61.5	n/a	110.0	n/a
S98T000685		A	Lead -ICP-Acid Digest	ug/g	83.60	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Sulfur -ICP-Acid Digest	ug/g	88.40	1.43e-01	3.44e+02	343.0	343.5	0.29	n/a	55.20	n/a
S98T000685		A	Antimony -ICP-Acid Digest	ug/g	86.40	<6.00e-02	< 33.10	<3.19e1	n/a	n/a	n/a	33.00	n/a
S98T000685		A	Selenium -ICP-Acid Digest	ug/g	84.20	<1.00e-01	1.14e+02	115.0	114.5	0.87	n/a	55.20	n/a
S98T000685		A	Silicon -ICP-Acid Digest	ug/g	130.2	8.55e-01	2.20e+02	213.0	216.5	3.23	n/a	27.60	n/a
S98T000685		A	Samarium -ICP-Acid Digest	ug/g	90.00	<1.00e-01	< 55.20	<5.32e1	n/a	n/a	n/a	55.20	n/a
S98T000685		A	Strontium -ICP-Acid Digest	ug/g	93.60	<1.00e-02	< 5.520	<5.32e0	n/a	n/a	n/a	5.520	n/a
S98T000685		A	Titanium-ICP-Acid Digest	ug/g	84.00	<1.00e-02	< 5.520	<5.32e0	n/a	n/a	n/a	5.520	n/a
S98T000685		A	Thallium -ICP-Acid Digest	ug/g	83.60	<2.00e-01	<1.10e+02	<1.06e2	n/a	n/a	n/a	110.0	n/a
S98T000685		A	Uranium -ICP-Acid Digest	ug/g	89.20	<5.00e-01	<2.76e+02	<2.66e2	n/a	n/a	n/a	276.0	n/a
S98T000685		A	Vanadium -ICP-Acid Digest	ug/g	91.20	<5.00e-02	< 27.60	<2.66e1	n/a	n/a	n/a	27.60	n/a
S98T000685		A	Zinc -ICP-Acid Digest	ug/g	81.20	9.90e-02	21.80	25.80	23.80	16.8	n/a	5.520	n/a
S98T000685		A	Zirconium -ICP-Acid Digest	ug/g	93.00	<1.00e-02	< 5.520	<5.32e0	n/a	n/a	n/a	5.520	n/a
S98T000689		W	Fluoride-IC-Dionex 4000/4500	ug/g	94.92	<1.20e-02	55.32	65.50	60.41	16.9	n/a	49.43	n/a
S98T000689		W	Chloride-IC-Dionex 4000/4500	ug/g	94.38	<1.70e-02	1.26e+03	1.41e+03	1.34e+03	11.2	n/a	70.03	n/a
S98T000689		W	Nitrite-IC - Dionex 4000/4500	ug/g	89.85	<1.08e-01	1.24e+04	1.37e+04	1.30e+04	9.96	n/a	444.8	n/a
S98T000689		W	Nitrate by IC-Dionex 4000/4500	ug/g	99.50	<1.39e-01	1.90e+05	9.46e+04	1.42e+05	67.0	n/a	1.12e+03	n/a
S98T000689		W	Phosphate-IC-Dionex 4000/4500	ug/g	95.41	<1.20e-01	1.57e+03	1.50e+03	1.54e+03	4.56	n/a	494.3	n/a
S98T000689		W	Sulfate by IC-Dionex 4000/4500	ug/g	101.4	<1.38e-01	<5.68e+02	706.0	n/a	n/a	n/a	568.5	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000689		W	Oxalate-IC-Dionex 4000/4500	ug/g	98.88	<1.05e-01	4.64e+02	<4.25e2	n/a	n/a	n/a	432.6	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 230
SEGMENT #: FIELD BLANK

SEGMENT PORTION: Field Blank

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000500			TIC by Acid/Coulometry	ug/mL	92.53	9.00e-01	< 5.000	<5.00E+0	n/a	n/a	n/a	5.000	n/a
S98T000500			TOC by Persulfate/Coulometry	ug/mL	92.33	1.800	< 40.00	<4.00E+1	n/a	n/a	n/a	40.00	n/a
S98T000500	D		Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Aluminium-ICP-Acid Dil.	ug/mL	97.60	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Arsenic-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Boron-ICP-Acid Dil.	ug/mL	99.40	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Barium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Beryllium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-03	<5.00e-03	<5.00e-3	n/a	n/a	n/a	5.00e-03	n/a
S98T000500	D		Bismuth-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Calcium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	1.62e-01	1.08e-01	1.35e-01	40.0	n/a	1.00e-01	n/a
S98T000500	D		Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-03	<5.00e-03	<5.00e-3	n/a	n/a	n/a	5.00e-03	n/a
S98T000500	D		Cerium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Cobalt-ICP-Acid Dil.	ug/mL	100.2	<2.00e-02	<2.00e-02	<2.00e-2	n/a	n/a	n/a	2.00e-02	n/a
S98T000500	D		Chromium-ICP-Acid Dil.	ug/mL	95.40	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Copper-ICP-Acid Dil.	ug/mL	95.20	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Iron-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Potassium-ICP-Acid Dil.	ug/mL	98.00	<5.00e-01	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000500	D		Lanthanum-ICP-Acid Dil.	ug/mL	99.60	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Magnesium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Manganese-ICP-Acid Dil.	ug/mL	96.40	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Molybdenum-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Sodium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	8.23e-01	7.92e-01	8.07e-01	3.84	n/a	1.00e-01	n/a
S98T000500	D		Neodymium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Nickel-ICP-Acid Dil.	ug/mL	96.00	<2.00e-02	<2.00e-02	<2.00e-2	n/a	n/a	n/a	2.00e-02	n/a
S98T000500	D		Phosphorus-ICP-Acid Dil.	ug/mL	99.40	<2.00e-01	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S98T000500	D		Lead-ICP-Acid Dil.	ug/mL	96.20	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Sulfur-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Antimony-ICP-Acid Dil.	ug/mL	95.40	<6.00e-02	<6.00e-02	<6.00e-2	n/a	n/a	n/a	6.00e-02	n/a
S98T000500	D		Selenium-ICP-Acid Dil.	ug/mL	93.00	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Silicon-ICP-Acid Dil.	ug/mL	96.20	<5.00e-02	6.68e-01	6.49e-01	6.59e-01	2.89	n/a	5.00e-02	n/a
S98T000500	D		Samarium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000500	D		Strontium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Titanium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Thallium-ICP-Acid Dil.	ug/mL	94.40	<2.00e-01	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S98T000500	D		Uranium-ICP-Acid Dil.	ug/mL	96.70	<5.00e-01	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000500	D		Vanadium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000500	D		Zinc-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500	D		Zirconium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S98T000500			Fluoride-IC-Dionex 4000/4500	ug/mL	104.2	<1.20e-02	<1.20e-02	<1.20e-2	n/a	n/a	n/a	1.20e-02	n/a
S98T000500			Chloride-IC-Dionex 4000/4500	ug/mL	105.0	2.40e-02	2.80e-02	3.40e-02	3.10e-02	19.4	n/a	1.70e-02	n/a
S98T000500			Nitrite-IC - Dionex 4000/4500	ug/mL	102.6	<1.08e-01	<1.08e-01	<1.08e-1	n/a	n/a	n/a	1.08e-01	n/a
S98T000500			Nitrate by IC-Dionex 4000/4500	ug/mL	100.0	1.48e-01	2.19e-01	2.23e-01	2.21e-01	1.81	n/a	1.39e-01	n/a
S98T000500			Phosphate-IC-Dionex 4000/4500	ug/mL	99.45	<1.20e-01	<1.20e-01	<1.20e-1	n/a	n/a	n/a	1.20e-01	n/a
S98T000500			Sulfate by IC-Dionex 4000/4500	ug/mL	102.5	2.49e-01	1.78e-01	3.44e-01	2.61e-01	63.6	n/a	1.38e-01	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000500			Oxalate-IC-Dionex 4000/450	ug/mL	101.1	<1.05e-01	<1.05e-01	<1.05e-1	n/a	n/a	n/a	1.05e-01	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 230
SEGMENT #: LiBr

SEGMENT PORTION: Hydrostatic Head Fluid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000501		D	Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Aluminium-ICP-Acid Dil.	ug/mL	97.60	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Arsenic-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Boron-ICP-Acid Dil.	ug/mL	99.40	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Barium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Beryllium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-03	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000501		D	Bismuth-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Calcium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-03	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000501		D	Cerium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Cobalt-ICP-Acid Dil.	ug/mL	100.2	<2.00e-02	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S98T000501		D	Chromium-ICP-Acid Dil.	ug/mL	95.40	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Copper-ICP-Acid Dil.	ug/mL	95.20	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Iron-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Potassium-ICP-Acid Dil.	ug/mL	98.00	<5.00e-01	< 5.000	<5.00e0	n/a	n/a	n/a	5.000	n/a
S98T000501		D	Lanthanum-ICP-Acid Dil.	ug/mL	99.60	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Magnesium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Manganese-ICP-Acid Dil.	ug/mL	96.40	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Molybdenum-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Sodium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	5.200	5.530	5.365	6.15	n/a	1.000	n/a
S98T000501		D	Neodymium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Nickel-ICP-Acid Dil.	ug/mL	96.00	<2.00e-02	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S98T000501		D	Phosphorus-ICP-Acid Dil.	ug/mL	99.40	<2.00e-01	< 2.000	<2.00e0	n/a	n/a	n/a	2.000	n/a
S98T000501		D	Lead-ICP-Acid Dil.	ug/mL	96.20	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Sulfur-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	1.590	1.570	1.580	1.27	n/a	1.000	n/a
S98T000501		D	Antimony-ICP-Acid Dil.	ug/mL	95.40	<6.00e-02	<6.00e-01	<6.00e-1	n/a	n/a	n/a	6.00e-01	n/a
S98T000501		D	Selenium-ICP-Acid Dil.	ug/mL	93.00	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Silicon-ICP-Acid Dil.	ug/mL	96.20	<5.00e-02	2.450	2.470	2.460	0.81	n/a	5.00e-01	n/a
S98T000501		D	Samarium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000501		D	Strontium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Titanium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Thallium-ICP-Acid Dil.	ug/mL	94.40	<2.00e-01	< 2.000	<2.00e0	n/a	n/a	n/a	2.000	n/a
S98T000501		D	Uranium-ICP-Acid Dil.	ug/mL	96.70	<5.00e-01	< 5.000	<5.00e0	n/a	n/a	n/a	5.000	n/a
S98T000501		D	Vanadium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000501		D	Zinc-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501		D	Zirconium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000501			Fluoride-IC-Dionex 4000/4500	ug/mL	104.2	<1.20e-02	< 7.272	<7.27e0	n/a	n/a	n/a	7.272	n/a
S98T000501			Chloride-IC-Dionex 4000/4500	ug/mL	105.0	2.40e-02	12.78	14.50	13.64	12.5	n/a	10.30	n/a
S98T000501			Nitrite-IC - Dionex 4000/4500	ug/mL	102.6	<1.08e-01	< 65.45	<6.54e1	n/a	n/a	n/a	65.45	n/a
S98T000501			Nitrate by IC-Dionex 4000/4500	ug/mL	100.0	1.48e-01	< 84.23	<8.42e1	n/a	n/a	n/a	84.23	n/a
S98T000501			Phosphate-IC-Dionex 4000/4500	ug/mL	99.45	<1.20e-01	< 72.72	<7.27e1	n/a	n/a	n/a	72.72	n/a
S98T000501			Sulfate by IC-Dionex 4000/4500	ug/mL	102.5	2.49e-01	1.06e+02	150.0	127.8	34.4	n/a	83.63	n/a
S98T000501			Oxalate-IC-Dionex 4000/450	ug/mL	101.1	<1.05e-01	< 63.63	<6.36e1	n/a	n/a	n/a	63.63	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 231
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000743			TIC by Acid/Coulometry	ug/g	101.5	4.000	9.73e+03	9.55e+03	9.64e+03	1.87	98.20	5.000	n/a
S98T000743			TOC by Persulfate/Coulometry	ug/g	92.67	4.900	2.01e+03	1.68e+03	1.84e+03	17.9	100.0	40.00	n/a
S98T000752		A	Silver -ICP-Acid Digest	ug/g	93.60	<1.00e-02	11.10	10.90	11.00	1.82	93.60	5.910	n/a
S98T000752		A	Aluminium -ICP-Acid Digest	ug/g	96.80	1.53e-01	4.16e+03	4.49e+03	4.32e+03	7.63	104.0	29.50	n/a
S98T000752		A	Arsenic -ICP-Acid Digest	ug/g	94.00	<1.00e-01	< 59.00	<5.76e1	n/a	n/a	94.60	59.10	n/a
S98T000752		A	Boron -ICP-Acid Digest	ug/g	104.0	5.10e-01	76.70	132.0	104.3	53.0	101.6	29.50	n/a
S98T000752		A	Barium -ICP-Acid Digest	ug/g	94.20	<5.00e-02	< 29.50	<2.88e1	n/a	n/a	90.20	29.50	n/a
S98T000752		A	Beryllium -ICP-Acid Digest	ug/g	102.4	<5.00e-03	< 2.950	<2.88e0	n/a	n/a	96.00	2.950	n/a
S98T000752		A	Bismuth -ICP-Acid Digest	ug/g	92.80	<1.00e-01	69.40	78.50	73.95	12.3	92.00	59.10	n/a
S98T000752		A	Calcium -ICP-Acid Digest	ug/g	111.4	8.09e-01	2.75e+02	219.0	247.0	22.7	89.60	59.10	n/a
S98T000752		A	Cadmium -ICP-Acid Digest	ug/g	94.80	<5.00e-03	< 2.950	3.050	n/a	n/a	95.60	2.950	n/a
S98T000752		A	Cerium -ICP-Acid Digest	ug/g	96.20	<1.00e-01	< 59.00	<5.76e1	n/a	n/a	94.40	59.10	n/a
S98T000752		A	Cobalt -ICP-Acid Digest	ug/g	93.60	<2.00e-02	< 11.80	<1.15e1	n/a	n/a	93.40	11.80	n/a
S98T000752		A	Chromium -ICP-Acid Digest	ug/g	93.00	<1.00e-02	3.57e+03	3.73e+03	3.65e+03	4.38	101.0	5.910	n/a
S98T000752		A	Copper -ICP-Acid Digest	ug/g	91.00	<1.00e-02	< 5.900	<5.76e0	n/a	n/a	87.40	5.910	n/a
S98T000752		A	Iron -ICP-Acid Digest	ug/g	92.40	<5.00e-02	7.80e+02	879.0	829.5	11.9	94.60	29.50	n/a
S98T000752		A	Potassium -ICP-Acid Digest	ug/g	94.00	<5.00e-01	1.90e+03	1.83e+03	1.86e+03	3.75	97.60	295.0	n/a
S98T000752		A	Lanthanum -ICP-Acid Digest	ug/g	96.20	<5.00e-02	< 29.50	<2.88e1	n/a	n/a	93.40	29.50	n/a
S98T000752		A	Magnesium -ICP-Acid Digest	ug/g	97.00	<1.00e-01	72.90	77.60	75.25	6.25	94.80	59.10	n/a
S98T000752		A	Manganese -ICP-Acid Digest	ug/g	93.20	<1.00e-02	2.88e+02	327.0	307.5	12.7	93.20	5.910	n/a
S98T000752		A	Molybdenum -ICP-Acid Digest	ug/g	93.60	<5.00e-02	41.30	41.60	41.45	0.72	94.00	29.50	n/a
S98T000752		A	Sodium -ICP-Acid Digest	ug/g	128.0	1.150	1.43e+05	1.42e+05	1.42e+05	0.70	-3.400e0	59.10	n/a
S98T000752		A	Neodymium -ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 59.00	<5.76e1	n/a	n/a	91.80	59.10	n/a
S98T000752		A	Nickel -ICP-Acid Digest	ug/g	95.80	<2.00e-02	< 11.80	<1.15e1	n/a	n/a	95.80	11.80	n/a
S98T000752		A	Phosphorus -ICP-Acid Digest	ug/g	67.80	<2.00e-01	8.69e+02	883.0	876.0	1.60	63.80	118.0	n/a
S98T000752		A	Lead -ICP-Acid Digest	ug/g	91.60	<1.00e-01	< 59.00	71.80	n/a	n/a	99.60	59.10	n/a
S98T000752		A	Sulfur -ICP-Acid Digest	ug/g	96.40	1.25e-01	9.68e+02	965.0	966.5	0.31	97.60	59.10	n/a
S98T000752		A	Antimony -ICP-Acid Digest	ug/g	93.80	<6.00e-02	< 35.40	<3.45e1	n/a	n/a	93.20	35.40	n/a
S98T000752		A	Selenium -ICP-Acid Digest	ug/g	89.60	<1.00e-01	< 59.00	<5.76e1	n/a	n/a	90.60	59.10	n/a
S98T000752		A	Silicon -ICP-Acid Digest	ug/g	34.40	4.60e-01	1.15e+02	112.0	113.5	2.64	30.00	29.50	n/a
S98T000752		A	Samarium -ICP-Acid Digest	ug/g	92.60	<1.00e-01	< 59.00	<5.76e1	n/a	n/a	90.00	59.10	n/a
S98T000752		A	Strontium -ICP-Acid Digest	ug/g	97.20	<1.00e-02	< 5.900	<5.76e0	n/a	n/a	93.80	5.910	n/a
S98T000752		A	Titanium-ICP-Acid Digest	ug/g	86.80	<1.00e-02	< 5.900	<5.76e0	n/a	n/a	84.80	5.910	n/a
S98T000752		A	Thallium -ICP-Acid Digest	ug/g	90.00	<2.00e-01	<1.18e+02	<1.15e2	n/a	n/a	89.20	118.0	n/a
S98T000752		A	Uranium -ICP-Acid Digest	ug/g	91.20	<5.00e-01	5.75e+02	671.0	623.0	15.4	90.20	295.0	n/a
S98T000752		A	Vanadium -ICP-Acid Digest	ug/g	95.40	<5.00e-02	< 29.50	<2.88e1	n/a	n/a	94.60	29.50	n/a
S98T000752		A	Zinc -ICP-Acid Digest	ug/g	89.00	6.20e-02	19.90	354.0	186.9	179	90.40	5.910	n/a
S98T000752		A	Zirconium -ICP-Acid Digest	ug/g	54.40	<1.00e-02	13.80	16.40	15.10	17.2	48.20	5.910	n/a
S98T000755		W	Fluoride-IC-Dionex 4000/4500	ug/g	101.0	<1.20e-02	1.16e+02	<8.90e1	n/a	n/a	95.76	87.78	n/a
S98T000755		W	Chloride-IC-Dionex 4000/4500	ug/g	101.0	<1.70e-02	5.40e+03	5.21e+03	5.30e+03	3.58	105.1	124.4	n/a
S98T000755		W	Nitrite-IC - Dionex 4000/4500	ug/g	96.31	<1.08e-01	5.04e+04	4.88e+04	4.96e+04	3.23	105.7	790.1	n/a
S98T000755		W	Nitrate by IC-Dionex 4000/4500	ug/g	99.33	<1.39e-01	2.09e+05	2.01e+05	2.05e+05	3.90	106.4	1.02e+03	n/a
S98T000755		W	Phosphate-IC-Dionex 4000/4500	ug/g	102.6	1.42e-01	3.43e+03	3.70e+03	3.56e+03	7.57	101.7	877.8	n/a
S98T000755		W	Sulfate by IC-Dionex 4000/4500	ug/g	99.37	<1.38e-01	1.38e+03	1.38e+03	1.38e+03	0.00	100.9	1.01e+03	n/a

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Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000755		W	Oxalate-IC-Dionex 4000/4500	ug/g	100.0	<1.05e-01	3.46e+03	4.06e+03	3.76e+03	16.0	105.3	768.3	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000761			TIC by Acid/Coulometry	ug/mL	99.00	3.200	1.27e+04	1.37e+04	1.32e+04	7.58	106.0	5.000	n/a
S98T000761			TOC by Persulfate/Coulometry	ug/mL	88.67	13.90	1.19e+03	1.30e+03	1.24e+03	8.84	110.0	40.00	n/a
S98T000764		D	Silver-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	15.90	15.20	15.55	4.50	87.80	6.010	n/a
S98T000764		D	Aluminium-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	3.76e+03	3.61e+03	3.68e+03	4.07	138.0	30.10	n/a
S98T000764		D	Arsenic-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	104.0	60.10	n/a
S98T000764		D	Boron-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	58.60	54.10	56.35	7.99	96.50	30.10	n/a
S98T000764		D	Barium-ICP-Acid Dil.	ug/mL	100.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	95.20	30.10	n/a
S98T000764		D	Beryllium-ICP-Acid Dil.	ug/mL	102.0	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	98.60	3.000	n/a
S98T000764		D	Bismuth-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	106.0	60.10	n/a
S98T000764		D	Calcium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	103.0	60.10	n/a
S98T000764		D	Cadmium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	97.40	3.000	n/a
S98T000764		D	Cerium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	99.80	60.10	n/a
S98T000764		D	Cobalt-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	99.70	12.00	n/a
S98T000764		D	Chromium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	4.17e+03	4.01e+03	4.09e+03	3.91	135.0	6.010	n/a
S98T000764		D	Copper-ICP-Acid Dil.	ug/mL	96.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	90.60	6.010	n/a
S98T000764		D	Iron-ICP-Acid Dil.	ug/mL	97.60	<5.00e-02	3.25e+02	288.0	306.5	12.1	120.0	30.10	n/a
S98T000764		D	Potassium-ICP-Acid Dil.	ug/mL	96.20	<5.00e-01	2.70e+03	2.67e+03	2.68e+03	1.12	107.0	300.0	n/a
S98T000764		D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	97.50	30.10	n/a
S98T000764		D	Magnesium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	102.0	60.10	n/a
S98T000764		D	Manganese-ICP-Acid Dil.	ug/mL	98.00	<1.00e-02	1.41e+02	127.0	134.0	10.4	105.0	6.010	n/a
S98T000764		D	Molybdenum-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	62.80	61.10	61.95	2.74	96.10	30.10	n/a
S98T000764		D	Sodium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	2.11e+05	2.03e+05	2.07e+05	3.86	-6.800e2	60.10	n/a
S98T000764		D	Neodymium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	95.10	60.10	n/a
S98T000764		D	Nickel-ICP-Acid Dil.	ug/mL	98.00	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	95.30	12.00	n/a
S98T000764		D	Phosphorus-ICP-Acid Dil.	ug/mL	99.20	<2.00e-01	1.26e+03	1.25e+03	1.26e+03	0.80	97.70	120.0	n/a
S98T000764		D	Lead-ICP-Acid Dil.	ug/mL	97.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	102.0	60.10	n/a
S98T000764		D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	1.43e+03	1.37e+03	1.40e+03	4.29	84.30	60.10	n/a
S98T000764		D	Antimony-ICP-Acid Dil.	ug/mL	99.80	<6.00e-02	< 36.10	<3.61e1	n/a	n/a	98.40	36.10	n/a
S98T000764		D	Selenium-ICP-Acid Dil.	ug/mL	94.60	<1.00e-01	< 60.10	67.90	n/a	n/a	112.0	60.10	n/a
S98T000764		D	Silicon-ICP-Acid Dil.	ug/mL	101.2	<5.00e-02	91.10	78.10	84.60	15.4	102.0	30.10	n/a
S98T000764		D	Samarium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	94.20	60.10	n/a
S98T000764		D	Strontium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	97.90	6.010	n/a
S98T000764		D	Titanium-ICP-Acid Dil.	ug/mL	91.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000764		D	Thallium-ICP-Acid Dil.	ug/mL	97.00	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	95.80	120.0	n/a
S98T000764		D	Uranium-ICP-Acid Dil.	ug/mL	99.10	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	122.0	300.0	n/a
S98T000764		D	Vanadium-ICP-Acid Dil.	ug/mL	102.6	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	99.70	30.10	n/a
S98T000764		D	Zinc-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	99.90	6.010	n/a
S98T000764		D	Zirconium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-02	6.910	6.480	6.695	6.42	98.10	6.010	n/a
S98T000764			Fluoride-IC-Dionex 4000/4500	ug/mL	97.97	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	89.66	122.4	n/a
S98T000764			Chloride-IC-Dionex 4000/4500	ug/mL	94.62	<1.70e-02	7.11e+03	7.14e+03	7.13e+03	0.42	104.1	173.4	n/a
S98T000764			Nitrite-IC - Dionex 4000/4500	ug/mL	93.36	<1.08e-01	6.68e+04	6.69e+04	6.69e+04	0.15	104.2	1.10e+03	n/a
S98T000764			Nitrate by IC-Dionex 4000/4500	ug/mL	98.48	<1.39e-01	2.85e+05	2.83e+05	2.84e+05	0.70	99.49	1.42e+03	n/a
S98T000764			Phosphate-IC-Dionex 4000/4500	ug/mL	95.96	<1.20e-01	4.52e+03	4.73e+03	4.62e+03	4.54	92.11	1.22e+03	n/a
S98T000764			Sulfate by IC-Dionex 4000/4500	ug/mL	101.1	<1.38e-01	2.29e+03	2.59e+03	2.44e+03	12.3	105.5	1.41e+03	n/a
S98T000764			Oxalate-IC-Dionex 4000/450	ug/mL	97.17	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	98.31	1.07e+03	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 231
SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000744			TIC by Acid/Coulometry	ug/g	99.17	6.600	3.92e+03	3.30e+03	3.61e+03	17.2	n/a	5.000	n/a
S98T000744			TOC by Persulfate/Coulometry	ug/g	97.00	4.400	1.44e+03	1.30e+03	1.37e+03	10.2	n/a	40.00	n/a
S98T000753		A	Silver -ICP-Acid Digest	ug/g	93.60	<1.00e-02	25.60	16.50	21.05	43.2	n/a	5.400	n/a
S98T000753		A	Aluminium -ICP-Acid Digest	ug/g	96.80	1.53e-01	9.36e+04	8.23e+04	8.80e+04	12.8	n/a	27.10	n/a
S98T000753		A	Arsenic -ICP-Acid Digest	ug/g	94.00	<1.00e-01	< 54.10	<5.35e1	n/a	n/a	n/a	54.00	n/a
S98T000753		A	Boron -ICP-Acid Digest	ug/g	104.0	5.10e-01	42.50	41.30	41.90	2.86	n/a	27.10	n/a
S98T000753		A	Barium -ICP-Acid Digest	ug/g	94.20	<5.00e-02	< 27.10	<2.67e1	n/a	n/a	n/a	27.10	n/a
S98T000753		A	Beryllium -ICP-Acid Digest	ug/g	102.4	<5.00e-03	< 2.710	<2.67e0	n/a	n/a	n/a	2.710	n/a
S98T000753		A	Bismuth -ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 54.10	<5.35e1	n/a	n/a	n/a	54.00	n/a
S98T000753		A	Calcium -ICP-Acid Digest	ug/g	111.4	8.09e-01	5.81e+02	619.0	600.0	6.33	n/a	54.00	n/a
S98T000753		A	Cadmium -ICP-Acid Digest	ug/g	94.80	<5.00e-03	4.710	3.830	4.270	20.6	n/a	2.710	n/a
S98T000753		A	Cerium -ICP-Acid Digest	ug/g	96.20	<1.00e-01	< 54.10	<5.35e1	n/a	n/a	n/a	54.00	n/a
S98T000753		A	Cobalt -ICP-Acid Digest	ug/g	93.60	<2.00e-02	< 10.80	<1.07e1	n/a	n/a	n/a	10.80	n/a
S98T000753		A	Chromium -ICP-Acid Digest	ug/g	93.00	<1.00e-02	2.14e+03	1.96e+03	2.05e+03	8.78	n/a	5.400	n/a
S98T000753		A	Copper -ICP-Acid Digest	ug/g	91.00	<1.00e-02	8.470	7.410	7.940	13.4	n/a	5.400	n/a
S98T000753		A	Iron -ICP-Acid Digest	ug/g	92.40	<5.00e-02	6.08e+03	1.70e+03	3.89e+03	113	n/a	27.10	n/a
S98T000753		A	Potassium -ICP-Acid Digest	ug/g	94.00	<5.00e-01	6.88e+02	672.0	680.0	2.35	n/a	271.0	n/a
S98T000753		A	Lanthanum -ICP-Acid Digest	ug/g	96.20	<5.00e-02	< 27.10	<2.67e1	n/a	n/a	n/a	27.10	n/a
S98T000753		A	Magnesium -ICP-Acid Digest	ug/g	97.00	<1.00e-01	1.42e+02	149.0	145.5	4.81	n/a	54.00	n/a
S98T000753		A	Manganese -ICP-Acid Digest	ug/g	93.20	<1.00e-02	4.20e+02	412.0	416.0	1.92	n/a	5.400	n/a
S98T000753		A	Molybdenum -ICP-Acid Digest	ug/g	93.60	<5.00e-02	< 27.10	<2.67e1	n/a	n/a	n/a	27.10	n/a
S98T000753		A	Sodium -ICP-Acid Digest	ug/g	128.0	1.150	1.25e+05	1.36e+05	1.30e+05	8.43	n/a	54.00	n/a
S98T000753		A	Neodymium -ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 54.10	<5.35e1	n/a	n/a	n/a	54.00	n/a
S98T000753		A	Nickel -ICP-Acid Digest	ug/g	95.80	<2.00e-02	12.20	10.80	11.50	12.2	n/a	10.80	n/a
S98T000753		A	Phosphorus -ICP-Acid Digest	ug/g	67.80	<2.00e-01	9.51e+03	1.23e+04	1.09e+04	25.6	n/a	108.0	n/a
S98T000753		A	Lead -ICP-Acid Digest	ug/g	91.60	<1.00e-01	57.60	<5.35e1	n/a	n/a	n/a	54.00	n/a
S98T000753		A	Sulfur -ICP-Acid Digest	ug/g	96.40	1.25e-01	3.57e+02	322.0	339.5	10.3	n/a	54.00	n/a
S98T000753		A	Antimony -ICP-Acid Digest	ug/g	93.80	<6.00e-02	< 32.50	<3.21e1	n/a	n/a	n/a	32.40	n/a
S98T000753		A	Selenium -ICP-Acid Digest	ug/g	89.60	<1.00e-01	58.80	54.30	56.55	7.96	n/a	54.00	n/a
S98T000753		A	Silicon -ICP-Acid Digest	ug/g	34.40	4.60e-01	5.43e+02	706.0	624.5	26.1	n/a	27.10	n/a
S98T000753		A	Samarium -ICP-Acid Digest	ug/g	92.60	<1.00e-01	< 54.10	<5.35e1	n/a	n/a	n/a	54.00	n/a
S98T000753		A	Strontium -ICP-Acid Digest	ug/g	97.20	<1.00e-02	< 5.410	<5.35e0	n/a	n/a	n/a	5.400	n/a
S98T000753		A	Titanium-ICP-Acid Digest	ug/g	86.80	<1.00e-02	90.20	75.30	82.75	18.0	n/a	5.400	n/a
S98T000753		A	Thallium -ICP-Acid Digest	ug/g	90.00	<2.00e-01	<1.08e+02	<1.07e2	n/a	n/a	n/a	108.0	n/a
S98T000753		A	Uranium -ICP-Acid Digest	ug/g	91.20	<5.00e-01	<2.71e+02	<2.67e2	n/a	n/a	n/a	271.0	n/a
S98T000753		A	Vanadium -ICP-Acid Digest	ug/g	95.40	<5.00e-02	< 27.10	<2.67e1	n/a	n/a	n/a	27.10	n/a
S98T000753		A	Zinc -ICP-Acid Digest	ug/g	89.00	6.20e-02	17.60	12.10	14.85	37.0	n/a	5.400	n/a
S98T000753		A	Zirconium -ICP-Acid Digest	ug/g	54.40	<1.00e-02	8.550	7.890	8.220	8.03	n/a	5.400	n/a
S98T001733		W	Fluoride-IC-Dionex 4000/4500	ug/g	102.2	<1.20e-02	1.85e+03	5.45e+03	3.65e+03	98.6	n/a	121.1	n/a
S98T001733		W	Chloride-IC-Dionex 4000/4500	ug/g	99.38	2.60e-02	1.20e+03	1.10e+03	1.15e+03	8.70	n/a	171.6	n/a
S98T001733		W	Nitrite-IC - Dionex 4000/4500	ug/g	99.63	<1.08e-01	1.07e+04	9.88e+03	1.03e+04	7.97	n/a	1.09e+03	n/a
S98T001733		W	Nitrate by IC-Dionex 4000/4500	ug/g	97.14	<1.39e-01	4.03e+05	2.84e+05	3.43e+05	34.6	n/a	1.40e+03	n/a
S98T001733		W	Phosphate-IC-Dionex 4000/4500	ug/g	100.2	<1.20e-01	2.37e+04	5.06e+04	3.72e+04	72.4	n/a	1.21e+03	n/a
S98T001733		W	Sulfate by IC-Dionex 4000/4500	ug/g	103.0	<1.38e-01	<1.39e+03	<1.39e3	n/a	n/a	n/a	1.39e+03	n/a

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Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T001733		W	Oxalate-IC-Dionex 4000/4500	ug/g	99.25	<1.05e-01	4.22e+03	5.00e+03	4.61e+03	16.9	n/a	1.06e+03	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000762			TIC by Acid/Coulometry	ug/mL	95.35	2.00e-01	1.28e+04	1.28e+04	1.28e+04	0.00	n/a	5.000	n/a
S98T000762			TOC by Persulfate/Coulometry	ug/mL	92.33	1.700	1.43e+03	1.51e+03	1.47e+03	5.44	n/a	40.00	n/a
S98T000765		D	Silver-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	14.50	14.30	14.40	1.39	n/a	6.010	n/a
S98T000765		D	Aluminium-ICP-Acid Dil.	ug/mL	96.80	<5.00e-02	2.85e+03	2.89e+03	2.87e+03	1.39	n/a	30.10	n/a
S98T000765		D	Arsenic-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	45.10	47.70	46.40	5.60	n/a	30.10	n/a
S98T000765		D	Barium-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000765		D	Beryllium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	n/a	3.000	n/a
S98T000765		D	Bismuth-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Calcium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Cadmium-ICP-Acid Dil.	ug/mL	99.60	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	n/a	3.000	n/a
S98T000765		D	Cerium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S98T000765		D	Chromium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-02	3.17e+03	3.21e+03	3.19e+03	1.25	n/a	6.010	n/a
S98T000765		D	Copper-ICP-Acid Dil.	ug/mL	93.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765		D	Iron-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000765		D	Potassium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-01	2.61e+03	2.79e+03	2.70e+03	6.67	n/a	300.0	n/a
S98T000765		D	Lanthanum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000765		D	Magnesium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Manganese-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765		D	Molybdenum-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	62.00	61.90	61.95	0.16	n/a	30.10	n/a
S98T000765		D	Sodium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-01	1.99e+05	2.02e+05	2.00e+05	1.50	n/a	60.10	n/a
S98T000765		D	Neodymium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Nickel-ICP-Acid Dil.	ug/mL	97.80	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S98T000765		D	Phosphorus-ICP-Acid Dil.	ug/mL	97.60	<2.00e-01	1.16e+03	1.19e+03	1.18e+03	2.55	n/a	120.0	n/a
S98T000765		D	Lead-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	1.36e+03	1.41e+03	1.38e+03	3.61	n/a	60.10	n/a
S98T000765		D	Antimony-ICP-Acid Dil.	ug/mL	99.00	<6.00e-02	< 36.10	<3.61e1	n/a	n/a	n/a	36.10	n/a
S98T000765		D	Selenium-ICP-Acid Dil.	ug/mL	93.20	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Silicon-ICP-Acid Dil.	ug/mL	102.8	<5.00e-02	86.50	76.20	81.35	12.7	n/a	30.10	n/a
S98T000765		D	Samarium-ICP-Acid Dil.	ug/mL	94.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000765		D	Strontium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765		D	Titanium-ICP-Acid Dil.	ug/mL	89.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765		D	Thallium-ICP-Acid Dil.	ug/mL	94.40	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S98T000765		D	Uranium-ICP-Acid Dil.	ug/mL	95.40	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	n/a	300.0	n/a
S98T000765		D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000765		D	Zinc-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765		D	Zirconium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000765			Fluoride-IC-Dionex 4000/4500	ug/mL	108.8	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	n/a	122.4	n/a
S98T000765			Chloride-IC-Dionex 4000/4500	ug/mL	104.1	<1.70e-02	1.96e+04	1.90e+04	1.93e+04	3.11	n/a	173.4	n/a
S98T000765			Nitrite-IC - Dionex 4000/4500	ug/mL	105.2	<1.08e-01	1.87e+05	1.82e+05	1.84e+05	2.71	n/a	1.10e+03	n/a
S98T000765			Nitrate by IC-Dionex 4000/4500	ug/mL	104.5	<1.39e-01	6.48e+05	6.46e+05	6.47e+05	0.31	n/a	1.42e+03	n/a
S98T000765			Phosphate-IC-Dionex 4000/4500	ug/mL	106.2	<1.20e-01	1.15e+04	1.04e+04	1.09e+04	10.0	n/a	1.22e+03	n/a
S98T000765			Sulfate by IC-Dionex 4000/4500	ug/mL	107.3	<1.38e-01	1.15e+04	7.85e+03	9.68e+03	37.7	n/a	1.41e+03	n/a
S98T000765			Oxalate-IC-Dionex 4000/450	ug/mL	100.2	<1.05e-01	1.87e+03	1.87e+03	1.87e+03	0.00	n/a	1.07e+03	n/a

Appendix A. Opportunistic Analyte Results.
TX-104

CORE NUMBER: 231
SEGMENT #: 2A

SEGMENT PORTION: Liner Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000779		D	Silver-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	<1.00e-01	1.06e-01	n/a	n/a	n/a	1.00e-01	n/a
S98T000779		D	Aluminium-ICP-Acid Dil.	ug/mL	96.80	<5.00e-02	8.550	8.770	8.660	2.54	n/a	5.00e-01	n/a
S98T000779		D	Arsenic-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	3.560	3.670	3.615	3.04	n/a	5.00e-01	n/a
S98T000779		D	Barium-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000779		D	Beryllium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-03	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000779		D	Bismuth-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Calcium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Cadmium-ICP-Acid Dil.	ug/mL	99.60	<5.00e-03	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S98T000779		D	Cerium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S98T000779		D	Chromium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-02	6.120	6.280	6.200	2.58	n/a	1.00e-01	n/a
S98T000779		D	Copper-ICP-Acid Dil.	ug/mL	93.80	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000779		D	Iron-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	<5.00e-01	1.640	n/a	n/a	n/a	5.00e-01	n/a
S98T000779		D	Potassium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-01	21.40	21.80	21.60	1.85	n/a	5.000	n/a
S98T000779		D	Lanthanum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000779		D	Magnesium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Manganese-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000779		D	Molybdenum-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	5.72e-01	5.55e-01	5.64e-01	3.02	n/a	5.00e-01	n/a
S98T000779		D	Sodium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-01	1.25e+03	1.27e+03	1.26e+03	1.59	n/a	1.000	n/a
S98T000779		D	Neodymium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Nickel-ICP-Acid Dil.	ug/mL	97.80	<2.00e-02	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S98T000779		D	Phosphorus-ICP-Acid Dil.	ug/mL	97.60	<2.00e-01	12.00	12.10	12.05	0.83	n/a	2.000	n/a
S98T000779		D	Lead-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	20.30	20.40	20.35	0.49	n/a	1.000	n/a
S98T000779		D	Antimony-ICP-Acid Dil.	ug/mL	99.00	<6.00e-02	<6.00e-01	<6.00e-1	n/a	n/a	n/a	6.00e-01	n/a
S98T000779		D	Selenium-ICP-Acid Dil.	ug/mL	93.20	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Silicon-ICP-Acid Dil.	ug/mL	102.8	<5.00e-02	13.10	13.30	13.20	1.52	n/a	5.00e-01	n/a
S98T000779		D	Samarium-ICP-Acid Dil.	ug/mL	94.80	<1.00e-01	< 1.000	<1.00e0	n/a	n/a	n/a	1.000	n/a
S98T000779		D	Strontium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000779		D	Titanium-ICP-Acid Dil.	ug/mL	89.60	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000779		D	Thallium-ICP-Acid Dil.	ug/mL	94.40	<2.00e-01	< 2.000	<2.00e0	n/a	n/a	n/a	2.000	n/a
S98T000779		D	Uranium-ICP-Acid Dil.	ug/mL	95.40	<5.00e-01	< 5.000	<5.00e0	n/a	n/a	n/a	5.000	n/a
S98T000779		D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S98T000779		D	Zinc-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000779		D	Zirconium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S98T000779			Fluoride-IC-Dionex 4000/4500	ug/mL	97.97	<1.20e-02	< 13.33	19.40	n/a	n/a	n/a	13.33	n/a
S98T000779			Chloride-IC-Dionex 4000/4500	ug/mL	94.62	<1.70e-02	36.06	48.40	42.23	29.1	n/a	18.89	n/a
S98T000779			Nitrite-IC - Dionex 4000/4500	ug/mL	93.36	<1.08e-01	4.50e+02	482.0	465.9	6.87	n/a	120.0	n/a
S98T000779			Nitrate by IC-Dionex 4000/4500	ug/mL	98.48	<1.39e-01	1.58e+03	1.67e+03	1.63e+03	5.54	n/a	154.4	n/a
S98T000779			Phosphate-IC-Dionex 4000/4500	ug/mL	95.96	<1.20e-01	<1.33e+02	<1.33e2	n/a	n/a	n/a	133.3	n/a
S98T000779			Sulfate by IC-Dionex 4000/4500	ug/mL	101.1	<1.38e-01	<1.53e+02	<1.53e2	n/a	n/a	n/a	153.3	n/a
S98T000779			Oxalate-IC-Dionex 4000/450	ug/mL	97.17	<1.05e-01	<1.17e+02	<1.17e2	n/a	n/a	n/a	116.7	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000745			TIC by Acid/Coulometry	ug/g	101.3	2.200	2.82e+03	2.58e+03	2.70e+03	8.89	88.90	5.000	n/a
S98T000745			TOC by Persulfate/Coulometry	ug/g	90.33	1.600	5.62e+02	650.0	606.0	14.5	104.0	40.00	n/a
S98T000754		A	Silver -ICP-Acid Digest	ug/g	93.60	<1.00e-02	17.10	14.70	15.90	15.1	91.40	5.880	n/a
S98T000754		A	Aluminium -ICP-Acid Digest	ug/g	96.80	1.53e-01	3.81e+04	6.46e+04	5.14e+04	51.6	3.92e+03	29.50	n/a
S98T000754		A	Arsenic -ICP-Acid Digest	ug/g	94.00	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	99.60	58.80	n/a
S98T000754		A	Boron -ICP-Acid Digest	ug/g	104.0	5.10e-01	46.00	85.30	65.65	59.9	93.00	29.50	n/a
S98T000754		A	Barium -ICP-Acid Digest	ug/g	94.20	<5.00e-02	< 29.50	<2.97e1	n/a	n/a	95.20	29.50	n/a
S98T000754		A	Beryllium -ICP-Acid Digest	ug/g	102.4	<5.00e-03	< 2.950	<2.97e0	n/a	n/a	100.4	2.950	n/a
S98T000754		A	Bismuth -ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	95.80	58.80	n/a
S98T000754		A	Calcium -ICP-Acid Digest	ug/g	111.4	8.09e-01	2.33e+02	342.0	287.5	37.9	103.4	58.80	n/a
S98T000754		A	Cadmium -ICP-Acid Digest	ug/g	94.80	<5.00e-03	< 2.950	<2.97e0	n/a	n/a	96.40	2.950	n/a
S98T000754		A	Cerium -ICP-Acid Digest	ug/g	96.20	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	97.00	58.80	n/a
S98T000754		A	Cobalt -ICP-Acid Digest	ug/g	93.60	<2.00e-02	< 11.80	<1.19e1	n/a	n/a	94.00	11.80	n/a
S98T000754		A	Chromium -ICP-Acid Digest	ug/g	93.00	<1.00e-02	1.09e+03	1.41e+03	1.25e+03	25.6	151.6	5.880	n/a
S98T000754		A	Copper -ICP-Acid Digest	ug/g	91.00	<1.00e-02	6.560	9.950	8.255	41.1	92.00	5.880	n/a
S98T000754		A	Iron -ICP-Acid Digest	ug/g	92.40	<5.00e-02	1.12e+03	1.76e+03	1.44e+03	44.4	132.4	29.50	n/a
S98T000754		A	Potassium -ICP-Acid Digest	ug/g	94.00	<5.00e-01	<2.95e+02	407.0	n/a	n/a	152.6	295.0	n/a
S98T000754		A	Lanthanum -ICP-Acid Digest	ug/g	96.20	<5.00e-02	< 29.50	<2.97e1	n/a	n/a	98.20	29.50	n/a
S98T000754		A	Magnesium -ICP-Acid Digest	ug/g	97.00	<1.00e-01	67.60	104.0	85.80	42.4	98.80	58.80	n/a
S98T000754		A	Manganese -ICP-Acid Digest	ug/g	93.20	<1.00e-02	1.34e+02	217.0	175.5	47.3	101.8	5.880	n/a
S98T000754		A	Molybdenum -ICP-Acid Digest	ug/g	93.60	<5.00e-02	< 29.50	<2.97e1	n/a	n/a	97.20	29.50	n/a
S98T000754		A	Sodium -ICP-Acid Digest	ug/g	128.0	1.150	1.91e+05	1.64e+05	1.78e+05	15.2	-3.720e3	58.80	n/a
S98T000754		A	Neodymium -ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	96.00	58.80	n/a
S98T000754		A	Nickel -ICP-Acid Digest	ug/g	95.80	<2.00e-02	< 11.80	<1.19e1	n/a	n/a	96.20	11.80	n/a
S98T000754		A	Phosphorus -ICP-Acid Digest	ug/g	67.80	<2.00e-01	6.27e+03	9.74e+03	8.00e+03	43.3	115.4	118.0	n/a
S98T000754		A	Lead -ICP-Acid Digest	ug/g	91.60	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	95.00	58.80	n/a
S98T000754		A	Sulfur -ICP-Acid Digest	ug/g	96.40	1.25e-01	1.65e+02	220.0	192.5	28.6	109.8	58.80	n/a
S98T000754		A	Antimony -ICP-Acid Digest	ug/g	93.80	<6.00e-02	< 35.40	<3.56e1	n/a	n/a	89.60	35.40	n/a
S98T000754		A	Selenium -ICP-Acid Digest	ug/g	89.60	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	97.20	58.80	n/a
S98T000754		A	Silicon -ICP-Acid Digest	ug/g	34.40	4.60e-01	4.24e+02	633.0	528.5	39.5	32.60	29.50	n/a
S98T000754		A	Samarium -ICP-Acid Digest	ug/g	92.60	<1.00e-01	< 58.90	<5.93e1	n/a	n/a	94.80	58.80	n/a
S98T000754		A	Strontium -ICP-Acid Digest	ug/g	97.20	<1.00e-02	< 5.890	<5.93e0	n/a	n/a	98.80	5.880	n/a
S98T000754		A	Titanium-ICP-Acid Digest	ug/g	86.80	<1.00e-02	46.20	55.00	50.60	17.4	87.20	5.880	n/a
S98T000754		A	Thallium -ICP-Acid Digest	ug/g	90.00	<2.00e-01	<1.18e+02	<1.19e2	n/a	n/a	89.80	118.0	n/a
S98T000754		A	Uranium -ICP-Acid Digest	ug/g	91.20	<5.00e-01	<2.95e+02	<2.97e2	n/a	n/a	94.20	295.0	n/a
S98T000754		A	Vanadium -ICP-Acid Digest	ug/g	95.40	<5.00e-02	< 29.50	<2.97e1	n/a	n/a	98.00	29.50	n/a
S98T000754		A	Zinc -ICP-Acid Digest	ug/g	89.00	6.20e-02	11.80	15.10	13.45	24.5	90.60	5.880	n/a
S98T000754		A	Zirconium -ICP-Acid Digest	ug/g	54.40	<1.00e-02	< 5.890	<5.93e0	n/a	n/a	4.800	5.880	n/a
S98T000757		W	Fluoride-IC-Dionex 4000/4500	ug/g	101.0	<1.20e-02	2.57e+03	3.01e+03	2.79e+03	15.8	105.9	88.03	n/a
S98T000757		W	Chloride-IC-Dionex 4000/4500	ug/g	101.0	<1.70e-02	1.06e+03	1.42e+03	1.24e+03	29.0	100.7	124.7	n/a
S98T000757		W	Nitrite-IC - Dionex 4000/4500	ug/g	96.31	<1.08e-01	9.74e+03	1.11e+04	1.04e+04	13.1	98.34	792.5	n/a
S98T000757		W	Nitrate by IC-Dionex 4000/4500	ug/g	99.33	<1.39e-01	4.10e+05	3.79e+05	3.94e+05	7.86	81.31	1.02e+03	n/a
S98T000757		W	Phosphate-IC-Dionex 4000/4500	ug/g	102.6	1.42e-01	2.44e+04	2.82e+04	2.63e+04	14.4	102.8	880.3	n/a
S98T000757		W	Sulfate by IC-Dionex 4000/4500	ug/g	99.37	<1.38e-01	<1.01e+03	<1.03e3	n/a	n/a	98.10	1.01e+03	n/a
S98T000757		W	Oxalate-IC-Dionex 4000/4500	ug/g	100.0	<1.05e-01	1.08e+03	1.28e+03	1.18e+03	16.9	103.2	770.4	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S98T000763			TIC by Acid/Coulometry	ug/mL	97.18	1.300	1.30e+04	1.28e+04	1.29e+04	1.55	n/a	5.000	n/a
S98T000763			TOC by Persulfate/Coulometry	ug/mL	87.33	2.600	1.34e+03	1.29e+03	1.32e+03	3.80	n/a	40.00	n/a
S98T000766		D	Silver-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	14.30	15.30	14.80	6.76	n/a	6.010	n/a
S98T000766		D	Aluminium-ICP-Acid Dil.	ug/mL	96.80	<5.00e-02	2.90e+03	3.03e+03	2.96e+03	4.38	n/a	30.10	n/a
S98T000766		D	Arsenic-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	47.70	47.70	47.70	0.00	n/a	30.10	n/a
S98T000766		D	Barium-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000766		D	Beryllium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	n/a	3.000	n/a
S98T000766		D	Bismuth-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Calcium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Cadmium-ICP-Acid Dil.	ug/mL	99.60	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	n/a	3.000	n/a
S98T000766		D	Cerium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S98T000766		D	Chromium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-02	3.25e+03	3.40e+03	3.32e+03	4.51	n/a	6.010	n/a
S98T000766		D	Copper-ICP-Acid Dil.	ug/mL	93.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766		D	Iron-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000766		D	Potassium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-01	2.91e+03	2.95e+03	2.93e+03	1.37	n/a	300.0	n/a
S98T000766		D	Lanthanum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000766		D	Magnesium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Manganese-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766		D	Molybdenum-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	64.00	66.40	65.20	3.68	n/a	30.10	n/a
S98T000766		D	Sodium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-01	2.07e+05	2.17e+05	2.12e+05	4.72	n/a	60.10	n/a
S98T000766		D	Neodymium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Nickel-ICP-Acid Dil.	ug/mL	97.80	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S98T000766		D	Phosphorus-ICP-Acid Dil.	ug/mL	97.60	<2.00e-01	1.24e+03	1.28e+03	1.26e+03	3.17	n/a	120.0	n/a
S98T000766		D	Lead-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	1.41e+03	1.48e+03	1.44e+03	4.84	n/a	60.10	n/a
S98T000766		D	Antimony-ICP-Acid Dil.	ug/mL	99.00	<6.00e-02	< 36.10	<3.61e1	n/a	n/a	n/a	36.10	n/a
S98T000766		D	Selenium-ICP-Acid Dil.	ug/mL	93.20	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Silicon-ICP-Acid Dil.	ug/mL	102.8	<5.00e-02	64.40	60.70	62.55	5.92	n/a	30.10	n/a
S98T000766		D	Samarium-ICP-Acid Dil.	ug/mL	94.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S98T000766		D	Strontium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766		D	Titanium-ICP-Acid Dil.	ug/mL	89.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766		D	Thallium-ICP-Acid Dil.	ug/mL	94.40	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S98T000766		D	Uranium-ICP-Acid Dil.	ug/mL	95.40	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	n/a	300.0	n/a
S98T000766		D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S98T000766		D	Zinc-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766		D	Zirconium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S98T000766			Fluoride-IC-Dionex 4000/4500	ug/mL	98.31	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	n/a	122.4	n/a
S98T000766			Chloride-IC-Dionex 4000/4500	ug/mL	101.4	<1.70e-02	7.75e+03	7.97e+03	7.86e+03	2.80	n/a	173.4	n/a
S98T000766			Nitrite-IC - Dionex 4000/4500	ug/mL	92.44	<1.08e-01	7.18e+04	7.51e+04	7.34e+04	4.49	n/a	1.10e+03	n/a
S98T000766			Nitrate by IC-Dionex 4000/4500	ug/mL	94.28	<1.39e-01	2.88e+05	2.89e+05	2.88e+05	0.35	n/a	1.42e+03	n/a
S98T000766			Phosphate-IC-Dionex 4000/4500	ug/mL	95.60	5.91e-01	4.33e+03	4.16e+03	4.24e+03	4.00	n/a	1.22e+03	n/a
S98T000766			Sulfate by IC-Dionex 4000/4500	ug/mL	94.78	<1.38e-01	1.90e+03	4.62e+03	3.26e+03	83.4	n/a	1.41e+03	n/a
S98T000766			Oxalate-IC-Dionex 4000/450	ug/mL	100.4	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	n/a	1.07e+03	n/a

OPPORTUNISTIC TICTOC WORKLISTS

APPENDIX B

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HNF-SD-WM-DP-305 REV. 0

LABCORE Completed Worklist Report for Worklist# 22739

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

Method: _____ Rev/Mod _____

Worklist Comment: TX104, AX-101 @TICTOC1, STD: TIC=1.0mL, TOC=0.200mL lad

Seq	Type	Sample#	R	A	Test	Matrix	Actual		Found	DL or Yield	Unit
1	BLNK			0	@TICTOC1 TIC-02	LIQUID	1		9.00E-1	0.900	ug/mL
1	BLNK			0	@TICTOC1 TOC-02	LIQUID	1		1.80E+0	1.800	ug/mL
2	STD			0	@TICTOC1 TIC-02	LIQUID	6.02E+02		5.57E+2	92.525	% Recovery
2	STD			0	@TICTOC1 TOC-02	LIQUID	3.00E+03		2.77E+3	92.333	% Recovery
3	SAMPLE	S98T000500		0	@TICTOC1 TIC-02	LIQUID	N/A	<	5.00E+00	5.000	ug/mL
3	SAMPLE	S98T000500		0	@TICTOC1 TOC-02	LIQUID	N/A	<	4.00E+01	40.000	ug/mL
4	DUP	S98T000500		0	@TICTOC1 TIC-02	LIQUID	<5.00E+0		<5.00E+0		RPD
4	DUP	S98T000500		0	@TICTOC1 TOC-02	LIQUID	<4.00E+1		<4.00E+1		RPD
5	SAMPLE	S98T000568		0	@TICTOC1 TIC-02	LIQUID	N/A		5.74E+01	5.000	ug/mL
5	SAMPLE	S98T000568		0	@TICTOC1 TOC-02	LIQUID	N/A		1.37E+02	40.000	ug/mL
6	DUP	S98T000568		0	@TICTOC1 TIC-02	LIQUID	5.74E+1		6.16E+1	7.059	RPD
6	DUP	S98T000568		0	@TICTOC1 TOC-02	LIQUID	1.37E+2		1.51E+2	9.722	RPD
7	SAMPLE	S98T000665		0	@TICTOC1 TIC-02	LIQUID	N/A		1.21E+03	5.000	ug/mL
7	SAMPLE	S98T000665		0	@TICTOC1 TOC-02	LIQUID	N/A		1.37E+02	40.000	ug/mL
8	DUP	S98T000665		0	@TICTOC1 TIC-02	LIQUID	1.21E+3		1.12E+3	7.725	RPD
8	DUP	S98T000665		0	@TICTOC1 TOC-02	LIQUID	1.37E+2		1.36E+2	0.733	RPD
9	SPK	S98T000665		0	@TICTOC1 TIC-02	LIQUID	1.00E+02		1.03E+02	103.000	% Recovery
9	SPK	S98T000665		0	@TICTOC1 TOC-02	LIQUID	1.00E+02		9.32E+01	93.200	% Recovery

Final page for worklist# 22739

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

Reviewer Signature **Date** 4/28/98

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

LABCORE Data Entry Template for Worklist# 22739

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

Method: LA-342-100 Rev/Mod _____

Worklist Comment: TX104, AX-101 @TICTOC1, STD: TIC=1.0mL, TOC=0.200mL lad

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000500	0		@TICTOC1	LIQUID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000500	0		@TICTOC1	LIQUID		
5	SAMPLE	S98T000568	0		@TICTOC1	LIQUID	98000114	AX-101 (P)
		Analytes Requested: TIC-02 , TOC-02						
6	DUP	S98T000568	0		@TICTOC1	LIQUID		
7	SAMPLE	S98T000665	0		@TICTOC1	LIQUID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
8	DUP	S98T000665	0		@TICTOC1	LIQUID		
9	SPK	S98T000665	0		@TICTOC1	LIQUID		

Final page for worklist # 22739

Analyst Signature Date

Analyst Signature Date 4/22/98

Data Entry Comments:

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

03/04/98 07:04
A-0004-1

LABCORE Data Entry Template for Worklist# 22739

Analyst: SLH **Instrument:** CARB2 _____ **Book#** TIC 25N12-C
TOC 26N12-D

Method: LA-342-100 Rev/Mod F1

Worklist Comment: TX104, @TICTOC1, STD: TIC=1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000500	0		@TICTOC1	LIQUID	98000129	TX-104
		Analytes Requested:			TIC-02	, TOC-02		
4	DUP	S98T000500	0		@TICTOC1	LIQUID		
5	SAMPLE	S98T000665	0		@TICTOC1	LIQUID	98000129	TX-104
		Analytes Requested:			TIC-02	, TOC-02		
6	DUP	S98T000665	0		@TICTOC1	LIQUID		
7	SPK	S98T000665	0		@TICTOC1	LIQUID		

Final page for worklist # 22739

Sandra Alfred Boatright
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments: Sample S98T000568 + Dup from WL 22607 was on this WL

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

03/02/98 14:51
A-0094-1

LABCORE Data Entry Template for Worklist# 22671

Analyst: SLH **Instrument:** CARB2 **Book#** TIC 25N12-C TOC 26N12-D

Method: LA-342-100 **Rev/Mod** _____

Worklist Comment: AX101 (P), @TICTOC1, STD: TIC=1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000514	0		@TICTOC1	LIQUID	98000018	AX-101 (P)
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000514	0		@TICTOC1	LIQUID		
5	SAMPLE	S98T000568	0		@TICTOC1	LIQUID	98000114	AX-101 (P)
		Analytes Requested: TIC-02 , TOC-02						
6	DUP	S98T000568	0		@TICTOC1	LIQUID		

Final page for worklist # 22671

Sandra Elwood Boatright
Analyst Signature **Date** 4-18-98

Analyst Signature **Date**

Data Entry Comments: this WL just sample S98T000514 added to # 23192

sample S98T000568 is on WL 22739
4-19-98

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

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1 Date: 03/10/98 Time: 03:59:41

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	4.40	88.64
3	1.51	60.30	92.70
4	2.00	241.90	75.07
5	2.50	438.40	44.82
6	3.00	525.50	16.57
7	3.50	552.50	4.89
8	4.00	561.50	1.60
9	4.50	564.70	0.57
10	5.00	566.40	0.30
11	5.50	567.50	0.19
12	6.00	568.60	0.19
13	6.50	569.30	0.12
14	7.00	569.90	0.11
15	7.50	570.70	0.14
16	8.00	571.30	0.11
17	8.50	571.80	0.09
18	9.00	572.30	0.09
19	9.50	572.90	0.10
20	10.00	573.30	0.07
21	10.50	573.80	0.09
22	11.00	574.30	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(574.3 - 19.2465)(1)/(200) = +2.775E+00 g/L Carbon
(574.3 - 19.2465)(1)/(200)(12) = +2.313E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Sl Hood Boatright
SL HOOD 00001
.200ml = 26N12-D

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1 Date: 03/10/98 Time: 03:46:50

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.30	0.00
2	1.01	72.10	96.81
3	1.50	208.90	65.49
4	2.00	359.50	41.89
5	2.50	470.20	23.54
6	3.00	527.30	10.83
7	3.50	548.40	3.85
8	4.00	556.40	1.44
9	4.50	559.40	0.54
10	5.00	560.70	0.23
11	5.50	561.50	0.14
12	6.00	562.20	0.12
13	6.50	562.90	0.12
14	7.00	563.40	0.09
15	7.50	563.90	0.09
16	8.00	564.40	0.09
17	8.50	564.90	0.09
18	9.00	565.50	0.11
19	9.50	565.80	0.05
20	10.00	566.30	0.09
21	10.50	566.60	0.05
22	11.00	567.10	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(567.1 - 9.78985)(1)/(1000) = +5.573E-01 g/L Carbon
(567.1 - 9.78985)(1)/(1000)(12) = +4.644E-02 Molar Carbon

Sample Run By: J Hind Boatright
SL HOOD 00001

Inl = 25N12-C

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1 Date: 03/10/98 Time: 04:49:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	1.30	76.92
3	1.50	3.30	60.61
4	2.00	6.90	52.17
5	2.50	8.80	21.59
6	3.00	10.40	15.38
7	3.50	11.30	7.96
8	4.00	11.90	5.04
9	4.50	12.60	5.56
10	5.00	13.10	3.82
11	5.50	13.60	3.68
12	6.00	14.00	2.86
13	6.50	14.40	2.78
14	7.00	14.70	2.04
15	7.50	15.10	2.65
16	8.00	15.50	2.58
17	8.50	15.80	1.90
18	9.00	16.20	2.47
19	9.50	16.50	1.82
20	10.00	16.90	2.37
21	10.50	17.20	1.74
22	11.00	17.50	1.71

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(17.5 - 19.24477)(1)/(1) = < 5.00 E-3 g/L Carbon
(17.5 - 19.24477)(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: BLK 1 Date: 03/10/98 Time: 04:31:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	0.80	50.00
3	1.50	1.60	50.00
4	2.00	1.90	15.79
5	2.50	2.60	26.92
6	3.00	3.10	16.13
7	3.50	3.40	8.82
8	4.00	3.80	10.53
9	4.50	4.20	9.52
10	5.00	4.60	8.70
11	5.50	5.00	8.00
12	6.00	5.40	7.41
13	6.50	5.80	6.90
14	7.00	6.10	4.92
15	7.50	6.50	6.15
16	8.00	6.80	4.41
17	8.50	7.20	5.56
18	9.00	7.50	4.00
19	9.50	7.90	5.06
20	10.00	8.20	3.66
21	10.50	8.60	4.65
22	11.00	8.90	3.37

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(8.9 - 9.788072)(1)/(1) = < 5.00 E-3 g/L Carbon
(8.9 - 9.788072)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: SL HOOD 00001

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

Sample: BASE 1 Date: 03/10/98 Time: 03:32:05

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	0.30	0.00
2	1.01	1.00	70.00
3	1.51	4.20	76.19
4	2.00	7.50	44.00
5	2.50	9.90	24.24
6	3.01	11.50	13.91
7	3.51	12.40	7.26
8	4.01	13.20	6.06
9	4.50	13.80	4.35
10	5.00	14.50	4.83
11	5.50	15.00	3.33
12	6.00	15.40	2.60
13	6.50	15.90	3.14
14	7.00	16.30	2.45
15	7.50	16.70	2.40
16	8.00	17.10	2.34
17	8.50	17.50	2.29
18	9.00	17.80	1.69
19	9.50	18.10	1.66
20	10.00	18.70	3.21
21	10.50	18.90	1.06
22	11.00	19.30	2.07

BLANK VALUE = 19.3 micrograms carbon
BLANK FACTOR = 19.3 / 10.99883 = +1.75E+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
<<< BLANK ANALYSIS >>>

Sample: BASE 1 Date: 03/10/98 Time: 03:17:47

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	0.60	0.00
2	1.01	2.20	72.73
3	1.51	3.40	35.29
4	2.00	3.90	12.82
5	2.50	4.50	13.33
6	3.00	4.80	6.25
7	3.50	5.10	5.88
8	4.00	5.50	7.27
9	4.50	5.80	5.17
10	5.00	6.10	4.92
11	5.50	6.40	4.69
12	6.00	6.70	4.48
13	6.50	7.10	5.63
14	7.00	7.40	4.05
15	7.50	7.70	3.90
16	8.00	8.00	3.75
17	8.50	8.30	3.61
18	9.00	8.60	3.49
19	9.50	8.90	3.37
20	10.00	9.10	2.20
21	10.50	9.40	3.19
22	11.00	9.80	4.08

BLANK VALUE = 9.8 micrograms carbon
BLANK FACTOR = 9.8 / 10.99884 = +8.9E-01 ug/min Carbon

Sample Run By: SL HOOD 00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000500 Date: 03/10/98 Time: 05:19:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	0.90	66.67
3	1.51	2.20	59.09
4	2.00	4.20	47.62
5	2.51	6.70	37.31
6	3.01	8.90	24.72
7	3.50	10.00	11.00
8	4.00	10.90	8.26
9	4.50	11.50	5.22
10	5.00	12.20	5.74
11	5.50	12.70	3.94
12	6.00	13.10	3.05
13	6.50	13.50	2.96
14	7.00	13.80	2.17
15	7.50	14.20	2.82
16	8.00	14.50	2.07
17	8.50	14.70	1.36
18	9.00	15.10	2.65
19	9.50	15.40	1.95
20	10.00	15.70	1.91
21	10.50	16.00	1.88
22	11.00	16.30	1.84

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(16.3 - 19.24471)(1)/(1) = < 5.00 E-3 g/L Carbon
(16.3 - 19.24471)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS = 1ml = 1.0280g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00500 DUP Date: 03/10/98 Time: 07:01:51

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	1.40	64.29
3	1.50	4.40	68.18
4	2.00	8.50	48.24
5	2.50	11.60	26.72
6	3.00	13.40	13.43
7	3.50	14.50	7.59
8	4.00	15.30	5.23
9	4.50	16.00	4.37
10	5.00	16.60	3.61
11	5.50	17.10	2.92
12	6.00	17.60	2.84
13	6.50	18.00	2.22
14	7.00	18.40	2.17
15	7.50	18.80	2.13
16	8.00	19.20	2.08
17	8.50	19.50	1.54
18	9.00	19.90	2.01
19	9.50	20.20	1.49
20	10.00	20.50	1.46
21	10.50	21.00	2.38
22	11.00	21.30	1.41

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon.
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(21.3 - 19.24477)(1)/(1) = +2.06E+00 g/L Carbon
(21.3 - 19.24477)(1)/(1)(12) = +1.71E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS=1ml= 1.0083g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000500 Date: 03/10/98 Time: 05:05:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	1.10	81.82
3	1.50	2.60	57.69
4	2.00	3.60	27.78
5	2.50	4.50	20.00
6	3.00	4.90	8.16
7	3.50	5.30	7.55
8	4.00	5.70	7.02
9	4.50	6.00	5.00
10	5.00	6.40	6.25
11	5.50	6.80	5.88
12	6.00	7.00	2.86
13	6.50	7.40	5.41
14	7.00	7.70	3.90
15	7.50	7.90	2.53
16	8.00	8.20	3.66
17	8.50	8.60	4.65
18	9.00	8.80	2.27
19	9.50	9.10	3.30
20	10.00	9.50	4.21
21	10.50	9.80	3.06
22	11.00	10.10	2.97

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(10.1 - 9.786415)(1)/(1) = +3.14E-01 g/L Carbon
(10.1 - 9.786415)(1)/(1)(12) = +2.61E-02 Molar Carbon

Sample Run By: SL HOOD 00001

SG= 1ml = 1.0200g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00500 DUP Date: 03/10/98 Time: 05:32:57

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	2.20	54.55
3	1.51	3.00	26.67
4	2.00	3.90	23.08
5	2.50	4.50	13.33
6	3.00	5.00	10.00
7	3.50	5.40	7.41
8	4.00	5.80	6.90
9	4.50	6.10	4.92
10	5.00	6.40	4.69
11	5.50	6.70	4.48
12	6.00	7.00	4.29
13	6.50	7.30	4.11
14	7.00	7.60	3.95
15	7.50	7.90	3.80
16	8.00	8.20	3.66
17	8.50	8.50	3.53
18	9.00	8.80	3.41
19	9.50	9.10	3.30
20	10.00	9.40	3.19
21	10.50	9.60	2.08
22	11.00	9.90	3.03

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(9.9 - 9.788968)(1)/(1) = +1.1E-01 g/L Carbon
(9.9 - 9.788968)(1)/(1)(12) = +9.3E-03 Molar Carbon

Sample Run By: SL HOOD 00001

SS= 1ml = 1.0083g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000568 Date: 03/10/98 Time: 08:58:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	1.30	69.23
3	1.51	3.40	61.76
4	2.00	5.60	39.29
5	2.50	9.00	37.78
6	3.00	19.10	52.88
7	3.50	39.70	51.89
8	4.00	64.90	38.83
9	4.50	88.80	26.91
10	5.00	106.00	16.23
11	5.50	118.40	10.47
12	6.00	127.30	6.99
13	6.50	134.00	5.00
14	7.00	138.80	3.46
15	7.50	142.80	2.80
16	8.00	145.90	2.12
17	8.50	148.40	1.68
18	9.00	150.40	1.33
19	9.50	152.00	1.05
20	10.00	153.60	1.04
21	10.50	155.10	0.97
22	11.00	156.40	0.83

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(156.4 - 19.24306)(1)/(1) = +1.372E+02 g/L Carbon
(156.4 - 19.24306)(1)/(1)(12) = +1.143E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS = 100ml = 1.0110g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00568 DUP Date: 03/10/98 Time: 09:26:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	1.60	50.00
3	1.50	4.30	62.79
4	2.00	7.00	38.57
5	2.50	11.90	41.18
6	3.00	25.40	53.15
7	3.50	50.80	50.00
8	4.00	80.60	36.97
9	4.50	104.00	22.50
10	5.00	120.30	13.55
11	5.50	132.90	9.48
12	6.00	140.90	5.68
13	6.50	147.50	4.47
14	7.00	152.20	3.09
15	7.50	155.90	2.37
16	8.00	159.00	1.95
17	8.50	161.70	1.67
18	9.00	163.80	1.28
19	9.50	165.70	1.15
20	10.00	167.30	0.96
21	10.50	168.60	0.77
22	11.00	169.90	0.77

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(169.9 - 19.24626)(1)/(1) = +1.507E+02 g/L Carbon
(169.9 - 19.24626)(1)/(1)(12) = +1.255E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS= 1ml = 1.0246g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000568 Date: 03/10/98 Time: 08:44:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	1.50	11.10	86.49
4	2.00	28.10	60.50
5	2.50	42.30	33.57
6	3.00	51.00	17.06
7	3.50	56.00	8.93
8	4.00	58.20	3.78
9	4.50	59.40	2.02
10	5.00	60.40	1.66
11	5.50	61.10	1.15
12	6.00	61.80	1.13
13	6.50	62.60	1.28
14	7.00	63.00	0.63
15	7.50	63.70	1.10
16	8.00	64.20	0.78
17	8.50	64.60	0.62
18	9.00	65.10	0.77
19	9.50	65.70	0.91
20	10.00	66.10	0.61
21	10.50	66.70	0.90
22	11.00	67.20	0.74

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(67.2 - 9.788968)(1)/(1) = +5.74E+01 g/L Carbon
(67.2 - 9.788968)(1)/(1)(12) = +4.78E+00 Molar Carbon

Sample Run By: SL HOOD 00001

gs = 1ml = 1.0110g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00568 DUP Date: 03/10/98 Time: 09:12:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.70	0.00
2	1.01	2.80	75.00
3	1.50	13.70	79.56
4	2.00	30.60	55.23
5	2.50	44.80	31.70
6	3.00	54.70	18.10
7	3.50	59.20	7.60
8	4.00	61.40	3.58
9	4.50	62.90	2.38
10	5.00	63.80	1.41
11	5.50	64.70	1.39
12	6.00	65.50	1.22
13	6.50	66.10	0.91
14	7.00	66.70	0.90
15	7.50	67.30	0.89
16	8.00	68.00	1.03
17	8.50	68.40	0.58
18	9.00	69.10	1.01
19	9.50	69.60	0.72
20	10.00	70.20	0.85
21	10.50	70.70	0.71
22	11.00	71.40	0.98

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(71.4 - 9.788261)(1)/(1) = +6.16E+01 g/L Carbon
(71.4 - 9.788261)(1)/(1)(12) = +5.13E+00 Molar Carbon

Sample Run By: SL HOOD 00001

SS = 1ml = 1.024kg

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00665 Date: 03/10/98 Time; 07:37:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	1.10	63.64
3	1.51	6.80	83.82
4	2.00	31.30	78.27
5	2.50	81.30	61.50
6	3.00	118.10	31.16
7	3.50	134.70	12.32
8	4.00	142.30	5.34
9	4.50	146.00	2.53
10	5.00	147.90	1.28
11	5.50	149.40	1.00
12	6.00	150.90	0.99
13	6.50	151.70	0.53
14	7.00	152.50	0.52
15	7.50	153.10	0.39
16	8.00	153.70	0.39
17	8.50	154.10	0.26
18	9.00	154.60	0.32
19	9.50	155.00	0.26
20	10.00	155.50	0.32
21	10.50	155.80	0.19
22	11.00	156.30	0.32

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(156.3 - 19.24653)(1)/(1) = +1.371E+02 g/L Carbon
(156.3 - 19.24653)(1)/(1)(12) = +1.142E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS = .100 ml = .1459g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00665 DUP Date: 03/10/98 Time: 08:03:46

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	2.00	60.00
3	1.51	18.50	89.19
4	2.00	65.90	71.93
5	2.50	107.90	38.92
6	3.00	131.30	17.82
7	3.50	139.10	5.61
8	4.00	143.70	3.20
9	4.50	146.10	1.64
10	5.00	147.90	1.22
11	5.50	148.90	0.67
12	6.00	149.80	0.60
13	6.50	150.60	0.53
14	7.00	151.30	0.46
15	7.50	152.00	0.46
16	8.00	152.40	0.26
17	8.50	152.90	0.33
18	9.00	153.40	0.33
19	9.50	153.90	0.32
20	10.00	154.30	0.26
21	10.50	154.90	0.39
22	11.00	155.20	0.19

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(155.2 - 19.24471)(1)/(1) = +1.360E+02 g/L Carbon
(155.2 - 19.24471)(1)/(1)(12) = +1.133E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS = .100 = .1346g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00665 SPK Date: 03/10/98 Time: 08:30:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.75 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	3.80	89.47
3	1.51	28.20	86.52
4	2.00	130.40	78.37
5	2.50	290.70	55.14
6	3.00	377.50	22.99
7	3.50	408.90	7.68
8	4.00	419.00	2.41
9	4.50	423.70	1.11
10	5.00	426.60	0.68
11	5.50	428.10	0.35
12	6.00	429.30	0.28
13	6.50	430.30	0.23
14	7.00	431.20	0.21
15	7.50	432.00	0.19
16	8.00	432.60	0.14
17	8.50	433.20	0.14
18	9.00	433.80	0.14
19	9.50	434.40	0.14
20	10.00	435.00	0.14
21	10.50	435.50	0.11
22	11.00	436.00	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 19.24794 micrograms carbon
BLANK FACTOR = 19.24794 / 10.99883 = +1.8E+00 ug/min Carbon

SAMPLE RESULTS:
(436 - 19.24477)(1)/(1) = +4.168E+02 g/L Carbon
(436 - 19.24477)(1)/(1)(12) = +3.473E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00001

SS = .100 ml = .1458g + .100 ml spk 26N12-D
399

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000665 Date: 03/10/98 Time: 07:22:20

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	16.50	98.18
3	1.51	443.40	96.28
4	2.01	898.50	50.65
5	2.50	1075.10	16.43
6	3.00	1152.70	6.73
7	3.50	1185.90	2.80
8	4.00	1199.10	1.10
9	4.50	1204.70	0.46
10	5.00	1207.30	0.22
11	5.50	1209.20	0.16
12	6.00	1210.70	0.12
13	6.50	1211.80	0.09
14	7.00	1212.80	0.08
15	7.50	1213.70	0.07
16	8.00	1214.40	0.06
17	8.50	1215.20	0.07
18	9.00	1215.90	0.06
19	9.50	1216.60	0.06
20	10.00	1217.00	0.03
21	10.50	1217.60	0.05
22	11.00	1218.30	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1218.3 - 9.788968)(1)/(1) = +1.2085E+03 g/L Carbon
(1218.3 - 9.788968)(1)/(1)(12) = +1.0071E+02 Molar Carbon

Sample Run By: SL HOOD 00001

SS = .100ml = .1459g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00665 DUP Date: 03/10/98 Time: 07:49:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	2.90	82.76
3	1.50	246.00	98.82
4	2.00	700.00	64.86
5	2.50	940.90	25.60
6	3.00	1049.30	10.33
7	3.50	1091.90	3.90
8	4.00	1112.10	1.82
9	4.50	1117.30	0.47
10	5.00	1120.70	0.30
11	5.50	1121.90	0.11
12	6.00	1123.10	0.11
13	6.50	1124.10	0.09
14	7.00	1125.20	0.10
15	7.50	1125.90	0.06
16	8.00	1126.70	0.07
17	8.50	1127.40	0.06
18	9.00	1128.10	0.06
19	9.50	1128.70	0.05
20	10.00	1129.20	0.04
21	10.50	1129.80	0.05
22	11.00	1130.40	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1130.4 - 9.786577)(1)/(1) = +1.1206E+03 g/L Carbon
(1130.4 - 9.786577)(1)/(1)(12) = +9.3384E+01 Molar Carbon

Sample Run By: SL HOOD 00001

SS = .100 = .1346g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00665 SPK Date: 03/10/98 Time: 08:16:48

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	31.00	99.03
3	1.51	400.40	92.26
4	2.00	876.60	54.32
5	2.51	1209.00	27.49
6	3.01	1386.00	12.77
7	3.50	1468.00	5.59
8	4.00	1500.20	2.15
9	4.50	1511.70	0.76
10	5.00	1516.50	0.32
11	5.50	1518.50	0.13
12	6.00	1520.20	0.11
13	6.50	1521.30	0.07
14	7.00	1522.50	0.08
15	7.50	1523.40	0.06
16	8.00	1524.30	0.06
17	8.50	1525.10	0.05
18	9.00	1525.80	0.05
19	9.50	1526.60	0.05
20	10.00	1527.20	0.04
21	10.50	1527.90	0.05
22	11.00	1528.40	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 9.788954 micrograms carbon
BLANK FACTOR = 9.788954 / 10.99883 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1528.4 - 9.790597)(1)/(1) = +1.5186E+03 g/L Carbon
(1528.4 - 9.790597)(1)/(1)(12) = +1.2655E+02 Molar Carbon

Sample Run By: SL HOOD 00001

SS = .100ml = .1458g + .500ml spk 25N12.C

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	8.9	17.5
22739	µg of Carbon from Baseline	(C2)	9.8	19.3

Test Code:
@TICTOC1

Matrix:
LIQUID

Batch Number:
98002019

Rerun:
0

µg of Carbon = |C1-C2|

Sample Prep:
N/A

Sample #:
BLank

Instrument Code:
CARB2

Prepared By:
lad

Chemist:
rws

Analyst:
slh

Date Complete:
04/24/98

Analysis Date:
04/18/98

Analysis Time:

Sample Point:

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon	9.00E-01	1.80E+00

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	567.1	574.3
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID

Batch Number: 98002019

Rerun: 0

Sample Prep: N/A

Sample #: STD

Instrument Code: CARB2

Prepared By: lad

Chemist: rws

Analyst: slh

Date Complete: 04/28/98

Analysis Date: 04/18/98

Analysis Time:

Sample Point:

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	5.57E+02	2.77E+03
Percent Standard Recovery	92.6	92.5

Data Entered By:	lad	Date:	04/28/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	1.0000	1.0000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	10.1	16.3
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98002019
Rerun	0
Sample Prep	N/A
Sample #	S98T000500
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/18/98
Analysis Time	
Sample Point	TX-104

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

NOTE: FOR TIC: The Reported Result is < 5.
NOTE: FOR TOC: The Reported Result is < 40.

		TIC	TOC
Method Detection Limit in µg/mL		5	40
µg of Carbon/mL	Note: <	3.00E-01	4.00E+01

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	1.0000	1.0000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	9.9	21.3
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code	Known µg of C from Original Sample		<3.00E-1	<4.00E+1
@TICTOC1				

Matrix: LIQUID

Batch Number: 98002019

Rerun: 0

Sample Prep: N/A

Sample #: S98T000500

Instrument Code: CARB2

Prepared By: lad

Chemist: rws

Analyst: slh

Date Complete: 04/24/98

Analysis Date: 04/18/98

Analysis Time:

Sample Point: TX-104

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

NOTE: FOR TIC: The Reported Result is < 5.
NOTE: FOR TOC: The Reported Result is < 40.

			TIC	TOC
Method Detection Limit in µg/mL			5	40
µg of Carbon/mL	Note:	<	1.00E-01	2.00E+00

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22739.WB1 04/24/98 10:50:22

WORKBOOK PAGE: SAM5

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	1.0000	1.0000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	67.2	156.4
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98002019
Rerun	0
Sample Prep	N/A
Sample #	S98T000568
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/18/98
Analysis Time	
Sample Point	AX-101

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	5.74E+01	1.37E+02

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP6

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type:	Sample Size in mL	(SS)	1.0000	1.0000
DUP	Dilution Factor	(DF)	1	1
Work List:	µg of Carbon in Sample	(C1)	71.4	169.9
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code:	Known µg of C from Original Sample		5.74E+1	1.37E+2
@TICTOC1				

Matrix: LIQUID

Batch Number: 98002019

Rerun: 0

Sample Prep: N/A

Sample #: S98T000568

Instrument Code: CARB2

Prepared By: lad

Chemist: rws

Analyst: slh

Date Complete: 04/24/98

Analysis Date: 04/18/98

Analysis Time:

Sample Point: AX-101

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	6.16E+01	1.51E+02

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22739.WB1 04/24/98 10:59:48

WORKBOOK PAGE: SAM7

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
SAMPLE	Dilution Factor	(DF)	1	1
WorkList	µg of Carbon in Sample	(C1)	1218.3	156.3
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98002019
Rerun	0
Sample Prep	N/A
Sample #	S98T000665
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/18/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.21E+04	1.37E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP8

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1130.4	155.2
22739	µg of Carbon from Baseline	(C2)	9.8	19.3
Test Code	Known µg of C from Original Sample		1.21E+4	1.37E+3
@TICTOC1				

Matrix	LIQUID
Batch Number	98002019
Rerun	0
Sample Prep	N/A
Sample #	S98T000665
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/18/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.12E+04	1.36E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SPIKE9

TIC/TOC : LA-342-100 (F-1) LIQUIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Volume in mL	(SS)	0.1000	0.1000
Work List	Final Coulometer Reading in µg	(C1)	1218.3	156.3
22739	**Spiked Vial Data**			
Test Code	Sample Volume in mL	(SPK SS)	0.1000	0.1000
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1528.4	436
LIQUID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98002019				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S98T000665				
Instrument Code	**QC Actual in µg/mL = Spike Value (µg/mL)**			
	QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100			
Prepared By				
Chemist				
Analyst				
Date Complete				
Analysis Date				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	**QC Found in µg/mL**		6.20E+02	2.80E+03
	Percent Spike Recovery		103.0	93.2

Data Entered By:	Date:
Signature of Chemist:	Date:

LABCORE Completed Worklist Report for Worklist# 22741

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

Method: _____ Rev/Mod _____

Worklist Comment: TX104, @TICTOC1, STD: TIC=1.0mL, TOC=0.200mL skw

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK			0	@TICTOC1 TIC-02	SOLID	1	3.00E-1	0.300	ug/g
1 BLNK			0	@TICTOC1 TOC-02	SOLID	1	2.90E+0	2.900	ug/g
2 STD			0	@TICTOC1 TIC-02	SOLID	6.02E+02	5.35E+2	98.837	% Recovery
2 STD			0	@TICTOC1 TOC-02	SOLID	3.00E+03	2.67E+3	89.000	% Recovery
3 SAMPLE	S98T000654		0	@TICTOC1 TIC-02	SOLID	N/A	4.47E+03	5.000	ug/g
3 SAMPLE	S98T000654		0	@TICTOC1 TOC-02	SOLID	N/A	4.67E+02	40.000	ug/g
4 DUP	S98T000654		0	@TICTOC1 TIC-02	SOLID	4.47E+3	5.24E+3	15.860	RPD
4 DUP	S98T000654		0	@TICTOC1 TOC-02	SOLID	4.67E+2	8.21E+2	54.969	RPD
5 SPK	S98T000654		0	@TICTOC1 TIC-02	SOLID	1.00E+02	1.28E+02	128.000	% Recovery
5 SPK	S98T000654		0	@TICTOC1 TOC-02	SOLID	1.00E+02	8.32E+01	83.200	% Recovery
6 SAMPLE	S98T000655		0	@TICTOC1 TIC-02	SOLID	N/A	4.79E+03	5.000	ug/g
6 SAMPLE	S98T000655		0	@TICTOC1 TOC-02	SOLID	N/A	7.07E+02	40.000	ug/g
7 DUP	S98T000655		0	@TICTOC1 TIC-02	SOLID	4.79E+3	3.26E+3	38.012	RPD
7 DUP	S98T000655		0	@TICTOC1 TOC-02	SOLID	7.07E+2	4.20E+2	50.932	RPD

Final page for worklist# 22741

_____ _____
Analyst Signature **Date**

AK Wollan 4/23/98
Analyst Signature **Date**

4/24/98
Reviewer Signature **Date**

Batch Rejected Due to Spike/Dup failure. 4/24/98

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

03/04/98 07:17
A-0004-1

LABCORE Data Entry Template for Worklist# 22741

Analyst: Kpm **Instrument:** CARB2 _____ **Book#** 26NTLL 26NTLD

Method: LA-342-100 Rev/Mod F-1

Worklist Comment: TX104, @TICTOC1, STD: TIC=1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000654	0		@TICTOC1	SOLID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000654	0		@TICTOC1	SOLID		
5	SPK	S98T000654	0		@TICTOC1	SOLID		
6	SAMPLE	S98T000655	0		@TICTOC1	SOLID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
7	DUP	S98T000655	0		@TICTOC1	SOLID		

Final page for worklist # 22741

Analyst Signature 4/20/98 Date

Analyst Signature 4/23/98 Date

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	13.1	35.6
22741	µg of Carbon from Baseline	(C2)	12.8	32.7

Test Code: @TICTOC1

Matrix: SOLID

Batch Number: 98001085

Rerun: 0

µg of Carbon = |C1-C2|

Sample Prep: N/A

Sample #: BLANK

Instrument Code: CARB2

Prepared By: skm

Chemist: rws

Analyst: rdm

Date Complete: 04/23/98

Analysis Date: 04/20/98

Analysis Time:

Sample Point: TX-104

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	3.00E-01	2.90E+00

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	607.3	567
22741	µg of Carbon from Baseline	(C2)	12.8	32.7
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID
Batch Number: 98001085
Rerun: 0
Sample Prep: N/A
Sample #: STD
Instrument Code: CARB2
Prepared By: skm
Chemist: rws
Analyst: rdm
Date Complete: 04/23/98
Analysis Date: 04/20/98
Analysis Time:
Sample Point: TX-104

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	5.95E+02	2.67E+03
Percent Standard Recovery	98.8	89.1

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0535	0.0535
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	252.1	57.7
22741	µg of Carbon from Baseline	(C2)	12.8	32.7
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98001085
Rerun	0
Sample Prep	N/A
Sample #	S98T000654
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	rdm
Date Complete	04/23/98
Analysis Date	04/20/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.47E+03	4.67E+02

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0587	0.0587
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	320.2	80.9
22741	µg of Carbon from Baseline	(C2)	12.8	32.7
Test Code	Known µg of C from Original Sample		4.47E+3	4.67E+2
@TICTOC1				

Matrix	SOLID
Batch Number	98001085
Rerun	0
Sample Prep	N/A
Sample #	S98T000654
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	rdm
Date Complete	04/23/98
Analysis Date	04/20/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	5.24E+03	8.21E+02

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.0535	0.0535
Work List	Final Coulometer Reading in µg	(C1)	252.1	57.7
22741	Spiked Vial Data			
Test Code	Sample Size in g	(SPK SS)	0.0925	0.0925
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	821.8	349.4
SOLID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98001085				
Rerun				
0				
Sample Prep				
N/A				
Sample #	Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1			
S98T000654				
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				
skm				
Chemist				
rws				
Analyst				
rdm				
Date Complete				
04/23/98				
Analysis Date				
04/20/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		7.72E+02	2.50E+03
TX-104	Percent Spike Recovery		128.2	83.2

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Sample Type	Sample Size in g	(SS)	0.0634	0.0634
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	316.2	77.5
22741	µg of Carbon from Baseline	(C2)	12.8	32.7
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98001085
Rerun	0
Sample Prep	N/A
Sample #	S98T000655
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	rdm
Date Complete	04/23/98
Analysis Date	04/20/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.79E+03	7.07E+02

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

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WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0584	0.0584
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	203.3	57.2
22741	µg of Carbon from Baseline	(C2)	12.8	32.7
Test Code	Known µg of C from Original Sample		4.79E+3	7.07E+2
@TICTOC1				

Matrix	SOLID
Batch Number	98001085
Rerun	0
Sample Prep	N/A
Sample #	S98T000655
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	rdm
Date Complete	04/23/98
Analysis Date	04/20/98
Analysis Time	
Sample Point	TX-104

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	3.26E+03	4.20E+02

Data Entered By:	skm	Date:	04/23/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22741.WB1 04/23/98 13:53:03

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

Sample: BASE Date: 04/19/98 Time: 21:35:43

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	1.20	50.00
3	1.51	2.30	47.83
4	2.00	3.10	25.81
5	2.50	3.90	20.51
6	3.00	4.60	15.22
7	3.50	5.30	13.21
8	4.00	5.70	7.02
9	4.50	6.20	8.06
10	5.00	6.70	7.46
11	5.50	7.30	8.22
12	6.00	7.80	6.41
13	6.50	8.30	6.02
14	7.00	8.80	5.68
15	7.50	9.30	5.38
16	8.00	9.90	6.06
17	8.50	10.30	3.88
18	9.00	10.80	4.63
19	9.50	11.40	5.26
20	10.00	11.80	3.39
21	10.50	12.30	4.07
22	11.00	12.80	3.91

BLANK VALUE = 12.8 micrograms carbon
BLANK FACTOR = 12.8 / 10.99707 = +1.16E+00 ug/min Carbon

Sample Run By: Leslie Dee for RD Meyers
RD MEYERS 00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 421 TO 436.

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

Sample: BASE Date: 04/19/98 Time: 21:51:48

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	3.50	80.00
3	1.50	11.10	68.47
4	2.00	16.60	33.13
5	2.50	19.90	16.58
6	3.00	21.80	8.72
7	3.50	23.30	6.44
8	4.00	24.40	4.51
9	4.50	25.20	3.17
10	5.00	26.00	3.08
11	5.50	26.80	2.99
12	6.00	27.30	1.83
13	6.50	28.00	2.50
14	7.00	28.50	1.75
15	7.50	29.10	2.06
16	8.00	29.60	1.69
17	8.50	30.20	1.99
18	9.00	30.70	1.63
19	9.50	31.20	1.60
20	10.00	31.70	1.58
21	10.50	32.20	1.55
22	11.00	32.70	1.53

BLANK VALUE = 32.7 micrograms carbon
BLANK FACTOR = 32.7 / 10.99695 = +2.97E+00 ug/min Carbon

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

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 25N12-C Date: 04/19/98 Time: 22:44:34

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.00	0.00
2	1.00	38.00	89.47
3	1.50	133.80	71.60
4	2.00	271.20	50.66
5	2.50	412.20	34.21
6	3.00	506.60	18.63
7	3.50	556.90	9.03
8	4.00	581.10	4.16
9	4.50	591.80	1.81
10	5.00	596.40	0.77
11	5.50	598.80	0.40
12	6.00	600.30	0.25
13	6.50	601.30	0.17
14	7.00	602.10	0.13
15	7.50	603.00	0.15
16	8.00	603.60	0.10
17	8.50	604.30	0.12
18	9.00	605.00	0.12
19	9.50	605.60	0.10
20	10.00	606.20	0.10
21	10.50	606.80	0.10
22	11.00	607.30	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(607.3 - 13.19634)(1)/(1) = +5.941E+02 g/L Carbon
(607.3 - 13.19634)(1)/(1)(12) = +4.951E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 26N12-D Date: 04/19/98 Time: 23:46:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	20.40	97.55
3	1.51	168.40	87.89
4	2.00	376.30	55.25
5	2.50	476.70	21.06
6	3.00	516.20	7.65
7	3.50	533.70	3.28
8	4.00	543.50	1.80
9	4.50	550.70	1.31
10	5.00	555.30	0.83
11	5.50	557.30	0.36
12	6.00	559.00	0.30
13	6.50	560.30	0.23
14	7.00	561.50	0.21
15	7.50	562.30	0.14
16	8.00	563.10	0.14
17	8.50	563.90	0.14
18	9.00	564.50	0.11
19	9.50	565.20	0.12
20	10.00	565.70	0.09
21	10.50	566.30	0.11
22	11.00	567.00	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(567 - 31.89398)(1)/(1) = +5.351E+02 g/L Carbon
(567 - 31.89398)(1)/(1)(12) = +4.459E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/20/98 Time: 00:00:53

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.40	64.29
3	1.50	3.20	56.25
4	2.00	4.30	25.58
5	2.50	5.10	15.69
6	3.00	5.80	12.07
7	3.50	6.40	9.37
8	4.00	6.90	7.25
9	4.50	7.30	5.48
10	5.00	7.80	6.41
11	5.50	8.20	4.88
12	6.00	8.70	5.75
13	6.50	9.10	4.40
14	7.00	9.60	5.21
15	7.50	10.10	4.95
16	8.00	10.40	2.88
17	8.50	10.90	4.59
18	9.00	11.40	4.39
19	9.50	11.70	2.56
20	10.00	12.20	4.10
21	%-1429.50	12.60	3.17
22	%-1429.00	13.10	3.82

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(13.1 --1714.803)(1)/(1) = +1.73E+03 g/L Carbon
(13.1 --1714.803)(1)/(1)(12) = +1.44E+02 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/20/98 Time: 00:14:20

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	2.60	76.92
3	1.51	8.50	69.41
4	2.00	15.90	46.54
5	2.50	21.10	24.64
6	3.00	24.20	12.81
7	3.50	25.90	6.56
8	4.00	27.10	4.43
9	4.50	28.00	3.21
10	5.00	28.80	2.78
11	5.50	29.40	2.04
12	6.00	30.20	2.65
13	6.50	30.90	2.27
14	7.00	31.60	2.22
15	7.50	32.10	1.56
16	8.00	32.60	1.53
17	8.50	33.00	1.21
18	9.00	33.60	1.79
19	9.50	34.00	1.18
20	10.00	34.50	1.45
21	10.50	35.00	1.43
22	11.00	35.60	1.69

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(35.6 - 31.89372)(1)/(1) = +3.71E+00 g/L Carbon
(35.6 - 31.89372)(1)/(1)(12) = +3.09E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000654 Date: 04/20/98 Time: 00:30:41

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	1.90	63.16
3	1.50	26.00	92.69
4	2.00	77.10	66.28
5	2.50	130.50	40.92
6	3.00	176.60	26.10
7	3.50	209.20	15.58
8	4.00	228.50	8.45
9	4.50	238.10	4.03
10	5.00	242.30	1.73
11	5.50	244.60	0.94
12	6.00	245.80	0.49
13	6.50	246.80	0.41
14	7.00	247.40	0.24
15	7.50	248.10	0.28
16	8.00	248.70	0.24
17	8.50	249.30	0.24
18	9.00	249.90	0.24
19	9.50	250.40	0.20
20	10.00	251.00	0.24
21	10.50	251.50	0.20
22	11.00	252.10	0.24

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(252.1 - 13.1964)(1)/(1) = +2.389E+02 g/L Carbon
(252.1 - 13.1964)(1)/(1)(12) = +1.991E+01 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000654 Date: 04/20/98 Time: 00:43:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	3.80	86.84
3	1.50	18.90	79.89
4	2.00	33.20	43.07
5	2.50	40.60	18.23
6	3.00	44.50	8.76
7	3.50	46.70	4.71
8	4.00	48.30	3.31
9	4.50	49.40	2.23
10	5.00	50.40	1.98
11	5.50	51.20	1.56
12	6.00	51.90	1.35
13	6.50	52.50	1.14
14	7.00	53.30	1.50
15	7.50	53.80	0.93
16	8.00	54.50	1.28
17	8.50	55.00	0.91
18	9.00	55.60	1.08
19	9.50	56.10	0.89
20	10.00	56.70	1.06
21	10.50	57.20	0.87
22	11.00	57.70	0.87

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(57.7 - 31.8913)(1)/(1) = +2.58E+01 g/L Carbon
(57.7 - 31.8913)(1)/(1)(12) = +2.15E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000654DUP Date: 04/20/98 Time: 00:56:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.00	2.20	68.18
3	1.50	34.60	93.64
4	2.00	104.90	67.02
5	2.50	179.80	41.66
6	3.00	237.60	24.33
7	3.50	274.20	13.35
8	4.00	294.40	6.86
9	4.50	305.00	3.48
10	5.00	309.30	1.39
11	5.50	311.70	0.77
12	6.00	312.90	0.38
13	6.50	314.00	0.35
14	7.00	314.90	0.29
15	7.50	315.70	0.25
16	8.00	316.30	0.19
17	8.50	317.10	0.25
18	9.00	317.60	0.16
19	9.50	318.30	0.22
20	10.00	318.90	0.19
21	10.50	319.70	0.25
22	11.00	320.20	0.16

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(320.2 - 13.1954)(1)/(1) = +3.070E+02 g/L Carbon
(320.2 - 13.1954)(1)/(1)(12) = +2.558E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000654D4P Date: 04/20/98 Time: 01:11:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	11.30	0.00
2	1.00	35.20	67.90
3	1.50	52.40	32.82
4	2.00	60.50	13.39
5	2.50	64.70	6.49
6	3.00	67.40	4.01
7	3.50	68.80	2.03
8	4.00	70.10	1.85
9	4.50	71.30	1.68
10	5.00	72.50	1.66
11	5.50	73.50	1.36
12	6.00	74.50	1.34
13	6.50	75.30	1.06
14	7.00	76.10	1.05
15	7.50	76.70	0.78
16	8.00	77.40	0.90
17	8.50	78.00	0.77
18	9.00	78.60	0.76
19	9.50	79.20	0.76
20	10.00	79.80	0.75
21	10.50	80.30	0.62
22	11.00	80.90	0.74

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(80.9 - 31.88842)(1)/(1) = +4.90E+01 g/L Carbon
(80.9 - 31.88842)(1)/(1)(12) = +4.08E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000654SPK Date: 04/20/98 Time: 01:27:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	2.60	76.92
3	1.50	61.90	95.80
4	2.00	252.30	75.47
5	2.50	478.40	47.26
6	3.00	644.90	25.82
7	3.50	733.50	12.08
8	4.00	775.80	5.45
9	4.50	796.00	2.54
10	5.00	805.30	1.15
11	5.50	809.50	0.52
12	6.00	811.90	0.30
13	6.50	813.50	0.20
14	7.00	814.70	0.15
15	7.50	815.90	0.15
16	8.00	816.90	0.12
17	8.50	817.70	0.10
18	9.00	818.50	0.10
19	9.50	819.40	0.11
20	10.00	820.20	0.10
21	10.50	821.00	0.10
22	11.00	821.80	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(821.8 - 13.1974)(1)/(1) = +8.086E+02 g/L Carbon
(821.8 - 13.1974)(1)/(1)(12) = +6.738E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000654 Date: 04/20/98 Time: 01:56:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.60	0.00
2	1.00	23.30	93.13
3	1.50	127.50	81.73
4	2.01	241.70	47.25
5	2.50	296.50	18.48
6	3.00	319.30	7.14
7	3.50	329.00	2.95
8	4.00	333.30	1.29
9	4.50	336.40	0.92
10	5.00	338.10	0.50
11	5.50	339.80	0.50
12	6.00	341.20	0.41
13	6.50	342.40	0.35
14	7.00	343.40	0.29
15	7.50	344.40	0.29
16	8.00	345.10	0.20
17	8.50	345.90	0.23
18	9.00	346.80	0.26
19	9.50	347.40	0.17
20	10.00	348.10	0.20
21	10.50	348.80	0.20
22	11.00	349.40	0.17

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(349.4 - 31.89659)(1)/(1) = +3.175E+02 g/L Carbon
(349.4 - 31.89659)(1)/(1)(12) = +2.646E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000655 Date: 04/20/98 Time: 02:12:02

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	3.40	82.35
3	1.50	56.20	93.95
4	2.00	137.90	59.25
5	2.50	207.20	33.45
6	3.00	255.90	19.03
7	3.50	284.30	9.99
8	4.00	297.60	4.47
9	4.50	302.70	1.68
10	5.00	305.50	0.92
11	5.50	307.10	0.52
12	6.00	308.30	0.39
13	6.50	309.20	0.29
14	7.00	310.20	0.32
15	7.50	310.90	0.23
16	8.00	311.80	0.29
17	8.50	312.50	0.22
18	9.00	313.30	0.26
19	9.50	314.00	0.22
20	10.00	314.80	0.25
21	10.50	315.50	0.22
22	11.00	316.20	0.22

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(316.2 - 13.19741)(1)/(1) = +3.030E+02 g/L Carbon
(316.2 - 13.19741)(1)/(1)(12) = +2.525E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000655 Date: 04/20/98 Time: 02:25:44

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	4.60	84.78
3	1.51	21.70	78.80
4	2.00	42.90	49.42
5	2.50	54.30	20.99
6	3.00	59.60	8.89
7	3.50	62.80	5.10
8	4.00	64.90	3.24
9	4.50	66.50	2.41
10	5.00	68.20	2.49
11	5.50	69.30	1.59
12	6.00	70.40	1.56
13	6.50	71.20	1.12
14	7.00	72.10	1.25
15	7.50	72.90	1.10
16	8.00	73.60	0.95
17	8.50	74.30	0.94
18	9.00	75.20	1.20
19	9.50	75.70	0.66
20	10.00	76.30	0.79
21	10.50	76.90	0.78
22	11.00	77.50	0.77

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(77.5 - 31.89421)(1)/(1) = +4.56E+01 g/L Carbon
(77.5 - 31.89421)(1)/(1)(12) = +3.80E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000655DUP Date: 04/20/98 Time: 02:40:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.00	2.30	65.22
3	1.50	22.70	89.87
4	2.00	64.10	64.59
5	2.50	108.90	41.14
6	3.00	144.40	24.58
7	3.50	165.90	12.96
8	4.00	178.50	7.06
9	4.50	185.60	3.83
10	5.00	190.90	2.78
11	5.50	193.90	1.55
12	6.00	195.50	0.82
13	6.50	196.70	0.61
14	7.00	197.50	0.41
15	7.50	198.40	0.45
16	8.00	199.10	0.35
17	8.50	199.90	0.40
18	9.00	200.60	0.35
19	9.50	201.20	0.30
20	10.00	201.90	0.35
21	10.50	202.60	0.35
22	11.00	203.30	0.34

USER INPUT BLANK VALUE
BLANK VALUE = 13.19634 micrograms carbon
BLANK FACTOR = 13.19634 / 10.99695 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(203.3 - 13.19541)(1)/(1) = +1.901E+02 g/L Carbon
(203.3 - 13.19541)(1)/(1)(12) = +1.584E+01 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000655DUP Date: 04/20/98 Time: 02:52:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.9 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	3.00	80.00
3	1.50	13.00	76.92
4	2.00	27.30	52.38
5	2.50	35.90	23.96
6	3.00	40.20	10.70
7	3.50	42.80	6.07
8	4.00	44.80	4.46
9	4.50	46.10	2.82
10	5.00	47.40	2.74
11	5.50	48.40	2.07
12	6.00	49.50	2.22
13	6.50	50.50	1.98
14	7.00	51.50	1.94
15	7.50	52.30	1.53
16	8.00	53.10	1.51
17	8.50	53.90	1.48
18	9.00	54.60	1.28
19	9.50	55.30	1.27
20	10.00	56.00	1.25
21	10.50	56.60	1.06
22	11.00	57.20	1.05

USER INPUT BLANK VALUE
BLANK VALUE = 31.89115 micrograms carbon
BLANK FACTOR = 31.89115 / 10.99695 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:
(57.2 - 31.89372)(1)/(1) = +2.53E+01 g/L Carbon
(57.2 - 31.89372)(1)/(1)(12) = +2.11E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

LABCORE Data Entry Template for Worklist# 22800

Analyst: SLH **Instrument:** CARB2 _____ **Book#** TIC 25N12-C TOC 26N12-D

Method: LA-342-100 Rev/Mod C-1

Worklist Comment: TX104, @TICTOC1, STD: TIC1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000666	0		@TICTOC1	LIQUID	98000129	TX-104
	Analytes Requested:	TIC-02 , TOC-02						
4	DUP	S98T000666	0		@TICTOC1	LIQUID		
5	SPK	S98T000666	0		@TICTOC1	LIQUID		
6	SAMPLE	S98T000762	0		@TICTOC1	LIQUID	98000130	TX-104
	Analytes Requested:	TIC-02 , TOC-02						
7	DUP	S98T000762	0		@TICTOC1	LIQUID		

Final page for worklist # 22800

Sandra Hood Beatrynt
Analyst Signature Date 4-19-98

Jessie Dray 4/27/98
Analyst Signature Date

Reviewed By MJ 4/28/98

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	10.8	16.8
22800	µg of Carbon from Baseline	(C2)	11	18.5

Test Code
@TICTOC1

Matrix
LIQUID

Batch Number
98001156

Rerun
0

µg of Carbon = |C1-C2|

Sample Prep
N/A

Sample #
Blank

Instrument Code
CARB2

Prepared By
lad

Chemist
rws

Analyst
slh

Date Complete
04/27/98

Analysis Date
04/19/98

Analysis Time

Sample Point
TX-104

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon	2.00E-01	1.70E+00

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

TIC/TOC : LA-342-100 (F-1) 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)	585.1	571.5
22800	µg of Carbon from Baseline	(C2)	11	18.5
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix
LIQUID
Batch Number
98001156
Rerun
0
Sample Prep
N/A
Sample #
Instrument Code
CARB2
Prepared By
lad
Chemist
rws
Analyst
slh
Date Complete
04/27/98
Analysis Date
04/19/98
Analysis Time
Sample Point
TX-104

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	5.74E+02	2.77E+03
Percent Standard Recovery	95.4	92.2

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1291.6	158
22800	µg of Carbon from Baseline	(C2)	11	13.5
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98001156
Rerun	0
Sample Prep	N/A
Sample #	S98T000666
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/27/98
Analysis Date	04/19/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.28E+04	1.40E+03

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1224.7	156.8
22800	µg of Carbon from Baseline	(C2)	11	18.5
Test Code	Known µg of C from Original Sample		1.28E+4	1.40E+3
@TICTOC1				

Matrix	LIQUID
Batch Number	98001156
Rerun	0
Sample Prep	N/A
Sample #	S98T000666
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/27/98
Analysis Date	04/19/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.21E+04	1.38E+03

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22800.WB1 04/27/98 10:06:47

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-1) LIQUIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Volume in mL	(SS)	0.1000	0.1000
Work List	Final Coulometer Reading in µg	(C1)	1291.6	158
22800	**Spiked Vial Data**			
Test Code	Sample Volume in mL	(SPK SS)	0.1000	0.1000
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1556.8	428.9
LIQUID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98001156				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S98T000666				
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				
lad				
Chemist				
rws				
Analyst				
slh				
Date Complete				
04/27/98				
Analysis Date				
04/19/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	**QC Found in µg/mL**		5.30E+02	2.71E+03
TX-104	**Percent Spike Recovery**		88.1	90.3

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

SPIKE.WB1 REV 1.1 342100ML

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1295.8	161.6
22800	µg of Carbon from Baseline	(C2)	11	18.5
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98001156
Rerun	0
Sample Prep	N/A
Sample #	S98T000762
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/27/98
Analysis Date	04/19/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.28E+04	1.43E+03

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22800.WB1 04/27/98 10:07:41

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1290.1	169.3
22800	µg of Carbon from Baseline	(C2)	11	18.5
Test Code	Known µg of C from Original Sample		1.28E+4	1.43E+3
@TICTOC1				

Matrix	LIQUID
Batch Number	98001156
Rerun	0
Sample Prep	N/A
Sample #	S98T000762
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	slh
Date Completed	04/27/98
Analysis Date	04/19/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.28E+04	1.51E+03

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22800.WB1 04/27/98 10:08:02

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

Sample: BASE 2 Date: 04/19/98 Time: 10:18:25

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	1.00	0.00
2	1.01	1.60	37.50
3	1.50	2.30	30.43
4	2.00	2.80	17.86
5	2.50	3.50	20.00
6	3.00	4.10	14.63
7	3.50	4.70	12.77
8	4.00	5.10	7.84
9	4.50	5.50	7.27
10	5.00	6.10	9.84
11	5.50	6.40	4.69
12	6.00	6.90	7.25
13	6.50	7.20	4.17
14	7.00	7.90	8.86
15	7.50	8.20	3.66
16	8.00	8.50	3.53
17	8.50	9.10	6.59
18	9.00	9.40	3.19
19	9.50	9.80	4.08
20	10.00	10.30	4.85
21	10.50	10.60	2.83
22	11.00	11.00	3.64

BLANK VALUE = 11 micrograms carbon
BLANK FACTOR = 11 / 10.99799 = +1.00E+00 ug/min Carbon

Sample Run By: Leslie Dias for S. L. Hood
SL HOOD 00002

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 445 TO 460

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

Sample: BASE 2 Date: 04/19/98 Time: 10:34:58

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	0.50	0.00
2	1.01	1.00	50.00
3	1.50	1.60	37.50
4	2.00	3.60	55.56
5	2.50	6.00	40.00
6	3.00	8.40	28.57
7	3.50	10.10	16.83
8	4.00	11.50	12.17
9	4.50	12.20	5.74
10	5.00	12.90	5.43
11	5.50	13.50	4.44
12	6.00	14.00	3.57
13	6.50	14.50	3.45
14	7.00	15.10	3.97
15	7.50	15.60	3.21
16	8.00	16.00	2.50
17	8.50	16.50	3.03
18	9.00	17.00	2.94
19	9.50	17.20	1.16
20	10.00	17.60	2.27
21	10.50	18.00	2.22
22	11.00	18.50	2.70

BLANK VALUE = 18.5 micrograms carbon
BLANK FACTOR = 18.5 / 10.99701 = +1.68E+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: STD 2 Date: 04/19/98 Time: 10:52:03

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1 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	4.00	92.50
3	1.51	48.10	91.68
4	2.00	126.50	61.98
5	2.50	232.70	45.64
6	3.00	347.20	32.98
7	3.50	443.20	21.66
8	4.00	509.10	12.94
9	4.50	545.70	6.71
10	5.00	563.30	3.12
11	5.50	571.80	1.49
12	6.00	576.20	0.76
13	6.50	578.30	0.36
14	7.00	579.90	0.28
15	7.50	580.90	0.17
16	8.00	581.70	0.14
17	8.50	582.50	0.14
18	9.00	583.00	0.09
19	9.50	583.60	0.10
20	10.00	584.10	0.09
21	10.50	584.60	0.09
22	11.00	585.10	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 10.99701 micrograms carbon
BLANK FACTOR = 10.99701 / 10.99701 = +1.0E+00 ug/min Carbon

SAMPLE RESULTS:
(585.1 - 10.99701)(1)/(1000) = +5.741E-01 g/L Carbon
(585.1 - 10.99701)(1)/(1000)(12) = +4.784E-02 Molar Carbon

Sample Run By: SL Hood Bootright
SL HOOD

00002

1ml = 25N12-C

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 2 Date: 04/19/98 Time: 11:06:24

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.00	40.00
3	1.50	4.60	78.26
4	2.00	52.40	91.22
5	2.50	195.00	73.13
6	3.00	368.90	47.14
7	3.50	470.40	21.58
8	4.00	519.50	9.45
9	4.50	543.20	4.36
10	5.00	554.40	2.02
11	5.50	560.10	1.02
12	6.00	563.10	0.53
13	6.50	565.00	0.34
14	7.00	566.30	0.23
15	7.50	567.40	0.19
16	8.00	568.10	0.12
17	8.50	568.80	0.12
18	9.00	569.40	0.11
19	9.50	570.00	0.11
20	10.00	570.50	0.09
21	10.50	571.00	0.09
22	11.00	571.50	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(571.5 - 18.47621)(1)/(200) = +2.765E+00 g/L Carbon
(571.5 - 18.47621)(1)/(200)(12) = +2.304E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: S Alfred Boatright
SL HOOD 00002

200 ml = 26N12-D

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1 Date: 04/19/98 Time: 11:19:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1 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	0.90	44.44
3	1.50	1.60	43.75
4	2.00	3.20	50.00
5	2.50	4.20	23.81
6	3.00	5.10	17.65
7	3.50	5.50	7.27
8	4.00	6.00	8.33
9	4.50	6.40	6.25
10	5.00	6.80	5.88
11	5.50	7.20	5.56
12	6.00	7.50	4.00
13	6.50	7.90	5.06
14	7.00	8.20	3.66
15	7.50	8.60	4.65
16	8.00	8.90	3.37
17	8.50	9.30	4.30
18	9.00	9.60	3.13
19	9.50	9.90	3.03
20	10.00	10.20	2.94
21	10.50	10.50	2.86
22	11.00	10.80	2.78

USER INPUT BLANK VALUE
BLANK VALUE = 10.99701 micrograms carbon
BLANK FACTOR = 10.99701 / 10.99701 = +1.0E+00 ug/min Carbon

SAMPLE RESULTS:
(10.8 - 10.99982)(1)/(1) = < 5.00 E-3 g/L Carbon
(10.8 - 10.99982)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: _____
SL HOOD 00002

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 2 Date: 04/19/98 Time: 12:47:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	0.90	55.56
3	1.51	1.60	43.75
4	2.00	3.80	57.89
5	2.50	6.40	40.63
6	3.00	8.50	24.71
7	3.50	9.90	14.14
8	4.00	11.00	10.00
9	4.50	11.70	5.98
10	5.00	12.50	6.40
11	5.50	12.90	3.10
12	6.00	13.30	3.01
13	6.50	13.80	3.62
14	7.00	14.10	2.13
15	7.50	14.60	3.42
16	8.00	14.80	1.35
17	8.50	15.30	3.27
18	9.00	15.60	1.92
19	9.50	15.90	1.89
20	10.00	16.30	2.45
21	10.50	16.50	1.21
22	11.00	16.80	1.79

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(16.8 - 18.47498)(1)/(1) = < 5.00 E-3 g/L Carbon
(16.8 - 18.47498)(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: S98T000666 Date: 04/19/98 Time: 13:08:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1 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	0.80	75.00
3	1.51	7.70	89.61
4	2.00	195.30	96.06
5	2.50	617.50	68.37
6	3.00	910.50	32.18
7	3.50	1074.70	15.28
8	4.00	1170.70	8.20
9	4.50	1225.00	4.43
10	5.00	1254.00	2.31
11	5.50	1268.90	1.17
12	6.00	1276.30	0.58
13	6.50	1280.50	0.33
14	7.00	1283.20	0.21
15	7.50	1285.00	0.14
16	8.00	1286.60	0.12
17	8.50	1287.50	0.07
18	9.00	1288.60	0.09
19	9.50	1289.50	0.07
20	10.00	1290.20	0.05
21	10.50	1291.00	0.06
22	11.00	1291.60	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 10.99701 micrograms carbon
BLANK FACTOR = 10.99701 / 10.99701 = +1.0E+00 ug/min Carbon

SAMPLE RESULTS:
(1291.6 - 10.99786)(1)/(1) = +1.2806E+03 g/L Carbon
(1291.6 - 10.99786)(1)/(1)(12) = +1.0672E+02 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .100ml = .1504g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000666 Date: 04/19/98 Time: 13:21:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.10	45.45
3	1.50	1.70	35.29
4	2.00	6.50	73.85
5	2.50	22.50	71.11
6	3.00	59.10	61.93
7	3.50	99.20	40.42
8	4.00	123.50	19.68
9	4.50	136.50	9.52
10	5.00	143.50	4.88
11	5.50	147.50	2.71
12	6.00	150.10	1.73
13	6.50	151.50	0.92
14	7.00	152.90	0.92
15	7.50	153.80	0.59
16	8.00	154.80	0.65
17	8.50	155.60	0.51
18	9.00	156.10	0.32
19	9.50	156.70	0.38
20	10.00	157.20	0.32
21	10.50	157.60	0.25
22	11.00	158.00	0.25

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(158 - 18.47969)(1)/(1) = +1.395E+02 g/L Carbon
(158 - 18.47969)(1)/(1)(12) = +1.163E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .100ml = .1504g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00666 DUP Date: 04/19/98 Time: 13:36:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1 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	1.50	3.90	82.05
4	2.00	144.50	97.30
5	2.50	511.50	71.75
6	3.00	815.40	37.27
7	3.50	1003.60	18.75
8	4.00	1106.10	9.27
9	4.50	1160.80	4.71
10	5.00	1189.00	2.37
11	5.50	1203.20	1.18
12	6.00	1210.00	0.56
13	6.50	1213.80	0.31
14	7.00	1216.30	0.21
15	7.50	1218.10	0.15
16	8.00	1219.50	0.11
17	8.50	1220.60	0.09
18	9.00	1221.60	0.08
19	9.50	1222.40	0.07
20	10.00	1223.20	0.07
21	10.50	1224.00	0.07
22	11.00	1224.70	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 10.99701 micrograms carbon
BLANK FACTOR = 10.99701 / 10.99701 = +1.0E+00 ug/min Carbon

SAMPLE RESULTS:
(1224.7 - 10.99884)(1)/(1) = +1.2137E+03 g/L Carbon
(1224.7 - 10.99884)(1)/(1)(12) = +1.0114E+02 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .100 ml = ~~.1041~~ .1418g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00666 DUP Date: 04/19/98 Time: 13:50:21

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.20	41.67
3	1.51	2.30	47.83
4	2.00	11.90	80.67
5	2.50	42.60	72.07
6	3.00	86.10	50.52
7	3.50	116.50	26.09
8	4.00	133.00	12.41
9	4.50	141.00	5.67
10	5.00	145.60	3.16
11	5.50	148.10	1.69
12	6.00	150.00	1.27
13	6.50	151.10	0.73
14	7.00	152.20	0.72
15	7.50	152.90	0.46
16	8.00	153.70	0.52
17	8.50	154.40	0.45
18	9.00	155.00	0.39
19	9.50	155.60	0.39
20	10.00	156.10	0.32
21	10.50	156.40	0.19
22	11.00	156.80	0.26

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(156.8 - 18.47662)(1)/(1) = +1.383E+02 g/L Carbon
(156.8 - 18.47662)(1)/(1)(12) = +1.153E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .100 ml = ~~.1376g~~ .1418g
SL HB 4-19-98

454

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00666 SPK Date: 04/19/98 Time: 14:03:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.50	4.00	82.50
4	2.01	104.30	96.16
5	2.51	423.90	75.40
6	3.01	791.50	46.44
7	3.50	1097.10	27.86
8	4.00	1302.60	15.78
9	4.50	1419.40	8.23
10	5.00	1482.50	4.26
11	5.50	1516.10	2.22
12	6.00	1532.40	1.06
13	6.50	1540.90	0.55
14	7.00	1545.40	0.29
15	7.50	1548.30	0.19
16	8.00	1550.50	0.14
17	8.50	1552.00	0.10
18	9.00	1553.30	0.08
19	9.50	1554.20	0.06
20	10.00	1555.20	0.06
21	10.50	1556.20	0.06
22	11.00	1556.80	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(1556.8 - 18.48082)(1)/(1) = +1.5383E+03 g/L Carbon
(1556.8 - 18.48082)(1)/(1)(12) = +1.2819E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .100 ml = .1463g + .500 ml sph 25 N/2C

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00666 SPK Date: 04/19/98 Time: 14:17:22

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.30	53.85
3	1.50	2.90	55.17
4	2.00	19.30	84.97
5	2.50	78.20	75.32
6	3.00	199.40	60.78
7	3.50	305.50	34.73
8	4.00	362.90	15.82
9	4.50	392.60	7.56
10	5.00	407.40	3.63
11	5.50	414.60	1.74
12	6.00	418.30	0.88
13	6.50	420.90	0.62
14	7.00	422.50	0.38
15	7.50	423.70	0.28
16	8.00	424.80	0.26
17	8.50	425.70	0.21
18	9.00	426.50	0.19
19	9.50	427.10	0.14
20	10.00	427.70	0.14
21	10.50	428.30	0.14
22	11.00	428.90	0.14

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(428.9 - 18.47672)(1)/(1) = +4.104E+02 g/L Carbon
(428.9 - 18.47672)(1)/(1)(12) = +3.420E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .100 ml = .1463 g + .100 ml spk 26N12-D
456

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

762 JMK 4/27/98

Sample: S98T00~~672~~ DUP Date: 04/19/98 Time: 14:59:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1 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	1.50	6.20	82.26
4	2.00	187.00	96.68
5	2.50	631.30	70.38
6	3.00	936.10	32.56
7	3.50	1094.20	14.45
8	4.00	1180.60	7.32
9	4.50	1229.30	3.96
10	5.00	1255.40	2.08
11	5.50	1268.40	1.02
12	6.00	1275.00	0.52
13	6.50	1278.70	0.29
14	7.00	1281.10	0.19
15	7.50	1282.90	0.14
16	8.00	1284.40	0.12
17	8.50	1285.60	0.09
18	9.00	1286.70	0.09
19	9.50	1287.60	0.07
20	10.00	1288.50	0.07
21	10.50	1289.40	0.07
22	11.00	1290.10	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 10.99701 micrograms carbon
BLANK FACTOR = 10.99701 / 10.99701 = +1.0E+00 ug/min Carbon

SAMPLE RESULTS:
(1290.1 - 10.99884)(1)/(1) = +1.2791E+03 g/L Carbon
(1290.1 - 10.99884)(1)/(1)(12) = +1.0659E+02 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .100 ml = .1444g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

762 WMC 4/27/98

Sample: S98T006~~72~~DUP Date: 04/19/98 Time: 15:13:05

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.40	50.00
3	1.51	2.70	48.15
4	2.00	13.00	79.23
5	2.50	42.40	69.34
6	3.00	86.20	50.81
7	3.50	119.90	28.11
8	4.00	138.70	13.55
9	4.50	148.60	6.66
10	5.00	154.50	3.82
11	5.50	157.80	2.09
12	6.00	160.30	1.56
13	6.50	162.00	1.05
14	7.00	163.30	0.80
15	7.50	164.40	0.67
16	8.00	165.30	0.54
17	8.50	166.20	0.54
18	9.00	167.00	0.48
19	9.50	167.60	0.36
20	10.00	168.30	0.42
21	10.50	168.80	0.30
22	11.00	169.30	0.30

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(169.3 - 18.47795)(1)/(1) = +1.508E+02 g/L Carbon
(169.3 - 18.47795)(1)/(1)(12) = +1.257E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .100 ml = .1444g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV. 2.0

762 mg/L 4/27/98

Sample: S98T000672 Date: 04/19/98 Time: 14:30:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1 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	0.70	71.43
3	1.51	5.80	87.93
4	2.00	183.60	96.84
5	2.50	606.80	69.74
6	3.00	911.50	33.43
7	3.50	1079.10	15.53
8	4.00	1174.90	8.15
9	4.50	1228.90	4.39
10	5.00	1258.30	2.34
11	5.50	1272.80	1.14
12	6.00	1280.20	0.58
13	6.50	1284.20	0.31
14	7.00	1286.80	0.20
15	7.50	1288.70	0.15
16	8.00	1290.10	0.11
17	8.50	1291.40	0.10
18	9.00	1292.50	0.09
19	9.50	1293.50	0.08
20	10.00	1294.40	0.07
21	10.50	1295.20	0.06
22	11.00	1295.80	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 10.99701 micrograms carbon
BLANK FACTOR = 10.99701 / 10.99701 = +1.0E+00 ug/min Carbon

SAMPLE RESULTS:
(1295.8 - 10.9989)(1)/(1) = +1.2848E+03 g/L Carbon
(1295.8 - 10.9989)(1)/(1)(12) = +1.0707E+02 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .100 ml = .1450 g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000~~672~~ 762 mg/L 4/22/98 Date: 04/19/98 Time: 14:45:08

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.68 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	1.40	42.86
3	1.50	2.90	51.72
4	2.00	15.60	81.41
5	2.50	48.40	67.77
6	3.00	92.30	47.56
7	3.50	121.80	24.22
8	4.00	137.70	11.55
9	4.50	145.20	5.17
10	5.00	149.60	2.94
11	5.50	152.20	1.71
12	6.00	153.90	1.10
13	6.50	155.40	0.97
14	7.00	156.60	0.77
15	7.50	157.60	0.63
16	8.00	158.30	0.44
17	8.50	159.10	0.50
18	9.00	159.60	0.31
19	9.50	160.10	0.31
20	10.00	160.60	0.31
21	10.50	161.10	0.31
22	11.00	161.60	0.31

USER INPUT BLANK VALUE
BLANK VALUE = 18.47498 micrograms carbon
BLANK FACTOR = 18.47498 / 10.99701 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:
(161.6 - 18.47498)(1)/(1) = +1.431E+02 g/L Carbon
(161.6 - 18.47498)(1)/(1)(12) = +1.193E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .100 ml = .1450g

460

LABCORE Data Entry Template for Worklist# 22801

Analyst: RDM **Instrument:** CARB2 _____ **Book#** 26NPD 25NPC

Method: LA-342-100 **Rev/Mod** _____

Worklist Comment: TX104, @TICTOC1, STD: TIC1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000761	0		@TICTOC1	LIQUID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000761	0		@TICTOC1	LIQUID		
5	SPK	S98T000761	0		@TICTOC1	LIQUID		
6	SAMPLE	S98T000763	0		@TICTOC1	LIQUID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
7	DUP	S98T000763	0		@TICTOC1	LIQUID		

Final page for worklist # 22801

RDM 4/21/98
Analyst Signature Date

Leslie Dun 4/29/98
Analyst Signature Date

Reviewed By MC 4/28/98

S98T763 placed out for rerun due to dup Failure.

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 22801

Analyst: RDM **Instrument:** CARB2 _____ **Book#** 26NPD 25NPC

Method: LA-342-100 Rev/Mod F-1

Worklist Comment: TX104, @TICTOC1, STD: TJC1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000761	0		@TICTOC1	LIQUID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000761	0		@TICTOC1	LIQUID		
5	SPK	S98T000761	0		@TICTOC1	LIQUID		
6	SAMPLE	S98T000763	0		@TICTOC1	LIQUID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
7	DUP	S98T000763	0		@TICTOC1	LIQUID		

Final page for worklist # 22801

RDM 4/21/98

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 (F-1) LIQUIDS

			TIC	TOC
Type: BLNK	Sample Size in mL	(SS)	0.0000	0.0000
	Dilution Factor	(DF)	1	1
Work List: 22801	µg of Carbon in Sample	(C1)	10.3	19.7
	µg of Carbon from Baseline	(C2)	13.5	33.6

Test Code: @TICTOC1

Matrix: LIQUID

Batch Number: 98001157

Rerun: 0

µg of Carbon = |C1-C2|

Sample Prep: N/A

Sample #: Blank

Instrument Code: CARB2

Prepared By: lad

Chemist: rws

Analyst: rdm

Date Complete: 04/24/98

Analysis Date: 04/21/98

Analysis Time:

Sample Point: TX-104

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon	3.20E+00	1.39E+01

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	609.9	565.9
22801	µg of Carbon from Baseline	(C2)	13.5	33.6
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID

Batch Number: 98001157

Rerun: 0

Sample Prep: N/A

Sample #:

Instrument Code: CARB2

Prepared By: lad

Chemist: rws

Analyst: rdm

Date Complete: 04/24/98

Analysis Date: 04/21/98

Analysis Time:

Sample Point: TX-104

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	5.96E+02	2.66E+03
Percent Standard Recovery	99.1	88.7

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1282.4	152.7
22801	µg of Carbon from Baseline	(C2)	13.5	33.6
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98001157
Rerun	0
Sample Prep	N/A
Sample #	S98T000761
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	rdm
Date Complete	04/24/98
Analysis Date	04/21/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.27E+04	1.19E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1388	163.9
22801	µg of Carbon from Baseline	(C2)	13.5	33.6
Test Code	Known µg of C from Original Sample		1.27E+4	1.19E+3
@TICTOC1				

Matrix	LIQUID
Batch Number	98001157
Rerun	0
Sample Prep	N/A
Sample #	S98T000761
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	rdm
Date Complete	04/24/98
Analysis Date	04/21/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.37E+04	1.30E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-1) LIQUIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Volume in mL	(SS)	0.1000	0.1000
Work List	Final Coulometer Reading in µg	(C1)	1282.4	152.7
22801	**Spiked Vial Data**			
Test Code	Sample Volume in mL	(SPK SS)	0.1000	0.1000
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1601.1	481.3
LIQUID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98001157				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S98T000761				
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				
lad				
Chemist				
rws				
Analyst				
rdm				
Date Complete				
04/24/98				
Analysis Date				
04/21/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		**6.02E+02**	**3.00E+03**
Sample Point	**QC Found in µg/mL**		**6.37E+02**	**3.29E+03**
TX-104	**Percent Spike Recovery**		**105.9**	**109.5**

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1278	125.8
22801	µg of Carbon from Baseline	(C2)	13.5	33.6
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98001157
Rerun	0
Sample Prep	N/A
Sample #	S98T000763
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	rdm
Date Complete	04/24/98
Analysis Date	04/21/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.26E+04	9.22E+02

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1284.7	161
22801	µg of Carbon from Baseline	(C2)	13.5	33.6
Test Code	Known µg of C from Original Sample		1.26E+4	9.22E+2
@TICTOC1				

Matrix	LIQUID
Batch Number	98001157
Rerun	0
Sample Prep	N/A
Sample #	S98T000763
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	rdm
Date Complete	04/24/98
Analysis Date	04/21/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.27E+04	1.27E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

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

Sample: BASE Date: 03/10/98 Time: 23:18:51

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	1.30	53.85
3	1.50	2.20	40.91
4	2.00	3.10	29.03
5	2.50	4.00	22.50
6	3.00	4.90	18.37
7	3.50	5.40	9.26
8	4.00	6.10	11.48
9	4.50	6.70	8.96
10	5.00	7.20	6.94
11	5.50	7.80	7.69
12	6.00	8.30	6.02
13	6.50	8.80	5.68
14	7.00	9.50	7.37
15	7.50	9.90	4.04
16	8.00	10.50	5.71
17	8.50	11.00	4.55
18	9.00	11.50	4.35
19	9.50	12.10	4.96
20	10.00	12.60	3.97
21	10.50	13.00	3.08
22	11.00	13.50	3.70

BLANK VALUE = 13.5 micrograms carbon
BLANK FACTOR = 13.5 / 10.99707 = +1.23E+00 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 470 TO 485.

Sample Run By: Leslie Dieg for RD Meyers 6/11/98
RD MEYERS 00000

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

Sample: BASE Date: 03/10/98 Time: 23:35:27

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	2.10	71.43
3	1.51	7.70	72.73
4	2.00	15.00	48.67
5	2.50	19.80	24.24
6	3.00	22.40	11.61
7	3.50	24.00	6.67
8	4.00	25.10	4.38
9	4.50	26.10	3.83
10	5.00	27.00	3.33
11	5.50	27.70	2.53
12	6.00	28.40	2.46
13	6.50	29.00	2.07
14	7.00	29.60	2.03
15	7.50	30.20	1.99
16	8.00	30.70	1.63
17	8.50	31.20	1.60
18	9.00	31.70	1.58
19	9.50	32.20	1.55
20	10.00	32.60	1.23
21	10.50	33.10	1.51
22	11.00	33.60	1.49

BLANK VALUE = 33.6 micrograms carbon
BLANK FACTOR = 33.6 / 10.99792 = +3.06E+00 ug/min Carbon

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

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-~~WM-DP-305~~ 305 REV. 0

Sample: 25N12-C Date: 03/11/98 Time: 00:55:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.70	76.47
3	1.50	38.50	95.58
4	2.00	169.30	77.26
5	2.50	348.90	51.48
6	3.00	476.90	26.84
7	3.50	546.50	12.74
8	4.00	581.40	6.00
9	4.50	596.60	2.55
10	5.00	602.00	0.90
11	5.50	603.90	0.31
12	6.00	605.00	0.18
13	6.50	605.80	0.13
14	7.00	606.40	0.10
15	7.50	606.90	0.08
16	8.00	607.40	0.08
17	8.50	607.90	0.08
18	9.00	608.30	0.07
19	9.50	608.70	0.07
20	10.00	609.20	0.08
21	10.50	609.50	0.05
22	11.00	609.90	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(609.9 - 13.1964)(1)/(1) = +5.967E+02 g/L Carbon
(609.9 - 13.1964)(1)/(1)(12) = +4.973E+01 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 26N12-D Date: 03/11/98 Time: 01:08:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	17.20	97.09
3	1.51	142.10	87.90
4	2.00	343.90	58.68
5	2.50	471.90	27.12
6	3.00	524.80	10.08
7	3.50	547.20	4.09
8	4.00	554.30	1.28
9	4.50	556.80	0.45
10	5.00	558.30	0.27
11	5.50	559.30	0.18
12	6.00	560.20	0.16
13	6.50	561.00	0.14
14	7.00	561.70	0.12
15	7.50	562.30	0.11
16	8.00	563.00	0.12
17	8.50	563.50	0.09
18	9.00	564.00	0.09
19	9.50	564.50	0.09
20	10.00	565.00	0.09
21	10.50	565.40	0.07
22	11.00	565.90	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(565.9 - 34.09638)(1)/(1) = +5.318E+02 g/L Carbon
(565.9 - 34.09638)(1)/(1)(12) = +4.432E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 03/11/98 Time: 01:23:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	1.00	40.00
3	1.51	2.40	58.33
4	2.00	3.80	36.84
5	2.50	4.70	19.15
6	3.00	5.20	9.62
7	3.50	5.70	8.77
8	4.00	6.10	6.56
9	4.50	6.40	4.69
10	5.00	6.70	4.48
11	5.50	7.00	4.29
12	6.00	7.40	5.41
13	6.50	7.60	2.63
14	7.00	7.90	3.80
15	7.50	8.30	4.82
16	8.00	8.50	2.35
17	8.50	8.80	3.41
18	9.00	9.20	4.35
19	9.50	9.40	2.13
20	10.00	9.70	3.09
21	10.50	10.00	3.00
22	11.00	10.30	2.91

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(10.3 - 13.1964)(1)/(1) = < 5.00 E-3 g/L Carbon
(10.3 - 13.1964)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 03/11/98 Time: 01:36:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.70	57.14
3	1.50	2.50	72.00
4	2.00	6.20	59.68
5	2.50	10.10	38.61
6	3.00	12.30	17.89
7	3.50	13.60	9.56
8	4.00	14.60	6.85
9	4.50	15.20	3.95
10	5.00	15.60	2.56
11	5.50	16.10	3.11
12	6.00	16.60	3.01
13	6.50	16.90	1.78
14	7.00	17.30	2.31
15	7.50	17.60	1.70
16	8.00	18.00	2.22
17	8.50	18.30	1.64
18	9.00	18.60	1.61
19	9.50	18.90	1.59
20	10.00	19.20	1.56
21	10.50	19.50	1.54
22	11.00	19.70	1.02

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(19.7 - 34.0995)(1)/(1) = < 5.00 E-3 g/L Carbon
(19.7 - 34.0995)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000761 Date: 03/11/98 Time: 01:51:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.51	49.20	98.78
4	2.00	445.90	88.97
5	2.50	857.40	47.99
6	3.00	1074.10	20.18
7	3.50	1177.10	8.75
8	4.00	1230.70	4.36
9	4.50	1257.80	2.15
10	5.00	1267.20	0.74
11	5.50	1271.10	0.31
12	6.00	1273.30	0.17
13	6.50	1275.00	0.13
14	7.00	1276.20	0.09
15	7.50	1277.30	0.09
16	8.00	1278.30	0.08
17	8.50	1279.10	0.06
18	9.00	1279.80	0.05
19	9.50	1280.50	0.05
20	10.00	1281.10	0.05
21	10.50	1281.80	0.05
22	11.00	1282.40	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(1282.4 - 13.1996)(1)/(1) = +1.2692E+03 g/L Carbon
(1282.4 - 13.1996)(1)/(1)(12) = +1.0577E+02 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000761 Date: 03/11/98 Time: 02:06:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	4.00	90.00
3	1.51	23.30	82.83
4	2.00	58.20	59.97
5	2.50	101.20	42.49
6	3.00	127.30	20.50
7	3.50	137.10	7.15
8	4.00	141.30	2.97
9	4.50	143.40	1.46
10	5.00	144.80	0.97
11	5.50	145.90	0.75
12	6.00	146.80	0.61
13	6.50	147.70	0.61
14	7.00	148.50	0.54
15	7.50	149.10	0.40
16	8.00	149.70	0.40
17	8.50	150.30	0.40
18	9.00	150.80	0.33
19	9.50	151.30	0.33
20	10.00	151.80	0.33
21	10.50	152.30	0.33
22	11.00	152.70	0.26

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(152.7 - 34.09073)(1)/(1) = +1.186E+02 g/L Carbon
(152.7 - 34.09073)(1)/(1)(12) = +9.884E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-~~WM-DP-305~~ 305 REV. 0

Sample: S98T000761DUP Date: 03/11/98 Time: 02:24:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.60	66.67
3	1.51	39.10	98.47
4	2.01	412.20	90.51
5	2.51	886.90	53.52
6	3.01	1151.40	22.97
7	3.50	1272.20	9.50
8	4.00	1331.30	4.44
9	4.50	1360.80	2.17
10	5.00	1372.10	0.82
11	5.50	1376.00	0.28
12	6.00	1378.40	0.17
13	6.50	1380.20	0.13
14	7.00	1381.40	0.09
15	7.50	1382.70	0.09
16	8.00	1383.60	0.07
17	8.50	1384.50	0.07
18	9.00	1385.30	0.06
19	9.50	1386.00	0.05
20	10.00	1386.70	0.05
21	10.50	1387.40	0.05
22	11.00	1388.00	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(1388 - 13.19859)(1)/(1) = +1.3748E+03 g/L Carbon
(1388 - 13.19859)(1)/(1)(12) = +1.1457E+02 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000761DUP Date: 03/11/98 Time: 02:36:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.90	84.21
3	1.50	17.20	88.95
4	2.00	57.00	69.82
5	2.50	106.70	46.58
6	3.00	136.10	21.60
7	3.50	147.10	7.48
8	4.00	151.50	2.90
9	4.50	153.80	1.50
10	5.00	155.50	1.09
11	5.50	156.70	0.77
12	6.00	157.70	0.63
13	6.50	158.50	0.50
14	7.00	159.30	0.50
15	7.50	160.10	0.50
16	8.00	160.80	0.44
17	8.50	161.40	0.37
18	9.00	161.90	0.31
19	9.50	162.50	0.37
20	10.00	163.00	0.31
21	10.50	163.40	0.24
22	11.00	163.90	0.31

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(163.9 - 34.08808)(1)/(1) = +1.298E+02 g/L Carbon
(163.9 - 34.08808)(1)/(1)(12) = +1.082E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000761SPK Date: 03/11/98 Time: 02:52:44

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	1.30	30.77
3	1.51	17.80	92.70
4	2.00	218.70	91.86
5	2.50	671.90	67.45
6	3.00	1108.50	39.39
7	3.50	1368.30	18.99
8	4.00	1490.00	8.17
9	4.50	1547.20	3.70
10	5.00	1575.60	1.80
11	5.50	1585.60	0.63
12	6.00	1589.50	0.25
13	6.50	1591.80	0.14
14	7.00	1593.40	0.10
15	7.50	1594.80	0.09
16	8.00	1596.00	0.08
17	8.50	1597.00	0.06
18	9.00	1597.90	0.06
19	9.50	1598.90	0.06
20	10.00	1599.60	0.04
21	10.50	1600.40	0.05
22	11.00	1601.10	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(1601.1 - 13.19861)(1)/(1) = +1.5879E+03 g/L Carbon
(1601.1 - 13.19861)(1)/(1)(12) = +1.3233E+02 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T761SPK Date: 03/11/98 Time: 03:21:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	19.40	92.27
3	1.50	114.70	83.09
4	2.00	265.80	56.85
5	2.50	373.70	28.87
6	3.00	424.90	12.05
7	3.50	450.30	5.64
8	4.00	459.80	2.07
9	4.50	464.20	0.95
10	5.00	467.00	0.60
11	5.50	469.00	0.43
12	6.00	470.60	0.34
13	6.50	472.30	0.36
14	7.00	473.80	0.32
15	7.50	475.20	0.29
16	8.00	476.50	0.27
17	8.50	477.40	0.19
18	9.00	478.30	0.19
19	9.50	479.20	0.19
20	10.00	479.90	0.15
21	10.50	480.70	0.17
22	11.00	481.30	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(481.3 - 34.08756)(1)/(1) = +4.472E+02 g/L Carbon
(481.3 - 34.08756)(1)/(1)(12) = +3.727E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763 Date: 03/11/98 Time: 03:37:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.10	100.00
3	1.51	0.10	0.00
4	2.00	1.00	90.00
5	2.50	1.70	41.18
6	3.00	40.60	95.81
7	3.50	448.90	90.96
8	4.00	920.70	51.24
9	4.50	1123.80	18.07
10	5.00	1203.20	6.60
11	5.50	1242.40	3.16
12	6.00	1260.10	1.40
13	6.50	1265.90	0.46
14	7.00	1268.60	0.21
15	7.50	1270.40	0.14
16	8.00	1271.80	0.11
17	8.50	1273.10	0.10
18	9.00	1274.20	0.09
19	9.50	1275.20	0.08
20	10.00	1276.30	0.09
21	10.50	1277.10	0.06
22	11.00	1278.00	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(1278 - 13.19859)(1)/(1) = +1.2648E+03 g/L Carbon
(1278 - 13.19859)(1)/(1)(12) = +1.0540E+02 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763 Date: 03/11/98 Time: 03:53:53

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
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	3.60	38.89
4	2.00	6.70	46.27
5	2.50	29.80	77.52
6	3.00	67.00	55.52
7	3.50	93.40	28.27
8	4.00	104.70	10.79
9	4.50	109.40	4.30
10	5.00	112.10	2.41
11	5.50	114.10	1.75
12	6.00	115.70	1.38
13	6.50	117.20	1.28
14	7.00	118.40	1.01
15	7.50	119.60	1.00
16	8.00	120.70	0.91
17	8.50	121.80	0.90
18	9.00	122.70	0.73
19	9.50	123.60	0.73
20	10.00	124.30	0.56
21	10.50	125.10	0.64
22	11.00	125.80	0.56

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(125.8 - 34.0938)(1)/(1) = +9.171E+01 g/L Carbon
(125.8 - 34.0938)(1)/(1)(12) = +7.642E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763D4P Date: 03/11/98 Time: 04:11:03

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.2 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	1.50	46.67
3	1.51	67.80	97.79
4	2.00	479.80	85.87
5	2.50	849.70	43.53
6	3.00	1048.40	18.95
7	3.50	1155.80	9.29
8	4.00	1217.40	5.06
9	4.50	1250.90	2.68
10	5.00	1266.10	1.20
11	5.50	1270.80	0.37
12	6.00	1273.20	0.19
13	6.50	1274.90	0.13
14	7.00	1276.20	0.10
15	7.50	1277.40	0.09
16	8.00	1278.50	0.09
17	8.50	1279.50	0.08
18	9.00	1280.40	0.07
19	9.50	1281.30	0.07
20	10.00	1282.30	0.08
21	10.50	1283.50	0.09
22	11.00	1284.70	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 13.19751 micrograms carbon
BLANK FACTOR = 13.19751 / 10.99792 = +1.2E+00 ug/min Carbon

SAMPLE RESULTS:
(1284.7 - 13.19982)(1)/(1) = +1.2715E+03 g/L Carbon
(1284.7 - 13.19982)(1)/(1)(12) = +1.0596E+02 Molar Carbon

Sample Run By: _____
RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763DUP Date: 03/11/98 Time: 04:25:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	2.80	82.14
3	1.51	21.70	87.10
4	2.00	62.50	65.28
5	2.50	105.90	40.98
6	3.00	132.40	20.02
7	3.50	142.90	7.35
8	4.00	146.90	2.72
9	4.50	149.30	1.61
10	5.00	150.90	1.06
11	5.50	152.10	0.79
12	6.00	153.10	0.65
13	6.50	154.00	0.58
14	7.00	154.80	0.52
15	7.50	155.70	0.58
16	8.00	156.60	0.57
17	8.50	157.40	0.51
18	9.00	158.30	0.57
19	9.50	159.00	0.44
20	10.00	159.70	0.44
21	10.50	160.40	0.44
22	11.00	161.00	0.37

USER INPUT BLANK VALUE
BLANK VALUE = 34.09357 micrograms carbon
BLANK FACTOR = 34.09357 / 10.99792 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(161 - 34.09328)(1)/(1) = +1.269E+02 g/L Carbon
(161 - 34.09328)(1)/(1)(12) = +1.058E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

03/09/98 10:26
A-0004-1

LABCORE Data Entry Template for Worklist# 22802

Analyst: SLH **Instrument:** CARB2 **Book#** TIC 25N12-C TOC 26N12-D

Method: LA-342-100 Rev/Mod F1

Worklist Comment: TX104, @TICTOC1, STD: TIC1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000649	0		@TICTOC1	SOLID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000649	0		@TICTOC1	SOLID		
5	SPK	S98T000649	0		@TICTOC1	SOLID		
6	SAMPLE	S98T000743	0		@TICTOC1	SOLID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
7	DUP	S98T000743	0		@TICTOC1	SOLID		
8	SPK	S98T000743	0		@TICTOC1	SOLID		

Final page for worklist # 22802

Sandra Hood Boatright
Analyst Signature Date 4-17-98

Analyst Signature Date 4/21/98

Reviewed By M L Hall

S98T649 will be rerun for TIC due to spike failure 9/28/98

Data Entry Comments: WL 22742 added to this WL

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
WorkList	µg of Carbon in Sample	(C1)	10.5	18.4
22802	µg of Carbon from Baseline	(C2)	6.5	23.3

Test Code	
@TICTOC1	
Matrix	
SOLID	
Batch Number	
98001165	
Rerun	µg of Carbon = |C1-C2|
0	
Sample Prep	
N/A	
Sample #	
Blank	
Instrument Code	
TOC01	
Prepared By	
lad	
Chemist	
rws	
Analyst	
slh	
Date Complete	
04/24/98	
Analysis Date	
04/17/98	
Analysis Time	
Sample Point	
TX-104	

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	4.00E+00	4.90E+00

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	617.4	580.2
22802	µg of Carbon from Baseline	(C2)	6.5	23.3
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID

Batch Number: 98001165

Rerun: 0

Sample Prep: N/A

Sample #:

Instrument Code: TOC01

Prepared By: lad

Chemist: rws

Analyst: slh

Date Complete: 04/24/98

Analysis Date: 04/17/98

Analysis Time:

Sample Point: TX-104

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	6.11E+02	2.78E+03
Percent Standard Recovery	101.5	92.8

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0586	0.0586
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	489.8	172.4
22802	µg of Carbon from Baseline	(C2)	6.5	23.3
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98001165
Rerun	0
Sample Prep	N/A
Sample #	S98T000649
Instrument Code	TOC01
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/17/98
Analysis Time	
Sample Point	TX-104

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	8.25E+03	2.54E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0537	0.0537
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	408.9	171.2
22802	µg of Carbon from Baseline	(C2)	6.5	23.3
Test Code	Known µg of C from Original Sample		8.25E+3	2.54E+3
@TICTOC1				

Matrix	SOLID
Batch Number	98001165
Rerun	0
Sample Prep	N/A
Sample #	S98T000649
Instrument Code	TOC01
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/17/98
Analysis Time	
Sample Point	TX-104

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	7.49E+03	2.75E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22802.WB1 04/24/98 10:20:08

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.0586	0.0586
Work List	Final Coulometer Reading in µg	(C1)	489.8	172.4
22802	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.0649	0.0649
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	746.8	502.4
SOLID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98001165				
Reruns				
0				
Sample Prep				
N/A				
Sample #	Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1			
S98T000649				
Instrument Code	QC Actual in µg/mL = Spike Value (µg/mL)			
TOC01	QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100			
Prepared By				
lad				
Chemist				
rws				
Analyst				
slh				
Date Complete				
04/24/98				
Analysis Date				
04/17/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		4.09E+02	3.11E+03
TX-104	Percent Spike Recovery		67.9	103.8

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0695	0.0695
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	682.8	163.2
22802	µg of Carbon from Baseline	(C2)	6.5	23.3
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98001165
Rerun	0
Sample Prep	N/A
Sample #	S98T000743
Instrument Code	TOC01
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/17/98
Analysis Time	
Sample Point	TX-104

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	9.73E+03	2.01E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0652	0.0652
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	629.3	133
22802	µg of Carbon from Baseline	(C2)	6.5	23.3
Test Code	Known µg of C from Original Sample		9.73E+3	2.01E+3
@TICTOC1				

Matrix	SOLID
Batch Number	98001165
Rerun	0
Sample Prep	N/A
Sample #	S98T000743
Instrument Code	TOC01
Prepared By	lad
Chemist	rws
Analyst	slh
Date Complete	04/24/98
Analysis Date	04/17/98
Analysis Time	
Sample Point	TX-104

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	9.55E+03	1.68E+03

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SPIKE8

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.0695	0.0695
Work List	Final Coulometer Reading in µg	(C1)	682.8	163.2
22802	Spiked Vial Data			
Test Code	Sample Size in g	(SPK SS)	0.0915	0.0915
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1194.5	515.1
SOLID	Spike Book Number		25n12c	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98001165				
Rerun				
0				
Sample Prep				
N/A				
Sample #	Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1			
S98T000743				
Instrument Code	QC Actual in µg/mL = Spike Value (µg/mL)			
TOC01	QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100			
Prepared By				
lad				
Chemist				
rws				
Analyst				
slh				
Date Complete				
04/24/98				
Analysis Date				
04/17/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		5.91E+02	3.00E+03
TX-104	Percent Spike Recovery		98.2	100.1

Data Entered By:	lad	Date:	04/24/98
Signature of Chemist:		Date:	

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 2 Date: 04/16/98 Time: 18:21:32

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	3.50	71.43
3	1.50	36.70	90.46
4	2.00	152.90	76.00
5	2.50	302.60	49.47
6	3.00	435.10	30.45
7	3.50	524.50	17.04
8	4.00	573.20	8.50
9	4.50	596.20	3.86
10	5.00	605.50	1.54
11	5.50	609.70	0.69
12	6.00	611.60	0.31
13	6.50	612.80	0.20
14	7.00	613.70	0.15
15	7.50	614.30	0.10
16	8.00	614.80	0.08
17	8.50	615.40	0.10
18	9.00	615.80	0.06
19	9.50	616.30	0.08
20	10.00	616.60	0.05
21	10.50	617.10	0.08
22	11.00	617.40	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(617.4 - 6.489784)(1)/(1000) = +6.109E-01 g/L Carbon
(617.4 - 6.489784)(1)/(1000)(12) = +5.091E-02 Molar Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 495 TO 512.

Sample Run By: Susan L Hood Boatright
SL HOOD 00002

Jml = 25N17-C

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 2 Date: 04/16/98 Time: 18:35:48

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 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	1.00	60.00
3	1.51	17.20	94.19
4	2.00	83.10	79.30
5	2.50	213.80	61.13
6	3.00	376.10	43.15
7	3.50	487.00	22.77
8	4.00	539.20	9.68
9	4.50	559.70	3.66
10	5.00	567.90	1.44
11	5.50	571.20	0.58
12	6.00	572.90	0.30
13	6.50	574.10	0.21
14	7.00	574.90	0.14
15	7.50	575.80	0.16
16	8.00	576.50	0.12
17	8.50	577.30	0.14
18	9.00	577.90	0.10
19	9.50	578.50	0.10
20	10.00	579.10	0.10
21	10.50	579.60	0.09
22	11.00	580.20	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(580.2 - 23.31586)(1)/(200) = +2.784E+00 g/L Carbon
(580.2 - 23.31586)(1)/(200)(12) = +2.320E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Alfred Boatright
SL HOOD 00002

.200ml = 26N12-D

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

Sample: BASE 2 Date: 04/16/98 Time: 17:52:08

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	1.04	0.50	60.00
3	1.54	0.90	44.44
4	2.04	1.20	25.00
5	2.54	1.60	25.00
6	3.04	2.10	23.81
7	3.54	2.40	12.50
8	4.04	2.80	14.29
9	4.54	3.00	6.67
10	5.04	3.30	9.09
11	5.54	3.50	5.71
12	6.04	3.80	7.89
13	6.54	4.00	5.00
14	7.04	4.30	6.98
15	7.54	4.60	6.52
16	8.04	4.90	6.12
17	8.54	5.10	3.92
18	9.04	5.40	5.56
19	9.54	5.70	5.26
20	10.04	5.90	3.39
21	10.54	6.20	4.84
22	11.04	6.50	4.62

BLANK VALUE = 6.5 micrograms carbon
BLANK FACTOR = 6.5 / 11.03735 = +5.9E-01 ug/min Carbon

Sample Run By: SL HOOD 00002

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

Sample: BASE 2 Date: 04/16/98 Time: 18:06:30

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	0.30	0.00
2	1.01	0.80	62.50
3	1.51	4.10	80.49
4	2.00	8.40	51.19
5	2.50	11.90	29.41
6	3.00	14.30	16.78
7	3.50	15.80	9.49
8	4.00	16.80	5.95
9	4.50	17.50	4.00
10	5.00	18.10	3.31
11	5.50	18.70	3.21
12	6.00	19.40	3.61
13	6.50	19.80	2.02
14	7.00	20.20	1.98
15	7.50	20.70	2.42
16	8.00	21.10	1.90
17	8.50	21.50	1.86
18	9.00	21.80	1.38
19	9.50	22.30	2.24
20	10.00	22.60	1.33
21	10.50	23.00	1.74
22	11.00	23.30	1.29

BLANK VALUE = 23.3 micrograms carbon
BLANK FACTOR = 23.3 / 10.99805 = +2.12E+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 2 Date: 04/16/98 Time: 19:04:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	1.90	78.95
3	1.51	3.00	36.67
4	2.01	3.80	21.05
5	2.50	4.40	13.64
6	3.00	4.90	10.20
7	3.50	5.30	7.55
8	4.00	5.70	7.02
9	4.50	6.10	6.56
10	5.00	6.40	4.69
11	5.50	6.70	4.48
12	6.00	7.10	5.63
13	6.50	7.40	4.05
14	7.00	7.70	3.90
15	7.50	8.10	4.94
16	8.00	8.40	3.57
17	8.50	8.70	3.45
18	9.00	9.00	3.33
19	9.50	9.40	4.26
20	10.00	9.70	3.09
21	10.50	10.00	3.00
22	11.00	10.50	4.76

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(10.5 - 6.489784)(1)/(1) = +4.01E+00 g/L Carbon
(10.5 - 6.489784)(1)/(1)(12) = +3.34E-01 Molar Carbon

Sample Run By: _____
SL HOOD 00002

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 2 Date: 04/16/98 Time: 20:55:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 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	0.90	55.56
3	1.51	2.90	68.97
4	2.01	5.70	49.12
5	2.51	8.40	32.14
6	3.00	10.30	18.45
7	3.50	11.40	9.65
8	4.00	12.30	7.32
9	4.50	13.00	5.38
10	5.00	13.60	4.41
11	5.50	14.00	2.86
12	6.00	14.50	3.45
13	6.50	15.00	3.33
14	7.00	15.40	2.60
15	7.50	15.90	3.14
16	8.00	16.20	1.85
17	8.50	16.60	2.41
18	9.00	17.00	2.35
19	9.50	17.40	2.30
20	10.00	17.70	1.69
21	10.50	18.00	1.67
22	11.00	18.40	2.17

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(18.4 - 23.31974)(1)/(1) = < 5.00 E-3 g/L Carbon
(18.4 - 23.31974)(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: S98T000649 Date: 04/16/98 Time: 21:22:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	2.30	78.26
3	1.51	30.70	92.51
4	2.00	115.30	73.37
5	2.50	231.60	50.22
6	3.00	329.30	29.67
7	3.50	398.70	17.41
8	4.00	437.70	8.91
9	4.50	458.30	4.49
10	5.00	468.70	2.22
11	5.50	474.40	1.20
12	6.00	477.30	0.61
13	6.50	479.50	0.46
14	7.00	481.20	0.35
15	7.50	482.70	0.31
16	8.00	483.90	0.25
17	8.50	485.00	0.23
18	9.00	486.20	0.25
19	9.50	487.20	0.21
20	10.00	488.00	0.16
21	10.50	488.90	0.18
22	11.00	489.80	0.18

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(489.8 - 6.489352)(1)/(1) = +4.833E+02 g/L Carbon
(489.8 - 6.489352)(1)/(1)(12) = +4.028E+01 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .05869

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000649 Date: 04/16/98 Time: 21:36:34

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	3.20	71.88
3	1.51	26.60	87.97
4	2.00	65.00	59.08
5	2.50	105.60	38.45
6	3.00	134.90	21.72
7	3.50	151.10	10.72
8	4.00	158.60	4.73
9	4.50	161.90	2.04
10	5.00	163.90	1.22
11	5.50	165.50	0.97
12	6.00	166.40	0.54
13	6.50	167.30	0.54
14	7.00	168.10	0.48
15	7.50	168.80	0.41
16	8.00	169.40	0.35
17	8.50	170.00	0.35
18	9.00	170.50	0.29
19	9.50	171.10	0.35
20	10.00	171.60	0.29
21	10.50	172.00	0.23
22	11.00	172.40	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(172.4 - 23.31974)(1)/(1) = +1.491E+02 g/L Carbon
(172.4 - 23.31974)(1)/(1)(12) = +1.242E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS = .05869

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00649 DUP Date: 04/16/98 Time: 21:53:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	2.00	75.00
3	1.51	24.00	91.67
4	2.00	95.00	74.74
5	2.50	190.10	50.03
6	3.00	277.20	31.42
7	3.50	336.20	17.55
8	4.00	370.10	9.16
9	4.50	387.10	4.39
10	5.00	394.60	1.90
11	5.50	398.30	0.93
12	6.00	400.50	0.55
13	6.50	401.80	0.32
14	7.00	402.70	0.22
15	7.50	403.70	0.25
16	8.00	404.40	0.17
17	8.50	405.30	0.22
18	9.00	405.90	0.15
19	9.50	406.80	0.22
20	10.00	407.50	0.17
21	10.50	408.10	0.15
22	11.00	408.90	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(408.9 - 6.489279)(1)/(1) = +4.024E+02 g/L Carbon
(408.9 - 6.489279)(1)/(1)(12) = +3.353E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00002

SS = .0537g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00649 DUP Date: 04/16/98 Time: 22:13:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 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	8.90	92.13
3	1.51	64.30	86.16
4	2.01	113.10	43.15
5	2.51	139.50	18.92
6	3.01	152.20	8.34
7	3.51	157.90	3.61
8	4.01	160.70	1.74
9	4.51	162.60	1.17
10	5.01	163.80	0.73
11	5.51	164.70	0.55
12	6.01	165.50	0.48
13	6.51	166.30	0.48
14	7.01	166.90	0.36
15	7.50	167.60	0.42
16	8.00	168.10	0.30
17	8.50	168.70	0.36
18	9.00	169.30	0.35
19	9.50	169.70	0.24
20	10.00	170.20	0.29
21	10.50	170.70	0.29
22	11.00	171.20	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(171.2 - 23.32517)(1)/(1) = +1.479E+02 g/L Carbon
(171.2 - 23.32517)(1)/(1)(12) = +1.232E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: SL HOOD 00002

SS = .0537g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00649 SPK Date: 04/16/98 Time: 22:31:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	2.20	81.82
3	1.50	62.50	96.48
4	2.00	218.30	71.37
5	2.50	398.60	45.23
6	3.00	542.50	26.53
7	3.50	638.00	14.97
8	4.00	691.30	7.71
9	4.50	718.00	3.72
10	5.00	729.70	1.60
11	5.50	734.70	0.68
12	6.00	737.40	0.37
13	6.50	738.90	0.20
14	7.00	740.20	0.18
15	7.50	741.30	0.15
16	8.00	742.20	0.12
17	8.50	743.00	0.11
18	9.00	743.90	0.12
19	9.50	744.70	0.11
20	10.00	745.50	0.11
21	10.50	746.10	0.08
22	11.00	746.80	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(746.8 - 6.489352)(1)/(1) = +7.403E+02 g/L Carbon
(746.8 - 6.489352)(1)/(1)(12) = +6.169E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00002

SS = .0649g + .500ml ⊛ 25N12-C

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00649 SPK Date: 04/16/98 Time: 22:46:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	2.70	74.07
3	1.51	25.40	89.37
4	2.00	67.00	62.09
5	2.50	115.70	42.09
6	3.00	179.10	35.40
7	3.50	273.90	34.61
8	4.00	368.10	25.59
9	4.50	432.30	14.85
10	5.00	466.30	7.29
11	5.50	481.40	3.14
12	6.00	488.00	1.35
13	6.50	491.50	0.71
14	7.00	493.70	0.45
15	7.50	495.20	0.30
16	8.00	496.60	0.28
17	8.50	497.80	0.24
18	9.00	498.90	0.22
19	9.50	499.90	0.20
20	10.00	500.80	0.18
21	10.50	501.80	0.20
22	11.00	502.40	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(502.4 - 23.31586)(1)/(1) = +4.791E+02 g/L Carbon
(502.4 - 23.31586)(1)/(1)(12) = +3.992E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS = .0649g + .100ml spk 26N12-D

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000743 Date: 04/16/98 Time: 23:00:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	8.30	90.36
3	1.50	183.60	95.48
4	2.00	411.80	55.42
5	2.50	540.40	23.80
6	3.00	609.60	11.35
7	3.50	644.90	5.47
8	4.00	660.90	2.42
9	4.50	668.00	1.06
10	5.00	671.40	0.51
11	5.50	673.40	0.30
12	6.00	674.70	0.19
13	6.50	676.00	0.19
14	7.00	677.00	0.15
15	7.50	677.70	0.10
16	8.00	678.60	0.13
17	8.50	679.30	0.10
18	9.00	680.00	0.10
19	9.50	680.70	0.10
20	10.00	681.40	0.10
21	10.50	682.00	0.09
22	11.00	682.80	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(682.8 - 6.488703)(1)/(1) = +6.763E+02 g/L Carbon
(682.8 - 6.488703)(1)/(1)(12) = +5.636E+01 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .0695g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000743 Date: 04/16/98 Time: 23:19:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 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	1.05	2.30	78.26
3	1.55	18.60	87.63
4	2.05	49.30	62.27
5	2.55	86.70	43.14
6	3.04	118.10	26.59
7	3.55	136.90	13.73
8	4.04	146.30	6.43
9	4.54	150.90	3.05
10	5.04	153.50	1.69
11	5.54	155.30	1.16
12	6.04	156.30	0.64
13	6.54	157.40	0.70
14	7.04	158.10	0.44
15	7.54	158.80	0.44
16	8.04	159.50	0.44
17	8.54	160.20	0.44
18	9.04	160.90	0.44
19	9.54	161.50	0.37
20	10.04	162.10	0.37
21	10.54	162.60	0.31
22	11.04	163.20	0.37

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(163.2 - 23.40462)(1)/(1) = +1.398E+02 g/L Carbon
(163.2 - 23.40462)(1)/(1)(12) = +1.165E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS = .0695g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00743 DUP Date: 04/16/98 Time: 23:32:48

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	10.00	95.00
3	1.51	200.70	95.02
4	2.00	406.50	50.63
5	2.50	518.20	21.56
6	3.00	574.00	9.72
7	3.50	599.20	4.21
8	4.00	611.10	1.95
9	4.50	616.50	0.88
10	5.00	619.20	0.44
11	5.50	620.90	0.27
12	6.00	622.10	0.19
13	6.50	623.00	0.14
14	7.00	624.00	0.16
15	7.50	624.80	0.13
16	8.00	625.60	0.13
17	8.50	626.20	0.10
18	9.00	626.90	0.11
19	9.50	627.50	0.10
20	10.00	628.10	0.10
21	10.50	628.70	0.10
22	11.00	629.30	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(629.3 - 6.488775)(1)/(1) = +6.228E+02 g/L Carbon
(629.3 - 6.488775)(1)/(1)(12) = +5.190E+01 Molar Carbon

Sample Run By: SL HOOD 00002

SS = .06529

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00743 DUP Date: 04/16/98 Time: 23:49:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	2.20	68.18
3	1.50	14.90	85.23
4	2.00	37.40	60.16
5	2.50	66.80	44.01
6	3.00	92.80	28.02
7	3.50	108.30	14.31
8	4.00	116.00	6.64
9	4.50	120.10	3.41
10	5.00	122.50	1.96
11	5.50	124.00	1.21
12	6.00	125.40	1.12
13	6.50	126.40	0.79
14	7.00	127.40	0.78
15	7.50	128.20	0.62
16	8.00	129.00	0.62
17	8.50	129.70	0.54
18	9.00	130.40	0.54
19	9.50	131.00	0.46
20	10.00	131.70	0.53
21	10.50	132.40	0.53
22	11.00	133.00	0.45

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(133 - 23.31534)(1)/(1) = +1.097E+02 g/L Carbon
(133 - 23.31534)(1)/(1)(12) = +9.140E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS = .06529

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00743 SPK Date: 04/17/98 Time: 00:04:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .59 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	6.00	91.67
3	1.50	148.90	95.97
4	2.00	416.90	64.28
5	2.50	688.00	39.40
6	3.00	901.90	23.72
7	3.50	1039.00	13.20
8	4.00	1115.80	6.88
9	4.50	1155.80	3.46
10	5.00	1172.70	1.44
11	5.50	1179.90	0.61
12	6.00	1182.90	0.25
13	6.50	1185.00	0.18
14	7.00	1186.50	0.13
15	%-1432.50	1187.90	0.12
16	%-1432.00	1189.00	0.09
17	%-1431.50	1190.10	0.09
18	%-1431.00	1191.10	0.08
19	%-1430.50	1191.90	0.07
20	%-1430.00	1192.90	0.08
21	%-1429.50	1193.70	0.07
22	%-1429.00	1194.50	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 6.488847 micrograms carbon
BLANK FACTOR = 6.488847 / 10.99805 = +5.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1194.5 --843.1106)(1)/(1) = +2.0376E+03 g/L Carbon
(1194.5 --843.1106)(1)/(1)(12) = +1.6980E+02 Molar Carbon

Please recalculate

Sample Run By: _____
SL HOOD 00002

SS = .0915 + .500 ml spk 25N12C

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T00743 SPK Date: 04/17/98 Time: 00:18:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.12 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	5.60	85.71
3	1.51	46.10	87.85
4	2.00	111.20	58.54
5	2.50	211.20	47.35
6	3.00	330.70	36.14
7	3.50	420.00	21.26
8	4.00	467.70	10.20
9	4.50	488.20	4.20
10	5.00	496.90	1.75
11	5.50	501.30	0.88
12	6.00	503.80	0.50
13	6.50	505.60	0.36
14	7.00	507.20	0.32
15	7.50	508.40	0.24
16	8.00	509.40	0.20
17	8.50	510.50	0.22
18	9.00	511.40	0.18
19	9.50	512.40	0.20
20	10.00	513.40	0.19
21	10.50	514.30	0.17
22	11.00	515.10	0.16

USER INPUT BLANK VALUE
BLANK VALUE = 23.31586 micrograms carbon
BLANK FACTOR = 23.31586 / 10.99805 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(515.1 - 23.31753)(1)/(1) = +4.918E+02 g/L Carbon
(515.1 - 23.31753)(1)/(1)(12) = +4.098E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00002

SS = .0915g + .100 ml spk 26N/2-D
512

LABCORE Completed Worklist Report for Worklist# 22803

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

Method: _____ Rev/Mod _____

Worklist Comment: TX104, @TICTOC1, STD: TIC1.0mL, TOC=0.200mL skw

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK		0	@TICTOC1	TIC-02	SOLID	1	1.00E+0	1.000	ug/g
1	BLNK		0	@TICTOC1	TOC-02	SOLID	1	3.20E+0	3.200	ug/g
2	STD		0	@TICTOC1	TIC-02	SOLID	6.02E+02	5.46E+2	90.698	% Recovery
2	STD		0	@TICTOC1	TOC-02	SOLID	3.00E+03	2.64E+3	88.000	% Recovery
3	SAMPLE	S98T000744	0	@TICTOC1	TIC-02	SOLID	N/A	9.26E+03	5.000	ug/g
3	SAMPLE	S98T000744	0	@TICTOC1	TOC-02	SOLID	N/A	1.74E+03	40.000	ug/g
4	DUP	S98T000744	0	@TICTOC1	TIC-02	SOLID	9.26E+3	9.88E+3	6.479	RPD
4	DUP	S98T000744	0	@TICTOC1	TOC-02	SOLID	1.74E+3	8.37E+2	70.081	RPD
5	SPK	S98T000744	0	@TICTOC1	TIC-02	SOLID	1.00E+02	7.78E+01	77.800	% Recovery
5	SPK	S98T000744	0	@TICTOC1	TOC-02	SOLID	1.00E+02	8.33E+01	83.300	% Recovery

Final page for worklist# 22803

Analyst Signature Date

Daniel K Wollen 4/22/98
Analyst Signature Date

4/27/98
Reviewer Signature Date

Sample will be Rerun due to dup. Failure. 4/27/98

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

LABCORE Data Entry Template for Worklist# 22803

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

Method: LA-342-100 Rev/Mod _____

Worklist Comment: TX104, @TICTOC1, STD: TIC1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000744	0		@TICTOC1	SOLID	98000130	TX-104
		Analytes Requested:			TIC-02 , TOC-02			
4	DUP	S98T000744	0		@TICTOC1	SOLID		
5	SPK	S98T000744	0		@TICTOC1	SOLID		

Final page for worklist # 22803

_____
Analyst Signature **Date**

Tonya K Wollam 4/22/98
Analyst Signature **Date**

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 22803

Analyst: RMA **Instrument:** CARB2 **Book#** 25N22 26N20

Method: LA-342-100 **Rev/Mod** [illegible]

Worklist Comment: TX104, @TICTOC1, STD: TIC1.0mL, TOC=0.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000744	0		@TICTOC1	SOLID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000744	0		@TICTOC1	SOLID		
	Spk	S98T000744						
5	SAMPLE	S98T000745	0		@TICTOC1	SOLID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
6	DUP	S98T000745	0		@TICTOC1	SOLID		
7	SPK	S98T000745	0		@TICTOC1	SOLID		

SKW 4/22/98

Final page for worklist # 22803

RMA 4/16/98
Analyst Signature Date

Daniel K Wollan 4/22/98
Analyst Signature Date

Data Entry Comments: Spiked S98T000744 not 745, Put 745 on another WL.

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	11.1	21.3
22803	µg of Carbon from Baseline	(C2)	12.1	24.5

Test Code	
@TICTOC1	
Matrix	
SOLID	
Batch Number	
98002022	
Rerun	µg of Carbon = |C1-C2|
0	
Sample Prep	
N/A	
Sample #	
BLANK	
Instrument Code	
CARB2	
Prepared By	
skm	
Chemist	
rws	
Analyst	
rdm	
Date Complete	
04/22/98	
Analysis Date	
04/18/98	
Analysis Time	
Sample Point	
TX-104	

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	1.00E+00	3.20E+00

Data Entered By:	skm	Date:	04/22/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	557.9	553.4
22803	µg of Carbon from Baseline	(C2)	12.1	24.5
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID
Batch Number: 98002022
Rerun: 0
Sample Prep: N/A
Sample#: STD
Instrument Code: CARB2
Prepared By: skm
Chemist: rws
Analyst: rdm
Date Complete: 04/22/98
Analysis Date: 04/18/98
Analysis Time:
Sample Point: TX-104

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	5.46E+02	2.64E+03
Percent Standard Recovery	90.7	88.2

Data Entered By:	skm	Date:	04/22/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type: SAMPLE	Sample Size in g	(SS)	0.0640	0.0640
	Dilution Factor	(DF)	1	1
Work List: 22803	µg of Carbon in Sample	(C1)	604.7	136.1
	µg of Carbon from Baseline	(C2)	12.1	24.5
Test Code: @TICTOC1				

Matrix: SOLID
Batch Number: 98002022
Rerun: 0
Sample Prep: N/A
Sample #: S98T000744
Instrument Code: CARB2
Prepared By: skm
Chemist: rws
Analyst: rdm
Date Complete: 04/22/98
Analysis Date: 04/18/98
Analysis Time:
Sample Point: TX-104

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	9.26E+03	1.74E+03

Data Entered By:	skm	Date:	04/22/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\22803.WB1 04/22/98 10:40:02

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0594	0.0594
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	598.7	74.2
22803	µg of Carbon from Baseline	(C2)	12.1	24.5
Test Code	Known µg of C from Original Sample		9.26E+3	1.74E+3
@TICTOC1				

Matrix	SOLID
Batch Number	98002022
Rerun	0
Sample Prep	N/A
Sample #	S98T000744
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	rdm
Date Complete	04/22/98
Analysis Date	04/18/98
Analysis Time	
Sample Point	TX-104

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	9.88E+03	8.37E+02

Data Entered By:	skm	Date:	04/22/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.0640	0.0640
Work List	Final Coulometer Reading in µg	(C1)	604.7	136.1
22803	Spiked Vial Data			
Test Code	Sample Size in g	(SPK SS)	0.0914	0.0914
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1097.9	444.4
SOLID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98002022				
Rerun				
0				
Sample Prep				
N/A				
Sample #				
S98T000744				
Instrument Code				
CARB2				
Prepared By				
skm				
Chemist				
rws				
Analyst				
rdm				
Date Complete				
04/22/98				
Analysis Date				
04/18/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		4.69E+02	2.50E+03
TX-104	Percent Spike Recovery		77.8	83.3

Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1

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

Data Entered By:	skm	Date:	04/22/98
Signature of Chemist:		Date:	

SPIKE.WB1 REV 1.1 342100ML

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

Sample: BASE Date: 04/17/98 Time: 20:41:30

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.00	50.00
3	1.50	2.10	52.38
4	2.00	3.10	32.26
5	2.50	3.80	18.42
6	3.00	4.40	13.64
7	3.50	4.90	10.20
8	4.00	5.30	7.55
9	4.50	5.80	8.62
10	5.00	6.40	9.37
11	5.50	6.80	5.88
12	6.00	7.30	6.85
13	6.50	7.70	5.19
14	7.00	8.20	6.10
15	7.50	8.80	6.82
16	8.00	9.30	5.38
17	8.50	9.70	4.12
18	9.00	10.20	4.90
19	9.50	10.70	4.67
20	10.00	11.10	3.60
21	10.50	11.70	5.13
22	11.00	12.10	3.31

BLANK VALUE = 12.1 micrograms carbon
BLANK FACTOR = 12.1 / 10.9978 = +1.10E+00 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 521 TO 532.

Sample Run By: Leslie Dion for RD Meyers
RD MEYERS 00000

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

Sample: BASE Date: 04/17/98 Time: 21:21:53

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.60	68.75
3	1.51	5.70	71.93
4	2.00	9.30	38.71
5	2.50	12.40	25.00
6	3.00	14.00	11.43
7	3.50	15.30	8.50
8	4.00	16.20	5.56
9	4.50	17.00	4.71
10	5.00	17.80	4.49
11	5.50	18.70	4.81
12	6.00	19.00	1.58
13	6.50	19.60	3.06
14	7.00	20.10	2.49
15	7.50	20.70	2.90
16	8.00	21.40	3.27
17	8.50	21.90	2.28
18	9.00	22.50	2.67
19	9.50	22.90	1.75
20	10.00	23.50	2.55
21	10.50	24.00	2.08
22	11.00	24.50	2.04

BLANK VALUE = 24.5 micrograms carbon
BLANK FACTOR = 24.5 / 10.9989 = +2.23E+00 ug/min Carbon

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

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 25N12-C Date: 04/17/98 Time: 21:44:21

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	10.60	88.68
3	1.50	99.70	89.37
4	2.00	234.50	57.48
5	2.50	358.60	34.61
6	3.00	451.70	20.61
7	3.50	506.30	10.78
8	4.00	533.40	5.08
9	4.50	545.50	2.22
10	5.00	549.50	0.73
11	5.50	551.70	0.40
12	6.00	552.80	0.20
13	6.50	553.60	0.14
14	7.00	554.30	0.13
15	7.50	554.80	0.09
16	8.00	555.30	0.09
17	8.50	555.70	0.07
18	9.00	556.20	0.09
19	9.50	556.60	0.07
20	10.00	557.20	0.11
21	10.50	557.50	0.05
22	11.00	557.90	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 12.09879 micrograms carbon
BLANK FACTOR = 12.09879 / 10.9989 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:
(557.9 - 12.09772)(1)/(1) = +5.458E+02 g/L Carbon
(557.9 - 12.09772)(1)/(1)(12) = +4.548E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 26N12-D Date: 04/17/98 Time: 22:14:02

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.23 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	28.10	97.86
3	1.50	110.50	74.57
4	2.00	273.70	59.63
5	2.50	427.40	35.96
6	3.00	501.40	14.76
7	3.50	530.60	5.50
8	4.00	540.70	1.87
9	4.50	544.50	0.70
10	5.00	546.60	0.38
11	5.50	547.40	0.15
12	6.00	548.40	0.18
13	6.50	548.90	0.09
14	7.00	549.50	0.11
15	7.50	550.20	0.13
16	8.00	550.70	0.09
17	8.50	551.10	0.07
18	9.00	551.50	0.07
19	9.50	552.00	0.09
20	10.00	552.60	0.11
21	10.50	553.00	0.07
22	11.00	553.40	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 24.52755 micrograms carbon
BLANK FACTOR = 24.52755 / 10.9989 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(553.4 - 24.52755)(1)/(1) = +5.289E+02 g/L Carbon
(553.4 - 24.52755)(1)/(1)(12) = +4.407E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/17/98 Time: 22:30:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	2.30	78.26
3	1.50	3.90	41.03
4	2.00	4.90	20.41
5	2.50	5.50	10.91
6	3.00	6.10	9.84
7	3.50	6.50	6.15
8	4.00	6.80	4.41
9	4.50	7.10	4.23
10	5.04	7.40	4.05
11	5.54	7.70	3.90
12	6.04	8.00	3.75
13	6.54	8.30	3.61
14	7.04	8.70	4.60
15	7.54	9.00	3.33
16	8.04	9.30	3.23
17	8.53	9.50	2.11
18	9.03	9.80	3.06
19	9.53	10.20	3.92
20	10.03	10.40	1.92
21	10.53	10.80	3.70
22	11.03	11.10	2.70

USER INPUT BLANK VALUE
BLANK VALUE = 12.09879 micrograms carbon
BLANK FACTOR = 12.09879 / 10.9989 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:
(11.1 - 12.13612)(1)/(1) = < 5.00 E-3 g/L Carbon
(11.1 - 12.13612)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/17/98 Time: 22:43:33

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.23 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.90	84.21
3	1.51	5.60	66.07
4	2.01	9.40	40.43
5	2.50	12.20	22.95
6	3.00	13.90	12.23
7	3.50	14.90	6.71
8	4.00	15.70	5.10
9	4.50	16.30	3.68
10	5.00	16.80	2.98
11	5.50	17.20	2.33
12	6.00	17.60	2.27
13	6.50	18.10	2.76
14	7.00	18.50	2.16
15	7.50	18.90	2.12
16	8.00	19.30	2.07
17	8.50	19.80	2.53
18	9.00	20.00	1.00
19	9.50	20.50	2.44
20	10.00	20.70	0.97
21	10.50	21.10	1.90
22	11.00	21.30	0.94

USER INPUT BLANK VALUE
BLANK VALUE = 24.52755 micrograms carbon
BLANK FACTOR = 24.52755 / 10.9989 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(21.3 - 24.52782)(1)/(1) = < 5.00 E-3 g/L Carbon
(21.3 - 24.52782)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000744 Date: 04/17/98 Time: 23:53:36

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.40	0.00
2	1.01	26.60	83.46
3	1.50	92.80	71.34
4	2.00	228.60	59.41
5	2.50	361.50	36.76
6	3.00	465.00	22.26
7	3.50	531.00	12.43
8	4.00	567.80	6.48
9	4.50	585.70	3.06
10	5.00	593.30	1.28
11	5.50	596.50	0.54
12	6.00	598.20	0.28
13	6.50	599.40	0.20
14	7.00	600.40	0.17
15	7.50	601.00	0.10
16	8.00	601.60	0.10
17	8.50	602.30	0.12
18	9.00	602.80	0.08
19	9.50	603.30	0.08
20	10.00	603.80	0.08
21	10.50	604.20	0.07
22	11.00	604.70	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 12.09879 micrograms carbon
BLANK FACTOR = 12.09879 / 10.9989 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:
(604.7 - 12.09866)(1)/(1) = +5.926E+02 g/L Carbon
(604.7 - 12.09866)(1)/(1)(12) = +4.938E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000744 Date: 04/18/98 Time: 00:08:09

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.23 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	17.50	94.29
3	1.51	39.80	56.03
4	2.00	66.70	40.33
5	2.50	90.30	26.14
6	3.00	107.70	16.16
7	3.50	118.70	9.27
8	4.00	124.40	4.58
9	%-1435.50	127.50	2.43
10	%-1435.00	129.10	1.24
11	%-1434.50	130.30	0.92
12	%-1434.00	131.10	0.61
13	%-1433.50	131.90	0.61
14	%-1433.00	132.60	0.53
15	%-1432.50	133.20	0.45
16	%-1432.00	133.70	0.37
17	%-1431.50	134.10	0.30
18	%-1431.00	134.70	0.45
19	%-1430.50	135.00	0.22
20	%-1430.00	135.40	0.30
21	%-1429.50	135.70	0.22
22	%-1429.00	136.10	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 24.52755 micrograms carbon
BLANK FACTOR = 24.52755 / 10.9989 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(136.1 --3186.674)(1)/(1) = +3.323E+03 g/L Carbon
(136.1 --3186.674)(1)/(1)(12) = +2.769E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000744DUP Date: 04/18/98 Time: 00:30:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.00	2.00	70.00
3	1.51	62.60	96.81
4	2.00	213.10	70.62
5	2.50	367.10	41.95
6	3.00	478.70	23.31
7	3.50	543.20	11.87
8	4.00	573.10	5.22
9	4.50	585.20	2.07
10	5.00	590.00	0.81
11	5.50	591.50	0.25
12	6.00	592.90	0.24
13	6.50	593.60	0.12
14	7.00	594.40	0.13
15	7.50	595.10	0.12
16	8.00	595.60	0.08
17	8.50	596.20	0.10
18	9.00	596.80	0.10
19	9.50	597.20	0.07
20	10.00	597.70	0.08
21	10.50	598.10	0.07
22	11.00	598.70	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 12.09879 micrograms carbon
BLANK FACTOR = 12.09879 / 10.9989 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:
(598.7 - 12.09872)(1)/(1) = +5.866E+02 g/L Carbon
(598.7 - 12.09872)(1)/(1)(12) = +4.888E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000744DUP Date: 04/18/98 Time: 00:49:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.23 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	2.40	87.50
3	1.51	14.60	83.56
4	2.00	34.10	57.18
5	2.50	49.30	30.83
6	3.00	57.50	14.26
7	3.50	62.10	7.41
8	4.00	64.80	4.17
9	4.50	66.60	2.70
10	5.00	67.90	1.91
11	5.50	68.70	1.16
12	6.00	69.50	1.15
13	6.50	70.20	1.00
14	7.00	70.80	0.85
15	7.50	71.10	0.42
16	8.00	71.60	0.70
17	8.50	72.00	0.56
18	9.00	72.40	0.55
19	9.50	72.90	0.69
20	10.00	73.20	0.41
21	10.50	73.70	0.68
22	11.00	74.20	0.67

USER INPUT BLANK VALUE
BLANK VALUE = 24.52755 micrograms carbon
BLANK FACTOR = 24.52755 / 10.9989 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(74.2 - 24.52963)(1)/(1) = +4.97E+01 g/L Carbon
(74.2 - 24.52963)(1)/(1)(12) = +4.14E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000744SPK Date: 04/18/98 Time: 01:30:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	2.40	58.33
3	1.50	58.60	95.90
4	2.00	272.40	78.49
5	2.50	542.80	49.82
6	3.00	768.70	29.39
7	3.50	918.10	16.27
8	4.00	1005.10	8.66
9	4.50	1051.00	4.37
10	5.00	1073.60	2.11
11	5.50	1083.60	0.92
12	6.00	1088.10	0.41
13	6.50	1090.40	0.21
14	7.00	1091.80	0.13
15	7.50	1092.80	0.09
16	8.00	1093.70	0.08
17	8.50	1094.60	0.08
18	9.00	1095.40	0.07
19	9.50	1096.10	0.06
20	10.00	1096.60	0.05
21	10.50	1097.50	0.08
22	11.00	1097.90	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 12.09879 micrograms carbon
BLANK FACTOR = 12.09879 / 10.9989 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:
(1097.9 - 12.0978)(1)/(1) = +1.0858E+03 g/L Carbon
(1097.9 - 12.0978)(1)/(1)(12) = +9.0484E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T0007445pk Date: 04/18/98 Time: 01:45:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.23 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	18.10	98.34
3	1.51	104.80	82.73
4	2.00	232.20	54.87
5	2.50	341.90	32.09
6	3.00	397.70	14.03
7	3.50	422.10	5.78
8	4.00	430.60	1.97
9	4.50	434.20	0.83
10	5.00	436.10	0.44
11	5.50	437.30	0.27
12	6.00	438.40	0.25
13	6.50	439.30	0.20
14	7.00	440.10	0.18
15	7.50	440.70	0.14
16	8.00	441.40	0.16
17	8.50	442.00	0.14
18	9.00	442.50	0.11
19	9.50	443.00	0.11
20	10.00	443.40	0.09
21	10.50	443.90	0.11
22	11.00	444.40	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 24.52755 micrograms carbon
BLANK FACTOR = 24.52755 / 10.9989 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:
(444.4 - 24.52741)(1)/(1) = +4.199E+02 g/L Carbon
(444.4 - 24.52741)(1)/(1)(12) = +3.499E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

LABCORE Completed Worklist Report for Worklist# 23627

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

Method: _____ Rev/Mod _____

Worklist Comment: TX-104 TICTOC STD: TIC 1.mL TOC 0.200 mL lad

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK			0	@TICTOC1 TIC-02	SOLID	1	4.40E+0	4.400	ug/g
1	BLNK			0	@TICTOC1 TOC-02	SOLID	1	4.30E+0	4.300	ug/g
2	STD			0	@TICTOC1 TIC-02	SOLID	6.02E+02	6.23E+2	103.488	% Recovery
2	STD			0	@TICTOC1 TOC-02	SOLID	3.00E+03	2.75E+3	91.667	% Recovery
3	SAMPLE	S98T000711		0	@TICTOC1 TIC-02	SOLID	N/A	4.41E+03	5.000	ug/g
3	SAMPLE	S98T000711		0	@TICTOC1 TOC-02	SOLID	N/A	2.15E+03	40.000	ug/g
4	DUP	S98T000711		0	@TICTOC1 TIC-02	SOLID	4.41E+3	4.19E+3	5.116	RPD
4	DUP	S98T000711		0	@TICTOC1 TOC-02	SOLID	2.15E+3	3.35E+3	43.636	RPD
5	TRIPL	S98T000711		0	@TICTOC1 TIC-02	SOLID	4.41E+3	4.39E+3	0.455	RPD
5	TRIPL	S98T000711		0	@TICTOC1 TOC-02	SOLID	2.15E+3	2.04E+3	5.251	RPD
6	SPK	S98T000711		0	@TICTOC1 TIC-02	SOLID	1.00E+02	9.58E+01	95.800	% Recovery
6	SPK	S98T000711		0	@TICTOC1 TOC-02	SOLID	1.00E+02	1.07E+02	107.000	% Recovery
7	SAMPLE	S98T000712		0	@TICTOC1 TIC-02	SOLID	N/A	3.59E+03	5.000	ug/g
7	SAMPLE	S98T000712		0	@TICTOC1 TOC-02	SOLID	N/A	2.24E+03	40.000	ug/g
8	DUP	S98T000712		0	@TICTOC1 TIC-02	SOLID	3.59E+3	1.60E+3	76.686	RPD
8	DUP	S98T000712		0	@TICTOC1 TOC-02	SOLID	2.24E+3	3.44E+3	42.254	RPD
9	TRIPL	S98T000712		0	@TICTOC1 TIC-02	SOLID	3.59E+3	2.70E+3	28.299	RPD
9	TRIPL	S98T000712		0	@TICTOC1 TOC-02	SOLID	2.24E+3	2.26E+3	0.889	RPD

Final page for worklist# 23627

Analyst Signature **Date**

DK Wolcott 4/27/98
Analyst Signature **Date**

MML 4/28/98
Reviewer Signature **Date**

Sample S98T712 will be rerun for TIC only due ~~1st~~ MML 4/28/98 to dup and tripl failure. MML

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

LABCORE Data Entry Template for Worklist# 23627

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

Method: LA-342-100 Rev/Mod _____

SX106 (P1) SKW 4/27/98

Worklist Comment: ~~TX-104~~ TICTOC STD: TIC 1.mL TOC 0.200 mL lad

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000711	0		@TICTOC1	SOLID	98000145	SX-106 (P1)
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000711	0		@TICTOC1	SOLID		
5	TRIPL	S98T000711	0		@TICTOC1	SOLID		
6	SPK	S98T000711	0		@TICTOC1	SOLID		
7	SAMPLE	S98T000712	0		@TICTOC1	SOLID	98000145	SX-106 (P1)
		Analytes Requested: TIC-02 , TOC-02						
8	DUP	S98T000712	0		@TICTOC1	SOLID		
9	TRIPL	S98T000712	0		@TICTOC1	SOLID		

Final page for worklist # 23627

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

DK Wollan 4/27/98
Analyst Signature **Date**

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 23627

Analyst: KRM **Instrument:** CARB2 **Book#** 75N12C 76N12A

Method: LA-342-100 Rev/Mod P-1

Worklist Comment: ~~TX-104~~ SX106(P1) SKW 4/27/98 TICTOC STD: TIC 1.mL TOC 0.200 mL lad

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000711	0		@TICTOC1	SOLID	98000145	SX-106 (P1)
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000711	0		@TICTOC1	SOLID		
5	SPK	S98T000711	0		@TICTOC1	SOLID		
6	SAMPLE	S98T000712	0		@TICTOC1	SOLID	98000145	SX-106 (P1)
		Analytes Requested: TIC-02 , TOC-02						
7	DUP	S98T000712	0		@TICTOC1	SOLID		

Final page for worklist # 23627

4-27-98

Analyst Signature **Date**

D K Wolcott 4/27/98

Analyst Signature **Date**

Data Entry Comments: RAN TRIP ON S98T000711 & S98T000712

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	12.5	23.1
23627	µg of Carbon from Baseline	(C2)	8.1	27.4

Test Code	
@TICTOC1	
Matrix	
SOLID	
Batch Number	
98002021	
Rerun	µg of Carbon = |C1-C2|
0	
Sample Prep	
N/A	
Sample #	
BLANK	
Instrument Code	
CARB2	
Prepared By	
skm	
Chemist	
rws	
Analyst	
krm	
Date Complete	
04/27/98	
Analysis Date	
04/24/98	

		TIC	TOC
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon	4.40E+00	4.30E+00
SX-106 (P1)			

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	631.5	577.8
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix
LIQUID

Batch Number
98002021

Rerun
0

Sample Prep
N/A

Sample #
STD

Instrument Code
CARB2

Prepared By
skm

Chemist
rws

Analyst
krm

Date Complete
04/27/98

Analysis Date
04/24/98

Analysis Time

Sample Point
SX-106 (P1)

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	6.23E+02	2.75E+03
Percent Standard Recovery	103.6	91.7

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1333	0.1333
SAMPLE	Dilution Factor	(DF)	1	1
WorkList	µg of Carbon in Sample	(C1)	596.6	314.6
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code				
@TICTOC1				

Matrix: SOLID

Batch Number: 98002021

Rerun: 0

Sample Prep: N/A

Sample #: S98T000711

Instrument Code: CARB2

Prepared By: skm

Chemist: rws

Analyst: krm

Date Complete: 04/27/98

Analysis Date: 04/24/98

Analysis Time:

Sample Point: SX-106 (P1)

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.41E+03	2.15E+03

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1318	0.1318
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	559.7	468.4
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code	Known µg of C from Original Sample		4.41E+3	2.15E+3
@TICTOC1				

Matrix	SOLID
Batch Number	98002021
Rerun	0
Sample Prep	N/A
Sample #	S98T000711
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/24/98
Analysis Time	
Sample Point	SX-106 (P1)

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.19E+03	3.35E+03

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

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WORKBOOK PAGE: TRIPL5

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1334	0.1334
TRIPL	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	593.5	299.1
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code	Known µg of C from Original Sample		4.41E+3	2.15E+3
@TICTOC1	Duplicate Result		4.19E+3	3.35E+3

Matrix	SOLID
Batch Number	98002021
Rerun	0
Sample Prep	N/A
Sample #	S98T000711
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/24/98
Analysis Time	
Sample Point	SX-106 (P1)

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	4.39E+03	2.04E+03

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SPIKE6

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1333	0.1333
Work List	Final Coulometer Reading in µg	(C1)	596.6	314.6
23627	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.1308	0.1308
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	873.9	630.5
SOLID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98002021				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S98T000711				
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				
skm				
Chemist				
rws				
Analyst				
krm				
Date Complete				
04/27/98				
Analysis Date				
04/24/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		**6.02E+02**	**3.00E+03**
Sample Point	**QC Found in µg/mL**		**5.77E+02**	**3.22E+03**
SX-106 (P1)	**Percent Spike Recovery**		**95.8**	**107.3**

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SAM7

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1306	0.1306
SAMPLE	Dilution Factor	(DF)	1	1
WorkList	µg of Carbon in Sample	(C1)	476.6	319.3
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98002021
Rerun	0
Sample Prep	N/A
Sample #	S98T000712
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/24/98
Analysis Time	
Sample Point	SX-106 (P1)

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	3.59E+03	2.24E+03

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP8

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1332	0.1332
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	220.7	485.2
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code	Known µg of C from Original Sample		3.59E+3	2.24E+3
@TICTOC1				

Matrix	SOLID
Batch Number	98002021
Rerun	0
Sample Prep	N/A
Sample #	S98T000712
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/24/98
Analysis Time	
Sample Point	SX-106 (P1)

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	1.60E+03	3.44E+03

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

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WORKBOOK PAGE: TRIPL9

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1427	0.1427
TRIPL	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	393.3	349.6
23627	µg of Carbon from Baseline	(C2)	8.1	27.4
Test Code	Known µg of C from Original Sample		3.59E+3	2.24E+3
@TICTOC1	Duplicate Result		1.60E+3	3.44E+3

Matrix	SOLID
Batch Number	98002021
Rerun	0
Sample Prep	N/A
Sample #	S98T000712
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/24/98
Analysis Time	
Sample Point	SX-106 (P1)

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.70E+03	2.26E+03

Data Entered By:	skm	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

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

Sample: BASE2 Date: 04/24/98 Time: 21:09:12

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	0.51	0.00	0.00
2	1.01	0.10	100.00
3	1.50	3.10	96.77
4	2.00	3.10	0.00
5	2.50	3.10	0.00
6	3.00	3.10	0.00
7	3.50	3.20	3.13
8	4.00	3.70	13.51
9	4.50	3.90	5.13
10	5.00	4.30	9.30
11	5.50	4.60	6.52
12	6.00	4.90	6.12
13	6.50	5.30	7.55
14	7.00	5.70	7.02
15	7.50	6.00	5.00
16	8.00	6.20	3.23
17	8.50	6.60	6.06
18	9.00	6.90	4.35
19	9.50	7.20	4.17
20	10.00	7.50	4.00
21	10.50	7.90	5.06
22	11.00	8.10	2.47

BLANK VALUE = 8.1 micrograms carbon
BLANK FACTOR = 8.1 / 10.9978 = +7.4E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 545 TO 564.

Sample Run By: KR MONTEITH 4.24.98 00000

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

Sample: BASE2 Date: 04/24/98 Time: 22:55:20

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	0.51	0.60	0.00
2	1.01	1.10	45.45
3	1.51	4.40	75.00
4	2.00	7.80	43.59
5	2.50	11.20	30.36
6	3.00	14.30	21.68
7	3.50	15.80	9.49
8	4.00	17.40	9.20
9	4.50	18.50	5.95
10	5.00	19.70	6.09
11	5.50	20.70	4.83
12	6.00	21.90	5.48
13	6.50	22.70	3.52
14	7.00	23.20	2.16
15	7.50	24.00	3.33
16	8.00	24.50	2.04
17	8.50	25.00	2.00
18	9.00	25.70	2.72
19	9.50	26.10	1.53
20	10.00	26.50	1.51
21	10.50	27.00	1.85
22	11.00	27.40	1.46

BLANK VALUE = 27.4 micrograms carbon
BLANK FACTOR = 27.4 / 10.9978 = +2.49E+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: 04/24/98 Time: 23:09:18

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	0.51	0.60	0.00
2	1.00	2.10	71.43
3	1.50	75.20	97.21
4	2.00	245.60	69.38
5	2.50	407.40	39.72
6	3.00	520.00	21.65
7	3.50	579.10	10.21
8	4.00	606.50	4.52
9	4.50	617.80	1.83
10	5.00	622.30	0.72
11	5.50	624.70	0.38
12	6.00	626.20	0.24
13	6.50	626.90	0.11
14	7.00	627.90	0.16
15	7.50	628.30	0.06
16	8.00	628.80	0.08
17	8.50	629.30	0.08
18	9.00	629.80	0.08
19	9.50	630.30	0.08
20	10.00	631.00	0.11
21	10.50	631.10	0.02
22	11.00	631.50	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(631.5 - 8.137742)(1)/(1000) = +6.234E-01 g/L Carbon
(631.5 - 8.137742)(1)/(1000)(12) = +5.195E-02 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 04/24/98 Time: 23:22:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 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	1.00	24.30	97.94
3	1.50	187.70	87.05
4	2.00	420.40	55.35
5	2.50	510.60	17.67
6	3.00	542.80	5.93
7	3.50	554.70	2.15
8	4.00	560.80	1.09
9	4.50	564.10	0.59
10	5.00	566.40	0.41
11	5.50	568.20	0.32
12	6.00	569.70	0.26
13	6.50	571.00	0.23
14	7.00	572.00	0.17
15	7.50	573.00	0.17
16	8.00	573.90	0.16
17	8.50	574.60	0.12
18	9.00	575.20	0.10
19	9.50	575.90	0.12
20	10.00	576.60	0.12
21	10.50	577.10	0.09
22	11.00	577.80	0.12

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(577.8 - 27.38058)(1)/(1) = +5.504E+02 g/L Carbon
(577.8 - 27.38058)(1)/(1)(12) = +4.587E+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: 04/24/98 Time: 23:36:21

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	0.51	0.90	0.00
2	1.01	2.80	67.86
3	1.51	4.10	31.71
4	2.01	4.70	12.77
5	2.50	5.40	12.96
6	3.00	5.90	8.47
7	3.50	6.40	7.81
8	4.00	6.90	7.25
9	4.50	7.40	6.76
10	5.00	7.80	5.13
11	5.50	8.20	4.88
12	6.00	8.60	4.65
13	6.50	9.00	4.44
14	7.00	9.50	5.26
15	7.50	9.80	3.06
16	8.00	10.20	3.92
17	8.50	10.70	4.67
18	9.00	11.00	2.73
19	9.50	11.30	2.65
20	10.00	11.70	3.42
21	10.50	12.30	4.88
22	11.00	12.50	1.60

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(12.5 - 8.139819)(1)/(1) = +4.36E+00 g/L Carbon
(12.5 - 8.139819)(1)/(1)(12) = +3.63E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 04/25/98 Time: 00:37:36

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.00	1.20	66.67
3	1.50	4.80	75.00
4	2.00	8.70	44.83
5	2.50	11.50	24.35
6	3.00	13.50	14.81
7	3.50	15.00	10.00
8	4.00	16.10	6.83
9	4.50	16.70	3.59
10	5.00	17.80	6.18
11	5.50	18.00	1.11
12	6.00	18.80	4.26
13	6.50	19.30	2.59
14	7.00	19.80	2.53
15	7.50	20.30	2.46
16	8.00	20.70	1.93
17	8.50	21.10	1.90
18	9.00	21.70	2.76
19	9.50	22.00	1.36
20	10.00	22.40	1.79
21	10.50	22.70	1.32
22	11.00	23.10	1.73

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(23.1 - 27.38696)(1)/(1) = < 5.00 E-3 g/L Carbon
(23.1 - 27.38696)(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: S98T711-2 Date: 04/25/98 Time: 00:57:27

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	0.51	0.30	0.00
2	1.00	3.00	90.00
3	1.50	96.50	96.89
4	2.00	255.90	62.29
5	2.50	394.60	35.15
6	3.00	485.30	18.69
7	3.50	537.60	9.73
8	4.00	565.30	4.90
9	4.50	578.30	2.25
10	5.00	584.60	1.08
11	5.50	587.60	0.51
12	6.00	589.10	0.25
13	6.50	590.20	0.19
14	7.00	591.10	0.15
15	7.50	592.00	0.15
16	8.00	593.00	0.17
17	8.50	593.50	0.08
18	9.00	594.30	0.13
19	9.50	594.80	0.08
20	10.00	595.50	0.12
21	10.50	596.10	0.10
22	11.00	596.60	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(596.6 - 8.138399)(1)/(1) = +5.885E+02 g/L Carbon
(596.6 - 8.138399)(1)/(1)(12) = +4.904E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T711-2 Date: 04/25/98 Time: 01:11:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	1.20	75.00
3	1.51	56.70	97.88
4	2.01	182.80	68.98
5	2.51	256.20	28.65
6	3.01	281.60	9.02
7	3.50	293.20	3.96
8	4.00	298.20	1.68
9	4.50	301.90	1.23
10	5.00	304.10	0.72
11	5.50	306.00	0.62
12	6.00	307.30	0.42
13	6.50	308.30	0.32
14	7.00	309.30	0.32
15	7.50	310.40	0.35
16	8.00	311.10	0.23
17	8.50	311.70	0.19
18	9.00	312.40	0.22
19	9.50	313.00	0.19
20	10.00	313.60	0.19
21	10.50	314.10	0.16
22	11.00	314.60	0.16

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(314.6 - 27.38917)(1)/(1) = +2.872E+02 g/L Carbon
(314.6 - 27.38917)(1)/(1)(12) = +2.393E+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: S98T711DUP-2 Date: 04/25/98 Time: 01:27:50

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	0.51	0.50	0.00
2	1.01	3.20	84.38
3	1.51	88.10	96.37
4	2.00	245.40	64.10
5	2.50	375.60	34.66
6	3.00	460.60	18.45
7	3.50	508.30	9.38
8	4.00	531.90	4.44
9	4.50	543.10	2.06
10	5.00	547.50	0.80
11	5.50	550.30	0.51
12	6.00	552.10	0.33
13	6.50	553.10	0.18
14	7.00	554.10	0.18
15	7.50	555.00	0.16
16	8.00	555.80	0.14
17	8.50	556.50	0.13
18	9.00	557.20	0.13
19	9.50	557.80	0.11
20	10.00	558.50	0.13
21	10.50	559.10	0.11
22	11.00	559.70	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(559.7 - 8.138402)(1)/(1) = +5.516E+02 g/L Carbon
(559.7 - 8.138402)(1)/(1)(12) = +4.596E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T711DUP-2 Date: 04/25/98 Time: 01:41:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	138.10	99.17
3	1.50	313.90	57.60
4	2.00	397.30	20.99
5	2.50	430.00	7.60
6	3.00	443.20	2.98
7	3.50	450.10	1.53
8	4.00	453.50	0.75
9	4.50	456.20	0.59
10	5.00	458.20	0.44
11	5.50	459.60	0.30
12	6.00	461.20	0.35
13	6.50	461.90	0.15
14	7.00	463.10	0.26
15	7.50	463.70	0.13
16	8.00	464.60	0.19
17	8.50	465.30	0.15
18	9.00	466.10	0.17
19	9.50	466.60	0.11
20	10.00	467.30	0.15
21	10.50	468.00	0.15
22	11.00	468.40	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(468.4 - 27.38251)(1)/(1) = +4.410E+02 g/L Carbon
(468.4 - 27.38251)(1)/(1)(12) = +3.675E+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: S98T711TRP-~~1~~ 2 Date: 04/25/98 Time: 01:59:18

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	0.51	0.50	0.00
2	1.00	2.10	76.19
3	1.50	78.90	97.34
4	2.00	233.70	66.24
5	2.50	378.30	38.22
6	3.00	474.60	20.29
7	3.50	531.90	10.77
8	4.00	561.20	5.22
9	4.50	574.60	2.33
10	5.00	580.70	1.05
11	5.50	583.90	0.55
12	6.00	586.00	0.36
13	6.50	587.10	0.19
14	7.00	588.20	0.19
15	7.50	588.90	0.12
16	8.00	589.80	0.15
17	8.50	590.50	0.12
18	9.00	591.20	0.12
19	9.50	591.80	0.10
20	10.00	592.50	0.12
21	10.50	593.00	0.08
22	11.00	593.50	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(593.5 - 8.138396)(1)/(1) = +5.854E+02 g/L Carbon
(593.5 - 8.138396)(1)/(1)(12) = +4.878E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T711TRP-2 Date: 04/25/98 Time: 02:11:56

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	15.00	98.00
3	1.50	134.60	88.86
4	2.01	224.10	39.94
5	2.51	259.60	13.67
6	3.01	274.30	5.36
7	3.50	280.80	2.31
8	4.00	285.00	1.47
9	4.50	287.10	0.73
10	5.00	289.00	0.66
11	5.50	290.60	0.55
12	6.00	291.90	0.45
13	6.50	293.10	0.41
14	7.00	294.10	0.34
15	7.50	294.80	0.24
16	8.00	295.60	0.27
17	8.50	296.30	0.24
18	9.00	297.10	0.27
19	9.50	297.70	0.20
20	10.00	298.20	0.17
21	10.50	298.70	0.17
22	11.00	299.10	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(299.1 - 27.38709)(1)/(1) = +2.717E+02 g/L Carbon
(299.1 - 27.38709)(1)/(1)(12) = +2.264E+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: S98T711SPK-2 Date: 04/25/98 Time: 02:25:26

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	0.51	0.50	0.00
2	1.00	6.90	92.75
3	1.50	132.60	94.80
4	2.00	367.80	63.95
5	2.50	584.30	37.05
6	3.00	725.70	19.48
7	3.50	799.20	9.20
8	4.00	836.80	4.49
9	4.50	853.70	1.98
10	5.00	860.20	0.76
11	5.50	863.70	0.41
12	6.00	865.40	0.20
13	6.50	867.00	0.18
14	7.00	868.00	0.12
15	7.50	868.90	0.10
16	8.00	869.70	0.09
17	8.50	870.60	0.10
18	9.00	871.30	0.08
19	9.50	871.90	0.07
20	10.00	872.60	0.08
21	10.50	873.30	0.08
22	11.00	873.90	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(873.9 - 8.137775)(1)/(1) = +8.658E+02 g/L Carbon
(873.9 - 8.137775)(1)/(1)(12) = +7.215E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T711SPK-2 Date: 04/25/98 Time: 02:37:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 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	27.00	98.15
3	1.51	237.60	88.64
4	2.00	448.60	47.04
5	2.50	548.30	18.18
6	3.00	586.70	6.55
7	3.50	603.80	2.83
8	4.00	610.80	1.15
9	4.50	615.10	0.70
10	5.00	617.80	0.44
11	5.50	619.70	0.31
12	6.00	621.60	0.31
13	6.50	622.90	0.21
14	7.00	624.20	0.21
15	7.50	625.40	0.19
16	8.00	626.30	0.14
17	8.50	627.10	0.13
18	9.00	628.00	0.14
19	9.50	628.60	0.10
20	10.00	629.50	0.14
21	10.50	630.00	0.08
22	11.00	630.50	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(630.5 - 27.38255)(1)/(1) = +6.031E+02 g/L Carbon
(630.5 - 27.38255)(1)/(1)(12) = +5.026E+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: S98T712-2 Date: 04/25/98 Time: 02:49:17

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	0.51	0.60	0.00
2	1.01	2.50	76.00
3	1.50	61.00	95.90
4	2.00	186.30	67.26
5	2.50	300.90	38.09
6	3.00	378.40	20.48
7	3.50	423.30	10.61
8	4.00	448.70	5.66
9	4.50	459.60	2.37
10	5.00	464.50	1.05
11	5.50	467.00	0.54
12	6.00	468.70	0.36
13	6.50	470.00	0.28
14	7.00	470.90	0.19
15	7.50	471.80	0.19
16	8.00	472.60	0.17
17	8.50	473.30	0.15
18	9.00	474.00	0.15
19	9.50	474.70	0.15
20	10.00	475.30	0.13
21	10.50	476.00	0.15
22	11.00	476.60	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(476.6 - 8.13851)(1)/(1) = +4.685E+02 g/L Carbon
(476.6 - 8.13851)(1)/(1)(12) = +3.904E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T712-2 Date: 04/25/98 Time: 03:01:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	16.40	95.12
3	1.51	127.30	87.12
4	2.00	224.30	43.25
5	2.50	269.40	16.74
6	3.00	290.00	7.10
7	3.50	298.90	2.98
8	4.00	303.30	1.45
9	4.50	306.20	0.95
10	5.00	308.20	0.65
11	5.50	309.80	0.52
12	6.00	311.30	0.48
13	6.50	312.50	0.38
14	7.00	313.70	0.38
15	7.50	314.40	0.22
16	8.00	315.30	0.29
17	8.50	316.10	0.25
18	9.00	316.80	0.22
19	9.50	317.50	0.22
20	10.00	318.10	0.19
21	10.50	318.70	0.19
22	11.00	319.30	0.19

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(319.3 - 27.39167)(1)/(1) = +2.919E+02 g/L Carbon
(319.3 - 27.39167)(1)/(1)(12) = +2.433E+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: S98T712DUP-2 Date: 04/25/98 Time: 03:13:12

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	0.51	0.60	0.00
2	1.01	1.00	40.00
3	1.50	1.20	16.67
4	2.00	1.90	36.84
5	2.50	10.30	81.55
6	3.00	39.80	74.12
7	3.50	81.80	51.34
8	4.00	125.10	34.61
9	4.50	159.30	21.47
10	5.00	183.20	13.05
11	5.50	197.90	7.43
12	6.00	205.70	3.79
13	6.50	210.60	2.33
14	7.00	213.40	1.31
15	7.50	215.10	0.79
16	8.00	216.50	0.65
17	8.50	217.30	0.37
18	9.00	218.20	0.41
19	9.50	218.90	0.32
20	10.00	219.60	0.32
21	10.50	220.20	0.27
22	11.00	220.70	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(220.7 - 8.138396)(1)/(1) = +2.126E+02 g/L Carbon
(220.7 - 8.138396)(1)/(1)(12) = +1.771E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T712DUP-2 Date: 04/25/98 Time: 03:26:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	36.70	97.82
3	1.50	222.50	83.51
4	2.00	356.20	37.54
5	2.50	416.90	14.56
6	3.00	445.70	6.46
7	3.50	458.50	2.79
8	4.00	465.50	1.50
9	4.50	469.60	0.87
10	5.00	472.30	0.57
11	5.50	474.60	0.48
12	6.00	476.30	0.36
13	6.50	477.80	0.31
14	7.00	479.10	0.27
15	7.50	480.00	0.19
16	8.00	481.00	0.21
17	8.50	481.90	0.19
18	9.00	482.60	0.15
19	9.50	483.20	0.12
20	10.00	483.90	0.14
21	10.50	484.50	0.12
22	11.00	485.20	0.14

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(485.2 - 27.38708)(1)/(1) = +4.578E+02 g/L Carbon
(485.2 - 27.38708)(1)/(1)(12) = +3.815E+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: S98T712TRP-2 Date: 04/25/98 Time: 03:38:12

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	0.51	1.70	0.00
2	1.01	2.00	15.00
3	1.50	3.50	42.86
4	2.00	55.90	93.74
5	2.50	171.20	67.35
6	3.00	268.70	36.29
7	3.50	327.00	17.83
8	4.00	360.60	9.32
9	4.50	377.50	4.48
10	5.00	383.80	1.64
11	5.50	387.00	0.83
12	6.00	388.50	0.39
13	6.50	389.50	0.26
14	7.00	390.10	0.15
15	7.50	390.60	0.13
16	8.00	391.10	0.13
17	8.50	391.50	0.10
18	9.00	391.90	0.10
19	9.50	392.30	0.10
20	10.00	392.70	0.10
21	10.50	392.90	0.05
22	11.00	393.30	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 8.138374 micrograms carbon
BLANK FACTOR = 8.138374 / 10.9978 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(393.3 - 8.139131)(1)/(1) = +3.852E+02 g/L Carbon
(393.3 - 8.139131)(1)/(1)(12) = +3.210E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T712TRP-2 Date: 04/25/98 Time: 03:52:22

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.49 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	18.30	97.81
3	1.50	132.10	86.15
4	2.00	288.50	44.61
5	2.50	293.50	18.74
6	3.00	319.00	7.99
7	3.50	329.40	3.16
8	4.00	334.90	1.64
9	4.50	337.90	0.89
10	5.00	340.00	0.62
11	5.50	341.70	0.50
12	6.00	343.20	0.44
13	6.50	344.50	0.38
14	7.00	345.20	0.20
15	7.50	346.00	0.23
16	8.00	346.60	0.17
17	8.50	347.30	0.20
18	9.00	347.80	0.14
19	9.50	348.30	0.14
20	10.00	348.70	0.11
21	10.50	349.10	0.11
22	11.00	349.60	0.14

USER INPUT BLANK VALUE
BLANK VALUE = 27.38453 micrograms carbon
BLANK FACTOR = 27.38453 / 10.9978 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:
(349.6 - 27.38461)(1)/(1) = +3.222E+02 g/L Carbon
(.349.6 - 27.38461)(1)/(1)(12) = +2.685E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

LABCORE Data Entry Template for Worklist# 23628

Analyst: KRM **Instrument:** CARB2 _____ **Book#** 25W12C 26W12D

Method: LA-342-100 Rev/Mod 1

Worklist Comment: TX-104 TICTOC STD TIC 1ml TOC .200mL lad

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000745	0		@TICTOC1	SOLID	98000130	TX-104
		Analytes Requested:			TIC-02	, TOC-02		
4	DUP	S98T000745	0		@TICTOC1	SOLID		
5	SPK	S98T000745	0		@TICTOC1	SOLID		

Final page for worklist # 23628

4-27-98
Analyst Signature **Date**

4/27/98
Analyst Signature **Date**

Reviewed By MK 4/28/98

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	7.1	18.7
23628	µg of Carbon from Baseline	(C2)	4.9	20.3

Test Code	@TICTOC1
Matrix	SOLID
Batch Number	98002023
Rerun	0
Sample Prep	N/A
Sample #	Blank
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/27/98
Analysis Time	
Sample Point	TX-104

µg of Carbon = |C1-C2|

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	2.20E+00	1.60E+00

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	615.3	563
23628	µg of Carbon from Baseline	(C2)	4.9	20.3
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix
LIQUID

Batch Number
98002023

Rerun
0

Sample Prep
N/A

Sample #
Std

Instrument Code
CARB2

Prepared By
lad

Chemist
rws

Analyst
krm

Date Complete
04/27/98

Analysis Date
04/27/98

Analysis Time

Sample Point
TX-104

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	6.10E+02	2.71E+03
Percent Standard Recovery	101.4	90.5

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.3004	0.3004
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	852	189.2
23628	µg of Carbon from Baseline	(C2)	4.9	20.3
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98002023
Rerun	0
Sample Prep	N/A
Sample #	S98T000745
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/27/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.82E+03	5.62E+02

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\23628.WB1 04/27/98 12:55:16

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.2457	0.2457
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	639.1	180.1
23628	µg of Carbon from Baseline	(C2)	4.9	20.3
Test Code	Known µg of C from Original Sample		2.82E+3	5.62E+2
@TICTOC1				

Matrix	SOLID
Batch Number	98002023
Rerun	0
Sample Prep	N/A
Sample #	S98T000745
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/27/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.58E+03	6.50E+02

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.3004	0.3004
Work List	Final Coulometer Reading in µg	(C1)	852	189.2
23628	**Spiked Vial Data**			
Test Code	Sample Size in g	(SPK SS)	0.2695	0.2695
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1032.1	482.2
SOLID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98002023				
Rerun				
0				
Sample Prep				
N/A				
Sample #	**Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1**			
S98T000745				
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				
lad				
Chemist				
rws				
Analyst				
krm				
Date Complete				
04/27/98				
Analysis Date				
04/27/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	**QC Found in µg/mL**		5.35E+02	3.12E+03
TX-104	**Percent Spike Recovery**		88.9	104.2

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

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

Sample: BASE2 Date: 04/26/98 Time: 17:56:29

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	0.51	0.20	0.00
2	1.01	0.30	33.33
3	1.51	0.60	50.00
4	2.01	0.90	33.33
5	2.51	1.20	25.00
6	3.01	1.50	20.00
7	3.51	1.70	11.76
8	4.00	1.90	10.53
9	4.50	2.10	9.52
10	5.00	2.30	8.70
11	5.50	2.50	8.00
12	6.00	2.70	7.41
13	6.50	2.90	6.90
14	7.00	3.20	9.37
15	7.50	3.40	5.88
16	8.00	3.60	5.56
17	8.50	3.80	5.26
18	9.00	4.00	5.00
19	9.50	4.20	4.76
20	10.00	4.50	6.67
21	10.50	4.70	4.26
22	11.00	4.90	4.08

BLANK VALUE = 4.9 micrograms carbon
BLANK FACTOR = 4.9 / 10.99878 = +4.5E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 571 TO 582.

Sample Run By: 4-27-98
KR MONTEITH 00000

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

Sample: BASE2 Date: 04/26/98 Time: 18:08:43

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	0.51	0.30	0.00
2	1.00	0.50	40.00
3	1.50	3.20	84.38
4	2.00	8.30	61.45
5	2.50	11.40	27.19
6	3.00	13.30	14.29
7	3.50	14.40	7.64
8	4.00	15.10	4.64
9	4.50	15.80	4.43
10	5.00	16.30	3.07
11	5.50	16.70	2.40
12	6.00	17.10	2.34
13	6.50	17.40	1.72
14	7.00	17.80	2.25
15	7.50	18.10	1.66
16	8.00	18.40	1.63
17	8.50	18.80	2.13
18	9.00	19.10	1.57
19	9.50	19.40	1.55
20	10.00	19.70	1.52
21	10.50	20.00	1.50
22	11.00	20.30	1.48

BLANK VALUE = 20.3 micrograms carbon
BLANK FACTOR = 20.3 / 10.9989 = +1.85E+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: 04/26/98 Time: 18:22:04

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .45 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.00	11.80	96.61
3	1.50	143.70	91.79
4	2.00	314.10	54.25
5	2.50	453.50	30.74
6	3.00	539.10	15.88
7	3.50	580.00	7.05
8	4.00	596.80	2.82
9	4.50	604.20	1.22
10	5.00	607.50	0.54
11	5.50	609.30	0.30
12	6.00	610.40	0.18
13	6.50	611.20	0.13
14	7.00	611.80	0.10
15	7.50	612.40	0.10
16	8.00	612.90	0.08
17	8.50	613.30	0.07
18	9.00	613.70	0.07
19	9.50	614.10	0.07
20	10.00	614.60	0.08
21	10.50	614.90	0.05
22	11.00	615.30	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 4.949505 micrograms carbon
BLANK FACTOR = 4.949505 / 10.9989 = +4.5E-01 ug/min Carbon

SAMPLE RESULTS:
(615.3 - 4.948681)(1)/(1000) = +6.104E-01 g/L Carbon
(615.3 - 4.948681)(1)/(1000)(12) = +5.086E-02 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 04/26/98 Time: 18:38:23

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.85 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	9.10	96.70
3	1.50	202.60	95.51
4	2.00	421.80	51.97
5	2.50	505.40	16.54
6	3.00	533.30	5.23
7	3.50	545.10	2.16
8	4.00	550.30	0.94
9	4.50	553.30	0.54
10	5.00	555.20	0.34
11	5.50	556.30	0.20
12	6.00	557.30	0.18
13	6.50	558.10	0.14
14	7.00	558.90	0.14
15	7.50	559.50	0.11
16	8.00	560.10	0.11
17	8.50	560.60	0.09
18	9.00	561.20	0.11
19	9.50	561.70	0.09
20	10.00	562.10	0.07
21	10.50	562.60	0.09
22	11.00	563.00	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 20.34797 micrograms carbon
BLANK FACTOR = 20.34797 / 10.9989 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(563 - 20.34435)(1)/(200) = +2.713E+00 g/L Carbon
(563 - 20.34435)(1)/(200)(12) = +2.261E-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: 04/26/98 Time: 20:06:39

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .45 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.00	0.70	57.14
3	1.50	1.00	30.00
4	2.00	1.50	33.33
5	2.50	1.90	21.05
6	3.00	2.30	17.39
7	3.50	2.60	11.54
8	4.00	3.00	13.33
9	4.50	3.30	9.09
10	5.00	3.60	8.33
11	5.50	3.90	7.69
12	6.00	4.20	7.14
13	6.50	4.50	6.67
14	7.00	4.80	6.25
15	7.50	5.10	5.88
16	8.00	5.40	5.56
17	8.50	5.70	5.26
18	9.00	6.00	5.00
19	9.50	6.30	4.76
20	10.00	6.60	4.55
21	10.50	6.80	2.94
22	11.00	7.10	4.23

USER INPUT BLANK VALUE
BLANK VALUE = 4.949505 micrograms carbon
BLANK FACTOR = 4.949505 / 10.9989 = +4.5E-01 ug/min Carbon

SAMPLE RESULTS:
(7.1 - 4.94945)(1)/(1) = +2.2E+00 g/L Carbon
(7.1 - 4.94945)(1)/(1)(12) = +1.8E-01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 04/26/98 Time: 20:21:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.85 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	0.90	55.56
3	1.51	4.20	78.57
4	2.00	7.60	44.74
5	2.50	10.20	25.49
6	3.00	11.50	11.30
7	3.50	12.60	8.73
8	4.00	13.30	5.26
9	4.50	13.90	4.32
10	5.00	14.30	2.80
11	5.50	14.80	3.38
12	6.00	15.30	3.27
13	6.50	15.70	2.55
14	7.00	16.00	1.88
15	7.50	16.40	2.44
16	8.00	16.70	1.80
17	8.50	17.10	2.34
18	9.00	17.40	1.72
19	9.50	17.80	2.25
20	10.00	18.00	1.11
21	10.50	18.40	2.17
22	11.00	18.70	1.60

USER INPUT BLANK VALUE
BLANK VALUE = 20.34797 micrograms carbon
BLANK FACTOR = 20.34797 / 10.9989 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(18.7 - 20.34639)(1)/(1) = < 5.00 E-3 g/L Carbon
(18.7 - 20.34639)(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: S98T745-2 Date: 04/27/98 Time: 00:27:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .45 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.80	0.00
2	1.01	2.30	21.74
3	1.50	44.70	94.85
4	2.00	234.00	80.90
5	2.50	463.50	49.51
6	3.00	641.30	27.72
7	3.50	743.40	13.73
8	4.00	794.90	6.48
9	4.50	820.50	3.12
10	5.00	832.00	1.38
11	5.50	837.80	0.69
12	6.00	840.80	0.36
13	6.50	842.90	0.25
14	7.00	844.40	0.18
15	7.50	845.60	0.14
16	8.00	846.70	0.13
17	8.50	847.80	0.13
18	9.00	848.80	0.12
19	9.50	849.60	0.09
20	10.00	850.40	0.09
21	10.50	851.30	0.11
22	11.00	852.00	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 4.949505 micrograms carbon
BLANK FACTOR = 4.949505 / 10.9989 = +4.5E-01 ug/min Carbon

SAMPLE RESULTS:
(852 - 4.947826)(1)/(1) = +8.471E+02 g/L Carbon
(852 - 4.947826)(1)/(1)(12) = +7.059E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T745-2 Date: 04/27/98 Time: 00:40:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.85 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	3.90	76.92
3	1.50	59.00	93.39
4	2.00	119.10	50.46
5	2.50	148.30	19.69
6	3.00	161.30	8.06
7	3.50	168.40	4.22
8	4.00	172.30	2.26
9	4.50	175.30	1.71
10	5.00	177.40	1.18
11	5.50	179.40	1.11
12	6.00	180.90	0.83
13	6.50	182.30	0.77
14	7.00	183.40	0.60
15	7.50	184.30	0.49
16	8.00	185.20	0.49
17	8.50	186.00	0.43
18	9.00	186.80	0.43
19	9.50	187.50	0.37
20	10.00	188.10	0.32
21	10.50	188.60	0.27
22	11.00	189.20	0.32

USER INPUT BLANK VALUE
BLANK VALUE = 20.34797 micrograms carbon
BLANK FACTOR = 20.34797 / 10.9989 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(189.2 - 20.34785)(1)/(1) = +1.689E+02 g/L Carbon
(189.2 - 20.34785)(1)/(1)(12) = +1.407E+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: S98T745DUP-2 Date: 04/27/98 Time: 00:59:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .45 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.00	5.10	92.16
3	1.50	86.90	94.13
4	2.00	241.30	63.99
5	2.50	396.40	39.13
6	3.00	507.70	21.92
7	3.50	570.20	10.96
8	4.00	602.10	5.30
9	4.50	616.80	2.38
10	5.00	623.80	1.12
11	5.50	627.50	0.59
12	6.00	629.60	0.33
13	6.50	631.10	0.24
14	7.00	632.30	0.19
15	7.50	633.40	0.17
16	8.00	634.40	0.16
17	8.50	635.40	0.16
18	9.00	636.10	0.11
19	9.50	637.00	0.14
20	10.00	637.70	0.11
21	10.50	638.40	0.11
22	11.00	639.10	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 4.949505 micrograms carbon
BLANK FACTOR = 4.949505 / 10.9989 = +4.5E-01 ug/min Carbon

SAMPLE RESULTS:
(639.1 - 4.9491)(1)/(1) = +6.342E+02 g/L Carbon
(639.1 - 4.9491)(1)/(1)(12) = +5.285E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T745DUP-2 Date: 04/27/98 Time: 01:29:00

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.85 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	1.00	7.50	92.00
3	1.50	71.00	89.44
4	2.00	120.20	40.93
5	2.50	142.40	15.59
6	3.00	153.00	6.93
7	3.50	158.50	3.47
8	4.00	162.40	2.40
9	4.50	164.90	1.52
10	5.00	167.20	1.38
11	5.50	168.90	1.01
12	6.00	170.60	1.00
13	6.50	171.80	0.70
14	7.00	173.10	0.75
15	7.50	174.30	0.69
16	8.00	175.20	0.51
17	8.50	176.20	0.57
18	9.00	177.10	0.51
19	9.50	178.00	0.51
20	10.00	178.80	0.45
21	10.50	179.30	0.28
22	11.00	180.10	0.44

USER INPUT BLANK VALUE
BLANK VALUE = 20.34797 micrograms carbon
BLANK FACTOR = 20.34797 / 10.9989 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(180.1 - 20.3463)(1)/(1) = +1.598E+02 g/L Carbon
(180.1 - 20.3463)(1)/(1)(12) = +1.331E+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: S98T745SPK-2 Date: 04/27/98 Time: 01:44:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .45 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	1.20	58.33
3	1.51	78.00	98.46
4	2.00	316.60	75.36
5	2.50	592.80	46.59
6	3.00	797.80	25.70
7	3.50	913.00	12.62
8	4.00	972.50	6.12
9	4.50	1000.10	2.76
10	5.00	1012.70	1.24
11	5.50	1018.30	0.55
12	6.00	1021.30	0.29
13	6.50	1023.20	0.19
14	7.00	1024.60	0.14
15	7.50	1025.90	0.13
16	8.00	1026.90	0.10
17	8.50	1028.00	0.11
18	9.00	1028.90	0.09
19	9.50	1029.80	0.09
20	10.00	1030.60	0.08
21	10.50	1031.30	0.07
22	11.00	1032.10	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 4.949505 micrograms carbon
BLANK FACTOR = 4.949505 / 10.9989 = +4.5E-01 ug/min Carbon

SAMPLE RESULTS:
(1032.1 - 4.949475)(1)/(1) = +1.0272E+03 g/L Carbon
(1032.1 - 4.949475)(1)/(1)(12) = +8.5596E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T745SPK-2 Date: 04/27/98 Time: 01:59:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.85 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	3.20	78.13
3	1.51	98.30	96.74
4	2.00	266.90	63.17
5	2.50	383.00	30.31
6	3.00	430.80	11.10
7	3.50	451.10	4.50
8	4.00	460.20	1.98
9	4.50	465.30	1.10
10	5.00	468.40	0.66
11	5.50	470.80	0.51
12	6.00	472.70	0.40
13	6.50	474.20	0.32
14	7.00	475.40	0.25
15	7.50	476.50	0.23
16	8.00	477.50	0.21
17	8.50	478.50	0.21
18	9.00	479.50	0.21
19	9.50	480.10	0.12
20	10.00	480.80	0.15
21	10.50	481.50	0.15
22	11.00	482.20	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 20.34797 micrograms carbon
BLANK FACTOR = 20.34797 / 10.9989 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(482.2 - 20.34938)(1)/(1) = +4.619E+02 g/L Carbon
(482.2 - 20.34938)(1)/(1)(12) = +3.849E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

LABCORE Data Entry Template for Worklist# 23677

Analyst: KRM **Instrument:** CARB2 _____ **Book#** 25N 12 C 26N 12 B

Method: LA-342-100 Rev/Mod F-1

Worklist Comment: TX104, @TICTOC1, RERUN, STD: TIC=1.0mL, TOC=.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000654	0		@TICTOC1	SOLID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000654	0		@TICTOC1	SOLID		
5	SPK	S98T000654	0		@TICTOC1	SOLID		
6	SAMPLE	S98T000655	0		@TICTOC1	SOLID	98000129	TX-104
		Analytes Requested: TIC-02 , TOC-02						
7	DUP	S98T000655	0		@TICTOC1	SOLID		

Final page for worklist #23677

4-25-98
Analyst Signature Date

4/27/98
Analyst Signature Date

Reviewed By MJL 4/28/98

Sample ~~has~~ MJL S98T654 is a retest. Results were approve because sample may Not be Homogeneous

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	14.5	27.7
23677	µg of Carbon from Baseline	(C2)	9.8	40

Test Code	@TICTOC1
Matrix	SOLID
Batch Number	98002078
Rerun	0
Sample Prep	N/A
Sample #	Blank
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/25/98
Analysis Time	
Sample Point	TX-104

µg of Carbon = |C1-C2|

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	4.70E+00	1.23E+01

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	605.3	553.7
23677	µg of Carbon from Baseline	(C2)	9.8	40
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix	LIQUID
Batch Number	98002078
Rerun	0
Sample Prep	N/A
Sample #	
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/25/98
Analysis Time	
Sample Point	TX-104

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	5.96E+02	2.57E+03
Percent Standard Recovery	98.9	85.6

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1178	0.1178
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	308.6	77.1
23677	µg of Carbon from Baseline	(C2)	9.8	40
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98002078
Rerun	0
Sample Prep	N/A
Sample #	S98T000654
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/25/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.54E+03	3.15E+02

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type: DUP	Sample Size in g	(SS)	0.3054	0.3054
	Dilution Factor	(DF)	1	1
Work List: 23677	µg of Carbon in Sample	(C1)	790.2	166.1
	µg of Carbon from Baseline	(C2)	9.8	40
Test Code: @TICTOC1	Known µg of C from Original Sample		2.54E+3	3.15E+2

Matrix	SOLID
Batch Number	98002078
Rerun	0
Sample Prep	N/A
Sample #	S98T000654
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/25/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.56E+03	4.13E+02

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

SAMPLE.WB1 REV 1.0 342100ML

I:\342100\OUT\23677.WB1 04/27/98 10:51:26

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-1) SOLIDS

Type	Sample Vial Data		TIC	TOC
SPK	Sample Size in g	(SS)	0.1178	0.1178
Work List	Final Coulometer Reading in µg	(C1)	308.6	77.1
23677	Spiked Vial Data			
Test Code	Sample Size in g	(SPK SS)	0.4021	0.4021
@TICTOC1	Amount of Spike Std. in mL	(SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg	(C2)	1446.2	562.1
SOLID	Spike Book Number		25N12C	26N12D
Batch Number	Spike Standard Value in µg/ml	(SPK CONC)	602	3000
98002078				
Rerun				
0				
Sample Prep				
N/A				
Sample #	Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1			
S98T000654				
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				
lad				
Chemist				
rws				
Analyst				
krm				
Date Complete				
04/27/98				
Analysis Date				
04/25/98				
Analysis Time			TIC	TOC
	QC Actual in µg/mL		6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL		7.86E+02	2.99E+03
TX-104	Percent Spike Recovery		130.5	99.6

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.3923	0.3923
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1104.2	207.2
23677	µg of Carbon from Baseline	(C2)	9.8	40
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98002078
Rerun	0
Sample Prep	N/A
Sample #	S98T000655
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/25/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.79E+03	4.26E+02

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.3978	0.3978
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1100.1	207.6
23677	µg of Carbon from Baseline	(C2)	9.8	40
Test Code	Known µg of C from Original Sample		2.79E+3	4.26E+2
@TICTOC1				

Matrix	SOLID
Batch Number	98002078
Rerun	0
Sample Prep	N/A
Sample #	S98T000655
Instrument Code	CARB2
Prepared By	lad
Chemist	rws
Analyst	krm
Date Complete	04/27/98
Analysis Date	04/25/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	2.74E+03	4.21E+02

Data Entered By:	lad	Date:	04/27/98
Signature of Chemist:		Date:	

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

Sample: BASE1 Date: 04/24/98 Time: 00:02:14

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE1
Blank Value = N/A

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.51	0.80	37.50
4	2.01	1.70	52.94
5	2.50	2.40	29.17
6	3.00	3.00	20.00
7	3.50	3.60	16.67
8	4.00	4.20	14.29
9	4.50	4.40	4.55
10	5.00	5.00	12.00
11	5.50	5.40	7.41
12	6.00	5.80	6.90
13	6.50	6.10	4.92
14	7.00	6.60	7.58
15	7.50	6.90	4.35
16	8.00	7.60	9.21
17	8.50	7.80	2.56
18	9.00	8.20	4.88
19	%-1430.50	8.70	5.75
20	%-1430.00	9.00	3.33
21	%-1429.50	9.50	5.26
22	%-1429.00	9.80	3.06

BLANK VALUE = 9.8 micrograms carbon
BLANK FACTOR = 9.8 /-1429.002 = ~~-6.9E-03~~ .89 ug/min Carbon
4-24-98

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 591 TO 606.

Sample Run By: KR MONTEITH 4-24-98 00000

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

Sample: BASE1 Date: 04/24/98 Time: 00:51:40

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE1
Blank Value = N/A

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	0.80	25.00
3	1.50	2.50	68.00
4	2.00	6.00	58.33
5	2.50	10.00	40.00
6	3.00	14.20	29.58
7	3.50	17.60	19.32
8	4.00	20.90	15.79
9	4.50	23.90	12.55
10	5.00	26.50	9.81
11	5.50	28.80	7.99
12	6.00	30.60	5.88
13	6.50	32.40	5.56
14	7.00	33.70	3.86
15	7.50	35.00	3.71
16	8.00	36.10	3.05
17	8.50	37.10	2.70
18	9.00	37.70	1.59
19	9.50	38.50	2.08
20	10.00	39.10	1.53
21	10.50	39.60	1.26
22	11.00	40.00	1.00

BLANK VALUE = 40 micrograms carbon
BLANK FACTOR = 40 / 10.99617 = +3.64E+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: STD1 Date: 04/24/98 Time: 01:05:04

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.00	60.00
3	1.50	29.50	96.61
4	2.01	136.20	78.34
5	2.51	291.10	53.21
6	3.00	426.20	31.70
7	3.50	511.90	16.74
8	4.00	561.60	8.85
9	4.50	582.60	3.60
10	5.00	591.80	1.55
11	5.50	596.00	0.70
12	6.00	598.00	0.33
13	6.50	599.10	0.18
14	7.00	599.80	0.12
15	7.50	600.80	0.17
16	8.00	601.50	0.12
17	8.50	602.20	0.12
18	9.00	602.70	0.08
19	9.50	603.30	0.10
20	10.00	604.00	0.12
21	10.50	604.80	0.13
22	11.00	605.30	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(605.3 - 9.788958)(1)/(1000) = +5.955E-01 g/L Carbon
(605.3 - 9.788958)(1)/(1000)(12) = +4.963E-02 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD1 Date: 04/24/98 Time: 01:19:40

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	1.80	50.00
3	1.50	62.50	97.12
4	2.00	260.00	75.96
5	2.50	427.30	39.15
6	3.00	500.90	14.69
7	3.50	525.70	4.72
8	4.00	534.80	1.70
9	4.50	539.20	0.82
10	5.00	541.80	0.48
11	5.50	543.50	0.31
12	6.00	545.20	0.31
13	6.50	546.20	0.18
14	7.00	547.30	0.20
15	7.50	548.20	0.16
16	8.00	548.90	0.13
17	8.50	549.80	0.16
18	9.00	550.60	0.15
19	9.50	551.30	0.13
20	10.00	552.10	0.14
21	10.50	552.90	0.14
22	11.00	553.70	0.14

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(553.7 - 40.03214)(1)/(200) = +2.568E+00 g/L Carbon
(553.7 - 40.03214)(1)/(200)(12) = +2.140E-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: BLK1 Date: 04/24/98 Time: 01:34:14

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	3.20	37.50
3	1.51	4.00	20.00
4	2.00	4.90	18.37
5	2.50	5.50	10.91
6	3.00	6.30	12.70
7	3.50	7.00	10.00
8	4.00	7.70	9.09
9	4.50	8.20	6.10
10	5.00	8.70	5.75
11	5.50	9.20	5.43
12	6.00	9.80	6.12
13	6.50	10.30	4.85
14	7.00	10.90	5.50
15	7.50	11.30	3.54
16	8.00	11.80	4.24
17	8.50	12.40	4.84
18	9.00	12.70	2.36
19	9.50	13.10	3.05
20	10.00	13.80	5.07
21	10.50	14.10	2.13
22	11.00	14.50	2.76

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(14.5 - 9.787338)(1)/(1) = +4.71E+00 g/L Carbon
(14.5 - 9.787338)(1)/(1)(12) = +3.93E-01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/24/98 Time: 01:46:08

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	1.20	41.67
3	1.51	3.00	60.00
4	2.00	5.80	48.28
5	2.50	9.00	35.56
6	3.00	11.70	23.08
7	3.50	14.80	20.95
8	4.00	17.00	12.94
9	4.50	18.80	9.57
10	5.00	20.30	7.39
11	5.50	21.50	5.58
12	6.00	22.10	2.71
13	6.50	22.90	3.49
14	7.00	23.40	2.14
15	7.50	24.10	2.90
16	8.00	24.70	2.43
17	8.50	25.40	2.76
18	9.00	25.70	1.17
19	9.50	26.30	2.28
20	10.00	26.70	1.50
21	10.50	27.20	1.84
22	11.00	27.70	1.81

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(27.7 - 40.02909)(1)/(1) = < 5.00 E-3 g/L Carbon
(27.7 - 40.02909)(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: S98T654-1 Date: 04/24/98 Time: 02:15:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	0.70	28.57
3	1.50	3.90	82.05
4	2.00	38.20	89.79
5	2.50	117.90	67.60
6	3.00	196.90	40.12
7	3.50	252.10	21.90
8	4.00	281.20	10.35
9	4.50	294.10	4.39
10	5.00	299.20	1.70
11	5.50	301.50	0.76
12	6.00	302.90	0.46
13	6.50	303.40	0.16
14	7.00	304.20	0.26
15	7.50	304.80	0.20
16	8.00	305.50	0.23
17	8.50	306.00	0.16
18	9.00	306.50	0.16
19	9.50	307.10	0.20
20	10.00	307.70	0.19
21	10.50	308.20	0.16
22	11.00	308.60	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(308.6 - 9.78822)(1)/(1) = +2.988E+02 g/L Carbon
(308.6 - 9.78822)(1)/(1)(12) = +2.490E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T654-1 Date: 04/24/98 Time: 02:28:44

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 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	1.00	40.00
3	1.51	5.70	82.46
4	2.00	19.50	70.77
5	2.50	41.10	52.55
6	3.00	55.60	26.08
7	3.50	61.60	9.74
8	4.00	64.70	4.79
9	4.50	66.80	3.14
10	5.00	68.30	2.20
11	5.50	69.60	1.87
12	6.00	70.50	1.28
13	6.50	71.50	1.40
14	7.00	72.50	1.38
15	7.50	73.40	1.23
16	8.00	74.00	0.81
17	8.50	74.50	0.67
18	9.00	75.10	0.80
19	9.50	75.70	0.79
20	10.00	75.20	0.66
21	10.50	76.80	0.78
22	11.00	77.10	0.39

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(77.1 - 40.03273)(1)/(1) = +3.71E+01 g/L Carbon
(77.1 - 40.03273)(1)/(1)(12) = +3.09E+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: S98T654DUP-1 Date: 04/24/98 Time: 03:49:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.51	9.20	93.48
4	2.00	103.70	91.13
5	2.50	314.60	67.04
6	3.00	518.60	39.34
7	3.50	653.80	20.68
8	4.00	727.00	10.07
9	4.50	759.80	4.32
10	5.00	772.40	1.63
11	5.50	778.30	0.76
12	6.00	781.00	0.35
13	6.50	782.70	0.22
14	7.00	784.10	0.18
15	7.50	785.20	0.14
16	8.00	786.00	0.10
17	8.50	786.80	0.10
18	9.00	787.70	0.11
19	9.50	788.40	0.09
20	10.00	789.00	0.08
21	10.50	789.70	0.09
22	11.00	790.20	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(790.2 - 9.788235)(1)/(1) = +7.804E+02 g/L Carbon
(790.2 - 9.788235)(1)/(1)(12) = +6.503E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV. 2.0

Sample: S98T654DUP-1 Date: 04/24/98 Time: 04:03:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.80	75.00
3	1.51	9.90	91.92
4	2.01	43.10	77.03
5	2.51	95.70	54.96
6	3.01	125.40	23.68
7	3.51	138.60	9.52
8	4.00	145.60	4.81
9	4.50	149.30	2.48
10	5.00	151.90	1.71
11	5.50	154.40	1.62
12	6.00	155.90	0.96
13	6.50	157.30	0.89
14	7.00	158.70	0.88
15	7.50	160.40	1.06
16	8.00	161.20	0.50
17	8.50	162.40	0.74
18	9.00	163.00	0.37
19	9.50	163.90	0.55
20	10.00	164.70	0.49
21	10.50	165.30	0.36
22	11.00	166.10	0.48

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(166.1 - 40.03572)(1)/(1) = +1.261E+02 g/L Carbon
(166.1 - 40.03572)(1)/(1)(12) = +1.051E+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: S98T654SPK-1 Date: 04/24/98 Time: 04:19:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	0.80	50.00
3	1.50	23.40	96.58
4	2.00	224.50	89.58
5	2.50	593.20	62.15
6	3.00	943.00	37.09
7	3.50	1186.30	20.51
8	4.00	1313.00	9.65
9	4.50	1381.90	4.99
10	5.00	1413.50	2.24
11	5.50	1426.60	0.92
12	6.00	1432.30	0.40
13	6.50	1435.50	0.22
14	7.00	1437.60	0.15
15	7.50	1439.00	0.10
16	8.00	1440.40	0.10
17	8.50	1441.80	0.10
18	9.00	1442.60	0.06
19	9.50	1443.70	0.08
20	10.00	1444.50	0.06
21	10.50	1445.40	0.06
22	11.00	1446.20	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1446.2 - 9.785708)(1)/(1) = +1.4364E+03 g/L Carbon
(1446.2 - 9.785708)(1)/(1)(12) = +1.1970E+02 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T654SPK-1 Date: 04/24/98 Time: 04:34:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 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	1.20	50.00
3	1.50	24.00	95.00
4	2.00	160.10	85.01
5	2.50	323.20	50.46
6	3.00	419.20	22.90
7	3.50	458.00	8.47
8	4.00	471.80	2.92
9	4.50	477.60	1.21
10	5.00	481.00	0.71
11	5.50	483.50	0.52
12	6.00	485.60	0.43
13	6.50	487.10	0.31
14	7.00	488.60	0.31
15	7.50	490.00	0.29
16	8.00	490.70	0.14
17	8.50	492.00	0.26
18	9.00	493.10	0.22
19	10.00	522.80	5.68
20	10.50	544.50	3.99
21	11.00	556.50	2.16
22	11.50	562.10	1.00

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(562.1 - 41.84545)(1)/(1) = +5.203E+02 g/L Carbon
(562.1 - 41.84545)(1)/(1)(12) = +4.335E+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: S98T655-1 Date: 04/24/98 Time: 04:52:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	1.00	20.00
3	1.50	14.20	92.96
4	2.00	148.10	90.41
5	2.50	398.00	62.79
6	3.00	643.90	38.19
7	3.50	828.40	22.27
8	4.00	945.20	12.36
9	4.50	1018.20	7.17
10	5.00	1058.80	3.83
11	5.50	1078.90	1.86
12	6.00	1087.70	0.81
13	6.50	1092.30	0.42
14	7.00	1095.10	0.26
15	7.50	1096.90	0.16
16	8.00	1098.30	0.13
17	8.50	1099.60	0.12
18	9.00	1100.70	0.10
19	9.50	1101.70	0.09
20	10.00	1102.70	0.09
21	10.50	1103.70	0.09
22	11.00	1104.20	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1104.2 - 9.786415)(1)/(1) = +1.0944E+03 g/L Carbon
(1104.2 - 9.786415)(1)/(1)(12) = +9.1201E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T655-2/1 Date: 04/24/98 Time: 05:05:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 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	1.80	66.67
3	1.51	34.30	94.75
4	2.00	119.10	71.20
5	2.50	163.80	27.29
6	3.00	179.70	8.85
7	3.50	186.90	3.85
8	4.00	190.90	2.10
9	4.50	193.60	1.39
10	5.00	195.90	1.17
11	5.50	197.60	0.86
12	6.00	199.00	0.70
13	6.50	200.40	0.70
14	7.00	201.50	0.55
15	7.50	202.50	0.49
16	8.00	203.30	0.39
17	8.50	204.00	0.34
18	9.00	204.80	0.39
19	9.50	205.40	0.29
20	10.00	206.10	0.34
21	10.50	206.60	0.24
22	11.00	207.20	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(207.2 - 40.03278)(1)/(1) = +1.672E+02 g/L Carbon
(207.2 - 40.03278)(1)/(1)(12) = +1.393E+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: S98T655DUP-1 Date: 04/24/98 Time: 05:19:18

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .89 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	13.30	93.23
4	2.00	158.90	91.63
5	2.50	443.40	64.16
6	3.00	705.80	37.18
7	3.50	884.30	20.19
8	4.00	986.40	10.35
9	4.50	1044.30	5.54
10	5.00	1072.70	2.65
11	5.50	1083.90	1.03
12	6.00	1088.70	0.44
13	6.50	1091.20	0.23
14	7.00	1092.90	0.16
15	7.50	1094.20	0.12
16	8.00	1095.40	0.11
17	8.50	1096.30	0.08
18	9.00	1097.20	0.08
19	9.50	1098.00	0.07
20	10.00	1098.70	0.06
21	10.50	1099.40	0.06
22	11.00	1100.10	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 9.78659 micrograms carbon
BLANK FACTOR = 9.78659 / 10.99617 = +8.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1100.1 - 9.788072)(1)/(1) = +1.0903E+03 g/L Carbon
(1100.1 - 9.788072)(1)/(1)(12) = +9.0859E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T655DUP-1 Date: 04/24/98 Time: 05:31:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.64 ug/minute C

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

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.00	1.20	41.67
3	1.50	7.10	83.10
4	2.00	41.40	82.85
5	2.50	105.60	60.80
6	3.00	152.30	30.66
7	3.50	173.00	11.97
8	4.00	182.00	4.95
9	4.50	187.10	2.73
10	5.00	190.60	1.84
11	5.50	193.40	1.45
12	6.00	195.80	1.23
13	6.50	197.60	0.91
14	7.00	199.60	1.00
15	7.50	201.00	0.70
16	8.00	202.20	0.59
17	8.50	203.30	0.54
18	9.00	204.50	0.59
19	9.50	205.30	0.39
20	10.00	206.10	0.39
21	10.50	206.90	0.39
22	11.00	207.60	0.34

USER INPUT BLANK VALUE
BLANK VALUE = 40.02605 micrograms carbon
BLANK FACTOR = 40.02605 / 10.99617 = +3.6E+00 ug/min Carbon

SAMPLE RESULTS:
(207.6 - 40.032)(1)/(1) = +1.676E+02 g/L Carbon
(207.6 - 40.032)(1)/(1)(12) = +1.396E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

LABCORE Completed Worklist Report for Worklist# 23688

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

Method: _____ Rev/Mod _____

Worklist Comment: TX104, @TICTOC1, RERUN, STD: TIC=1.0ml, TOC=.200mL skw

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK			0	@TICTOC1 TIC-02	SOLID	1	6.60E+0	6.600	ug/g
1	BLNK			0	@TICTOC1 TOC-02	SOLID	1	4.40E+0	4.400	ug/g
2	STD			0	@TICTOC1 TIC-02	SOLID	6.02E+02	5.97E+2	99.169	% Recovery
2	STD			0	@TICTOC1 TOC-02	SOLID	3.00E+03	2.91E+3	97.000	% Recovery
3	SAMPLE	S98T000744		0	@TICTOC1 TIC-02	SOLID	N/A	3.92E+03	5.000	ug/g
3	SAMPLE	S98T000744		0	@TICTOC1 TOC-02	SOLID	N/A	1.44E+03	40.000	ug/g
4	DUP	S98T000744		0	@TICTOC1 TIC-02	SOLID	3.92E+3	3.30E+3	17.175	RPD
4	DUP	S98T000744		0	@TICTOC1 TOC-02	SOLID	1.44E+3	1.30E+3	10.219	RPD

Final page for worklist# 23688

_____
Analyst Signature **Date**

Dave K Wollan 4/28/98
Analyst Signature **Date**

4/29/98
Reviewer Signature **Date**

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

04/27/98 08:53
A-0004-1

LABCORE Data Entry Template for Worklist# 23688

Analyst: KRM **Instrument:** CARB2 _____ **Book#** 25N12C 26N12D

Method: LA-342-100 Rev/Mod F-1

Worklist Comment: TX104, @TICTOC1, RERUN, STD: TIC=1.0ml, TOC=.200mL skw

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	SOLID		
2	STD				@TICTOC1	SOLID		
3	SAMPLE	S98T000744	0		@TICTOC1	SOLID	98000130	TX-104
		Analytes Requested:			TIC-02 , TOC-02			
4	DUP	S98T000744	0		@TICTOC1	SOLID		

Final page for worklist # 23688

4-28-98

Analyst Signature **Date**

Dana L Wollan 4/28/98

Analyst Signature **Date**

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	11.6	23.9
23688	µg of Carbon from Baseline	(C2)	5	28.3

Test Code: @TICTOC1

Matrix: SOLID

Batch Number: 98002092

Rerun: 0

µg of Carbon = |C1-C2|

Sample Prep: N/A

Sample #: BLANK

Instrument Code: CARB2

Prepared By: skm

Chemist: rws

Analyst: krm

Date Complete: 04/28/98

Analysis Date: 04/28/98

Analysis Time:

Sample Point: TX-104

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon	6.60E+00	4.40E+00

Data Entered By:	skm	Date:	04/28/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	601.8	609.7
23688	µg of Carbon from Baseline	(C2)	5	28.3
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID

Batch Number: 98002092

Rerun: 0

Sample Prep: N/A

Sample #: STD

Instrument Code: CARB2

Prepared By: skm

Chemist: rws

Analyst: krm

Date Complete: 04/28/98

Analysis Date: 04/28/98

Analysis Time:

Sample Point: TX-104

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	5.97E+02	2.91E+03
Percent Standard Recovery	99.1	96.9

Data Entered By:	skm	Date:	04/28/98
Signature of Chemist:		Date:	

STANDARD.W81 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1384	0.1384
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	548.1	227.2
23688	µg of Carbon from Baseline	(C2)	5	28.3
Test Code				
@TICTOC1				

Matrix	SOLID
Batch Number	98002092
Rerun	0
Sample Prep	N/A
Sample #	S98T000744
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/28/98
Analysis Date	04/28/98
Analysis Time	
Sample Point	TX-104

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	3.92E+03	1.44E+03

Data Entered By:	skm	Date:	04/28/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) SOLIDS

			TIC	TOC
Type	Sample Size in g	(SS)	0.1339	0.1339
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	447.2	203
23688	µg of Carbon from Baseline	(C2)	5	28.3
Test Code	Known µg of C from Original Sample		3.92E+3	1.44E+3
@TICTOC1				

Matrix	SOLID
Batch Number	98002092
Rerun	0
Sample Prep	N/A
Sample #	S98T000744
Instrument Code	CARB2
Prepared By	skm
Chemist	rws
Analyst	krm
Date Complete	04/28/98
Analysis Date	04/28/98
Analysis Time	
Sample Point	TX-104

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	3.30E+03	1.30E+03

Data Entered By:	skm	Date:	04/28/98
Signature of Chemist:		Date:	

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

Sample: BASE2 Date: 04/27/98 Time: 21:25:24

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	0.10	100.00
3	1.01	0.30	66.67
4	1.51	0.60	50.00
5	2.00	0.90	33.33
6	2.50	1.30	30.77
7	3.00	1.60	18.75
8	3.50	1.80	11.11
9	4.00	2.00	10.00
10	4.50	2.20	9.09
11	5.00	2.40	8.33
12	5.50	2.60	7.69
13	6.00	2.90	10.34
14	6.50	3.10	6.45
15	7.00	3.30	6.06
16	7.50	3.50	5.71
17	8.00	3.80	7.89
18	8.50	4.00	5.00
19	9.00	4.30	6.98
20	9.50	4.50	4.44
21	10.00	4.80	6.25
22	10.50	5.00	4.00

BLANK VALUE = 5 micrograms carbon
BLANK FACTOR = 5 / 10.4989 = +4.8E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 613 TO 622.

Sample Run By: 4-28-98
KR MONTEITH 00000

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

Sample: BASE2 Date: 04/27/98 Time: 21:39:07

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	0.20	100.00
3	1.01	0.80	75.00
4	1.51	3.70	78.38
5	2.00	7.70	51.95
6	2.50	13.80	44.20
7	3.00	17.80	22.47
8	3.50	20.30	12.32
9	4.00	21.80	6.88
10	4.50	22.90	4.80
11	5.00	23.60	2.97
12	5.50	24.20	2.48
13	6.00	25.00	3.20
14	6.50	25.40	1.57
15	7.00	25.80	1.55
16	7.50	26.20	1.53
17	8.00	26.60	1.50
18	8.50	27.00	1.48
19	9.00	27.30	1.10
20	9.50	27.60	1.09
21	10.00	27.90	1.08
22	10.50	28.30	1.41

BLANK VALUE = 28.3 micrograms carbon
BLANK FACTOR = 28.3 / 10.49902 = +2.70E+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: 04/27/98 Time: 21:56:09

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .48 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	0.30	100.00
3	1.01	0.80	62.50
4	1.51	37.10	97.84
5	2.00	162.10	77.11
6	2.50	305.70	46.97
7	3.00	427.40	28.47
8	3.50	509.90	16.18
9	4.00	556.30	8.34
10	4.50	579.10	3.94
11	5.00	589.00	1.68
12	5.50	593.50	0.76
13	6.00	595.90	0.40
14	6.50	597.30	0.23
15	7.00	598.10	0.13
16	7.50	598.80	0.12
17	8.00	599.40	0.10
18	8.50	600.00	0.10
19	9.00	600.50	0.08
20	9.50	600.90	0.07
21	10.00	601.40	0.08
22	10.50	601.80	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.039531 micrograms carbon
BLANK FACTOR = 5.039531 / 10.49902 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(601.8 - 5.039531)(1)/(1000) = +5.968E-01 g/L Carbon
(601.8 - 5.039531)(1)/(1000)(12) = +4.973E-02 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2 Date: 04/27/98 Time: 22:23:07

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.7 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	0.50	100.00
3	1.01	9.20	94.57
4	1.51	128.80	92.86
5	2.00	288.90	55.42
6	2.50	472.90	38.91
7	3.00	551.50	14.25
8	3.50	580.60	5.01
9	4.00	592.40	1.99
10	4.50	597.80	0.90
11	5.00	600.60	0.47
12	5.50	602.40	0.30
13	6.00	603.70	0.22
14	6.50	604.60	0.15
15	7.00	605.50	0.15
16	7.50	606.30	0.13
17	8.00	607.00	0.12
18	8.50	607.60	0.10
19	9.00	608.10	0.08
20	9.50	608.70	0.10
21	10.00	609.20	0.08
22	10.50	609.70	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 28.34736 micrograms carbon
BLANK FACTOR = 28.34736 / 10.49902 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:
(609.7 - 28.34736)(1)/(200) = +2.907E+00 g/L Carbon
(609.7 - 28.34736)(1)/(200)(12) = +2.422E-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: 04/27/98 Time: 22:52:41

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .48 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	0.40	100.00
3	1.01	2.60	84.62
4	1.51	3.90	33.33
5	2.00	4.80	18.75
6	2.50	5.50	12.73
7	3.00	6.00	8.33
8	3.50	6.40	6.25
9	4.00	6.80	5.88
10	4.50	7.30	6.85
11	5.00	7.60	3.95
12	5.50	8.00	5.00
13	6.00	8.40	4.76
14	6.50	8.80	4.55
15	7.00	9.10	3.30
16	7.50	9.50	4.21
17	8.00	9.80	3.06
18	8.50	10.20	3.92
19	9.00	10.60	3.77
20	9.50	10.90	2.75
21	10.00	11.30	3.54
22	10.50	11.60	2.59

USER INPUT BLANK VALUE
BLANK VALUE = 5.039531 micrograms carbon
BLANK FACTOR = 5.039531 / 10.49902 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(11.6 - 5.039063)(1)/(1) = +6.56E+00 g/L Carbon
(11.6 - 5.039063)(1)/(1)(12) = +5.47E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2 Date: 04/28/98 Time: 01:02:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.7 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	0.30	100.00
3	1.01	0.70	57.14
4	1.50	1.20	41.67
5	2.00	3.60	66.67
6	2.50	8.80	59.09
7	3.00	12.80	31.25
8	3.50	15.00	14.67
9	4.00	16.60	9.64
10	4.50	17.80	6.74
11	5.00	18.60	4.30
12	5.50	19.30	3.63
13	6.00	19.80	2.53
14	6.50	20.40	2.94
15	7.00	21.00	2.86
16	7.50	21.50	2.33
17	8.00	21.90	1.83
18	8.50	22.40	2.23
19	9.00	22.80	1.75
20	9.50	23.40	2.56
21	10.00	23.60	0.85
22	10.50	23.90	1.26

USER INPUT BLANK VALUE
BLANK VALUE = 28.34736 micrograms carbon
BLANK FACTOR = 28.34736 / 10.49902 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:
(23.9 - 28.34703)(1)/(1) = < 5.00 E-3 g/L Carbon
(23.9 - 28.34703)(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: S98T744-2 Date: 04/28/98 Time: 01:23:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .48 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	0.30	100.00
4	1.50	10.10	97.03
5	2.04	103.00	90.19
6	2.54	236.70	56.49
7	3.04	352.80	32.91
8	3.54	434.20	18.75
9	4.04	485.60	10.58
10	4.54	514.60	5.64
11	5.04	529.00	2.72
12	5.54	536.00	1.31
13	6.04	539.50	0.65
14	6.54	541.70	0.41
15	7.04	543.10	0.26
16	7.53	544.10	0.18
17	8.03	544.90	0.15
18	8.53	545.60	0.13
19	9.03	546.30	0.13
20	9.53	546.90	0.11
21	10.03	547.60	0.13
22	10.53	548.10	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 5.039531 micrograms carbon
BLANK FACTOR = 5.039531 / 10.49902 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(548.1 - 5.055282)(1)/(1) = +5.430E+02 g/L Carbon
(548.1 - 5.055282)(1)/(1)(12) = +4.525E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T744-2 Date: 04/28/98 Time: 01:34:40

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.7 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	0.50	100.00
3	1.01	2.10	76.19
4	1.50	73.80	97.15
5	2.00	159.00	53.58
6	2.50	192.50	17.40
7	3.00	205.90	6.51
8	3.50	212.10	2.92
9	4.00	215.90	1.76
10	4.50	218.20	1.05
11	5.00	219.80	0.73
12	5.50	221.00	0.54
13	6.00	222.10	0.50
14	6.50	223.00	0.40
15	7.00	223.70	0.31
16	7.50	224.40	0.31
17	8.00	224.90	0.22
18	8.50	225.50	0.27
19	9.00	225.90	0.18
20	9.50	226.40	0.22
21	10.00	226.80	0.18
22	10.50	227.20	0.18

USER INPUT BLANK VALUE
BLANK VALUE = 28.34736 micrograms carbon
BLANK FACTOR = 28.34736 / 10.49902 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:
(227.2 - 28.34506)(1)/(1) = +1.989E+02 g/L Carbon
(227.2 - 28.34506)(1)/(1)(12) = +1.657E+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: S98T774DUP-2 Date: 04/28/98 Time: 01:59:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .48 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	0.40	100.00
3	1.01	0.70	42.86
4	1.50	5.50	87.27
5	2.00	63.50	91.34
6	2.50	163.60	61.19
7	3.00	263.10	37.82
8	3.50	340.90	22.82
9	4.00	390.00	12.59
10	4.50	417.00	6.47
11	5.00	429.70	2.96
12	5.50	435.80	1.40
13	6.00	439.00	0.73
14	6.50	441.10	0.48
15	7.00	442.20	0.25
16	7.50	443.20	0.23
17	8.00	444.10	0.20
18	8.50	444.80	0.16
19	9.00	445.50	0.16
20	9.50	446.20	0.16
21	10.00	446.60	0.09
22	10.50	447.20	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 5.039531 micrograms carbon
BLANK FACTOR = 5.039531 / 10.49902 = +4.8E-01 ug/min Carbon

SAMPLE RESULTS:
(447.2 - 5.03952)(1)/(1) = +4.422E+02 g/L Carbon
(447.2 - 5.03952)(1)/(1)(12) = +3.685E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T744DUP-2 Date: 04/28/98 Time: 02:18:45

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.7 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	0.40	100.00
3	1.01	2.50	84.00
4	1.50	61.80	95.95
5	2.00	136.20	54.63
6	2.50	168.90	19.36
7	3.00	182.50	7.45
8	3.50	188.80	3.34
9	4.00	192.20	1.77
10	4.50	194.30	1.08
11	5.00	195.90	0.82
12	5.50	197.10	0.61
13	6.00	198.20	0.55
14	6.50	198.90	0.35
15	7.00	199.60	0.35
16	7.50	200.20	0.30
17	8.00	200.70	0.25
18	8.50	201.30	0.30
19	9.00	201.70	0.20
20	9.50	202.20	0.25
21	10.00	202.60	0.20
22	10.50	203.00	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 28.34736 micrograms carbon
BLANK FACTOR = 28.34736 / 10.49902 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:
(203 - 28.3473)(1)/(1) = +1.747E+02 g/L Carbon
(203 - 28.3473)(1)/(1)(12) = +1.455E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

LABCORE Completed Worklist Report for Worklist# 23715

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

Method: _____ Rev/Mod _____

Worklist Comment: TX-104 TICTOC RERUN STD: TIC=1.0mL TOC=.200 mL lad

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK			0	@TICTOC1 TIC-02	LIQUID	1	1.30E+0	1.300	ug/mL
1	BLNK			0	@TICTOC1 TOC-02	LIQUID	1	2.60E+0	2.600	ug/mL
2	STD			0	@TICTOC1 TIC-02	LIQUID	6.02E+02	5.85E+2	97.176	% Recovery
2	STD			0	@TICTOC1 TOC-02	LIQUID	3.00E+03	2.62E+3	87.333	% Recovery
3	SAMPLE	S98T000763		0	@TICTOC1 TIC-02	LIQUID	N/A	1.30E+04	5.000	ug/mL
3	SAMPLE	S98T000763		0	@TICTOC1 TOC-02	LIQUID	N/A	1.34E+03	40.000	ug/mL
4	DUP	S98T000763		0	@TICTOC1 TIC-02	LIQUID	1.30E+4	1.28E+4	1.550	RPD
4	DUP	S98T000763		0	@TICTOC1 TOC-02	LIQUID	1.34E+3	1.29E+3	3.802	RPD

Final page for worklist# 23715

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

DK Wilson 4/30/98
Analyst Signature **Date**

4/30/98
Reviewer Signature **Date**

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

LABCORE Data Entry Template for Worklist# 23715

Analyst: RDM **Instrument:** CARB2 **Book#** 23N16 L 26N16 D

Method: LA-342-100 Rev/Mod F-1

Worklist Comment: TX-104 TICTOC RERUN STD: TIC=1,0mL TOC=.200 mL lad

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	BLNK				@TICTOC1	LIQUID		
2	STD				@TICTOC1	LIQUID		
3	SAMPLE	S98T000763	0		@TICTOC1	LIQUID	98000130	TX-104
		Analytes Requested: TIC-02 , TOC-02						
4	DUP	S98T000763	0		@TICTOC1	LIQUID		

Final page for worklist # 23715

RDMeyer 4/29/98
Analyst Signature Date

AK Wollam 4/30/98
Analyst Signature Date

Data Entry Comments:

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

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.0000	0.0000
BLNK	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	8.9	20.8
23715	µg of Carbon from Baseline	(C2)	7.6	23.4

Test Code
@TICTOC1

Matrix
LIQUID

Batch Number
98002119

Rerun
0

µg of Carbon = |C1-C2|

Sample Prep
N/A

Sample #
BLANK

Instrument Code
CARB2

Prepared By
skm

Chemist
mjl

Analyst
rdm

Date Complete
04/30/98

Analysis Date
04/29/98

Analysis Time

Sample Point
TX-104

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon	1.30E+00	2.60E+00

Data Entered By:	skm	Date:	04/30/98
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0 342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-1) 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)	593	546.9
23715	µg of Carbon from Baseline	(C2)	7.6	23.4
Test Code	Standard Book Number		25N12C	26N12D
@TICTOC1	Standard Value (µg/ml)		602	3000

Matrix: LIQUID

Batch Number: 98002119

Rerun: 0

Sample Prep: N/A

Sample #: STD

Instrument Code: CARB2

Prepared By: skm

Chemist: mjl

Analyst: rdm

Date Complete: 04/30/98

Analysis Date: 04/29/98

Analysis Time:

Sample Point: TX-104

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	5.85E+02	2.62E+03
Percent Standard Recovery	97.2	87.2

Data Entered By:	skm	Date:	04/30/98
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0 342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
SAMPLE	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1311.1	156.9
23715	µg of Carbon from Baseline	(C2)	7.6	23.4
Test Code				
@TICTOC1				

Matrix	LIQUID
Batch Number	98002119
Rerun	0
Sample Prep	N/A
Sample #	S98T000763
Instrument Code	CARB2
Prepared By	skm
Chemist	mjl
Analyst	rdm
Date Complete	04/30/98
Analysis Date	04/29/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.30E+04	1.34E+03

Data Entered By:	skm	Date:	04/30/98
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-1) LIQUIDS

			TIC	TOC
Type	Sample Size in mL	(SS)	0.1000	0.1000
DUP	Dilution Factor	(DF)	1	1
Work List	µg of Carbon in Sample	(C1)	1284.8	152.2
23715	µg of Carbon from Baseline	(C2)	7.6	23.4
Test Code	Known µg of C from Original Sample		1.30E+4	1.34E+3
@TICTOC1				

Matrix	LIQUID
Batch Number	98002119
Rerun	0
Sample Prep	N/A
Sample #	S98T000763
Instrument Code	CARB2
Prepared By	skm
Chemist	mjl
Analyst	rdm
Date Complete	04/30/98
Analysis Date	04/29/98
Analysis Time	
Sample Point	TX-104

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

	TIC	TOC
Method Detection Limit in µg/mL	5	40
µg of Carbon/mL	1.28E+04	1.29E+03

Data Entered By:	skm	Date:	04/30/98
Signature of Chemist:		Date:	

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

Sample: BASE Date: 04/27/98 Time: 00:55:29

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.60	66.67
3	1.51	0.90	33.33
4	2.00	1.40	35.71
5	2.50	1.90	26.32
6	3.00	2.40	20.83
7	3.50	2.70	11.11
8	4.00	3.10	12.90
9	4.50	3.50	11.43
10	5.00	3.80	7.89
11	5.50	4.20	9.52
12	6.00	4.60	8.70
13	6.50	4.90	6.12
14	7.00	5.30	7.55
15	7.50	5.60	5.36
16	8.00	5.90	5.08
17	8.50	6.20	4.84
18	9.00	6.50	4.62
19	9.50	6.80	4.41
20	10.00	7.10	4.23
21	10.50	7.30	2.74
22	11.00	7.60	3.95

BLANK VALUE = 7.6 micrograms carbon
BLANK FACTOR = 7.6 / 10.998 = +6.9E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/ CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 629 TO 638.

Sample Run By: [signature] for RD Meyers
RD MEYERS 00000

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

Sample: BASE Date: 04/27/98 Time: 01:11:48

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

Analyst : RD MEYERS
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	1.50	0.70	42.86
4	2.00	1.00	30.00
5	2.50	1.20	16.67
6	3.00	1.60	25.00
7	3.50	2.80	42.86
8	4.00	4.50	37.78
9	4.50	7.20	37.50
10	5.00	10.00	28.00
11	5.50	12.60	20.63
12	6.00	14.70	14.29
13	6.50	16.40	10.37
14	7.00	17.80	7.87
15	7.50	19.00	6.32
16	8.00	19.90	4.52
17	8.50	20.70	3.86
18	9.00	21.40	3.27
19	9.50	21.90	2.28
20	10.00	22.50	2.67
21	10.50	23.00	2.17
22	11.00	23.40	1.71

BLANK VALUE = 23.4 micrograms carbon
BLANK FACTOR = 23.4 / 10.998 +2.13E+00 ug/min Carbon

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

Sample Run By: _____
RD MEYERS 00000

HNF-SD-~~WM~~-DP-305 REV. 0

TIC SKW 4/30/98

~~TOC~~ TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 25N12-C Date: 04/27/98 Time: 01:31:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .69 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	4.50	86.67
3	1.51	16.30	72.39
4	2.01	37.00	55.95
5	2.51	60.30	38.64
6	3.00	82.30	26.73
7	3.50	101.20	18.68
8	4.00	122.60	17.46
9	4.50	155.40	21.11
10	5.00	202.50	23.26
11	5.50	261.90	22.68
12	6.00	326.60	19.81
13	6.50	389.00	16.04
14	7.00	444.00	12.39
15	7.50	489.20	9.24
16	8.00	524.80	6.78
17	8.50	549.90	4.56
18	9.00	567.20	3.05
19	9.50	578.30	1.92
20	10.00	585.30	1.20
21	10.50	589.90	0.78
22	11.00	593.00	0.52

USER INPUT BLANK VALUE
BLANK VALUE = 7.588624 micrograms carbon
BLANK FACTOR = 7.588624 / 10.998 = +6.9E-01 ug/min Carbon

SAMPLE RESULTS:
(593 - 7.589195)(1)/(1) = +5.854E+02 g/L Carbon
(593 - 7.589195)(1)/(1)(12) = +4.878E+01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 26N12-D Date: 04/27/98 Time: 03:17:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.13 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.50	0.90	33.33
4	2.00	1.40	35.71
5	2.50	16.00	91.25
6	3.00	98.50	83.76
7	3.50	245.80	59.93
8	4.00	374.60	34.38
9	4.50	452.70	17.25
10	5.00	496.90	8.90
11	5.50	520.40	4.52
12	6.00	531.30	2.05
13	6.50	536.70	1.01
14	7.00	539.80	0.57
15	7.50	541.60	0.33
16	8.00	542.80	0.22
17	8.50	543.70	0.17
18	9.00	544.50	0.15
19	9.50	545.20	0.13
20	10.00	545.80	0.11
21	10.50	546.30	0.09
22	11.00	546.90	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 23.42575 micrograms carbon
BLANK FACTOR = 23.42575 / 10.998 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(546.9 - 23.4275)(1)/(1) = +5.235E+02 g/L Carbon
(546.9 - 23.4275)(1)/(1)(12) = +4.362E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/27/98 Time: 03:32:26

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .69 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.30	0.00
2	1.01	0.70	57.14
3	1.50	1.00	30.00
4	2.00	1.50	33.33
5	2.50	2.30	34.78
6	3.00	3.10	25.81
7	3.50	3.70	16.22
8	4.00	4.30	13.95
9	4.50	4.70	8.51
10	5.00	5.10	7.84
11	5.50	5.40	5.56
12	6.00	5.80	6.90
13	6.50	6.10	4.92
14	7.00	6.40	4.69
15	7.50	6.80	5.88
16	8.00	7.00	2.86
17	8.50	7.40	5.41
18	9.00	7.60	2.63
19	9.50	7.90	3.80
20	10.00	8.20	3.66
21	10.50	8.50	3.53
22	11.00	8.90	4.49

USER INPUT BLANK VALUE
BLANK VALUE = 7.588624 micrograms carbon
BLANK FACTOR = 7.588624 / 10.998 = +6.9E-01 ug/min Carbon

SAMPLE RESULTS:
(8.9 - 7.587936)(1)/(1) = +1.3E+00 g/L Carbon
(8.9 - 7.587936)(1)/(1)(12) = +1.1E-01 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 04/27/98 Time: 04:19:37

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.13 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.00	50.00
3	1.51	1.50	33.33
4	2.00	3.10	51.61
5	2.50	6.10	49.18
6	3.00	9.20	33.70
7	3.50	11.80	22.03
8	4.00	13.60	13.24
9	4.50	14.90	8.72
10	5.00	15.80	5.70
11	5.50	16.50	4.24
12	6.00	17.10	3.51
13	6.50	17.60	2.84
14	7.00	18.10	2.76
15	7.50	18.50	2.16
16	8.00	18.90	2.12
17	8.50	19.20	1.56
18	9.00	19.70	2.54
19	9.50	19.90	1.01
20	10.00	20.20	1.49
21	10.50	20.50	1.46
22	11.00	20.80	1.44

USER INPUT BLANK VALUE
BLANK VALUE = 23.42575 micrograms carbon
BLANK FACTOR = 23.42575 / 10.998 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(20.8 - 23.42149)(1)/(1) = < 5.00 E-3 g/L Carbon
(20.8 - 23.42149)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763 Date: 04/27/98 Time: 04:33:59

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .69 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.50	40.00
3	1.50	0.90	44.44
4	2.00	22.20	95.95
5	2.50	201.80	89.00
6	3.00	529.60	61.90
7	3.50	823.20	35.67
8	4.00	1027.20	19.86
9	4.50	1150.30	10.70
10	5.00	1221.30	5.81
11	5.50	1263.30	3.32
12	6.00	1285.80	1.75
13	6.50	1295.90	0.78
14	7.00	1300.80	0.38
15	7.50	1303.50	0.21
16	8.00	1305.20	0.13
17	8.50	1306.50	0.10
18	9.00	1307.70	0.09
19	9.50	1308.70	0.08
20	10.00	1309.60	0.07
21	10.50	1310.40	0.06
22	11.00	1311.10	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 7.588624 micrograms carbon
BLANK FACTOR = 7.588624 / 10.998 = +6.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1311.1 - 7.588505)(1)/(1) = +1.3035E+03 g/L Carbon
(1311.1 - 7.588505)(1)/(1)(12) = +1.0863E+02 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763 Date: 04/27/98 Time: 04:54:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.13 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.00	1.30	46.15
3	1.50	2.40	45.83
4	2.00	10.90	77.98
5	2.50	35.90	69.64
6	3.00	72.30	50.35
7	3.50	103.20	29.94
8	4.00	123.10	16.17
9	4.50	134.50	8.48
10	5.00	141.00	4.61
11	5.50	145.00	2.76
12	6.00	147.80	1.89
13	6.50	149.70	1.27
14	7.00	151.10	0.93
15	7.50	152.20	0.72
16	8.00	153.20	0.65
17	8.50	154.00	0.52
18	9.00	154.60	0.39
19	9.50	155.30	0.45
20	10.00	155.80	0.32
21	10.50	156.30	0.32
22	11.00	156.90	0.38

USER INPUT BLANK VALUE
BLANK VALUE = 23.42575 micrograms carbon
BLANK FACTOR = 23.42575 / 10.998 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(156.9 - 23.42363)(1)/(1) = +1.335E+02 g/L Carbon
(156.9 - 23.42363)(1)/(1)(12) = +1.112E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763DUP Date: 04/27/98 Time: 05:09:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .69 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	0.80	50.00
3	1.50	1.40	42.86
4	2.00	7.30	80.82
5	2.50	62.40	88.30
6	3.00	238.70	73.86
7	3.50	500.00	52.26
8	4.00	742.40	32.65
9	4.50	926.50	19.87
10	5.00	1050.90	11.84
11	5.50	1134.10	7.34
12	6.00	1191.70	4.83
13	6.50	1230.30	3.14
14	7.00	1253.50	1.85
15	7.50	1265.90	0.98
16	8.00	1272.60	0.53
17	8.50	1276.70	0.32
18	9.00	1279.20	0.20
19	9.50	1281.10	0.15
20	10.00	1282.60	0.12
21	10.50	1283.80	0.09
22	11.00	1284.80	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 7.588624 micrograms carbon
BLANK FACTOR = 7.588624 / 10.998 = +6.9E-01 ug/min Carbon

SAMPLE RESULTS:
(1284.8 - 7.5892)(1)/(1) = +1.2772E+03 g/L Carbon
(1284.8 - 7.5892)(1)/(1)(12) = +1.0643E+02 Molar Carbon

Sample Run By: RD MEYERS 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S98T000763DUP Date: 04/27/98 Time: 06:34:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.13 ug/minute C

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	1.40	50.00
3	1.51	2.10	33.33
4	2.00	3.50	40.00
5	2.50	9.20	61.96
6	3.00	21.70	57.60
7	3.50	41.10	47.20
8	4.00	63.50	35.28
9	4.50	85.00	25.29
10	5.00	102.80	17.32
11	5.50	116.40	11.68
12	6.00	126.20	7.77
13	6.50	133.10	5.18
14	7.00	138.30	3.76
15	7.50	142.10	2.67
16	8.00	144.80	1.86
17	8.50	147.00	1.50
18	9.00	148.40	0.94
19	9.50	149.60	0.80
20	10.00	150.70	0.73
21	10.50	151.50	0.53
22	11.00	152.20	0.46

USER INPUT BLANK VALUE
BLANK VALUE = 23.42575 micrograms carbon
BLANK FACTOR = 23.42575 / 10.998 = +2.1E+00 ug/min Carbon

SAMPLE RESULTS:
(152.2 - 23.42363)(1)/(1) = +1.288E+02 g/L Carbon
(152.2 - 23.42363)(1)/(1)(12) = +1.073E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: RD MEYERS 00000

DISTRIBUTION SHEET

To Distribution	From Production Planning & Control	Page 1 of 1
		Date: 06/25/98
Project Title/Work Order **HNF-SD-WM-DP-305, Rev. 0 "Tank 241-TX-104, Cores 230 and 231, Analytical Results for the Final Report"**		EDT NO.: EDT-623160
		ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY
DE&S Hanford, Inc.			
J. E. Meacham	S7-14	X	
U.S. Department of Energy, RL			
C. A. Babel	S7-54	X	
Lockheed Martin Hanford Corp.			
J. N. Appel	G3-21		X
J. G. Burton	S7-21		X
K. G. Carothers	R2-11		X
M. J. Kupfer	H5-49		X
D. J. McCain	R2-12	X	
J. B. Schaffer	R2-12		X
L. A. Stauffer	R2-11		X
J. A. Voogd	H5-03		X
A. E. Young	R1-10	X	
Lockheed Martin Services, Inc.			
Central Files	A3-88	1	
Los Alamos Technical Associates			
M. T. Ellsworth	T6-12		X*
Pacific Northwest National Laboratory			
R. A. Bechtold	K7-22	X	
K. L. Silvers	K9-08		X
Waste Management of Hanford, Inc.			
D. C. Hetzer	S6-31		X
K. L. Powell	S3-30		X
C. M. Seidel	S3-30		X
F. H. Steen	T6-12		X
LTIC	T6-03		X
SGN Eurisys Services Corp.			
B. A. Higley	H5-27		X

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